

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

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Some keywords in the header are a local Electronic Text Centre scheme to aid in establishing analytical groupings.

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[COVERS]



New Zealanders with the
Royal Air Force

by
Wing Commander R. L. THOMPSON

Volume II - EUROPEAN THEATRE
January 1941 - May 1941

WAR HISTORY BRANCH
DEPARTMENT OF INTERNAL AFFAIRS
WELLINGTON, NEW ZEALAND
1950

Per ardua ad astra

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

[TITLE PAGE]

*Official History of New Zealand
in the Second World War
1939–45*

The authors of the volumes in this series of histories prepared under the supervision of the **War History Branch of the Department of Internal Affairs have been given full access to official documents. They and the Editor-in-Chief are responsible for the statements made and the views expressed by them.**

By Authority

R. E. OWEN, Government Printer, **Wellington, New Zealand
1956**

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

[FRONTISPIECE]



Interrogation of bomber crew

Bomber crew being interrogated

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

[TITLE PAGE]

**New Zealanders with the
Royal Air Force**
Volume II: EUROPEAN THEATRE
January 1943–May 1945

Wing Commander H. L. THOMPSON

WAR HISTORY BRANCH
DEPARTMENT OF INTERNAL AFFAIRS WELLINGTON, NEW
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NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

PREFACE

Preface

THIS volume, the second of three recording the services of New Zealand airmen who flew and fought with the Royal Air Force, completes the history of the European theatre of operations. It covers those later years during which the battle for air supremacy was finally won and in which Allied air power was able to play such an important part in the victories on land and at sea. It is, therefore, largely a story of achievement and success, but one hopes the reader will note what the mounting air offensive cost in young lives, especially in Bomber Command, and then ponder the words of Sir Arthur Harris which are recorded at the end of

Chapter 14.

As in the first volume, the activities of both the Dominion squadrons and airmen are recorded against a background of the air war; for without this background the narrative would lack perspective and appear rather as a series of unrelated, and at times repetitive, episodes. It has been far from easy to hold the balance. Moreover, the scale of air operations was so vast and the number of men involved so large that selection and summary have been inevitable. One would like to have included many more names and exploits and also to have discussed certain aspects of the air war more fully. But while this is an official record in which detail may rightly be expected, one felt it should also be made as readable and interesting as possible by including some impression at least of the life and work of all those whose battlefield was the 'blue dome of the sky'.

The documents and other sources of information on which the history is based have already been described in the Introduction to Volume I. I wish again, however, to record my appreciation of the very great help received from many officers of **Air Ministry, London, and especially from Mr J. C. Nerney and his staff of the Historical Branch. My thanks are also due to Flight Lieutenants B. G. Clare and N. W. Faircloth for their research on Bomber and Fighter Commands, and to Sergeant S. W. R. Holmes for his valuable assistance in many directions, including preparation of the biographical notes. I should like to add a particular word of thanks to the many men who have answered our requests for information and also to those who have read and commented upon the text.**

,
August 1954

ERRATUM

Page 196, line 3, for They read White. Rae only was taken prisoner.

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NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 1 – INTRODUCTION

CHAPTER 1

Introduction

The closing months of 1942 had brought a distinct change for the better in Allied fortunes. In the North African desert the British Eighth Army under General Alexander and General Montgomery had won a notable victory at **El Alamein** and was pursuing Rommel's beaten and battered *Afrika Korps* and Italian Army across **Libya** towards **Tripoli**. Farther west surprise landings in French North Africa by American and British forces had brought the whole of **Algeria** and **Morocco** and part of **Tunisia** under Allied control. In the **Far East** the Japanese had been halted and were now on the defensive. Heavy blows were being struck in New Guinea, and American naval successes were restoring to the United States the predominant position at sea. British troops under General Wavell were advancing from **India** into **Burma** and provided further evidence of the growing Allied strength in South-East Asia.

Tidings of remarkable victories also came from **Russia**, where Soviet armies, having trapped some 300,000 Germans at **Stalingrad**, were sweeping forward along the caravan trails of the Kalmuck steppes towards the Sea of Azov and Rostov. Indeed, the Red Army, helped by arms from **Britain** and **America**, was now on the offensive along its whole vast front. Finally, in **Europe**, ever-increasing pressure was being exerted against **Germany** from the west. Heavy **RAF** raids had begun to spread devastation in the industrial cities of the Rhineland, and every week the power of the air offensive was growing. Although far from beaten, the **Luftwaffe** seemed unable, for the time being at least, to hit back. Raids on **Britain** had dwindled to insignificant proportions, and with the peoples of the Commonwealth, in company with powerful allies, now armed, organised, and equipped for war as never before, the prospects seemed more hopeful. Only the shadow of the ever-growing U-boat menace darkened the outlook in the **United Kingdom**.

Such, briefly, was the war situation when Franklin Roosevelt and Winston Churchill met with the Chiefs of Staff at **Casablanca** in

January 1943 to carry their war plans a stage further. The defeat of **Germany** and **Italy** had already been declared the primary objective, and now that Great Britain and the **United States** possessed powerful and growing forces the problem was how best to bring these forces into action. Both nations had oceans and seas to cross before they could close with their enemies. Apart from the daring and complicated enterprise of landing on defended coasts, there was the need to build up all the supplies and communications necessary for vigorous campaigning once a foothold had been gained. Yet the Germans still held the initiative at sea. Indeed, during the last few months of 1942, sinkings of Allied ships had reached alarming proportions, and even though shipbuilding, as a result of prodigious efforts, bid fair to balance losses, Churchill and Roosevelt recoiled from planning ahead in cold blood on a basis of losing hundreds of thousands of tons a month; the waste of precious cargoes, the destruction of so many noble ships, the loss of heroic crews, combined to present a sombre picture. Therefore came the first decision at **Casablanca**: 'The defeat of the U-boat must remain a first charge on the resources of the **United Nations**.'

Once the measures to be adopted against the U-boat menace had been discussed, the Allied leaders turned their minds to the problem of attacking the Axis countries. Agreement was finally reached on essentials. First, the enemy was to be driven from the **Mediterranean**. This was to be followed by 'the assembly of the strongest possible forces in the **United Kingdom** in readiness to re-enter the Continent as soon as German resistance is weakened to the required extent.' Meanwhile, 'the heaviest possible air offensive against the German war effort was to be launched.' United States Air Forces were to be built up in England as fast as possible and later formations would be based in **Italy**, from where they would also attack **Germany**. This would introduce a new element into the air offensive, for while the British heavy bombers were designed for night work the American aircraft were built for daylight flying - they carried a smaller bomb load but were faster and more heavily armed. Thus a combined bomber offensive would be launched in which **Germany** would be attacked continually 'round the clock' and her air force

compelled to engage in a war of attrition.

The Casablanca Conference did much to clear the strategic atmosphere especially with regard to the use of air power, and it was thereafter possible for Allied strategists to plan with new assurance. But most of the work of the conference was done on the level of general policy, and although it laid down guiding principles it did not prepare specific plans; even the directive for the bomber offensive provided only a general indication of policy and gave only tentative direction. It therefore became the task in the succeeding months to translate the **Casablanca** decisions into terms of specific commitments and detailed objectives. This proved far from easy: for while the conquest of **Sicily** was accepted as a logical step after the occupation of the North African seaboard, there soon appeared considerable divergence in Allied views as to the next stage. British strategy favoured further exploitation of the successes in the **Mediterranean** even beyond driving **Italy** out of the war, but the Americans were more inclined to an early invasion of western **France**. There was much debate on these matters before it became clear that with the men, supplies, and equipment available, the only continental landing possible in 1943 would be in **Italy**. The cross-Channel assault was therefore further postponed until the spring of 1944. But under pressure from the Americans this operation, as its code-name **overlord** implied, now assumed a paramount position in Allied planning, with particular emphasis on development of the combined attack on **Germany** by **Royal Air Force** Bomber Command and the **United States 8th Air Force**.

In **Berlin** the opening of the fourth year of war was regarded with far less optimism. However, while an early victory now seemed remote, the Nazi leaders felt that they could defeat an invasion of the Continent, upon which the discouragement and distress of the Allies might be such that the attempt would not be repeated. Meanwhile the war at sea was going well for the Germans and, in spite of severe reverses on the Eastern Front, **Hitler** still hoped to deal **Russia** so hard a blow that even if she could not be conquered her aggressive power would be restricted.

Further, German scientists were now pressing forward the development of long-range weapons with which they hoped to pound **London** and other British cities to rubble. One of these weapons was the flying bomb, another a huge rocket missile, and there were variations on these two main themes. Experiments with the still more deadly possibilities of atomic weapons were also being made in **Germany**.

But in the meantime the war had to be fought and, both in the air and on land, the immediate prospects were less favourable for the Germans. The Luftwaffe in particular was in serious difficulties. A long period of air fighting on three widely separated fronts, culminating in the major effort at **Stalingrad** first to force a decision and then to extricate the surrounded German Army, had imposed a severe strain and raised urgent problems of manpower and equipment. On top of this there was the imminent threat of heavier Anglo-American air attacks. Far-sighted officers of the German Air Staff had already seen the imperative need for a radical change of policy to meet this new threat, but any attempt on their part to present the facts realistically was liable to be castigated as 'defeatism'. Only when it was too late did their arguments secure grudging support. At the beginning of 1943 both **Hitler** and Goering refused to accept proposals that the **Luftwaffe** should sacrifice its offensive power to the requirements of defence, and it was only as the Allied air attack on German industry developed that, under pressure of circumstances, fighter production was given priority, and even then **Hitler** was still disinclined to accept any reduction of bomber output in favour of fighters. Eventually **Germany** was compelled to devote the greater proportion of her aircraft industry to the building of fighters, and her offensive power was further weakened by the transfer of some bomber types to the role of night fighter.

Many of the **Luftwaffe's** current difficulties were the result of persistent optimism and lack of firm direction on Goering's part during the early years. Udet, his old comrade in arms from the First World War to whom the task of building up the **Air Force** had originally been entrusted, had committed suicide in despair at the end of 1941, and his

successor, Milch, had also failed to secure sanction for expansion programmes. Thus, during the critical period of 1942 while the Allied war potential was being rapidly mobilised and built up, the fighting value of the **Luftwaffe** had considerably declined. By 1 January 1943 its operational strength, the barometer of fighting capacity, had sunk to some 4000 aircraft, while its initial reserves, previously an important adjunct, had fallen away to almost nothing. Little provision had been made to meet the possibility of a major setback such as now occurred. Indeed, the German leaders had resolutely declined to consider the possibility of being compelled to wage a defensive war in the air. From the beginning they had planned for a series of blitzkriegs of short duration and, in spite of reverses, had clung to their belief in a rapid victory even as late as the second half of 1942. Yet now, when this hope could no longer be entertained and it was imperative to lay down a new programme for a long war, decisions were made with reluctance and hesitation.

Goering, although still *Reichsmarshall* and head of the **Luftwaffe**, was fast losing his grip on events. The successive failures over **Britain** and in **Russia** had badly shaken **Hitler's** faith in the **Luftwaffe** and its chief, and he now took it upon himself to make important decisions on air matters. Relations between the two Nazi leaders became more and more strained, with Goering as doubtful about **Hitler's** genius as **Hitler** was of Goering's ability as air commander. Already there had been many dramatic interviews, and to escape the tension of such meetings and the reproaches of his Fuehrer Goering had withdrawn into a fantastic world of his own and taken less and less interest in affairs. General Jeschonnek, Chief of Staff of the **Luftwaffe**, eventually broke down under the strain of the confusing and contradictory tasks he was set and shot himself in August 1943.

As the months passed there was some evidence of a loss of fighting spirit in the German squadrons and the transfer during the fourth winter of the war of 200,000 trained men from the German **Air Force** to the Army can scarcely have improved morale. While suicide was apparently

a popular item in the Nazi code, the rise in the suicide rate in the **Luftwaffe** from a modest 45 a month in 1941 to 70 a month in 1943 also tells its own tale. It was probably for the purpose of keeping up the morale of their air services that the **German High Command** credited certain fighter pilots with successes which now seem incredible. For example, by the autumn of 1943 four pilots had been awarded the Oak Leaves to the Knight's Cross for the destruction of two hundred Allied aircraft each.

Yet despite the struggle of the German Air Staff against the obstinacy of **Hitler**, the incompetence of Goering, and the failure of the High Command to appreciate the consequences of losing air supremacy, the **Luftwaffe**, particularly its fighter arm, remained a substantial force to be reckoned with in all military calculations up to the closing months of the war. Each stage of what was, from 1943 onwards, a losing battle was bitterly contested.

In marked contrast to the increasing difficulties which faced the **German Air Force** at the beginning of 1943 was the steady growth of Allied air power. The build-up in the **United Kingdom** of American strength was now reaching significant proportions, and earlier plans for the expansion of the **RAF** were also bearing fruit. A vast mass of weapons and machines poured from the busy factories of **Britain**, the **United States**, and **Canada**. They included more powerful bombers, faster and more efficient fighters, together with reconnaissance aircraft of greater range that would reach out and strike the U-boats in mid-**Atlantic**. The American output, which by the end of 1943 rose to more than 8000 machines a month, included large numbers of transport aircraft; **Britain** devoted less attention to this type, but her output of heavy bombers was as notable in relation to her productive capacity as that of the United States, while her production of such smaller machines as the Spitfire was prodigious.

Few completely new aircraft were introduced into the Royal Air Force during the second half of the war, technical superiority over the **Luftwaffe** being maintained by the steady development and progressive

refinement of existing types such as the Lancaster and **Halifax**, the versatile Mosquito with its varied combat and photographic reconnaissance duties, new marks of Spitfire for both high and low-altitude work, and the Typhoon fighter and fighter-bomber. American types continued to add to the strength of the **RAF**, but the bulk of the aircraft in service in all commands continued to be of British design and construction.

To fly the larger number of machines now available a great army of aircrew, pilots, navigators, and wireless operators and air gunners was ready, and more would follow from the training establishments in an ever-increasing flow. As regards the **Royal Air Force**, this had been made possible by the extension and expansion of the Commonwealth Air Training Plans during 1942. Such was the success of the various schemes that towards the end of 1944, when the **German Air Force** was cutting down its training programme in a desperate attempt to provide sufficient front-line aircrew, the **Royal Air Force**, partly it is true because likely casualties were over-estimated, found itself embarrassed by the flow of trained men arriving in the **United Kingdom**. The squadrons were unable to absorb all of them before the war in **Europe** came to an end.

Throughout the second half of the war New Zealand continued to make a substantial contribution towards the achievement of Allied supremacy in the air. The training organisations in the Dominion had been expanding continuously since the beginning of the war, so that in spite of the increasingly important part played by the **RNZAF** in the **Pacific** area, New Zealand was able to continue sending airmen to the **Royal Air Force** through the Empire Air Training Plan. Pupils of each category received their preliminary ground training in New Zealand. Then the observers and air gunners, together with a proportion of pilots, were sent to **Canada** for further training, the balance of the pilots completing their course in New Zealand. By the middle of 1943 the number of New Zealand airmen under training was 20,000 and the total with the **RNZAF** and the **RAF** was some 42,000, of whom one-third were

overseas serving in the **United Kingdom**, the **Middle East**, in **India** and **Burma**, as well as in the **Pacific**. Seven New Zealand squadrons had now been formed in the **Royal Air Force**, three of them with **Fighter Command**, two with **Coastal Command** and two with **Bomber Command**. Yet, splendid though their record was to be, these seven squadrons represented but a small part of the Dominion's contribution, for the majority of its men serving with the **Royal Air Force** were scattered among **RAF** units.

This continued dispersal was inevitable however undesirable some considered the submergence of the identity of the **Royal New Zealand Air Force**. The main difficulty was that New Zealanders on completing their training reached the **RAF** in small groups, sometimes all of the same aircrew category, and therefore could not easily be formed into separate operational units without dislocation of training and frustrating delays to the men themselves. So while efforts were made to see that the seven New Zealand squadrons already formed in the **RAF** received their full quota of Dominion aircrew, and **Air Ministry** endeavoured to post New Zealanders to squadrons in which their fellow countrymen were already serving, no further New Zealand squadrons were formed in the **Royal Air Force** after 1943. In any case, the policy of concentrating men from a particular part of the Commonwealth in separate units, strongly advocated in some quarters, was far from being universally popular among the aircrews themselves, many of whom when given the choice preferred to serve with **RAF** units. Moreover, it was the considered opinion of some who were in a position to see both sides of the problem that the more flexible arrangements adopted by New Zealand were not only of the greatest help to the **RAF** in securing the best possible employment of all trained aircrew but also had a broadening effect on all concerned. Administrative difficulties were reduced to a minimum by close co-operation between the **Air Ministry** and the **New Zealand Air Headquarters** in **London** on such matters as the employment of the New Zealand squadrons, the posting of senior **RNZAF** officers, and the general welfare of Dominion airmen attached to the **Royal Air Force**.

By the beginning of 1943 some of the New Zealanders who had served with the **RAF** in **Britain** during the early campaigns had been posted to the Middle or **Far East** and a few had returned to serve with the **RNZAF** in the **Pacific**. Nevertheless, the main contribution continued to be in the European theatre, and it is with the services of New Zealanders in this sphere of operations that the present volume is primarily concerned.

Here the Dominion was to be represented during the second half of the war by such distinguished leaders as Air Marshal Sir Arthur Coningham, ¹ who commanded the Second Tactical Air Force in its preliminary operations from **Britain** and subsequently in support of the Allied armies on the Continent; Air Marshal Sir Roderick Carr, ² who continued in command of a Bomber Group; Air
Vice-

¹ Air Marshal Sir Arthur Coningham, KCB, KBE, DSO, MC, DFC, AFC, Legion of Honour (Fr.), Distinguished Service Medal (US), Order of Leopold (Bel.); Croix de Guerre with Palm (Bel.); born **Brisbane**, 19 Jan 1895; **1 NZEF** 1914–16; entered RFC 1916; permanent commission **RAF** 1919; AOC No. **4 Group**, Bomber Command, 1939–41; AOC Western Desert, 1941–43; AOC 1st TAF, N. **Africa**, **Sicily**, **Italy**, 1943–44; AOC-in-C 2nd TAF, invasion of NW Europe and **Germany**, 1944–45; lost when air liner crashed during **Atlantic** crossing, Jan 1948.

² Air Marshal Sir Roderick Carr, KBE, CB, DFC, AFC, Orders of St. Stanislas and St. Anne (Rus.), Croix de Guerre (Fr.); **RAF** (retd); born NZ 31 Aug 1891; **1 NZEF** 1914; transferred RNAS 1915 and **RAF** 1918; permanent commission **RAF** 1926; served in **France**, 1939–40, with Advanced Air Striking Force; AOC N. **Ireland**, 1940–41; AOC No. **4 Group**, Bomber Command, 1941–44; DCAS, Supreme HQ, Allied Expeditionary Force, 1944–45; AOC Base Air Forces, SE Asia, 1945; AOC-in-C **India**, 1946.

Maynard ¹ at Headquarters, **Coastal Command**; and Air Vice-Marshal Russell, ² in charge of a Training Group in Fighter Command. Many RAF stations and bases in **Britain** and on the Continent were to be commanded by New Zealanders, notably Air Commodores A. McKee, ³ S. C. Elworthy, ⁴ and G. T. Jarman, ⁵ Group Captains G. J. Grindell ⁶ and L. E. Jarman ⁷ in Bomber Command; Group Captains P. L. Donkin, ⁸ P. G. Jameson, ⁹ H. N. G. Isherwood, ¹⁰

¹ Air Vice-Marshal F. H. M. Maynard, CB, AFC, Legion of Merit (US); **RAF** (retd); born **Waiuku**, 1 May 1893; served with RN Divisional Engineers 1914–15; transferred RNAS 1915; **RAF** 1918; permanent commission **RAF** 1919; AOC **RAF** Mediterranean, 1940–41; Air Officer in Charge of Administration, **Coastal Command**, 1941–44; AOC No. 19 Group, **Coastal Command**, 1944–45.

² Air Vice-Marshal H. B. Russell, CB, DFC, AFC; **RAF** (retd); born Hastings, 6 May 1895; commissioned Royal Field Artillery, 1914; seconded RFC 1915 and **RAF** 1918; permanent commission **RAF** 1919; SASO No. 21 Training Group, 1939–40; SASO No. 2 **RAF** Component, **France**, 1940; served with Fighter Command, 1940–41; AOC No.215 Group, **Middle East**, 1942–43; AOC No. 70 Group, **United Kingdom**, 1943–45; Air Officer i/c Administration, HQ FTC, 1946–49.

³ Air Vice-Marshal A. McKee, CB, CBE, DSO, DFC, AFC; **RAF**; born **Oxford, Canterbury**, 10 Jan 1902; joined **RAF** 1926; permanent commission 1936; commanded No. 9 Sqdn, 1940; Wing Commander, Training, No. 3 Bomber Group, 1941; commanded **RAF** Station, Marham, 1941–42; **RAF** Station, Downham Market, 1942–43; Base Commander, Mildenhall, 1943–45; AOC No. **205 Group, Italy**, 1945; SASO HQ Mediterranean and **Middle East**, 1946–47; Commandant **RAF** Flying College, Manby, 1949–51; AOC No. 21 Group 1951–53; SASO Bomber Command 1953-.

⁴ Air Commodore S. C. Elworthy, CBE, DSO, DFC, AFC; **RAF**; born **Timaru**, 23 Mar 1911; permanent commission **RAF** 1936;

commanded No. 82 Sqdn, 1940–41; Ops Staff, No. 2 Bomber Group, 1941; Group Captain, Operations, HQ Bomber Command, 1942–43; commanded RAF Station, Waddington, 1943–44; Air Staff, HQ Bomber Command, 1944; SASO No. 5 Bomber Group, 1944–45; commanded Royal Pakistan Air Force Station, Drighroad, 1945–49; RAF Stations, Tangmere and Odiham, 1951–53.

⁵ Air Commodore G. T. Jarman, DSO, DFC; **RAF**; born **Ashburton**, 20 Feb 1906; joined **RAF** 1930; permanent commission 1936; CGI No. 2 FTS, 1939–40; commanded No. 77 Sqdn, 1940–41; No. 76 Sqdn, 1941; 19 OTU, 1941–43; RAF Station, Wigtown, 1943; DCAS, **RNZAF**, 1943–44; AOC No. 229 Group, ACSEA, 1945.

⁶ Group Captain G. J. Grindell, DFC, AFC and bar; **RAF**; born Geraldine, 20 Aug 1910; joined **RAF** 1932; permanent commission 1938; flying duties No. 5 FTS, 1939–40; Air Staff, HQ FTC, 1940–42; commanded No. 487 (NZ) Sqdn, 1942–43; RAF Station, Fiskerton, 1943–44; SASO RAF Mission to **Australia** and New Zealand, 1944–46.

⁷ Group Captain L. E. Jarman, DFC; **RAF**; born **Christchurch**, 17 Aug 1907; joined **RAF** 1929; permanent commission 1934; CFI No. 23 OTU 1941; commanded RAF Station, Litchfield, 1941–42; SASO No. 93 Group, 1942–43; commanded RAF Station, Kir- mington, 1943; RAF Station, Wyton, 1943–44; SASO No. **205 Group, Italy**, 1944–45.

⁸ Group Captain P. L. Donkin, CBE, DSO; **RAF**; born **Invercargill**, 19 Jun 1913; Cranwell cadet; permanent commission **RAF** 1933; commanded No. 225 Sqdn, 1939–40; No. 4 Sqdn, 1940; No. 239 Sqdn, 1940–42; No. 33 Wing, 1942–43; No. 35 Wing, 1943–44; Member of RAF Delegation, **USA**, on visit to **Pacific** and Indian theatres of war, 1944; CI, School of Air Support, 1944–45.

⁹ Group Captain P. G. Jameson, DSO, DFC and bar, Norwegian War Cross, Silver Star (US), Order of Orange Nassau

(Hol.); **RAF**; born **Wellington**, 10 Nov 1912; joined **RAF** 1936; commanded No. 266 Sqdn, 1940–41; Wing Leader, Wittering, 1941–42, and North Weald, 1942–43; Planning Staff, No. 11 Fighter Group, 1943–44; commanded No. **122 Wing**, 2nd TAF, 1944–45; **Air Ministry** 1946–48; commanded Wunsdorf Station, 2nd TAF, 1952–54; SASO No. **11 Group**, 1954-.

¹⁰ Group Captain H. N. G. Isherwood, DFC, AFC, Order of Lenin (**USSR**); born **Petone**, 13 Jul 1905; served with NZ Mounted Rifles, 1924–30; joined **RAF** 1930; permanent commission 1936; flying duties, Aeronautical and Armament Experimental Establishment, 1936–41; Sector Commander, No. 9 Fighter Group, 1941; Controller, HQ No. 9 Fighter Group, 1941; commanded No. 151 Hurricane Wing in **Russia**, 1941; commanded RAF Stations, Church Stanton, Valley and Woodvale, 1942–44; RAF Station, Mauripur, **India**, 1944–45; commanded No. 342 Wing, SE Asia, 1945; killed in aircraft accident, 24 Apr 1950.

R. L. Kippenberger, ¹ and D. J. Scott, ² and Wing Commanders R. F. Aitken ³ and J. S. McLean ⁴ in Fighter Command and the Second Tactical Air Force; and Group Captains A. E. Clouston ⁵ and D. McC. Gordon ⁶ in **Coastal Command**. In addition, sixteen New Zealanders were to lead **RAF** wings and a further seventy-two were to command **RAF** squadrons for periods during the second half of the war; many more served as flight commanders or in similar posts of responsibility with the flying units. But it was upon the ordinary aircrew that the success or failure of operations ultimately depended. And here the New Zealand pilots, navigators, wireless operators and air gunners, many of them fresh from the training units, continued to uphold the reputation for quiet efficiency and loyal service established by their fellow countrymen during the earlier years. By the end of the war just under 11,000 New Zealanders had served with the **RAF**, and of this number 3290, or nearly one-third, lost their lives. These heavy casualties were due to the fact that the majority of the men served as aircrew, approximately half with Bomber Command where losses were particularly severe.

There was, however, a significant group, some nine hundred in all, who worked in various ground trades, servicing and repairing aircraft or sharing the vast network of ancillary services upon which the air operations depended. Indeed, New Zealanders were to be found in almost every branch of the service and in widely scattered

¹ **Air Commodore R. L. Kippenberger**, CBE; **RAF**; born **Prebbleton, Canterbury**, 3 Dec 1907; joined **RAF** 1930; permanent commission 1936; commanded No. 142 Sqdn, 1941; **RAF Station, Feltwell**, 1942; **RAF Station, Swanton Morley**, 1943; Group Captain, Operations, HQ No. 2 Bomber Group, 1944; commanded No. 137 Wing, No. 2 Bomber Group, 1944–45; **RAF Mission to Aust and NZ**, 1946–49; commanded **RAF Station, Upwood**, 1950–52; **AOC No. 64 Group**, 1953–54.

² Group Captain **D. J. Scott**, DSO, OBE, DFC and bar; born **Ashburton**, 11 Sep 1918; salesman; joined **RNZAF** Mar 1940; commanded No. 486 (NZ) Sqdn, 1943; Wing Leader, **Tangmere**, 1943–44; commanded **RAF Station, Hawkinge**, 1944; **No. 123 Wing, 2nd TAF**, 1944–45.

³ Wing Commander **R. F. Aitken**, OBE, AFC; **RAF**; born **Outram**, 15 Sep 1913; joined **RAF** 1937; a pioneer of air-sea rescue; commanded No. 3 Sqdn, 1941–42; Wing Commander, **Night Ops, No. 11 Fighter Group**, 1942; commanded **RAF Station, Hawkinge**, 1942; **RAF Station, Bradwell Bay**, 1942–43; **No. 150 Airfield, Bradwell Bay**, 1944–45.

⁴ Wing Commander **J. S. McLean**, OBE, DFC; **RAF**; born **Hawera**, 19 Feb 1912; joined **RAF** 1932; commanded No. 111 Sqdn, 1941; Wing Leader, **North Weald**, 1941; commanded **RAF Station, Hunsdon**, 1941–42; **RAF Station, Catterick**, 1943; Staff duty, Organisation, **No. 10 Fighter Group**, 1944; commanded **RAF Station, Preddanack**, 1945.

⁵ Air Commodore **A. E. Clouston**, DSO, DFC, AFC and bar; **RAF**; born **Motueka**, 7 Apr 1908; joined **RAF** 1930; test pilot, **Experimental Section, Royal Aircraft Establishment**, 1939–40;

served with Directorate of Armament Development, MAP, 1940–41; commanded No. 1422 Flight, 1941–43; No. 224 Sqdn, 1943–44; RAF Station, Langham, 1944–45; BAFO Communication Wing, 1945–47; RNZAF Station, **Ohakea**, 1947–49; RAF Station, Leeming, 1950; Commandant Empire Test Pilots' School, 1950–53; AOC Singapore, 1954–.

⁶ Group Captain D. McC. Gordon, OBE, AFC; **RAF** (retd); born Waverley, 7 Apr 1905; joined **RAF** 1930; permanent commission 1936; CFI No. 7 FTS, 1938–40; commanded an Initial Training School, **Canada**, 1940–41; Control duties, HQ No. 18 Group, 1941–42; commanded No. 119 Sqdn, 1942–43; RAF Stations, Invergordon, Castle Archdale and Lagens, Azores, 1943–46.

units from **Air Ministry** in **London** to the radar station sited at a remote spot on the north-east coast of **Scotland** where Flight Sergeant Kennard, ¹ in charge of the technical maintenance, won commendation for his efficiency. Some men held responsible posts in the various commands as administrative, training or technical officers, and a relatively large group of New Zealand doctors served with the **RAF** medical branch.

Of particular interest is the contribution made by Group Captain Watt ² who was intimately connected with the research and development of jet aircraft engines for the greater part of the war. A graduate in engineering in New Zealand and **London**, Watt had been appointed to a permanent commission in the **Royal Air Force** six years before the war. After service with a light bomber squadron and a further period of advanced specialisation in aeronautical engineering, he had been a test pilot at **Farnborough** where he did over a hundred 'blackings-outs' in the air to assess the value of various appliances. Then he continued on research and development work with the Ministry of Aircraft Production, where for the last two years of the war he was Deputy Director of Special Projects. Watt's work in stimulating progress and getting co-operation between the various industrial firms concerned with the new invention is regarded by those with whom he was

associated as particularly valuable. A few months after the war an American observer, noting the success of this collaboration in **Britain**, declared that 'The great progress made in the few years of war and the present excellence of British gas turbines could not have been achieved but for the wholehearted way in which the various firms interchanged "know-how" through the medium of the collaboration committee.'³ Watt was associated with this committee from its formation in 1941 and was chairman in the later stages. His knowledge and ability were also of the greatest assistance in the decisions that had to be made regarding the forward types of engine that were to be built. The tremendous expansion of British engineering activities under the stimulus of war produced a shortage of technical talent which was acutely felt in the aircraft gas-turbine sphere. Group Captain Watt thereupon proposed a scheme whereby young air force engineer officers from the Dominions should come to England to help the work, obtaining at the same time training in the new art. This proposal started a training school which continued

¹ Flight Sergeant R. G. M. Kennard, BEM; born **Ashburton**, 19 Jun 1919; radio mechanic; joined **RNZAF** Dec 1940.

² Group Captain G. E. Watt, CBE, AFC, Legion of Merit (US); **RAF** (retd); born **Frankton**, 10 Feb 1908; permanent commission **RAF** 1933; test pilot, RAE Farnborough, 1939–40; research duties with MAP, 1940–43; Deputy Director Special Projects, MAP, 1943–45; CEO Fighter Command, 1950–51; CTO **RAF** College, Henlow, 1953–54.

³ *Journal of the Aeronautical Sciences*, February 1946 – Ninth Wright Brothers Lecture on 'British Aircraft Gas Turbines'.

after the war with reciprocal advantages. When the **United States** was given the results of British research in order to speed up the development and production of jet engines, Watt was largely responsible for the happy liaison established with the Americans. He was made an

officer of the Legion of Merit in recognition of 'a very high contribution to the common effort.'

* * * * *

At the beginning of 1943, although eventual victory seemed more certain, hard battles had still to be fought. The tide had turned, but it had a long way to go back. And while the Allied leaders, cheered by the remarkable victories on land and apprised of the enemy's increasing difficulties, could see the way ahead more clearly, to the ordinary aircrew member of a squadron, and perhaps even more to the airman who worked on the aircraft in hangars or at dispersal points on airfields in **Britain**, the grand strategy of the war seemed remote and meant little. True, the fighter pilots saw tangible evidence of the favourable progress of the war as in ever larger formations they escorted bombers to attack targets deeper and deeper in enemy territory, but to the men with **Coastal Command** the war against the German U-boats was for the most part a dull routine of patrols over the sea in which only a few saw action. The bombing offensive was also an impersonal sort of war and monotonous in its own peculiar way. Night after night as weather and equipment permitted, the Lancasters, Halifaxes and Stirlings went out, dropped their bombs, and turned homeward. The immediate results of their attacks could be photographed and assessed by skilled interpreters but rarely was a single raid or series of raids decisive; whatever earlier theory had taught of the sudden paralysis of a nation by strategic bombardment, it was now clear that the effects of bombing were gradual, cumulative, and during the course of the campaign rarely measurable with any degree of assurance. Thus there was little visible progress, such as Allied soldiers could sense as they pushed Rommel's forces back from **El Alamein** to **Cape Bon**, to encourage the men of Bomber Command. The crews went out time and again to hit targets which they had seemingly demolished before, and it was only towards the end that the full results of the bombing attacks became apparent. As drama the 'big show' tended to be flat, repetitive, and without climax.

However, as the months passed, with the Allies moving towards

mastery of the air over **Europe**, preparations for the invasion of the Continent brought a quickening of interest on all sides. Even to the humblest airman it then became clear that his particular job, however small its scope, had meaning as part of the overall plan. And when finally the Allied armadas set sail and were able to cross the Channel unhindered by enemy air or naval craft, and then the armies, with a minimum of casualties from enemy bombing, were able to secure a lodgment on enemy territory, the men of the Allied air forces could justifiably feel a deep sense of achievement.

Those who worked and flew with the **Royal Air Force** in these later years of the war continued to show the same enthusiasm, courage, and devotion to duty that had been a feature of the earlier campaigns. They also displayed great skill in the handling of new and highly technical weapons and in applying the subtlest and most intricate devices of modern science. Young and adventurous, they were capable of sudden and wild bursts of gaiety and high spirits when the tension of their work was momentarily relaxed. Sometimes these outbursts were spontaneous – like summer lightning – but often it was a particular success or an unexpected survival that called for a ‘party’, for letting off steam in an atmosphere of ‘eat, drink and be merry for to-morrow we may not be so lucky.’

Typical of this lighter side of service life were the visits to the ‘local’. For in town or village near most stations there was always the ‘King’s Head’ or ‘Rose and Crown’ to which men roared along, packed in cars of ancient vintage and with ruffled hair and scarves flying, to pass an hour in gay banter, song or darts. There would be much talk of ‘wizard types’, ‘binding jobs’, ‘duff gen’ and ‘bad prangs’, and amid the laughter and clatter of glasses lots of ‘natter’ about ‘pressing on regardless’ in ‘ropey kites’ and some good ‘line- shooting’. On such occasions deep underneath was hidden the real men who had ‘seen their comrades fall from the skies and knew too well the look in dead men’s eyes.’ Some observers, deceived by the apparent light-hearted and carefree attitude shown by the air- crews, were inclined to frown at such

frivolity and the 'indiscipline' of the service. They failed to realise that these men, shining youth on the threshold of life, were living under circumstances of intense and continual strain and that, in Bomber Command particularly, they were faced with the very strong possibility of death in one of its least pleasant forms.

Yet these same young men could be both grim and purposeful when occasion demanded. There was much pride in squadron achievement and a fine spirit of comradeship among the members of individual crews. And if the effect of their sorties was seldom evident at the time, many men found ample compensation in the exhilaration of speed, in the sense of elation which came from flying a high-powered machine, and even in such small things as the sight of a familiar beacon or landmark at the end of a long flight. In spite of inevitable periods of frustration when for various reasons things did not go well, and periods of inaction when men became 'browned off', as they put it, there was quiet determination to see the job through and an underlying contentment in the knowledge that difficult tasks were faithfully carried out. Many of the brightest and best of those who served in the air arm did not survive to see the crowning success. Yet all played their part in winning the air supremacy that was to prove the cornerstone of victory.

*** * * * ***

Air operations during the second half of the war were many and varied. They also passed through many different phases, but throughout there was steady development of new tactics, expanding strength, and heavier offensive by the Allied forces. In the European theatre the outstanding feature of the early months of 1943 was the successful campaign against the U-boats in the **Atlantic. Attention then turned to the aerial assault on **Germany**, which offensive tended to be divided into two steadily increasing phases – night operations by the **Royal Air Force** and daylight attacks by the **USAAF**, although medium bombers, fighter-bombers, and fighters of the **RAF** kept up a steady, if less spectacular, offensive by day throughout the year.**

By the end of 1943 the combined Allied air attack was gaining momentum, and as the heavy bombers penetrated to the heart of **Germany** more and more of German air power was deployed to protect vital war industries. The defence was strong and vigorous and the Allies suffered severe casualties. But after the heavy attacks on German aircraft factories and the fierce battles over enemy territory during the early months of 1944, the outcome of the air war was no longer in doubt. With the **Luftwaffe** seriously weakened and driven back almost entirely on to the defensive, the concentration of invasion forces in **Britain** could proceed without fear of serious air attack. The domination by Allied air power of the beaches of **Normandy** was also assured.

In March 1944 the air campaign in preparation for the assault on **Europe** entered its final stage and a sustained attack was begun by the heavy bombers upon the railway system in **France** and **Belgium**. Meanwhile the Second Tactical Air Force had been formed in **Britain** to give close support to the Allied armies when they landed on the Continent. Drawing on experience gained in the **Middle East**, where the co-operation between the ground and air forces during the North African campaigns had been highly successful, its squadrons had joined in the wide pattern of operations by which Allied air power was exercised to help the armies establish themselves on the Continent.

With the successful landings in **Normandy** the role of air power in conjunction with land forces again came into full play. The breakout from the bridgehead was preceded by saturation bombing of the enemy positions. The medium and heavy bombers, fighters and fighter-bombers then joined in attacks on concentrations of troops and armour, on road and rail communications, and on vital crossroads and supply dumps. Enemy aircraft were engaged in battle wherever they appeared and there were raids on airfields, reconnaissance and transport flights as the land-air team pursued the Germans to the Siegfried Line. They fought it out over **Holland** and **Belgium**, met the enemy's counter-attacks in the Ardennes with determined ground and air action, and pushed forward again up to and across the Rhine and into the heart of **Germany**.

Meanwhile, behind the enemy lines, air power played a vital role with attacks on communications by land and sea and on the enemy's dwindling resources of oil and power. And so effective were these attacks that when the end came the collapse of the whole German economy was imminent.

Partner with the Navy over the sea lanes; partner with the Army in ground battles; partner with both on the invasion beaches; reconnaissance photographer for all; mover of troops and critical supplies; defender of the home base; attacker of the enemy air force and vital strength far behind the actual battle line – this in brief is the broad sweep of the many roles which air power was to be called upon to play in the achievement of final victory. And these various roles were not played in separate scenes, but rather almost all of them would be going on at the same time. The menace of the submarine was never ended; support of the ground troops went on from day to day; the war in the air continued to the end, and while the weight of the bombing attack was sometimes directed against oil, sometimes on aircraft factories, sometimes on transport or other target systems, each had to have continual attention. Since the first outstanding achievement of the second half of the war was a notable victory against the U-boats in the [Atlantic](#), it is appropriate to turn first to the war at sea.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 2 – AIRCRAFT AGAINST U-BOAT

CHAPTER 2

Aircraft against U-boat

THE last months of 1942 had been a virtual paradise for the German U-boats. Within the space of twelve weeks they had sunk no fewer than 271 ships, totalling just over one and a half million tons. Provided with greater resources and a more efficient organisation than they ever possessed in the First World War, the German U-boat command was now making a supreme effort to sever the **Atlantic** supply lines and frustrate the launching of an Allied offensive in **Europe**. Hitherto the tonnage of shipping lost in 1917 had been deemed an astronomical figure unlikely ever again to be approached, yet the total losses for 1942, over six million tons, had far exceeded it. 'In the U-boat war we have England by the throat,' boasted Goebbels, the Nazi Minister for Propaganda. And if further indication of the enemy's intentions were needed it came with the appointment in January 1943 of Admiral Doenitz, previously in charge of the U-boat arm, to succeed Admiral Raeder as Commander-in-Chief of the German Navy. Doenitz immediately subordinated the requirements of the surface ships to the U-boat flotillas so that, in the fourth year of the war, production continued to outpace losses and more U-boats than ever before put to sea.

On the part of the Allies, while the gravity and extent of the German threat were now realised, there was some uncertainty as to how air power might best be used in meeting it. Attacks on the U-boats at sea were coming to be recognised in some quarters as the most direct and possibly in the long run the most effective method, but, as things were, it was felt that they needed to be supplemented by attacks on the submarines at their point of origin. The factories making component parts, the construction yards, and the operational bases on the French coast were suggested as suitable targets.

Bomber Command had already expended a not inconsiderable effort against the first two objectives but, in accordance with the **RAF** policy of area bombing, the attacks had been directed principally against the

cities themselves rather than against port facilities and factories; apart from the damage to the plant at [Augsburg](#), which had been attacked in daylight during April 1942 with heavy loss, the raids had been without noticeable effect on U-boat production. The plants making component parts for U-boats were many, widely scattered, hard to identify, sometimes inaccessible from the [United Kingdom](#) and difficult to destroy except by very heavy attacks, while a surplus of suitable productive capacity still existed in [Germany](#). The shipyards also presented small targets, often isolated from other suitable objectives and of the type not easily put permanently out of action by bombing. Nevertheless, the submarine menace had become so serious that further attacks on these difficult targets seemed warranted.

As regards the bombardment of the main U-boat bases on the Biscay coast - already undertaken on a limited scale by Bomber Command and the [USAAF](#) - both British and American observers entertained profound doubts. Apart from a strong reluctance to cause further damage to French civilian life and property, it was generally conceded that the roofs of the submarine shelters, constructed of reinforced concrete, sometimes over a dozen feet thick, were impervious to any projectiles then available. But many still hoped that, by disorganising the various installations and facilities in the port areas, the turn-around of U-boats at the bases might be slowed down to such an extent that their activity along the Allied shipping lanes would be effectively reduced. The British Admiralty in particular, deeply concerned at the inability to deal with the increasing numbers of U-boats at sea, was most anxious for the Biscay bases to be attacked. At Bomber Command, on the other hand, Air Marshal Harris ¹ protested vigorously against 'the employment of his force on a type of operation which could not achieve the intended object.' However, after a controversy confused by lack of accurate intelligence information, the Admiralty view prevailed, and British and American bombers were directed to continue their attacks on the Biscay bases until it might be conclusively determined whether or not they constituted profitable objectives.

Bomber Command renewed its offensive against U-boat bases with a heavy raid in mid-January on **Lorient which, as the largest, had been given first priority. In a series of nine area attacks on this port in little over a month, some 3630 tons of bombs were dropped. The **United States 8th Air Force** also attacked **Lorient** in daylight and as a result of the combined attack the town was heavily damaged and few buildings in the dock area remained standing. Then, at the end of February, the British bombers turned against St. Nazaire, which had already been subjected to a daylight raid by American**



EUROPE

¹ **Marshal of the Royal Air Force Sir Arthur Harris, Bt, GCB, OBE, AFC, Order of Suverov (**USSR**); Legion of Merit (US), Order of Polonia Restituta (Pol.), National Order of the Southern Cross (Bra.), Distinguished Service Medal (US); born Cheltenham, Gloucestershire, 13 Apr 1892; served 1st Rhodesian Regiment, 1914–15; RFC 1915; transferred **RAF** 1918; permanent commission 1919; AOC Palestine and Transjordan, 1938–39; AOC No. 5 Bomber Group, 1939–40; DCAS, **Royal Air Force**, 1940–41; Head of British Air Staff, **Washington**, 1941–42; AOC-in-C Bomber Command, 1942–45.**

bombers. Three heavy attacks were launched in which 2720 tons of bombs were dropped. The first of these attacks, by 400 Lancasters,

Halifaxes, Stirlings and Wellingtons, was reported as more concentrated than any of the raids on **Lorient**; at least 1000 houses were destroyed and fires were still burning a week later. After the subsequent attacks, which were almost as heavy, the town was devastated.

Meanwhile major attacks aimed at U-boat construction in German ports commenced at the beginning of February with a Bomber Command attack on **Hamburg**, but the principal targets for the British and American bombers were the two great naval bases of **Wilhelmshaven** and **Kiel**. The RAF raids were particularly heavy. On four nights during February more than 800 bombers went to **Wilhelmshaven**, while in a single raid on **Kiel** early in April the force used exceeded 550 aircraft. **Bremen** was also raided in February, a second attack was made on **Hamburg** at the beginning of March, while simultaneous raids were delivered against Stettin and **Rostock** during April. Altogether these six German ports were subjected to ten night attacks in addition to the daylight raids by the American bombers.

New Zealanders flew with **RAF** squadrons in each of Bomber Command's attacks. In addition, crews from No. 75 Squadron took part in five raids on **Lorient**, the three major attacks against St. Nazaire, and in both raids on **Hamburg**; they also flew to **Wilhelmshaven**, **Kiel**, and **Rostock**. Five New Zealand Stirlings failed to return from these missions. Pilot Officers Blincoe ¹ and McCullough, ² two of the most experienced pilots serving with the squadron, were lost with their crews in the first attack on **Hamburg**. Another captain, Sergeant Kidd, ³ whose aircraft was shot down in a January raid on **Lorient**, managed to evade capture and after a series of adventures returned to England four months later. The other members of his crew were either killed or made prisoner. Kidd had landed unconscious in a ploughed field after baling out from his burning machine, but the Germans missed him in their search. French people helped him with food, clothing, and shelter and eventually 'arranged' his journey down through **France** and over the Pyrenees into **Spain**.

Other crews reported eventful flights. Over Rostock one **Stirling** was

damaged in a collision with a Lancaster. The rudder was jammed and the fin bent and it was only when the bomber had gone

¹ Pilot Officer K. H. Blincoe; born **Nelson**, 3 Nov 1909; telegraph faultman; joined **RNZAF** Apr 1941; killed on air operations, 3 Feb 1943.

² Pilot Officer J. McCullough, DFC; born **Timaru**, 5 Aug 1912; clerk; joined **RNZAF** Jan 1940; killed on air operations, 3 Feb 1943.

³ Flight Lieutenant R. M. Kidd; born **Christchurch**, 29 Sep 1919; apprentice fitter and turner; joined **RNZAF** May 1941.

down to within a few hundred feet of the ground that the pilot, Sergeant Dalzell, ¹ regained control. He was then faced with a return flight of some 400 miles, but although the aircraft proved extremely difficult to keep straight and level he succeeded in reaching base. Another New Zealander who displayed determination and fine airmanship that same night was Flight Lieutenant Becroft ² of No. **218 Squadron**. Over Denmark his **Stirling** was hit by flak which damaged the engine and the elevator controls. However, Becroft decided to continue to the target, which was duly reached and bombed, and then under trying and difficult circumstances he flew his damaged machine back to base and landed safely.

In April 1943 Bomber Command was relieved of its commitment to attack the U-boat bases and specific construction facilities, although the offensive was continued for a time by the United States 8th **Air Force**. There was, particularly in the British Air Staff, a growing feeling that the heavy bombers would achieve a greater overall result and still contribute to the U-boat war if their attacks were concentrated against the main industrial centres in **Germany**. And while the Admiralty continued to press for further attacks, particularly against the French ports, there were soon more serious doubts in other quarters as to

whether bombing could achieve any immediate effect on the operations of the enemy submarine fleet. Fortunately by June the U-boat menace had greatly subsided and the main effort of the Allied bombers could be directed elsewhere.

This brief campaign and the controversy which accompanied it constituted a somewhat melancholy episode in the opening stages of the combined British and American air offensive, for it now appears that the comparatively heavy attacks on factories and building yards by both the **RAF** and the **USAAF** during the first half of 1943 had little effect on the German production of sub-marines. Indeed, not until the last months of the war did the U-boat production fall off seriously, and then the paralysis came partly from the vastly increased weight of attack and partly from the general disruption of transport facilities which in those later days affected all enemy industry. Even more frustrating to the Allied hopes were the attacks made against the operational bases on the French coast, for it seems that they had practically no effect on the activity of the U-boat fleet at any period. According to Admiral Doenitz, who as Commander of the German U-boat fleet was in a position to speak with authority, not only were the U-boat shelters

¹ Flying Officer H. J. Dalzell, DFM; born **Christchurch**, 31 Jul 1918; truck driver; joined **RNZAF** Jul 1941.

² Flight Lieutenant K. H. Becroft, DFC; born **Helensville**, 6 Jul 1915; carpenter and joiner; joined **RNZAF** Apr 1941.

impervious to anything but the very heavy bombs dropped occasionally in the later stages of the war by the **RAF**, but they housed virtually all the necessary repair and maintenance facilities. Bombing of surrounding installations did not therefore seriously affect the rate of turn-around of the U-boats. What slowed it most effectively, he claimed, was the necessity for repairing the damage done to hull structure by aerial depth-charge attacks delivered at sea. In fact, it was the air

attacks at sea in particular that stopped his desperate bid for victory in the Battle of the **Atlantic**. A similar conclusion was reached after the war by the United States Strategic Bombing Survey: 'In wresting victory from the enemy submarine strategic bombing can at best be considered to have been only an incidental contributing factor.'

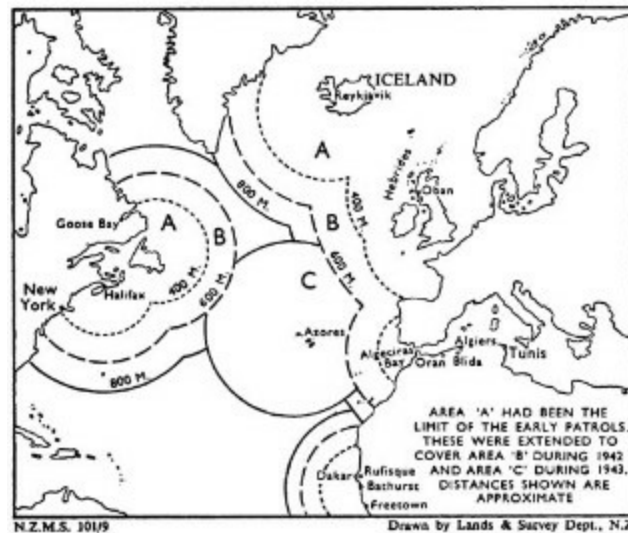
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As regards the aerial campaign at sea there was, at the beginning of 1943, some difference of opinion on the relative merits of giving close escort to all convoys and, on the other hand, of maintaining offensive patrols in areas of U-boat concentration such as the Bay of Biscay, where the German submarines passed to and from their bases in the French Atlantic ports. But the heavy losses then being suffered in the **North Atlantic** demanded that the major effort of RAF Coastal Command should be directed to the protection of shipping in this area.

The next few months were to see the peak of the German assault on the **North Atlantic** convoys and a most determined attempt to cut off **Britain's** supplies from the **United States** and **Canada**. There were now approximately one hundred U-boats at sea at any one time.¹ Spread in long lines across the shipping routes, one or other of them would sight and shadow a convoy while others assembled, and then would follow a series of 'wolf-pack' attacks which might continue for several days. During February and March 1943 some of the most bitter and prolonged engagements of the whole war were fought round convoys in the **North Atlantic** between U-boats and Allied air and surface escorts. Unfortunately, this critical period

¹ During 1943 the main types of operational U-boats used by the Germans were vessels of 517 and 740 tons carrying crews of about 45 and 55 respectively, although they were also building 1600-tonners for longer cruises and supply. The U-boats had two sets of machinery; diesel engines for propulsion on the surface and electric motors for use when submerged, the latter also serving as dynamos for recharging batteries on the surface. Maximum speed on the surface was about seventeen knots, but

the normal cruising speed of eight knots gave an endurance of some 10,000 miles. When travelling submerged on both motors top speed was about seven and a half knots, but then battery endurance was only two hours. At lower speeds a U-boat could remain submerged much longer, but the air became so foul that normally the vessel would not stay down for more than twenty hours at a time.



ATLANTIC AIR PATROLS

came at a time when the surface escorts of the **Royal Navy** were feeling the effects of their long periods at sea during the winter months, and some were absent from their groups owing to damage sustained in the heavy winter gales. However, vigorous counter measures planned a few months earlier soon began to have their effect. The provision of more aircraft, particularly American-built Liberators and Fortresses, flown by British crews, and the opening of new airfields in Northern Ireland, the Hebrides, and in **Iceland** made possible fuller protection of ships from the air. The first of the small aircraft carriers and additional surface escorts began to accompany some convoys while a highly efficient control organisation – the Area Combined Headquarters at Liverpool in which naval and air staffs worked side by side – was keyed to full pitch.

Land planes and flying boats of **Coastal Command** were now

employed to the limit of their range and endurance in order to give the fullest possible protection to threatened convoys, sorties averaging from ten hours in the case of Wellingtons to seventeen hours with the very-long-range Liberators, and even longer with Catalinas. The patrols flown were of three main types. First, there was the 'close escort' in which the aircraft, after meeting the convoy and exchanging recognition signals, remained in its vicinity carrying out searches on the orders of the senior naval officer on one of the escort vessels; secondly, there were offensive patrols sweeping on parallel tracks over the convoy's path and along its flanks. Such patrols were usually timed so that some aircraft reached the ships at dawn while relieving aircraft later in the day flew beyond the convoy, returning over or near it about dusk, the U-boat's favourite hour for attack. These tactics proved highly successful. Sometimes it was a shadowing U-boat that was depth-charged from the air or a pack gathering for the assault would be found and attacked; on several occasions German submarines were destroyed as the result of close co-operation between patrolling aircraft and the surface vessels of the escort, signals being exchanged by radio telephone or, when radio silence was deemed essential, by Aldis lamp. A third type of air patrol was the independent hunt over areas of the ocean where U-boats were known to be lurking, their presence revealed by sightings or by directional fixes from their radio transmissions. Information obtained from such sources was sent to the operational units so that crews could be briefed before setting out on their missions.

The principal weapon employed in the air attacks at this time was the 250-pound depth-charge set to explode at twenty-five feet below the surface, and from four to eight were carried by aircraft according to type and the length of their patrol. The depth-charges were aimed visually by the pilot but released by an electrical distributor so that they fell in an evenly placed stick, the intention being to straddle the U-boat so that one depth-charge fell near enough to cause lethal damage. In order to achieve surprise the aircraft usually patrolled at heights up to 5000 feet according to cloud cover, but the actual attack, which had to be a short and sharp affair before the U-boat crash-dived, was made from about

fifty feet. Yet it was not easy to manoeuvre a heavy four-engined aircraft into position for successful attack while the target was still visible. Moreover, the German submarines with their extra pressure hull of high-tensile steel were specially constructed to withstand the underwater blast of depth-charges. Nevertheless as training, tactics, and experience improved the air attacks became more accurate, inflicted greater damage, and more frequently resulted in the complete destruction of a most difficult and elusive target.

Particularly effective during the early months of 1943 were the patrols flown by the Liberators of No. **120 Squadron** from **Iceland** and Northern Ireland and by the Fortresses of Nos. 206 and 220 Squadrons from a base in the Outer Hebrides. Stripped of unessential armament and carrying maximum fuel, these machines were able to reach far out into the **Atlantic** and cover the area in which the U-boats were concentrating their attacks. Apart from the enormous deterrent value of their patrols the three squadrons had, by the end of March, completely destroyed ten U-boats, which was almost half the total sunk by the combined Allied air and surface forces in the **North Atlantic** during the same period. Indeed, while the efforts of those who flew the aircraft of shorter range were successful in keeping the U-boats away from the British coasts, it was the handful of crews flying VLR Liberators and Fortresses who played the more spectacular and decisive part in the **North Atlantic** battle at this time.

New Zealanders who flew from **Iceland** with No. 120 Liberator Squadron at this time included two pilots, Sergeants Bennett ¹ and Turnbull, ² together with Flight Sergeant McKeague, ³ navigator, and Sergeant Tingey, ⁴ wireless operator. Of particular interest is the part played by these men in the protection of one large convoy of sixty-four ships which crossed the **Atlantic** to the **United Kingdom** early in February. Bennett and McKeague flew in the first Liberator from **Iceland** to reach the ships in mid- **Atlantic** after an urgent call for air cover. Although the convoy was more than 800 miles from the air base in **Iceland**, the Liberator found the ships and remained with them for seven

hours, sighting and attacking three U-boats during its escort patrol. The following day Turnbull and Tingey were in the crew of another Liberator which attacked a U-boat in the path of the same convoy. A second U-boat was attacked near the ships that day by a Fortress of No. **206 Squadron** which had flown far out from the bleak and windswept airfield at Benbecula in the Outer Hebrides. Sergeant Easton ⁵ was a member of the crew. Rain and low cloud enabled the Fortress to achieve complete surprise and the four German lookouts were still on the conning tower as the depth-charges fell. Their explosions engulfed the U-boat, which disappeared, leaving a large patch of oil on the surface.

The passage of this particular convoy provides a good example of the important part now being played by aircraft in the **Atlantic** battle. The ships had left **New York** for the **United Kingdom** on 25 January and the first week of the voyage, during which air cover was provided from West Atlantic bases, was uneventful. On the

¹ Flying Officer H. J. Bennett; born Tuatapere, 11 Oct 1915; farmer; joined **RNZAF** Aug 1941; killed on air operations, 3 Feb 1945.

² Flying Officer B. W. Turnbull, DFC; born **Wellington**, 11 Jul 1915; teacher; joined **RNZAF** Jan 1940.

³ Warrant Officer V. B. McKeague; born **Timaru**, 27 Jan 1910; clerk; joined **RNZAF** Dec 1940.

⁴ Flying Officer N. R. Tingey; born **Wellington**, 4 Feb 1920; salesman; joined **RNZAF** Oct 1940.

⁵ Warrant Officer W. M. Easton; born **Wellington**, 27 Dec 1918; factory hand; joined **RNZAF** Jul 1940.

morning of the ninth day, however, the ships were sighted by a patrolling U-boat, which soon assembled a pack, and during the next few

days five vessels were lost. Although one U-boat was sunk in counter-attacks by the surface escorts, intercepted messages indicated a growing concentration in the vicinity. Therefore, during the next few days, in spite of rough weather which at one time caused the convoy to be spread over fifty square miles of ocean, the maximum possible air cover was provided from bases in **Iceland** and later in the **United Kingdom**; four more ships were lost, but ten U-boats were sighted and depth-charged from the air, one being sunk outright. Thereafter no further attacks were made on the remaining ships of the convoy, which reached port safely a few days later.

During the early months of 1943 the efforts of crews who flew patrols over the **Atlantic** were more frequently rewarded by sighting and attack, but few New Zealanders with **Coastal Command** were as fortunate as Pilot Officer Ackerman, ¹ navigator of a Fortress bomber which sank two U-boats within the space of a few weeks. The second attack was one of several made in the middle of March when two inward-bound convoys, routed close together, were being trailed and intermittently attacked by a pack of some thirty U-boats; thirteen vessels had been sunk during one day while the convoy was outside the range of air cover. The surface escorts were hopelessly outnumbered and unable to repel the mass attacks that took place. During the next few days every long-range aircraft that could be spared joined in the battle; nineteen U-boats were sighted and attacked, and finally the enemy's effort was broken. The intensity of the air cover and frequent depth-charging proved too much for the German U-boat commanders.

Among the aircraft which took part in this action were Liberators from No. **86 Squadron**, recently converted to this type of bomber. One crew, with an Australian captain and a New Zealander, Sergeant Lloyd, ² as second pilot, attacked two U-boats after they had flown nearly 800 miles from an airfield in Northern Ireland to cover the convoy in the early stages of the enemy assault. On their next three sorties this same crew attacked four more U-boats – a remarkable experience even in this period of intense activity. On the third patrol early in April, when they

were again escorting a convoy at extreme range from their base, a U-boat which they depth-charged near the ships is known to have been destroyed.

It was to the crew of another Liberator of No. **86 Squadron** that 120 survivors from a torpedoed British ship owed their rescue early

¹ Flight Lieutenant J. D. Ackerman, MBE; born **Masterton**, 6 Jul 1921; civil servant; joined **RNZAF** Oct 1940.

² Flying Officer J. Lloyd; born **Auckland**, 5 Jan 1920; storeman; joined **RNZAF** Nov 1941.

in May. The bomber, in which Flying Officer Robinson ¹ was wireless operator, was flying five hundred miles from land when a large patch of oil and wreckage was sighted. Nearby were six lifeboats roped together and drifting with the wind in a choppy sea. A signal brought a destroyer racing to the scene and in the meantime the Liberator circled the lifeboats, flashing messages and dropping food and supplies; then finally it placed markers to guide the rescue vessel on its approach six hours later.

During April, when altogether seven U-boats were destroyed by air attack, one of the most dramatic encounters was that reported towards the end of the month by Sergeant Gamlin ² and his crew of No. **206 Squadron**. Their Fortress was sweeping along the flank of a large convoy when a U-boat was sighted surfacing. By the time the bomber had turned and commenced its run in to attack, the submarine was fully surfaced and had opened fire from machine guns mounted on the conning tower. Undeterred, the aircraft continued its approach and the crew were elated to see their depth-charges fall in a perfect straddle. When the explosions subsided the bow of the U-boat was jutting out of the water at a steep angle, and a few moments later it sank almost vertically. The Fortress circled and prepared to make a second attack with its two remaining depth-charges but it was soon obvious that this would not be necessary.

A large patch of oil covered the sea, in which were pieces of the U-boat and some twenty to thirty members of its crew.

The months of April and May 1943 brought a remarkable change in the situation in the **North Atlantic** as the balance of advantage swung in favour of the Allies. In April merchant shipping losses fell to fifty-six vessels totalling 328,000 tons and in May they dropped further to fifty vessels of 265,000 tons. On the other hand, fifteen U-boats were destroyed in April and thirty-eight in May.

Several factors contributed to this favourable turn of events. At the end of March an **Atlantic** convoy conference in **Washington** had considerably strengthened and reorganised the available Allied resources, both naval and air. It had also adopted a new system of providing air protection for convoys crossing the **Atlantic**. There had been a reorganisation of **Eastern Air Command** in **Canada** and closer integration of its operations with those from the United Kingdom and **Iceland**. Each morning, after a long-distance telephone conference, convoys to be covered were given an order of priority; this was at once transmitted to all concerned on both sides of the **Atlantic** and in **Iceland**, then each Group replied stating what cover

¹ Flight Lieutenant J. N. Robinson; born Milton, 21 Sep 1918; railway porter; joined **RNZAF** Nov 1940.

² Flying Officer A. P. Gamlin; born Manaia, 31 Aug 1922; clerk; joined **RNZAF** Jun 1941.

it could provide, and details were arranged accordingly. Coastal Command was now receiving steady reinforcements of crews, the surface escort groups had been strengthened, and several more small aircraft-carriers had begun sailing with convoys. Finally, the gap in mid-**Atlantic** was at last being bridged by very-long-range aircraft flying from bases on both sides of the ocean.

This closing of the gap, which had long been the aim of **RAF Coastal Command**, is well illustrated by a patrol flown towards the end of April by a **Liberator** of No. **120 Squadron**. Two New Zealanders, Flight Sergeant McKeague and Sergeant Bennett, were among its crew. The bomber took off from its base near Reykjavik in **Iceland** early on the afternoon of 21 April, met a convoy in mid- **Atlantic** and remained with it for nearly five hours, during which time a U-boat was sighted and attacked. Then, after receiving a message from **Iceland** reporting a deterioration in landing conditions, the **Liberator** flew on across the **Atlantic** and landed the following morning at Goose Bay airfield in Labrador after a flight of nearly eighteen hours.

Gradually the increase in the range and strength of the Allied forces began to have its effect. There were still well over a hundred U-boats at sea at any one time and the German building yards were producing more than sufficient new vessels to make up for their losses, but for the first time the U-boat captains showed definite signs of losing heart, failing to press home their attacks even when favourably placed for doing so. The air patrols continued relentlessly, and the constant harassing from the air was a very strong deterrent. No longer could the enemy submarines approach convoys and remain immune from counter-attack. The time when a U-boat could stay on the surface shadowing a convoy while it homed others to form a pack was now passing. The assembling packs would be broken up and forced under by air attack often many miles from the convoys, and on occasion the shadowing U-boat itself destroyed before it could even begin transmissions.

At the end of May 1943 there was a notable achievement when a slow convoy of thirty-seven ships crossed the **North Atlantic** without the loss of a single vessel, in spite of the fact that throughout most of its passage it was shadowed and trailed by a large pack of U-boats. 'This success,' says an official Admiralty report, 'was achieved largely through the excellent co-operation between the surface escorts and the accompanying aircraft, particularly the strong support provided by the long range **Liberators** from **Iceland** operating at great distances from

their bases.'

Throughout the following weeks convoys came through with negligible losses and it was soon clear that the Allies had won a considerable victory. This was confirmed by the virtual withdrawal of the German U-boats from the **North Atlantic** at the beginning of June. Merchant shipping losses in that month fell to 96,000 tons, the lowest figure for nearly two years. The growing despondency of the German U-boat Command was reflected in various statements and in comments of the enemy press and radio. 'At present it is more and more difficult for U-boats to attack convoys nor may we hope that the U-boat campaign will lead to a quick decision,' wrote Admiral Gatow on 9 June, and a few weeks later another German naval expert openly declared that: 'The increased air support given to the Allied convoys has neutralised the U-boat's most powerful weapon – invisibility.'

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The main centre of interest in the U-boat war now shifted to the **Bay of Biscay** where squadrons of **Coastal Command** had long maintained offensive patrols from bases in the south-west of England. During the first half of 1943 New Zealanders continued to fly with the Sunderlands, Whitleys, Wellingtons, Halifaxes and Liberators which kept a constant watch by day and by night over the waters from **Cornwall** to the north coast of **Spain**. They also protected shipping in the south-western approaches. One Liberator squadron based at St. Eval in **Cornwall** was led by Wing Commander A. E. Clouston, who had come to **Coastal Command** after a distinguished career in experimental flying, while Squadron Leader Brass ¹ commanded a flight of Leigh Light Wellingtons ² and Squadron Leaders Marshall ³ and Baggott ⁴ held senior posts in Sunderland flying-boat squadrons.

The theory upon which the Biscay offensive was based was both simple and direct. For a long time most of the U-boats operating in the **Atlantic** had been based at ports on the west coast of **France**; indeed, practically the entire German submarine fleet passed backwards and

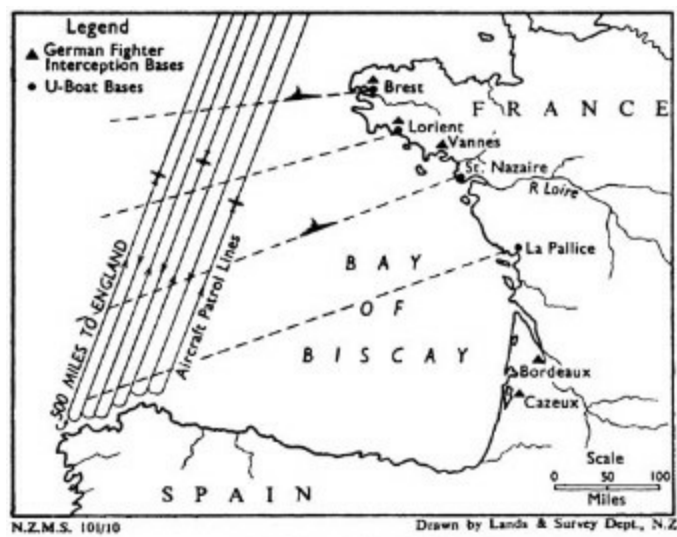
forwards across the **Bay of Biscay** so that there was often a high concentration in that relatively restricted area. Moreover, in

¹ Wing Commander D. M. Brass, DSO; born Otautau, 1 Dec 1916; joined **RAF** 1937; served on Atlantic Ferry, 1941; Instructor, No. 3 School of GR, 1941–42; commanded No. 612 Sqdn, 1943–44; CI No. 3 School of GR, 1945.

² The Leigh Light was a two-million candlepower searchlight, named after the officer responsible for its development; it was fitted in the under-turret of the aircraft. With pilot and radar operator working together, it was possible to locate and home on to surfaced U-boats at night; then at a range of approximately one mile the searchlight would be switched on to illuminate the target, which could then be attacked with depth-charges as by day. The Leigh Light in a modified form was later fitted to Liberators and Catalinas.

³ Wing Commander T. O. Marshall, DFC; born Stratford, 25 Nov 1914; joined **RAF** 1937; Flying Instructor, No. 4 OTU, 1942; Staff duties, D of AT, **Air Ministry**, 1943; killed on air operations, 8 Jul 1944.

⁴ Wing Commander S. G. Baggott, DFC; born **London**, 25 Nov 1916; joined **RAF** Jun 1938; commanded No. 95 Sqdn, W. **Africa**, 1945.



BISCAY PATROLS
 BISCAY PATROLS

their passage across the bay the German U-boats were obliged to spend appreciable time on the surface in order to recharge batteries, when they were particularly vulnerable to attack from the air. It was therefore argued that a sufficiently large force consistently employed over these waters might eventually strangle the German submarine campaign. But the difficulty was to secure the necessary force and to balance it so that the area could be effectively patrolled both by day and by night.

The introduction of the Leigh Light Wellingtons in the middle of 1942 had made the night patrols more effective, but towards the end of that year, just when **Coastal Command**'s effort began to bring an increase of sightings and attacks, the Germans countered the type of airborne radar then in use by fitting their submarines with a receiver that could detect approaching aircraft. The U-boat commanders were then able to evade attack by crash-diving. The result was that in spite of much patient and persistent effort the campaign against the U-boats in the **Bay of Biscay** was largely nullified. In fact it did not become really effective until March 1943, when the German U-boat commanders apparently began to lose faith in their search receivers. By that time improved radar was being fitted to Allied machines, and the provision of additional aircraft made possible more frequent patrols by night as well as by day, which gave the U-boats little respite during their passage. The

chances of aircraft catching them on the surface were further increased by the careful selection of patrol areas after sightings were reported or on the receipt of information from other sources.

Even so the Biscay patrols continued to demand much patience and steadfast endurance from the aircrews concerned. The amount of monotonous flying involved is difficult to imagine. There was not even the meeting of a convoy and the subsequent exchange of signals to break the long spell of flying over the sea. After five hours in the air the men might catch a glimpse of the coast of north **Spain** only to have to turn and begin the long flight northwards again. It was only on rare occasions that a sudden shout from one of the lookouts that he had sighted a possible U-boat provided welcome relief. Yet these alarms sometimes proved disappointing since the efficiency of patrols was marred by the presence of French and Spanish fishing vessels in the **Bay of Biscay**; much time was often wasted in following up radar contacts or distant sightings of these vessels. On other occasions a German submarine would be sighted when the aircraft was not in a position to make an immediate attack, and before it could turn and reach its target the U-boat would have submerged.

The night patrols during the winter months had been particularly dreary for the crews of the Leigh Light Wellingtons, but towards the end of March 1943, by which time many of the machines had been fitted with improved radar, the patrols began to show better results. A typical attack was made one night towards the end of the month by Flying Officer Lewis, ¹ captain of a Wellington from No. **172 Squadron**. His crew of five included four other New Zealanders. They were nearing the end of the southward leg of their patrol when the radar operator reported a possible target ten miles to starboard. Lewis immediately turned and homed on the contact, losing height at the same time. When the radar operator called the range as just under one mile the Leigh Light was switched on to illuminate a U-boat almost straight ahead; the Wellington swept in to attack and, as the depth-charges exploded, the vessel appeared to heel over on one side before it was lost in the

darkness. It was not seen again.

As such attacks by the Leigh Light aircraft increased, U-boats crossing the bay began to appear more frequently on the surface by day rather than face the sudden and unexpected attacks at night. The battle thereupon entered a new phase in which the German U-boats attempted to fight it out on the surface. To this end they were fitted with extra machine guns to drive off aircraft that surprised them or at least to upset the accuracy of the attacks. Some aircraft were shot down and others damaged, but in spite of this

¹ Flight Lieutenant W. Lewis, DFC; born **Wellington**, 25 Feb 1922; salesman; joined **RNZAF** May 1941.

opposition and the chance of coming down in the sea hundreds of miles from land the crews persisted in low-level attacks and showed great courage in pressing them home. A Sunderland flying boat was so badly holed in one encounter that it could not alight on the water at its base without sinking. Its captain decided to land in a ploughed field and achieved this feat without injury to his crew. Another crew were at sea in a dinghy for eight days before they were rescued by a destroyer to which they had made signals by Very pistols and lights. But they had got their U-boat before they were shot down. Indeed, most of the U-boats which attempted to fight it out on the surface fared badly for the density of the patrols was now such that additional aircraft could be summoned to the scene of a sighting to support and continue the attack. **Coastal Command's** No. 19 Group, with headquarters at **Plymouth**, soon became exceedingly efficient in organising the 'hunt to exhaustion'.

Encounters with surfaced U-boats gave the air gunners more opportunities for proving their skill. Typically, one day towards the end of May a Sunderland from No. **228 Squadron** sighted a U-boat, which opened fire and zigzagged as the aircraft approached. The front gunner, Flight Sergeant Armstrong, ¹ directed his fire with such good effect that several of the German gunners were seen to crumple up on the conning

tower. The flak slackened and his captain was able to take accurate aim. As depth-charges exploded the U-boat shuddered violently; soon afterwards it sank, leaving a large patch of oil and some thirty survivors on the surface of the sea. Before joining **Coastal Command**, Armstrong had flown in the crew of a Wellington bomber in raids on **Germany**. He had been shot down over the North Sea and picked up by a destroyer an hour later. On a subsequent raid his machine was badly damaged by flak when flying high over **Germany**. The Wellington went down almost to ground level before the captain could regain control. Armstrong's ears were affected and he was told he could not fly at high altitudes again, but he refused to be repatriated and transferred to Coastal Command **Sunderlands**, which did not fly at great heights. After taking part in several attacks on U-boats, Armstrong was lost with his crew early in July 1943 when their Sunderland was shot down over the **Bay of Biscay** after a gallant combat in which the flying boat was heavily outnumbered by enemy fighters.

A remarkable episode occurred towards the end of June when a Wellington, desperately damaged by intense and accurate flak as it approached to attack a 1600-ton supply U-boat, crashed on the submarine's deck, setting it on fire and wrecking the guns. By chance, two depth-charges from the aircraft lodged on the U-boat

¹ Flight Sergeant R. C. Armstrong; born **Te Kuiti**, 19 Oct 1911; labourer; joined **RNZAF** Dec 1940; killed on air operations, 12 Jul 1943.

and these were later thrown into the water by the German crew; one exploded and severely damaged the stern of the submarine so that it was forced to remain on the surface. Within the hour the vessel was sighted and attacked by another Wellington captained by Flying Officer Whyte.

¹ The U-boat now began to settle by the stern and the crew was seen to pour out of the conning tower and abandon ship. Shortly afterwards there was a violent explosion as the U-boat blew up and debris was hurled high into the air. Prisoners said afterwards that their

commander, after ordering his crew to leave, had himself set the scuttling charges and gone down with his ship. Then, as the Wellington circled, it came upon a small dinghy a few miles from the scene containing the rear gunner from the first aircraft, who had miraculously survived the crash. Supplies were dropped, the position reported, and both he and the survivors from the U-boat were subsequently picked up.

In a desperate attempt to counter the growing air offensive Doenitz began to send his outward-bound submarines across the bay on the surface in small groups, so that they could give mutual anti-aircraft support. One of the first sightings of such a group was made by a Liberator of No. **53 Squadron, captained by Flight Sergeant Anderson.² During its approach the bomber was heavily hit by concentrated cannon and machine-gun fire from three submarines travelling in 'V' formation; one of the crew was seriously wounded and holes were torn in the fuselage and in one wing. Nevertheless, Anderson persevered and in a second approach was able to depth-charge a U-boat on the outside of the formation. The other two then dived, leaving the third damaged and wallowing on the surface.**

More fighters were also sent by the enemy to intercept anti-submarine aircraft. Flying in formations averaging from five to eight machines, they achieved some success until methods were devised of warning aircraft of their approach and patrols by British fighters were increased. Meanwhile there were some spirited engagements in which lone British aircraft frequently gave a good account of themselves. One Sunderland managed to beat off repeated attacks by eight Ju88s, destroying three of them. On another occasion a Liberator returning from patrol was attacked by five Messerschmitts. In a running fight, two of the fighters were damaged while a third was seen to crash into the sea. The Liberator, however, fared badly, and with two of its engines damaged and gaping holes in the fuselage it just managed to reach its base. All four of its gunners

¹ Flying Officer J. Whyte; born Killarchan, **Scotland**, 6 Sep

1917; clerk; joined **RNZAF** Jul 1941; killed on air operations, 15 Aug 1943.

² Flying Officer W. Anderson, DFC; born Aberdeen, **Scotland**, 1 Mar 1920; clerk; joined **RNZAF** Mar 1941.

were New Zealanders – Flight Sergeants Bailey, ¹ Heays, ² Mills ³ and Thomson. ⁴ Heays was badly wounded in the engagement and died later in hospital.

In July 1943 came the climax of the Biscay campaign, when, in spite of the enemy's new tactics, no fewer than twelve U-boats were sunk in the bay by air attack. Several of these successes were achieved by the Leigh Light Wellingtons which had continued to maintain pressure by night, some of them now flying on to Gibraltar, while a detachment there flew patrols to the north-west to link up with those from the **United Kingdom**. Towards the end of the month Flight Sergeant D. E. McKenzie, ⁵ who was with No. 179 Wellington Squadron at Gibraltar, had the unusual experience of taking part in three night attacks within a fortnight. In the third encounter the U-boat was so badly damaged that it had to be towed into a Spanish port.

Of the daylight attacks in which New Zealanders took part during this month one of the most successful was that made by Wing Commander Clouston and his crew in a Liberator of No. 224 Squadron. There was a strong New Zealand representation in this squadron, both on the ground and in the air throughout the second half of the war. One of the flight commanders was Squadron Leader Ensor, ⁶ who had already had notable success in attacks against U-boats both from the **United Kingdom** and during the North African campaign; two New Zealand navigators, Flight Lieutenant Kay ⁷ and Flying Officer MacAvoy, ⁸ also achieved particular distinction in their work with No. **224 Squadron**. In the three months from May to July 1943 the Liberators attacked no fewer than fourteen U-boats, completely destroying three of them.

Early in August the Germans abandoned the disastrous practice of fighting back during air attacks and resorted once again to a policy of evasion. Fewer U-boats crossed the bay, and those which made the passage travelled submerged, hugging the north coast of

¹ Flying Officer F. E. Bailey; born **Blenheim**, 13 Feb 1910; carpenter; joined **RNZAF** Nov 1941.

² Flight Sergeant I. R. Heays; born **Napier**, 7 Jul 1920; shepherd; joined **RNZAF** Oct 1941; died of wounds 21 Sep 1943.

³ Flying Officer H. J. Mills, DFM; born **Gisborne**, 26 Dec 1921; railway porter; joined **RNZAF** Jan 1942.

⁴ Warrant Officer I. R. W. Thomson, DFC; born **Christchurch**, 31 May 1921; miner; joined **RNZAF** Jun 1941.

⁵ Warrant Officer D. E. McKenzie; born **Masterton**, 21 Apr 1922; farmhand; joined **RNZAF** Jun 1941.

⁶ Wing Commander M. A. Ensor, DSO and bar, DFC and bar; born Rangiora, 5 Jan 1922; shepherd; joined **RNZAF** Jul 1940; commanded No. 224 Sqdn, 1945.

⁷ Squadron Leader J. R. Kay, DFC; born **Onehunga**, 29 Apr 1913; school teacher; joined **RNZAF** Jan 1941.

⁸ Flight Lieutenant P. J. MacAvoy, DFC; born **London**, 7 Apr 1916; clerk accountant; joined **RNZAF** Oct 1940.

Spain more closely than before, sometimes even within the limit of Spanish territorial waters, an area crowded with fishing craft which made radar detection, particularly at night, extremely difficult. Nevertheless the hard-won advantage that the aircrews had gained was

not allowed to slip from their grasp. The patrols were continued relentlessly both by day and by night and any U-boats sighted were hunted to exhaustion.

The tactics to which the Germans now resorted were eloquent evidence of the final success of the Biscay offensive. Moreover, the effect of the air patrols cannot be measured solely by the amount of damage directly inflicted on the enemy. The constant patrolling forced the German submarines to travel so slowly across the bay that their efficiency in the open sea was considerably reduced and the morale of their crews thereby impaired. In terms of submarines sunk the campaign inflicted heavy loss on the enemy. During the period from the beginning of June to the middle of August, twenty-seven U-boats had been sunk in the **Bay of Biscay** and its approaches, all but four of them accounted for by aircraft. Rear-Admiral Godt, Commander-in-Chief of the German U-boats at this time, has since declared: 'July 1943 brought about the collapse of U-boat warfare in its previous form. What happened after this point cannot be compared with the early operations and nothing remained but plans, preparations and hopes, which at the end of the war were only about to be a reality.'

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While the main air battle against the U-boats in 1943 was fought along the **North Atlantic** convoy routes and in the **Bay of Biscay**, activity was by no means confined to those areas. Both from Gibraltar and from bases along the West African coast **RAF** squadrons continued to maintain patrols, and during this fourth year of war New Zealand pilots, navigators, wireless operators and gunners flew with these units. For the Hudsons and Catalinas at Gibraltar the main tasks were the protection of convoys from both the **Mediterranean** and the Cape and the hunting of U-boats in their area. Flight Lieutenant Le Couteur ¹ and Flight Lieutenant Kilgour ² were prominent in these duties as captains of aircraft with No. 202 Squadron whose Catalinas, because of their low speed and great endurance, were able to escort ships over long distances.

During the period of the North African landings in November 1942, the Straits and their approaches had been the scene of con-

¹ Flight Lieutenant C. J. H. Le Couteur, DFC; born Dunedin, 1 Oct 1913; builder; joined [RNZAF](#) Nov 1940.

² Squadron Leader F. W. Kilgour; born [Dannevirke](#), 7 Oct 1920; shipping clerk; joined [RNZAF](#) May 1941.

siderable

U-boat activity, but with the successful Allied counter-attack in which nine U-boats were sunk within three weeks the German submarine concentrations had moved elsewhere. Opportunities for attack had thus become less frequent, and among the squadrons at Gibraltar Flight Sergeant Cox ¹ and his crew were considered lucky when, early in February whilst escorting a convoy off the coast of Portugal, they sighted and depth-charged two U-boats within the space of one hour. The second attack was remarkable in that it was made with a single remaining depth-charge, which fell directly beneath the stern of the U-boat and caused such damage that it later sank. With the opening of the assault on [Sicily](#) and later against the Italian mainland, many ships passed through the Straits, but they were seldom molested by enemy submarines, largely owing to the continued protection given by the aircraft from Gibraltar.

In West Africa New Zealanders were with each of the squadrons based at intervals along the coast. Some were among the crews of the Catalina and Sunderland flying boats and there was a small group with the Hudsons of No. [200 Squadron](#) flying from airfields near [Freetown](#) and Yundum in Gambia. Wing Commander Evison, ² who had captained one of the first three Sunderlands to operate from [West Africa](#), was now in command of No. 204 Sunderland Squadron. He was later succeeded by another New Zealander, Wing Commander Hawkins, ³ who had begun his

career with flying boats some years before the war. Prominent captains of aircraft were Flying Officer Steer,⁴ who saw long service with No. 95 Sunderland Squadron, and Sergeant Umbers,⁵ who was with No. 270 Catalina Squadron. The Dominion's contribution in the West African area was to be considerably increased with the formation early in 1943 of a New Zealand unit, No. 490 Squadron.

German U-boats had been particularly active off **West Africa** early in the war, but as air bases were established and surface escorts increased merchant shipping sinkings had diminished steadily. Nevertheless, continued air patrols were necessary to prevent a recurrence of heavy losses, although the routine defence work in an area far removed from the main centres of the war naturally proved irksome and monotonous to the aircrews concerned. The patrols now flown practically closed the gap on the shipping route from

¹ Warrant Officer J. E. A. Cox; born **Gisborne**, 3 Jan 1918; bank clerk; joined **RNZAF** Feb 1941.

² Wing Commander C. E. W. Evison; born **Invercargill**, 27 Mar 1916; joined RAF Jan 1938; commanded No. 204 Sqdn, **W. Africa**, 1943; seconded BOAC, 1944–45.

³ Wing Commander H. J. L. Hawkins; born **New Plymouth**, 8 Dec 1904; joined **RAF** 1930; commanded No. 204 Sqdn, **W. Africa**, 1943–44.

⁴ Flight Lieutenant J. R. Steer; born **Hobart, Tasmania**, 19 Jan 1912; asst sales manager; joined **RNZAF** Mar 1941.

⁵ Flying Officer D. T. Umbers; born **Dunedin**, 1 Aug 1922; clerical cadet; joined **RNZAF** Oct 1941.

Gibraltar to the Cape. Convoys were met as they entered the area and escorted by relays of aircraft from base to base along the coast. In

addition, there were offensive sorties against U-boats patrolling in the region or on transit to the **Indian Ocean**, and extensive searches for survivors from torpedoed vessels.

During 1943 enemy activity off the West African coast was only intermittent and the U-boats, captained by experienced officers, operated with great caution on the fringe of the area swept by aircraft. Consequently many patrols were without incident and the routine flying over vast stretches of sea did little to relieve the boredom of life in isolated tropical bases. The climate was unhealthy and treacherous, sudden storms of great violence being frequent at certain seasons of the year, when it was not uncommon for aircraft on patrol to be forced down almost into the sea or to return to find their base almost blotted out by heavy clouds and tropical rain. Jui, near **Freetown**, from which No. 490 Squadron began operations at the beginning of July 1943, was not a particularly pleasant spot. The name itself meant 'Swamp of Death' and the humidity, especially in the wet season, was excessive. The station was built on the low spur running out into the estuary where the flying boats were moored. Surrounding it were dense, steamy, mangrove swamps, while farther back lay high hills which cut off the sea breezes that would have freshened the heavy, stagnant atmosphere.

The New Zealand squadron had originally been intended for service in the **Indian Ocean** but the need to reinforce **West Africa** had caused the change of location. The ground staff reached Freetown towards the end of March, by which time the first crews who were to fly out Catalinas from the **United Kingdom** had begun to assemble and train at the flying-boat base near Stranraer on the west coast of **Scotland**. Among them were several New Zealanders who had already distinguished themselves in operations with Coastal Command, notably Flight Lieutenant Godby, ¹ who had flown Ansons during the early days of the war, and Flight Lieutenant Foster, ² who had been with the Fleet Air Arm at the outbreak of war. The first commanding officer was Wing Commander Baird, ³ who had already had an interesting career, first with **RAF** flying boats before the war and subsequently in photographic

survey duties with the **RNZAF**. He came to No. 490 Squadron after further service in New Zealand and the **Pacific**.



PRINCIPAL TARGETS ATTACKED BY BOMBER COMMAND, 1942-43

¹ Wing Commander P. R. Godby; born **Christchurch**, 27 Aug 1914; joined **RAF** Mar 1939; transferred **RNZAF** Jan 1945; navigation instructor, No. 9 OTU, 1942-43; staff duties, Navigation, HQ No. 19 Group, 1944.

² Squadron Leader A. M. Foster; born **Blenheim**, 22 Jun 1917; joined **RAF** Aug 1938; transferred **RNZAF** Jan 1945.

³ Wing Commander D. W. Baird, AFC; born Bangor, N. **Ireland**, 23 Dec 1910; served **RAF** 1931-37; joined **RNZAF** Mar 1938; commanded **RNZAF**, **Fiji**, 1940-41; No. 490 (NZ) Sqdn, W. **Africa**, 1943; **RNZAF** Station, **Ardmore**, 1945.

The squadron's Catalinas were named after the New Zealand provinces and the first two flying boats, piloted by Wing Commander Baird and Flying Officer Patience, ¹ flew to **West Africa** in the middle of June, others following during the next few weeks. Anti-submarine patrols and convoy escorts were begun at once, and before long the unit had achieved an enviable reputation for good serviceability and general

efficiency which it was to maintain throughout its sojourn in **West Africa** to the end of the war, in spite of the fact that much of its later work was exacting and very monotonous.

Several incidents in which New Zealanders were to play a prominent part occurred during August 1943. The first was the rescue of survivors from a merchant ship torpedoed some 400 miles off **Freetown** during the night of 6 August. Flying Officer Grant ² and his crew were sent out upon receipt of the vessel's distress signal and within a few minutes of reaching the reported position they sighted two lifeboats and three rafts, containing thirty-nine survivors. Emergency packs, a wireless transmitter, and clothing were dropped to them, the clothing being supplied by the crew of the Catalina from what they were wearing at the time; it was a group of tired and nearly naked men who returned to their base after remaining with the lifeboats for five hours. As a result of their signals a corvette had been directed to the rescue but before it reached the survivors a second 490 Squadron Catalina, captained by Flying Officer Ward, ³ had succeeded in leading a merchant ship to the scene to pick them up. This vessel was then escorted to port by a third aircraft from the New Zealand squadron.

A few days later Ward was flying as second pilot to his squadron commander and happened to be at the controls when a German U-boat was sighted. Although only three miles away it was barely visible in the fairly heavy sea that was running. Ward immediately went in to the attack and four depth-charges fell slightly astern of the submarine. As the explosions subsided its bows appeared to rise out of the water; then after turning in small circles as if its steering had been damaged, and exchanging fire with the Catalina, the U-boat finally submerged. During the attack the fifth depth-charge, which might have fallen nearer the target, unfortunately failed to release, but the crew were considerably relieved when it also held fast on landing back at base.

By a rather remarkable coincidence it was on the same day and almost at the same hour that a particularly gallant attack was made

¹ Flight Lieutenant H. K. Patience; born **Wellington**, 6 Oct 1913; school teacher; joined **RNZAF** Apr 1941.

² Flying Officer R. M. Grant; born **Wellington**, 27 Jun 1920; bank clerk; joined **RNZAF** Jul 1941; killed in flying accident, 18 Nov 1943.

³ Flight Lieutenant N. A. Ward, DFC; born **New Plymouth**, 16 May 1913; draper; joined **RNZAF** Apr 1940.

on another U-boat about ninety miles farther north by Flying Officer Trigg ¹ of No. **200 Squadron**. It was Trigg's first operational sortie in a Liberator aircraft. His unit was, in fact, only in process of conversion from Hudsons to the new type, but as several U-boats were known to be in the outer area it was essential that a Liberator be despatched on patrol that morning. The bomber took off from Rufisque, near Dakar, shortly after dawn. Four hours later a surfaced U-boat was sighted and Trigg prepared to attack. But the submarine did not attempt to submerge; instead, it engaged the Liberator with its anti-aircraft guns, scored repeated hits and set the bomber on fire during its approach. However, Trigg continued on his course and aimed his depth-charges so accurately that they straddled the U-boat; it sank a few minutes later. Unfortunately the Liberator, immediately after making the attack, crashed in to the sea. There were no survivors.

When Trigg and his crew failed to return to their base a search was organised, and during the next afternoon a Sunderland sighted a dinghy containing several men who were reported as survivors from the missing Liberator. It was not until a corvette reached the scene on the following morning that they were found to be seven Germans, the only survivors from the U-boat. A dinghy which had floated free from the Liberator at the moment of the crash had been found and inflated by one of the Germans shortly after the U-boat sank. Among the survivors was the German commander, who expressed his admiration of Trigg's courage in

not allowing the submarine's accurate fire and the precarious position of his machine to deter him from pressing home his attack. Only a few weeks earlier Trigg had received the Distinguished Flying Cross for two skilful attacks against U-boats whilst protecting a West African convoy in March 1943. He was now awarded the Victoria Cross posthumously.

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In September 1943 the Germans staged a brief renewal of pack attacks on convoys in the **North Atlantic**. They had little choice in the matter since it was only here that their U-boats could materially affect the Allied build-up in the **United Kingdom** for invasion of the Continent. Yet with the persistence and tenacity that were typical of their operations throughout the war, the U-boat command now began to try out new methods of attack and new weapons such as the acoustic torpedo. This particular weapon, drawn towards its target by the sound from a ship's propellers, was intended primarily for use against the escort vessels. Each of the U-boats operating

¹ Flying Officer L. A. Trigg, VC, DFC; born Houhora, 6 Jun 1914; salesman; joined **RNZAF** Jun 1941; killed on air operations, 11 Aug 1943.

against convoys now carried three or four of them, the idea being to destroy as many of the escorts as possible and then use ordinary torpedoes against unprotected merchant ships. However, after a few initial successes these tactics failed dismally for within a matter of weeks counter measures were introduced in the form of small, noisy 'foxers' towed by the corvettes and destroyers.

Early in September, anticipating the enemy's change of strategy, **Coastal Command** had reinforced the squadrons covering the **North Atlantic** shipping routes, with the result that the U-boats in that area found themselves constantly harassed and attacked from the air. No fewer than fifteen were sunk outright by aircraft in the **North Atlantic**

during September and October. Among the New Zealanders who saw further action during this period was Flight Sergeant Lloyd of No. 86 Liberator Squadron. On 8 October, while he and his crew were escorting a large convoy to the south of Iceland, Lloyd sighted a U-boat on the surface about seven miles away. The bomber attacked the submarine as it submerged. Returning to the scene an hour later, the crew sighted another Liberator engaging a surfaced U-boat. They joined in the attack and shortly afterwards the vessel blew up, leaving only a few of its crew to be picked up by a destroyer.

A week later another successful attack was made by Warrant Officer Turnbull as captain of a Liberator of No. 120 Squadron. His crew, typical of many in the RAF at this time, consisted of an Australian, two Canadians, two Englishmen and another New Zealander, Flight Sergeant Tingey. They were sweeping ahead of a large convoy when they sighted their target. As the Liberator approached, the Germans opened fire, but this ceased when the gunners began to score hits on the deck and conning tower. Then, as the depth-charges exploded, a large jagged piece of metal flew into the air and soon the U-boat began to settle by the stern, surrounded by foam and bubbles. In a second attack depth-charges straddled the U-boat, and a few minutes later the Liberator crew saw it break in half; the stern and bow rose well out of the sea and then sank inwards almost vertically.

By the end of October all attempts by the German submarines to stage co-ordinated attacks on convoys were being frustrated, and in the following month not a single ship was lost on the North Atlantic convoy routes while nine more U-boats were sent to the bottom. In fact, such was the strength of the joint air and sea defences that never again was the enemy able to launch any large-scale attacks on shipping in this area. ¹

During the closing months of 1943 the Allies were able to strengthen their position in the Atlantic by an arrangement with

¹ See maps facing p. 411.

the Portuguese Government which enabled aircraft to operate from the Azores. By November two squadrons of Fortress bombers and one of Hudsons were using the airfield at Lagens. Not only were these aircraft able to cover ships in mid- **Atlantic** but they also protected convoys proceeding between Gibraltar and the United Kingdom. These had now been routed farther westward owing to renewed activity by German long-range aircraft operating from bases in the south-west of **France**.

The New Zealanders who went with the Fortress squadrons to the Azores found the climate a pleasant change from the gales and storms of the Hebrides, although the conditions under which they lived and operated were at first rather difficult. However, within a few days of their arrival the aircrews were active in escorting convoys and hunting U-boats in that area. No. **220 Squadron** also flew meteorological flights to the west, providing information which had previously been denied.

Throughout the winter months the German U-boat Command maintained a policy of the utmost caution, operating their submarines only where the Allied defences were weakest – in the Indian Ocean and the centre of the **Atlantic**. The air patrols from the **United Kingdom** now became extremely monotonous for the air-crew, with little incident to break the dull routine of escort and anti-submarine search. Even in the **Bay of Biscay** the offensive flagged considerably for the U-boats were making the passage to and from their bases either at night or in thick weather and poor visibility. During the whole of December only six attacks were made from the air against U-boats in the Biscay area and of these all but one were at night.

At Gibraltar and along the West African coast the story was much the same, crews spending many hours on uneventful patrols. It was a dull, uninteresting job but, recognising its necessity, the crews continued their work in good spirit, always hoping that some U-boat, less

cautious than the rest, would show itself on the surface and provide opportunity for an attack. In West Africa there was a short alarm when a ship was torpedoed off **Freetown** at the beginning of December, and for a few days an extensive hunt was maintained in which No. 490 New Zealand Squadron played a prominent part and was congratulated on its achievement of record flying during the period. In his December report Wing Commander Nicholl,¹ who had now just assumed command of the squadron, rather aptly summed up the role of the anti-submarine squadrons at this time: 'This game is rather like cricket – the runs saved in

¹ Wing Commander B. S. Nicholl; born **Christchurch**, 5 Dec 1906; joined **RAF** 1931; transferred **RNZAF** Jan 1940; commanded **RNZAF** Fiji, 1943; No. 490 (NZ) Sqdn, W. **Africa**, 1943–44.

the field count just as much towards winning the game as the runs made off the bat. The main thing is that we are helping to keep them under, and sinkings of merchant vessels are very rare.'

Yet while large convoys continued to pass across the oceans unmolested and the steady build-up of supplies and men in the United Kingdom proceeded apace, enemy propaganda, while admitting that Allied counter measures had gained a temporary advantage, suggested that it would not be long before German ingenuity would restore the balance. On 20 January 1944 Admiral Doenitz declared at a conference in Stettin: 'The enemy has succeeded in gaining the advantage in the submarine war, but the day will come when I shall offer Churchill a first-rate submarine war. The submarine weapon has not been broken by the set-backs of 1943.' The threat was not altogether without foundation for the Germans were now experimenting with an entirely new type of submarine capable of high underwater speeds. Apart from this a large portion of **Germany's** war effort was still directed towards new U-boat production, and in an effort to minimise the effects of bombing parts of the vessels were being prefabricated in factories scattered all over

Germany and then rushed to the shipyards for assembly. The Germans had also begun fitting a new device known as the 'Schnorkel' to their old U-boats which would enable them to remain submerged for long periods.

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However, before any new campaign could be launched it became clear to the Germans that, with an Allied invasion of the Continent imminent, their U-boats would have to be preserved for defensive operations against this threat. In the meantime all that could be done was to tie down the Allied forces, keeping them engaged but avoiding unnecessary losses. This meant that the German U-boat fleet was, for the time being at least, virtually immobilised and the Allies, now possessed of greatly increased air and naval power, and encouraged by the enemy's reluctance to renew the **Atlantic** battle, were able to complete their preparations for the invasion of **Europe** with their sea communications safe from serious disruption.

¹ The 'Schnorkel' consisted of air intake and exhaust tubes which could be raised at periscope depth. The U-boat could then recharge batteries and change the air while it remained just below the surface. The two tubes were within a single casing hinged to the deck just forward of the bridge; when raised and in use the tip of the intake tube was level with the top of the periscope while the exhaust tube, a few inches shorter, discharged the burnt gas downwards. At periscope depth with the Schnorkel raised and diesel engines running a U-boat could charge her batteries and make three or four knots simultaneously.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 3 – BOMBER COMMAND AND THE BATTLE OF THE RUHR

CHAPTER 3

Bomber Command and the Battle of the Ruhr

At the beginning of 1943 the British bomber force was still the main offensive weapon in the hands of the Allies. Indeed, for some four years after the withdrawal of the British Army from **Dunkirk**, the bomber aircraft remained the only means of attacking **Germany** since the **Mediterranean** campaigns, although invaluable in bleeding **Germany** of some of her best manpower and material, were until the later stages essentially defensive. Throughout all those years, apart from the bomber offensive, British forces could do no more than nibble at the fringes of German-occupied territory.

The operations of Bomber Command, however, passed through many different phases before they became a potent factor in the achievement of victory. The earlier years were a long-drawn-out struggle to build up an effective force and to overcome the difficulties associated with night bombing. Frequently the offensive was checked by the diversion of the bomber force to defensive tasks and there was uncertainty both in policy and its application. Many were the authorities who found what they considered 'essential' jobs for the bombers to carry out. Experts in economic war thought out one class of industrial target after another, the destruction of which would, they argued, cripple the German war effort. The experts in maritime war called for attacks on the enemy ports, on ships in harbour, on U-boat bases and shipbuilding yards. The experts in land warfare called for attacks on tank factories, on fuel dumps, ordnance depots and so on; even the experts in air warfare had their own target systems as part of their campaign for air superiority. In fact, nearly everyone had vital jobs for the bomber force which, small as it was, could not do all the many things regarded as 'essential' but which were otherwise impossible.

Unfortunately the accuracy of the early bombing had been greatly overestimated. Economic intelligence had been seriously at fault, and the ability of the Germans to counter the bombing raids and to repair

damage was not fully appreciated. And when the spectacular results which some had been led to expect failed to materialise there were doubts, criticisms, and even opposition in some quarters regarding the whole bombing campaign. The early enthusiasm faded and the bomber offensive became a hard-fought battle in which new and ever-changing tactics had to be hammered out by hard-won experience. Weather, phases of the moon, distance of targets, enemy fighter strength and tactics, defence organisation for guns, searchlights, radar and fighter control; ever-changing techniques of navigation, target marking and bombing — all these factors had played a part in the development of the campaign. The 'thousand bomber' raids of mid-1942 and the formation, in August of that year, of the special pathfinder force for target finding and marking were two outstanding achievements of the early period. Nevertheless, to develop the equipment and technique and to train the aircrews to attain a high degree of accuracy in the face of enemy opposition and under all weather conditions continued to be a long and difficult struggle fought at great cost, and it was not until the middle of 1943 that it became possible to deliver a heavy attack in **Germany** with real precision.

Like the blockade by the British Navy in the First World War and by the German U-boats in the early stages of the second, the effects of the bomber offensive were only gradual, slowly cumulative, and therefore difficult to discern. There were no spectacular advances over large tracts of enemy territory; no towns or fortresses were captured with large numbers of the enemy made prisoner. Only by degrees was the enemy's industrial capacity and his ability to make war undermined. Yet the damage inflicted by the bombing was not confined to that which could be seen and photographed. It was reflected with equal significance in the way the German Air Force was driven from the offensive to the defensive both in its operations and in new construction, and compelled to concentrate more and more of its resources on the protection of **Germany** against bombing attacks from the west to the benefit of the Allied forces engaged on other fronts.

A force of over 600,000 in 1943 and nearly one million in 1944 was maintained to man the anti-aircraft defences – not far short of the peak total strength of the **RAF** all over the world. Anti-aircraft guns took an ever-increasing part of **Germany's** total weapon production,¹ while the German night-fighter force which had grown from virtually nothing to 150 in November 1940 and 250 by July 1942 now rose to 550 by July 1943, 800 by the spring of 1944, and 1250 by the end of 1944.

A vital battle – the battle for air superiority, for the initiative in the air – was also to be fought out in the skies over German territory. This battle against the **German Air Force** and the attack on the enemy's production resources and communications were closely interlocked, for as the Allies gradually gained air superiority so

¹ A **United States** post-war survey calculated that the strength of the artillery provided for the German Army might have been doubled if it had not been necessary to provide AA guns in quantity for the defence of the home front against air attack.



TARGETS IN WEST GERMANY

automatically was the power of the bomber force increased for destroying the enemy's means of production and the communications on

which they depended. Herein lay the essence of a successful air offensive. And now in the fourth year of war, when the Allies at last possessed the means to put it into greater effect, an attack, massive, sustained and compelling, began to fall upon **Germany**. To Bomber Command of the **Royal Air Force** it had fallen to lead the way and blaze the trail in this great but hazardous

venture of war. The path which it had opened was soon to become a busy highway along which powerful forces would advance resolutely towards their goal.

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Appalling casualties had been suffered in the land battles of the First World War. Of one single day's fighting on the **Somme** in July 1916 it is recorded that when 'Night closed over the still-thundering battlefield nearly 60,000 British soldiers had fallen, killed or wounded, or were prisoners in the hands of the enemy.' In the first five days of the **Somme** battle nearly 100,000 of our best troops were lost and 'the ground conquered was ... so limited both in width and depth as to exclude any strategic results.'¹ It was partly to avoid the repetition of such loss and slaughter as took place at **Passchendaele**, Verdun, and the **Somme** that the Allied leaders meeting at **Casablanca** in January 1943 had decided to postpone an invasion of the Continent and to intensify the air offensive from the **United Kingdom**. The ultimate object of this aerial onslaught was stated as 'the progressive destruction and dislocation of the German military, industrial and economic system and the under-mining of the morale of the German people to a point where their capacity for armed resistance is fatally weakened.' **Europe** was a fortress which must be subjected to vigorous bombardment before a final assault by the Allied armies could be practicable. To make that assault before the time was ripe would be suicidal for the Allied cause and of no assistance to **Russia**.

The bomber offensive planned at **Casablanca** was to be a joint Allied effort in which the operations of the **RAF** night bombers would be supplemented by American day bombers. But the American bomber force

in **Britain** was still small and the combined offensive did not really begin until June 1943 when the American forces had been substantially augmented and detailed plans had matured. Meanwhile the operations of the American 8th **Air Force** continued to be essentially experimental, with its bombers gradually extending the scope of their effort to **Germany**, adjusting their tactics and techniques, and feeling out the quality of German opposition. Therefore, during the first half of 1943, the main effort against **Germany** was undertaken by Royal Air Force Bomber Command under Air Marshal Arthur Harris.

Harris had been in charge of the British bomber force for less than a year. Appointed at a time when Bomber Command was at a most difficult period in its development, he was both by training and temperament well fitted to fill this hard post, for he was an

¹ Churchill, *The World Crisis, 1916–1918* (Thornton Butterworth), Part I, pp. 179–80.

expert in air matters and much of his twenty-five years' experience with the **RAF** had been gained in operating bombers both by day and by night. He sincerely believed that the bombing could shorten the war and save terrible casualties in land battles. His fierce honesty of purpose and singleness of mind drove him to demand the utmost of his crews, but at the same time, with equal vehemence, he strove to move mountains on their behalf and get the weapons and aids they required. He was accused of ruthlessness and frequently blamed for shortcomings of a policy that was not altogether of his making. Yet the respect and admiration which this grim and formidable leader won from his men was well demonstrated not only at various gatherings both during and after the war but also by the confidence with which his directions were followed even when they involved heavy casualties. He bore heavy responsibilities which imposed a strain different from that imposed upon naval and land commanders, for the bombing offensive was continuous and involved the committal to action night after night of a force of some five or six

thousand highly trained and skilled men, in machines whose value might well exceed fifty million pounds.

The declarations of the combined Allied Chiefs of Staff at **Casablanca** regarding the bomber offensive from the United Kingdom were more a statement of policy than a specific directive, and even the subsequent orders to Air Marshal Harris were in the broadest terms. Bomber Command was to proceed with 'the progressive destruction and dislocation of the German military, industrial and economic system', giving priority to certain aspects of it, such as U-boat and aircraft construction, transportation, oil production, and targets in the enemy war industry. This was interpreted by Harris as meaning the destruction of principal industrial centres in **Germany**, and since the Ruhr was by far the most important, he regarded it as a principal objective.

However, for tactical reasons, Harris was forced to conduct the offensive more in accord with the general aim than with any special type of target laid down. Among the factors which affected his choice of targets were the weather in different parts of enemy territory, the disposition of the enemy defences, the radio aids available and their limitations, together with intelligence gained of the effect of operations and the relative importance of various targets. Up to 1943 the choice of target on any particular night had been severely limited by the weather, but with improvement in pathfinder and bombing techniques following the introduction of new radar aids, the weather over the target area became less important. Operations could now be carried out on a greater number of nights and, since moonlight and clear skies were not so essential, it was possible to operate in conditions less favourable to the enemy night fighters. All the same the skill with which the enemy directed his defences and the steady increase in their strength meant that frequent changes of tactics and targets had to be made.

The planning of each bombing raid was a complex affair. Early in the day the Commander-in-Chief would meet his staff officers in the Operations Room of Bomber Command's headquarters on the outskirts of **London**. The weather forecasts for the Continent and also for bases in

England would be considered along with intelligence reports before the night's target was finally chosen. Then the route for the bombers was decided upon, special attention being given to the time that the aircraft would spend over enemy territory, the avoidance of heavily defended areas, and methods of deceiving the German night-fighter force. The Commander-in-Chief finally fixed the aiming point, the size of the force to be despatched, and the bomb load to be carried. After discussion with the groups concerned an operation order was passed to them; then further instructions went to the stations where the detailed plans were worked out according to the pathfinder tactics that were to be used.

During the earlier years the results of bombing had been assessed from crew reports which in the enthusiasm of the moment had often proved inaccurate. By 1943, however, large numbers of night photographs were being taken showing the actual release of the bombs by each aircraft. From these photographs an assessment of the bomb concentration and of the area attacked could be made and immediate lessons drawn as to the advantages of different tactics. For example, it was soon found that aircraft reaching the target in the later stages of a raid tended to undershoot on the markers owing to the large area of fire usually visible by then. This was corrected either by varying the direction of approach of the later waves or by instructing the later marker aircraft to place their target indicators behind the aiming point. Daylight reconnaissance was usually made within a few days of a raid and the interpretation of the photographs taken gave a fair assessment of the damage done. It was then possible to judge whether further attacks on the same target were necessary. Yet owing to the extraordinary speed with which repairs were effected by the Germans, even this judgment was, as post-war investigation reveals, frequently too optimistic.

The British bomber force, with a long-deferred expansion of strength at last becoming effective, was now better equipped for its avowed task of 'beating the industrial life out of **Germany'. During 1942 there had been no significant increase in the number of aircraft but a major part**

of the force had been re-equipped with heavy bombers. Moreover, subsequent expansion was such that, by the beginning of March 1943, the front-line force included 380 heavy and 160 medium bombers. ¹ Within another three months there was a force of nearly 800 aircraft, of which just over two-thirds were heavy four-engined bombers, Lancasters, Halifaxes and Stirlings. Yet while this increase in numerical strength was impressive, the outstanding feature of the period was the substantial rise in bomb lift following the change from medium to heavy bombers, with the Lancasters, superior in both operational height and bomb capacity at long range, emerging as the mainstay of the force. The Lancaster was to prove a magnificent machine. It was subsequently employed in many different roles, in massive saturation raids, in precision attacks such as that which sank the *Tirpitz*, for low-level raids on German power supplies and the **Moehne Dam**; it supplied the underground armies of **Europe**, supported the Allied armies, and in the final stage fed starving **Holland** and carried home British prisoners of war. Pilots liked the Lancaster's manoeuvrability, the excellent all-round vision from its cockpit, its instant response to the controls, and the rugged construction which enabled it to absorb much punishment in combat and yet bring its crew home. Altogether it was to prove a worthy successor to the faithful Wellington which had been the mainstay of Bomber Command in the earlier years and which, in fact, was still employed on operations until October 1943.

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A considerable contribution to the expansion of Bomber Command during 1943 was made by the Commonwealth countries, notably by **Canada**, **Australia** and New Zealand. **Canada** now provided a whole bomber group which was completely maintained by the Canadian Government. The substantial part played by both **Australia** and New Zealand was less evident, for although certain squadrons were identified with each country the majority of their men were scattered among **RAF** units. Had the New Zealanders who flew with Bomber Command during 1943 been more concentrated in squadrons, their numbers would have

been sufficient to provide crews for more than 200 bombers in any one raid. As it was they were to be found in almost every unit, usually flying in crews made up of men from various parts of the Commonwealth. And in addition to the men engaged in flying duties, there was a substantial number who shared in vital maintenance work on the airfields. New Zealanders were also employed in a wide variety of posts in the vast and complex bomber organisation – of planning,

¹ There was also the considerable force of light bombers in **No. 2 Group** but their operations were essentially different from those of the heavier bombers and are therefore discussed in a later chapter.

operational control, technical development, training and various staff duties. Several veteran pilots were in command of **RAF** bomber stations and squadrons, notably Air Commodore A. McKee who was in charge of the large operational airfield at Downham Market in Norfolk, Group Captain S. C. Elworthy who now became Station Commander at **RAF Waddington**, Lincolnshire, from which three squadrons of Lancasters operated, and Wing Commander Dabinett ¹ who continued to lead **No. 12 Lancaster Squadron**.

The New Zealand Stirling Squadron was to play a prominent part in the bomber offensive during 1943 and further increase the reputation it had gained in the earlier years. Flying under the apt motto, *Ake Ake Kia Kaha* – ‘For ever and ever be strong’ – **No. 75** was now led by Wing Commander Lane, ² an Englishman with considerable experience in bombing operations. His flight commanders were Squadron Leader Allcock, ³ a New Zealander who had joined the **Royal Air Force** before the outbreak of war and served in the **Middle East** before returning to win further distinction with a **Stirling** squadron, and Squadron Leader Fowler ⁴ of Chellaston, **Derbyshire**, who had previously completed his first tour of operations with **No. 75 Squadron**. During 1943 just over 300 New Zealanders, aircrew and ground staff, served with the squadron, and while New Zealanders were predominant among the aircrew, the

presence of men from **Britain, Australia, and Canada** preserved the Empire character of the unit which had been a pleasant feature of the earlier years.

At the beginning of 1943 No. 75 Squadron was emerging from a very trying period of three months in which there had been a move to a new base, a change in aircraft and, in relation to the number of operations, heavy casualties, including the loss of a popular commanding officer. But the aircrews were now more familiar with the four-engined **Stirling** bombers that had replaced the Wellingtons with which the squadron had been associated since its formation. Initial mechanical failures in the new machines, the cause of so much disappointment and frustration to all members of the unit, were being overcome by the ground crews, after much persistent effort, and the men were more accustomed to surroundings which were in

¹ Group Captain H. I. Dabinett; **RAF**; born Taranaki, 11 Jul 1905; joined **RAF** 1930; commanded No. 115 Sqdn, 1940; No. 12 Sqdn, 1942–43; No. 82 OTU, 1944, and No. 27 OTU, 1945.

² Wing Commander G. A. Lane, DFC; born Clapham, **London**, 13 Apr 1916; joined **RAF** 1937; CFI No. 22 OTU, 1942; commanded No. 75 (NZ) Sqdn, 1943; served **RAF** Delegation, **USA**, 1944–45.

³ Wing Commander G. M. Allcock, DFC and bar; born **Wellington**, 14 Dec 1916; joined **RAF** Aug 1939; CGI No. 1651 Conversion Unit, 1942–43; No. 7 Sqdn, 1945.

⁴ Squadron Leader G. E. Fowler, DFC; born Chellaston, **Derbyshire**, 22 Jun 1911; joined **RAF** Sep 1939.

direct contrast to those at the peacetime stations of Feltwell and Mildenhall, their previous bases.

There were good reasons for the feeling of strangeness which had

been experienced. Indeed, it is doubtful whether any other operational squadron flew from an airfield less warlike than that now occupied by the New Zealand Squadron at the Rowley Mile on the famous racecourse at Newmarket. Some of the aircrew were billeted in a wing of the Jockey Club and their mess was a mile away in the grandstand of the racecourse where the ground staff were accommodated. The grandstand itself was, as a senior officer put it, 'a rabbit warren of a building with three floors housing billets, dining rooms, kitchens, recreation rooms and workshops. All windows were blacked out and it was quite easy to lose oneself in the labyrinth of rooms, passages and stairs.' The briefing room was at first in the saddle room, which still retained the large brackets on which saddles had been hung, while the operations room was located in the cream and gilt weighing-in room. When the briefing room was later moved to what had been a lavishly equipped cocktail bar, the serious business of briefing a bomber squadron for action provided a sharp reminder of the gulf which existed between the days of peace and war.

After a quiet beginning in January, when severe winter weather restricted activity, No. 75 Squadron was to operate intensively during the following months, and by the end of July a total of nearly seven hundred sorties had been despatched in eighty-seven raids, during which the Stirlings dropped 1285 tons of bombs and laid 604 mines. Unfortunately the unit again suffered heavy casualties, thirty-five aircraft being lost during these seven months.

When the squadron resumed full-scale operations in February, **Nuremberg**, Turin, and the Rhineland city of **Cologne** were among the targets attacked. But the main effort, in common with that of most other squadrons in Bomber Command, was concentrated on enemy U-boat bases in Occupied France and on construction facilities in German ports. By the end of the month aircrews had more confidence in their new aircraft, while the ground staff, in mastering the technical difficulties which had beset them with the introduction of the **Stirling**, succeeded in maintaining a high level of aircraft serviceability. The squadron was then ready to take a leading part in the offensive against

German industry in the Ruhr and Rhineland which was to be the principal feature of Bomber Command's operations during the first half of 1943.

With RAF squadrons in Bomber Command, many New Zealanders were to win distinction during 1943 as captains of aircraft, navigators, bomb aimers, wireless operators and air gunners. Several men were outstanding, notably Squadron Leader Thiele,¹ as flight commander and captain of a Lancaster in No. 467 Australian Squadron; Squadron Leader St. John² in similar duties with No. 101 Lancaster Squadron, and Squadron Leader Silcock³ with No. 44 Rhodesian Squadron, also flying Lancasters. Special commendation for his part in difficult and hazardous missions of which little was heard at the time was won by Squadron Leader Boxer,⁴ who led a flight in No. 138 Halifax Squadron. His unit was one of several engaged in supplying the underground armies of **Europe and dropping and picking up Allied agents, missions which often involved long flights over enemy territory. Boxer was later to command a squadron engaged in these 'special duties', as they had come to be known.**

Other bomber captains who established a particularly fine record of achievement at this time were Squadron Leader Starky⁵ with No. 115 Lancaster Squadron and Squadron Leader B. G. Wallace⁶ with No. 214 Stirling Squadron; Flight Lieutenants D. C. MacKenzie⁷ and J. B. Smith⁸ and Pilot Officer C. M. Wallace⁹ were also prominent as captains with an Australian squadron and Squadron Leader D. W. S. Clark¹⁰ with a Canadian unit.

Few brothers probably shared war experience to the same extent as Flying Officers Anthony¹¹ and Peter Singer,¹² twin brothers from **Gisborne, each of whom now captained a Lancaster in No. 57 Squadron. They had joined up at the same time, trained together in New Zealand and England and then piloted aircraft in the same squadron, very often flying over the same target within a few**

¹ Squadron Leader K. F. Thiele, DSO, DFC and two bars; born **Christchurch**, 25 Feb 1921; journalist; joined **RNZAF** Dec 1940; commanded No. 3 Sqdn, 1945.

² Wing Commander J. R. St. John, DSO, DFC and bar; **RAF**; born **Nelson**, 13 Mar 1917; dental mechanic; joined **RAF** 1937; CI No. 1656 CU, 1943–44; commanded No. 103 Sqdn, 1944–45.

³ Squadron Leader C. K. Silcock, DFC and bar; born **Brightwater, Nelson**, 4 May 1915; engraver; joined **RNZAF** Mar 1941.

⁴ Wing Commander A. H. C. Boxer, DSO, DFC, *Virtuti Militari* (Pol.); Bronze Star Medal (US); **RAF**; born **Hastings**, 1 Dec 1916; joined **RAF** 1938; commanded No. 161 Sqdn, 1944–45.

⁵ Squadron Leader J. B. Starky, DSO, DFC; born **Gisborne**, 10 Nov 1916; farmer; joined **RNZAF** 1940.

⁶ Squadron Leader B. G. Wallace, DFC; born **Invercargill**, 6 Nov 1914; salesman; joined **RNZAF** Sep 1940.

⁷ Squadron Leader D. C. MacKenzie, DFC; born **Wellington**, 26 Aug 1921; clerk; joined **RAF** Jun 1940; killed on air operations 12 Jun 1943.

⁸ Flight Lieutenant J. B. Smith, DFC; born **Dunedin**, 23 Aug 1916; optician; joined **RNZAF** Aug 1941; killed on air operations, 10 May 1944.

⁹ Flying Officer C. M. Wallace, DFM; born **Cooktown, Queensland**, 20 Nov 1915; metal polisher; joined **RNZAF** May 1941.

¹⁰ Wing Commander D. W. S. Clark, DFC and bar; born

Surbiton, Surrey, 18 Jan 1916; joined RAF 1939; transferred RNZAF Aug 1944; commanded No. 77 Sqdn, 1944–45.

¹¹ **Flight Lieutenant A. M. Singer, DFC; born Weybridge, Surrey, 25 Nov 1918; agricultural student; joined RNZAF Jun 1941.**

¹² **Flight Lieutenant P. L. Singer, DFC; born Weybridge, Surrey, 25 Nov 1918; agricultural student; joined RNZAF Jun 1941.**

minutes of one another. They both flew on twenty-nine raids and finished their first tour of operations by bombing Dortmund in May 1943. Both brothers were then awarded the Distinguished Flying Cross and went on to take the same instructors' course. Subsequently, they returned to operations with a Lancaster squadron and survived the war to return together to New Zealand.

Navigators to achieve distinction during 1943 were Flying Officer Sheild ¹ with No. 149 Squadron and Flight Lieutenant Fowler ² with No. 90 Squadron, while among the New Zealand air gunners, Flight Sergeant de Joux, ³ who was credited with the destruction of five night fighters, continued a most successful operational career with No. 102 Halifax Squadron. He was awarded the Conspicuous Gallantry Medal in November 1943. Pilot Officer Florence, ⁴ who flew many sorties with No. 214 Lancaster Squadron, was among those who distinguished themselves as bomb aimers. Towards the middle of the year he joined No. 617 Squadron – ‘The Dam Busters’ – only to lose his life in a November attack against the Antheor Viaduct on the Riviera route into Italy. The Lancasters had flown on to land in North Africa and it was during the return flight that Florence's aircraft was lost.

New Zealanders also continued to be prominent in the pathfinder squadrons, which contained picked crews specially trained in target location and whose aircraft were equipped with the newest aids to navigation and bombing as they became available. Among those who

were to achieve particular distinction during 1943 were Squadron Leader Barron ⁵ and Flight Lieutenant Kearns, ⁶ who captained heavy bombers, Squadron Leader Ball, ⁷ Flight Lieutenants Gray, ⁸ Hilton, ⁹ Martin, ¹⁰ and Flying Officer Barclay, ¹¹ who flew as navigators, and

¹ Flight Lieutenant H. J. Sheild, DFC and bar; born Patea, 30 Sep 1916; commercial artist; joined **RNZAF** Dec 1940.

² Squadron Leader L. G. Fowler, DFC; born **Auckland**, 20 Nov 1912; clerk; joined **RNZAF** Mar 1941.

³ Flying Officer E. E. de Joux, CGM, DFM; born **Edinburgh, Scotland**, 27 Jan 1921; joined **RAF** May 1940; transferred **RNZAF** Jun 1944.

⁴ Pilot Officer R. Florence, DFM; born **New Plymouth**, 15 Dec 1921; clerk; joined **RNZAF** Jan 1941; killed on air operations, 18 Nov 1943.

⁵ Wing Commander J. F. Barron, DSO and bar, DFC, DFM; born **Dunedin**, 9 Jan 1921; clerk; joined **RNZAF** Jul 1940; commanded No. 7 Sqdn, 1944; killed on air operations, 20 May 1944.

⁶ Squadron Leader R. S. D. Kearns, DSO, DFC, DFM; born **Reefton**, 9 Mar 1920; student; joined **RNZAF** Dec 1940.

⁷ Squadron Leader W. A. C. Ball, DFC; born **Palmerston North**, 14 Sep 1916; insurance clerk; joined **RNZAF** Oct 1939; killed on air operations, 9 Mar 1943.

⁸ Flight Lieutenant E. McL. Gray, DFC; born **Cambridge**, 22 Mar 1920; clerk; joined **RNZAF** Dec 1940; killed on air operations, 4 May 1943.

⁹ Flight Lieutenant F. Hilton, DFC; born Coventry, **Warwickshire**, 15 Dec 1918; carpenter; joined **RNZAF** Jan 1941; killed on air operations, 25 Jun 1943.

¹⁰ Flight Lieutenant B. Martin, DFC; born Waiiau, 23 Nov 1911; diesel engineer; joined **RNZAF** Sep 1940; killed on air operations, 2 Feb 1943.

¹¹ Flight Lieutenant W. J. M. Barclay, DFC, DFM; born Dunedin, 13 May 1921; clerk; joined **RNZAF** Nov 1940.

Flying Officer Marshall ¹ and Warrant Officer Barnham, ² wireless operators and gunners. All these men had been with the Pathfinder Force during the pioneering period in 1942. Only four of them survived the war.

Others who won commendation as captains of pathfinder aircraft were Flight Lieutenant Moore ³ of No. **83 Squadron**, Flight Lieutenant Petrie ⁴ of No. **7 Squadron**, and Flying Officer Matich ⁵ of No. **35 Squadron**. Moore survived many hazardous missions to complete a long period of operations with the Pathfinder Force; Petrie lost his life whilst leading an attack on **Berlin** in December; Matich was also shot down towards the end of the year but he escaped serious injury, evaded capture, and got back to England.

There was now a relatively large group of New Zealanders with No. 156 Lancaster Squadron, where Squadron Leader Mandeno, ⁶ Flight Lieutenants Sullivan, ⁷ Thomson ⁸ and Wright ⁹ were prominent as captains, Squadron Leader Hall ¹⁰ and Flight Lieutenant Kelly ¹¹ as navigators, and Pilot Officer Crankshaw ¹² as air gunner. In No. **35 Squadron** Flying Officers Jamieson ¹³ and Robson, ¹⁴ Warrant Officer Dowman, ¹⁵ and Flight Sergeant Ridings ¹⁶ won distinction as wireless operators and air gunners.

The Pathfinder Force, whose formation and early operations have

been described in the previous volume, was now organised as a

¹ Flying Officer J. Marshall, DFC; born **London**, 1 Aug 1920; engraving apprentice; joined **RNZAF** Dec 1939.

² Warrant Officer J. E. Barnham, DFC; born **Christchurch**, 5 Nov 1920; salesman; joined **RNZAF** Apr 1941.

³ Flight Lieutenant V. S. Moore, DSO, DFC, DFM; born **New Plymouth**, 15 Dec 1912; diesel engineer; joined **RNZAF** Dec 1940.

⁴ Flight Lieutenant J. R. Petrie, DFC; born **Foxton**, 11 Aug 1917; labourer; joined **RNZAF** Jul 1941; killed on air operations, 16 Dec 1943.

⁵ Flight Lieutenant N. Matich, DSO, DFM; born **Te Kopuru**, 25 Jul 1917; shop assistant; joined **RNZAF** Aug 1941.

⁶ Squadron Leader G. L. Mandeno, DSO, DFC and bar; born **Frankton**, 5 Jun 1914; engineer; joined **RAF** 1940; transferred **RNZAF** Jul 1945.

⁷ Flight Lieutenant M. A. Sullivan, DFC; born **Whakatane**, 28 Jan 1920; timber yardman; joined **RNZAF** Aug 1941; killed on air operations, 20 Dec 1943.

⁸ Flight Lieutenant J. F. Thomson, DFC and bar; born **Auckland**, 31 Aug 1918; clerk; joined **RNZAF** Jun 1941.

⁹ Squadron Leader J. L. Wright, DSO, DFC; born **Tirau**, 24 Feb 1914; clerk; joined **RNZAF** Dec 1940.

¹⁰ Squadron Leader H. R. Hall, DFC; born **Palmerston North**, 21 Oct 1913; bank officer; joined **RNZAF** Dec 1939.

¹¹ Squadron Leader C. W. B. Kelly, DSO, DFC; born **Christchurch**, 11 Jun 1920; porcelain enameller; joined **RNZAF** Sep 1940.

¹² Flying Officer K. A. Crankshaw, DFC, DFM; born **Greymouth**, 12 Dec 1921; garage storeman; joined **RNZAF** Nov 1940.

¹³ Flight Lieutenant H. A. Jamieson, DFC; born **Pukekohe**, 18 Aug 1918; truck driver; joined **RNZAF** Nov 1940; p.w. 12 Jun 1943.

¹⁴ Flying Officer T. A. Robson, DFC; born **Christchurch**, 12 Mar 1914; window dresser; joined **RNZAF** Aug 1941; killed on air operations, 20 Dec 1943.

¹⁵ Warrant Officer M. G. F. Dowman, DFM; born **Inglewood**, 5 Oct 1916; labourer; joined **RNZAF** Mar 1941; died 2 Jan 1948.

¹⁶ Flight Sergeant D. G. Ridings; born **Auckland**, 12 Sep 1921; grocery assistant; joined **RNZAF** Apr 1941; killed on air operations, 4 May 1943.

separate group in Bomber Command under its original leader, the Australian pilot Air Commodore Bennett, ¹ and to the initial five squadrons a further **Halifax** and Lancaster squadron were added in April; then three months later came two more Mosquito squadrons. There was also a gradual re-equipment of the original units with Lancasters.

The pathfinder crews, it will be remembered, preceded the main force in order to mark the target by means of flares and ground markers. But their early operations had revealed an urgent need for devices that would enable them to find targets on moonless nights or in cloud and then mark them so unmistakably that a large main force could follow and deliver heavy and concentrated attacks. Before the end of the previous

year 'Gee', of which so much had been expected, had been reduced to a valuable aid to navigation on which limitations of range could be imposed by enemy jamming, but trials with various other bombing aids had so progressed that they were now ready for use on operations. The first, known as 'Oboe', had already been tried out towards the end of December 1942 in an attack against the power-station at Lutterade. Then, on 16 January during a raid on [Berlin](#), the long awaited TI ground markers were introduced, followed by a second new radar aid known as 'H2S'² on the night of 30 January when [Hamburg](#) was the target.

These new technical aids which began to reach Bomber Command at the beginning of 1943 were of even greater importance to the success of its operations than the increase in its size. The bomber force could now be concentrated both in time and space to produce the maximum effect with a minimum of loss, for it had long been known that the saturation of the German defences – night fighters, anti-aircraft guns and searchlights – was the secret of economy. Moreover, with this concentration, effective radio counter measures could be taken. Specially equipped aircraft and ground stations were now better able to jam the signals of enemy fighters and their control and thus screen the British bombers from identification for part of their flight towards [Germany](#).

Oboe was a system for guiding a pilot to his target along a radio beam, and was so named because the tone of the guiding radio beam was similar to that of the musical instrument. Briefly, its operation depended on the re-radiation by the aircraft of radar signals sent

¹ Air Vice-Marshal D. C. T. Bennett, CB, CBE, DSO, Order of Alexander Nevsky ([USSR](#)); born Toowoomba, [Australia](#), 14 Sep 1910; served [RAF](#) 1931–35 and transferred RAAF 1935; a founder of the Atlantic Ferry, 1940–41; rejoined [RAF](#) Sep 1941; commanded No. 77 Sqdn, 1941; No. 10 Sqdn, 1942; AOC No. 8 Pathfinder Group, Bomber Command, 1943–45.

² A code name apparently derived from 'Home Sweet Home',

because it helped bombers to home on to their targets.

out to it, and from the echoes the position of the machine flying along a certain beam could be calculated. There were two ground stations. One controlled the aircraft by signalling a system of dots and dashes whenever it deviated to the left or right of a given course. Simultaneously, the second station measured at intervals how far the aircraft had proceeded, and when it was directly over the target a special signal would be sent for bombs or markers to be released.

The chief disadvantage of Oboe was that each pair of ground stations could handle only one aircraft at a time, and then the aircraft had to fly on a steady course for a considerable distance as it approached the target. This made the machine extremely vulnerable. Further, the range of the system was limited by the height at which the aircraft could fly because, owing to the curvature of the earth, the transmissions from the ground stations followed a straight line and had therefore to be received at an ever greater height as the aircraft's distance from the station increased. The first difficulty was dealt with by gradually increasing the number of ground stations to control at least sufficient aircraft for marking a target, whilst the risks entailed by the necessary straight and level approach were reduced by using the fast and high-flying Mosquito aircraft.

Oboe had developed out of the methods used by the [RAF](#) to interfere with the beams used by the German bombers as navigational aids for the attacks on [Britain](#) during the second winter of the war. In the early stages of its development the device had been considered simply as an aid to blind bombing, and the fact that only a handful of aircraft could be guided by it in any one attack seemed a fatal objection. But by the end of 1942 Bomber Command was no longer thinking in terms of thousands of bombers, with each crew finding the target by themselves, but of a smaller force being directed to an area which had been marked by very few aircraft. Thus a navigational and bombing aid which could be used by no more than a single squadron seemed likely to change the

whole course of the bomber offensive, which indeed it certainly did.

From the beginning of 1943 No. 109 Mosquito Squadron of the Pathfinder Force which had been experimenting with Oboe from the initial stages was used whenever possible to mark the bomb-release point for the main force. Another Oboe-equipped unit, No. 105 Mosquito Squadron, was added in July, but for the remainder of the year those two squadrons provided the sole Oboe force of Bomber Command. Flying Officers Dray ¹ and Leigh ² were pilots

¹ Flight Lieutenant A. A. Dray, DFC; born **Cambridge**, 1 Nov 1917; grocery manager; joined **RNZAF** Aug 1941.

² Flying Officer R. E. Leigh; born **Auckland**, 3 Mar 1921; clothing cutter; joined **RNZAF** Apr 1941; killed on air operations, 10 Feb 1944.

and Flight Lieutenant Patrick ¹ flew as navigator with No. 109 Squadron during the pioneering period with this new device.

H2S, the second radar aid, was an entirely different device from Oboe in that it was quite independent of ground stations, the apparatus being carried wholly within the aircraft. It was, in fact, similar to the radar equipment already in use by **Coastal Command** for the detection of submarines and other vessels at sea. For some time it had been known that radar impulses transmitted from an aircraft gave back varying echoes from water, open country or built-up areas, and the picture given on the screen by these echoes was gradually improved until it was possible to identify coastlines, rivers, towns, and eventually even individual factories; thus targets and navigational pinpoints could be identified in total darkness or through cloud. Nor was this system limited by range. But on the other hand, its operation required far greater experience than did the Oboe and its effectiveness in Bomber Command was therefore not so immediate. Indeed, a considerable period was to elapse before the aircrew operators acquired the necessary

experience and before the definition of the reflected picture was sufficiently improved for it to be both accurate and reliable.

H2S largely depended for its eventual success upon the magnetron valve, which was capable of producing far higher power than any other contemporary valve. It was one of the most brilliant inventions of British science and indispensable for many forms of airborne radar, since it enabled a powerful transmission to be made from a piece of equipment small enough to be easily carried in an aircraft. There was at first much alarm at the prospect of it getting into enemy hands for it was proving invaluable in the Battle of the **Atlantic**. Indeed, a serious controversy which extended to both sides of the **Atlantic** over the release of the equipment to Bomber Command was settled only by the British War Cabinet Chiefs of Staff Committee meeting under the Prime Minister towards the end of December 1942.

At first the supply of H2S sets was restricted and Bomber Command was unable to take advantage of the fact that this device could be used by an unlimited number of aircraft at the same time. It was not until September 1943 that all the heavy bombers of the Pathfinder Force were so equipped. In the meantime H2S, like Oboe, had to be employed as a pathfinder device and tactics based on its use by a small number of aircraft.

Unfortunately, in the early stages of its use the apparatus was liable to fail even more often than the Oboe equipment, and with

¹ Squadron Leader G. A. Patrick, DSO, DFC and bar; born Dunedin, 25 Nov 1919; clerk; joined **RNZAF** Mar 1941.

so few aircraft equipped with H2S this meant that far too few target indicators were burning at any given moment during an attack. Another cause of early failure was that the special target maps were found in some cases to be out of date. These special maps had been prepared with the built-up areas drawn to look as far as possible like the actual image

that would appear on the radar screen in the aircraft, but on several occasions the Pathfinders mistook a newly built-up area which was not marked on their maps for the actual target. Moreover, it was found that the relation between the real shape of a town and the image of it that appeared on the H2S apparatus varied according to the angle or direction from which the town was viewed. Indeed, it was most difficult to predict exactly how any particular town was going to show up on the screen so that only the most experienced and skilful navigators were able to achieve real accuracy. It was soon found that the difference between land and water showed up far more clearly than the difference between built-up areas and open country, which meant that coastal targets could be more easily identified than those inland. Targets in small towns were also more readily found than in large cities because it was fairly easy to identify a town as a whole but much more difficult to distinguish any particular area in a large city from the city as a whole. Altogether it was some time before H2S was used effectively and its tactical development during 1943 was a slow process marked by many disappointments.

Oboe, on the other hand, proved its value immediately. During January, when only a few Mosquitos were equipped with the necessary apparatus, the period when marking could be maintained was limited. Therefore a series of small experimental raids was launched in which these Oboe-equipped aircraft marked the target for a following force of fifty to sixty heavy bombers. **Essen** was the principal objective of these raids. This large industrial city, home of the huge Krupps armament works and an important centre of the German mining industry, had been the most frequently bombed town in **Germany** up to this time. Yet because of the industrial haze and smoke which almost invariably covered the Ruhr area and made identification of landmarks extremely difficult, the attacks had caused little damage. This difficult target was therefore an ideal one on which to experiment with the Oboe bombing aid.

The eight small attacks which took place in January 1943 were

remarkable for it was estimated that by the despatch of 418 sorties and the loss of only eighteen machines better results were achieved than in all the raids against **Essen** in the previous year. After the attack on the night of 9 January the photographs revealed that sixty per cent of the bombs had fallen within three miles of the centre of the city, a percentage that was three times greater than the best hitherto recorded. Attacks on **Dusseldorf** and **Duisburg** showed similar promise.

Among the New Zealanders to take part in the repeated attacks on **Essen** was Flight Sergeant Rowsell ¹ of No. **207 Squadron** who distinguished himself during the first operation on the night of 3 January. The Lancaster in which Rowsell flew as wireless operator was intercepted by night fighters, and during their attacks he acted as fire controller from the astro-dome with good effect and the enemy aircraft broke off the attack. The rear gunner had been wounded and was trapped in his damaged turret but with the aid of an axe Rowsell managed to get him free. As the elevators had been damaged and the Lancaster was difficult to control through being excessively tail heavy, he then helped to rig up the spare trailing aerial on to the control column so that the bomb aimer could pull on the aerial and relieve the pilot of some of the strain. Rowsell then returned to his wireless set to obtain a diversion to an airfield where there was good visibility, and the bomber finally landed safely.

Unfortunately, it was not possible to follow up the success against **Essen** immediately with further attacks on the Ruhr as for the next two months the effort of Bomber Command was devoted mainly to the U-boat war with attacks on the submarine bases in the Biscay ports and construction facilities at **Hamburg**, **Wilhelmshaven**, and **Bremen**. The reasons for this diversion of effort and the results achieved have already been related in the previous chapter. However, on several nights when weather did not favour the offensive against the U-boats, it was possible to deliver attacks on **Cologne** and **Nuremberg**. **Cologne**, scene of the first 'thousand bomber' raid and an important commercial and industrial centre in the Rhineland, was attacked on three occasions during

February, altogether 831 sorties being despatched for the loss of twenty-four bombers.

The early months of 1943 were also notable for the resumption of raids against **Berlin**, which had not been heavily attacked since the end of 1941 owing to the serious casualties suffered by Bomber Command in the early raids. **Berlin** had been allotted high priority throughout 1942, and in the autumn of that year the Commander-in-Chief was continually pressed to renew the attack as soon as the nights lengthened sufficiently to bring the city within range. But Harris had consistently resisted these proposals for he considered that little damage would result and that there was a serious risk of incurring heavy casualties. He maintained that, with several

¹ Flight Lieutenant A. R. Rowsell, DFM; born Rawene, 7 Mar 1917; timber worker; joined **RNZAF** Oct 1940.

hours' flying over strongly defended areas, a certainty of strong night-fighter activity and the size of the German capital, not only were heavy bombers needed for a successful raid but also that only Lancasters could be sent there with any reasonable degree of safety and economy of force. In the last attack in December 1941, out of 140 bombers despatched only half of them had reached the target and twenty-one had been lost.

But now that the Command's expansion was becoming a reality it was possible to raise a substantial force of Lancasters; therefore, on two consecutive nights in January, **Berlin** was attacked by forces of 201 and 187 Lancasters. Unfortunately haze and snow, which always made it more difficult to see the outlines of a built-up area, prevented the Pathfinders from identifying the aiming point, and although several important factories were hit the damage was scattered. On the first night the enemy's fighters made scarcely any interception, and though the flak was heavy and the force too small to saturate it, only one Lancaster was missing. The next night the weather and the light proved

favourable to the enemy; night fighters operated in strength and twenty-two bombers were lost.

Flight Lieutenant Keith Thiele captained a Lancaster from No. 467 Australian Squadron on both these raids against **Berlin**. On the first night during the approach to the target his rear gunner lost consciousness through lack of oxygen. Thiele went on to attack whilst two of his crew endeavoured to assist the rear gunner out of his turret and render first aid. As soon as the bombs had been dropped, Thiele took the Lancaster down through the flak and searchlights in an attempt to save his gunner's life. This action did not succeed in reviving the gunner so Thiele carried him to the pilot's seat, no mean feat in a Lancaster in flight. Artificial respiration was then continuously applied during the return flight which Thiele maintained at low level. Unfortunately the crew's efforts were unsuccessful and the squadron diary records 'an unfortunate loss to a very gallant crew after a very successful sortie.'

Among the aircraft which returned damaged that same night was a Lancaster of No. **101 Squadron** captained by Sergeant Ralph.¹ Over **Berlin** his bomber was hit by flak and the starboard petrol tanks holed but Ralph got clear and completed the long flight back, landing the damaged machine safely, despite very poor visibility. Ralph had already completed twenty sorties with his squadron. Early in the previous December when returning from an attack on **Frankfurt**, he had displayed outstanding skill and airmanship in landing his machine safely at base with both port engines failing.

¹ Flight Lieutenant J. C. Ralph, DFM; born **Christchurch**, 26 Dec 1919; motor-parts salesman; joined **RNZAF** Jul 1941; killed on air operations, 3 Jan 1944.

Three further heavy raids on **Berlin** were made during March 1943 in an effort to follow up victories on the Russian front and, with the effort of the Lancasters supplemented by Stirlings and Halifaxes, a total of just over eight hundred sorties was despatched. In the second attack on 27

March one of the Stirlings from No. 15 Squadron carried a 'National Savings' bomb from **London**. The captain was Pilot Officer Renner, ¹ a twenty-six-year-old New Zealander who had been a farmer in Hawke's Bay before the war. His bomb aimer, wireless operator, and gunner were also New Zealanders, and a Canadian navigator and a flight engineer from **London** completed the crew.

'I think this trip to **Berlin**, our twenty-second "op" on Stirlings, gave us most satisfaction,' writes Renner. 'A Wings for Victory week had been held in **London's Trafalgar Square** during which three large bombs had been plastered inches thick with Savings Stamps by the British public on the promise that they would be duly delivered with the bomb. At the end of the week two of the bombs were hurried to our Station and one found its way into our aircraft which we had named Te Kooti, after the famous Maori chief. Three times the raid was postponed. We became quite attached to our bomb and each day the bomb-aimer would go round to make sure it was still loaded on Te Kooti. The third night we were actually on the move when the red light shot up from the control tower and we rolled off the runway and back to dispersal unable to express our feelings of frustration. The next night, amid rain and sleet, we got off. Icy clouds kept us down to two thousand feet until we got over **Denmark** where we were able to sneak a little more height. Then over the Baltic the clouds broke up and we were able to reach **Berlin** at a reasonable height to deliver our bomb. The German defences, although formidable, did not seem so concentrated as those we knew so well in the Ruhr, but the searchlights made us feel awfully bare.'

New Zealanders also flew on each of the four major raids that were launched against **Italy** during the early months of 1943, when the principal objectives were the industrial centres of Milan and Turin and the naval base at **Spezia** where units of the Italian fleet, including three battleships, were sheltering. A few hours before the first attack on Spezia Flying Officer Pethick ² of No. 1409 Meteorological Flight carried out a reconnaissance of the area and also took photographs of great value. 'He flew an unarmed Mosquito and displayed determination and

skill in avoiding interception,' says an official report. 'On reaching the French coast on the return flight his aircraft developed engine trouble and there was complete failure of all electrical and wireless equipment, but he landed safely in England. His information led to the heavy and successful raid on **Spezia** that night.' Between June 1942 and October

¹ Flight Lieutenant I. W. Renner, DFC; born **Gisborne**, 26 Jan 1917; farmer; joined **RNZAF** Jul 1941.

² Flight Lieutenant A. F. Pethick, DFC; born Hastings, 19 Apr 1920; retail manager; joined **RAF** Apr 1940.

1943 Pethick made almost ninety long-range 'met' flights, many of which involved deep penetrations of enemy territory in unarmed aircraft.

Although casualties were light the missions to **Italy** were not without incident. After the raid on Milan in mid-February one Lancaster had just crossed the Alps on its return flight when an engine suddenly caught fire. The pilot, Flight Sergeant Whyte, ¹ put the bomber into a dive in an effort to extinguish the fire by the rush of air. Unfortunately, however, this proved unsuccessful and the flames began to envelop the wing; Whyte was just able to control the aircraft sufficiently for the crew to leave by parachute. He then followed them out and came down in hilly country to the west of Dijon. With the help of the French partisans Whyte was able to evade capture, and after many adventures finally made his way back to England, where he returned to operations and completed a second tour.

Early in March 1943 Bomber Command was able to turn its attention to the Ruhr and the next four months saw one of the most dramatic battles of the air war – a battle in which a veritable fortress was assaulted from the air in a series of short but intense actions of almost incredible ferocity.

The relatively small but compact area of the Ruhr was of vital importance to the German war machine, for within its boundaries lay a great many of the factories that forged the guns, tanks, and engines of war upon which the enemy forces depended. Moreover, as the largest centre of heavy industry and coal-mining in **Europe**, the Ruhr not only provided finished products of all kinds but almost the whole of the coal and steel needed by other industries in **Germany** for the production of war material. It was indeed 'the smithy of the German Reich', and as such it had always been regarded as an objective of prime importance for the British bomber force. However, in the early years, with small and relatively weak forces lacking reliable navigational aids, the odds had been heavily against successful attacks. Apart from the distance to be flown over enemy territory and the strong ground defences in the Ruhr, the hundreds of factory chimneys continuously belching smoke produced a thick and persistent haze which made it almost impossible for crews, even on a moonlight night, to pick out a given aiming point. Moreover, in the important target of **Essen** situated in the centre of the Ruhr, there was not one prominent landmark, and the

¹ Flying Officer J. H. F. Whyte, DFC; born **Greymouth**, 11 Jan 1917; clerk; joined **RNZAF** Apr 1941.

city itself was very similar in appearance to others in the valley. Indeed, it was difficult at night, even in clear weather, to see where one Ruhr town ended and the next began because of the many settlements and industrial buildings which covered much of the intervening ground. The Germans also went to considerable trouble to produce effective decoys and to camouflage what few distinctive landmarks there were.

The introduction of Gee as a navigational aid early in 1942 had led to optimistic hopes of achieving a higher degree of accuracy in raids on the Ruhr, but these hopes had been disappointed for at that extreme range and in the face of strong defences its accuracy proved

considerably less than expected and the bombing was still very scattered. But now, in March 1943, with Pathfinder Mosquitos equipped with the Oboe device to lead a stronger bomber force, there was better prospect of finding and accurately marking targets so that a large proportion of the bomb load would be concentrated near the aiming point.

This renewed Battle of the Ruhr, as it may well be termed, opened in the first week of March and continued until the end of July. During that period the towns heavily attacked included **Bochum, Dortmund, Duisburg, Essen, Gelsenkirchen, Mulheim** and **Oberhausen**; the great Rhineland centres of **Cologne** and **Dusseldorf**, which although not in the Ruhr were part of the same industrial complex; **Krefeld, Munster, Remscheid** and **Wuppertal**, not primarily concerned with heavy industry but important for the manufacture and transport of vital war materials. Altogether 15,504 sorties were flown in major raids against these towns and 42,348 tons of bombs were dropped for the loss of 718 aircraft.

The initial attacks on **Essen** were more or less typical of those which followed throughout the Ruhr and Rhineland. In the first raid on the night of 5 March a total of 442 bombers was despatched. In the main force there were 140 Lancasters, 89 Halifaxes, 52 Stirlings and 131 Wellingtons, while the Pathfinder marking force consisted of 22 heavy bombers and 8 Oboe-equipped Mosquitos on which, and on the equipment they carried, the success of the raid almost entirely depended.

The attack, by far the most important carried out by Bomber Command up to this time, followed a carefully prepared plan. After making a landfall at Egmond on the Dutch coast, the bombers flew directly to a point 15 miles north of **Essen**, which point Pathfinder heavies marked with yellow route markers on the ground as a guide to the main force. From there the crews began the run-up to the target which they were to reach at the rate of eleven a minute, the whole attack being planned to last thirty-eight minutes. Flying in ahead the

Oboe Mosquitos dropped red target indicators on the aiming point before the bombing began and then at intervals during the attack. This renewal of the marking was limited by the fact that the Mosquitos could only be guided over the target at the rate of one every five minutes by the ground stations with which they were in communication. There were as yet only two pairs of ground stations in operation and, while they could guide twelve Mosquitos over the target in an hour, there was the risk that there would be intervals when no target indicators were burning on the ground. Therefore, the twenty-two heavy bombers of the Pathfinder Force acted as 'backers-up' throughout the attack, dropping a large number of green indicators aimed at the red ones which the Mosquitos had dropped. Thus the bomb aimers of the main force, if they could not see the more accurately placed red target indicators, could at least aim at the more plentiful green ones. In this way it was hoped that there would be a clearly distinguishable mark at which to aim at every moment during the attack.

In the event the marking was most accurately done by the Pathfinders and the bombing which followed was well concentrated. Soon innumerable fires sprang up around the markers until there was an almost solid ring of flame two miles in diameter. The municipal archives of **Essen** afterwards revealed that half of the bomb load had, in fact, fallen in the centre of the city, and such was the concentration of the bombing force that only fourteen aircraft were missing from this raid.

Five more attacks were launched against **Essen** in the next few months, and by the end of July both the huge Krupps works covering several hundred acres in the centre of the city and the town of **Essen** itself contained large areas of devastation. There was also serious damage to gas, water and electricity facilities. ¹ This had been brought about by 3260 sorties with the loss of 138 aircraft, as against 3720 sorties despatched during 1942 with the loss of 201 aircraft which did no significant damage to Krupps and little to the town of **Essen**. After the 1943 attacks, although repairs were pushed forward vigorously, some factories never resumed production. Among them was the largest single

unit in the whole Krupps works, the huge Hindenburg Hall where locomotive construction ceased after the second attack in March and was never restarted in spite of the fact that this work then had equal priority with aircraft, tanks and submarines. Other major war requirements whose production was seriously reduced as a result of Bomber Command's attacks at this time included shells, fuses, guns and aero-engine parts.

¹ 'The last raid on [Essen](#),' records Goebbels in his diary on 28 July, 'caused a complete stoppage of production in the Krupps works. Speer is much concerned and worried.'

But [Essen](#) was only one of many targets, and from the middle of March to the end of July the attack on the Ruhr was pressed with the greatest vigour, all the chief industrial areas being attacked in turn. Many of the raids were remarkably successful in causing widespread destruction but they did not always go according to plan. Although provision had been made for the unexpected arrival over the target of cloud thick enough to hide the ground markers, there were occasions when even the use of 'skymarkers' – a kind of firework which floated slowly down and made a point of aim above the clouds – was not enough to save an operation from failure. This was when the tops of the clouds were so high that the skymarkers fell into them and were quickly lost – as happened one night towards the end of May when there was cloud up to 20,000 feet over Dussel- dorf. Bomber Command was, in fact, not yet wholly independent of the weather.

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The Battle of the Ruhr was fought by Bomber Command with mounting casualties in the face of an opposition which grew steadily in strength and skill, for the arsenal of the Ruhr was exceptionally well defended by guns, searchlights, night fighters, observation and radar posts, and decoys of various kinds. By the summer of 1943 the area had well over one-third of the total anti-aircraft guns available in [Germany](#).

British crews called it 'Happy Valley' – a grim euphemism for a region which could become a better reproduction of Dante's Inferno than any of the other well-defended parts of [Germany](#).

As the battle developed it became a colossal battering match between air and ground, with the ground defences trying to blast the invaders out of the sky and the bombers trying to smother the defence under the weight of their attack. As the first aircraft approached, hundreds of searchlights would come on at once and soon the whole sky would be filled with bursting shells, so that the bombers had to drive forward through a barrage of fire and steel. 'The searchlights, in huge cones, made a wall of light through the Valley,' declared one Lancaster captain after the second heavy raid against [Essen](#). 'Intense flak was being directed into the centre of each cone and one got the impression that the defences were being very intelligently directed. They were certainly ready for us and as we flew in I saw other bombers twisting and turning in the searchlight beams.' Outside the circle of light night fighters waited to pounce upon crippled machines or the unwary crew. Many bombers returned with parts of their wings or fuselage torn to shreds, flying back, as a popular song of the period put it, 'On a Wing and a Prayer'. Others were shot down over the target or, mortally damaged by flak and night-fighter attack, crashed on enemy territory; a few struggled gamely back over the enemy coast only to be forced down in the North Sea.

During the attack on [Remscheid](#) one Lancaster of No. 50 Squadron was just turning away after dropping its bombs when it was coned by searchlights. The pilot, Flight Sergeant Cole, ¹ succeeded in getting clear but a few minutes later the bomber was again caught in the blinding glare of the lights and then hit by flak. The rear gunner was killed. The Lancaster turned over on its back and petrol poured out of one of the tanks. Cole managed to regain control, but shortly afterwards an engine caught fire and became useless. The bomber then proved so unstable in flight that he ordered his crew to stand by to bale out while he struggled with the damaged controls. Eventually, by lashing back the

rudder pedal with a leather strap and by careful piloting, Cole managed to keep his machine airborne and get back across the Channel to make a forced landing in England.

Typical of many other eventful flights was the experience of Squadron Leader Thiele and his crew in the attack on **Duisburg** early in May. When nearing the city their Lancaster was severely damaged by a shell bursting right underneath the fuselage. Thiele carried on to bomb his target, but during his final approach the aircraft was caught in a cone of searchlights. Shells began to burst all around but Thiele maintained his straight run. Then just as the bomb aimer let the bombs go the machine was again hit, one burst completely destroying the starboard outer engine. Almost immediately afterwards the starboard inner engine was hit and put out of action and the side of the aircraft ripped open along the pilot's and bomb aimer's compartments. Although dazed by a shell splinter which had struck him on the side of the head, Thiele managed to keep control and complete the long homeward flight. Unable to maintain height after crossing the British coast, he made a masterly crash-landing without injury to his crew. This was the second occasion on which Thiele had brought his aircraft back on two engines.

There were occasions during the battle when the fury of the onslaught temporarily overwhelmed the German defences. After the attack on 26 April against **Duisburg** – the largest inland port in **Germany** – the **Air Ministry** reported: ‘The Germans seem to have packed the area with heavy anti-aircraft guns and searchlights. Outside the town there was a belt of lights with others inside it,

¹ Flying Officer M. M. Cole, DFM; born Carterton, 29 Oct 1914; joined **RAF** Jun 1941.

while hundreds of guns put up one of the heaviest barrages which our bombers had encountered. But in spite of their great strength the defences were unable to cope with the attack. Pilots who went in towards the end of the raid reported that the barrage had fallen off

considerably.' By that time the port was ablaze with large red fires and looking, as one observer described it, 'like a cauldron bubbling with angry molten metal which sputtered up every now and then as more and more bombs exploded.'

In the attack against **Dortmund** on 23 May more than two thousand tons of high-explosive and incendiary bombs were dropped within an hour, and the effect of this terrific onslaught was to crush most of the life out of the defence. 'Flak was fairly intense at the beginning of the raid,' said the **RAF** bulletin issued the following day, 'but as the attack developed the flak died down considerably, cones of searchlights split up and single lights appeared to be waving aimlessly about the sky.' Nevertheless, thirty-eight of the eight hundred bombers despatched were lost. Clear weather in the target area had assisted co-operation between guns and searchlights in the early stages of the raid, and on the return flight from **Germany** intense fighter activity persisted well out over the North Sea.

Four nights later just over five hundred bombers swept in ten waves over **Essen** within the space of fifty minutes. Crews reported that the anti-aircraft fire was particularly violent and to reach the target they had to penetrate a thick curtain of searchlights and bursting shells; it was estimated that the intense flak was responsible for at least three-quarters of the 107 aircraft damaged on the raid. This was in addition to the twenty-two bombers which failed to return.

As the battle continued, British crews encountered stronger opposition from the ground defences while the onset of summer, with shorter and lighter nights, gave the German fighters better opportunities for interception. On 24 June, when the industrial centre of **Elberfeld** was the target for 630 bombers, scores of night fighters were in action and many bitter duels were fought. In addition, the British crews met a very heavy barrage and more searchlights than ever as they approached their objective. 'Great belts of searchlights, twenty to thirty in each cone, tried to pick us up and intense anti-aircraft fire came up the beams,' reported one **Stirling** captain. 'The defences of **Dusseldorf** and **Cologne**

appeared to be co-operating in a desperate attempt to beat off the raiders.' Throughout the return flight the enemy defences were active, and altogether eighty-seven of the bombers came back damaged while a further thirty-three did not return at all.

Night fighters were particularly active a few nights later when another heavy attack was launched against **Cologne**. There was much cloud over the Rhineland and the searchlights therefore were at a disadvantage, although the guns maintained a powerful barrage and heavy flak came up through the clouds. It was above the cloud bank that the most bitter fighting occurred. The Northern Lights lit up the sky and many of the bombers were silhouetted against the cloud surface below. For the German fighters the conditions were almost ideal and they attacked in strength. One pilot declared that he saw nine combats going on almost simultaneously. Twenty-five British bombers were lost in this raid and a subsequent analysis of crews' observations of aircraft shot down indicated that seventeen of these fell victim to German fighters.

Flight Lieutenant Mandeno and his crew of No. 156 Pathfinder Squadron were in action this night. Just after leaving **Cologne** their Lancaster was intercepted by a German night fighter and in a typical sudden attack the elevators and tail plane were damaged, one of the engines was hit and a petrol tank punctured. Rear guns were out of action but the fire of the mid-upper gunner and evasive turns by Mandeno were successful in shaking off the fighter. Only a few nights earlier Mandeno had displayed a similar skill when his bomber was attacked on the outward flight. He had then carried on to his target.

The Lancaster of No. **101 Squadron** captained by Squadron Leader St. John narrowly escaped destruction towards the end of June. Caught in searchlights over **Holland** while on the outward flight to **Mulheim**, the bomber was first attacked by a Junkers 88 which inflicted extensive damage. Then, after diving to 3000 feet, it was again attacked, this time by a Dornier. The German got in a short burst but the Lancaster replied

and scored hits. Meanwhile the Junkers which had followed the Lancaster down continued to fire and set the starboard outer engine alight. With his machine still losing height, St. John was forced to jettison his bomb load in order to make good his escape. He then set course for base with one rudder, both turrets unserviceable, and the fuselage and both petrol tanks badly holed. In addition, one of the elevators was partly shot away and the controls almost severed and jammed. This made it impossible to bring the control column further back than the central position. 'Despite this situation,' says an official report, 'Squadron Leader St. John, with great skill and ability, brought his aircraft back and landed it safely.' When the crew came to leave their machine they found a gaping hole where the door had been and most of the tail unit shot away.

There were many such incidents in which the enemy fighters were cheated of their prey. That same night, for example, Flight Lieutenant Wilkie ¹ and his crew of No. 15 Stirling Squadron succeeded in evading persistent attacks by a German night fighter and flew on to complete their mission. Only a few days previously when attacking **Dusseldorf**, they had seen the propeller of one engine shot away. When Pilot Officer Robinson, ² a captain with No. **158 Squadron**, returned from the attack on **Bochum** he told how, whilst evading continuous attacks by two Messerschmitts, 'one cannon shell had zipped down the fuselage between his legs, struck the air gunner a glancing blow on the head – literally parting his hair – and then passed out through the perspex nose.'

Inevitably some crews were less fortunate in their encounters with night fighters over **Germany**. Of those who survived when their machines were driven down, the experiences of Flight Sergeant McLeod ³ are fairly typical. Early in May while flying out to bomb **Dortmund**, the Lancaster of which he was captain was attacked by a night fighter shortly after crossing the Dutch coast:

The aircraft's electrically operated equipment and inter-communication were completely put out of commission. The starboard motors both lost all power, the elevators would not respond and

consequently the plane went into a dive. It was soon clear that the machine was out of control and being unable to jettison our bomb load did not help matters. At approximately 9000 feet, I roared to the bomb-aimer, who was sitting next to me in the second pilot's seat, to pass the word back to bale out. Unfortunately he had been wounded in the shoulder but managed to pass the message to the crew. Our load, which consisted of incendiaries and 1000 lb. bombs, had been strafed. This caused the cockpit to be filled with smoke which made the abandoning of the aircraft rather difficult. I was eventually assured that the rest of the crew had parachuted out and so, without hesitation, I made the plunge into the darkness. It was only a matter of seconds before I felt the sudden jar and the relief of knowing that the chute had opened – a moment of stress I certainly would not like to happen again in a lifetime.

During my descent I was unfortunate enough to get caught in a searchlight, an experience I should imagine similar to walking down the Strand in the nude. My first thoughts were of being put out of my misery by the night fighter, but luck was with me and the glare passed over. I landed in a Dutch canal and what with endeavouring to find my footing, parachute cords and equipment, I threshed the water for some time before I realised that it was just slightly over my shoulders. At last I waded out on to the bank but unfortunately I had lost my escape equipment in my efforts to reach dry land.

The night was dark and overcast, so I was utterly confused with direction. After about two hours' walking I noticed that further over there seemed to be a small village on the edge of the canal. Everything was in quietness so

¹ Flight Lieutenant H. C. Wilkie, DFC; born Raetihi, 11 Jan 1923; farmhand; joined **RNZAF** Sep 1941; killed in flying accident, 18 Apr 1944.

² Pilot Officer C. H. Robinson; born **Christchurch**, 16 Dec

1917; civil engineer; joined **RNZAF** Oct 1941; killed on air operations, 22 Jun 1943.

³ Warrant Officer W. M. McLeod; born Waimate, 24 Jun 1919; livestock clerk; joined **RNZAF** Aug 1941; p.w. 4 May 1943.

I stayed about trying to locate a suitable place for cover. Then towards the direction I had come I saw several lanterns moving about so decided to chance knocking on the door of the nearest house. I was rather surprised at the prompt response. A man fully dressed in working clothes called out. I replied "Anglais" and he then went in and after a minute or two returned and gestured to me to enter. This bucked me up considerably as I was sure I had struck help. They offered me a cup of coffee and slice of black bread which were very acceptable. After much waving of the hands I managed to convey to them that I was an airman. It was then that they awoke their son who would be about 12 years old and able to speak a few words of English. Eventually he produced the school atlas. I then pointed from England to **Holland** but they shook their heads and the boy disappeared to return with a Dutch policeman who could speak fluent English. It was then that my hopes were dashed to the ground; he informed me that they would very much like to assist me but owing to the prevailing control by the Germans and the bad time they had recently undergone, they regretted that they would have to give me over. About an hour later the Germans arrived and that was that.

Fate was kinder to Flight Sergeant Hodge, ¹ who flew as wireless operator in a **Stirling** of No. **149 Squadron**. He was the sole survivor when his machine burst into flames after an attack by night fighters during the outward flight to **Cologne** early in July. Hodge landed in a field near a small village in **Holland**. He was badly burned and had sprained his ankle. Hearing somebody coming towards him he attempted to run away, but was overtaken by a man who proved friendly and took care of him at his home. Thereafter he received further assistance which enabled him, after a series of adventures, to return to England three

months later.

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During the Ruhr battle heavy attacks were made against other German towns in order to keep enemy anti-aircraft and fighter defences dispersed. Had attacks been directed solely against the Ruhr the Germans would have been able to concentrate more of their defences in that area and the losses sustained by Bomber Command would have been proportionately heavier. Therefore, in addition to raids on **Berlin** and the German ports and U-boat bases, targets in southern **Germany** were attacked, among them the industrial centres of **Frankfurt**, **Mannheim**, **Stuttgart** and the cities of **Munich** and **Nuremberg**, both of which had strong political associations with the German Nazi Party. In addition, there were two major raids against the huge Skoda armament works at **Pilsen** in **Czechoslovakia**.

Typical of many eventful flights during these raids was the experience of Flight Lieutenant Scott ² and his crew of No. 90

¹ Flight Sergeant R. A. Hodge; born **Wellington**, 16 Jun 1918; cabinetmaker; joined **RNZAF** Jul 1941; killed in flying accident, 17 Mar 1944.

² Squadron Leader A. R. Scott, DFC and bar; born **Auckland**, 21 Nov 1919; physical instructor; joined **RNZAF** Aug 1941.

Squadron in mid-April. Eight miles short of the target their **Stirling** was attacked by two enemy fighters; one engine was damaged, the rear turret was put out of action, and a flare ignited in the flare chute. But eventually Scott managed to shake off his assailants and make good his course to the target. Then just after the bombs had fallen the **Stirling** was hit by flak; the controls were damaged and the propeller and part of the damaged engine fell off. After a few hectic moments Scott steadied his machine, got clear of the target area and, after a difficult flight,

brought the crippled bomber safely in to land at his base. More unusual was the experience of a New Zealand wireless operator, Flight Sergeant Sibbald,¹ who flew with No. 35 Squadron of the Pathfinder Force. Whilst flying back from the raid against Nuremberg early in March, his Halifax was hit and set on fire and the crew forced to escape by parachute. Sibbald outwitted the enemy search parties, made good his escape, and returned to the United Kingdom seven weeks later. Another successful evader at this time was Sergeant Morley² of No. 7 Squadron whose Stirling was shot down during its homeward flight from Stuttgart in mid-April. Morley landed safely by parachute in France and after an adventurous journey, partly on foot and partly by train, reached Switzerland three weeks later.

A young air gunner, Sergeant Wilson,³ who flew with No. 214 Squadron, played a gallant part in an episode early in March when his Stirling, while taking off for the attack on Munich, was unable to gain height and crashed near the airfield. The bomber was completely wrecked and burst into flames. Most of the crew were able to scramble clear when the aircraft broke up but the mid-upper gunner was trapped against the main spar, unconscious and hanging head downwards. He was found by the captain of the bomber, who was unable to move him, so Wilson went to assist him. The aircraft, loaded to capacity with high-explosive bombs, was now burning furiously with bullets exploding in rapid succession, but eventually they succeeded in extricating the injured man. In so doing both Wilson and his captain, who had so far escaped with only gashes and bruises, were badly burnt about the face and body. Nevertheless, they succeeded in carrying their comrade through fences and over a deep ditch to a safe distance just before the aircraft blew up. Then, although dazed from the shock of the crash and almost exhausted by his rescue efforts, Wilson staggered off across ploughed fields in search of help and eventually, by blowing the whistle attached to his tunic, succeeded in bringing rescuers to the scene. Only a

¹ Flying Officer D. A. Sibbald, DFM; born Christchurch, 14

Jun 1922; clerk; joined RNZAF Feb 1941.

² **Pilot Officer N. Morley; born Otane, 23 Dec 1912; driver; joined RNZAF Jul 1941.**

³ **Flight Sergeant H. A. Wilson, GM; born Thames, 13 Dec 1920; farmer; joined RNZAF May 1941.**

fortnight previously Wilson had been involved in an incident which necessitated his baling out. He now received the award of the George Medal.

These attacks on more distant targets in southern Germany were led by Pathfinder aircraft using H2S but, because of limited experience with this device, the marking was less accurate and the attacks themselves less spectacular than those against the Ruhr, which was within Oboe range. Nevertheless, they caused considerable destruction. At Nuremberg, for example, in the early March raid by three hundred aircraft, the main weight of the bombing fell upon the industrial districts to the south-west of the town. Serious damage was done to the large MAN factory which made diesel engines; in the Siemens electrical works two-thirds of one workshop, covering five acres, was destroyed and other buildings in the factory were gutted. At the railway workshops one large repair depot covering several acres was destroyed and another area of devastation was revealed in the neighbouring railway siding. In addition, a number of establishments manufacturing tools and engineering supplies were severely damaged, many of the buildings being completely burnt out. Fires were still smouldering when the town was photographed from the air two days after the raid.

Unfortunately, at both Nuremberg and Munich, there was also considerable damage to historic and cultural buildings from scattered bombing. This was regrettable not only for the intrinsic loss but also because it provided material for the German propagandists, whose cries had become much louder as the damage to their war industries

increased. Yet both cities had been regarded as legitimate targets because of their important war industries. At **Munich** there were factories which constructed both submarine and aero engines, tanks, armoured cars, grenades and motor tires. The city was also an important communication centre. Whether these cities could have been left unmolested on account of their particular historic and art treasures is doubtful in view of the considered policy of the Allied leaders.

At the time, the Germans made the most of such damage and the casualties caused by the **RAF** and, in an effort to restrict the attacks, their propaganda machine was turned on at full blast. The Italian radio also joined in the chorus of misrepresentation and vilification and shrill voices were raised in protest at what were described as 'terror raids' having no object but the destruction of cities and the slaughter of women and children. All this was not without its effect in **Britain**, where it aroused considerable discussion regarding the ethics of bombing and some misgivings as to its use. But the responsible leaders remained firm in their conviction that, however much the sufferings of the civilian population were to be deplored, it was essential for **Britain** to use her air power – her only weapon capable of hitting **Germany** directly – to end the war as soon as possible.

And whatever may be thought in these later years, it is well to remember that the German conversion to humanitarian sentiment had come rather late. It should have taken place four years earlier before the bombing of **Warsaw**, before the massacre of 20,000 Dutch folk in defenceless **Rotterdam** or the wreaking of a cruel vengeance on Belgrade. It is also worth recalling that in those early days German propaganda films were wont to show rows of their great bombers being loaded up with bombs, then flying in the air in battle array and finally casting down showers of bombs upon towns and villages, choking them in smoke and flame. Glorifying in devastating violence, the Germans had sought to impress upon the world that resistance to their will was impossible.

Among the men of Bomber Command many felt deeply on these matters, but they were realists. They knew that the conflict could not be

waged without suffering and regarded the loss of life in German cities as a regrettable but inevitable consequence of aerial bombardment under prevailing conditions. Certainly they were far less bloodthirsty than some whose activities were far less intimately concerned with the tragic realities of modern war.

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During the five months in which the Battle of the Ruhr was fought the New Zealand Squadron was represented in all the principal raids, with **Essen**, **Duisburg**, **Dortmund**, and **Dusseldorf** among the targets most frequently bombed. With a third flight of eight aircraft now operational, the squadron was also able to increase its contribution to the offensive. There was a change of command early in May when Wing Commander Lane was succeeded by Wing Commander Wyatt,¹ an English pilot with long experience in bombing operations. After one early raid on **Italy** he had made a forced landing in **Spain**, evaded internment, and made his way back to England.

The three flight commanders were Squadron Leaders Andrews,² Broadbent,³ and Laud.⁴ Unfortunately Laud, who had served with

¹ Group Captain M. Wyatt, DFC; born High Barnet, Hertfordshire, 24 Nov 1911; joined **RAF** 1936; commanded No. 75 (NZ) Sqdn, 1943; No. 514 Sqdn, 1944; Asst Director of Navigation (Met.) 1945 and 1946–47; Air Attache, **Stockholm**, 1948–50.

² Squadron Leader F. A. Andrews, DFC; born **Auckland**, 17 Feb 1919; school teacher; oined **RNZAF** Nov 1939.

³ Squadron Leader R. Broadbent, DFC; born **Wanganui**, 23 Aug 1919; clerk; joined **RNZAF** Nov 1939.

⁴ Squadron Leader R. H. Laud; born **Auckland**, 20 May 1916; joined **RAF** 1938; killed on air operations, 12 Jun 1943.

the **RAF** from the beginning of the war, was lost during a raid on **Dusseldorf** towards the middle of June. He was succeeded by Squadron Leader Joll, ¹ who was on his second tour of operations with No. 75 Squadron. Andrews had also carried out his first tour with the squadron while Broadbent had previously flown with No. **40 Squadron**. A move from Newmarket to RAF Station, Mepal, at the end of June was not allowed to interfere with operations, and by the close of the Battle of the Ruhr No. 75 Squadron had despatched 225 aircraft on eighteen major raids to drop 566 tons of bombs. Seventeen Stirlings were missing from this series of missions but three German fighters were claimed destroyed.

The Squadron was particularly unfortunate during attacks against **Wuppertal** at the end of May and on **Mulheim** in June when, on each occasion, four aircraft failed to return. Among the crews lost were twenty-eight New Zealanders including six captains, Flying Officer Vernazoni, ² Pilot Officer Bennett, ³ Pilot Officer F. M. McKenzie, ⁴ Flight Sergeants Burbidge, ⁵ Carey ⁶ and Thornley. ⁷ Other crews had difficult return flights after encounters with enemy night fighters or when their machines had been damaged by flak.

On the night of 26 April, the second of the squadron's three visits to **Duisburg**, the **Stirling** captained by nineteen-year-old Pilot Officer Buck ⁸ was approaching the target when an enemy fighter made a skilful surprise attack. There was a sharp explosion, which Buck took to be flak, and he was for the moment unaware that the rudder and tail of the bomber were damaged and his rear gunner mortally wounded. A few seconds later, however, he realised his mistake when a stream of tracer hit both mainplanes and the upper turret. Buck then found the rudder controls useless, but he managed to evade further attack and jettison his load of incendiaries when he suspected they had caught fire. Without rudder control it was difficult to turn, but with help from his second pilot Buck got the **Stirling** on course for base some 300 miles away. Then the starboard outer engine failed, the oil pipes having been cut by

¹ Squadron Leader J. Joll, DFC, DFM; born **New Plymouth**, 10 Apr 1920; mechanic; joined **RNZAF** Jan 1940.

² Flying Officer R. B. Vernazoni; born **Auckland**, 20 Feb 1923; clerk; joined **RNZAF** Nov 1941; killed on air operations, 30 May 1943.

³ Pilot Officer R. F. Bennett; born **Otahuhu**, 20 Oct 1913; clerk; joined **RNZAF** Sep 1941; killed on air operations, 30 May 1943.

⁴ Pilot Officer F. M. McKenzie; born **Dannevirke**, 18 Nov 1916; printer; joined **RNZAF** Jan 1941; killed on air operations, 23 Jun 1943.

⁵ Flight Sergeant K. A. Burbidge; born **Byfleet, Surrey**, 15 Apr 1921; assistant surveyor; joined **RNZAF** Apr 1941; killed on air operations, 23 Jun 1943.

⁶ Flight Sergeant J. H. R. Carey; born **Westport**, 2 Jul 1915; electric welder; joined **RNZAF** Nov 1941; killed on air operations, 30 May 1943.

⁷ Flight Sergeant S. R. Thornley; born **Invercargill**, 1 Feb 1918; upholsterer; joined **RNZAF** Jan 1940; killed on air operations, 30 May 1943.

⁸ Flight Lieutenant P. J. O. Buck, DFC; born **Wellington**, 19 Nov 1923; clerk; joined **RNZAF** Jun 1941.

bullets. The aircraft began to lose height steadily and a crash-landing in the Channel seemed likely. However, Buck ordered the crew to jettison everything movable and by skilful handling of his crippled machine succeeded in maintaining sufficient height to reach base and make a safe crash-landing.

Flight Sergeant Whitehead ¹ and his crew had a similar experience when they flew to **Dortmund** towards the end of May. They had just bombed the target when flak hit the port outer engine and set it alight. By the time Whitehead regained control the bomber had lost 5000 feet. The burning engine acted as a beacon for a cone of searchlights but fortunately the propeller flew off, the engine stopped, and the flames died away. Nevertheless, it was only after prolonged evasive action that Whitehead succeeded in getting clear of the searchlights and heavy anti-aircraft fire.

Pilot Officer H. C. Williams ² and his crew were in action with night fighters towards the end of July. Their Stirling, one of sixteen bombers sent by No. 75 Squadron to attack **Essen** that night, was suddenly set upon during the outward flight. However, by following the directions of his gunners, Williams was able to manoeuvre his machine into a favourable position. Then, after several accurate and prolonged bursts, there was a violent explosion in the German fighter and it was seen to fall away in flames. A few moments later a second fighter approached, but on meeting sustained fire from the **Stirling's** guns it turned away. Williams and his crew appear to have had more than their share of such experiences. During an earlier attack on **Dortmund** they had been simultaneously engaged by two Ju88s, but had evaded their attacks and claimed one as damaged.

While the main part of No. 75 Squadron's effort against **Germany** was devoted to the Ruhr, the aircrews also operated on various missions which called for deeper penetration into enemy territory. In March Stirlings flew in the three raids against **Berlin**, a total of twenty-one aircraft attacking the German capital without loss. On the first raid the Stirlings encountered only slight opposition from anti-aircraft batteries and although enemy fighters were seen there were no combats. But in both of the later raids the defences put up stronger resistance. After being damaged by flak over **Berlin**, the bomber flown by Pilot Officer French ³ was intercepted on the return journey by a night fighter which scored hits in one of the port engines. Fire was exchanged for some

minutes before the enemy

¹ Flying Officer W. D. Whitehead, DFM; born Matamata, 5 May 1922; farmer; joined **RNZAF** Nov 1941.

² Flight Lieutenant H. C. Williams, DFC and bar; born Pahiatua, 20 Feb 1917; driver; joined **RNZAF** Nov 1941.

³ Flying Officer R. O. French, DFC; born Feilding, 11 Nov 1910; farmer; joined **RNZAF** Oct 1941; killed on air operations, 4 Sep 1943.

machine broke off the engagement. Sergeant H. J. Dalzell had a lucky escape when a fragment of flak tore into his cockpit. It penetrated his flying kit but was deflected by the cigarette case in his breast pocket. Another crew were fortunate when, after the long flight to **Berlin**, their **Stirling** was so short of petrol that two engines failed just as it touched down.

No. 75 Squadron also took part in the series of attacks directed against cities in southern **Germany** in order to prevent the enemy adding to his defences in the Ruhr. The first two targets were **Nuremberg**, scene of many of **Hitler's** great party rallies, and **Munich**, headquarters of the Nazi movement and an important railway and armament centre. The seven crews who bombed **Nuremberg** saw large explosions and the glare of fires was still visible when they had covered more than one hundred miles of the homeward flight. During the flight back one **Stirling** was attacked by an enemy fighter over Saarbrücken. Cannon fire streamed into the cockpit and a shell exploded near the second pilot, Flying Officer Eddy, ¹ wounding him in the leg. Then followed seven minutes of violent evasive action before the enemy aircraft was finally shaken off. Another bomber captained by Sergeant Davey ² did not return.

Experienced crews reported the attack on **Munich** as one of the most successful they had seen. Describing a terrific explosion in the target

area Squadron Leader Allcock said: 'Suddenly there was a terrific pillar of flame in front of me. Then we flew through a smoke ring about a mile and a half in diameter caused by the explosion.' Another captain, Pilot Officer D. L. Thompson, ³ said the explosion lit up the whole of the inside of his **Stirling** and that 'the entire town below us was floodlit by fire.'

The April raids on **Frankfurt** and **Stuttgart** were particularly eventful for No. 75 Squadron. In the first attack against **Frankfurt** twelve **Stirlings** were despatched. All reached their objective, but one was hit by flak when over the target and then pursued by night fighters. A message sent to base brought **Spitfires** out to escort the 'lame duck' from the French coast, but it finally came down in the Channel three miles from the English coast and the crew transferred to their dinghy. A **Walrus** flying boat which had been standing by to pick the men up collided with their dinghy and threw them into the sea, but they were eventually able to clamber aboard little the worse for their experience.

¹ Flight Lieutenant C. Eddy, MBE; born **Hamilton**, Victoria, 31 Jul 1914; joined **RNZAF** Sep 1939; killed on air operations, 19 Apr 1944.

² Sergeant C. R. Davey; born **Dargaville**, 4 Apr 1921; insurance clerk; joined **RNZAF** Jul 1941; killed on air operations, 8 Mar 1943.

³ Pilot Officer D. L. Thompson; born **Auckland**, 21 Mar 1922; bank clerk; joined **RNZAF** May 1941; killed on air operations, 29 Apr 1943.

In a second attack against **Stuttgart** towards the middle of the month Pilot Officer McCaskill ¹ and his crew were lost, and two nights later the aircraft captained by Pilot Officer Groves ² and Pilot Officer Debenham ³ failed to return from **Mannheim**. From these three crews only one man survived – Debenham's flight engineer. The rest were all

killed when their machines crashed in enemy territory. Another crew got back from **Mannheim** after their bomber had been badly shot up by flak, but when about to land the English pilot, Flight Lieutenant Lowe,⁴ found the throttle controls had jammed. On crash-landing the aircraft hit a hangar and caught fire but the crew were able to hack their way out of the wreckage. During the homeward flight particular fortitude had been displayed by the navigator, Pilot Officer Carswell,⁵ who was badly wounded in the leg. Although weak from loss of blood and in considerable pain, he had remained at his post and guided the aircraft back to base.

One of Bomber Command's most successful raids of this period, apart from those against the Ruhr, was that on the Schneider armament works at Le Creusot, now of greater importance to the Germans following the damage to Krupps at **Essen** and the Skoda plant at Pilsen. Halifaxes and Stirlings made up the bulk of the force of 290 bombers which made the attack in mid-June – a full moon period when operations against more distant and strongly defended targets would have meant prohibitive loss. As it was, only two machines were lost in this raid and, into the bargain, a Messerschmitt was shot down over the Channel by a **Halifax** on the outward flight. Although the Schneider plant at Le Creusot was a relatively small target, it was severely damaged and ceased production for a considerable period.

Thirteen Stirlings from the New Zealand Squadron took part in the raid and crews reported a successful attack. One of the bombers lost a propeller as it approached Le Creusot but carried on to drop its bombs and returned safely. Another Stirling, with Squadron Leader Joll at the controls, received a direct hit from a light anti-aircraft shell which burst inside the port mainplane. Shrapnel severed the petrol cock control cables and oil pipelines and oil began to flow into the fuselage. While Joll continued on over the target,

¹ Pilot Officer D. G. McCaskill; born **Wellington**, 11 Oct 1923; student; joined **RNZAF** Jun 1941; killed on air operations,

15 Apr 1943.

² Pilot Officer K. H. G. Groves; born Waverley, 3 Jan 1913; farmer; joined [RNZAF](#) Oct 1941; killed on air operations, 17 Apr 1943.

³ Pilot Officer K. F. Debenham; born [Oxford](#), 3 Jan 1917; shop assistant; joined [RNZAF](#) Apr 1941; killed on air operations, 16 Apr 1943.

⁴ Squadron Leader D. C. Lowe, DFC, AFC; [RAF](#); born [London](#), 14 Mar 1922; aircraft research laboratory assistant; joined [RAF](#) Nov 1940.

⁵ Flying Officer F. C. Carswell, DFC; born [Invercargill](#), 4 Jul 1916; assistant company secretary; joined [RNZAF](#) Dec 1940.

his Canadian flight engineer, Sergeant G. Falloon, ¹ took an axe, hacked his way through the fuselage and crawled inside the wing. There he investigated the damage and, working by torchlight, made temporary oil repairs which enabled the bomber to return safely.

Another of No. 75 Squadron's targets at this time was the Rhineland town of [Aachen](#). [Aachen](#) was on the fringe of the Ruhr and could be reached without deep penetration of the enemy defences; nevertheless, the city itself was well defended by anti-aircraft batteries and night fighters. Several crews reported encounters with night fighters, one of which was probably destroyed. The gunners saw their target emit a flash, spin round and go down through the clouds, after which there was an explosion on the ground. On the other hand, two Stirlings were badly damaged by flak over [Aachen](#). One made an emergency landing and the crew escaped injury but the other crew were not so fortunate. When they crash-landed at Oakington, the undercarriage collapsed and the aircraft turned over and caught fire. The mid-upper gunner was mortally wounded and four other members of the crew badly hurt, including the

captain, Flying Officer Eddy. He remained in the aircraft to assist his bomb aimer from the overturned second pilot's seat. Then, finding that the dying mid-upper gunner was trapped in his turret, he went back into the burning aircraft to try to free him. Unfortunately the heat, fumes, and smoke finally drove him back to the ground, where he collapsed as a result of his exertions and injuries.

Meanwhile No. 75 Squadron had continued to play its part in the Battle of the Ruhr. The Stirlings flew in the massive raid against **Dortmund** on 23 May when over 830 bombers had caused widespread destruction. 'No district and few industries escaped unscathed,' says a contemporary report. 'Two-thirds of the great Hoesch steel plant were damaged and one area of devastation in the centre of the city covered 115 acres.' Two nights later New Zealand Stirlings were among the 610 bombers which attacked **Wuppertal** where, following the best concentration of marking yet achieved by the Pathfinders, immense damage was caused.

Then followed the heavy raids on **Oberhausen, Krefeld, Mulheim** and **Dusseldorf** in all of which No. 75 Squadron took part. Dusseldorf was the leading commercial city of western **Germany** and the home of the administration departments of practically all the important iron, steel, heavy engineering and armament industries of the Ruhr and Rhineland, as well as a very important engineering centre in itself. It received two attacks, each by about seven hundred aircraft. The first, on the night of 25 May, was marred by thick cloud which largely obscured the markers. The second attack a

¹ Flying Officer G. Falloon, DFM; born Strasbourg, **Canada**, 28 Oct 1916; joined RCAF Jun 1940.

fortnight later was made in good weather and achieved a very heavy concentration of bombs around the aiming point. The German ARP services were overwhelmed and an immense conflagration raged almost unchecked over the main part of the city. Many engineering, armaments

and rail targets were included in the widespread devastation and some were still smouldering a week after the attack.

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The climax of the Ruhr battle came on 25 July 1943 when seven hundred Lancasters, Halifaxes, Stirlings, and Wellingtons made their last attack of the year against **Essen**. For the loss of twenty-three machines, it was estimated that more damage was inflicted in this raid than in all previous attacks against **Essen** put together. Photographic reconnaissance revealed that the bombing was concentrated within a relatively narrow strip about one and a half miles wide, stretching back from the aiming point in the centre of the town and including the whole of Krupps Works. Havoc, wrought by fire, was great and some buildings were still burning two days later. A few nights later the industrial centre of **Remscheid** which specialised in machine tools was raided by 270 bombers, and reconnaissance the next day showed uncontrolled fires sweeping the town, the whole centre of which appeared gutted. A contemporary German report shows that over one hundred industrial concerns, including two steel mills, were affected.

Altogether, the Battle of the Ruhr had given an impressive demonstration of the growing power for destruction of Bomber Command. Not only had a hitherto invulnerable area been severely damaged for the first time but there seemed no reason why this success should not be repeated indefinitely on targets within Oboe range. This had never been the case before. Every previous success had been dependent on a caprice of the weather and had only been won by seizing some opportunity which might never recur. Nevertheless, Air Marshal Harris himself regarded his victory in the Ruhr as only the beginning of a serious bomber offensive; not before a very much larger number of cities elsewhere in **Germany** had been reduced to the same condition and not before the wrecked cities of the Ruhr and elsewhere had been attacked once and even twice again to prevent recovery could there be any decisive effect. ¹

A spectacular incident in the Battle of the Ruhr must now be noted. This was the attack on the night of 16 May 1943 against the dams in the Ruhr and Weser valleys, which supplied water and hydro-electric power for many cities and industries in these regions.

¹ *Bomber Offensive*, p. 148.

Of some twelve dams the Moehne was the chief. Built to control the River Ruhr, it was 105 feet high, 2100 feet long, increasing in thickness from 25 feet at the top to 112 feet at the base, and its capacity was just over 130 million tons of water. Second in importance was the Eder Dam which protected and fed the large manufacturing centre of **Kassel and neighbouring industrial areas. Other large dams were the Sorpe – unusual on account of its earthen construction round a concrete core – the Lister, and the Schwelme.**

To attack such formidable targets successfully was an extremely difficult and hazardous task involving months of careful planning, preparation, and training. A special unit, No. 617 Lancaster Squadron, had therefore been formed under Wing Commander Guy Gibson ¹ and the crews carefully chosen. Gibson himself had already completed three tours of operations, and after pressing strongly to be allowed to remain on operations he had, on account of his outstanding character and achievements, been selected to command No. **617 Squadron. This unit, first under Gibson and later under Wing Commander Cheshire ² – both men won the Victoria Cross – was to establish a splendid record during the second half of the war in carrying out various special missions, of which this successful attack on the Ruhr dams was but the first.**

The raid on the dams was made by nineteen Lancasters using specially designed weapons that were detonated by hydrostatic fuses at a chosen depth. Two New Zealanders were among the bomber crews: Flight Lieutenant Munro, ³ who was later to become deputy leader of the squadron, captained one Lancaster, and Flying Officer Chambers, ⁴ who

had been with No. 75 Squadron the previous year, flew as wireless operator in another. Both men were among the eleven crews which survived their mission. The whole gallant action is vividly portrayed in the last chapters of *Enemy Coast Ahead*, written by Wing Commander Gibson shortly before he was killed in action.

The Lancasters were despatched in three waves, and it was the first wave of nine aircraft, led by Gibson, which achieved the greatest success. Taking off soon after moonrise, these bombers flew low into **Germany** on a carefully planned course to make the initial attack on the **Moehne Dam**. Gibson went in first, descending to

¹ Wing Commander G. P. Gibson, VC, DSO and bar, DFC and bar, Legion of Merit (US); born Talland, Simla, 12 Aug 1918; joined **RAF** 1937; commanded No. 106 Sqdn, 1942–43; No. 617 Sqdn, 1943; Deputy Director Personnel (A) 1944; killed on air operations 19 Sep 1944.

² Group Captain G. L. Cheshire, VC, DSO and two bars, DFC; **RAF** (retd); born Chester, 7 Sep 1917; permanent commission **RAF** Oct 1939; commanded No. 76 Sqdn, 1942–43; No. 617 Sqdn, 1943–44; served with RAF Delegation, **USA**, 1944–45.

³ Squadron Leader J. L. Munro, DSO, DFC; born **Gisborne**, 5 Apr 1919; farmer; joined **RNZAF** Jul 1941.

⁴ Flight Lieutenant L. Chambers, DFC; born Karamea, 18 Feb 1919; carpenter; joined **RNZAF** Sep 1940.

within a few feet of the water and taking the full brunt of the anti-aircraft defences; then the following Lancasters attacked in turn and as each aircraft swept down the valley Gibson drew the enemy fire in order to give it as free a run as possible. Already during the approach one machine, its pilot blinded by searchlights, had 'reared up like a stricken horse, plunged on to the deck and burst into flames; five seconds later

his mine blew up with a tremendous explosion.' Then, over the Moehne lake, a second Lancaster was hit in one of its petrol tanks; it caught fire, staggered on apparently trying to gain height so that the crew could bale out, let fall its bomb on the power-house below the dam and then, says Gibson, 'there was a livid flash in the sky and one wing fell off; his aircraft disintegrated and fell to the ground in cascading, flaming fragments.' But meanwhile other bombers had reached the dam and in the pale moonlight the crews caught glimpses of the whole valley below beginning to fill with fog from the stream of gushing water. Gibson then led the remaining Lancasters over the treetops, up and down valleys to the Eder Dam where, after their attack, two separate breaches appeared and crews saw a wave of water sweeping down the valley below 'swiping off power stations and roads as it went. We saw it extinguish all the lights in the neighbourhood as though a great black shadow had been drawn across the earth.' But two more Lancasters had been lost, one of them blown up by the detonation of its own bomb as it attacked; another damaged bomber crashed into the North Sea during the return flight.

The effects of the breaching of the two dams are described in contemporary German reports. A gap '76 metres wide and 21 to 23 metres deep' was torn in the **Moehne Dam**, the main power-station below it was destroyed, and all road and rail bridges in the Moehne Valley were swept away. There was further widespread damage to power-stations, waterworks, industries and railways in the Ruhr Valley and 'the effects of the attack were felt far into the **Dusseldorf** district.' Similar destruction and dislocation were reported by the Germans as a result of the breaching of the Eder Dam, below which the whole valley was flooded for 16 miles, including parts of the town of **Kassel**.

The bombs used in the attack on the Ruhr Dams had been specially designed by **B. N. Wallis** of Vickers Armstrong, and after the war the Royal Commission on Awards to Inventors gave him £10,000. He put it into a fund to educate children of men who died in the **RAF**, quoting David in Samuel II, Chapter 23: 'Is not this the blood of the men that

went in jeopardy of their lives?’ It was a worthy gesture. The finest bombs ever invented would have been useless without young men of sufficient courage to fight through bitter opposition to drop them and sufficient skill to put them in the right place. The aircrews of Bomber Command were young enough and courageous enough, and this raid on the Ruhr dams was but one of many episodes in which their almost incredible bravery was fully demonstrated.

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By the middle of 1943, with Bomber Command sending large forces deeper into **Germany** and the **United States 8th Air Force** making an impressive display of its newly acquired strength in daylight attacks, the Allied air offensive was steadily gaining momentum. The advent of the American bomber forces over **Germany** was to prove a major turning point in the strategic air attack on the enemy war machine. However, as yet, coincidence of effort and objectives was rather fortuitous and for some time the two Allied bomber forces continued to operate along lines not nearly so parallel as had been assumed.

The British and American forces were, in fact, engaged in bombing the enemy in accordance with widely divergent theories. Whereas the **RAF** still hoped to bring about the general disorganisation of the German economy by area attacks on cities, the Americans preferred precise attacks on selected industries. Moreover, the Americans considered that the key to a successful bombing offensive was air superiority, which meant the destruction of the **Luftwaffe**, while in the **RAF** policy of night bombing the tactics demanded were the evasion rather than the defeat of the German fighter force.

This fundamental difference of opinion as to the best method of conducting the strategic bombing offensive had been recognised at the Casablanca Conference in January 1943, but it had not been bridged in the subsequent statement of policy issued after that meeting. The commanders of the two Allied bomber forces, Air Marshal Harris and Lieutenant-General Eaker, had been left to interpret an extremely wide

directive in their own different ways. As a result subsequent efforts to achieve a common strategy and tactics were to meet with little success until well into 1944.

On the tactical side there was much discussion of the relative merits of day and night bombing. At first the **RAF** tended to be rather sceptical and the Americans boldly optimistic regarding the efficacy of daylight attacks, but soon both sides had cause to modify their views. It was realised that complementary attacks by day and night had certain advantages as both sides could draw to the full on their previous training and experience, while the enemy fighter force would be kept at full stretch and **Germany** subjected to a more continuous assault.

The Americans, however, had to pass through a hard school in developing their daylight attacks. Like Bomber Command, they found that penetration over **Germany** by day without fighter cover was prohibitive in cost; they also discovered that on many days the weather over Northern Europe produced conditions similar to those prevailing at night and thereby rendered precision attacks very difficult. ¹ But eventually the Americans triumphed over the obstacles to effective daylight attacks, and by mid-1944 tightly packed formations of Fortress bombers under strong escort by long-range fighters were bombing **Berlin** at high noon.

American ideas on air strategy exerted a strong influence in the discussions that took place during 1943 in an attempt to develop a combined plan for the bombing of **Germany**. In May of that year General Eaker, in command of the **United States 8th Air Force**, produced a plan based on the proposition that 'it was better to cause a high degree of destruction in a few really essential industries than to cause a small degree of destruction in many industries.' American intelligence experts working in close co-operation with the British suggested six target systems whose destruction it was believed would 'fatally weaken the enemy's capacity for armed resistance.' These systems were the submarine construction yards and bases, the aircraft industry, the ball-bearing industry, oil, synthetic rubber production, and the production

of military and transport vehicles. Since the destruction of these targets could only be achieved by a force of considerable size, the **RAF** could cooperate in the plan by attacking cities by night which were related to the target systems being bombed by the **8th Air Force**. However, Eaker pointed out that before his plan could be put into effect it was essential to reduce the growing strength of the German fighter force. This, in fact, was the most important feature of the plan.

The Combined Chiefs of Staff who, acting under the President of the **United States** and the Prime Minister of Great Britain, were the supreme military authority, accepted this point and signified their approval of the general plan. The defeat of the German Air Force now became mandatory and the achievement of air superiority was accepted as the indispensable prelude to successful strategic bombing operations. A revision, or rather an interpretation, of the **Casablanca** directive was now called for.

The new directive, which came to be known as the 'Pointblank'

¹ An American air historian records that 'On the 11th June 1943 ... after being frustrated during ten days of bad weather over European targets the **8th Air Force** despatched 252 heavy bombers to attack **Bremen** and **Wilhelmshaven**. Finding **Bremen** obscured by clouds 168 of the bombers attacked **Wilhelmshaven** and 30 bombed Cuxhaven, a target of opportunity Things went very much as expected which is not to say that they went well. As on previous **AAF** missions to those parts, the German fighters appeared in force but reserved their attacks until the bombing formations were committed to the bombing run Bombing accuracy at **Wilhelmshaven** was consequently poor, few bombs of the 417 tons dropped did serious damage and none hit the target (the U-boat building yards). – A. B. Ferguson in *The Army Air Forces in World War II*, Volume II, p. 669.

plan, was sent to the Commander-in-Chief Bomber Command and the Commanding General of the **8th Air Force** on 10 June 1943. Unfortunately, however, while it stated that 'first priority was to be

given to the attack of the German fighter force and the industry upon which they depended,' the wording of the directive was rather vague and obviously an attempt at compromise with British views. In particular, it made only very informal provision for what was essential to the success of the plan, namely, the close integration of British and American operations. On this point the directive simply stated: 'while the forces of the British Bomber Command will be employed in accordance with their main aim in the general disorganisation of German industry their action will be designed as far as practicable to be complementary to the VIII Air Force.'

The result was that the so-called 'combined bomber offensive' continued more or less along its already divergent lines. While the 8th Air Force went ahead with daylight attacks upon the more precise sources of German air strength, Bomber Command continued to concentrate mainly on area attacks against German cities.

Air Marshal Harris was, in fact, determined to carry on the attack against German cities and as far as possible to avoid all diversionary activities. He remained convinced that the enemy's capitulation could best be brought about by the destruction of most of his principal towns. As Bomber Command became better equipped for concentrated attack, the British Air Staff argued the merits of attacks on key industries in Germany, but Harris persisted in his view – not without strong political support. As late as 7 December 1943, in a review of the RAF bomber offensive, he declared: 'it is not possible to dogmatize on the degree of destruction necessary to cause the enemy to capitulate but there can be little doubt that the necessary conditions will be brought about by the destruction of between 40 per cent and 50 per cent of the principal German towns.'

By the end of 1943, however, the British Air Staff, already inclined to the American view, was finally convinced that the area bombing offensive was not the best way to win the war. But it was not until February 1944 that, by insisting on an attack against the controversial target of Schweinfurt, they made this clear to Sir Arthur Harris. The

official British policy, if not the practice, of area bombing was then discarded. The impending invasion of the Continent for which air superiority was regarded as vital had provided the final and decisive argument in favour of the American policy of attacking the German fighter force and the aircraft industry upon which it depended.

The combined bombing effort did not, however, achieve close integration until late in the campaign when the greater accuracy of the British bombing and the heavier weight of the American attack made the distinction between pinpoint and area bombing a shadowy one, and when the importance of enemy oil and transport had become so apparent as to leave little doubt regarding the primary objectives. Nevertheless, the early stages of the Allied air offensive were not negligible in terms of strategic effects. In particular, they reduced the cushion of potential productive capacity in **Germany which had at first absorbed the shock of strategic bombardment. But until 1944 German industry was not fully mobilised. Many industries had surplus space, machine tools, and stocks of raw materials. Some plants had yet to be converted to full war production, while the capabilities of the occupied territories were not fully developed. Moreover, owing to the fact that the Allied attacks were not fully co-ordinated or repeated quickly enough, the enormous recuperative power of German industry had not yet been taxed to the full. In this connection it is well to emphasise that the air offensive did not achieve major power and significance until the spring of 1944. Indeed, of the total tonnage of bombs dropped in the European War by the **RAF** and the **USAAF**, no less than 83 per cent was dropped subsequent to 1 January 1944. Perhaps even more significant is the fact that, of all the tonnage dropped on **Germany** itself, 72 per cent was after 1 July 1944. If the bombing of **Germany** had relatively little effect on production prior to that time, it is not only because she had idle resources upon which to draw but also because the major weight of the air offensive had not yet been brought to bear.**

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 4 – LONGER-RANGE ATTACKS

CHAPTER 4

Longer-range Attacks

Now it was late summer. Dusk came earlier to the airfields in eastern England and, with the longer hours of darkness, Royal Air Force bombers began to penetrate farther into enemy territory. The first of the more distant targets that were heavily attacked during the second half of 1943 was the city of Hamburg. 'The total destruction of this city,' declared the Commander-in-Chief in his operational order on the eve of the attack, 'would achieve immeasurable results in reducing the industrial capacity of the enemy's war machine. But the battle of Hamburg cannot be won in a single night. It is estimated that at least 10,000 tons of bombs will have to be dropped to achieve the maximum effect. On the first raid a large number of incendiaries are to be carried in order to saturate the fire services'

Hamburg was the second largest city of Germany and the greatest port in continental Europe. Within its boundaries lay U-boat building yards, aircraft factories, and oil installations of the first importance, as well as many other major war industries. Before the war the town, whose main built-up area was on the north of the River Elbe, had a population of over one and a half million. This important centre of the German economy was one of the most heavily guarded areas in Germany outside the Ruhr and hundreds of guns and searchlights co-operated with squadrons of night fighters in its defence.

Hamburg had already been attacked by Bomber Command on various occasions earlier in the war with considerable loss and comparatively little effect, but the brief series of raids now directed against the city at the end of July 1943 was to provide a remarkable contrast. Within the space of just over one week, four night raids, each by more than seven hundred aircraft, were launched by Bomber Command, and over 8500 tons of high-explosive and incendiary bombs were dropped. Two daylight attacks by American bombers on the port area of Hamburg added a further 254 tons. There were also harassing attacks by small forces of

Mosquito bombers in the intervals between the major raids so that the effect on the Germans was one of almost continuous assault. By the beginning of August **Hamburg was without water, gas, and electricity supplies, large areas of the town lay in smoking ruins, and between 40,000 and 50,000 people had lost their lives. Economically the great city was for the time being knocked out, since the undamaged parts had to stop work on account of the destruction or lack of essential services.**

The second **RAF attack on the night of 27 July produced a unique and dreadful phenomenon in **Hamburg**. The bombing was well concentrated and its main weight fell upon the closely built-up area to the east of the Alster Lake. Within a short time this region was enveloped in a veritable sea of flames which were intensified by firestorms of almost hurricane strength. The overheated air stormed through the streets with immense force, taking along not only sparks but burning timber and roof beams, so spreading the fire farther and farther. According to a German observer, 'it developed in a short time into a fire typhoon as such was never before witnessed, against which every human resistance was quite useless.' Another report said that the firestorms were so violent and the suction so strong that trees were uprooted and the roofs of houses carried away. To judge from the many German descriptions of what happened it must have been almost as terrible as the bursting of the two atom bombs over the Japanese cities at the end of the war. Certainly these fire raids at the end of July 1943 were always referred to by the inhabitants of **Hamburg** as 'The Catastrophe'.**

On each of the big **RAF raids the plan of attack was similar. Pathfinders led the way dropping route markers at a given point off the mouth of the Elbe. Since **Hamburg** was outside Oboe range, aircraft equipped with H2S marked the target and there was a large force of backers-up to maintain this marking throughout the raids. Among them were experts whose duty it was to re-centre the attack when necessary so as to avoid the usual creeping back of the bombing. Except in the last raid, when the bombers met severe thunderstorms and most of the**

markers were hidden by clouds, these tactics proved highly successful.

But the outstanding feature of the **Hamburg** raids which contributed in large measure to the success achieved was the employment for the first time of a new method of countering the very efficient German defence organisation. During each raid British bombers dropped innumerable small strips of metallised paper which caused echoes similar to those produced by aircraft to appear on the enemy radar screens. The effect was remarkable. In the German ground-control stations instruments behaved as though the sky was filled with thousands of hostile aircraft and the controllers had to tell their night-fighter pilots they were unable to help them. Indeed, the whole system upon which the enemy relied for the control of his night fighters and the accuracy of his gunfire was thrown into hopeless confusion. Searchlights waved aimlessly in all directions, predicted gunfire gave way to a heavy barrage, and the German night fighters frequently seemed unaware of the presence of bombers in their vicinity. As a result the **RAF** casualties in the four attacks on **Hamburg** were relatively light, 87 bombers being lost from the 3095 sorties despatched.

The lack of direction from the ground and the consequent frustration of the efforts of the German night-fighter pilots may have accounted for a somewhat unusual incident which befell one of the Stirlings from No. 75 Squadron in the raid on 24 July. Just after bombs had been released the captain reported a night fighter approaching from ahead. A second or two later there was a terrific bump as the fighter collided with the starboard wing, tearing away several feet of the wing and damaging the aileron controls. But apparently the German machine got the worst of the collision for it was seen to turn over on its back and go down. The Stirling had meanwhile dropped on its starboard side and began to lose height, but with help from his bomb aimer the pilot managed to pull the aircraft level and then hold it on course throughout the long return flight.

The New Zealand Squadron took part in each of the four major attacks on **Hamburg**, despatching a total of seventy-nine sorties. This

was in addition to the attacks on **Essen** and **Remscheid** during the last weeks of July which marked the final stage of the Ruhr battle. 'It has been a terrific week for everybody – for ground crews as well as for the flying men,' declared Wing Commander Wyatt. 'The fitters, mechanics and the riggers have worked without stint to get the bombers ready for the next operation. As a result we have put up more aircraft in the last week than ever before.'

In the first three raids on **Hamburg** No. 75 Squadron was fortunate, all but one of the Stirlings returning safely. In the last attack, however, two of the seventeen bombers which took off failed to return. One was shot down over **Germany** and the other crashed into the North Sea. All the members of both crews were lost. The last raid was made in very bad weather. One New Zealander with a Lancaster squadron, whose motto appropriately enough was 'Despite the Elements', told how his bomber finally reached the vicinity of **Hamburg** after flying through cloud, rain and electrical storms. 'The clouds were very dense and miles high and so thick that we had to come down very low before getting under them. A violent thunderstorm was raging and brilliant flashes of lightning lit up the ground. Suddenly we saw the twisting outline of the River Elbe and were then able to fix our position.' Another crew reported that they flew over the target area six times before they could find a way through the cloud.

Many of the New Zealanders who flew to **Hamburg** with **RAF** squadrons also had eventful flights. Pilot Officer Elder ¹ of No. 76 Squadron brought back a crippled **Halifax** with one member of his crew dead and two wounded after one of the raids. German fighters had attacked the **Halifax** shortly after the bomb load was released, killing the mid-upper gunner and putting the port engine out of action. Other members of the crew fought off the fighters while the bomb aimer took an axe and cut away burning pieces of the fuselage. On reaching the first lighted airfield in England after a difficult flight, Elder ordered the unwounded members of his crew to bale out because he feared a dangerous crash-landing. The navigator, bomb aimer, and wireless

operator all left the aircraft and came down safely. After strapping the badly injured rear gunner in the rest position the engineer, who had himself been wounded in the legs, helped Elder to bring the bomber down on the grass outside the runway. The Halifax skidded along to the end of the airfield, jumped a ditch, went through a fence, and finished up by tearing the port engines out on some tree stumps before it finally came to rest.

The raids on **Hamburg** caused considerable alarm among the German war leaders. 'We were of the opinion,' said Herr Speer, Minister of Production, during his interrogation after the war, 'that rapid repetition of this type of attack upon another six German towns would inevitably cripple the will to sustain armament manufacture and war production. I reported to the Fuehrer at the time that a continuation of these attacks might bring about a rapid end to the war.' It was indeed a critical moment for **Germany** since it was clear that, for the time being at least, the **Luftwaffe** was unable either to prevent the raids or to launch heavy reprisals against **Britain**. Goebbels was 'sunk in gloom' and anxiously watching for signs of collapse on the home front which had been the undoing of **Germany** in 1918. However, the British raids were not repeated with the same weight and frequency, the crisis passed, and the German defence organisation was able to adapt itself to further air attacks as a result of the experience gained at **Hamburg**.

It was, in fact, a physical impossibility for Bomber Command at this stage of its expansion and equipment to do what in Speer's opinion might have brought the war quickly to an end. Even with the greatest possible luck it would not have been possible to attack in a brief space of time six more great cities as effectively as **Hamburg**. To find new targets even half or a third of its size the bombers would have to go much farther afield. **Hamburg** had been

¹ Flight Lieutenant W. E. Elder, DFC, DFM; born Gore, 30 Aug 1912; farmer; joined **RNZAF** Nov 1941.

more accessible and, because of its position near the coast, more easily located and subjected to concentrated attack. Weather, the size of the force, and lack of experience with the new radar aids prohibited for the time being similar sustained onslaught. To have destroyed **Berlin** would have been a severe blow, but it was the most difficult target of all to attack. Nevertheless at the earliest opportunity, as soon as the nights were long enough, a series of raids was directed against the German capital. In the meantime there were many other tasks for the bombers.

By the middle of 1943 **Italy** had become the focus of the Allied attack in the **Mediterranean**, and Bomber Command was directed to support the efforts being made to drive **Hitler's** wavering ally out of the war. Therefore, between the middle of July and the end of August there were frequent raids on the industrial cities of northern **Italy**. In July the nights were too short for the slower types of aircraft and even the Lancasters had to be routed home through the **Bay of Biscay**. Nevertheless, as early as the night of 12 July, 295 Lancasters delivered a successful attack against Turin.

There were also a number of raids by smaller forces of Lancasters against the transformer and switching stations upon which the electrified railways of **Italy** depended. After these attacks the Lancasters would often fly on to land in North Africa and then make another bombing raid during their return flight to the United Kingdom. On the night of 15 July when twenty-four Lancasters were despatched in four groups to attack such targets, Flight Lieutenant Stewart ¹ led the six aircraft from No. **61 Squadron** whose objective was the grid and transformer station at **Bologna**. Stewart went in first and, after dropping sighter bombs, scored hits in a second low-level attack. His gunners then concentrated on the enemy flak posts while the remaining aircraft made their bombing runs. Stewart, who had been with his squadron since 1941 and was on his second tour of operations, was taken prisoner a few weeks later in the famous raid on the German experimental station at **Peenemunde**.

Flying Officer Head, ² who flew a Lancaster of No. 9 Squadron to Reggio the same night, had a remarkable series of adventures. Over the target his machine was involved in a collision and sustained such damage that the crew was forced to bale out. Shortly after reaching the ground Head was captured. A week later he escaped

¹ Flight Lieutenant T. A. Stewart, DFC, DFM; born Dannevirke, 30 Aug 1915; shop assistant; joined RNZAF Jan 1941; p.w. 18 Aug 1943.

² Flight Lieutenant M. R. Head, DSO, DFC; born Petone, 14 Sep 1918; engineer; joined RNZAF Jun 1941; p.w. 16 Jul 1943; escaped and returned to United Kingdom, 11 Jan 1944.

from a north-bound train through a ventilator only to fall into the hands of a German patrol. A second attempt to escape a few weeks later was successful when, along with two army officers, he leapt out of a train in the gathering dusk – the latch outside the door had previously been released while the train was passing through a tunnel. After eight days in the mountains the party moved towards the Allied lines in southern Italy. In a brush with a German patrol one man was captured; Head's left arm was hit and broken but he and a companion got through safely.

Within the space of ten days in mid-August 1380 sorties were flown by Bomber Command against Turin, Genoa and Milan. The great weight of bombs – some 2200 tons which included over five hundred two-ton 'block-busters' - fell on Milan in three raids within four nights. Four hundred and eighty Lancasters, Halifaxes, and Stirlings made the first attack; 134 Lancasters the second, and nearly 200 Lancasters were sent on the third raid. The long and difficult flight over the Alps was the chief hazard in these raids on Italy, but there were occasional encounters with enemy fighters usually during the flight across France. On their second flight to Milan, Flight Lieutenant Barley ¹ and his crew of No. 44 Rhodesian Squadron were attacked in the neighbourhood of

Lake Bourget, to the east of Lyons. After a running fight lasting several minutes in which the Lancaster suffered considerable damage, Barley found one engine out of action and a second giving very little power. A strong north-west wind made him decide that the best chance of saving his aircraft and crew was to make for North Africa. By skilful flying he was able to maintain sufficient height to cross the **Mediterranean** and reach Blida airfield near **Algiers**.

The last stages in the bombing of **Italy** were very successful both in causing material damage and in finally destroying what little inclination remained in that country to continue the war. **Italy** surrendered unconditionally on 3 September 1943 but the German reaction was too quick for the Allies to take advantage of the surrender. German troops were rushed into the country and the Allies faced a long and bitter campaign.

During the following months several attempts were made by Bomber Command to hinder the flow of German supplies and reinforcements to **Italy** by cutting the railways on the Brenner and Riviera routes. The most successful attack was that delivered by a force of just over three hundred Lancasters in full moonlight on the night of 10 November against the rail centre at Modane near the French border. Tracks were torn up, buildings, including the engine

¹ Flight Lieutenant H. J. Barley, DFC; born **Auckland**, 14 Aug 1913; jig and tool maker; joined **RAF** Apr 1940; transferred **RNZAF** Jan 1944.

shed were destroyed, and a German goods train standing in the station was completely wrecked. 'The whole area,' says a contemporary report, 'had the appearance of the front line in the First World War.' On the other hand, three gallant attempts by small forces of Lancasters from No. **617 Squadron** to wreck the Antheor viaduct were unsuccessful. By this time, however, Bomber Command was heavily engaged over **Germany** and air support in the Italian campaign was taken over by the

Allied squadrons now well established at airfields in southern Italy.

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During the summer months of 1943, apart from several interesting but relatively small raids – notably against the Schneider Works at Le Creusot, the aircraft factory at Friedrichshafen, and the Peugeot Works at Montbelliard – the British bombers had concentrated upon the dislocation and destruction of industries in the Ruhr and Rhineland and in Hamburg. But with the approach of longer nights Bomber Command had begun to extend its efforts against the enemy's industrial system and at the same time make a contribution to the reduction of German air strength. In August Nuremberg, which contained ball-bearing plants, was twice attacked by heavy forces of over six hundred aircraft Leverkusen, which contained one of the vast I. G. Farben chemical and rubber plants, was also attacked. In addition, there were raids on Berlin and the Ruhr. September targets included Montlucon, the site of the French Dunlop works, and Hanover, whose principal importance to the aircraft industry lay in its production of aircraft tires. Kassel was attacked twice during October and there were heavy raids on Stuttgart, Leipzig and Hanover. In Stuttgart there was an important ball-bearing factory as well as numerous small plants manufacturing aircraft components, while Leipzig contained the big Erla group factories which made and assembled Messerschmitt fighters. In November Ludwigshaven and Leverkusen, both of which contained plants of the Farben combine, were attacked; Stuttgart was also raided again.

During the second half of 1943 seventeen attacks, six of them in July and five in October, were delivered by American bombers against specific targets in the German aircraft industry, the main weight of the assault falling upon fighter assembly plants. The centre of the German ball-bearing industry at Schweinfurt – high in the list of primary objectives for the Allied bombers – was also twice raided by the United States 8th Air Force. But in the second attack against this target on 14 October 1943 very heavy casualties were incurred – sixty of the 228 bombers being lost – and it became clear that daylight raids involving

deep penetration would have to be adequately protected by fighter escort in order to retain the strength required for continuous operations. ¹ As such escort was not yet available the 8th **Air Force** made no more deep penetrations in clear weather into **Germany** for the rest of the year. For the time being the daylight assault on long-range targets was left to the 15th **USAAF** operating from **Italy**, with the 8th confining itself to the German ports and the Ruhr.

The attacks on **Schweinfurt** are of more than passing interest for they illustrate both the difficulties and the weakness of the Allied bombing offensive at this stage. The two American raids caused damage in critical departments of the industry, and the testimony of Speer and others acquainted with the situation leaves no doubt that the enemy took a grave view of the matter. In the autumn of 1943 the German ball-bearing industry was concentrated in a few places, all of them known to Allied intelligence, and the machinery was as yet largely unprotected. In the opinion of the **United States** Strategic Bombing Survey, had these two 1943 attacks been followed up the German bearing situation might have become critical indeed. As it was, Bomber Command - owing to Harris's strong aversion to what he termed 'panacea' targets - did not take part in this first assault on the **Schweinfurt** plants at all and no further attempt was made to bomb them by either British or American aircraft for another four months. During that time the Germans were able to reorganise and disperse the industry so thoroughly that any further effort to destroy it was doomed to failure.

However, in spite of the inability to press on immediately with heavy daylight attack and some lack of co-ordination between British and American operations, the 1943 assault on the German aircraft industry had several important results. In particular, it delayed the planned programme for fighter production by approximately three months and the timing of this delay contributed to the victory in the critical air battles of the following winter. The Allied offensive also brought about a heavier wastage of German fighters in action, which led in turn to the adoption by the Germans of new programmes for greatly increased

aircraft production, particularly of fighter types. And this growing emphasis by the enemy on fighters was perhaps the best indication of the progress of the battle for air supremacy in **Europe**.

¹ 'For the time being,' declares the official American Air Historian, 'the 8th **Air Force** was in no position to make further penetrations either to **Schweinfurt** or to any other objectives deep in German territory. The **Schweinfurt** mission, bad enough in itself, had climaxed a week of costly air battles. Within the space of six days the Eighth lost one hundred and forty-eight bombers and crews, mostly as a result of air action, in the course of four attempts to break through German fighter defenses unescorted.' – *The Army Air Force in World War II*, Volume II, p. 705.

Of the night area attacks delivered by Bomber Command during the last months of 1943 those which fell on **Leipzig**, **Kassel**, and **Hanover** caused particularly widespread devastation. In the raid against **Hanover** on the night of 8 October, which followed two heavy raids in the previous eighteen days, the main weight of bombs fell on the central area round the main railway station and the industrial region of Linden to the south-west of the town centre. This attack was considered far more effective than all the previous attacks on **Hanover**. In the two October raids on **Kassel**, which had a substantial aircraft industry producing aero-engines and various components, as well as assembling aircraft, a large part of the built-up area was devastated. All three Henschel factories were damaged, the main factory suffering the most, the majority of its smaller buildings being destroyed and the larger workshops damaged. After the second raid against **Leipzig** early in December the damage covered a wide strip running right across the city from north to south and spreading from the centre into the most densely built-up districts on either side. Much of the area to the south-west of the main station, where lay the old town, was destroyed. Industrial damage was particularly severe in the south where buildings designed to house the **Leipzig** World Fair had been converted to the aircraft industry and were engaged on the repair of Junkers aero-engines and the

assembly of fuselages.

New Zealanders flew with many of the **RAF** bomber squadrons in the raids on these longer-range targets as captains, navigators, wireless operators, bomb aimers and gunners. Some men survived remarkable experiences. Squadron Leader J. B. Starky was captain of a Lancaster from No. **115 Squadron** which took off for **Mannheim** one evening early in September. It was his forty-seventh trip. Six hours later, with the starboard elevator almost completely shot away, the navigator and wireless operator missing and two more of the crew wounded, the Lancaster force-landed at an airfield in England. Some twenty miles short of the target a night fighter had dived on the Lancaster in a head-on attack. The bomber was badly hit, the cockpit filled with smoke, and the machine went into a violent spiral. Unable to regain control Starky gave the order to abandon by parachute. But on hearing that his rear gunner was trapped in his turret he made a last desperate effort to regain control. Suddenly the stick became a little easier owing to the dinghy, which had become jammed in the tail unit, blowing free. Then as the Lancaster levelled out the German fighter attacked again. But the gunners held their fire until it came close and sent it down in flames. Starky then found that both his wireless operator and navigator had baled out, his engineer had been wounded in the shoulder, and his bomb aimer badly hit in the arm and head. An approximate course was set for England, and with his bomb aimer doing the navigation – the navigator's log had gone and he had no plan to work on – Starky brought the Lancaster back to the coast and across the North Sea.

Shot down over the German-Belgian border, Flight Sergeant Pond ¹ of No. **97 Squadron** was back in England in just over a fortnight. Pond captained a Lancaster in the attack on **Nuremberg** towards the end of August. Just after leaving the target the bomber was attacked by a night fighter and badly damaged. Flying low near the Belgian frontier, Pond turned his machine into cloud to avoid another fighter and a few moments later the aircraft struck high ground, bounced off, and finally finished up in a cornfield, where it caught fire. The rear gunner had

been killed in the fighter attack and the bomb aimer in the crash. The surviving members of the crew, believing themselves to be in **Germany**, split up at once. Actually they were in **Belgium**, as Pond found out the next after-noon. While hiding in a field a horse ran so near him that he had to stand up. A farmer approached and, recognising him as English, shook hands and warned him that there were Germans in the village and gave him directions. Pond was thus able to evade capture and he soon received help which enabled him, after an adventurous journey, to return to England sixteen days later.

Flying Officer N. J. Matich, who captained a **Halifax** of No. 35 Pathfinder Squadron during 1943, also owed his escape to assistance received from various underground organisations on the Continent. It was during one of the raids against **Hanover** that Matich's **Halifax** was shot down. All the crew baled out safely but the Australian mid-upper gunner, who had been severely injured in the fighter attack, later died of wounds and exposure. The others were taken prisoner, and only Matich got clear. Moving by night he headed for **Holland**, which was the nearest and most likely place to obtain assistance. He took nine nights to cover the hundred miles to the German-Dutch border. Through taking cover by day, usually in woods and once in a haystack, he had a fairly safe journey, although the day he spent in the haystack was nearly his undoing. The farmer came to cut fodder for his animals and his large knife or saw passed about six inches from the fugitive's head during the process of cutting. Matich reached the **Dortmund**-Ems canal on the seventh night only to find it guarded. Sentry boxes were at each end of the bridge and a sentry patrolled the area. Creeping into one box, Matich overpowered the guard and got across. Two nights

¹ Flying Officer H. A. Pond, DFM; born Matamata, 25 Apr 1922; farmhand; joined **RNZAF** Nov 1941.

later he reached **Holland** and made contact with the 'Organisation'. After spending six weeks hiding in a cellar in a wood, he was taken by

train and escorted across the frontier into **Belgium**. From Brussels he travelled in company with another British pilot to **France** and eventually reached **Paris**. After several days there the two men were guided by a French girl - apparently known as 'the girl with a thousand lovers' - to Bordeaux. Here Matich's companion nearly 'gave the show away' when he spied his rear gunner on the railway station. Eventually came the gruelling walk across the Pyrenees into **Spain**, which took three days and nights, and finally the men reached Gibraltar from where they were flown back to England.

Flight Sergeant B. Williams,¹ who flew as air gunner with a Canadian squadron, was less fortunate. When his crippled Wellington bomber came down in the North Sea, he and his crew spent over eighty hours in their dinghy only to be picked up by the Germans. This was Williams's second crash within a few months. On this occasion the Wellington was returning from a raid on **Hanover**. Hits from anti-aircraft fire over the target had caused damage and loss of fuel, but the crew had decided to attempt the crossing of the North Sea and at least get as close as possible to England. But before they had got half-way across the sea the engines spluttered out and the pilot was compelled to ditch.

'The force of the crash,' writes Williams, 'had made the escape opening very small and it took considerable exertion to squeeze through and scramble out on to the tail plane. It was as black as pitch, the sea was just covering the fuselage and there was a large swell. In between the rise and fall of the waves I slid down, using a sheath knife to dig into the canvas, missed out on the swell twice, got lifted off the fuselage and was only holding on by the knife handle. By the time I got down the wing was slowly sinking and we were up to our necks. Then a whistle blew from behind us; this turned out to be the pilot who had got the dinghy and brought it up close. He stayed on one side to balance while I pulled the navigator in; was just going to haul in the bomb aimer when the pilot told us Johnny the W'op was going down. He had hit the tail plane and was in a bad way, so {1} turned round and pulled him in while the others acted as ballast on the other side of the dinghy. This left the

bomb aimer, who was six feet and a dead weight, but finally we managed to get him in. We baled the dinghy out as much as possible and then slipped into the sleep of the exhausted. Have a vague recollection of waking up twice to bale out and shift around before passing out again. We were soaked to the skin. The next day the sea was rough and we had to be very careful we did not get overturned. During the afternoon when we came up on a crest of a wave we saw a Beaufighter but we had just come up too late. However, it gave us fresh heart. The next night was calmer and although pretty well exhausted we took turns to watch but we got cramp with the cold and had to untangle our legs using our hands to move. We had a mouthful of water the first day, the second day

¹ Warrant Officer B. Williams; born [Auckland](#), 27 Apr 1922; apprentice; joined [RNZAF](#) May 1941; p.w. 23 Sep 1943.

we had two mouthfuls until we were rescued. We remained hopeful of drifting to England and took turns at paddling but night always caught up on us before we sighted land. We began to dread the nights as they brought a succession of horrible dreams, cramped legs and aching bones, and the approach of dawn made us glad. Shortly after dawn on the fourth morning we were sighted by a Junkers 88 and soon afterwards a German Flying Boat flew over and dropped markers. Then about an hour later a German gun boat came and picked us up.'

One further episode, typical of what happened all too often in Bomber Command, must be recorded. It concerns a gunner, Pilot Officer Moon ¹ of No. 156 Pathfinder Squadron who, after being wounded a second time, was the only member of his crew to survive the war. On the night of 20 December 1943 his Lancaster flew in the attack on [Frankfurt](#) and, after bombing the target and passing through its defences, was attacked by a German fighter. Through the commentary and directions given by Moon to his pilot this attack was successfully evaded. About twenty minutes later another fighter made a surprise attack. The bomber was badly hit, an engine set on fire and the mid-

upper turret shattered. Moon was badly wounded; a bullet entered his back and passed out through his chest, paralysing his left arm and side. However, he remained at his post, trying as best he could with his right hand to make his guns fire. When the enemy fighter finally broke away, Moon tried to reach the rest position and only when unable to do so did he seek help. Twelve nights later when Moon lay in hospital all the other members of his crew were killed when their Lancaster was shot down on its way back from [Berlin](#).

* * * * *

No. 75 New Zealand Squadron had continued to take a prominent part in the bomber offensive during the late summer and autumn of 1943. In August a total of 169 sorties was reached, which was a record for the squadron up to this time and also the highest number flown by any squadron of No. 3 Bomber Group during that month. In the following weeks the effort was so well maintained that, by the end of September, 313 aircraft had operated on thirty missions in which 538 tons of bombs had been dropped and 132 mines laid in enemy waters. But this excellent contribution was not made without heavy cost in men and machines. On many operations during these two months the Stirlings had to fight their way to and from their targets in the face of bitter and sustained opposition, particularly from the enemy night fighters. Thirteen Stirlings were missing in August; a further six failed to return in September, while others were badly damaged and just managed to limp back to base.

How-

¹ Flying Officer S. H. Moon, DFC; born [New Plymouth](#), 3 Oct 1919; grocer's assistant joined [RNZAF](#) Apr 1941.

ever

, these heavy losses did not go unavenged. Crews who experienced combat displayed skill and great fighting spirit and claimed fifteen

fighters as destroyed or probably destroyed, with at least six more damaged; others were driven off before they could press home their attacks.

In mid-August Wing Commander Max ¹ became the first New Zealander to command the squadron for over a year. Max had joined the **Royal Air Force** in August 1938 and at the outbreak of war was serving with No. 103 Bomber Squadron. He was among the small group of New Zealanders who flew with the Battle squadrons in **France** during 1940 and on one occasion was shot down near **Amiens** after bombing a concentration of German tanks. On return to the **United Kingdom** he continued to operate with his squadron and flew Wellingtons until early in 1941, when he was released to fly on the Atlantic Ferry. Before assuming command of No. 75 Squadron, Max did valuable work as an instructor at an operational training unit. Squadron Leaders F. A. Andrews, R. Broadbent, and J. Joll continued as flight commanders with this squadron during the second half of 1943.

The first attack by No. 75 Squadron after the Battle of **Hamburg** came on the night of 10 August when eighteen aircraft bombed **Nuremberg**. The squadron's operation record book states that: 'Large fires were seen glowing below the clouds and some heavy explosions occurred indicating that the attack was a success. Moderate anti-aircraft fire co-operating with searchlights was encountered but gave little trouble. Some enemy aircraft were seen but no combats took place. Weather at the target was poor with thick cloud which prevented identification of detail.' One crew were fortunate to get back when their navigational aids failed during the return journey and they went off track and ran short of fuel. The crew prepared to abandon the aircraft but eventually reached Manston, where they landed after being airborne for over nine hours.

There was a second attack against **Nuremberg** on 27 August when eighteen Stirlings reported successful bombing; one aircraft captained by Flight Sergeant Higham ² failed to return. Meanwhile the squadron had contributed to the final stages of the offensive against **Italy** with two

attacks on Turin in which twenty-nine sorties were flown without loss.

¹ Wing Commander R. D. Max, DSO, DFC; born Brightwater, 23 Nov 1918; joined **RAF** Aug 1938; transferred **RNZAF** Dec 1943; served on Atlantic Ferry, 1941; Flying Instructor No. 11 OTU, 1941–42; Deputy Chief Instructor, 1943; commanded No. 75 (NZ) Sqdn, 1943–44; transferred **RAF** Mar 1947.

² Flight Sergeant F. D. Higham; born **Onehunga**, 9 Jun 1919; sheep farmer; joined **RNZAF** Nov 1941; killed on air operations, 28 Aug 1943.

Two episodes connected with these missions across the Alps indicate the fine spirit which existed in No. 75 Squadron at this time. In the raid against Turin on 12 August, one **Stirling** was intercepted near **Paris** on its outward flight by a German fighter. One engine was hit and became useless, but the crew carried on to their target nearly 400 miles away, dropped their bombs and returned safely. After the second raid, four nights later, crews returned to find fog covering their base at Mepal and they were diverted to other airfields, so that they could not return to their home airfield until later the next morning. Consequently servicing, refuelling, and bombing-up were delayed, but through the enthusiastic and high-speed work of the ground crews the **Stirlings** were prepared for operations that same night against **Peenemunde**. And although the men did not know it at the time, this attack on **Peenemunde** was to prove one of the most important bombing missions of the year.

Peenemunde, on the shores of the Baltic, was the principal German experimental station engaged in the development of secret weapons such as the flying bomb and the rocket-bomb for a renewal of the attack on **Britain**. Bomber Command's raid on 17 August 1943 was launched to retard this development. In order to preserve secrecy and avoid needless alarm, crews were not told what was really going on at **Peenemunde**; instead they were briefed that the enemy was developing a new radar counter measure against night bombers. The operation was given the

code name HYDRA, not altogether a happy thought, since this was the name of the fabled monster who grew new heads whenever one was cut off.

A force of 600 bombers took off for the attack in bright moon- light. Normally a force of this size would only have been sent against such a distant target on a dark or cloudy night, and the danger from night fighters, even after the disruption of the enemy's defence system by the dropping of metallised strips in the recent attacks on **Hamburg**, was considerable. Therefore, in an effort to deceive the Germans the whole force this night was routed as if **Berlin** were the target and a small diversionary force of Mosquitos did actually go on to **Berlin**. The attack was carefully planned and for the first time in a major raid on **Germany** a 'master of ceremonies', circling high above the target, assessed the accuracy of the placing of the target markers and then gave instructions to the whole force by radio telephone. His task was not easy for there were some clouds and a protective smoke screen which shrouded much of the target area. Nevertheless, the bombing appears to have been fairly well concentrated. At first the Germans were deceived by the feint attack towards **Berlin** but the ruse was detected before the raid on **Peenemunde** had finished. Night fighters were hastily despatched to intercept the bombers on their return flight to England and the last squadrons to attack suffered heavy casualties. Altogether forty aircraft failed to return. No. 75 Squadron was fortunate in that all the twelve Stirlings despatched returned safely. A few enemy aircraft were sighted but no combats took place. Crews reported that they could see the glow of fires over one hundred miles from the target on their return flight.

Bomber Command's attack on **Peenemunde** caused considerable destruction of both manufacturing buildings and living quarters, where casualties were heavy and included several important scientists and leading members of the staff of the experimental establishment. The actual delay caused to the opening of the German V-weapon offensive is uncertain but it is significant that after this attack by Bomber Command the German threats of retaliation against the **United Kingdom**

by secret weapons became much less specific as regards dates. ¹

No. 75 Squadron also took part in two of the three major attacks against **Berlin** during August 1943. On the night of the 23rd when twenty-three New Zealand Stirlings flew to **Berlin** they met stiff opposition and three aircraft failed to return. Most crews reported sighting enemy aircraft and there were several sustained combats. Flight Sergeant Jamieson, ² who flew as rear gunner in the bomber captained by Flight Sergeant W. D. Whitehead, claimed two night fighters over **Berlin**. One was seen to burst into flames and go down and the other to explode and disintegrate in the air. That same night Flight Sergeant White ³ and his crew had a particularly hazardous flight. Approaching **Berlin** their **Stirling** was coned by searchlights and then repeatedly hit by flak. One shellburst shattered the rear turret and killed the rear gunner. There was also damage to the fuselage and controls. Suddenly the anti-aircraft fire died away and a Junkers 88 came in to attack. White began to make evasive turns but the damaged elevators caused his machine to dive out of control in steep turns. He thereupon ordered his crew to 'Prepare to abandon aircraft.' Unfortunately, three members of the crew, including the navigator, apparently mistook the order and baled out. Meanwhile White had jettisoned his bomb load while still in the dive and eventually he managed to regain a measure of control. Then, although still engaged by searchlights and anti-aircraft guns, he succeeded in

¹ An entry in the Goebbels' diary dated 10 September 1943 states that the raids on Peenemunde and the Todt structures in the West threw preparations back by four to eight weeks. However, the United States Post-War Bombing Survey reports that the attack took place too late to interfere seriously with the development of the V-1 (flying bomb) but estimates that the V-2 (rocket) programme may have been delayed by some two months.

² Flying Officer V. R. Jamieson, DFC; born Waitara, 24 Dec 1918; biscuit machinist; joined **RNZAF** Nov 1941.

³ Flight Lieutenant O. H. White, CGM; born **Christchurch**, 21 Feb 1914; salesman; joined **RNZAF** Oct 1941.

getting clear of the target area. White and the two remaining members of his crew thereupon took stock of the damage and decided that they would attempt the long flight back – no mean feat without a navigator. Fortunately White had been a keen yachtsman in New Zealand and had some knowledge of navigation. He flew northwards and then across **Denmark**, where he succeeded in pinpointing the **Stirling's** position and set course across the North Sea. The crippled bomber finally reached the English coast, but on arrival over his home airfield White found that the radio equipment, undercarriage and flap gear were useless. Despite this he achieved a safe crash-landing clear of the runway.

Altogether nineteen New Zealanders were among the crews of the seven **Stirlings** lost by No. 75 Squadron in these two August raids on **Berlin**. One of them, Sergeant Grant, ¹ who survived by a miracle when his **Stirling** was shot down, has given a vivid description of his experiences.

On reaching the target area we found plenty of enemy action. The whole sky was alive with searchlights and anti-aircraft fire and fighters. Cruising in on our bombing run at 15,000 feet, we had to pass through a heavy barrage of flak and a screen of night fighters. With the bomb doors open and on a straight and level course, we were slowed by a shell which hit the port inner engine and we made a sitting target for the fighters. Just as we were about to drop our bombs a Ju. 88 began to tail us and when the bombs had gone closed in with guns blazing. I returned the fire but was unable to give instructions for evasion as I was having trouble with the intercomm. Meanwhile the mid-upper gunner was firing at another enemy aircraft to starboard and managed to drive it off. But another attacked from the port beam and succeeded in putting his turret out of action. The Junkers at our rear scored many hits on the fin and tail plane and knocked out my two right-hand guns, wounding me in the

right arm and shoulder, while my face was peppered with shrapnel. Before I could get my remaining guns to bear this fighter closed in on our slow moving aircraft for the kill. I again opened fire and the enemy machine belched forth a cloud of smoke and flame and disappeared. We were further attacked and one fighter came up from below and raked us with fire from stem to stern, completely crippling our aircraft and putting my turret out of action. I had again been wounded and was cut off from the rest of the crew. My intercomm was by this time completely useless but managed to repair it enough to hear what was going on. The crew thought I had been killed during the attacks but after I had signalled by flashing the lights the wireless operator freed me from my turret. We had been flying for about an hour when we ran short of fuel and were ordered to abandon aircraft. On taking my parachute out of its stowage found it had been shot to pieces so I was forced to watch the rest of the crew bale out and sat waiting for the crash which came on the top of some high hills. I managed to scramble out of the burning machine and crawled away and went to sleep, only to be awakened some six hours later by a German search party.

¹ Warrant Officer J. S. Grant; born Balclutha, 7 Nov 1920; farmer; joined RNZAF Feb 1942; p.w. 31 Aug 1943.

Hanover, centre of the German aircraft industry, and the French town of Montlucon, where there was a large Dunlop factory, were among the many targets attacked by No. 75 Squadron during September. Of the attack on Montlucon on the night of the 15th, the squadron's operations book records that: 'Sixteen aircraft dropped their bombs in the target area. This was a concentrated attack, large fires and heavy explosions being observed. Smoke from the fires was afterwards seen rising to a height of 12,000 feet. Inaccurate flak from a few guns was the only opposition and no enemy aircraft were encountered.' There were two raids on **Hanover**, in the first of which, on 22 September, twenty New Zealand Stirlings took part, again without loss. But from the second attack five nights later two of the thirteen bombers despatched were

missing. Bomber Command's losses in these two raids on **Hanover** were sixty-four aircraft from the 1389 sorties despatched.

Other September targets for the New Zealand Squadron were the important industrial town of **Mannheim** in southern **Germany** and the Modane railway centre on the Mont-Cenis route into **Italy**. It was during the raid on **Mannheim** on 5 September that Flight Sergeant Batger ¹ and his crew reported their second success against enemy night fighters within six nights. On this same raid the **Stirling** captained by Flight Sergeant Whitmore ² was twice attacked within a few minutes. After concerted fire from his gunners the first fighter was seen to turn over, catch fire, and spin down towards the ground. Attack by a second fighter followed almost immediately but further accurate fire from the gunners caused it to break away. Shortly afterwards the **Stirling** took over the role of hunter when a German fighter was seen firing on a Lancaster which was burning furiously. Unfortunately, although the enemy machine was driven off, the **Stirling's** intervention was too late to save the Lancaster, which was seen to break up in mid-air. Pilot Officer Wilkinson ³ and his crew, who had twice been successful in combat during the previous month, failed to return from this raid on **Mannheim**.

When the squadron went to **Mannheim** again towards the end of the month three more aircraft were lost. Many fighters were up in defence of this important target, the crew of one **Stirling** reporting no fewer than three separate attacks during their sortie. In other encounters New Zealand aircraft claimed two enemy fighters and a further three as damaged.

¹ Warrant Officer W. H. Batger; born **Auckland**, 1 Mar 1923; stock clerk; joined **RNZAF** Feb 1942.

² Pilot Officer R. C. Whitmore; born **Pukekohe**, 16 Feb 1921; farmer; joined **RNZAF** Feb 1942; killed on air operations, 28 Sep 1943.

³ Pilot Officer E. S. Wilkinson; born Havelock, 21 Sep 1917; goods transport operator; joined **RNZAF** Dec 1941; killed on air operations, 6 Sep 1943.

Eighteen Stirlings from No. 75 Squadron bombed the marshalling yards at Modane on 16 September as part of the force of almost 350 aircraft. Crews reported that flak was largely ineffective although one aircraft which was hit had to bomb and complete its sortie on three engines. A Junkers 88 was claimed by the gunners of the **Stirling captained by Pilot Officer G. K. Williams ¹ which was one of two squadron aircraft attacked by fighters on this night.**

Both ground and air crews of No. 75 Squadron had worked hard during these months to achieve the maximum effort with their **Stirling bombers. But the **Stirling**, never a really satisfactory machine, was now obsolescent and the men still servicing and flying them could not help but envy their more fortunate comrades in the Lancaster squadrons. Indeed, during the second half of 1943 the superiority of the Lancaster, with its greater bomb load, better performance and lower loss rate, had become even more apparent, and efforts were being made to hasten the re-equipment of as many squadrons as possible with Lancasters. Meanwhile, the rising loss rate among the Stirlings and Halifaxes brought a decision to restrict the operations of these aircraft to the less difficult targets.**

Thus there came a change of emphasis in No. 75 Squadron's operations and during October, although attacks were made on targets connected with the German aircraft industry at **Kassel, Frankfurt and Bremen, most of the effort was devoted to mine-laying. **Mannheim, Leverkusen, and Berlin** were the only targets in **Germany** during November. Then the Stirlings were finally restricted to minelaying and bombing attacks on the sites the Germans were building for launching their 'secret weapons' against the United Kingdom. In December and January No. 75 Squadron's effort was divided between these two tasks, with minelaying taking by far the larger proportion, while in February it**

took the squadron's entire commitment.

After the intense activity of the first three-quarters of 1943, in which the squadron had taken part in many of the most important bombing raids, the enforced restriction of operations against **Germany** was a keen disappointment for the aircrews. However, in March 1944 the squadron began converting to Lancasters and was ready in time to take a prominent part in preparatory operations for the invasion of the Continent.

While operating over **Germany** towards the close of 1943, squadron crews had continued to meet heavy fighter attacks during which one Me109 was reported destroyed and two others damaged,



Flying Officer
A. Trigg, VC

Flying Officer, L. A. Trigg, VC



U-boat under air attack
U-boat under air attack



U-boat foundering
U-boat foundering



Coastal Command Beaufighter, 1943
Coastal Command Beaufighter, 1943



No. 490 Squadron group at Jui, West Africa, in July 1943
No. 490 Squadron group at Jui, West Africa, in July 1943



Aerial mines for enemy waters
Aerial mimes for enemy waters



Air Vice-Marshal C. R. Carr
Air Vice-Marshal C. R. Carr



Air Commodore A. McKee
Air Commodore A. McKee

Bombing up

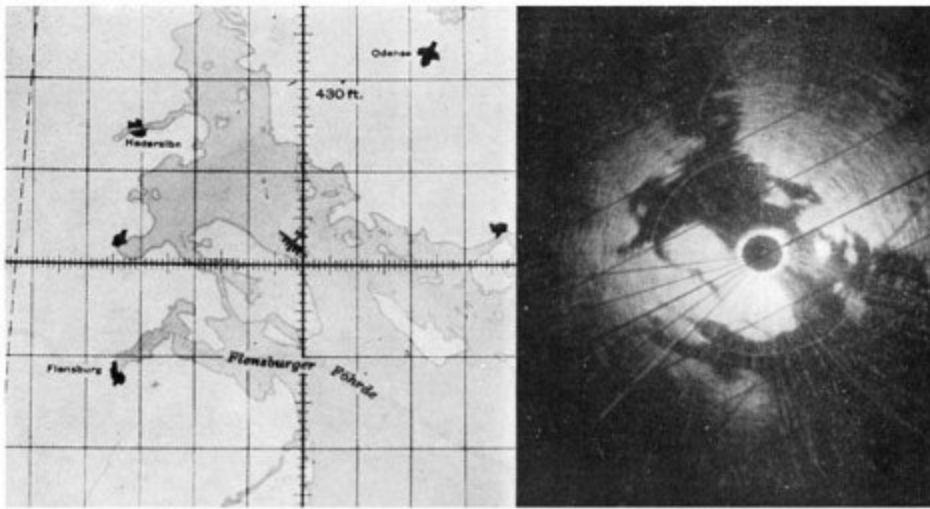


Bombing up

A Halifax
about to
take off



A Halifax about to take off



Radar screen (right) shows features in the Flensburg area
Radar screen (right) shows features in the Flensburg area

Navigator plotting course

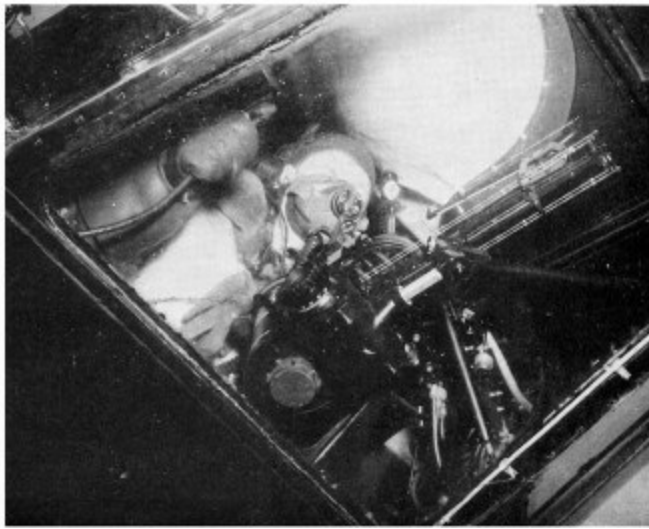


Navigator plotting course



The Eder Dam breached
The Eder Dam breached

Bomb aimer in a Lancaster



Bomb aimer in a Lancaster



Marshalling yards at Hamm

Marshalling yards at Hamm

A Halifax landing after a long night raid



A Halifax landing after a long night raid



Wing Commander R. D. Max briefing crews of No. 75 Squadron for a night's operations. The map was painted out for security reasons

Wing Commander R. D. Max briefing crews of No. 75 Squadron for a night's operations. The map was painted out for security reasons

The damaged tail unit of a No. 75 Squadron Stirling



The damaged tail unit of a No. 75 Squadron Stirling



The Amiens prison raid of 18 February 1944
(see pages 164-8)

The Amiens prison raid of 18 February 1944 (see pages 164- 8)



Squadron Leader
L. H. Trent, VC

Squadron Leader L. H. Trent, VC

A Mitchell of the Second Tactical Air Force
above a railway yard in Belgium, 1944



A Mitchell of the Second Tactical Air Force above a railway yard in Belgium, 1944



One of the first flying-bomb installations found by the Royal Air Force in Northern France. A reconnaissance photograph before the attack (*above*) and after the target had been bombed (*below*)

One of the first flying-bomb installations found by the Royal Air Force in Northern France. A reconnaissance photograph before the attack (*above*) and after the target had been bombed (*below*)





Wing Commander
W. V. Crawford-Compton

Wing Commander W. V. Crawford-Compton



Squadron Leader
R. J. C. Grant (*left*),
Station CO (*centre*),
and Squadron Leader
E. P. Wells (*right*)

**Squadron Leader R. J. C. Grant (*left*), Station CO (*centre*), and Squadron Leader E. P. Wells
(*right*)**



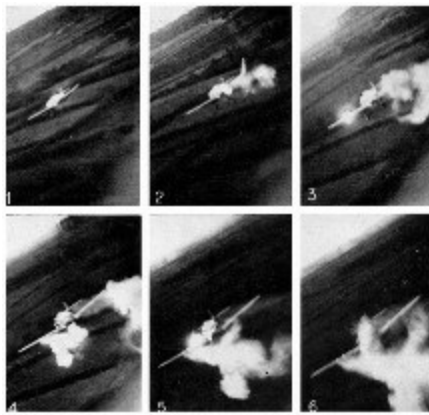
Squadron Leader
J. M. Checketts

Squadron Leader J. M. Checketts

Dispersal huts of No. 486 Squadron



Dispersal huts of No. 486 Squadron



Six stages in the destruction of a Messerschmitt 109G:

- (1) The Me. has taken off and is gaining height
- (2) First strikes from the Typhoon have hit the fuselage and port wing
- (3) Cannon strikes on the port wing near the port cannon magazine
- (4) The Me. dives, with its engine on fire and cannon magazine about to explode
- (5) The Me. rapidly loses height and speed
- (6) With its engine and port wing burning, the Me. dives in smoke before exploding

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Pilot and navigator of a Mosquito night fighter prepare to take off

Pilot and navigator of a Mosquito night fighter prepare to take off

Flight Lieutenant
G. E. Jameson
and his navigator



Flight Lieutenant G. E. Jameson, and his navigator

The night-fighter patrol
takes off



The night-fighter patrol takes off



Air Marshal Sir Arthur Coningham

Air Marshal Sir Arthur Coningham



D Day
D Day



Lancasters of Bomber Command in daylight attack on German troops
in Normandy

Lancasters of Bomber Command in daylight attack on German troops in Normandy



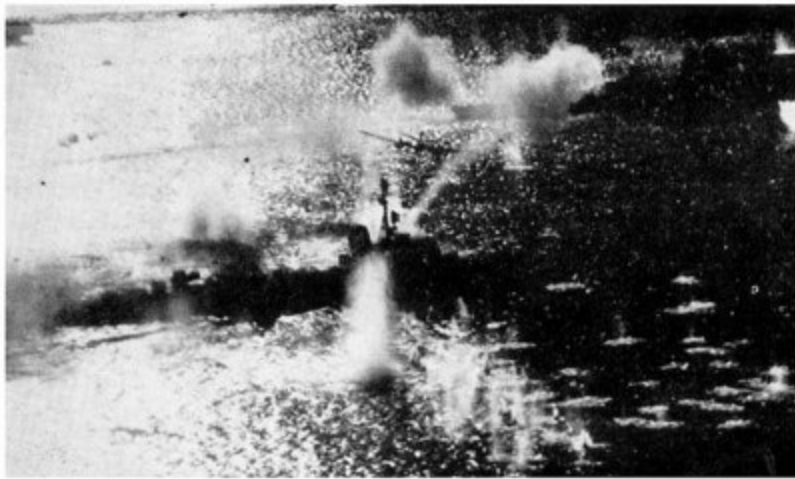
Enemy strongpoint obliterated by Allied heavy bombers

Enemy strongpoint obliterated by Allied heavy bombers



German army headquarters in Normandy attacked by fighter-bombers
of the Second Tactical Air Force

German army headquarters in Normandy attacked by fighter-bombers of the Second Tactical Air Force



Attack by Coastal Command Beaufighters on a German destroyer off
Le Verdon in Normandy

Attack by Coastal Command Beaufighters on a German destroyer off Le Verdon in Normandy

¹ Flight Lieutenant G. K. Williams; born **Te Aroha**, 26 Dec 1920; clerk; joined **RNZAF** Jul 1940; p.w. 4 Nov 1943.

but the squadron lost four aircraft. Flight Sergeant Hyde ¹ was navigator in a **Stirling** which failed to return from **Leverkusen** on the night of 19 November. Although hit by flak when crossing the enemy coast, the bomber was able to continue to the target. On turning for home it was attacked by two Me210s. In the running battle which

followed the **Stirling** was subjected to five attacks before the fighters were finally driven off. Ten minutes later the starboard wing caught fire and the crew was ordered to bale out. Just as Hyde left the aircraft there was an explosion and he lost consciousness. 'The next thing I remember I was floating down thinking myself very high up. I was enjoying the drop when suddenly I hit the ground. How high I was when my parachute opened is a mystery, so I owe my life to providence.' Hyde had been injured on landing but managed to crawl to a hedge, where he waited until two Belgians came along and carried him to a nearby house. They were members of the Resistance Movement, but a doctor who examined him decided that he should be taken to hospital and they were forced to call in the Germans against their will. Hyde was first taken to a military hospital and later removed to St. Giles' Hospital in **Brussels**. Here he received excellent treatment from the Germans which was in direct contrast to that received after he was well enough to be removed to a prisoner-of-war camp.

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For RAF Bomber Command the last quarter of 1943 had seen the most difficult phase of operations yet carried out, for it was during these wintry months that very large forces first operated against important but distant objectives in central **Germany**, including **Berlin**. This was a different proposition from attacking targets in the Ruhr and western **Germany** since it involved many more hours' flying over heavily defended regions. Nevertheless, in most of the long-range attacks the bomb load had been well concentrated around the selected aiming point and the rate of loss kept at an economic level. The first essential was achieved in the main by constant improvements in the new radar aids, better navigation by crews, and a clearer understanding of methods involved in marking the target. At the same time crippling losses were avoided by such tactics as diversionary and 'spoof' raids together with carefully planned routing which kept the enemy guessing until the last minute as to the real target for the night. The diversionary attacks were usually made by small forces of Mosquitos which took the same route as

the main force for most of the way to the target. The main force then

¹ Warrant Officer J. E. Hyde; born Lockdale, **New South Wales**, 25 Jun 1921; paper-bag maker; joined **RNZAF** Nov 1941; p.w. 20 Nov 1943.

suddenly altered course and attacked the real target. As a result of such tactics the Germans were often unable to bring their full strength of night fighters into action. The ground controller either divided his forces or else concentrated them at the wrong place. Goering himself took charge one night and made the wrong guess, sending his night fighters to one end of **Germany** while the main British bomber force went to the other. Renewed efforts were also made to interfere with the system of communications upon which the German defences relied for successful interception, and towards the end of 1943 a separate group was formed in Bomber Command charged solely with this duty. Its aircraft included both heavy bombers and night fighters with crews drawn from among the most experienced men in the Command. The heavy bombers carried special apparatus which enabled them to jam or interfere with the German radar and radio signals and with the ground controllers' radio-telephone instructions, while the Mosquito fighters had equipment for homing on to the radar carried by the German night fighters and on to the beacons over which they circled whilst assembling. Simultaneously the efforts of these aircraft of No. 100 Group were supplemented from ground stations in **Britain**, so that altogether there was an intensification of the strange 'war in the ether' that had been waged by the scientists, technicians, and airmen from the outset.

These various counter measures were very necessary, for the Germans had soon recovered from the shock produced by the dropping of metallised strips by British bombers and the sudden fall in the efficiency of their early-warning radar. Indeed, after the Battle of **Hamburg** the Germans had reacted with remarkable energy and promptness. A fighter defence system on altogether new lines had been quickly improvised in

which greater use was made of the Observer Corps to plot the course of the British bombers. Until the bombers' target had been guessed, the fighters were kept circling round a number of beacons. Then, when the German defence organisation had made up its mind about the target, fighters were sent there to intercept the British aircraft or to follow and attack them during the return flight. Orders were broadcast along with a running commentary giving the height, direction, and whereabouts of the bomber stream and of the probable target for which it was making or the actual target it was attacking.

The German night-fighter pilots were now more dependent on visual interception, and to help them greater numbers of searchlights were deployed in target areas either to catch the bombers in their cones or to light up the cloud base so that the bombers could be seen from above, silhouetted against the clouds. Some of the enemy fighters were also detailed to drop large numbers of flares high over the targets or to lay these in lanes along the bombers' probable route as they approached or left their objective. In addition, a considerable number of single-engined fighters were thrown into the battle and used to intercept the bombers over the target.

Such tactics brought increasing success to the Germans and, in spite of jamming and interference with the instructions broadcast to their fighters and although routes were worked out to cause maximum deception, British losses began to rise sharply towards the end of 1943. By that time fighter opposition was no longer being met only over the target and during the return flight but also on the outward journey. For the enemy had now given up directing his fighters to any particular area. Instead they were sent directly from the beacons they were circling into the bomber stream as it flew across [Germany](#) or even when it was still on its way across the North Sea. These tactics were not always successful, but when the German fighters did get into the bomber stream and the weather was reasonably favourable for interception heavy losses were suffered by Bomber Command. On 19 February 1944, for example, of the 820 bombers despatched to attack [Leipzig](#), no fewer

than 78 failed to return.

Continued changes and a wide variety of tactics were therefore necessary for Bomber Command to restrict its casualties. Early in the New Year it was discovered that the route markers dropped by the Pathfinders as landmarks and turning points were being used by the Germans as a guide to the movements and whereabouts of the bomber stream. To counter this Mosquitos were despatched to drop misleading markers and fighter flares similar to those used by the enemy. But before long it was found necessary to abandon the use of route markers. Fortunately these were no longer indispensable for by this time the main force was largely equipped with H2S and the general standard of navigation much improved. In February 1944, when the diversionary attacks by Mosquitos were having little effect in deceiving the enemy, it was decided to divide the striking force into two parts and either send the two forces to different targets or to the same target by different routes. The two shorter bomber streams were more difficult to plot and also split and confused the enemy's defence. Again, two separate attacks were sometimes made on the same target on the same night, with long enough intervals in between to ensure that the fighter force which had gone up to intercept the first raid would have landed and dispersed when the second bomber force arrived. Minelaying aircraft were frequently despatched in considerable numbers by routes which would suggest to the enemy that they were coming to attack a city. Forces of several hundred aircraft from the operational training and conversion units were also sent across the North Sea until they would be plotted by the enemy radar. Then they turned back home. A southern route across **France** into **Germany** was often used as the enemy's defences were less efficiently organised there than in the north and west. Altogether, the essence of Bomber Command's tactics was variety and as many different methods of confusing the enemy as possible were employed, no one method being used too frequently or for too long a time. Even so, it was a hard struggle to keep down the losses.

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Throughout the winter months there was no relaxation of the effort by RAF Bomber Command, and the massive night raids continued in their familiar routine. Night after night, after darkness fell over the airfields in eastern England, the bombers would taxi out one after another, like long strings of ducks, to line up on the runway. Soon the air resounded with the roar of engines as heavily laden aircraft lumbered down the mile-long flare path and took off into the darkness. In many a neighbouring town, village and hamlet, folk paused to watch and listen as, with navigation lights on at their various heights, the bombers flew towards the rendezvous point. Then, with the assembly complete, the lights went out simultaneously and the whole vast armada, like a huge swarm of angry wasps, set course over the North Sea. The gunners cocked their guns, the bomb aimers fused the bombs and they were on their way, a concentrated mass of machines, stretching upwards for several thousand feet and filling the sky in a broad stream for twenty miles along. Soon the Dutch coast loomed up ahead - incredibly soon it seemed.

Until this moment all was quiet at the German searchlight and flak batteries. Yet the flak gunners were ready and the searchlight crews prepared by the movement of a switch to send powerful beams up into the night sky to greet the raiders. And now as they crossed the Dutch coast the warning went out to the German defence posts all over the Continent. Night-fighter units in **Holland** had already taken off to intercept the incoming bombers and soon the first engagements of the great night battle would be taking place. Simultaneously the crews of other fighter squadrons in the region of central **Germany** were standing by ready to take off as the enemy control plotted the course of the bomber stream and endeavoured to guess its objective. Sirens sounded in German towns, the bright lights in the railway marshalling yards were switched off and the countryside sank into darkness. Night-fighter units which had assembled in certain areas were now guided closer to the British bomber stream.

Meanwhile the Lancasters droned on deeper into **Germany**. A hail of

shells from heavy flak batteries rushed up to meet them as they passed over the more heavily defended areas. In the brilliant beams of the searchlights some aircraft were clearly visible and night fighters closed in to shoot up as many as possible. Ahead lay the target, still and silent as yet. Then suddenly it would be galvanised into life; searchlights lit up the sky and hundreds of flashes came up from the guns on the city's roofs, in its parks and railway sidings. A few seconds later the leading Pathfinder aircraft dropped the first target marker. It burst and cascaded to the ground - a mass of green balls shining brightly - an unmistakable spot of light. More markers and flares followed, then the main force of bombers sailed in. Above, hundreds of fighter flares lit up the long stream of aircraft all too clearly. It seemed lighter than day, and searchlights usually so bright themselves could hardly pierce the glow of the flares above. Then tracers came up in all colours as combats took place over the target. Here and there bombers blew up as they received direct hits - great slow flashes in the sky leaving a long trail of black smoke as they disintegrated earthwards. There would be flak bursts all around as the leading wave of bombers held their course. The short time they held that course seemed like a lifetime. Then, relieved of their burden, the Lancasters leapt forward, diving, weaving and slithering, but they kept straight on over the burning city with throttles slammed wide open and engines in fine pitch. Down below, a volcano appeared to be raging as more sticks of incendiaries fell across the point where the target markers had first gone down. 'Cookies' - huge high-explosive bombs - exploded one after another with their slow red glow. Photo-flashes burst at all heights as each bomber took its photographs. It was a galaxy of light and a living nightmare.

As the last wave of bombers roared over, the fires started by the first arrivals began to take hold. Against their vivid light the last squadrons were outlined flying steadily on over the battered city. The flak died down and the searchlights waved aimlessly. Soon the area was a mass of flames and billowing smoke and the last aircraft had dropped its bombs; the rendezvous was reached and the surviving bombers turned for home.

Berlin was the principal target for the Lancasters of Bomber Command during the winter months and many New Zealanders flew with **RAF** squadrons in the massive attacks that were launched against the German capital. In addition to its importance as a political target **Berlin** contained many large plants and factories engaged on war production. The aircraft industry was represented by factories of the BMW, Dornier, Heinkel and Focke-Wulf companies, and there were important electrical and engineering firms such as Siemens, Reinmetal Borsig and Daimler Benz.

The main Battle of **Berlin**, as it came to be called, began in earnest in mid-November 1943 and continued until the middle of the following March. During that time sixteen major attacks involving 9130 sorties were launched, and in between these big raids Bomber Command Mosquitos kept up harassing attacks - a type of operation they had been carrying out for some time against long-distance targets with notable success. At first the Germans were surprised by the weight and persistence of the **RAF** attack. Fire-engines had to be requisitioned from cities as far away as **Hamburg**. On 23 November, the third major raid within the space of five nights, German Minister Ley declared: 'Hell itself seems to have broken loose over us. Mines and explosive bombs keep hurtling down upon the government quarter. One after another of the most important buildings began to burn.' And after the big raid three nights later Goebbels wrote in his diary: 'This is a heavy blow. The Fuehrer too is very much depressed the situation has become alarming since one industrial plant after another has been set on fire.' However, by a rapid concentration of guns, searchlights, and night fighters and by reinforcement of its air-raid defence organisation, the German capital managed to survive the worst of the onslaught and to inflict heavier casualties upon the raiders. In the final attack on 24 March 1944, out of the 810 aircraft sent to bomb **Berlin** 72 were shot down.

Altogether during the battle Bomber Command lost five hundred aircraft and their crews - some 3000 men - but such losses were not

unexpected in view of the distance of the target and its importance to the Germans. **Berlin** was the city above all which they were bound to defend vigorously, even at the risk of leaving other places unprotected. Apart from the powerful defences the long flights during a severe northern winter were a grim test of physical endurance for the British bomber crews. Moreover, on almost every raid the German capital was covered by thick cloud which necessitated 'sky-marking' by the Pathfinders to guide the bombing. Describing the difficulties experienced by his crews Air Marshal Harris writes:

The whole battle was fought in appalling weather and in conditions resembling those of no other campaign ... Scarcely a single crew caught a glimpse of the objective they were attacking and for long periods we were wholly ignorant, except from such admissions as the enemy made from time to time, of how the battle was going. Thousands of tons of bombs were aimed at the Pathfinders' pyrotechnic sky-markers and fell through unbroken cloud which concealed everything below it except the confused glare of fires. Scarcely any photographs taken during the bombing showed anything except clouds and day after day reconnaissance aircraft flew over the capital to return with no information. We knew, of course, from what the Germans said that we were hitting **Berlin** but we had little idea of which attacks had been successful and which had gone astray. Then after six attacks reconnaissance aircraft did bring back some not very clear photographs which showed that we had at last succeeded in hitting the enemy's capital hard; there were many hundreds of acres of devastation, particularly in the western half of the city and round the Tiergarten. Then the clouds closed again over **Berlin** and the Command made eight more attacks without any means of discovering whether all or any of them had been as successful as the first six raids. It was not until March was far advanced and the nights too short for any but Mosquito attacks on **Berlin** that an aircraft brought back more photographs and it was possible to assess the results of the Battle of **Berlin** as a whole. ¹

Although nothing like such an overwhelming success as the attacks

on **Hamburg** at the end of the previous July, compared with the results of all the earlier attacks on **Berlin** these raids were a severe blow. There was widespread dislocation of essential services and interruption of supplies. Industrial damage was heavy. Contemporary German reports indicate that in the first six raids alone 295 factories were hit and 46 completely destroyed. Nevertheless, it is also clear that under emergency measures production recovered remarkably quickly in the German capital and it was not finally crippled until the assault was renewed later in the year.

Many of the bomber crews who took part in the Battle of **Berlin** reported eventful sorties. Typical was the experience of Squadron Leader Baigent ² and his crew of No. **115 Squadron** one night towards the end of January 1944. Baigent, now on his second tour of operations, was later to command the New Zealand Bomber Squadron at the age of twenty-two. Of his seventh trip to **Berlin** since the opening of the battle, he writes:

Our Lancaster, 'N - Nuts' was approaching **Berlin** at about 20,000 feet. There was thick cloud away below, the base lit up by many searchlights giving the effect of an illuminated white sheet on the floor of a dark room. Across this white sheet black insects - aircraft in our bomber stream - were progressing steadily. They stood out clearly and it was a simple matter for the Hun night fighter to stay above and pounce down every so often to pick off a trundling bomber. One of them made a pass at us but my gunners did not see him until the last moment when they yelled a warning and I began weaving smartly. My enthusiasm for weaving was encouraged by a shower of tracer and exploding cannon shells all around. The Lancaster was hit in several places and the port outer engine set on fire. We got it feathered and luckily the fire went out. We made our bombing run. Then just as the bomb aimer called 'bombs away', a fighter gave us another sharp shower of cannon shells. The controls went 'haywire' but we managed to level up at about 3,000 feet and headed for home. Both the engineer and rear gunner were wounded. Very slowly, it seemed, and very lonely we made our gradual

way back, seeing the odd fighter looking for us, but always managing to find a convenient bit of cloud. The elevators had been hit, necessitating a big push forward on the stick for the rest of the flight. We managed to

¹ *Bomber Offensive*, pp. 186–7.

² Wing Commander C. H. Baigent, DSO, DFC and bar; born **Ashburton**, 16 Jan 1923; joined **RNZAF** Mar 1941; commanded No. 75 (NZ) Sqdn, 1945; died 10 Nov 1953.

wedge something large between the stick and the seat to stop us from stalling all the time and in this fashion we eventually reached our base near Ely. On landing we found one tyre completely missing which helped to make the landing an interesting one

The same night, Pilot Officer Leech ¹ and his crew of No. 158 Halifax Squadron had an unenviable experience. About 150 miles on the homeward flight from **Berlin**, the starboard inner engine, which had been hit by flak, caught fire. Soon it became red hot and then the propeller flew off, crashing through the fuselage and tearing along the side from the pilot's to the navigator's compartment. Although it missed both men the propeller severed instrument controls and extinguished all lighting inside the aircraft. Aids to navigation were destroyed and Leech had to navigate his aircraft back to England, working by torchlight in intense cold from the icy blast which whistled through the gaping fuselage.

Among New Zealand airmen shot down over **Berlin** was Flight Lieutenant Kingsbury, ² who captained a Lancaster of No. 7 Pathfinder Squadron. Kingsbury had been with Bomber Command from the outbreak of the war and had survived many hazardous missions, but on New Year's night 1944 his luck failed him. With one engine out of action and the port main plane damaged by flak during the outward flight, he had pressed on through ice-laden clouds to drop his bombs, but over **Berlin** the Lancaster, unable to maintain sufficient height, was hit

again. It began to go down, completely out of control. Kingsbury was the last to leave the crippled machine and his parachute had barely opened before he hit the ground. On regaining consciousness some hours later he found himself lying in slushy snow in a clearing in a lonely wood. His left leg was broken but he managed to crawl to the edge of the wood and find two forked branches to use as crutches. Finally he hobbled to a roadside where, after being ignored by several passers-by, he was finally found by a German policeman.

For men shot down near **Berlin** there was little chance of evading capture even if they were uninjured. However, many valiant attempts were made. For example, one New Zealand bomb aimer, Flight Sergeant Hunt,³ of No. 166 Lancaster Squadron, after baling out from his burning aircraft near **Berlin**, walked for six days and nights before being captured. He had struggled on almost continuously to keep from freezing, only snatching a little sleep when exhausted, and had covered some 90 miles before he walked into the arms of a railway patrol.

¹ Flight Lieutenant J. S. Leech, DFC; born Westport, 17 Aug 1911; farmer; joined **RNZAF** Feb 1942.

² Flight Lieutenant L. C. Kingsbury, DFC; born **Christchurch**, 25 May 1916; joined **RAF** Dec 1938; transferred **RNZAF** Jan 1944; p.w. 2 Jan 1944.

³ Warrant Officer E.W.D. Hunt; born Rongotea, 20 Mar 1920; farmer; joined **RNZAF** Feb 1942; p.w. 24 Nov 1943.

One further episode from the Battle of **Berlin** must be recorded. It concerns a young navigator, Flight Sergeant Lindsay,¹ who flew with No. 83 Lancaster Squadron. When his bomber crashed and caught fire on landing one wintry December night, Lindsay was thrown fifty feet in front of the aircraft. He was badly burnt about the face and sustained a broken arm and a broken ankle. Yet despite these injuries he dragged himself back to the wreckage, where he braved both the intense heat

and blazing petrol in order to help extricate his bomb aimer and his flight engineer who were trapped and seriously injured. He then helped move them to safety. Such was the standard of courage and comradeship among the bomber crews.

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By the beginning of 1944 the combined Allied air attack on **Germany** had reached formidable proportions, and to meet the mounting scale of the assault radical changes in both the character and disposition of his air force had been pressed upon the enemy. Single and twin-engined fighters were transferred from **Russia** to **Germany** at the very moment when the growing superiority of the Soviet Air Force required a strengthening of German fighter opposition. In the **Mediterranean** there was a reduction of German air strength to a point at which its influence over the course of operations became negligible. In January 1944 some 1650 fighter aircraft, representing no less than 68 per cent of **Germany's** total fighter strength, were concentrated in Western Europe, most of them inside **Germany** itself. The enemy was, in fact, being forced to defend his home front at the cost of serious military reverses elsewhere.

Faced with this growing concentration of strength over **Germany** the Allies decided upon a more vigorous attack against the source of German air power, and on 17 February 1944 directives were sent to the commanders of the British and American bomber forces in England ordering first priority to be given to the attacking of the German aircraft industry.

Two nights later RAF Bomber Command sent 823 aircraft to **Leipzig**, where four of the Erla group of Messerschmitt factories were situated. The following day 184 American Fortresses attacked the same target and in the two raids five out of ten of the most important factories in **Leipzig** suffered severe damage. These attacks inaugurated what came to be known as 'The Big Week', in which nearly 7000 sorties were flown by British and American bombers against targets of the German aircraft

industry. There was close co-ordination of the day and night attack, and in unusually clear

¹ Flying Officer R. A. Lindsay, BEM; born Maidenhead, Berkshire, 4 May 1921; clerk; joined **RNZAF** Dec 1939.

and fine weather crews were able to achieve a heavy concentration of bombing on almost every occasion.

Stuttgart, where there were important aero-engine and component factories, was the target for 600 RAF bombers on the night of 20 February. Then came heavy attacks on **Schweinfurt**, the main centre of the German ball-bearing industry, and **Augsburg** where there was a large Messerschmitt assembly plant. Both raids followed American daylight attacks a few hours earlier. Bomber Command's attack on **Schweinfurt** was scattered, but the **Augsburg** raid by 594 bombers, which attacked in two waves at an interval of two and a half hours, was highly successful even though the target area was covered in snow. Mosquitos which flew over an hour afterwards reported a solid mass of fires, and photographic reconnaissance confirmed that the industrial area had suffered severely, many of the principal factories being heavily damaged.

The effect of this combined and concentrated assault on the sources of German air power, coming on top of the 1943 attacks, was dramatic. German production plans were set back by some months and the **German Air Force** denied some thousands of aircraft when it needed them most. Nevertheless, prompt action was taken by the enemy to meet the deficiency. Aircraft production which had previously been under the German Air Ministry was now transferred to the organisation controlled by Speer, the energetic Minister of Armament Production. Special flying squads were formed to supervise clearance and repair of damaged plants. A thorough policy of dispersal of the aircraft industry was put into effect and the number of aircraft types in production drastically reduced.

These measures were to prove remarkably effective, and the German aircraft industry was able to continue producing the numbers on the ground. But machines alone were not enough. The loss of experienced pilots and the lack of a thorough system of training were now beginning to have a serious effect on the efficiency of the German fighter force. The Luftwaffe was steadily losing the battle in the air, and Speer's efforts at production, admirable though they were, could not save the situation.

It is also worth noting that, while the dispersal of aircraft production to factories underground or hidden in woods was initially successful in that the Allies were faced with a multiplicity of targets, it was only achieved at great economic expense and eventually the dilution of expert supervision made itself felt. In the end the dispersal increased the load on the German transport system, and when the Allied attack was subsequently concentrated on transport the final assembly plants lacked the necessary components. 'It may well be,' declares the American Post-War Bombing Survey, 'that more aircraft were lost out of production because of dispersal than because of direct bombing.'

The attack on German cities and factories associated with aircraft production was continued during March 1944 when aircraft of RAF Bomber Command attacked **Frankfurt, Nuremberg and **Stuttgart**, as well as **Berlin** and **Essen**. The two raids on **Frankfurt**, each by forces of over 800 aircraft, caused widespread destruction throughout the city. In the second attack on the night of 22 March, German night fighters were particularly active and there were many incidents. For Flight Sergeant Windsor ¹ of No. **514 Squadron**, who was on his fourth sortie as captain, it proved a particularly hazardous mission. While preparing to make its bombing run his Lancaster was attacked by a night fighter and both the rear and mid-upper gunners were killed. Windsor put his machine into a dive in an effort to escape, but a second burst from the fighter ignited incendiary bombs and set the aircraft on fire. The elevators were damaged and it took the combined efforts of pilot and flight engineer to pull the machine out of its dive. The bomb load was then jettisoned and**

the fire subdued, but the Lancaster remained extremely difficult to control so orders were given for the crew to bale out. However, after the navigator and bomb aimer had left, the loss of weight in the nose made it seem possible that the machine might be kept airborne. Windsor therefore cancelled the order to the rest of his crew and, helped by his flight engineer, managed to regain some kind of control. It was then discovered that the aircraft was in a balloon barrage but Windsor was able to gain sufficient height to get clear. In the meantime his wireless operator had repaired his damaged transmitter and obtained direction over enemy territory and the coast. This enabled Windsor to establish his approximate position and eventually bring the Lancaster and its three surviving crew members back to their base.

Along with the **RAF** night raids **United States** daylight bombers, with powerful long-range fighter escort, continued to make frequent incursions deep into **Germany** and there were hard and bitter air battles in which the German fighter forces suffered steadily increasing loss. The decisive factor in these battles was the American long-range fighter with a radius of action far in excess of anything previously experienced. Its appearance was, as Goering himself declared, 'a tragedy for the **Luftwaffe**.' Its rapid development during the last months of 1943, after the failure of unescorted daylight bombing missions, had indeed been an astounding feat of energy and production and it took the Germans more or less completely by surprise. When the first Thunderbolts and Mustangs appeared over

¹ Pilot Officer B. W. Windsor, DFM; born **Christchurch**, 3 Sep 1914; railway bridgeman; joined **RNZAF** Nov 1941; killed on air operations, 22 May 1944.

Hanover, the report of their presence was received by Goering with incredulity and the reporting centre concerned was reprimanded. But shortly afterwards, when his Commander-in-Chief Fighters, General-Leutnant Galland, took off on patrol to observe the performance of the German fighters, he was chased by four Mustangs back to **Berlin**.

Even so Goering insisted that his fighters should not challenge the American escort but concentrate on their bomber formations. Galland protested in vain against such purely defensive tactics. The result was that the Mustangs and Thunderbolt pilots were soon operating with a marked sense of superiority. German difficulties were further increased when long-range fighter formations began to attack airfields and depots deep inside **Germany**, thus adding to the destruction caused by Allied bombers in the aircraft factories and assembly plants.

By April 1944 the ability of the **Luftwaffe** to defend **Germany** against the mounting scale of the Allied attack had passed its marginal point and was steadily deteriorating whereas the capabilities of the Allies were improving. This trend is revealed in German records of aircraft losses in combat in the West European theatre. From 307 machines in January 1944, losses jumped in February to 456, of which 65 were night fighters of the type directed chiefly against the missions of RAF Bomber Command. The total for the month of March rises to 567, of which 94 were night fighters. The German Air Force was, in fact, being swamped by a force superior both in numbers and in quality. If it was not yet beaten – for it continued to be capable of occasional bursts of extreme energy – it nevertheless suffered a severe defeat in the early months of 1944. That defeat was brought about by attrition of the German fighter forces in the air and on the ground, by the consequent deterioration in quality of the German fighter pilots, and by the attacks on German aircraft production which caused delay in the expansion of the fighter force. A considerable part of the credit must be given to the American long-range fighter escort, but by itself the fighter force could not have carried the battle to the enemy. It was in a desperate and all-out effort to defend the industries of the Reich from both the day and night heavy bomber that the **Luftwaffe** had been given high, if belated, priority in production and reorganised into an almost exclusively defensive force.

Towards the end of 1943 there had been grave doubts concerning the ability of the Allied air forces to beat down the growing strength of the **Luftwaffe** sufficiently to make an invasion of **Europe** possible. But now

as the final preparations for the landings in **Normandy** began it was clear that the Allied air forces were well on the way to achieving the air superiority that would ensure freedom of movement to the Allied armies and navies while denying it to the enemy. **Germany** had now been thrown almost completely on the defensive in the air. She had heavily reduced her bomber production in order that maximum resources could be devoted to fighters and defensive equipment. Her fighters and flak were deployed not on the critical battlefronts or to oppose a possible landing, but were spread throughout **Germany** in a desperate attempt to defend vital targets at home. Nearly a million men were tied down to these defences and many more were engaged on repair work in the German industrial centres, many of which had been seriously disorganised. The air war was not yet won but its outcome was no longer in doubt.

On 14 April 1944 the British and American bomber forces were placed under the Supreme Allied Commander, General Eisenhower, and for the next five months were to be mainly engaged on operations preparing the way for and in support of the Allied armies. This brought some interruption of the strategic bombing of **Germany**, but during the last months of 1944 the Allied bombers were to return in full strength for the final and overwhelming assault on the sources of German industrial and military power.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 5 – WITH MINE, BOMB, AND TORPEDO

CHAPTER 5

With Mine, Bomb, and Torpedo

THROUGHOUT 1943 the growing power of the Allied bombing offensive and the deadly battle with the U-boats were the dominating features of the air war against **Germany**. But there were other campaigns that now absorbed a considerable proportion of the available effort and resources and which, while unspectacular in themselves, achieved quite remarkable results. One of these campaigns, waged continuously throughout 1943, was the attack on German sea communications in North-West Europe and the Baltic.

This offensive against enemy shipping had started in the early days of the war but it was not accorded high priority, only such marginal forces being employed as were available after the requirements of other more important operations had been met. Nevertheless, while the tonnage of merchant shipping available to **Germany** in these waters at the end of 1940 was adequate, by 1943 the situation had changed to one of considerable stringency. Moreover, the Germans were then forced to deploy in defence of their merchant ships more than 75,000 men, several hundreds of small vessels as escorts and nearly one-quarter of a million tons as *Sperrbrechers* - converted merchant ships specially equipped as minesweepers and heavily armed escorts.

The greater part of the German and German-controlled merchant fleet was employed in carrying supplies between **Germany** and Scandinavia; to a lesser extent it conveyed military stores to German forces in **Norway** and **Finland**. There was also brisk coastal traffic between German, Dutch, and Danish ports and some coastwise movement of military supplies to the East Baltic.

Most important commodities in the enemy trade with Scandinavia were the import into **Germany** of iron ore and the export of coal and coke. Indeed, these accounted over the whole war for about 80 per cent of the total German overseas trade in the North-West **Europe** and Baltic

areas. Swedish ore was of a very high grade and of particular value in the manufacture of high-quality steel for armaments; it was also especially suited to the open-hearth process of steel manufacture practised in **Germany**. The imports from **Sweden** provided a quarter of **Germany's** iron-ore requirements for the Ruhr. Much of this iron ore was unloaded at **Rotterdam** and transferred to barges for its onward journey through inland water- ways to the steel furnaces of the Ruhr. Indeed **Rotterdam**, which was reached by a fairly well-defined route along the Frisian Islands, received a large proportion of the total traffic through the **Kiel Canal** including cargoes from **Norway** and **Finland** as well as from **Sweden**.

Interruption of this traffic was attempted by two distinct forms of air action. The first comprised attacks with bombs or torpedoes, and later with rocket projectiles, by formations of shore-based aircraft against ships at sea or in harbour. Such attacks took place along the continental seaboard from Calais to Trondheim, but until the closing stages of the war they were not pressed eastward into the Skagerrak and the Baltic owing to the limited range and performance of the early types of aircraft. Torpedoes were used in the North Sea and off the south-west coast of **Norway** with good effect, although north of Stavanger where shipping moved through sheltered channels they were of less value. From December 1944 the rocket took the place of the torpedo in all areas as by that time the enemy seldom exposed his shipping during daylight in those waters where torpedoes could be used. Rockets proved specially effective off the Norwegian coast in the final stages.

The second method of aerial attack was minelaying by heavy bombers of the **RAF**, which was carried on continuously from April 1940 until the end of the war. It started in a small way but, increasing in scale and extent as the war progressed, aerial minelaying in the end accounted for seven times the number of ships sunk or damaged by mines laid by surface vessels in the North-West European area. Air action as a whole was responsible for by far the largest part of the shipping casualties inflicted upon the enemy in this same region.

By the beginning of 1943 the majority of the torpedo and bombing attacks were being carried out by aircraft of RAF Coastal Command while minelaying from the air was the responsibility of Bomber Command. Minelaying was, in fact, Bomber Command's most consistent and effective contribution to the war at sea. It proved a useful method of giving freshmen crews operational experience and was also a means of employment for at least part of the bomber force when weather was not suitable for operations over **Germany**. Between January 1943 and February of the following year, when there came a change of tasks in preparation for the invasion of **Europe**, aircrews of Bomber Command laid 16,668 mines, an average of well over one thousand a month.

All main force groups of the Command took a share in the minelaying, but **No. 3 Group** was particularly prominent and its



ATTACKS ON GERMAN SEA COMMUNICATIONS BY BOMBER AND COASTAL COMMANDS

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squadrons laid almost half the total number of mines. As this Group still had a high New Zealand representation among its aircrews and No. 75 Squadron was one of its units, New Zealanders took part in many of these missions. During the fourteen months from January 1943 No. 75 Squadron alone was to lay 1625 mines, which represented one-fifth of the Group's effort and only slightly less than one-tenth of the total number of mines dropped by Bomber Command. To achieve this outstanding result the New

Zealand Squadron despatched 460 sorties, during which eighteen bombers were lost with their crews.

The main targets of the minelaying aircraft continued to be the traffic in iron ore from Scandinavia to the Ruhr via [Rotterdam](#), and the movement of troops and supplies to [Norway](#) and to the Eastern Front through the Baltic. One ship laden with iron ore which was sunk by a mine in the [Kiel](#) Canal blocked it for several weeks. The 18,000-ton liner *[Gneisenau](#)*, used as a troopship for the Russian front, became a total wreck in the western Baltic, while another large troopship carrying ground crews and equipment to north [Norway](#) for [Luftwaffe](#) units that were attacking Allied convoys to [Russia](#) was sunk by a mine in the Kattegat. The train-ferry plying between [Sweden](#), [Denmark](#), and [Germany](#) was also a fruitful target. In addition, mines laid by Bomber Command upset the arrival and departure of blockade runners, armed merchant raiders, and other ships using ports on the west coast of [France](#).

With the steady campaign waged against German U-boats entering and leaving their Biscay bases, minelaying also played a part in the Battle of the [Atlantic](#). It is recorded that on one occasion a typical German reception, with a band on the pier, was waiting to greet two submarines returning from a successful [Atlantic](#) patrol. One of the captains, anxious to be first in, manoeuvred his ship ahead of the other, and in front of the reception his submarine touched off a mine and was blown to pieces. Mines were also frequently laid in the U-boat exercising grounds in the Baltic, where training of U-boat crews was often interrupted. Altogether, twenty-six German U-boats were sunk by mines during the war, sixteen of them by mines laid by the [Royal Air Force](#). Areas through which German warships might pass were also mined in the hope of causing delay and damage. The whole campaign compelled the enemy to retain large numbers of skilled naval personnel and valuable materials for the sweeping of widely spaced harbours and channels used by his shipping.

At the beginning of 1943 Bomber Command was faced with new problems in its minelaying, as the Germans had reacted strongly to the increased activity of the previous year. Night fighters now made more frequent interceptions while anti-aircraft guns and flak ships placed in the vicinity of the most vulnerable areas took a heavier toll of the British bombers. What the bomber crews had considered a simple mission now became as dangerous as the bombing raids on some land targets, for the successful laying of mines still depended on aircraft flying in low to the dropping point. This was necessary not only to achieve accuracy but also to avoid exploding the mines by the shock of impact, which was likely to happen if they were dropped from a height exceeding 1000 feet. Until the scientists could devise ways for aircraft to drop from higher levels, mining was generally restricted to more open areas where there was less chance of interception by night fighters and the dangers from flak were not so great. Even so, losses continued to be relatively heavy; there were frequent reports of combats with enemy fighters and many machines returned bearing signs of encounters with enemy anti-aircraft batteries.

On the night of 18 January Sergeant Bennett was captain of one of two Stirlings from No. 75 Squadron sent to lay mines in the Gironde estuary. This was his first operation as captain of aircraft. On approaching the French coast the bomber was attacked by a Messerschmitt 110 but, before it could do any damage, the mid-upper and rear gunners had both fired sharp bursts, upon which the fighter pulled over on to its back and disappeared. The Stirling then carried on and dropped its mines in the estuary, but on the way out the crew found themselves flying over several German flak ships. These put up an intense barrage, rocking the **Stirling**, but it managed to get clear. No sooner had a course been set for base when a Junkers 88 was sighted to port. Bennett took evasive action but the enemy machine hung on without opening fire. Describing this incident later, Bennett said:

The reason for this soon became obvious when my rear gunner gave me directions for turning away from another Junkers from the rear. Each

German fighter appeared to be acting as a decoy for the other. Had I adopted my rear gunner's direction we should have been exposed to the fire of the fighter on our port wing.

The rear and mid-upper gunners were able to get in bursts at the enemy on their tail, who was so close that when he returned fire the gunners could actually hear the noise of the German cannon. Bennett continued:

At this stage we were down to almost the level of the sea and must have been silhouetted against reflection of the moon – a sitting bird for the enemy. But luck was on our side and a thick blanket of cloud suddenly appeared and gave us protection. We lost the fighters.

Once more a course was set for base but again the crew found themselves over the flak ships; however, they soon got clear. The action had been so violent that everything movable in the **Stirling** had been thrown on to the floor and the navigator, who had been sitting behind the pilot, retrieved his maps from well forward over the bomb-sight, down in the nose of the aircraft.

One night in February a lone **Stirling** of No. **149 Squadron** captained by Flying Officer Drummond ¹ ran the gauntlet of search-

¹ Squadron Leader L. J. Drummond, DFC; born **Auckland**, 10 Aug 1913; solicitor; joined **RNZAF** May 1941.

lights

and batteries defending the entrance to the port of Bordeaux when it was detailed to drop mines within half a mile of the shore. At first all went well. A pinpoint was obtained in the vicinity of the dropping zone and Drummond began the run to lay his mines at a height of only 800 feet. The night was particularly clear, with a bright full moon which made it easier to find the dropping area. At the same time, however, it

enabled the **Stirling** to be readily picked out by shore batteries, and as no other aircraft were flying in the area at that moment, the bomber soon became a magnet for the enemy defences on both sides of the river. Although sought by numerous searchlights and the target for both heavy and light flak, Drummond held firmly to his course and the mines were laid in the correct position. Unfortunately, as he turned away the **Stirling** was hit by several anti-aircraft shells which knocked out all three gun-turrets and damaged navigational instruments. Three members of the crew were wounded. During the return flight Flight Sergeant Harvey,¹ the wireless operator, although bleeding profusely from a deep head wound and suffering considerable pain, remained at his post and obtained a number of fixes and bearings which greatly assisted Drummond in navigating his damaged machine back to its base.

Bomber Command's record lay of mines during 1943 took place in April when 1887 mines were released in all the principal areas. More than half this total was dropped on two successive nights in response to an Admiralty request to drop a new type of mine which employed a combination of acoustic and magnetic fuses designed to defeat current German minesweeping methods. To secure a maximum of surprise it was essential that these mines should be laid in quantity at all the principal minefields within a matter of hours. Therefore on two successive nights towards the end of April when weather over **Germany** was unsuitable for bombing operations, strong forces were turned to minelaying. The first night a force of 160 Lancasters, Halifaxes, Stirlings and Wellingtons laid 458 mines along the French west coast and Frisian Islands, and on the second a total of 226 bombers dropped 593 mines in the Heligoland Bight, off the Norwegian coast, in the Kattegat and Baltic Approaches, and in channels off the Baltic ports from **Kiel** to the Gulf of Danzig. On both occasions the mines were laid from low level underneath a layer of cloud. On the 27th when the nearer areas were tackled only one aircraft was missing, but twenty-three bombers failed to return from the more distant and difficult fields.

¹ Flying Officer W. L. Harvey, DFM; born Dunedin, 6 Feb 1920;

labourer; joined **RNZAF** Dec 1940; killed on air operations, 14 Jan 1944.

Many New Zealanders flew in aircraft from **RAF** squadrons, while No. 75 Squadron was represented on both of these important missions. On 27 April the four New Zealand Stirlings laid their mines and returned safely to base but the following night, when eight aircraft were sent to **Kiel** Bay, four failed to return. Ten New Zealanders were among the missing crews, including two captains, Pilot Officer D. L. Thompson and Sergeant Halliburton. ¹ The crews who returned reported no sightings of enemy aircraft but heavy anti-aircraft fire came from a flak ship stationed in the mining area.

Progress was now being made in the difficult task of developing a new technique that would outwit the German defences and their methods of assessing the numbers and positions of mines laid. By March the packing material which protected the delicate mechanism of the mines had been improved sufficiently to allow them to be dropped from heights up to 3000 feet. In the following months there was further patient experiment, and although many missions in open areas continued to be carried out at low level, from August onwards mines were laid regularly in some of the more dangerous zones from a height of 6000 feet. As a result there was a substantial fall in the loss rate which had been so severe at the beginning of the year.

The possibilities of high-level minelaying from normal bombing heights between 12,000 to 15,000 feet had been appreciated as early as May 1943, but before this became a practical proposition much research had to be undertaken. Eventually special mines were produced in which packing materials and parachutes had been further improved. Then a pathfinder technique was evolved, so that when necessary a high concentration of mines could be achieved by the use of sea or sky markers accurately placed with the aid of H2S.

But it was not until the end of 1943 that the persistent efforts of all

concerned were fully rewarded, and high-level minelaying became an accomplished fact with the first operational trial on the night of 30 December. This was flown by three Stirlings of No. 149 Squadron which were sent to lay mines off Bordeaux from a height of 12,000 feet. The aircraft were opposed by accurate heavy flak but laid their mines successfully. Two New Zealanders, Flying Officer Barlow ² and Flying Officer Stock, ³ were navigator and bomb aimer respectively in one **Stirling**. Stock was not satisfied with the first approach to the dropping zone and asked for a second run to be made

¹ Sergeant K. Halliburton; born **Ashburton**, 14 Oct 1919; butcher; joined RNZAF Sep 1941; killed on air operations, 28 Apr 1943.

² Flight Lieutenant H. C. Barlow, DFC; born **Opotiki**, 3 Apr 1909; clerk; joined **RNZAF** Jan 1942.

³ Flight Lieutenant N. F. Stock, DFC; born **Nelson**, 5 May 1914; mental hospital attendant; joined **RNZAF** Jan 1942.

before he was confident the mines would be laid in the correct position. Other experimental missions were to be flown. On 4 January 1944 six Lancasters laid mines off **Brest** and two nights later six Halifaxes operated in the same area. Thereafter the high-level method was generally adopted for operations in the heavily defended areas. Continuous, large-scale minelaying again became possible in all areas extending from the Franco-Spanish frontier to the Gulf of Danzig and, in particular, in certain of the Baltic areas where for over a year it had been virtually impossible to mine with the low-flying visual technique.

With new weapons it was no longer necessary for aircraft to fly at low heights to search for a pinpoint before beginning their run up to the laying positions, while by using H2S mines could be dropped with precision through thick cloud. Increased safety was also given to the attacking aircraft and the enemy was presented with new problems in

plotting the positions of the mines laid.

Now that the enemy's most heavily defended harbours and swept channels were again vulnerable to minelaying there was a rapid increase in the number of sorties carried out, and many New Zealanders were among the aircrews who took part in the operations during January and February 1944 in which this new method of sea warfare was used. New Zealand airmen also took part in a new tactical development introduced on the night of 24 February when 115 aircraft were sent to lay mines in **Kiel Harbour, the **Kattegat**, and **Lorient** as a diversion for a main-force bombing attack by over 700 aircraft on **Schweinfurt**. The next night minelaying was again used as a diversion for a main-force attack of almost 600 aircraft on **Augsburg**, the areas mined being St. Nazaire, The Sound and **Kiel**. The co-ordination of minelaying and bombing operations in this manner gave additional protection to both forces by confusing the enemy ground organisation and splitting the fighter force available in the area of the attacks.**

Although No. 75 Squadron despatched aircraft on minelaying sorties in each of the first nine months of 1943, the greater part of its effort was to be concentrated in the last quarter of that year and the first two months of 1944. This emphasis on minelaying followed the decision taken in September that the **Halifax and **Stirling** squadrons should be restricted to the less hazardous targets, leaving the Lancaster to bear the brunt of the bomber offensive.**

In October and November 1943 squadron aircraft laid a total of 176 mines in the Baltic, the **Bay of Biscay, in the Gironde estuary, and off the Frisian Islands and the port of Cherbourg. On the night of 24 October one **Stirling** which laid mines off the Frisian Islands crashed when about to land and was burnt out. Three New Zealanders including the captain, Flight Sergeant Randle, ¹ were among those killed. The 4th November was a particularly unfortunate night for the squadron when, of the four aircraft sent to lay mines in the Baltic, three failed to return. Their captains were Flying Officer Wilson ² and Pilot Officers Masters ³**

and G. K. Williams; eight other New Zealanders were among their crews. The surviving aircraft, flown by Flying Officer Witting, ⁴ was attacked by an enemy fighter when approaching the mining area and the rear gunner was killed. Witting succeeded in jettisoning his mines during the combat and then skilfully outmanoeuvred the enemy machine. Although the **Stirling** had sustained severe damage to the port wing, starboard flap and rear turret, and also had many large holes torn in the fuselage, Witting flew back to base and made a safe landing. In December ten minelaying missions, involving twenty-nine aircraft, were flown by No. 75 Squadron and 108 mines laid; unfortunately, during the month two **Stirlings** crashed on return after laying their mines. One of these machines was flown by Pilot Officer Kinross, ⁵ who had Flying Officer Jenkin ⁶ as his navigator.

The scale of No. 75's effort during January was to be considerably increased, 72 sorties being flown to lay 233 mines in the Heligoland area, the Frisian Islands, in the Gironde estuary and in **Kiel** Bay. The New Zealanders' first experience of high-level minelaying came on the night of 27 January, when thirteen aircraft were sent to the Heligoland area and succeeded in dropping a total of sixty-five mines from heights varying between 12,000 feet and 15,500 feet. All the aircraft got back, but the **Stirling** captained by Pilot Officer Baker ⁷ was intercepted by a Messerschmitt 110 whilst on the return flight. The enemy was first sighted on the starboard side and bomber and fighter opened fire simultaneously. Before Baker could take evasive action and gain the cover of cloud his aircraft was hit; the rear turret and intercommunication system were put out of action and the flight engineer and mid-upper gunner wounded. Displaying fine airmanship Baker got the **Stirling** back

¹ Flight Sergeant J. R. Randle; born **Invercargill**, 11 Jun 1922; clerk; joined **RNZAF** Nov 1941; killed on air operations, 24 Oct 1943.

² Flying Officer N. C. B. Wilson; born **Auckland**, 12 May

1920; electrical draughtsman; joined **RNZAF** Dec 1941; killed on air operations, 4 Nov 1943.

³ Pilot Officer W. S. Masters; born **Waiuku**, 27 Mar 1922; clerk; joined **RNZAF** Feb 1942; killed on air operations, 4 Nov 1943.

⁴ Flight Lieutenant E. F. Witting, DFC; born **Invercargill**, 28 May 1920; clerk; joined **RNZAF** Sep 1941.

⁵ Pilot Officer C. J. Kinross; born Hastings, 7 Oct 1913; carpenter; joined **RNZAF** Dec 1941; killed on air operations, 16 Dec 1943.

⁶ Flying Officer R. F. Jenkin; born **New Plymouth**, 2 Oct 1920; student; joined **RNZAF** Nov 1941; killed on air operations, 16 Dec 1943.

⁷ Flying Officer C. R. Baker, DFC; born **Palmerston North**, 20 Jul 1922; student; joined **RNZAF** Feb 1942; killed in flying accident, 16 Apr 1945.

to England, but on attempting to land at Coltishall he found the undercarriage would not go down; he succeeded, however, in making a safe crash-landing.

In February the squadron's effort was entirely devoted to minelaying and in twenty operations 120 aircraft were despatched to lay no fewer than 372 mines. Towards the end of the month, when minelaying aircraft were used as a diversion for the bombing attacks on **Schweinfurt** and **Augsburg**, the squadron sent fifteen aircraft to **Kiel** Harbour on the first occasion and the next night the same number went to The Sound. The Stirling captained by Flight Sergeant Bruhns ¹ failed to return from **Kiel** but there were no losses the second night, although Flight Sergeant Willis ² and his crew reported a brush with several Junkers 88s flying in formation.

The results of the minelaying campaign were difficult to assess at the time owing to the delayed action of mines which might lie for a considerable time before claiming a victim and because of loss or damage to enemy vessels caused by other methods of attack. However, reports of casualties in mined areas were frequent and covered many classes of shipping including troopships, cargo vessels, tankers, train ferries, naval surface craft and U-boats, while the large sweeping force also suffered heavily in its efforts to keep channels and harbours clear of mines. Evidence of the effectiveness of minelaying in the Baltic was provided by the Naval Liaison Officer at German Air Force Operations Division in April 1943. He stressed the shortage of escort vessels which allowed escorts to be provided only for troopships, transports, tankers, hospital ships, and warships in those waters where the greatest danger was from mines and where all ships should have been provided with individual escort. In February 1944 the same officer reported: 'It is evident that the enemy intends to interrupt, if not destroy, all supply shipping to **Norway** by the relatively heavy use of mines. It is now being decided whether night fighters in the Jutland area can be reinforced.'

The German anxiety is understandable for it is now evident that the **RAF** minelaying campaign was more successful than was estimated at the time. Post-war examination of enemy shipping records and reports received by Lloyds of **London** reveals that, during 1943, some 143 ships totalling just over 103,450 tons were sunk by mines laid by aircraft. In 1944 the Germans lost a further 204 ships of 136,500 tons, and by the end of the war the total had

¹ Pilot Officer H. H. Bruhns; born Dunedin, 27 Feb 1921; wool classer; joined **RNZAF** Jan 1942; killed on air operations, 24 Feb 1944.

² Pilot Officer W. J. Willis; born Bulls, 3 Feb 1911; farmer; joined **RNZAF** Mar 1942; killed on air operations, 22 May 1944.

reached 758 ships amounting to 721,700 tons, sunk as a result of aerial minelaying. In addition to these actual losses, which they could not hope to replace, the Germans were deprived of large quantities of badly needed war materials, which delayed production. They were also forced to divert an increasing amount of their manpower and materials to the repair of damaged ships and to the protection of their sea routes.

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Bomber Command's minelaying campaign during 1943 was supplemented by torpedo and bombing attacks carried out mainly by Beaufighters and Hampdens of **Coastal Command**. The torpedo was now the principal weapon and there were two main areas of attack, the Dutch coast from the Frisian Islands to **Rotterdam** and the southwestern coast of **Norway**. In both these regions there was to be a steady development of aerial attack during 1943. Operations fell into two main classes – the 'Rover' patrol flown by small formations of from two to six machines and the 'Strike' by larger forces with fighter escort, against targets previously located by reconnaissance aircraft. Rover patrols were more frequently employed along the Norwegian coast where convoys were less heavily defended; Strike Wings were gradually developed for attacks off the Dutch coast where there was usually stronger opposition.

At the beginning of the year No. 489 New Zealand Squadron was one of several Hampden squadrons employed in patrol and attack along the Norwegian coast. This New Zealand torpedo-bomber squadron had been formed at Leuchars in **Scotland** in August 1941 and during the next twelve months it had experienced a chequered career. The early training was interrupted by shortages of torpedo aircraft and some months elapsed before No. 489 was finally equipped with Hampdens discarded by Bomber Command. Then its role was suddenly changed to anti-submarine work and the first operational sorties were flown over the **Bay of Biscay**. It was not until July 1942 that the squadron returned northwards to take up its originally intended task of attacking enemy shipping in northern waters. During the closing months of that year

there were several successful attacks on enemy ships; the Hampdens also flew escort patrols to naval forces proceeding to and from Scapa, covered convoys bound for Russian Arctic ports, and searched for U-boats travelling to and from bases in [Norway](#).

January 1943 found the New Zealand Squadron based at Wick on the north-east coast of [Scotland](#) under the command of an English pilot, Wing Commander Darling.¹ New Zealanders now made up a substantial part of the aircrew strength of the unit but there was still strong representation from other parts of the Commonwealth, from [Canada](#) and [Australia](#) as well as from the [British Isles](#). Squadron Leader Evans² of [London](#) and Squadron Leader James³ of Ross-on-Wye were the flight commanders, while Flight Lieutenant Mottram⁴ of Coventry, the prominent English tennis player, Flying Officer Pedersen,⁵ a Danish pilot, Warrant Officer Dubbery⁶ from Essex and Warrant Officer Strain,⁷ a Scot from [Glasgow](#), all won distinction as captains of aircraft during 1943. New Zealand pilots who had notable success in operations with the squadron at this time were Flying Officer Richardson,⁸ Flying Officer Freshney,⁹ Flying Officer Moyniham,¹⁰ Flying Officer Pettitt,¹¹ Flying Officer Latta,¹² and Warrant Officer Dunn.¹³

Richardson and his crew were lost in mid-January whilst attacking enemy ships off the Naze. The first run was unsuccessful as Richardson's vision was spoilt by oil from an overgreased front gun. Accurate anti-aircraft fire was met as he turned to make a second attempt, and it was during this second approach that the Hampden was shot down by the ship's gunners. Fortunately the crew survived the crash-landing on the sea and were picked up by the enemy shortly afterwards. A few weeks later Freshney's Hampden was shot down whilst he was leading the attack on a convoy off Kristiansund; all the crew were lost.

The low-level approach necessary to aim torpedoes meant that aircraft usually had to face an intense barrage of flak from the ships'

¹ Wing Commander V. C. Darling, OBE; [RAF](#); born Acton,

London, 8 Sep 1915; Cranwell cadet; permanent commission **RAF** 1936; commanded No. 86 Sqdn, 1942; No. 489 (NZ) Sqdn, 1942–43; duty with Directorate of Ops (Air Staff), 1944.

² Wing Commander G. H. D. Evans, DSO, DFC; **RAF**; born Poplar, **London**, 29 May 1917; Cranwell cadet; permanent commission **RAF** 1937; commanded No. 415 Sqdn, 1943.

³ Wing Commander R. H. James; born Ross-on-Wye, Herefordshire, 4 Oct 1917; joined **RAF** 1936; killed on air operations, 8 Aug 1944.

⁴ Squadron Leader A. J. Mottram, DFC; born Coventry, **Warwickshire**, 8 Jun 1920; joined **RAF** Jul 1940.

⁵ Flight Lieutenant H. Pedersen; born Copenhagen, 6 Jan 1918; joined **RAF** Nov 1940.

⁶ Flight Lieutenant J. Dubbery, DFC; born Newport, Essex, 2 Dec 1918; aero dynamicist; joined **RAF** Mar 1940; p.w. 14 May 1943.

⁷ Flying Officer J. Strain, DFC, AFC; born **Glasgow**, 9 Dec 1912; joined **RAF** Sep 1939.

⁸ Flight Lieutenant J. J. Richardson, DFC; born Toowoomba, **Australia**, 12 Jan 1915; joined **RNZAF** Dec 1940; p.w. 18 Jan 1943.

⁹ Flying Officer C. J. Freshney; born Takapuna, 27 Nov 1921; spare-parts assistant; joined **RNZAF** Dec 1940; killed on air operations, 4 Apr 1943.

¹⁰ Squadron Leader F. K. Moynihan, DFC; born **Nelson**, 2 Jun 1921; clerk; joined **RNZAF** Mar 1941; killed on air operations, 17 Jun 1944.

¹¹ Flying Officer I. A. Pettitt; born Dunedin, 28 May 1922; postman; joined **RNZAF** Oct 1941; killed on air operations, 14 May 1944.

¹² Flying Officer S. Latta; born **Greymouth**, 20 Dec 1916; photographer; joined **RNZAF** Jan 1941; killed on air operations, 9 Apr 1943.

¹³ Flight Lieutenant R. C. Dunn; born **Kaiapoi**, 28 Aug 1915; clerk; joined **RNZAF** Dec 1940.

guns and sometimes from shore batteries as well. In a typical attack early in April against a well-defended convoy off Obrestad two of the four Hampdens were lost. One machine crashed into the sea just after dropping its torpedo, while the second was shot down by a fighter after it had been hit by flak; a third Hampden managed to escape after a cannon shell had passed through its tail.

As the months passed the obsolete Hampdens faced further hazards. Not only did the Germans begin to install their latest single-engined fighters, the Focke-Wulf 190s, in **Norway** but they also employed considerable cunning in the movement of convoys. These would often sail at night or in poor visibility by day. At other times they would lie at anchor, hidden close up to the steep cliffs of the Norwegian fiords, where they were difficult to locate and attack.

The Norwegian coast, awe-inspiring in appearance, was not the most pleasant area to patrol at any time. Navigators found the coastline most difficult because of its monotonous similarity. Often the first landfall would be a cluster of islands, giving way to mountains and fiords in the background. Conditions were seldom suitable for good reconnaissance and the times when crews could have a good look round were so few that they could not get to know the whole of that wild and rugged coastline from Aalesund in the north to Kristiansund in the south.

The weather in that region was most treacherous and subject to sudden and violent changes. An aircraft might be flying in thick cloud almost down to sea level when suddenly it would come out into clear skies and bright sunshine; then it fell an easy victim to enemy fighter patrols. Again, whilst exploring channels for possible targets, crews needed to be sure that the particular channel they entered had an outlet to the sea at the other end. It could be most disconcerting to find the aircraft heading for a wall of rock, especially since some of the fiords were so narrow that a modern aircraft could not easily be turned in them, while the cliffs on either side were so high that it was difficult to climb over them at short notice. Low flying along the channels amongst the islands could, however, be most exhilarating, and sometimes crews would receive an encouraging wave from friendly Norwegians. But they might equally well be greeted with a burst of anti-aircraft fire, for the Germans had established concentrations of flak guns at certain points along the coast, and a machine flying into such an area could find itself in a very unpleasant situation. However, as the Germans usually placed their guns half-way up the sides of the fiords, Allied airmen found that by flying very low they forced the Germans to depress their weapons so far that they were firing at each other across the water.

Eighteen attacks on enemy ships were reported by No. 489 Squadron during the first half of 1943. An early success was shared with No. 455 Australian Squadron when at dusk one evening towards the end of January seven Hampdens, four of them from No. 489 Squadron, attacked the 3200-ton *Ahrensburg* close to the coast near Stavanger. They met sharp anti-aircraft fire from the ship and shore batteries also intervened to divert their attack. But the Hampdens went in to drop their torpedoes at low level and score hits. There were large explosions, debris was hurled into the air, and a cloud of smoke rose from the ship. A few minutes later crews had the unusual satisfaction of seeing her sink by the stern.

April 1943 was a particularly active month for the New Zealanders. On the 4th a large merchant ship, estimated at some 7000 tons, was

torpedoed by Latta. After the attack his crew saw the vessel heading for the shore, very much down by the bows and listing heavily; she subsequently became a total loss. A few days later hits were reported on a tanker and one of two merchant ships in convoy near Stadlandet. Of his attack on the tanker Flight Lieutenant Willis ¹ relates:

We were on the look-out for enemy ships, in excellent visibility, when suddenly we spotted two enemy aircraft. We wondered what they were protecting and went in to investigate. Then we saw the convoy. There was a large tanker, a medium size merchant ship, and a smaller vessel. They were lying in the lee of the fiord right up against the cliff. All three ships opened fire as we approached. We dropped our 'Fish' and took sharp evasive action from both the flak and the enemy fighters, one of which was now firing at us. As I broke away the tanker burst into flames; they seemed to shoot up several hundred feet into the air and a few minutes later there was a mushroom of dense black oily smoke spreading over the fiord at a height of some 2000 feet.

Two of the four Hampdens which made this attack were shot down. The first, captained by Flying Officer Latta, was heavily hit during its approach and crashed into the sea shortly afterwards. The second, captained by Flying Officer Wheeler, ² was shot down by a German fighter. Warrant Officer Dubbery saw a hit on one of the merchantmen but reported being twice attacked by enemy aircraft and having to switchback to avoid their cannon fire. In another action only a few weeks later Dubbery and his crew of three New Zealanders were shot down by German fighters. They survived the crash-landing on the sea and, after five hours in their dinghy, were picked up at dusk by a Finnish ship which had nearly run them down. As the Finns were allied with the Germans against [Russia](#) at this

¹ Squadron Leader G. E. Willis, DFC, AFC; [RAF](#); born [London](#), 27 Jan 1921; clerk; joined [RAF](#) Jun 1940.

² Flying Officer D. W. Wheeler; born [Leicester](#), England, 24

Nov 1919; accountant; joined [RAF](#) Feb 1940; killed on air operations, 9 Apr 1943.

time, the airmen were landed at Egersund that night and became prisoners of war.

Towards the end of April two hits on merchant ships in convoy near Obrestad were reported after an attack by four Hampdens. They were led by Squadron Leader Hughes, ¹ who had taken over a flight at the beginning of this month. In another action which Hughes led against a convoy off the Naze, intense opposition came from both ships and shore batteries. Enemy fighters also appeared on the scene and crews were unable to see the result of their attacks. However, reconnaissance aircraft flying over the scene shortly afterwards found one of the ships, a large vessel of some 6000 tons, lying on the rocks close to the shore, a total wreck.

The summer months saw a considerable part of No. 489's effort diverted to anti-submarine patrols in the area to the north of [Scotland](#). There were also several air-sea rescue missions. On one occasion a dinghy containing the crew of a Fortress aircraft, which had been shot down after attacking and sinking a German U-boat, was found after a sustained search. It was then kept under observation for two days by relays of Hampdens until the survivors were picked up by a surface vessel.

August 1943 brought a change of leadership for No. 489 Squadron when Wing Commander Dinsdale ² succeeded Wing Commander Darling as squadron commander. Dinsdale was a New Zealander who had served with [Coastal Command](#) since the outbreak of war. He had commenced his first operational tour with No. 42 Torpedo Bomber Squadron on 3 September 1939 and had flown with this squadron in the early operations off the Dutch and Norwegian coasts. He had taken part in a torpedo attack on the German battleship *Lutzow* and led a flight of Beauforts against the three German warships fleeing up the Channel.

Later, in May 1942, he had led a daylight torpedo attack against the *Prinz Eugen* in a Norwegian fiord and scored a torpedo hit on the warship.

The appointment of a New Zealander to command the squadron came at an appropriate moment in its development, since it was now about to re-equip with Beaufighter aircraft and enter upon a most successful phase of operations. At the beginning of October No. 489 began a move to Leuchars, in south-east **Scotland**, and was withdrawn from operations to carry out re-equipment and training with the new machines. Shortly afterwards No. 455 Australian Hampden Squadron, which was later to combine with No. 489 to form an

¹ Wing Commander P. A. Hughes, DFC; **RAF**; born Bath, Somerset, 18 Nov 1918; Cranwell cadet; permanent commission **RAF** 1939; p.w. 8 Aug 1944.

² Wing Commander J. S. Dinsdale, DSO, DFC; born **Christchurch**, 24 Apr 1913; joined **RAF** Aug 1938; transferred **RNZAF** Jan 1944; commanded No. 489 (NZ) Sqdn, 1943–44; No. 155 (GR) Wing, **Coastal Command**, 1944.

Anzac Strike Wing, was also withdrawn from the line for the same purpose.

Before this move took place, however, No. 489 Squadron scored one more success with the Hampdens. This was on 16 September when, during a Rover patrol along the south-west coast of **Norway**, four crews sighted and attacked a small convoy lying in a fiord. The formation was led by Flying Officer Moyniham, who scored a torpedo hit on a medium-sized merchant vessel. It later sank. Moyniham told afterwards how they had sighted the two merchant vessels and their three escorts lying close inshore and apparently forming up in convoy. 'All five ships and the shore batteries opened fire with both light and heavy flak,' he said. 'We dropped our torpedoes and my rear-gunner saw the leading ship almost

obliterated with spray as the torpedo exploded near its bow. We didn't stay to see any more as there was no cloud and we expected enemy fighters.' Although one of the aircraft in the formation received slight damage from flak during this attack, all returned safely to base.

Some of the squadron's Hampdens, now accorded an honourable retirement, had been on operations for as long as the squadron had been in action. 'A' for Apple, with its villainous crest of a Hampden rampant, had flown on twenty-six sorties. It took part in the sinking of the 5000-ton *Karpfunger* in September 1942, the squadron's first success against enemy shipping. 'G' for George was an even greater veteran. It was this aircraft which had been in combat with two enemy fighters over the [Bay of Biscay](#) on 13 June 1942, and which lived to fly another thirty sorties and also take part in the sinking of the *Karpfunger*. Another veteran was 'S' for Sugar, which had begun its career in June 1942 and had led the attack on the 3200-ton *Abrensborg* on 29 January 1943. It did another twenty-three trips with the same crew and then another ten, during which time it was damaged, rebuilt, and returned to operations.

During the year's operations from [Scotland](#), the Hampdens of No. 489 Squadron had been credited with the sinking of 36,000 tons and the damaging of a further 30,000 tons of enemy shipping, including tankers, ore ships, transports and coasters. The aircraft had flown both by day and by night searching for targets along the Norwegian coast, and often when there was little cloud cover to give the slow Hampdens a chance against the fighters, they had gone in to attack. The crews had not always been able to see the results of their attacks, but some of them had been dramatic and were later confirmed by photographic reconnaissance or from Intelligence sources. Altogether, 1943 had been a very successful year for the squadron, but even better results were expected when, re-equipped with Beaufighters, it returned to the front line in January 1944.

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Among the New Zealanders flying with other [Coastal Command](#)

squadrons on anti-shipping patrols during 1943, the outstanding personality was Squadron Leader Sise ¹ who was with No. 254 Beaufighters of the **North Coates Wing**. This was the first of the Strike Wings formed in **Coastal Command**, and Sise had led the torpedo-carrying Beaufighters in their first mission in November 1942. For his leadership in this and subsequent attacks he was made a member of the Distinguished Service Order in July 1943. Flying Officer Palmer ² and Flight Sergeant Simpson ³ also piloted Beaufighters of No. **254 Squadron** during that year.

A typical action was fought by the **North Coates Wing** on 13 June 1943, when a convoy of four merchant ships, escorted by five M class minesweepers and four trawlers, was attacked off Den Helder. The British force consisted of eleven torpedo-carrying Beaufighters, nine anti-flak Beaufighters armed with cannon and each carrying two bombs, and nine Beaufighters armed with cannon and machine guns. They were escorted by four squadrons of long-range Spitfires, and as the fighter pilots circled above they saw the largest ship hit amidships by at least one torpedo; it swung out of line and was last seen listing heavily. Two trawlers and one minesweeper were also reported hit and on fire, while a second merchant ship, photographed at a late stage of the attack, showed only her central structure above water, with trawlers standing by. Only one Beaufighter was lost, although several returned damaged by flak from the ships.

The development of large-scale attacks by Strike Wings was the outstanding feature of **Coastal Command's** anti-shipping operations during 1943. It proved the answer to the increased flak defences of the German convoys which had caused heavy losses in low-level bombing and torpedo attacks. The escort of Spitfires could deal with any enemy fighters which attempted to intervene while the Beaufighters, armed with cannon and machine guns, cleared the way for the torpedo attack, raking the decks of the surface escort vessels to disorganise the gunners and divert fire from the torpedo aircraft as they flew in.

¹ Wing Commander G. D. Sise, DSO and bar, DFC and bar; born Dunedin, 21 Jan 1917; joined **RNZAF** Oct 1939; Wing Commander anti-shipping tactics, **Coastal Command**, 1943–44; commanded No. 248 Sqdn, 1944–45; RAF Station, Mount Farm, 1945; transferred **RAF** Aug 1947.

² Flying Officer W. G. Palmer; born Dunedin, 21 Mar 1916; clerk; joined **RNZAF** Jun 1941; killed on air operations, 5 Nov 1943.

³ Flying Officer J. J. Simpson; born **Christchurch**, 21 Mar 1919; carpentry apprentice; joined **RNZAF** Jul 1941.

Other factors which helped in the air war against enemy shipping during 1943 were the introduction of an improved torpedo sight, the use of Torpex instead of TNT as the explosive charge, and the use of a new gyro-controlled air tail for the torpedoes. This air tail stabilised the flight of the torpedo in the air after its release from the aircraft and then broke off on impact with the water.

A further innovation which was to have far-reaching effects was the introduction of the rocket projectile as a primary weapon for attacks on ships. This devastating missile consisted of a cordite-filled rocket motor some three inches in diameter to which could be fitted either a 25-pound armour-piercing shot or a 60-pound high-explosive shell. Subsequent experience showed that the 25-pound head was the most effective. It attained such a velocity that it would pass right through a ship unless impeded by some heavy obstruction such as the engines. Four such projectiles could be hung on guide rails about seven feet long that were now fitted beneath each wing of the Beaufighter and later the Mosquito. The rockets could be fired either in pairs or as a salvo of eight.

The heavier scale of attack now launched against shipping along the Dutch coast made it extremely difficult for the Germans to continue using the port of **Rotterdam**. However, since its harbour facilities and excellent communications by river and canal with the Ruhr made

Rotterdam by far the best port for the Germans in the North Sea, they endeavoured to keep it open as long as possible. Convoys continued to enter and leave the port at a greatly reduced rate well into the early part of 1944, and the Germans displayed considerable cunning in the tactics they employed to keep the ships out of reach of air attack. After a period during which all kinds of extemporary alterations of sailing times were tried, they finally settled down to a scheme which made it extremely difficult to lay on a daylight attack against their convoys at sea. Northbound convoys would leave The Hook at last light to reach the well-defended Den Helder anchorage before dawn, and then shelter there during the day before continuing their journey at nightfall. Likewise, southbound convoys were so timed as to reach Den Helder at dawn, waiting during the day and completing the last lap of their voyage to **Rotterdam** during darkness. But the advent of the Mustang long-range fighter enabled the strike aircraft to range farther north and attack convoys in daylight along the Frisian Islands and into the Heligoland Bight. All the same the time factor in planning attacks now became vital, and fleeting opportunities, often in the first hours of dawn, had to be grasped before the ships found refuge.

By the beginning of 1944, when three Strike Wings had been formed in **Coastal Command**, operations against enemy shipping had developed into a more or less definite pattern. Reports from reconnaissance aircraft would provide the information upon which the strike leader would plan his attack. He would study the anticipated track of the enemy convoy and work out the navigation so as to intercept that track just outside visibility distance. Then, having noted the disposition of the ships in the enemy convoy, he would brief his men with the plan of attack, indicating to the anti-flak crews the particular escort vessels whose fire needed to be smothered, and generally arranging co-ordination of the whole assault so as to achieve the maximum confusion among the defences while the torpedo aircraft flew in.

The Beaufighters then took off in quick succession, joined formation in the air and set course for the turning point, all flying at low level.

Such departures were never without their spectators, and as the aircraft roared away heads would appear at windows, ground crews would stand watching the performance of their machines, while aircrew not on duty would gather in small groups on the airfield. Again, when the Beaufighters returned, anxious eyes would count them in, and should one or two be missing a sense of personal loss would be felt by the whole station.

The force, on making landfall on the enemy coast, would turn and fly along the track of the enemy convoy. On sighting the ships the strike leader would signal to the anti-flak Beaufighters, which then climbed ahead of the torpedo-bombers and launched their smothering attacks. In the ensuing confusion among the German anti-aircraft gunners, the torpedo aircraft would select their targets close to dropping range and place their torpedoes as accurately as possible. This was no easy task for their targets would be moving at anything between eight and twelve knots, and during the time the torpedo took to travel through the water the ships could move ahead or make sudden evasive turns. Then came a critical moment when each Beaufighter banked to break away in order to avoid flying over the defences. It was at this moment of banking that the full span of the aircraft's wings and under-belly were exposed to the German gunners, and pilots had to use all their skill in weaving their way out of range. After the attack the aircraft usually passed through a rendezvous point in order to gain mutual protection against any enemy fighters which followed them on the homeward flight.

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The early months of 1944 saw an intensification of patrol and attack along both the Dutch and Norwegian coasts. A typical strike



FIGHTER AND LIGHT - BOMBER OPERATION, 1943

was carried out by the **North Coates Wing** off the Frisian Islands on 26 April against a convoy of six merchant vessels, accompanied by six escorts, including one *Sperrbrecher*. The attacking force comprised six 'Torbeaus' of No. **254 Squadron**, nine cannon Beaufighters of No. **143 Squadron**, and nine Beaufighters from No. 236 Squadron, armed with 25-pound rocket projectiles and cannon; single-engined fighters provided the escort. The formation failed to locate its target and was just about to set course for base when the leader of the escorting fighters sighted the ships north of Ameland and directed the Beaufighters to it. As the aircraft flew in they met heavy and light flak, but the attack was pressed home vigorously. One 2000-ton ship was torpedoed, another larger merchantman was set on fire and seriously damaged, and an armed trawler which was heavily hit later blew up. Other merchantmen and their escorts were seen to be hit by cannon fire. One of the Beaufighters was shot down and six others damaged, one of them crash-landing at base.

During the previous week the **North Coates Wing** had achieved the unusual distinction of launching three attacks on three successive days. Although on each occasion the targets were small, four ships, including a *Sperrbrecher*, were reported sunk, with others damaged.

Among the New Zealanders flying from North Coates at this time was

Wing Commander 'Sam' McHardy,¹ who was in charge of No. 143 Squadron. He led the strike force on many occasions. Describing one April attack, McHardy says:

We had been flying along the Dutch coast for forty miles or so in a sea mist and very soon after emerging from it we sighted two enemy ships. They hadn't much time to do anything about it. All the aircraft swept in to attack and an avalanche of cannon fire struck the ships. There was some flak thrown up at us and some of the Beaufighters were hit, causing a few casualties. The Germans were in an unenviable position with our lead bursting all around them. In a few brief minutes the attack was over and we were heading for home, leaving one ship burning furiously – a big pile of deck cargo as well as the vessel itself was well alight – and the second ship, after an explosion had shaken the inside out of her, was lying obscured by a pall of smoke. All our machines returned safely.

Similar attacks were now taking place along the Norwegian coast in which Beaufighters from No. 489 Squadron were prominent. This New Zealand squadron had returned to operations after re-equipping with Beaufighters early in January 1944. On the 14th eight aircraft, three of them carrying torpedoes and five flying as anti-flak cover, took off from their new base at Leuchars to patrol in the Lister area. Shortly after making landfall, two merchant ships, accompanied by

¹ **Wing Commander E. H. McHardy, DSO, DFC and bar, Croix de Guerre (Fr.); RAF; born Palmerston, 24 Jun 1920; joined RAF May 1939; commanded No. 404 Sqdn 1942, and No. 143 Sqdn, 1943–44.**

four escorts, were sighted. The Beaufighters immediately went in to the attack. A large explosion was seen near the bow of a larger merchantman, estimated at 4000 tons, and this was followed by a black cloud of smoke which hung like a giant mushroom for a considerable time. The anti-flak aircraft scored many hits with cannon fire on both

the smaller merchant vessels and the escorts. All the Beaufighters returned safely although one crew had a narrow escape. Their machine was hit by flak during the attack and when it landed the whole of the nose fell off.

A few days later Squadron Leader Kellow ¹ of St. Andrews, **Scotland**, led eight Beaufighters from No. 489 Squadron on a Rover patrol in the Egero area. A small merchant ship was the first target, but as the attack began Kellow saw smoke on the horizon which he thought might lead to better targets. Leaving the small ship burning, the formation flew towards the smoke which proved to be an auxiliary minelayer, escorted on either side by M class minesweepers. Two torpedoes were launched at the minelayer. She began to alter course but was unable to avoid being hit. There was a sudden convulsion of water just aft of amidships, followed by a heavy explosion. The ship later sank. Meanwhile her escorts had been attacked by cannon fire. Two Messerschmitts approached at low level from the land and flew over the ships during the attack but did not give battle, and all the Beaufighters returned safely with only minor flak damage to a few machines.

Several more successful attacks followed during the next two months in which a prominent part was played by Flight Lieutenants Moynihan and Davidson, ² Flying Officers Gow ³ and Osment, ⁴ Pilot Officer O'Connor ⁵ and Flight Sergeant Tapper. ⁶ Flight Lieutenant Hammond ⁷ and Flying Officer Fraser, ⁸ newly arrived on the squadron after successful tours in the **Mediterranean**, also served with distinction during this period.

An unusual and interesting episode occurred in mid-February when New Zealand Beaufighters provided air cover for the British

¹ Squadron Leader S. W. Kellow, DFC; born East Ham, **London**, 14 Jan 1913; joined **RAF** May 1940; killed in flying accident, 5 Jun 1944.

² Flight Lieutenant T. H. Davidson, DFC; born **Papakura**, 26 Jul 1921; school teacher; joined **RNZAF** May 1941.

³ Flight Lieutenant J. G. Gow, DFC; born Westport, 20 Oct 1916; clerk; joined **RNZAF** Dec 1940.

⁴ Flight Lieutenant A. R. Osment, DFC; born **Christchurch**, 30 Oct 1917; clerk; joined **RNZAF** Sep 1939.

⁵ Flying Officer J. J. O'Connor, DFC; born Port Glasgow, Renfrewshire; 7 Jun 1916; clerk; joined **RNZAF** Sep 1941.

⁶ Flying Officer C. M. Tapper, DFC; born **Invercargill**, 2 Sep 1921; cabinetmaker; joined **RNZAF** Sep 1941.

⁷ Wing Commander D. H. Hammond, DSO, DFC and bar; born **Christchurch**, 14 Mar 1916; bank clerk; joined **RNZAF** Jun 1940; commanded No. 489 (NZ) Sqdn, 1945.

⁸ Flying Officer W. A. Fraser; born **Invercargill**, 25 Nov 1908; draughtsman; joined **RNZAF** Sep 1940.

submarine *Stubborn* which was being towed home after suffering damage from enemy attack off the Norwegian coast. Seven patrols were flown, during which the submarine was escorted for nineteen hours. Two days later the Flag Officer Submarines signalled: 'I am most grateful for your valuable help in getting *Stubborn* safely home.'

By March 1944 plans for the formation of an **Anzac Wing in Coastal Command** were well advanced. A preliminary operation was flown in the late afternoon of the 6th when four torpedo Beaufighters from the New Zealand Squadron were covered by eight cannon Beaufighters from No. 455 Australian Squadron in an attack on shipping off Stavanger. A cargo ship of 2000 tons was torpedoed and numerous cannon hits were seen on

the escorts and other vessels in the convoy. This action marked the beginning of a partnership which was to last until the end of the war. A few weeks later the **Anzac Wing** was established at Langham, in Norfolk, to supplement operations against German shipping along the North Sea coastline, and it was from this base during the next few months that No. 489 Squadron was to carry out some of the most successful attacks of its career.

Royal Air Force Station, Langham, was at this time commanded by Group Captain A. E. Clouston, and the high standard of efficiency in operations and the happy spirit which prevailed on the station were due in no small measure to Clouston's dynamic personality. Fine leadership was also displayed by the two squadron commanders, Wing Commander Davenport,¹ who was in charge of the Australian squadron, and Wing Commander Dinsdale, who led No. 489 Squadron. Typical of the attacks now carried out by the Anzac Wing from Langham was that launched against a heavily defended convoy near Borkum in the late afternoon of 6 May. The target, which had been reported by a reconnaissance aircraft, consisted of twelve merchant ships accompanied by fifteen escort vessels. Twenty-four Beaufighters, twelve from each squadron, comprised the attacking force, torpedoes being carried by six aircraft from the New Zealand unit.

‘The aircraft attacked forward ships of the convoy in the face of intense flak from the surrounding escorts,’ runs the official report. ‘This, however, was silenced to a great extent by the anti-flak aircraft and the “Torbeaus” had little opposition during their run-in. A 3000-ton merchant ship was torpedoed and seen to be on fire and low in the water, while another ship of 2000–3000 tons, believed to have been hit by a torpedo, was also left on fire. A third vessel

¹ Wing Commander J. N. Davenport, DSO, DFC and bar, GM; born Rose Bay, New South Wales, 9 Jun 1920; joined RAAF Jan 1941; commanded No. 455 (Aust) Sqdn, 1943–44; Staff duties, No. 18 Group, **Coastal Command**, 1944–45.

of 5000 tons was attacked but no hits were observed. However, this ship was on fire when our aircraft left the area. The anti-flak Beaufighters also scored cannon hits on several of the escorts and merchant ships. One Beaufighter of No. 455 Squadron failed to return.'

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By May 1944, when preparations for the assault on **Europe** entered their final phase, the strike squadrons of **Coastal Command** had already taken a heavy toll of German and German-controlled shipping. In the seventeen months from January 1943 they had, according to post-war assessments, sunk eighty-four ships totalling 178,537 tons, and damaged a further thirty-three, some of them seriously, necessitating long periods in the overcrowded repair yards. These figures, however, by no means represent the full effect of the operations carried out by the Beaufighter and Hampden crews. The increasing dislocation and delay in the enemy's seaborne trade, the loss of valuable cargoes, the diversion of effort in providing more and more escort vessels and crews, the maintenance of a considerable force of fighter aircraft and anti-aircraft guns in the areas of attack, all combined to produce a serious drain on the enemy's resources.

At the beginning of 1943 the reorganisation of the German mercantile marine under Karl Kaufmann had led the German High Command to expect that **Germany** would be able to meet her commitments as regards essential imports and the transport of military supplies to **Norway**. But by the end of that year not only had the German supply programme fallen considerably in arrears but the excess of sinkings over replacements under Kaufmann's accelerated shipbuilding scheme made it unlikely that the Germans would be able to improve the situation.

In the anti-shipping squadrons of **Coastal Command** the Royal Air Force now possessed a powerful striking force trained not only to continue its inroad into the enemy's dwindling resources of shipping, but also to frustrate the attacks by the numerous small craft which the

Germans were assembling in the Channel ports for action against the invasion convoys.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 6 – DAYLIGHT RAIDS BY THE LIGHT BOMBERS

CHAPTER 6

Daylight Raids by the Light Bombers

RETROSPECT is now necessary to record the part played by the crews of the day bombers in the mounting offensive. Bitter experience in the early months of the war had shown the **RAF** that its heavy bombers were no match for the German fighters in daylight battle. But while the main strength of Bomber Command had thereupon been turned to night bombing, the daylight attack was not wholly abandoned. **Blenheim** bombers of No. **2 Group** continued to operate by day and they played a prominent part in the air operations over **France** in May 1940; later, during the period of the invasion threat they attacked ships and harbour installations with good effect. Then as the danger of invasion receded the **Blenheims** had extended their attacks to include such objectives as airfields, factories, and power-stations in northern **France**, **Belgium**, and **Holland** as well as ports and shipping along the North Sea and Channel coasts. A modest campaign against targets on the fringe of enemy territory was thus gradually developed.

The actual damage that could be inflicted was inevitably light for only small forces were employed, and at this time the enemy still possessed an overwhelming air superiority. But the courage and daring displayed by the crews who in those early days flew low over enemy territory day after day in relatively slow and lightly armed aircraft are beyond all praise. There were hard battles with German fighters, stiff opposition from anti-aircraft batteries, and on several occasions the small formations of **Blenheims** were practically wiped out. Almost invariably they suffered heavy casualties. Yet a fine offensive spirit persisted and many gallant episodes are recorded which light up that dark and sombre period of the war. One outstanding example was the low-level attack on the docks at **Bremen** early in July 1941 when twelve **Blenheims** of No. **105 Squadron** flew under high-tension cables and through a balloon barrage to reach their target. Two were shot down during the approach, two more just after bombing, and most of the others returned damaged, some festooned with telegraph wires.

On many raids the bombers were escorted by fighters, but their more distant targets still took them beyond the range of the contemporary fighters. When fifty-four Blenheims attacked power-stations near **Cologne** in August 1941 they had to fly the last 150 miles to their target without escort. Eleven of them were shot down. Many of the others were badly damaged by anti-aircraft fire and fighter attack and there were further casualties among their crews. Some observers doubted whether the results achieved justified such sacrifice of men and machines. However, the replacement of the Blenheims by faster and better-armed aircraft such as the **Boston** enabled the daylight attack to continue, although the bombers were now more frequently employed in the role of decoys to lure the enemy into battle with the strong fighter formations which accompanied them.

Bostons made their first attack early in March 1942 against the Matford works at Poissy, near **Paris**, and they played a prominent part in the air operations over Dieppe five months later. By that time Mosquito and Ventura day bombers had been added to the Bostons of No. 2 Bomber Group, and on 6 December 1942 nearly one hundred aircraft of these three types attacked the Phillips radio factory at **Eindhoven** in **Holland**, which was, perforce, working to German requirements. This raid, the largest and most spectacular thus far carried out by No. 2 Group, caused extensive damage to the Phillips works. Thirteen aircraft were lost. Such, briefly, was the way in which the daylight operations of No. 2 Bomber Group had developed during the early years of the war.

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By 1943 the re-equipment of its day-bomber squadrons with faster machines enabled the **RAF** to increase both the range and the weight of its daylight attacks. Mosquitos bombed targets as far afield as **Norway** and the Ruhr and even penetrated to **Berlin**, while the Bostons, Mitchells and Venturas, under strong fighter escort, ranged over northern **France**, **Belgium**, and **Holland** attacking airfields ports, factories and power-stations. These latter formation attacks upon short-range targets took

place in considerable numbers during the early months and by the end of May eighty-four targets had been attacked.

New Zealand pilots, navigators, wireless operators and air gunners, some of whom had been with day bombers since the early days of the war, were among the crews of the **RAF** squadrons which flew these various missions. A notable contribution was made by No. 487 New Zealand Squadron which had been formed in August 1942 and equipped with Ventura bombers - American aircraft produced in **California** by the Vega Company which also built Flying Fortresses. No. 487 had flown its first operational mission in the following December, when it provided thirteen aircraft for the raid on the Phillips works at **Eindhoven**. The Venturas had played their part well and the squadron was unfortunate in losing three crews, among them its commanding officer, Wing Commander Seavill. ¹

At this time several New Zealand pilots, veterans of earlier campaigns, held senior posts in No. **2 Group**, notable personalities being Group Captain Barnett, ² who continued in command of **RAF** Station, Swanton Morley, **Group Captain R. L. Kippenberger** in charge of the base at Feltwell, and Wing Commander Magill, ³ who now led No. 180 Mitchell Squadron. Barnett had joined the Cambridge University Air Squadron in 1926 and obtained a permanent commission in the **RAF** two years later; he served with distinction in **Iraq** before the outbreak of war when he joined Bomber Command. **Kippenberger** had entered the **RAF** in 1930 and had been associated with bombers since the early days of his service. He was in **France** in 1940 and subsequently commanded a Wellington-squadron and served on the operations staff of a bomber group. Magill had been with a fighter squadron in the **Middle East** before the war and served there throughout the early campaigns. Squadron Leader Reece, ⁴ now station navigation officer at Foulsham, had won early distinction with a light bomber squadron.

New Zealand aircrew prominent in operations with **RAF** squadrons were Pilot Officers A. B. Smith, ⁵ D. S. P. Smith ⁶ and J. B. Wilson, ⁷ who flew Bostons of No. **88 Squadron**; Flying Officer Rutherford ⁸ and

Pilot Officer Willis, ⁹ navigators with No. 226 Mitchell Squadron, and Flying Officer Hannah, ¹⁰ who navigated a Ventura of No. 464 Australian Squadron.

¹ Wing Commander F. C. Seavill; born Parnell, 17 Jun 1910; joined **RAF 1930; Admin. Staff duties, HQ Flying Training Command, 1938–40; Air Staff duties, **Canada**, 1940–42; commanded No. 487 (NZ) Sqdn, 1942; killed on air operations, 6 Dec 1942.**

² Air Vice-Marshal D. H. F. Barnett, CBE, DFC; born Dunedin, 11 Feb 1906; Cambridge University Air Squadron, 1926–29; permanent commission **RAF 1929; commanded No. 40 Sqdn, 1940; RAF Station, Swanton Morley, 1942–43; Air Staff Strategic Bombing duties, Bomber Command, 1944; SASO (Org.) Bomber Command, 1945; commanded Air HQ Mauripur, **India**, 1947; D of Ops, **Air Ministry**, 1949–52; Liaison Officer US HQ Japan, 1952–54.**

³ Wing Commander G. R. Magill, OBE, DFC and bar; born Cambridge, 23 Jan 1915; joined **RAF 1936; commanded No. 180 Sqdn, 1943; Operations Staff No. **2 Group** 1943–45.**

⁴ Squadron Leader R. A. Reece, DFC, DFM; born **Christchurch, 2 Nov 1914; joined **RAF** Aug 1938.**

⁵ Flying Officer A. B. Smith; born Hokitika, 17 Nov 1921; clerk; joined **RNZAF Apr 1941; killed on air operations, 16 Aug 1943.**

⁶ Flight Lieutenant D. S. P. Smith, DFC; born **London, 11 Mar 1918; clerk; joined **RNZAF** Feb 1941.**

⁷ Flight Lieutenant J. B. Wilson; born Biggar, **Scotland, 6 Jan 1921; civil servant; joined **RNZAF** Apr 1941; p.w. 26 Jul 1943.**

⁸ Flight Lieutenant R. S. Rutherford, DFC; born Edinburgh, 16

May 1909; farmer; joined **RNZAF** Nov 1940.

⁹ Flight Lieutenant A. Willis; born **Napier**, 20 May 1916; storeman; joined **RNZAF** Nov 1940.

¹⁰ Flying Officer B. J. E. Hannah; born **Wellington**, 19 Apr 1912; civil servant; joined **RNZAF** Sep 1940; killed on air operations, 9 Oct 1943.

Mosquito pilots who undertook particularly hazardous missions at this time were Flying Officers Polglase, ¹ O. W. Thompson ² and Weston, ³ flying with No. **105 Squadron**, and Pilot Officer McGeehan ⁴ and Sergeant R. E. Leigh with No. **139 Squadron**. Four of these men were soon to lose their lives. Some of their exploits will presently be related.

The New Zealand Ventura Squadron was now led by Wing Commander G. J. Grindell, who had done good work both in operations and as a flying instructor during the early years of the war. He soon proved a fine and efficient leader. His flight commanders were Squadron Leaders Trent ⁵ and Wheeler. ⁶ Trent had joined the **RAF** in the late thirties and was one of the first British airmen to go to **France**, where he flew Fairey Battles. In May 1940 he flew as captain of a **Blenheim** in bombing attacks against the advancing Germans, and before joining No. 487 Squadron he completed spells of duty as a flying instructor and with the operations staff of No. **2 Group**.

Wheeler had enlisted in **Canada** at the beginning of the war, and during 1941 flew with a **Blenheim** squadron in daylight attacks on shipping in the North Sea. Later he flew Bostons in many low-level bombing raids and was prominent in the air operations over Dieppe. Early in February 1944 he took command of No. **88 Squadron**, only to lose his life a fortnight later during an attack on a flying-bomb launching site.

The first weeks of 1943 brought a period of unsettled weather, and it

was not until 22 January that No. 487 Squadron flew its first mission of the year when three aircraft flown by Wing Commander Grindell, Flying Officer Peryman, ⁷ and Sergeant Baker ⁸ attacked an airfield near Cherbourg. The Venturas met accurate fire from anti-aircraft batteries and only Grindell's machine returned to base. Baker made a safe landing at White Waltham after his aircraft had been hit by flak and both engines set on fire, but Peryman was less fortunate. His Ventura was so damaged that he was forced to ditch

¹ Flying Officer D. Polglase; born Takaka, **Nelson**, 25 Aug 1915; town clerk; joined **RNZAF** Oct 1941; killed on air operations, 11 Apr 1943.

² Flying Officer O. W. Thompson, DFM; born **Auckland**, 10 Nov 1916; clerk; joined **RNZAF** Jul 1940; killed on air operations, 1 May 1943.

³ Flight Lieutenant L. T. Weston; born **Christchurch**, 13 Nov 1919; shop assistant; joined **RNZAF** Jul 1940.

⁴ Pilot Officer P. J. D. McGeehan, DFM; born **Gisborne**, 29 Apr 1921; clerk; joined **RNZAF** Mar 1941; killed on air operations, 16 Mar 1943.

⁵ Squadron Leader L. H. Trent, VC, DFC; born **Nelson**, 14 Apr 1915; joined RAF Aug 1938; p.w. 3 May 1943.

⁶ Wing Commander A. B. Wheeler, DFC; born Feilding, 11 Feb 1916; joined RCAF Oct 1940; commanded No. 88 Sqdn, 1944; killed on air operations, 15 Feb 1944.

⁷ Flying Officer S. B. Peryman; born **Christchurch**, 24 Nov 1921; mechanic; joined **RNZAF** Jun 1941; killed on air operations, 3 May 1943.

⁸ Flight Sergeant C. J. J. Baker; born **Auckland**, 17 Aug 1920; truck driver; joined **RNZAF** Sep 1939.

in the Channel. Peryman then supported his wounded Canadian navigator, but unfortunately he died before a rescue launch arrived, leaving Peryman the only survivor from his crew. His wireless operator and gunner had both been killed and went down with the machine.

Four days later six crews set off to bomb the marshalling yards at Bruges. They reached the target only to find it obscured by cloud and were compelled to return without bombing. Indeed, because of the bad weather prevalent at this time of year, crews frequently experienced such disappointments. In February they continually stood by for operations, but many sorties were cancelled at the last moment when low cloud was reported in the target area. The 13th February was typical. Crews were called on no fewer than five occasions during the day and it was not until the early evening that the mission was finally cancelled. They had a similar experience three days later when they stood by for almost nine hours. Actually only four missions were completed that month. They included attacks on the marshalling yards at Abbeville and Caen, an armed raider at **Dunkirk** and a dry dock at the same port. All crews returned safely and reported good attacks. During the raid on Abbeville enemy fighters attempted interceptions but were unable to penetrate the protective screen of Spitfires; the Venturas also escaped serious damage over **Dunkirk**, where opposition from flak was particularly violent.

There was a diversion from normal activities during the first fortnight of March when No. 487 Squadron, along with other units of No. **2 Group**, co-operated with the Army in large-scale manoeuvres in southern England. Mock bombing raids were launched against road and rail centres and towns, umpires deciding which aircraft had been 'shot down' by flak or fighters and what effect the 'bombing' had had on the 'enemy'. The squadron first took part in these exercises on the 4th and

in nine days flew over 200 sorties. On some days crews flew three missions, and on returning from each flight the Venturas had to be filled up with oil and petrol and rebombed; they were grounded just long enough to allow the aircrews to snatch a hurried meal and to be briefed. At the end of this period of intense effort ground crews worked hard to get the machines ready for a resumption of operations. Indeed, throughout these early winter months of 1943 the ground crews worked with great enthusiasm.

Several missions were cancelled before the squadron eventually got away to attack an oil refinery at Maasluis on 22 March. Unfortunately, there was bad visibility over the target and, as a result of errors in bombing, there were heavy casualties among Dutch civilians. Six days later, however, No. 487 took part in the most successful attack made by No. 2 Group bombers during the month when, together with No. 464 Australian Squadron, they attacked shipping at Rotterdam. Six ships were reported damaged, direct hits being seen on three of them. The following day all three Ventura squadrons of the Group made two further attacks on the same target. Crews reported considerable destruction among port installations and further damage to shipping.

At the beginning of April the New Zealanders moved from Feltwell to Methwold, about three miles away. The new base was not so well appointed as the peacetime station at Feltwell and the buildings were widely dispersed. The offices, mostly a collection of wooden huts, were carefully concealed in a belt of trees near the airfield. The ground staff and non-commissioned aircrew lived about 400 yards from the communal site in Nissen huts among trees, while most of the officers lived in Feltwell Rectory some two miles away from camp, the remainder being billeted in Dyke House, some 300 yards from the mess. But the squadron diary records:

It did not take long for us to settle down and were soon agreed that it was not a bad place; after all we still visited Feltwell. Group Captain Kippenberger was still 'King of the Castle' and that meant quite a lot.

The move was completed by the evening of 3 April and in the early afternoon of the following day the squadron was able to send twelve Venturas to attack Caen aerodrome, and in the evening the same number of aircraft bombed the docks and shipping at [Rotterdam](#). The raid on Caen was uneventful but over [Rotterdam](#) the bombers met heavy flak, and when the machines inadvertently flew over an enemy convoy they were given a hot reception. One aircraft with a Canadian crew failed to return and four others limped back, each with one engine out of action.

During the remainder of April No. 487 Squadron attacked five objectives - the marshalling yards at Caen, Haarlem, Abbeville and Boulogne, and shipping at Dieppe. The Venturas were not seriously opposed except at Boulogne, where intense fire from anti-aircraft batteries forced crews to drop their bombs on an adjoining steel-works. Several aircraft were heavily hit. One pilot, Sergeant Whitwell,¹ had his left arm shattered whilst making his bombing run, but he went on and completed the attack. Then, although in great pain and weak through loss of blood, he flew his machine back and landed it with an engine on fire at the strange and very small airfield at Lympne. Whitwell received an immediate award of the Distinguished Flying Medal - No. 487 Squadron's first decoration. Commenting on the strength of the flak during this

¹ Flying Officer G. F. Whitwell, DFM; born [Auckland](#), 29 Jun 1915; petrol station attendant; joined [RNZAF](#) Aug 1941.

mission, Wing Commander Grindell said: 'It was the worst we encountered in the Squadron's twenty raids. We could see it bursting with red flashes all round us, but miraculously no aircraft went down. However all were damaged and in one machine no fewer than 134 holes were counted.'

A memorable mission was flown on 3 May. That day there was a violent air battle over [Holland](#) as the Venturas, with an escort of

fighters, attempted to break through to their target at **Amsterdam**. The raid was a costly failure but it provides a most gallant episode which deserves to be recorded in some detail.

The New Zealand bomber crews had assembled for briefing shortly after noon on a day of blue skies and warm sunshine - one of those late spring days when it was good to be alive in England - perfect flying weather and every prospect of a successful mission. As the briefing progressed the men heard that they were to take part in a series of attacks designed to help the Dutch Resistance Movement and encourage Dutch workers in strikes then being organised in defiance of the Germans. No. 487's role was to bomb the power-station at **Amsterdam** and, at the same time, to create a diversion for another raid by Bostons a few minutes later on the power-station at IJmuiden. 'Your target is well defended,' crews were told, 'But it is important that the attack be pressed home regardless of opposition.'

The Venturas, flying in two formations, were to be led by Squadron Leader Trent, who commanded the squadron's 'B' Flight with Flight Lieutenant Duffill, ¹ an English pilot, as his deputy. In conversation before take-off, Trent was heard to say that while he appreciated the risk involved he was determined to reach the target whatever happened.

It was late afternoon when the New Zealand aircraft took off from their base at Methwold in Norfolk, and a few minutes later they met their escort of six Spitfire squadrons over Coltishall, an airfield nearer the coast. The force then flew out over the Channel and all went well until the Dutch coast came in sight. It was here that trouble began, for in the meantime two further Spitfire squadrons, detailed to act as target support and due over the target at the same time as the bombers, had not only begun to climb immediately after leaving their airfield instead of keeping to sea level but had also arrived over the Dutch coast too early. Before they were recalled these Spitfires broke through the German radar screen, and enemy fighters were thus given time to assemble in

¹ Squadron Leader A. V. Duffill, DFC; born Minister, Yorkshire, 18 Aug 1919; joined RAF Jul 1939.

strength and position themselves with height advantage to await the oncoming main British force. An added misfortune was the fact that on this very day the German governor of Holland happened to be paying a state visit to Haarlem, which was about mid-way between the coast and the bombers' objective, and to protect the area during his visit the Germans had mustered fighters from far afield.

After flying at sea level until near the Dutch coast the eleven Venturas, with their attendant fighters, began climbing to their bombing height. They had reached 12,000 feet and in a clear sky could see their target far ahead, when suddenly the entire force was set upon by four formations of Me109s and FW190s, totalling over seventy aircraft. It was an aerial ambush. The Focke-Wulfs dived on the escorting Spitfires before they could take up defensive positions and the Messerschmitts swooped upon the bombers. Trent immediately ordered his Venturas to close into one formation for added protection and to go 'all out' straight on towards their objective.

Confused and bitter fighting followed during which the escort of Spitfire Vs - outnumbered, at a disadvantage of height, and opposed by machines of superior performance - gradually became split up. Even though the fighters acting as close escort tried hard to maintain position, they were continually forced to turn aside to ward off attacks and soon completely lost sight of the bombers, which were then exposed to incessant assault. The Ventura flown by Duffill was one of the first to be hit. Cannon fire destroyed the hydraulic system, set both engines alight and wounded two members of his crew. Duffill was forced to turn away, but before he did so his gunner claimed a German fighter. Two other machines of his formation which followed him were headed off and destroyed but Duffill, although subjected to repeated attack until well out over the North Sea, managed to keep his machine airborne. Then, after his navigator had succeeded in releasing the bombs and with the

fires dying away, he managed to reach base and land the crippled Ventura safely. It was the only one to return.

As the remaining Venturas flew on to the target they were picked off one by one until only five remained to begin the bombing run. These five machines, although hard pressed, maintained a steady course towards the power-station at **Amsterdam**. A fighter which flew across Trent's bows offered a perfect shot. 'Had always longed for just such a chance,' Trent afterwards declared, 'and down he went, for the Ventura's best armament was under the pilot's thumb. I hardly had to move the aircraft. Dutch observers saw him crash.' But the German fighters were now queuing up above and taking it in turn to dive on the bombers and open fire at point-blank range. Then they would swoop underneath to climb again on the other side and await their turn for further attack. Bomber after bomber went down - two of them exploded in mid-air - and finally only Trent's machine was left to aim its bombs. They overshot but were sufficiently near the target to cause blast damage.

Now alone, Trent turned to run the gauntlet of the enemy defences back to the coast, but almost at once his machine was hit and went down. Trent and his navigator were thrown clear and survived to become prisoners of war, but the other two members of the crew were unable to escape before the Ventura crashed.

Trent has described those last few minutes in these words:

As we approached **Amsterdam** the anti-aircraft guns joined the fighters in a race to see who would get us first. I was surprised that the fighters continued their attacks and as the power-house came into sight my observer had to direct me. 'Bombs Gone' he called, and I looked up from the instruments to see that we were alone. At the same moment we were hit and I found that all controls had gone, but no fire and engines going perfectly. This continued for ten seconds or so, which seemed an age, and then suddenly the aircraft reared up, stalled upside down and went into a spin. Had ordered 'Abandon aircraft' before the zoom and now tried to get out from the roof hatch myself. However, the spin was so

rapid that I was not getting anywhere until at about 7000 feet the machine suddenly broke up and I found myself outside. My navigator was also thrown out but unfortunately the others were trapped in a portion of the wreckage.

From the other nine bombers which had already been shot down there were relatively few survivors. Some men were killed at their posts during the air battle, others when their machines exploded in mid-air or crashed and blew up on the ground. A wounded air gunner was the only survivor from one crew. He owed his life to the action of his captain, Flying Officer McGowan,¹ and Canadian navigator, Flying Officer Thornber.² After he was wounded they dragged him from his damaged turret, put on his parachute, and pushed him out of the burning Ventura. A few moments later the bomber exploded, killing them both. The gunner, Flight Sergeant Urlich,³ gives this description of events from the time the French coast was crossed until his turret was put out of action:

Suddenly through the inter-comm. I heard 'fighters coming in to meet us from below.' A moment or two later I saw German fighters all round our formations. Five singled us out and began to follow. Three came behind in line astern, the first about 600 yards away. They did not attack immediately but when McGowan began to take evasive action the first one came in. He got in a burst on the port side between my turret and the pilot, but did little damage. The second one was a better shot. He broke a lot of perspex and wounded me in the right leg. The third one really fixed us. He came in

¹ Flying Officer S. McGowan; born **Wellington**, 6 Feb 1921; farmer; joined **RNZAF** Sep 1941; killed on air operations, 3 May 1943.

² Flying Officer E. G. Thornber; born Methven, **Canada**, 14 Jan 1916; joined RCAF Aug 1941; killed on air operations, 3 May 1943.

³ Warrant Officer I. F. Urlich; born **Hawera**, 6 Aug 1922; shop assistant; joined **RNZAF** Jan 1941; p.w. 3 May 1943.

very close, raked us from end to end and hit me in the left foot. I managed to get a burst into him and down he went with his engine on fire.

The inter-comm. went dead, and we had a few peaceful moments till we were attacked from the front. I didn't see this one come in. He really smashed up the turret. I got nicked in the left side and one of the guns was hit by cannon shell and knocked out of its mounting.

The experiences of Flying Officer Foster ¹ and his crew, who flew one of the last five aircraft to reach the vicinity of **Amsterdam**, provide further illustration of the ordeal through which many men passed that day.

As he approached the city, Foster saw the two Venturas immediately in front of him explode and disintegrate in the air. A few moments later his own machine was hit. The bomb doors were blown off and the bombs fell away. Unable to complete his attack Foster decided to turn for base. He had just begun to swing round when a bursting anti-aircraft shell put one of the engines out of action. Fighters were now forming up to attack and, as the bomber went into a dive to evade them, events came quickly one upon another. Ammunition containers began to explode, the nose of the aircraft was blown away and the navigator badly injured. The rear gunner, Sergeant Warner, ² – although mortally wounded – struggled forward to report that his turret was out of action. He then dropped dead alongside the pilot's seat.

The Ventura was now diving straight towards a harbour. It was but a few feet above the water when Foster succeeded in straightening out, only to find himself flying between the ships of a German convoy. He got clear but found his machine most difficult to control and it took all his strength to keep airborne as he flew out over the Dutch coast. With

petrol escaping from the tanks it now seemed only a matter of seconds before the end came so Foster ordered 'ditching stations'. No sooner had he done so than the port engine failed and the Ventura went down on to the sea and sank almost immediately. Foster, his navigator, and wireless operator fought their way out of the submerged aircraft and managed to keep afloat until picked up by a German patrol boat some two hours later. One of the men has since told how:

The dinghies were all damaged by cannon fire when we hit the sea. It was a terrible struggle to keep afloat. At first I could only get one glove and my helmet off, but after a struggle got one flying boot off and then after a considerable time managed to shake the second one away. All the time I was screaming for help and can remember crying like a baby because I was too young to die. Goodness knows who I expected to hear us. Paddled away to keep afloat until I got terrible pains, but as soon as I stopped paddling

¹ Flight Lieutenant O. E. Foster; born **Christchurch**, 14 Dec 1920; tractor driver; joined **RNZAF** Sep 1941; p.w. 3 May 1943.

² Flight Sergeant T. W. J. Warner; born **Port Chalmers**, 23 Mar 1918; salesman; joined **RNZAF** Jul 1941; killed on air operations, 3 May 1943.

I sank and after a time I got so that my arms would not stop. After what seemed an age, one of the boys shouted that a boat was coming straight towards us. The next thing I recall is waking up in the engine room with a German officer staring at me and then blank again until I came to in hospital.

New Zealanders who lost their lives in this raid on **Amsterdam** included four captains of aircraft, Flying Officers S. McGowan and S. B. Peryman, Pilot Officers Coutts ¹ and Baynton, ² Flight Sergeant Goodfellow, ³ and Sergeant T. W. J. Warner, who flew as air gunners, and Sergeant C. R. Smith, ⁴ wireless operator, were also killed in action.

Two other New Zealanders, Pilot Officer Taylor, ⁵ and Flight Sergeant Sharp, ⁶ both of whom captained Venturas, were able to bale out safely and were taken prisoner. Flying Officer Penn, ⁷ navigator, survived with his pilot, Flying Officer Foster.

At the time it was considered that the Ventura crews, under Trent's leadership, had shown great courage and determination in forcing on towards their target against the sternest opposition. But it was not until after the war, when the full story of the raid became known, that this impression received full confirmation. The award of the Victoria Cross was thereupon made to Squadron Leader Trent. His citation concludes with these words:

On this, his twenty-fourth sortie, Squadron Leader Trent showed outstanding leadership. Such was the trust placed in this gallant officer that the other pilots followed him unwaveringly. His cool, unflinching courage and devotion to duty in the face of over-whelming odds rank with the finest examples of these virtues.

After his capture Trent had one further adventure. He was one of the airmen who took part in the mass escape by tunnel from Stalag Luft III in March 1944. During the preparations he was one of those responsible for disposal of sand taken from the tunnel and, in addition, acted as a security officer to prevent any leakage of information which might warn the Germans what was afoot. On the night of the escape, Trent had passed through the tunnel and emerged from the hole outside the camp wire when a patrolling

¹ Pilot Officer A. E. Coutts; born **Sydney**, 29 Feb 1916; shop assistant; joined **RNZAF** Apr 1941; killed on air operations, 3 May 1943.

² Pilot Officer T. J. Baynton; born Hobart, **Tasmania**, 11 May 1915; motor mechanic; joined **RNZAF** Sep 1939; killed on air operations, 3 May 1943.

³ Flight Sergeant W. D. L. Goodfellow; born **Auckland**, 29 Sep 1919; grocer's assistant; joined **RNZAF** Jan 1941; killed on air operations, 3 May 1943.

⁴ Flight Sergeant C. R. Smith; born **Timaru**, 21 Aug 1913; farmhand; joined **RNZAF** Oct 1941; killed on air operations, 3 May 1943.

⁵ Flight Lieutenant T. L. B. Taylor; born **Christchurch**, 30 Jul 1914; photographic assistant; joined **RNZAF** Apr 1941; p.w. 3 May 1943.

⁶ Warrant Officer J. D. Sharp; born **Te Puke**, 21 Oct 1919; grocer; joined **RNZAF** 13 Apr 1941; p.w. 3 May 1943.

⁷ Flight Lieutenant T. A. Penn; born **Christchurch**, 31 Aug 1913; produce agent; joined **RNZAF** Jul 1941; p.w. 3 May 1943.

sentry discovered the men waiting to crawl away into the shelter of the nearby wood and alerted the camp guards. ¹

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During the early months of 1943 the two Mosquito squadrons with **No. 2 Group** achieved notable success in their precision attacks on targets deeper in German or German-occupied territory. Many of their bombs fell on the enemy railway system, its workshops, engines and rolling stock; several spectacular raids were directed against certain small targets which were of special importance to the German war machine; there were 'nuisance' raids on **Berlin** and other cities which struck a shrewd blow at Nazi prestige.

The Mosquito, with its high speed and formidable bomb load, was an ideal aircraft for such missions. Everything about it spelt aggression, from its slim, dart-like fuselage to its enormous propellers and spinners. Although docile and easy to handle, many a German pilot found it both

a tough and elusive adversary. Mosquitos, even when severely damaged, often reached their base safely and there were outstanding instances of young pilots, some on their first operation, returning home, as one of them put it, 'in a large hole held together by pieces of aeroplane' and then carrying out successful forced landings. Inevitably a few machines were lost, but considering the hazardous nature of their tasks, casualties were not heavy.

Most sorties were flown at low level when the Mosquitos, flying sometimes in formation, sometimes singly, would appear like whirlwinds, administer their 'sting' and be gone, often before the German fighters or anti-aircraft guns could come into action. Even if the gunners at the German flak posts were waiting ready, the target was so swift that accurate sighting was difficult. The Focke-Wulf 190 was a respected foe, but the Mosquito had an efficient camouflage of dull silvery grey and green which blended well with the countryside and was very hard for prying eyes to pick out from above. Navigators in so fast an aircraft had to be constantly alert as railways, towns, villages, rivers and canals flashed into view, were poised on the instant and then lost to sight. But there were consolations. People in the occupied countries often used to wave their recognition. They came to know the deep powerful tone of the twin Merlin engines and to welcome the sight of a pack of 'Mossies'

¹ See also Paul Brickhill, *The Great Escape* (Faber and Faber). Fifty were recaptured and shot by the Gestapo. Among those shot were three New Zealanders—Fit Lt A. G. Christensen and Fg Off P. P. J. Pohe, both RNZAF, and Sqn Ldr J. E. A. Williams, RAF. Witnesses at the war crimes trials stated that 4200 prisoners had escaped in 1943, during which there had been five or six nation-wide searches, and that there had already been two or three similar searches in 1944 before this escape.

streaking across their fields and villages. Farmers looked up from their ploughs and disregarded their stampeding horses to throw their hats in the air. Squat Dutchmen flung their arms apart high and wide to

give as effective a 'V' sign as possible, often to be answered by a flashing reply from the Mosquito as it shot overhead. And, in the gathering dusk, British crews frequently saw the 'V' signal flashing from the windows of farms and villages as they steered westwards for home.

There was a pleasing episode on 30 January 1943 when three Mosquitos of No. **105 Squadron** timed their arrival over **Berlin** to coincide with the delivery of a speech by Goering to a typical Nazi rally at the Sportspalast. The speech was to be broadcast and the announcer had just begun his introductory remarks when he was interrupted by a dull explosion and a babble of excited voices. After some confusion came a statement that the Field Marshal's address would be delayed for a few minutes, but it was not until an hour afterwards that Goering finally began his speech. Later the same day when Propaganda Minister Goebbels was to speak, more Mosquitos, this time from No. **139 Squadron**, dropped bombs on the German capital, but evidence from the radio indicated that Goebbels had gone to earth and was speaking from a less exposed position than the platform at the open-air rally.

The Mosquitos had made the long trip to **Berlin** in broad daylight, and although the second group met some opposition from fighters and anti-aircraft batteries, all but one returned safely. Flight Sergeant McGeehan, who flew an aircraft from No. 139 Squadron, gave this account of his flight:

Flight carried out at low level over North Sea to point north of Heligoland, then inland to **Lubeck**. Shortly afterwards a climb was started to 20,000 feet. Course was altered from Schwerm and **Berlin** appeared in brilliant sunshine at expected time of arrival, the cloud having broken abruptly. Bombs were dropped at 1600 hours and one burst was observed about half a mile to the south of the centre of the city. Heavy flak was encountered and evasive action taken. Two fighters were seen but these were evaded. The rest of the trip to the Dutch coast was done at low level. Flak was again encountered crossing the Frisians. Base was reached without further event.

In their low-level raids the Mosquitos now used two separate methods of attack – the really low-level and the shallow-dive – both of which were frequently employed in the same mission. In the really low-level approach, small formations flew straight towards their target just above the treetops and hurled their bombs down as they flew across it. Shallow-dive formations, on the other hand, would climb rapidly to about 2000 feet on reaching a predetermined landmark some ten to fifteen miles from their objective. Then over the target they peeled off and dived to release their bombs at about 1500 feet.

When these methods were combined both formations would be led by one leader whose navigator was entirely responsible for guiding the whole force to the objective - a difficult feat when flying low over enemy territory at very high speed. When the two sections parted company the low-level group would drop bombs fused for eleven seconds' delay. The operation was so planned that the shallow-dive aircraft began their dive as the last aircraft of the first formation got away and their bombs were fused to explode instantaneously. Accurate timing was thus of the utmost importance. If the interval between bombing was too great the second formation would meet a hail of fire from the enemy anti-aircraft batteries which would have been alerted by the low-level attack; on the other hand, if the formations bombed too close together the low-level aircraft would be enveloped by the bombs from the diving formations above them. However, in a well-executed raid the enemy gunners were confused by the two attacks and the risk to the Mosquitos was consequently reduced. On leaving the target both formations would spread out to prevent collisions and then swiftly make their way out across the coast and back to base.

Of several operations in which the low-level and shallow-dive techniques were used with outstanding success, the most notable was that carried out by ten Mosquitos from No. **139 Squadron on 3 March. Their target was the mine at Knaben, in a remote part of the Norwegian mountains, which produced molybdenum - a material vital to the enemy's production of special grades of steel. The leader's report of this**

mission is as follows:

The formation proceeded to Flamborough Head in good style and set course for the Norwegian Coast. We were ninety minutes over the sea at low level, during which time the 10/10 cloud gave way to a clear sky and brilliant sunshine. Track was maintained accurately by constant drift reading, and a landfall was made within a mile of the appointed place. Visibility was exceptional and the snow-capped mountains over which we had to climb presented a striking sight. Sirdale Lake, our next turning point, was reached without trouble, and the formation turned north, the Shallow Divers commencing their climb and the remaining four keeping as low as possible on the lake, and overtaking us. They were seen to pass underneath us just before reaching the tip of the lake and then to turn east, climbing steeply over the surrounding hills. We, in the Shallow Dive formation, then turned east on to the course. On approaching the target, we saw brown and white smoke rising, and our attack commenced immediately. After bombing, we did a sharp left-hand turn and saw the following aircraft's bombs bursting on the target and also other bombs on the gun position. Course was then set for the coast, where two F.W. 190s were seen in combat with a Mossie about 1500 yards to starboard. The chase was seen to carry on fifty miles out to sea, after which the 190s turned back and England was reached without any further incident.

When reconnaissance photographs became available extensive damage could be seen, and it was subsequently learned that the crushing, grinding, and flotation plants had been put out of action. However, in view of the importance of the target, the Germans began repairs immediately and by June had succeeded in resuming production at about half the previous level.

Six days earlier ten Mosquitos from No. [105 Squadron](#) and the same number from No. [139 Squadron](#) had been very successful in an attack on the naval stores depot at Rennes. Five aircraft attacked from low level and a further eleven machines bombed in a shallow dive. Pilot Officer Weston found bombs bursting in the target area so did not attack but

released his bombs on a double track railway about two miles east of Vire from only fifty feet. Three aircraft, two of which collided on the way to the target, were missing from this operation, but the depot was heavily hit, with seventeen sheds destroyed and nineteen damaged.

Another particularly successful March raid was that made against the Renault works at Arnage, Le Mans, when Flying Officers Polglase and Thompson and Pilot Officer Weston flew three of the six Mosquitos despatched by No. **105 Squadron** to make the low-level attack. They were supported by eight machines from No. **139 Squadron**, as the shallow-dive flight. The crews met intense flak over the target and No. **139 Squadron** lost one Mosquito, while another was badly hit and crash-landed on return. All three New Zealand pilots returned safely and reported good attacks. Direct hits on the works caused severe damage to almost all the main buildings, but such was the accuracy of the bombing that only one house was hit outside the works area.

Similar results were obtained when Mosquitos penetrated deep into **Germany** to attack the engine sheds at **Paderborn** on 16 March. Again No. **105 Squadron** supplied six Mosquitos for the low-level attack and No. **139 Squadron** detailed ten aircraft for shallow-dive bombing. The leading navigator's report of this notable raid is as follows:

Paderborn is quite a few miles east of the Ruhr, and it looked an alarmingly long way into **Germany** when we studied the route on the large-scale map in the briefing room. There were to be sixteen aircraft, which by our standards is a big formation. The target consisted of engine sheds, and they were to be attacked in two waves, first by six aircraft at low level, and then by ten from about thirteen hundred feet in a Shallow Dive. Apart from the bombing run, we were to fly at low level all the way. We, in our aircraft, were to lead the formation to a point about twenty-five miles short of the target, and then to climb to three thousand feet with nine others behind us, while the last six raced in ahead to bomb first from low level. The rest of us were to dive down to thirteen hundred feet before bombing. It was hoped that our bombs

would begin falling just as the last of the low-level aircraft had got clear of the target. It would be too bad for him if we bombed a bit early. You can't see Mosquitos when you are directly above them; their camouflage is too good. So, good timing would be needed if we were going to make a concentrated attack, and yet give that last man a chance.

All went well till we were over the Zuyder Zee, when we were intercepted by a formation of low-flying ducks. They attacked strongly, but inflicted only one casualty. Their leader crashed through the perspex of one aircraft, and landed, a heap of blood and feathers, on the observer's stomach. Two others hit the starboard engine nacelle. It was very draughty in that aeroplane (and messy, too), so it turned back for home. The rest of us managed to take the effective evasive action. We are better at avoiding birds than we used to be.

We carried on very smoothly over the flat lands of **Holland** and North-West **Germany**. Occasionally we would lift a wing to avoid a church steeple. Visibility was just right – enough to map read by, and no more. Between **Munster** and Osnabruck the country became hilly, and the formation inevitably got more ragged. But everything was still very quiet.

We crossed a big autobahn and began to climb, while the last six Mosquitos stayed down. It's an uncomfortable feeling to be up at three thousand feet after a spell of low flying. You feel naked and motionless and a sitting target for the gunners. But it gets better when you dive on to the target, and the earth comes close again and you recapture the feeling of speed.

There was a lot of industrial haze drifting over from the Ruhr, and the target was difficult to see. Perhaps it was the haze that made the flak gunners so slow off the mark. They allowed half of us to bomb before they opened up. When they did open up, they were pretty good, and the boys at the back had a nasty few minutes. One machine was hit, and did not return, while another came back on one engine, and did very well to make a crash-landing at an aerodrome close to base. We,

personally, were lucky, and were out of the target area in time. When we looked back the target was going up into the air, and above it the Mosquitos were bucking like broncos to avoid the streams of orange balls thrown up at them from all angles by the Bofors guns.

On the way home over **Germany** the mist got thicker and thicker, and we all felt safer and safer. We saw two Junkers 52's and wished we had some guns. Nothing else happened, and we sneaked quietly out over the Dutch island which we thought would give us the least trouble. I doubt if they could have seen us, anyway

McGeehan, who was seen to attack the target, failed to return from this raid. Two other New Zealanders lost their lives in low-level operations during the next few weeks. Flying Officer Polglase failed to return from the attack on the diesel-engine works at Hengelo early in April. His formation was intercepted by Focke-Wulf 190s just before reaching the target and he was last seen under attack by several enemy fighters. On 1 May Thompson's Mosquito crashed soon after taking off with five other aircraft of No. 105 Squadron to attack the Phillips valve works at **Eindhoven**.

* * * * *

In June 1943 the first steps were taken to reorganise the **RAF** in preparation for the invasion of **Europe**. The Second Tactical Air Force was formed under Air Marshal Sir Trafford Leigh-Mallory ¹ and the **Boston**, Mitchell, and Ventura squadrons of No. **2 Group** left Bomber Command to join the new force. They were to operate under Fighter Command control until the formation of the Allied Expeditionary Air Force five months later. At the same time the Mosquito squadrons which had been so successful in low-level attacks were transferred to Bomber Command's pathfinder force, where they continued to operate with distinction. But No. **2 Group** was not to be long without the versatile Mosquito as Ventura squadrons began conversion to these machines a month later.

Aircrews regarded these various changes with considerable satisfaction for they brought nearer the day when the bombers would be flying in close support of the Allied armies invading **Europe**. However, that day was still some way off, and during the second half of 1943 the bombers of No. **2 Group** continued to attack such targets as enemy airfields, ports, power-stations and marshalling yards within the range of the Spitfires which flew as their escort. There were also raids on airframe and aero-engine factories and repair depots in occupied territory.

No. **2 Group** was now led by Air Vice-Marshal Basil Embry ² who had enjoyed a remarkable career in the **Royal Air Force**. Under his dynamic leadership a more offensive outlook now developed among the squadrons of No. **2 Group**. Previously, medium-level bombers such as the Ventura had only flown when there was little or no cloud below their usual bombing height, with the result that there had often been long intervals between operations while awaiting such conditions. But now the bombers began to operate more frequently in larger formations and Embry took pains to impress upon crews that they flew over enemy territory for one purpose only – ‘to put a bomb on the target.’ An intensive period of night-flying training was also begun so that the Group's activities could be extended even though the majority of operations were still to be flown in daylight.

In addition, Embry changed the height from which the medium-level aircraft bombed. In the first half of 1943 they had attacked at around 10,000 feet. At this height heavy flak was very accurate –

¹ Air Chief Marshal Sir Trafford Leigh-Mallory, KCB, DSO, Order of Polonia Restituta (Pol.), Order of Kutuzov (**USSR**), Legion of Merit (US); born Mobberley, Cheshire, 11 Jul 1892; joined Lancashire Fusiliers 1914; seconded RFC 1916 and **RAF** 1918; permanent commission **RAF** 1919; AOC No. 12 Fighter Group, 1937–40; AOC No.11 Fighter Group, 1940–42; AOC-in-C Fighter Command, 1942–43; AC-in-C AEF, 1943–44; missing 14 Nov 1944 and death presumed.

² Air Marshal Sir Basil E. Embry, KCB, KBE, DSO and three bars, DFC, AFC, Order of Danneborg (Den.), Order of Orange Nassau (Hol.), Legion of Honour (Fr.); born Barnwood, Gloucestershire, 28 Feb 1902; joined **RAF** 1921; commanded No. 107 Sqn, 1939–40; p.w. 27 May – 2 Aug 1940; commanded RAF Station, Southend, 1940; Wittering, 1940–41; SASO, AHQ Western Desert, 1941–42; commanded RAF Station, Wittering, 1942; SASO No. **10 Group**, 1943; AOC No. **2 Group**, 1943–45; Asst Chief of Air Staff (Training) 1945–49; AOC-in-C Fighter Command, 1949–53.

in thirty-eight sorties by Mitchells during May twenty-nine machines were damaged, while eleven Bostons were hit during forty-eight sorties the same month. Concern at the prospect of even heavier casualties led Embry to decide that the maximum bombing height should be raised from 12,000 feet to 14,000 feet, with the actual height of the attack governed by the needs of individual targets and what was known about the type and number of batteries defending them.

At this time some seventy New Zealanders were serving with the RAF Ventura, **Boston**, and Mitchell squadrons, of whom about forty were with No. 487 Squadron. Among senior officers, Group Captain Barnett, who had commanded RAF Station, Swanton Morley, for the past year, was now posted to Second Tactical Air Force in charge of administration plans, organisation and policy, where he remained until he joined the Air Staff at Bomber Command in May 1944. He was succeeded at Swanton Morley by **Group Captain Kippenberger**, who assumed command at the beginning of July. Wing Commander Magill continued in command of No. 180 Mitchell Squadron until the middle of September when he was posted to the operational staff at Embry's headquarters. Among the pilots to win distinction during the next months were Flying Officer Struthers ¹ of No. **180 Squadron** and Pilot Officer Gibson, ² who led a section of No. 88 Boston Squadron. Squadron Leader R. A. Reece, now navigation officer with a Mitchell Wing, took part in many operations and was commended for his work in improving the standard of navigation and bomb aiming. Flying Officer Gabites ³ flew as leading

navigator with No. 464 Australian Squadron; Flying Officer Field ⁴ undertook similar duties with No. 226 Mitchell Squadron. Flying Officer Forsyth, ⁵ an air gunner who served with No. 180 Squadron and No. 98 Squadron, had flown consistently since the end of 1940 when he was one of the pioneers of night intruder operations over enemy airfields. Forsyth lost his life during an attack on a flying-bomb target early in May 1944. It was his ninety-seventh mission.

The New Zealand Day-Bomber Squadron – recovering from the heavy losses sustained in the May attack on **Amsterdam** – was now

¹ Flying Officer G. A. M. Struthers, DFC; born Hastings, 30 Dec 1916; farmer; joined **RNZAF** Mar 1942; killed on air operations, 30 Jun 1944.

² Flying Officer D. J. N. Gibson, DFC; born Streatham, **London**, 23 Apr 1921; warehouse- man; joined **RNZAF** Mar 1941.

³ Flight Lieutenant E. W. F. Gabites, DFC; born **Auckland**, 23 Dec 1918; clerk; joined **RNZAF** May 1941.

⁴ Flight Lieutenant G. A. H. Field, DFC and bar; born **Wellington**, 26 Nov 1908; company director; joined **RNZAF** Nov 1941.

⁵ Flying Officer C. L. M. Forsyth, DFC, DFM; born **Tauranga**, 11 Feb 1914; timber worker; joined **RNZAF** Feb 1940; killed on air operations, 8 May 1944.

commanded by Wing Commander Wilson, ¹ an experienced English pilot, Group Captain Grindell having left in the middle of May to command a station in No. 5 Bomber Group. Flight commanders were Squadron Leaders Wallington ² of Rochester, **Kent**, and A. V. Duffill of Beverley, **Yorkshire**, who had survived the **Amsterdam** raid. The senior New Zealander now with the squadron was Flight Lieutenant Park, ³ who

had served since its formation.

The squadron's first mission after leaving Bomber Command was flown on 12 June when twelve Venturas attacked Caen aerodrome. Flying Officer Brewer, ⁴ who had earlier won commendation while flying with No. 107 Boston Squadron, failed to return. His aircraft was hit by flak, the port engine caught fire, and the Ventura was last seen going down in what appeared to be a controlled dive; but hopes that Brewer had managed to land safely were not fulfilled and both he and two other New Zealanders in his crew were killed. On the same raid another Ventura was badly shot up and landed at Tangmere with its navigator fatally wounded. Indeed, few aircraft returned unscathed and ground crews were kept busy during the next few days repairing the damage. No. 487's last sorties with Venturas were made on 24 June when twelve crews attacked the airfield at Mauperthuis, south-east of Paris. The formation was led by Park, and although there was broken cloud the aircraft made an excellent run and bombing was reported as good.

No. 487's role was now to be changed to night intruding and during the remainder of July the squadron was occupied with intensive night-flying training and a move from Methwold to Sculthorpe, a satellite of RAF Station, West Raynham. The first Mosquitos began to arrive in August, when crews were gradually converted and the new aircraft modified for night flying. This work, together with the servicing of the remaining Venturas, kept the ground crew at full stretch. However, squadron spirit was high and, despite the increased pressure of work, cancelling of leave and a shortage of staff, all appear to have worked with commendable enthusiasm. The last Ventura left on 21 September and the squadron finally became a Mosquito unit. By the end of the month it was considered operational and the difficult transition period was over; night training still went on but, with the return to operations, aircrews and ground staff felt they were really in action again.

The New Zealanders flew their first mission with Mosquitos on

¹ Wing Commander A. G. Wilson, DFC; **RAF**; born Southgate, **London**, 19 Dec 1916; joined **RAF** 1938; commanded No. 487 (NZ) Sqdn, 1943–44, and No. 21 Sqdn, 1945.

² Wing Commander W. F. Wallington, DFC; **RAF**; born Rochester, **Kent**, 4 Jan 1908; joined **RAF** 1923.

³ Flight Lieutenant G. A. Park; born Dunedin, 18 May 1922; clerk; joined **RNZAF** Apr 1941.

⁴ Flying Officer G. W. Brewer, DFC; born Hihitahi, **Wanganui**, 8 May 1915; clerk; joined **RNZAF** Apr 1941; killed on air operations, 12 Jun 1943.

3 October when twelve aircraft, led by the station commander, Group Captain Pickard, ¹ took off to attack the power-station at Pont Chateau, about 30 miles north-west of Nantes. They used the method of attack developed by the original Mosquito squadrons of the Group. Six aircraft went in first at low level and dropped their delay bombs; then the second formation followed closely in a shallow dive from 2000 feet, dropping bombs fused to explode instantaneously. Several direct hits were seen on the power-station, and although three aircraft received minor damage from light flak, all returned safely.

The next mission, six days later, when twelve New Zealand Mosquitos flew with twelve more from No. 464 Australian Squadron to bomb an aero-engine factory near Metz, was most disappointing. It involved a flight of almost 800 miles over a long and complicated route, rendered more difficult on this occasion by poor visibility.

The Australians took off first and the New Zealanders followed closely, each squadron flying in two formations of six aircraft. As the Mosquitos flew out over the North Sea they had to alter course to avoid a British convoy which appeared unexpectedly on their track, and then near the Dutch coast the two squadrons completely lost contact in thick

sea mist. Shortly afterwards Wing Commander Wilson, who was leading the first six aircraft of No. 487 Squadron, became separated from his formation. The rest of his crews flew on towards their next turning point but found they were hopelessly lost and so turned back to base. Wilson got through to the target but, just after bombing, his Mosquito was hit by flak and the navigator fatally wounded, with the result that he had a difficult return flight and was forced to land at an advanced base in Kent. The second New Zealand formation fared even worse. Over Holland an explosion suddenly occurred beneath the leading aircraft. It climbed with both propellers stopped, levelled out for a few seconds, and then crashed in flames. Just south of Antwerp a second Mosquito was seen to circle with an engine out of action and then drop its bombs. They immediately exploded and blew the aircraft to pieces. It is surmised that both pilots confused the 'Press to Speak' radio-telephone button with the 'bomb release' button alongside it. In any event these misfortunes so disorganised the formation that the remaining aircraft returned to base individually.

In the meantime the Australians had also experienced difficulties. From the outset, owing to low cloud and mist over most of the route, their leading navigator had trouble in finding pinpoints by

¹ Group Captain P. C. Pickard, DSO and two bars; DFC; Military Cross (Czech.); born Handsworth, [Yorkshire](#), 16 May 1915; joined [RAF](#) 1937; commanded No. 51 Sqdn, 1941–42; RAF Stations, Lissett and Sculthorpe, 1943; killed on air operations, 18 Feb 1944

which to check his position. However, the Mosquitos eventually reached the vicinity of Metz only to find it covered with thick cloud in which the formation became split up, and only one crew was able to drop its bombs. Two aircraft failed to return, one of which is thought to have flown into the high ground that surrounded the target. The other disappeared during the flight over [Belgium](#). Several of the Australian Mosquitos were also damaged by flak. The failure of this operation may

be partly attributed to the weather, which led to a succession of errors in navigation, but it would also seem that the mission was rather too ambitious for crews relatively inexperienced in low-level attack and flying a new type of aircraft.

There were no further operations during October, but a series of flying accidents occurred on the 23rd when a Mosquito from each of the three squadrons based at Sculthorpe crashed on return from training flights. However, these mishaps served but to increase the confidence of the aircrews in the sturdiness of their wooden aircraft for, although the machines were seriously damaged, there were no outbreaks of fire, the cockpits remained intact and crews escaped injury.

Weather in November gave little opportunity for large-scale operations and activity was confined to several low-level attacks in the last week involving formations of four or two aircraft only. However, this month saw another important change in organisation. On 15 November the Allied Expeditionary Air Force was formed under the command of Air Chief Marshal Sir Trafford Leigh-Mallory and the No. 2 Group squadrons incorporated in the new formation had to be made completely mobile so that they could fly to any airfield and be serviced by the resident ground crew. Therefore, with the exception of a few key personnel, No. 487 Squadron lost its entire ground staff. This change, although essential for the future activities of the squadron, was far from popular.

The early part of December was notable for a gallant attack by a single Mosquito from the New Zealand squadron against an armed motor vessel lying off Groix, near **Lorient**. Actually three Mosquitos were sent from the squadron to an advanced base at Predannack, in **Cornwall**, but in the event only one machine was able to take off. It was flown by Squadron Leader Cussens, ¹ an English pilot who had taken charge of a flight in October, with Flying Officer Mackay ² as his navigator. Twelve Typhoons escorted the Mosquito to its target and the fighter pilots reported that Cussens pressed home the attack with great determination. Unfortunately, just after the bombs had been released, the Mosquito was

¹ Squadron Leader A. S. Cussens; born **Sheffield, Yorkshire**, 11 Nov 1919; joined **RAF** Apr 1940; killed on air operations, 1 Dec 1943.

² Flying Officer H. M. Mackay; born **Morrinsville**, 19 Dec 1920; accountant; joined **RNZAF** Sep 1941; killed on air operations, 1 Dec 1943.

seen to crash into the sea and sink immediately. Subsequent reports indicated that the ship had been damaged.

For No. 487 Squadron this second year of its career had proved a rather trying period. There had been the severe losses on the **Amsterdam** raid, the subsequent transfer to Second Tactical Air Force, many weeks of re-equipment, bringing with it the unpleasant necessity for posting the wireless operators and air gunners, and finally the loss of most of the ground staff. Operations with Mosquitos had been rather spasmodic and often handicapped by bad weather, while casualties, although not severe, had been frequent. Nevertheless, squadron morale remained remarkably high and the following months were to see a happier and more successful period of operations.

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During the closing months of 1943 New Zealanders with the **Boston** and Mitchell squadrons had continued to fly on 'Circus' and 'Ramrod' operations; **Boston** crews also took part in low-level attacks. Their targets included airframe factories, airfields, power-stations, railway marshalling yards, shipping and docks in northern **France** and **Holland**. On most missions the main opposition came from anti-aircraft batteries, German airmen seldom accepting the invitation to engage the strong British fighter force. Typically, one day in October ten New Zealand airmen flew with No. 226 Mitchell Squadron to bomb the Grand Quevilly power-station at Rouen. The bombers were escorted by about 120

Spitfires but in spite of this challenge the enemy made no attempt at interception. This was by no means an isolated example of growing Allied air superiority over northern France.

From time to time the Bostons and Mitchells were sent to bomb the strongly defended village of Audinghem, near Cap Gris Nez, an area headquarters of the Todt Organisation.¹ The heaviest attacks against this target came on 25 November when 138 sorties were flown. Subsequent photographic reconnaissance showed that the bombing had virtually destroyed the village and the streets were blocked by debris. In one of the attacks twelve Bostons from No. 88 Squadron achieved particularly good results, almost all their bombs being seen to fall in the target area. Unfortunately, while over Audinghem they met intense flak and eight aircraft were hit. One of them crashed in a field on return and was burnt out without

¹ The Todt Organisation, formed before the war, had been responsible for building the famous autobahnen in Germany and also the Siegfried Line. It now controlled a huge labour force to meet the constructional requirements of the German armed forces. In France it was concerned with the building of the 'Atlantic Wall' defences and V-weapon sites.

serious injury to the crew. Another Boston flown by Pilot Officer Gibson force-landed at Hawkinge.

Gibson, who flew in the leading formation, was just turning away from the target after dropping his bombs when his aircraft was hit. He was badly wounded in the face and his left collar-bone was fractured. The Boston went into a dive and Gibson gave his crew the order 'Prepare to bale out', but after the bomber had fallen some 4000 feet he managed to regain control. Gibson was suffering considerable pain from his wounds and soon became weak from loss of blood, but he was able to keep his machine airborne until the English coast was reached and then, although handicapped by his useless arm, he lowered the undercarriage and flaps and made a good landing.

* * * * *

A new development in daylight bombing operations came towards the end of 1943, when the **Boston**, Mitchell, and Mosquito crews were called upon to join in attacks against the depots and sites in northern **France** from which the Germans were preparing to launch flying bombs and rockets against England. Leigh-Mallory's squadrons of the Allied Expeditionary Air Force had been given the task of disrupting the German preparations because at this time the Allied heavy bombers were almost fully committed to the assault on German industry.

German scientists and technicians had begun the development of flying bombs and rockets just before the war and an experimental station had been set up at **Peenemunde**, on the Baltic coast. At first progress was slow but in 1943, on **Hitler's** orders, work was considerably accelerated. **Royal Air Force** raids on **Germany** were then beginning to hurt and **Hitler** wanted reprisals, but the bomber arm of the **Luftwaffe** was weak and he felt that the pilotless weapons offered the best chance of hitting back. Indeed, many of the German leaders hoped that the new reprisal weapons, the *Vergeltungswaffen*, would turn the tide of war in their favour.

In Britain it was already realised that if the Germans were allowed to proceed with their preparations unmolested the assault by flying bombs and rockets – known as the V-1 and V-2 – could begin early in 1944. Counter measures therefore received high priority, but they were prepared in an atmosphere of secrecy which kept the mass of the British people in ignorance of the danger that was imminent.

The heavy raid by RAF Bomber Command on **Peenemunde** in August 1943 had upset the German timetable, but by December production of flying bombs and construction of the actual firing sites for these weapons had reached an advanced stage. Royal Air Force photographic reconnaissance had already revealed the presence of over sixty launching areas and, by the third week of January 1944, no fewer than

ninety-seven such targets had been identified, mainly in the Pas-de-Calais area, where they were directed against **London**; buildings for the storage and assembly of the flying bombs were also discovered. Most of the launching areas were built in or on the edges of forests, but the newly constructed roads and railways which fed them defeated this initial attempt at concealment, although later the Germans became much more skilful at camouflaging their installations. However, from the outset they presented small targets since each site usually occupied an area of less than fifty yards square. The aircrews soon nicknamed them 'ski-sites' because when seen from the air they looked like a large ski lying on its side.

Aircraft of Leigh-Mallory's **AFAF** opened their attack on 5 December 1943 and during the next six months dropped over 31,000 tons of bombs with considerable effect. A large majority of the identified 'ski-sites' were destroyed and most of the others rendered at least temporarily unfit for use, so that the opening of the German assault was further delayed for several vital months. Neither bad weather nor strong defences gave the Germans much protection against the persistent Allied attack. Using the latest radar aids for navigation and bomb-aiming, British and American aircraft were able to strike at their extremely difficult targets with remarkable accuracy.

In the **RAF** attacks, which accounted for half the bomb tonnage dropped, it was found that the more strongly defended sites were best attacked by Mosquitos, which could sweep low across the target unmolested by the heavy guns which could not be set to open fire on them. Other sites which might be reached without flying over areas where anti-aircraft fire was concentrated were also attacked by the Mosquitos from low level. The Mitchells and Bostons were usually sent to targets where defences were considered moderate and bombing heights were varied according to whether heavy or light flak was expected. Much of the success of these missions depended on the selection of the most suitable bombing force and careful routing and timing of the bombers. Wing Commander Magill, now a member of the Operations Staff at No. 2

Group Headquarters, was the officer largely responsible for arranging these difficult operations.

New Zealand airmen took part in practically every mission flown by the Mitchells and Bostons during the last days of 1943 and the first months of the new year. Their squadrons continued to fly in formations of six aircraft, which bombed on a 'follow the leader' principle. This system had its merits for the most experienced navigators flew in the leading machines, but there were occasions when the leader failed to reach the target and the bombing went astray owing to lack of guidance. Crews found that the main opposition usually came from the ground defences, the enemy fighters being deterred from interfering by the strength of the Spitfire escort. There were exceptions however. On 21 January, when twelve Mitchells from No. **226 Squadron** together with an equal number from No. 320 Dutch Squadron went to attack a flying-bomb site near Calais, they met enemy fighters in strength. Flight Sergeant Moon's ¹ aircraft was attacked by a Focke-Wulf 190 and hit in one of the engine nacelles and in both turrets. His wireless operator and air gunner were wounded, but Moon flew his damaged machine back to England to make a safe landing at an airfield in Kent. Eight New Zealanders flew with No. **226 Squadron** this day, Flying Officer A. Willis being leading navigator in the second formation.

During the winter months crews flying missions against the flying-bomb sites had to contend with many difficulties. On some days the bombers were not always able to make rendezvous with their fighter escort, or else they flew across the Channel only to find the target area hidden by cloud. Early in February the flying-bomb site at Livossart in the Pas-de-Calais was visited on three successive days by Mitchells of Nos. 98 and 180 Squadrons, New Zealanders taking part in each operation. In the first two attacks navigators had difficulty in locating the site at all as cloud prevented them from finding pinpoints on which to check their course, while on the third occasion aircraft reached the target area only to find dense cloud which made bombing impossible

During the second attack on 9 February the Mitchell captained by

Flying Officer Struthers of No. 180 Squadron was hit under the port wing by heavy flak, which put an engine out of action and tore large holes in the wing and tail. The aircraft went into a dive but Struthers, with the help of his navigator, Flight Sergeant Browne,² regained control and headed out across the Channel. After a difficult flight the English coast came in sight and Struthers decided to attempt to land at an emergency airfield. But when the undercarriage was lowered the bomber again began to go down out of control. Struthers and Browne fought with all their strength to keep the machine level but soon realised it would crash short of the landing strip. Then suddenly they saw they were heading straight for a row of cottages. With a tremendous effort Struthers managed to get sufficient response from the controls to lift the Mitchell over the cottages but it struck some high tension cables and fell to the ground in flames. Struthers and Browne escaped with severe burns,

¹ **Flying Officer E. D. Moon; born Christchurch, 19 Dec 1923; civil servant; joined RNZAF Jan 1942.**

² **Warrant Officer T. E. Browne, DFM; born Hokitika, 24 Apr 1919; draughtsman; joined RNZAF Dec 1941.**

but Warrant Officer Hammond,¹ their wireless operator, was killed in the crash.

Crews from the New Zealand Mosquito Squadron completed many missions without notable incident, but early in January when fifteen aircraft flew to bomb a site in the Dieppe area they met sharp anti-aircraft fire. During the approach to the target the Mosquito flown by Pilot Officer Fowler² was badly hit, the tail and hydraulic system damaged, and the bomb doors blown open. Fowler kept formation and completed his attack. On reaching base he was unable to lower the undercarriage but, after all efforts to unlock the wheels had failed, he made a successful belly landing. Later in the month Flying Officer Beazer³ had to fly back to Hunsdon on one engine after the other had

been put out of action by flak. On another occasion Flying Officer Avery, ⁴ who flew with the Australian Squadron, had a difficult flight after his Mosquito had been hit in the tail and the elevators badly damaged. He was forced to use the trimming tabs as the only means of fore-and-aft control. The Mosquito was too unstable for Avery to attempt a landing and he and his navigator baled out over the south coast, sustaining only minor injuries. Pilot Officer Barriball ⁵ was not so fortunate. After attacking a flying-bomb site at Herboville he had reached the coast when his machine was caught by a burst of light flak. Barriball made a landing on the sea but his Mosquito was seen to break up immediately.

Several crews had narrow escapes during their low-level attacks. During one March raid Squadron Leader Kain ⁶ swerved to avoid another Mosquito and hit the top of a tree. A second pilot flew into some telegraph wires, setting an engine on fire, but he was able to make a safe crash-landing on return. Warrant Officer Ward ⁷ was flying over the site at Hambures when his machine was damaged by blast from exploding bombs and he just managed to get back to an airfield in Kent.

Flying Officer Greenaway ⁸ was involved in a remarkable episode

¹ Warrant Officer D. C. Hammond; born Ohaeawai, 14 Jun 1922; truck driver; joined **RNZAF** Aug 1941; killed on air operations, 9 Feb 1944.

² Flying Officer D. R. Fowler; born Gore, 2 Jun 1919; Post Office telegraphist; joined **RNZAF** Oct 1941.

³ Flying Officer R. C. Beazer; born Feilding, 12 Nov 1914; carpenter; joined **RNZAF** Oct 1941; killed on air operations, 5 Jul 1944.

⁴ Flying Officer D. V. Avery; born **New Plymouth**, 23 Oct 1922; farmer; joined **RNZAF** Sep 1941.

⁵ Pilot Officer M. E. P. Barriball; born **Auckland**, 12 May 1921; farmer; joined **RNZAF** Jan 1942; killed on air operations, 13 Mar 1944.

⁶ Squadron Leader G. C. Kain; born **Wanganui**, 4 Jul 1914; joined **RAF** Jun 1936; transferred **RNZAF** Mar 1945.

⁷ Warrant Officer B. Ward; born **Napier**, 8 Aug 1919; P & T Dept cadet; joined **RNZAF** Sep 1940; killed on air operations, 5 Jul 1944.

⁸ Flight Lieutenant F. H. Greenaway, MBE; born **Toowoomba, Australia**, 2 Mar 1909; accountant; joined **RNZAF** Jan 1942.

early in January. He was navigating a Mosquito of No. **21 Squadron** which set off from Hunsdon to bomb a site near Abbeville. As the formation crossed the French coast Greenaway's pilot saw a flock of birds ahead, and in going a few feet lower to avoid them one propeller hit a sand bank in the middle of the **Somme** estuary. The machine shuddered violently but remained airborne, so the bomb load was jettisoned and the pilot turned for home. But just as he did so both engines seized up and the Mosquito went down on the sand a few yards from the edge of the water. Greenaway and his companion were quickly surrounded by Germans and had no alternative but to surrender. After being held three days for interrogation, Greenaway, his pilot, and three other British airmen were taken in a lorry from the civil prison at Beauvais to the Gare de L'Est in **Paris**, en route for a prisoner-of-war camp. The men were guarded by four Germans, who on arrival at the station began to unload several cases. The last one was large and heavy and to make handling easier the Germans slung their rifles over their shoulders. Greenaway, who had been waiting such an opportunity and had already feigned injury to a leg to avoid suspicion, vaulted to the ground and ran out of the station into the darkness. He turned up a side alley, saw a light in a building and 'taking a chance', as he put it,

knocked at the door. He was given a complete civilian suit and some money, allowed to shave off his moustache and the beard he had grown since capture, and then guided to the Gare du Nord. By midnight, Greenaway had succeeded in getting well clear of **Paris**. He continued his journey across country during the next few days, receiving help from time to time from French people. Eventually he met members of the French Resistance Movement, and with further help from them was able to reach Gibraltar. He returned to England early in April little the worse for his experience.

At the beginning of February 1944 Wing Commander I. S. Smith ¹ assumed command of No. 487 Squadron in succession to Wing Commander Wilson, who had led the New Zealanders since May 1943. Smith had flown a Hurricane during the Battle of **Britain**. He later won particular distinction as a night-fighter pilot and commanded No. **151 Squadron** with outstanding success. Both the flight commanders were now also New Zealanders – Squadron Leaders Lucas ² and G. C. Kain. Lucas had been with the New Zealand Wellington Flight at the outbreak of war and had completed two tours of operations with No. 75 Bomber Squadron. He then returned

¹ Wing Commander I. S. Smith, DFC and bar; born **Invercargill**, 21 May 1917; joined **RAF** Mar 1940; commanded No. 151 Sqdn, 1942–43; No. 487 (NZ) Sqdn, 1944.

² Wing Commander F. J. Lucas, DFC and bar; born Dunedin, 18 Aug 1915; joined **RAF** 1936; transferred **RNZAF** Jul 1939; OC No. 1 (GR) Sqdn, 1942–43; served No. 487 Sqdn and HQ Transport Command, 1943–45.

to serve in New Zealand but after a year asked to be sent back to the **United Kingdom**. Kain had also flown with No. 75 Squadron, and after a period as an instructor at an operational training unit he went to New Zealand in March 1942, returning shortly before Lucas.

No. 487 Squadron now began the gradual change to its new role of night intruding, which had been the intention since its conversion to Mosquitos. Night training had been continued between operations during the winter and crews were well prepared for their new task. In February thirty-three night sorties were made by the New Zealand Mosquitos against airfields in **France** and **Holland**, but in March the main effort was again directed to the attack of flying-bomb sites by day.

During the following months much of the effort of the two Mosquito wings now with No. **2 Group** continued to be directed against flying-bomb sites. Usually formations of from two or four aircraft flew with similar numbers from other squadrons of their wing, but on occasion the wings combined for heavier attacks. Bombing at speed from heights between 100 feet and 1000 feet, crews were seldom able to see the results of their attacks, but it is now considered that the Mosquito effort was the most economical of any employed against these targets, one site being sufficiently damaged to warrant suspension from attack for every sixty-two sorties flown.

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A notable and unusual mission, the attack on **Amiens** prison – in which No. 487 Squadron played a prominent part – must now be recorded.

During January 1944 information was received in **London** that well over one hundred loyal Frenchmen were in the jail at **Amiens** awaiting death for their efforts in the Allied cause; some had been condemned for assisting Allied airmen to escape after they had been brought down in **France**. The leaders of the French Resistance Movement asked if bombers could break down the prison walls – even at the risk of killing some of the patriots – as this offered their only reasonable prospect of escape. The RAF accepted this exacting task and Mosquitos from Embry's No. **2 Group** were chosen as the aircraft most likely to achieve success. The choice proved well justified and, as a result of careful planning, accurate navigation and fine precision bombing, this mission

to **Amiens** was to rank among the most memorable daylight raids of the war.

The prison was built in the shape of a cross and surrounded by a wall twenty feet high and some three feet thick. Inside this wall the yard was fenced to segregate the prisoners while they were at exercise and they were guarded by German troops living in a special wing of the prison. To enable the prisoners to escape, both ends of the main building had to be blown open and the outer walls of the prison breached in two places. But the attack would have to be sufficiently discriminating to ensure that, while decisive force was used against these parts of the prison, casualties among the prisoners were kept to a minimum. The timing of the bombing was also important for the escaping men were to receive assistance from patriots outside who would be warned of the exact hour and minute of the attack.

Mosquitos from No. 140 Wing, which included No. 21 RAF, No. 464 Australian, and No. 487 New Zealand Squadrons, were selected to make the attack, with Typhoons from Fighter Command as escort. The New Zealanders were to lead the raid and breach the eastern and northern walls, while the Australians were given the tasks of opening out the ends of the main building and of destroying the German guards' quarters. Mosquitos from No. **21 Squadron** were to act as reserve in case there should be any hitch in the plan when they would be called into action by Group Captain Pickard, who was in command of the whole force. Pickard, one of the most outstanding and experienced bomber pilots then with the **RAF**, was Station Commander at Hunsdon, the base from which the operation was to be launched. The date was provisionally fixed for 17 February, and the bombers were to arrive over the prison precisely at noon, but in the event of severe weather the raid was to be postponed for twenty-four hours. The French had been informed of this possibility and the organisation within the prison made their plans accordingly.

Thick cloud and snowstorms ruled out any attempt on the first day. The following morning the nineteen crews specially chosen for this

mission were astir early to find the airfield still covered with snow and low cloud, but as predictions were more hopeful it was decided to proceed with the operation. Ground crews made a final check over the Mosquitos as the aircrews assembled for briefing. They found stringent security precautions in force and each man's name was checked as he entered the briefing room. The atmosphere of expectancy and curiosity was further increased by a large box on the front table covering a model of the target. 'It's another of those "derring-do" shows,' one navigator is said to have remarked drily.

Soon briefing began. First to speak was the force commander, Group Captain Pickard, who explained the purpose and unusual nature of the mission. The crews listened intently and with growing interest. 'We heard the details of this mission with considerable emotion,' writes Wing Commander Smith. 'After four years of war just doing everything possible to destroy life, here we were going to use our skill to save it. It was a grand feeling and every pilot left the briefing room prepared to fly into the walls rather than fail to breach them. There was nothing particularly unusual in it as an operational sortie but because of this life-saving aspect it was to be one of the great moments in our lives.' The briefing was lengthy for the crews had to make a careful study of their route and the model of the prison which had been constructed from photographs and other information obtained from **France**, but by mid-morning all preparations had been completed and the Mosquitos were lined up ready for take-off according to strict schedule.

It was still snowing and visibility was poor when the nineteen bombers set off, and watchers on the airfield caught only a fleeting glimpse of each machine before it disappeared into swirling mist and snowflakes. Smith led the way with the No. 487 formation, in which other New Zealand captains were Pilot Officers D. R. Fowler, Sparks ¹ and Darrall, ² who had Pilot Officer Stevenson ³ as navigator. With No. **21 Squadron**, Flying Officer Gabites flew as leading navigator, and one of the Australian Mosquitos was navigated by Flight Lieutenant Sampson. ⁴ As the bombers and their escort of Typhoons flew low across

the Channel towards the French coast the snow and mist began to give way to bright sunshine. The fields and villages of **France** were still covered in a blanket of snow, but the navigators made no mistake and the force swept round to the north of **Amiens** to approach the prison along the straight **Amiens-Albert** road. This dramatic moment in the raid is described by one New Zealand captain in these words:

I shall never forget that road – long and straight, and covered with snow. It was lined with tall poplars, and we were flying so low that I had to keep my aircraft tilted at an angle to avoid hitting the tops of the trees with my wing The poplars suddenly petered out, and there, a mile ahead, was the prison. It looked just like the model, and within a few seconds we were almost on top of it

As previously arranged, each wave of bombers had split into sections of three aircraft shortly before the target was reached. The leading New Zealand section now swept in to hurl twelve 500-pound bombs at the eastern wall. ‘For safety, we flew in somewhat loose formation until we came near to the run up,’ Wing Commander Smith said afterwards, ‘and then everyone tightened up wing tip to wing tip. We just cleared the wall and no more after letting our

¹ Flying Officer M. N. Sparks; born **Auckland**, 30 Dec 1920; assistant chemist; joined **RNZAF** Jul 1941.

² Flying Officer M. L. S. Darrall; born **Morrinsville**, 5 Sep 1919; farmer; joined **RNZAF** Sep 1941.

³ Flying Officer F. S. Stevenson; born **Devonport**, 11 Feb 1920; electrical apprentice; joined **RNZAF** May 1941.

⁴ Flight Lieutenant R. W. Sampson; born **Dannevirke**, 21 Dec 1908; farmer; joined **RNZAF** Jun 1940; killed on air operations, 18 Feb 1944.

bombs go.' Smith's bombs were seen to hit the wall a few feet from the ground, other bursts were adjacent to it with an overshoot in a field to the north. Two aircraft of the second New Zealand section – one had been forced to return to base – then attacked the northern wall, only just clearing it as they broke away. The Australian Mosquitos followed and, as the last of their bombs exploded, Pickard could see that sufficient openings had been made for the prisoners to escape so he ordered No. **21 Squadron** not to attack. The Mosquitos then turned and began to close up for the homeward flight. As they did so a Mosquito from the RAF Film Unit made three runs over the prison. Its crew saw breaches in the main walls and considerable damage to the ends of the buildings; prisoners were running out through the broken walls and disappearing across the snow in the fields outside the prison.

German anti-aircraft guns in the vicinity had now opened fire and Focke-Wulf fighters had taken off from the airfield at **Amiens** only three miles away. The British force thus had to fight its way out through fairly stiff opposition. Almost at once the Australian Mosquito in which Sampson was navigator was shot down. A shell exploding beside the cockpit killed Sampson outright and his pilot, Squadron Leader McRitchie, ¹ of **Melbourne**, was temporarily blinded and his right arm paralysed. The Mosquito was doing 300 miles an hour at 50 feet but McRitchie managed a crash-landing ² on a snow-covered field. A few minutes later Group Captain Pickard, who had stayed behind to assess the results of the attack, was set upon by two Focke-Wulfs and shot down only a few miles from **Amiens**. Both he and his navigator were killed in the crash. Two Typhoons of the fighter escort also failed to return.

All seven New Zealand Mosquitos got back to England safely, but four of them were badly damaged, two so severely that they never flew again. Sparks and his crew had an eventful return flight. Shortly after leaving the target their machine was hit in one engine and Sparks had great difficulty in keeping it airborne. He managed to get back across the Channel and land at an advanced base, where one wheel collapsed as

the machine touched down.

Remarkable fortitude was displayed by Flight Lieutenant Hanafin,³ who captained another Mosquito from No. 487 Squadron. On the way to the target an engine caught fire. Hanafin feathered it, the flames subsided, and he managed to stay with the formation for some time.

¹ Squadron Leader A. I. McRitchie, DFC; born **Melbourne**, 16 Jun 1915; metallurgist and flying instructor; joined **RAF** Nov 1940; p.w. 18 Feb 1944.

² The Germans subsequently held McRitchie for 42 days in solitary confinement, threatening **Gestapo** treatment unless he revealed how the **RAF** and French underground had planned the raid. But they learnt nothing.

³ Flight Lieutenant B. D. Hanafin, DFC; **RAF**; born **Alexandria**, Egypt, 1 Jan 1921; student; joined **RAF** Jun 1940.

But eventually he began to drop back, whereupon he restarted the bad engine and rejoined the formation. Again the engine started to burn and Hanafin was forced to leave the formation about ten miles short of the target. He jettisoned his bombs and turned for home, but on the way out was twice hit by flak and wounded in the neck, which paralysed him all down his right side, including the arm and leg. He was in great pain and his navigator gave him a morphine injection as he sat at the controls. Typical February weather over England made the return flight difficult, but Hanafin stuck it out and landed his disabled machine without further damage at an airfield in **Sussex**.

It was subsequently learnt that as a result of the Mosquito attack, of a total of over seven hundred prisoners of all classes held in the prison, 258 escaped, including over half the patriots who were awaiting execution. The most important prisoner to escape was Monsieur Vivant, Under-Prefect of Abbeville, who had been arrested by the Germans four

days before the attack. He was a key member of the Resistance Movement in his district and was later to serve in General de Gaulle's Government.

It was inevitable that some prisoners should be killed during the raid, some by the bombs and others by German machine-gun fire while attempting to escape. There was also some damage to property outside the prison from bombs which bounced over the walls, but fortunately French civilians suffered few casualties. Five days after the raid the following message was received in **London from the leader of the French Resistance:**

I thank you in the name of my comrades for bombardment of the prison. The delay was too short and we were not able to save all but thanks to admirable precision of attack the first bombs blew in nearly all the doors and many prisoners escaped with the help of civilian population. Twelve of these prisoners were to have been shot the next day

So ended one of the many gallant episodes in which the **RAF helped and encouraged patriot organisations on the Continent. It was indeed a worthy gesture, for the men and women who worked in those organisations – French, Dutch, Belgian, Polish, and Norwegian alike – displayed great courage. Many frequently risked their lives to help Allied airmen shot down over enemy territory, and those who were betrayed or captured suffered cruelly at the hands of the **Gestapo**. The whole of their work forms an epic story in itself. Much of it will never be told. But at least let their amazing courage and quiet heroism be remembered.**

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 7 – DAY-FIGHTERS AND FIGHTER-BOMBERS

CHAPTER 7

Day-Fighters and Fighter-bombers

SUPREMACY in the air over Western Europe was won only after a long and bitter struggle but by the beginning of 1943 the initiative had, in large measure, passed to the Allied air forces based in **Britain**. With the expanding production of British factories and the advent of more squadrons and supplies from the **United States**, these forces were now increasing steadily both in size and strength. The Luftwaffe, on the other hand, had been seriously weakened by heavy losses of men and machines both in **Russia** and in the **Mediterranean** and these campaigns were to remain a steady drain on German air power. And although the Germans made desperate efforts to meet the growing air offensive from **Britain** by transferring units from other fronts and by energetic reorganisation of their aircraft production to provide more fighters, they were unable to prevent the Allies from steadily gaining the ascendancy in the West. This ascendancy became more clearly evident towards the end of 1943 when for five months scarcely a single German aircraft appeared over the **United Kingdom** in daylight, while during the same period the **RAF** alone flew more than 52,000 sorties by day over German or German-occupied territory.

An important contribution to this favourable turn of events was made by Royal Air Force Fighter Command. Its large and efficient organisation, ever on the alert, was not only a powerful deterrent to the launching of any serious aerial attack against the United Kingdom but it also made even effective reconnaissance most difficult for the enemy. At the same time the British fighter squadrons, sweeping forward in great strength from their island base, had maintained constant pressure against the **Luftwaffe** over **France**, **Belgium** and **Holland**, inflicting heavy casualties in men and machines and forcing the Germans to engage in a war of attrition in the West at a time when they were heavily involved elsewhere.

Patrols over enemy territory by very large formations now absorbed

the major effort of the **RAF** day-fighter squadrons. This in itself was an interesting development, for Fighter Command had been built up primarily to defend the **United Kingdom**. However, when the **Luftwaffe**, after its defeat in the skies over England during the summer of 1940, did not return to the assault on any appreciable scale, Fighter Command had turned to the offensive and begun to seek out the enemy over his own airfields on the Continent. After a modest beginning early in 1941, formations of Spitfires had flown across the Channel in ever-growing strength until, by the middle of 1942, missions involving upwards of fifteen squadrons were a daily routine. The various operations did not always succeed in their purpose of drawing enemy fighters into battle, for the Germans often allowed large formations of Spitfires to fly unmolested over northern **France** and even at times ignored light bombing raids rather than risk action under unfavourable conditions. The range of the British fighters was also limited and, even when bombers accompanied them, the attacks frequently lacked sting. Yet there were occasions, notably at Dieppe in August 1942, when the Germans reacted strongly and major battles resulted. Intensive operations during that year had compelled the Germans to devote the whole output of their new Focke-Wulf fighter exclusively to meeting the **RAF** sweeps over the fringes of Occupied Europe, and units which might otherwise have been used in the **Mediterranean** or to reinforce the Russian front were kept at full stretch in Western **Europe**.

During 1942, when the Germans were sweeping forward in **Russia** and the **Middle East**, this pinning down in the West of as large a part as possible of German air strength by offensive sweeps and 'circus' operations with bombers had been the primary task of the day-fighter squadrons. But in 1943 there came a distinct change in their role. The **Luftwaffe** had suffered severe losses at **Stalingrad** and in **Africa**. Moreover, the daylight offensive by Allied bombers was now increasing rapidly and with it came the demand for more and heavier fighter escorts. This altered the whole nature of the day-fighter operations. Instead of bombers being used mainly as bait to lure enemy fighters into action, the bombing now became the principal mission and the

supporting fighters were employed primarily to further that effort.

'Circuses' were thus gradually replaced by 'Ramrods', a code-name which signified the greater power and thrust of the new Allied offensive by day.

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By April 1943 the British day-fighter force comprised sixty-nine squadrons, two-thirds of them equipped with Spitfires and all but four of the remainder with Typhoons. Unfortunately many of the Spitfire squadrons were still equipped with obsolescent Mark Vs – 'clipped, cropped and clapped' as one humorist described them. ¹

¹ In order to increase speed and lateral manoeuvrability, the Spitfire's wing span had been reduced by suppressing the wing tips which had previously rounded off the ellipse of the wing so harmoniously. The engines had been 'cropped' by reducing the diameter of the supercharger turbine. This allowed power to be stepped up rapidly below 3000 feet but above that height the power curve fell away rapidly. 'Clapped' expressed the general opinion among pilots of these machines, for while extremely fast at low level they became sluggish at 10,000 feet, the height at which most escort missions were now flown.

But the Spitfire IX was gradually coming into more general use and was regarded as slightly superior in speed and climb to the contemporary German fighters, the FW190 and the Me109G, although British pilots found both enemy machines tough and worthy opponents – the Focke-Wulf, for example, could flick from a steep turn in one direction to a diving turn in the other with startling rapidity. The Hawker Typhoon, which had been introduced into the **RAF** during 1942, achieved its best performance at low level and was first employed to intercept coastal raiders, but it soon proved as versatile a machine as its redoubtable forerunner, the Hurricane. Adapted to fire rocket projectiles or to carry two 500- pound bombs, the Typhoon was eventually to operate with outstanding success as a fighter-bomber against a wide variety of targets in enemy-occupied territory.

During 1943 offensive patrols over France and the Low Countries were flown principally by the forty-eight squadrons located south of the line from the Wash to the Bristol Channel, well over half these units being stationed at airfields of No. 11 Group in south-east England. The squadrons were usually organised in two-squadron wings named after the base from which they operated, and Biggin Hill in Kent, Kenley in Surrey, Tangmere in Sussex, Hornchurch, North Weald and Debden in Essex, and Northolt in Middlesex, were among the famous Battle of Britain airfields from which fighter wings flew against the Luftwaffe.

The fighters now received valuable assistance from ground control in England during their missions over enemy territory. Specially sited radar stations of greater range and power were being built – the first had opened at Appledore, Kent, in June 1942 – which could detect the movements of enemy aircraft well inside the French and Belgian coasts. Controllers were thus able to pass information to the British squadrons as they flew across the Channel and even, on occasion, direct them into battle over enemy territory. The chief merit of this system, whose operational success was immediate and prolonged, lay in the fact that it deprived the enemy of the strong advantage previously given by his early-warning system. No longer could the Focke-Wulfs and Messerschmitts take off from their fields at Abbeville and Amiens to reach the favourable height and position from which they were wont to ‘bounce’ the approaching Spitfires. Instead it was the British formations, forewarned of their movements, that frequently succeeded in springing the surprise.

The increase in Fighter Command's escort work was rapid. In April 1943 just over three thousand sorties were flown by the Spitfires as cover to Fortress and Liberator bombers of the United States Air Force and to Bostons, Mitchells, and Venturas of No. 2 Group Bomber Command. Within three months this total had been doubled, and before the end of the year large forces of American bombers were being escorted by formations of over 500 British fighters on a single raid. Normally bomber formations were escorted from the time they left the English

coast until they returned, but when their targets were beyond fighter range, the bombers were escorted to the limit of the fighters' endurance and then met on return by large formations which covered their withdrawal.

Two operations, one in March and the other in June, illustrate the support given by Fighter Command to **United States** bomber forces during 1943 before they were able to have full cover provided by their own long-range fighters. On 13 March when the marshalling yards at **Amiens** were the target for seventy Fortresses, eleven squadrons of Spitfires were detailed as escort. The raid was in two parts. First of all the Fortresses, supported by **RAF** fighters, made a feint attack towards Dieppe to draw enemy fighters into the air away from the intended target. The **Hornchurch Wing**, which flew in simultaneously to deal with any reaction, succeeded in intercepting a mixed formation of some twenty Focke-Wulfs and Messerschmitts, and claimed three of them destroyed without loss. Then the Fortresses swept back across the Channel to pick up their escort for the main attack. Around them gathered the fighter wings from Northolt and North Weald, the **Kenley Wing** took station above as high cover, and slightly ahead were the Biggin Hill squadrons which were to act as target support. The whole force then made its way to **Amiens** by a somewhat circuitous route but the majority of the bombers identified and attacked the primary target. Over France small formations of German fighters made spasmodic attempts at interception, but none of the Fortresses was lost and the Spitfires claimed four German fighters destroyed, together with four more 'probables', for the loss of six pilots. The withdrawal of the main Allied force had meanwhile been covered by two Spitfire squadrons of the **Debden Wing** which patrolled the French coast from Cayeux to Dieppe.

On 22 June 235 Fortress bombers attacked the synthetic rubber plant at Huls, a few miles north of **Krefeld**. This first attack on the Ruhr by American bombers was attended by considerable success, over 420 tons of bombs falling in or near the target area; the entire plant was shut down for four weeks and full production was not achieved again

until several months later. However, during the first part of their return flight from the Ruhr the Fortresses were heavily engaged by German fighters and sixteen of the bombers were shot down. But as the official American Air Historian records: 'Losses would have been even greater if effective withdrawal support had not been provided by the twenty-three squadrons of Spitfires and the three squadrons of Typhoons from the **RAF**.' ¹ The fighters met the returning bomber formations at extreme range and drove off trailing German fighters. Pairs of Spitfires were also detached from squadrons to bring the stragglers home – an exhausting task as the damaged Fortresses often dragged along on a third of their total power, stretching the endurance of their escort to the limit.

Opposition to this American raid was further reduced by a simultaneous **RAF** attack on the docks at **Rotterdam**. Twelve Mitchells from the No. 2 Bomber Group provided the bombing force and they were escorted by four squadrons of Spitfires from the Kenley and North Weald Wings. After meeting over Orfordness the formations had flown across the Channel at sea level and then, near the Dutch coast, had begun climbing until over their target they were stepped up from 13,500 feet to just below 20,000 feet. A few Focke-Wulf 190s were then encountered but their attacks were not pressed home. One of them was caught by crossfire from the bombers and shot down. On their way out from the target the Spitfires engaged more enemy fighters, claiming two of them probably destroyed and one damaged for the loss of one British pilot.

This raid on **Rotterdam** was typical of the many missions during 1943 in which large formations of Spitfires escorted Bostons, Mitchells, and Venturas of No. 2 Group on bombing raids against enemy airfields, ports, ships and harbour installations, factories and power-stations and various rail targets, particularly engine sheds and repair depots. The Spitfire squadrons were also active in support of Coastal Command Beaufighters in their attacks on shipping in the North Sea and along the Dutch coast.

Interspersed with these various escort duties were sweeps by large numbers of fighters over **Belgium** and northern **France**, and on days of

poor visibility the offensive was maintained by small formations in nuisance raids. Low-level attacks by fighter-bombers against military targets on the Continent and shipping in the Channel increased steadily as the months passed and were to prove a most profitable venture. There was, in fact, a constant challenge to the fighter arm of the **Luftwaffe**.

Another duty in which certain squadrons tended to specialise was that of fighter reconnaissance. Their patrols, which covered a wide area of the North Sea, the Channel, and those parts of enemy territory within effective range, were usually flown by Spitfires or Mustangs. They watched the movement of enemy shipping and provided useful information regarding activity at airfields, ports, and along the Channel coast. Many pilots found this dull work since it seldom provided opportunity for combat, but it was upon the reports

¹ Arthur B. Ferguson in *The Army Air Forces in World War II*, Volume II, p. 673.

they brought back that many successful daylight bombing raids were planned and carried out.

Spitfires and Typhoons were also employed on interception patrols against the German fighter-bombers which flew in from the sea to attack shipping and towns along the southern coast of England. But, as might be expected, such defensive patrols became a steadily decreasing commitment for the day-fighter squadrons until by June 1943 they accounted for less than one-seventh of the total effort during the daylight hours. Patrols to protect coastal shipping were, however, flown throughout the year, and the fighters frequently escorted aircraft from the rescue squadrons on their errands of mercy.

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In all these various tasks New Zealand fighter pilots played their part. Some flew with **RAF** squadrons, others with the two New Zealand

day-fighter units, No. 485 Spitfire Squadron and No. 486 Typhoon Squadron, both of which were stationed in No. 11 Fighter Group throughout 1943. Twenty New Zealanders led fighter wings or squadrons for various periods during this year, and many posts on the operational and training staffs of Fighter Command and Group Headquarters were filled by experienced pilots in between their spells of operational flying. A significant group of men from the Dominion also served as ground crew at the front-line airfields. By September 1943, of the New Zealanders who had served with Fighter Command, 250 had lost their lives since the outbreak of war.

As the wing formation had now become the mainstay of the fighter offensive, it was upon the wing leader that a great deal of the responsibility for success in operations ultimately rested. He had to weld his squadrons into a fighting team, train them in tactics, brief them for particular missions and lead them into battle. During 1943 particular distinction in this role was won by Wing Commanders P. G. Jameson, who led the **Norwegian Wing**, A. C. Deere,¹ who led the squadrons from Biggin Hill, and W. V. Crawford-Compton² with the **Hornchurch Wing**.

Early in December 1942 Jameson was appointed to lead the Norwegian squadrons from North Weald in Essex. The choice was

¹ Wing Commander A. C. Deere, DSO, OBE, DFC and bar, Distinguished Flying Cross (US), Croix de Guerre (Fr.); **RAF**; born **Auckland**, 12 Dec 1917; joined **RAF** 1937; commanded No. 602 Sqn, 1941; Wing Leader, Biggin Hill, 1943; Wing Commander No. **84 Group**, 1944–45; commanded RAF Station, Duxford, 1945–46; Air Staff, **Malta**, 1948–49; commanded RAF North Weald, 1952–54.

² Wing Commander W. V. Crawford-Compton, DSO and bar, DFC and bar, Silver Star (US), Legion of Honour and Croix de Guerre with Palm (Fr.); **RAF**; born Invercargill, 2 Mar 1916; joined **RAF** Oct 1939; commanded No. 64 Sqn, 1942; Wing Leader, Hornchurch, 1943; lecture tour in **USA**, 1944; Wing Leader, No. 145 Wing, 2nd TAF 1944; Planning Staff, No. 11

an apt one, for Jameson was one of the few surviving pilots from the two fighter squadrons that had flown from **Norway** during the short campaign in 1940. His No. 46 Hurricane Squadron was then frequently in action over the Narvik area and on one occasion, whilst leading his flight on reconnaissance over strange territory, Jameson discovered and destroyed two enemy flying boats which were hidden against the almost vertical side of Rembaksfjord. In the withdrawal from Narvik, Jameson and another pilot had made the first trial landings on the aircraft carrier *Glorious* after the pilots decided to attempt such a hazard rather than destroy their Hurricanes. All the fighters were then successfully flown on but unfortunately the *Glorious* was sunk the next day. Jameson was among the few survivors. Subsequently he had distinguished himself in operations with Fighter Command in the **United Kingdom**, both during and after the Battle of **Britain**.

During the first half of 1943 Jameson led the **Norwegian Wing** on almost every occasion they operated. In one period of nine weeks he led twenty-one missions over enemy territory, during which thirteen German fighters were claimed destroyed for the loss of only two pilots. Jameson himself destroyed two of the enemy aircraft and damaged another, but as a senior officer has recorded: 'It was his splendid leadership and fine tactical knowledge which gained the greatest praise from those he led and with whom he worked at North Weald.'

Jameson's wing was now frequently called upon to protect American bombers. One day whilst escorting a force of Liberators over **Dunkirk**, there was a fierce battle in which the Norwegian pilots acquitted themselves particularly well in defence of the bombers and claimed eight Focke-Wulfs destroyed without loss. This action drew a special letter of commendation from the leader of the American 8th **Air Force** in **Britain**.

But there were other times when things did not go so well. In one battle Jameson became separated from his section and it was only

through first-class aerobatics and sheer determination that he escaped being shot down. He afterwards reported the incident in these words:

I was leading the Wing sweeping five miles east of **Dunkirk**, Ypres, St. Omer, Gravelines The French coast was crossed at 19,000 feet and soon afterwards enemy aircraft were reported by Operations to be in the St. Omer area at 20,000 feet and higher About two minutes after receiving this message eight FW.190s were seen above, ahead and to star-board. I manoeuvred for height and position and eventually got above them and up sun. One section started to go down but I then saw many more enemy aircraft above us and up sun so I recalled the section and climbed again going into sun and towards St. Omer. When roughly over St. Omer, two FW.190s flew slightly above and across my bows from starboard to port. I turned quickly to try and get in a deflection shot, but owing to the slow climbing speed of the Wing, I stalled before getting a shot. The Huns rolled over and dived. My No. 2 and No. 3 mistaking each other for me, went after the enemy aircraft one of which was subsequently damaged.

About 10 seconds after stalling I saw about nine FW.190s approximately 10,000 feet below, i.e., at 12,000 feet. Thinking I had my section with me, I called up on the radio telephone and went down to the Huns. The enemy aircraft dived down to ground level, I followed as far as 2,500 feet but could not get nearer than 800 yards so I broke away and then found I was alone! There were patches of broken cumulus at 2,000 feet and I should have used this cloud to have gone home, but I started to climb towards Gravelines and when over there at about 20,000 feet, I was bounced by eight FW.190s.

I turned to meet the attack but the Huns formed a sort of circle around me and kept darting in to attack from all directions. I fired one burst and at the end of two seconds both my cannons stopped.

I called up the Wing and told them that I was being attacked but gave no height and only a very rough position. I had by this time got a little 'het' up and although I did try to tell the Wing my position, I think

that I forgot to press the radio telephone switch.

The Huns continued to attack, sometimes in to 100 yards. I could see two great balls of fire coming from their cannons. I continually turned steeply almost in a stalled condition and every time I saw a Hun firing I flicked on a little top or bottom rudder.

Realising that I could not stay there forever, I wound the tail wheel forward and went down almost vertically doing tight aileron turns. The aircraft became unstable at the speed I achieved and on at least four occasions the nose dropped quickly and I hit my head on the cockpit cover with a bang.

By the time I got down to the cloud my windscreen and hood were completely frosted over with the exception of a visor about one inch wide around the rear of the hood. The Huns were still following as I flew into cloud. I then turned north-east and crossed the coast north of **Dunkirk**, by this time flying on the deck.

I steered a course of 280° for what seemed an incredibly long time and at last I saw land, cliffs, lighthouse and high ground behind. Where the what the After cudgelling my brains I had at last the sense to look at the sun it was Cap Gris Nez Compass u/s. Turning and keeping the sun behind my left shoulder I cut the engine revolutions and boost down and made for home, landing after being airborne for two hours and 15 gallons still in the tank, the aircraft and myself unscathed.

In March 1943, by which time he was credited with the destruction of nine German machines, Jameson was made a member of the Distinguished Service Order. A few months later he received the award of the Norwegian War Cross with Sword – the highest Norwegian decoration – in recognition of his ‘zealous leadership of the Norwegian squadrons in joint operations against the enemy which in a high degree has contributed to the results the Norwegian pilots have obtained in combat.’ By this time Jameson had been posted to No. **11 Group**

Headquarters as Training Officer and was later made Group Captain in charge of plans. Subsequently he returned to operations and after the Normandy invasion was to cross the Channel with the Second Tactical Air Force in command of a mobile wing.

Biggin Hill in Kent was one of the famous fighter stations in England. In 1943 this notable airfield, greatly enlarged and with its runways extended, was a forward base for offensive patrols across the Channel, and appropriately enough was under the command of the famous Battle of Britain fighter pilot, Group Captain 'Sailor' Malan. ¹

Wing Commander Alan Deere was posted to this station in March 1943 as Wing Commander Flying on his return to operations after a period as Staff Officer at No. 13 Group Headquarters. To prepare himself for this new appointment, Deere had spent a fortnight at Biggin Hill in February, during which time he chose to fly as a junior pilot on sweeps and escort patrols. During one of these missions when an enemy formation split up and scattered, Deere showed typical aggressiveness by chasing a Focke-Wulf far into France and then shooting it down in flames.

Between March and September 1943 Deere led the Biggin Hill Wing on some of the most successful operations of its career and during this period sixty enemy fighters were claimed destroyed. He was leading the squadrons on 15 May when Biggin Hill recorded its thousandth enemy aircraft destroyed, to celebrate which event a memorable party was staged at the Dorchester Hotel in London.

Large forces of American bombers were now often escorted, and in one period of four weeks from the middle of July Deere led the wing on fifteen such missions. Strong formations of enemy fighters were frequently met in the vicinity of the target but due to his excellent tactics and fine leadership losses were low and the objectives effectively bombed. Indeed, throughout his period at Biggin Hill, Deere displayed great energy and initiative in developing new tactics for the successful escort of bomber formations in their daylight attacks. Many tributes to

his leadership are recorded. 'Since taking over the **Biggin Hill Wing**,' writes Group Captain Malan, 'he has been an outstanding example of selfless devotion to duty, tenacity of purpose, fearlessness in the face of the enemy and of understatement in his personal combat claims. Apart from being a brilliant individual fighter pilot, he has curbed his personal ambition when leading the Wing and accepted the more serious and exacting role and responsibility of leading. It is no exaggeration to say that he has been an inspiration to the whole of Fighter Command.'

'Al' Deere, as he was known to his friends, was of Irish stock,

¹ Group Captain A. G. Malan, DSO and bar, DFC and bar, Croix de Guerre (Bel.), Military Cross (Czech.), Legion of Honour and Croix de Guerre (Fr.); born **Wellington**, South **Africa**, 3 Oct 1910; joined **RAF** 1936; commanded No. 74 Sqn, 1940–41; CFI No. 58 OTU, 1941; served with British Air Staff, **Washington**, 1941–42; commanded Central Gunnery School, 1942; **RAF** Station, **Biggin Hill**, 1943; No. 19 Wing, 1943–44; No. 145 Wing, 2nd TAF, 1944; member of Directing Staff, **RAF** Staff College, 1945–46.

his grandparents having emigrated to New Zealand from **Tipperary**. He had joined the **RAF** in 1937 at the age of nineteen, and soon won distinction as a fighter pilot. He excelled at Rugby football and boxing and represented the **RAF** in both these sports. During 1940 Deere had won both the Distinguished Flying Cross and bar for his exploits over **Dunkirk** and during the Battle of **Britain**. He soon appeared to have a charmed life, so remarkable were his escapes from disaster. Over **Dunkirk** one day he was shot up and wounded, but he pancaked his Spitfire on the beach, scrambled out, found an abandoned motor vehicle and reached **Dunkirk** port, to be brought back to England by a British destroyer. Subsequently he baled out several times, twice after mid-air collisions, once when his aircraft was cut in half by another Spitfire and once after being almost rammed by a Messerschmitt. On another occasion his fighter was blown into the air by an enemy bomb burst as he was taking off. His machine crashed upside down but he was not

badly hurt.

Reports of such breathtaking escapes and adventures during the early campaigns have tended to obscure the reputation as an outstanding leader which Deere subsequently won with both the Kenley and Biggin Hill Wings, and this aspect of a very notable career must therefore be emphasised. Deere was made a member of the Distinguished Service Order in June 1943, by which time he was credited by Fighter Command with a total of twenty-one enemy aircraft destroyed.

Wing Commander Crawford-Compton's record of service was also notable. His boyhood was spent at **Waiuku**, a prosperous farming district near **Auckland**, where he showed an early taste for adventure. Then, the year before the outbreak of war, along with three other young men, Compton had set sail for England in a ketch, hoping to join the **Royal Air Force** on arrival. But the boat was wrecked on an uncharted reef off the coast of **New Guinea** and, after spending twelve hours adrift on a raft constructed from the wreckage, the crew landed on a small island. There they had to stay with the natives for six weeks before they got away in a canoe. Compton continued his journey to England by working as a ship's carpenter on a tramp steamer. He joined the **RAF** as a ground mechanic, then trained as a pilot, and was posted to his first squadron early in 1941. A few months later he became one of the founder members of the first New Zealand fighter squadron to be formed in England, and soon showed himself an outstanding pilot. By the end of 1942, when he was appointed to command No. 64 Spitfire Squadron in the **Hornchurch Wing**, Compton was credited with the destruction of seven German machines. He had also won both the Distinguished Flying Cross and bar.

The airfield at Hornchurch, on the outskirts of **London** and to the north of the **Thames** estuary, was now almost as notable a fighter base as Biggin Hill. In the First World War fighter aircraft had operated from Hornchurch to defend **London** against the German Zeppelin raids. During 1940 Spitfires had flown from the same field to cover the withdrawal of the British Expeditionary Force from **Dunkirk**, and then once again in defence of **London** against the German mass attacks

during the Battle of **Britain**.

In the early months of 1943, when the **Hornchurch Wing** was frequently engaged in sweeps over northern **France** and in escorting bombers to attack airfields and marshalling yards in the same area, Compton led his No. **64 Squadron** on almost every occasion. The enemy did not always react in strength but there were some spirited engagements. One such action took place early in March when Compton was leading his pilots as part of the escort to American Liberators raiding Rouen. Focke-Wulfs attacked the force soon after it had crossed the French coast and in vicious attacks shot down two Liberators and one Spitfire. A running battle then developed which continued all the way to the target and back to the coast. The Spitfire pilots, considerably outnumbered, were kept continuously in action, beating off repeated attacks by groups of fighters but no more bombers were lost.

Early in the battle Compton sent one Focke-Wulf down after a head-on attack. Then, with another pilot, he chased three Focke-Wulfs over Rouen and shot one down; but almost immediately the two Spitfires were attacked by eight German fighters and, after his companion had been shot down, Compton was pursued all the way to the French coast.

Of another action in which he was engaged with his squadron against a formation of Focke-Wulfs over the French coast, Compton reported:

While leading No. **64 Squadron** we were informed by Operations of two to three enemy aircraft over a ship off Calais. I dived down under a layer of cloud about 7,000 feet and searched for the enemy aircraft for two to three minutes. I could not see them so called up to say we would attack the ship. I had started my dive when I saw seven F.W.190s about two miles away coming from Cap Gris Nez. I pulled up sharply and managed to get above and behind without being seen. I fired a very short burst at the No. 4 but they went into cloud and saw no hits. I was attacked and broke away. One F.W.190 then closed in on my port and did not see me. I fired a second burst and saw hits on the fuselage and

wing root. I was using armour piercing incendiary which, when they hit, left a streak of flame about 18" long. The enemy aircraft began smoking furiously and headed for the coast. I fired another short burst and saw hits. The enemy aircraft caught fire and hit the water about 100 yards off shore west of Calais. I broke away and experienced heavy flak from the shore and the ship We came back to mid-Channel at zero feet and then climbed to cloud height.

In June 1943 Compton was appointed to lead the Hornchurch Wing which included the Mysore and Natal squadrons. During the next six months the wing distinguished itself under his leadership on many occasions and claimed a total of forty-one enemy aircraft, together with a similar number probably destroyed or damaged.

One of Compton's outstanding pilots at this time was Flying Officer Hesselyn, ¹ who joined No. **222 Squadron** at Hornchurch at the beginning of July. Hesselyn had already distinguished himself in operations from **Malta**, where he had been credited with the destruction of twelve enemy machines in the heavy air fighting during the early months of 1942. A further seven German planes were now to be claimed by this keen young pilot during the four months he flew with the **Hornchurch Wing**.

A typical action in which Hesselyn played a prominent part was fought over **Holland** in the middle of August 1943. The squadrons from Hornchurch were escorting, as far as Antwerp, Fortresses bound for **Germany**, and they had just left the bombers and begun their return flight when twelve Messerschmitts were sighted below. Sweeping down to the attack, the Spitfires destroyed five of them, without loss. Hesselyn, who sent two down within a few seconds of each other, afterwards reported briefly:

The Wing dived and the enemy aircraft split up, four flying at 5,000 feet and 8/9 Me.109Gs climbing to 7/8,000 feet. We had got below the eight and Blue 1 and I climbed, he attacking the nearest while I went for the No. 2, attacking from the starboard quarter. I saw strikes, the enemy

aircraft poured smoke, rolled on its back and crashed on the ground eight miles east of Neuzen. I turned to starboard and saw another Me.109G six hundred yards ahead. I closed in and fired from dead astern damaging it. A further burst showed strikes on fuselage and wings, the cockpit cover and some pieces flew off and the pilot baled out. Finally I saw the tail break off and the enemy aircraft crashed in the Estuary. Blue 4 witnessed my combat and the destruction of the two enemy aircraft

During his period of leadership of the **Hornchurch Wing**, Compton himself was frequently in action. One day towards the end of June while leading his Spitfires on a sweep over **France**, he was directed by control towards twenty to thirty Me109s flying high over St. Omer. Compton took his pilots into the enemy formation and in the subsequent fighting they claimed two Messerschmitts destroyed and another damaged, Compton himself accounting for one of those destroyed. A few weeks later, after a mission in which his wing escorted Bostons to bomb Courtrai airfield, Compton reported a rather unusual incident:

We were at about 11,000 feet over Courtrai when we saw thirty to forty enemy fighters in mixed formation of Me.109s and FW190s. I led the Mysore

¹ Flight Lieutenant R. B. Hesselyn, MBE, DFC, DFM and bar; born Dunedin, 13 Mar 1920; machinist; joined **RNZAF** Nov 1940; p.w. 3 Oct 1943.

Squadron down to attack, leaving the Natal above, and the Hun dived away. He seemed in such a hurry that when we were within about six hundred yards two of his fighters collided and locked together they dived straight into the ground.

Two other German fighters were shot down by the Hornchurch Spitfires that day.

Early in September when the wing was escorting American

Marauders to the marshalling yards near Ghent, it was attacked by about twenty FW190s from out of the sun. Compton turned his squadrons against the enemy fighters and, despite their initial disadvantage, the British pilots were able to claim two of the Focke-Wulfs destroyed and two probably destroyed, for the loss of only one Spitfire. During the return flight Compton intercepted a Focke-Wulf over **Dunkirk and shot it down into the sea with two short bursts.**

A few weeks later while flying as high cover to Marauders in an attack on the airfield at Beauvais/Tille, Compton's squadrons claimed three enemy fighters destroyed and seven more damaged, without loss. The wing had been warned of enemy fighters climbing to intercept, and as soon as they were sighted diving towards the bombers Compton led his Spitfires to head them off. This manoeuvre had the desired effect, but other enemy formations then came in from ahead and astern. A general dogfight soon developed in which the total number of enemy aircraft engaged was estimated as between sixty and seventy. But none of the American bombers was shot down and German pilots were heard over the radio telephone bewailing the effectiveness of the British fighter protection.

In September 1943 Compton was made a member of the Distinguished Service Order and, in recognition of his work in protecting American bomber formations, the **United States awarded him their Silver Star. After a period in the **United States**, Compton returned to operations early in 1944 with the Free French Wing, and soon after the invasion of **Normandy** he was leading the French pilots from a base in their own country.**

Two more New Zealand pilots who won distinction as leaders at this time were Wing Commanders Malfroy ¹ and Yule. ² Malfroy, who first flew with the Cambridge University Squadron in 1931, had

¹ Wing Commander C. E. Malfroy, DFC, DFC (US); **RAF**; born Hokitika, 21 Jan 1909; Cambridge University Air Squadron, 1931–32; entered **RAF** Aug 1939; commanded No. 417 Sqdn,

1941; No. 66 Sqdn, 1942; CFI No. 61 OTU, 1942; Training Staff, No. 10 Fighter Group, 1942–43; Wing Leader, Exeter, 1943–44; commanded No. 145 Airfield, 1944; Staff duties, AEF and SHAEF, 1944; commanded RAF Station, Portreath, 1944, and RAF Station, Warmwell, 1945.

² Wing Commander R. D. Yule, DSO, DFC and bar; born **Invercargill**, 29 Jan 1920; Cranwell cadet, 1938–39; permanent commission **RAF** Oct 1939; commanded No. 66 Sqdn, 1942; Wing Leader No. 15 Wing, 1943–44; killed in flying accident, 11 Sep 1953.

been with a Hurricane squadron in the Battle of **France**, and then commanded Spitfires in the early sweeps across the Channel. In June 1943 he became Wing Commander Flying at Exeter, from where he led his pilots on many large-scale missions in support of bombers attacking targets in **France**. Yule, who joined the **RAF** as a cadet at Cranwell, had also flown Hurricanes during the early campaigns. He subsequently commanded a Spitfire squadron and served on the staff of No. **10 Group**. Then in August 1943, by which time he had achieved a fine record of service, Yule was posted to No. 15 Fighter Wing of Second Tactical Air Force as Wing Leader. During the next months he led the Spitfire squadrons on frequent patrols over **France**, including sweeps and escorts to Mitchells and Marauders in their bombing raids on marshalling yards, power-stations and airfields.

New Zealanders also played their part in the various subsidiary tasks undertaken by Fighter Command. They were particularly prominent in the fighter reconnaissance field where Group Captain P. L. Donkin, who had long experience in this work - he had served with Army Co-operation Command during the early years of the war - now commanded a Mustang wing and Squadron Leader Barnett ¹ led a Spitfire squadron that specialised in what were known as 'Jim Crow' patrols - reconnaissance flights over the Channel in search of shipping targets for the fighter and torpedo-bombers. In February 1944 Donkin was made a member of the Distinguished Service Order, the citation recording that

'his careful planning and outstanding leadership had enabled his squadrons to undertake sustained offensive and photographic operations with notable success.' Donkin was also commended for taking excellent photographs of heavily defended sections of the French coast – a task which became an increasingly important part of the work of all fighter reconnaissance pilots as preparations for invasion advanced.

Barnett had begun his career as a fighter pilot with No. 485 New Zealand Squadron early in 1942 and was shot down while taking part in a fighter sweep. The story of his evasion of capture and return to England five months later is an epic of initiative and sheer determination. After baling out safely near **Amiens** Barnett made his way, largely unaided, through **France** to Bordeaux, only to be captured and imprisoned at Nice. Undaunted, he made a dramatic escape from prison to Marseilles, where he received help which enabled him to make the grim crossing of the Pyrenees and reach

¹ Squadron Leader M. G. Barnett, DFC; born **Wellington**, 6 Jun 1918; accountant; joined **RNZAF** Nov 1939; commanded No. 234 Sqdn, 1943; No. 501 Sqdn, 1943–44, and No. 274 Sqdn, 1944.

Gibraltar. He returned to England and immediately rejoined his squadron.

Donkin had a remarkable experience of an entirely different kind early in 1944. He was flying a low-level reconnaissance over the Belgian coast when his machine was hit by flak. Unable to make base he baled out, dropped into the sea, and climbed into his dinghy. He found himself uncomfortably close to the enemy coast so paddled vigorously in order to put as much distance as possible between himself and the shore. On the second day his efforts nearly ended in disaster when he overbalanced and fell into the sea. Water soon became a problem and thirst drove him to catch a seagull and drink its blood. Fortunately on the third day it rained and he was able to gather sufficient water to keep alive.

Searching aircraft passed overhead but failed to see the tiny dinghy in the wide expanse of sea, and it was not until Donkin had been drifting for six days that he was finally seen and picked up by a searching rescue launch. 'Not the least of my trials during the long hours in the dinghy,' says Donkin, 'was the habit of Marauders testing their guns while going out on sorties. Bullets often peppered around too near to be healthy.'

Raids on enemy ships in the Channel and the Straits of **Dover** were now becoming an important part of Fighter Command's work and Squadron Leaders Pheloung ¹ and Kilian ² both led **RAF** squadrons engaged on such duties. Pheloung's Typhoons were stationed in Norfolk and usually operated over Dutch coastal waters, while Kilian's Spitfires flew patrols over the Channel from an airfield in Hampshire. Both squadrons reported many successful missions.

In these attacks on enemy shipping, the Typhoon fighter-bombers were frequently supported by long-range Spitfires which took the anti-flak role, sweeping in ahead to silence the German gunners. Such co-ordinated assault proved extremely effective although determined enemy gunners often gave the first aircraft a hot reception. While leading a June attack on a convoy off the Hook of **Holland** Pheloung lost his life. His machine was hit by fire from the ships, and during the return flight it was suddenly seen to make a sharp diving turn and then go straight down into the sea.

One Spitfire pilot gives this impression of an attack on the port of Cherbourg:

As we flew in I saw a grey mass rolling in the mist, a squat funnel, raised platforms and a mast bristling with radar aerials – then rapid staccato flashes all along the superstructure. I released the safety catch, lowered my head and nestled down to be protected by my armour plating. Clusters of green and

¹ Squadron Leader T. H. V. Pheloung; born **Oamaru**, 31 Aug 1914; joined **RAF** 1937; commanded No. 56 Sqdn, 1943; killed on

air operations, 20 Jun 1943.

² Squadron Leader J. R. C. Kilian, Croix de Guerre (Fr.); born 23 Jun 1911; joined **RNZAF** 1937; commanded No. 122 Sqdn, 1942, and No. 504 Sqdn, 1943.

red tracer bullets started up in every direction. I went slap through some spray, which blurred my wind shield. I was fifty yards from the flak ship. The pilot in front of me was firing. I could see the flashes from his guns and the empties cascading from his wings.

I aimed at the bridge between the damaged funnel and the mast and fired a long furious continuous burst, with finger hard on the button. My shells exploded in the water, rose towards the water line, exploded on the grey black striped hull, rose higher to the hand rails, the sand bags. A wind- scoop crashed down, a jet of steam spurted from somewhere. Twenty yards – two men in navy blue jerseys hurled themselves flat – ten yards – the four barrels of a multiple pom-pom seemed to be pointing straight between my eyes – my shells exploded all around it, then the four barrels fired, and I could feel the vibration as I passed a few yards above. Then the smack of the steel wire of the aerial wrenched off by my wing as I passed. My limbs were shaken by a terrible nervous tremor and my teeth were chattering. I zigzagged between the spouts raised by the shells. Half a dozen belated Typhoons passed to my right, bearing down beyond the long granite wall of the break- water. I skimmed over a fort – a curious mixture of crenelated towers and modern concrete casements – whose very walls seemed to be belching fire. Then I was in the middle of the roadstead – an inextricable jumble of trawler masts and rusty wrecks sticking out between the battered quays. The air was crisscrossed with tracer, lit up by flashes and dotted with black and white puffs of smoke.

One big ship was surrounded by explosions, flames and debris. Her fore- masts bristling with derricks and her squat funnel well aft emerged from the smoke. The Typhoon attack was in full swing, bombs exploding

all the time, with bursts of fire and black clouds of smoke continuing as they drifted away. A Typhoon vanished into thin air in the explosion of a bomb dropped by one in front. As I flew away one of the harbour cranes came crashing down like a house of cards

* * * * *

The part played by the two New Zealand day-fighter squadrons – No. 485 Spitfires and No. 486 Typhoons – must now be recorded. For both units this was an eventful year, and the account which follows may well serve to illustrate the experiences of many other squadrons with which New Zealand fighter pilots served.

No. 485, now regarded as one of the foremost units of No. 11 Fighter Group, operated first from a forward base in **Sussex** and then from Biggin Hill in the wing led by Deere; the New Zealand Spitfires were particularly prominent in bomber support operations but many other missions were flown, including sweeps over northern **France**, the protection of British convoys, defensive patrols against coastal raiders, and the escort of air-sea rescue machines. Altogether a total of 2634 sorties was made by No. 485 Squadron during the year, in which twenty-seven German machines were claimed for the loss of nineteen pilots.

At the beginning of January the New Zealanders, under the command of Squadron Leader Grant, ¹ were established at West Hampnett in the famous Tangmere sector of No. 11 Fighter Group. Tangmere was at this time commanded by Group Captain McGregor, ² a New Zealand pilot with fifteen years' service in the **Royal Air Force**, who after a notable career in Fighter Command was to win further distinction in the **Middle East** where he served on the staff of Air Marshal Tedder, ³ and then as Air Officer Commanding, Levant.

In their first patrols from Tangmere the New Zealanders saw little action, but early in February there was a lively engagement with German fighters over Abbeville. Shortly after crossing the French coast the Spitfires were directed by their ground control towards a formation

of some fifteen FW190s which they soon sighted and attacked. But while they were engaged with this force a further twenty Focke-Wulfs suddenly swept down out of the sun, and in the hard fighting that followed three New Zealand Spitfires were shot down. In the midst of the battle Squadron Leader Grant, who was leading No. 485 that day, had the distressing experience of seeing his younger brother ⁴ shot down before he could intervene to save him. He did, however, succeed in destroying the German fighter which made the attack. Another Focke-Wulf was shot down by Flying Officer Hume. ⁵

Towards the end of March Squadron Leader Baker, ⁶ who had been with No. 485 from its formation, took over command of the unit from Grant, who had now completed over 150 sorties and was

¹ Wing Commander R. J. C. Grant, DFC and bar, DFM; born Woodville, 3 Jun 1914; metal spinner; joined **RNZAF** Nov 1939; commanded No. 485 (NZ) Sqdn, 1942–43; No. 65 Sqdn, 1943–44; No. **122 Wing**, 1944; killed on air operations, 28 Feb 1944.

² Air Vice-Marshal H. D. McGregor, CBE, DSO, Legion of Merit (US); **RAF**; born Wairoa, 15 Feb 1910; joined **RAF** 1928; permanent commission 1932; commanded Nos. 33 and 213 Sqdns, 1939–40; RAF Station, Ballyhalbert, 1941; RAF Station, Tangmere, 1942–43; Group Captain, Operations, **Mediterranean Air Command**, 1943–44; Allied Deputy Director of Operations, Intell. Plans, N. **Africa** and **Italy**, 1944; AOC **Levant**, 1945–46; Planning Staff, North Atlantic Treaty Organisation, **Washington**, 1949–50; AOC No. **2 Group** BAFO, 1951–53.

³ Marshal of the Royal Air Force The Lord Tedder of Glenguin, GCB, Legion of Merit (US), Legion of Honour (Fr.), Order of Kutusov (**USSR**), Distinguished Service Medal (US), Order of the Crown with Palm (Bel.), Order of George I (Gr.), Croix de Guerre with Palm (Fr.), Order of Orange Nassau (Hol.); born Glenguin, **Stirling**, 11 Jul 1890; served Colonial Service, **Fiji**, 1914; joined RFC 1916; permanent commission **RAF** 1919; Deputy Air Member Development and Production, 1940; Deputy AOC-in-C HQ Middle East, 1940–41; AOC-in-C HQ Middle East,

1941–43; Air C-in-C, Deputy to General Eisenhower, 1944; Deputy Supreme Allied Commander, SHAEF Main (Air), 1944–45; CAS RAF, 1946–49; Chairman Joint British Services Mission, Washington, and British Representative on Standing Group, Military Committee NATO, 1950–51.

⁴ **Flying Officer I. A. C. Grant; born Woodville, 21 Nov 1915; sheet-metal worker; joined [RNZAF](#) Nov 1939; killed on air operations, 13 Feb 1943.**

⁵ **Squadron Leader M. R. D. Hume, DFC; born Martinborough, 27 Oct 1915; farmer; joined [RNZAF](#) Dec 1940; commanded No. 485 (NZ) Sqdn, 1943–44.**

⁶ **Wing Commander R. W. Baker, DFC; born Dunedin, 2 Mar 1915; analytical chemist; joined [RNZAF](#) Jul 1940; commanded No. 485 Sqdn, 1943; Planning Staff, No. 11 Group, 1944; commanded No. 487 Sqdn, 1945; killed on air operations, 22 Feb 1945.**

credited with the destruction of eight German aircraft. Grant was posted to [Canada](#) for a short period and then returned to England as leader of a Mustang wing. A few months later he was killed while setting off on a mission across the Channel. It is recorded that, shortly after the take-off, Grant's engine cut out in cloud. He ordered the wing to carry on while he turned back in an effort to make base. He broke cloud at about 1000 feet and it is surmised that oil covered his hood and goggles, for he used his parachute which opened just as he struck the ground.

Led by Baker, the New Zealand Spitfires continued to fly as part of the [Tangmere Wing](#) escorting bombers to their targets. In addition, many coastal patrols were flown to protect convoys and the south coast towns from sneak raiders, particularly during March when poor weather grounded aircraft at other stations. Occasionally, weather reconnaissances were also flown across the Channel, while other sorties were devoted to air-sea rescue searches.

When bomber formations were escorted over northern **France** there were frequent skirmishes with enemy fighters. One sharp encounter occurred towards the end of April. That day No. 485 Squadron was part of a large escort to Venturas bombing the Abbeville marshalling yards. As the Spitfires and Venturas swung round over Abbeville some forty Focke-Wulfs and Messerschmitts began a series of head-on attacks. Dogfights were soon taking place all over the sky, and by the time they reached the coast the escorting squadrons had claimed three German fighters for the loss of two Spitfires.

Sergeant Meagher ¹ was one of the successful pilots. He was flying close to the Ventura formation when:

.... two Me. 109s came in from 4 o'clock and one fired at a Ventura setting its engine afire. It then climbed up in front of me in order to make another attack on the bomber. I attacked it from 45° astern with one short burst from 50–60 yards range. It hung in the air for a moment and then dived straight down and I saw it hit the sea about three miles west of Cayeux. No-one baled out and by its straight dive it appears that I hit the pilot

Another pilot told how during the battle he saw the Focke-Wulf hit the ground at appalling speed while still on its back. Then it slid along scattering fragments everywhere and leaving a trail of blazing fuel, hurtled through two hedges, and finally crashed against a road bank in a shower of sparks.

At the end of June No. 485 Squadron, re-equipped with Spitfire IXs, moved to Biggin Hill and there began one of the most active and interesting periods of its career. Biggin Hill, with its comforts

¹ Flight Lieutenant G. H. Meagher; born Reefton, 15 Feb 1915; carrier; joined **RNZAF** Nov 1941; p.w. 6 Sep 1944.

and status of the world's premier fighter base, had an atmosphere of

friendliness and jauntiness and of living with little thought for the morrow. There was also inspiring leadership, for Group Captain Malan still commanded the base and Wing Commander Deere led the fighter wing. In addition, the squadron was fortunate in having Squadron Leader Checketts ¹ appointed to command at this time.

Checketts, who began his career as a fighter pilot at the unusually late age of thirty, had already won distinction as flight commander with No. 611 West Lancashire Squadron at Biggin Hill. He was described by one senior officer as 'a reliable leader and skilful pilot who was as keen a fighter as he was modest in his claims.' Checketts was in action a few days before taking over the New Zealand squadron. He was leading his Spitfires on a sweep with the Biggin Hill Wing in support of Typhoons bombing the power-station at Caen and it was over this target that the fighting began.

'We saw numerous enemy aircraft,' Checketts afterwards reported, 'including Focke-Wulf 190s and Messerschmitt 109s. Our squadron leader warned us and we broke into two sections as the top squadron (Free French) was attacked, and flew inland and up sun. Two Focke-Wulf 190s attacked Blue 4 and myself but we outclimbed them and they lost sight of us. Then they manoeuvred to attack Blue 1 and 2. I warned Blue 1 and he flew in front of me whereupon I attacked the Focke-Wulf 190 from behind and below with a great overtaking speed. I opened fire from 200 yards, and saw heavy strikes on fuselage and wings. The enemy aircraft appeared to stop, and shed cowlings and pieces, and smoke in dense clouds. I broke upwards and saw him spin down'

Throughout July the New Zealand squadron operated almost daily from Biggin Hill. On some days several missions would be flown, usually as cover for British bombers in their attacks on airfields and industrial targets in northern **France** and **Belgium** or as escort to American Fortresses bombing targets in **France**, **Holland** and **Germany**. Seven enemy aircraft were claimed destroyed during the month, together with two probably destroyed and five damaged, for the loss of only one pilot. On most occasions Deere led the wing, but sometimes Checketts or

Commandant Mouchotte, commander of the Free French squadron now based at Biggin Hill, filled this role.

The New Zealanders were particularly pleased with the performance of their new Spitfire IXs. More than ever it seemed that in flight pilot and machine became an integral whole like a rider and his well-trained steed. ‘They stood up to the hard work valiantly, and the engines gave of their utmost,’ writes one experienced pilot. ‘We had frequent occasion to bless Rolls-Royce and all the engineers and

¹ Wing Commander J. M. Checketts, DSO, DFC; born Invercargill, 20 Feb 1912; motor mechanic; joined RNZAF Oct 1940; commanded No. 485 Sqdn, 1943, and No. 1 Sqdn 1944; Wing Leader, Horne, Westhampnett and Manston, 1944; Wing Commander, Tactics, Central Flying Establishment, 1945.

mechanics who had drawn, constructed and assembled this amazing precision instrument.’

A fairly typical day at Biggin Hill during the summer of 1943 is thus depicted by the New Zealand squadron commander:

We had been wakened at 0500 hours, and though I had stolen an extra forty winks, I felt really contented as I walked from the mess to hear ‘Al’s’ briefing at 0600 hours.

The early morning sun gives promise of a sweltering day, and the ground mists are dispersing leaving the hawthorne and blackberries smelling fresh and clean. Even the sombre buildings look fresh – it is grand to be alive. The ‘show’ looks interesting and we expect some fights. Al decides not to fly with my squadron and as we go to dispersal he gives me a few final instructions. The Spitfires look sleek and pretty and my pilots were all happy and contented. I had had mail from home yesterday so had every reason to be pleased with life. As the pilots changed into flying kit I watched them and marvelled at their laughter, jokes and perfect fellowship. I only hoped I could always be in such

grand company.

As we were strapping in, Al gave me a cheery grin and we waited for him to start up. I get a little tense at this time, because the minutes drag so slowly. At last his Spitfire starts and I start mine as all the others stir to life. I have a lovely aircraft and the huge engine splutters to life as Al taxies out for take off. I wait until his pilots form up on him and my boys taxi out behind me and form up on me in one long line abreast. As Al takes his aircraft off I glance over my pilots and take a last look at dispersal. Doc., Spy and Adj. are there waving, as well as our ground crews. I wave my hand as a signal to start and open my throttle. The long line of Spitfires slowly gather way, faster and faster until they become airborne. Wheels tuck away like birds and the aircraft take formation positions. I can see Al about three miles ahead and take up position behind and down sun as we slowly climb over the beautiful Kentish countryside. I look round at my squadron and then check my gunsight, gun safety catches, oxygen, wireless and petrol. England is away below and looks so fresh and green. I can see the channel from Ostend to Le Havre very blue and calm.

The bombers loom up in the distance like a swarm of bees and as they approach we take position and set course towards [France](#), leaving England's white cliffs behind us. I open the boys to battle formation and search up sun for Huns. Controller reports Huns away to south-east and the formation looks in that direction as we drone on our way. Al's voice calls a turn to starboard and we approach our target unmolested. The bombers drop their eggs slap on the target and the huge bursts throw up immense clouds of dust and smoke – I'm glad I'm not there. Up comes the flak at us now, as well as at the bombers, and I hastily clamber for altitude because some bursts are pretty near. Al calls another turn, and so far no Hun aircraft has come near us though many are reported inland. The flak and target fall behind and we approach the French coast on the way home. Jerry seems to be crazy this morning because the flak is all round the bombers and the ominous black blobs speck the sky behind and to one side of us. As we cross out, Al's radio comes in and

his voice asks if we are all alright. I answer that we are O.K. and we carry on.

England is awake now – I can see the smoke before we cross over her white coasts. We leave the bombers over the friendly coast and dive swiftly towards home and another breakfast. I hear Al break his squadron into sections for landing and watch the fours landing with swift efficiency. I break my boys and lead my four down, lower our wheels, open hoods, lower flaps and sweep in on to a lovely smooth aerodrome. I watch my other sections come in like graceful birds, as I taxi in.

As I clamber out my ground crew rush up and help me and say, 'No luck, Sir?'. They always look at our gun patches and can tell whether we fire or not before we finish taxiing in. I grin and say, 'Not today boys.' Al looks over the bay from his machine and hurries me up for a late breakfast. I grab my shoes, tie and dog and clamber into his car.

We laze in the mid-morning sun discussing the show and chattering away like children. Some of the pilots sleep, some just sit and generally take life easily. I inspect my tomatoes and chase my dog away from the precious plants, much to the amusement of the boys, because 'Winkle' won't wander far from me at any rate.

We are expecting another 'show' and Al calls us up for briefing at noon. This is to be a good one we hope. Al and Spy are still busy when I look in at 11.30 hours and so I keep out of their way and try to get the 'gen' on where we are going. Sailor comes in and we chat about aircraft, the morning's show and shotguns. He is a very fine fighter pilot and a jolly fine friend. Everyone files in and Al starts his briefing. He is very thorough and explains what he wants done and finally decides he is going to fly with my squadron. The pilots' voices murmur and finally break out into hopes that Jerry will come and fight. I like watching their expressions during briefings; some are sombre, some are keen, some express nothing, but I know that they are all keyed up and really anxious to get to grips with the Hun. They are all good boys and I think

an awful lot of them. We have been briefed early so that we can have lunch without having to hurry.

The boys all go to the bar and have a beer before lunch. I am very dry and like to take my drink out on to the lawn and gaze across the valley into the soft green woods on the other side, with the nice white house in its very tidy grounds. The weather is too hot for lunch, but I have a little and go off to dispersal. We still have 15 minutes and the pilots are not all here yet. The radio-gram plays some new records and everything is peaceful. As the pilots come along we start to change into flying gear; Al arrives and everything is now very busy. Ground crews rushing here and there, pilots looking for gear and studying maps, phones buzzing and innumerable last minute questions and hustle. There are some disappointed faces too; pilots cannot go on every show and the boys hate to miss one.

Al and I sit in the sun as the pilots go to their machines and we finally have to stir. I am leading one of the sections and Al is leading the squadron. The old tense minute arrives, how I hate it too. I check and recheck my cockpit instruments and controls, but Al's motor bursts into life and I come back to earth with a start. As we taxi out I see the heatwaves from the ground rising like fire; the old Spits are very warm and we are really hot until we get airborne. The squadron forms on Al and off we go. Wheels tuck away and we meet the bombers and evade the coastal flak and approach the target. There is not much flak and I'm not certain where Jerry is. He is being reported near us to the south-east and south-west but we have not made contact. I'm disappointed but the bombs make a nice big mess on a Hun target. It's awfully hot and I'm glad when Al calls his turn. I have a look at my No. 2 and he is busy looking above and behind. I nearly look there too but check myself and look elsewhere - it is no good wasting a pair of eyes. In spite of our keenness we see no Huns and dodge the flak on our way over the coast and land at base after an uneventful show. The pilots cluster around Al and discuss the sweep and chatter away as they usually do, discussing tactics and all the things that happen on such a mission.

We don't think there is going to be another sweep today and the boys settle down to station duties and their non-flying tasks, or just read and write in the sun. I have a little office work to do and when I've finished we have a clay bird shoot and lay small wagers on our own skill at this fascinating training. At 1600 hours the pilots start to go up to the mess for tea and we have a nice hot cup and lie on the grass or go swimming. I think I shall change and go out this evening, so after a shower I don uniform but am informed of another sweep – we are to be briefed immediately. The pilots rush off to briefing but we don't expect to see anything on this sweep. Al is not flying with my squadron this time. Take off is 1800 hours and Al and I yarn about tactics on the way to dispersal. The boys are all there changing and the usual pre-sweep bustle is noticeable. I think it is a shame to fight on such a beautiful day and wonder what Jerry thinks about it. Winkle is very hot and just pants in the shade; he is very keen to retrieve a stick though and I think of home and the happy days I had duck shooting in the estuary, and of my friends who are now on all the English battlefronts.

We are assisted into the Spits and Al starts up. I feel the heat very much and my Spit, is hot to touch; she is a perfect machine though and I've had some good fights in her. These aircraft are beautiful and sleek; I love flying them and playing in the cloud valleys and tail chasing with my boys. The slipstream rushes the cool air into my cockpit as I taxi out after Al and watch his pilots form up on him and take off. My pilots form on me. I watched them take off one day when Sailor would not let me fly and they looked beautiful tearing down the aerodrome in formation and tucking their wheels away, almost like birds. I open my throttle and the Spits, gather way slowly then terribly fast and at last leave the ground. Al is a bit further away than I expected and we close to position just as we meet the bombers. One big circuit and we cross the coast over the blue water. The sun is strong and at 22,000 feet the bright sky is hard to look into. As we cross the French coast Huns are reported east, south, and west of us but as yet we don't see them. Al has called a turn to port 30 degrees as we approach the target and the Huns are still nowhere near us. The bombers drone on very steadily and look like big moths,

only very sinister. We sweep slightly south of them and I watch their bombs burst on the target with a terrific upheaval. I carry on on my present course and call my turn to the pilots. We turn 120 degrees to port. The Huns should be in sight soon. Those specks over to port look suspicious and I finally identify 14 F.W. 190s approaching slightly below and above two miles away. I swing to attack and call Al on my radio that I've made contact and am attacking. My Spitfire is tearing along and I can see Jerry trying to get at the bombers. Suddenly we are among them, black crosses and sinister aircraft dart everywhere. I get on the tail of one and my sight picks him out. A two second squirt, the cannon vibrate my aircraft and cowlings, smoke and flame gush from the unfortunate Hun; anyway the only good Hun is a dead one. His leader rolls over and goes vertically down and I chase after him, closing the range slightly because of my superior speed; we tear down at a terrific speed and every time I fire my Spitfire judders to cannon recoil. At last I hit him on the starboard wing and close the range to 200 yards as he levels out at ground level. This Hun heads for the south taking my No. 2 and myself inland as fast as he can go. On my next squirt a cannon stops and I close the range to 100 yards and let him have machine gun only. I can see my bullets striking but he won't go down. At last a thin white trail of smoke, gradually turning black. I have to leave him because we are too far inland. We break to port and set course for England at ground level. The French peasants wave to us and I find I am wet with perspiration but the fascination of flying over enemy territory at zero feet, seeing people, towns, harvesting and the thrill I got out of one Hun destroyed and another probably destroyed make my wet clothing seem as nothing.

We maintain full speed and I look about for more Spitfires but there is only my No. 2 and myself so we fly back towards the coast and home.

* * * * *

During its first two months at Biggin Hill, No. 485 Squadron was credited with the destruction of more enemy machines than any other unit in No. 11 Fighter Group. There were many notable episodes. One

afternoon towards the end of July the Biggin Hill Wing took off on its second mission of the day to act as high cover for eighteen Marauders whose target was the airfield at Tricqueville, some 30 miles south-west of Rouen. Altogether nine squadrons of Spitfires supplied escort and support, while four more squadrons flew a diversionary sweep over northern **France**. The New Zealanders for their part reached the target without incident, but shortly after turning for home they were ordered to ward off an attempted interception of the bombers by some fifteen Focke-Wulf 190s. A running battle followed at over 20,000 feet. It lasted for eight minutes, and when the New Zealanders landed back at Biggin Hill they were able to report four German fighters destroyed and another damaged, without loss to themselves. The successful pilots were Squadron Leader Checketts, two destroyed and one damaged, Flight Sergeant Strahan,¹ one destroyed, and Flying Officer Rae² who, with Pilot Officer Tucker,³ shared another.

Checketts related his first combat briefly:

Was leading No. 485 Squadron when I saw a bunch of F.W. 190s behind us, at the same level and down sun manoeuvring to attack us from above and up sun. I let them nearly get in range and then broke the Wing to starboard. Fired on one Focke-Wulf and saw it shed cowlings, flop on its back and then go down in flames.

In the ensuing mêlée Checketts became separated from his section, but near the French coast he sighted three Focke-Wulfs flying below him. He dived and opened fire. What happened in the next few seconds is best described in his own words:

They were at about 25,000 feet. I attacked the rear one from about 300 yards astern and saw strikes on the port wing. I then closed on the No. 2 but he saw me and went down so I closed on the No. 1 and hit him just as he

¹ Flying Officer W. T. H. Strahan; born **Christchurch**, 2 Feb 1919; insurance agent; joined **RNZAF** Mar 1941.

² Flight Lieutenant J. D. Rae, DFC and bar; born **Auckland**, 15 Jan 1919; clerk; joined **RNZAF** Sep 1940; p.w. 22 Aug 1943.

³ Flying Officer H. S. Tucker; born **Greytown**, 26 Aug 1921; postman; joined **RNZAF** Sep 1941.

rolled over. Saw numerous strikes, followed him down and gave another squirt. He then went down steeply with flames streaming from the fuselage and cockpit.

Flying Officer Rae described his experiences during the same battle thus:

.... At approximately 20,000 feet several enemy aircraft approached from 6 o'clock slightly above. As a squadron we climbed into them. After manoeuvring for position, I picked out four menacing F.W. 190s above and climbed after them. One after another flicked away downwards attempting to lure us, obviously under instructions from their leader. I continued to climb up, however, and the F.W. 190 leading found himself alone and then, realizing his predicament nosed over and dived vertically down. I gave chase with Pilot Officer Tucker (my No. 2) still right with me. A long chase resulted with extensive low flying. The F.W. 190 tried every trick he knew from flying under high tension cables to going round church steeples but could not shake us off. My cannons both had stoppages and, although I observed strikes with the machine guns and slight smoking I decided that Tucker, who had stayed with me magnificently, could finish him off. So I flew formation with the F.W. 190 and had the pleasure of watching Tucker blast him into the ground with a short burst

A few days later the New Zealanders were covering **United States** Marauders during their return flight from **France** when Checketts saw a formation of German fighters coming in to attack the bombers. He led his squadron down to intercept but the enemy pilots saw the Spitfires approaching and dived away inland. A stern chase followed, during

which Checketts destroyed a Messerschmitt and Flying Officer Gibbs ¹ damaged a Focke-Wulf.

'I finally caught and hit him at 5,000 feet then he dived towards the ground,' Checketts afterwards reported. 'I broke away upwards and saw no other enemy aircraft so went down after him again. I got on his tail and opened fire I saw my cannon strikes hit the field ahead and below so lifted my nose and hit him full in the cockpit. The enemy aircraft hit the tops of some apple trees, caught fire and fell in the orchard, and finally skidded into a barn which it carried along for about 75 to 100 yards. The barn collapsed on the aircraft and the whole lot blazed furiously. I went back and took a cine film of the fire'

On the afternoon of 9 August the New Zealanders had a field day, claiming six enemy machines destroyed in a remarkable action which lasted barely a minute. Led by Deere, the [Biggin Hill Wing](#) had taken off on its second mission of the day to give close escort to thirty-six Marauders in their attack on St. Omer airfield. The bombers were flying in two formations and, shortly after crossing the French coast, these became widely separated. To give them added protection Deere ordered Checketts to escort one of the bomber formations with No. 485 Squadron while he took No. 341 French Squadron to cover the other.

¹ Flight Lieutenant B. E. Gibbs; born Utiku, [Wellington](#), 11 Apr 1920; sawmill tally clerk; joined [RNZAF](#) Jul 1940.

Over Lille Checketts sighted what appeared to be four enemy fighters at about 5000 feet, so he led a section which included Rae, Gibbs, and Tucker down to attack them. But instead of four enemy machines there were no fewer than eight Me109s flying abreast, with one lagging slightly behind the others. Checketts, who was first in line of the diving Spitfires, opened up on the laggard Messerschmitt at 200 yards. He hit it squarely and saw it blow up. The remaining Germans, apparently unaware of their danger, had now veered slightly to port, which enabled Checketts to maintain his position. He opened fire on the Messerschmitt

flying on the extreme starboard. It also blew up and Checketts had trouble in avoiding the debris. Indeed for a moment or two the remainder of his section could not see him as he flew through the smoke and pieces. Checketts then closed on a third machine and after a short burst saw it go down in flames. Meanwhile the other men had selected their targets. Rae opened fire on one Messerschmitt which blew up in a sheet of white flame. Gibbs also saw his target explode. Tucker watched the engine cowlings rip away from the Messerschmitt at which he fired and then saw black smoke begin streaming from it – smoke that soon turned to flames. Of the remaining two Messerschmitts, one escaped but the other was caught and hit by Checketts. He saw pieces of the fuselage break away. As the Spitfires turned for home the pilots saw four fires burning on the ground and streaks of black smoke in the sky with small pieces of debris fluttering earthwards – the aftermath of a most successful encounter.

* * * * *

‘Ramrod’ operations, as the escorted daylight bombing raids were known, were now being launched on an increasingly large scale. A single Ramrod would often involve various subsidiary and feint attacks for which the fighters would provide protection in addition to the advance and withdrawal cover and close escort for the main bomber force. To outwit the German fighter control and secure the maximum tactical advantage, each of these missions had to be accurately timed and the whole operation most carefully planned.

The growing weight and complexity of the Allied offensive by day is well illustrated by the series of missions flown by fighters and bombers on 17 August 1943. That day large forces of American Fortress bombers made a deep penetration into **Germany** to attack the ball-bearing plants at **Regensburg** and **Schweinfurt**. The bombers were escorted as far as Antwerp by RAF Spitfires and **United States** Thunderbolts and then, on their return flight, they were met again near Antwerp and escorted back to England. To divert German fighters from this main assault, simultaneous raids were launched against six marshalling yards and

airfields in the Low Countries by **RAF** medium bombers, with strong fighter support. Altogether 1053 aircraft were employed on the whole operation, ¹ and this massive scale of attack naturally drew strong reaction from the enemy. Owing to the wide range of targets chosen the German fighter control, uncertain at first as to which was the main thrust, was unable to concentrate its force. Yet some bitter fighting occurred and in the main bombing raid on **Germany** thirty-six Fortresses were shot down – most of them during the time when they were without fighter escort. Fighter Command claimed fourteen German fighters destroyed for the loss of only four pilots, while **United States** fighter squadrons reported nineteen enemy aircraft destroyed for the loss of three pilots.

The New Zealand Spitfire squadron's role on this occasion was to fly with the **Biggin Hill Wing** as high cover to Marauders in one of the diversionary raids. There were thirty-six Marauders in the bomber force and their target was the airfield at Bryss/Sud, near Arras. Led by Wing Commander Deere the Biggin Hill Spitfires met the bombers over Dungeness at 12,000 feet. Also at this rendezvous point were the close escort and escort cover wings, and a fourth wing flew ahead to clear the air over the target.

As usually happened the flight over the Channel was uneventful, but soon after crossing the French coast the Biggin Hill squadrons were attacked by some twenty-five Messerschmitts. A sharp battle ensued in which the Spitfires claimed three of the German fighters for the loss of one pilot. Flying Officer Rae scored a double success. After chasing one Messerschmitt some distance inland he turned back and soon saw other fighters above him. He was climbing to a favourable position for attack when suddenly two of the Messerschmitts dived on some circling Spitfires below. Together with another pilot, Rae turned and followed them down.

We met them head-on and I had a short burst at very close range and as one Hun shot underneath me, I saw strikes along the top of his fuselage.

Then, after just avoiding a collision with another Messerschmitt, I turned to see the one I had attacked dive down with flames streaming from it. Then attacked the other German machine and after many violent manoeuvres and short bursts, I finally closed to within approximately 75 yards and opened fire again. The tail unit appeared to come to pieces and large flashes could be seen in the fuselage. I climbed away and watched the German machine skidding sideways through the air and burning until he finally crashed behind some woods.

No. 485 Squadron was again in action two days later, while flying as high cover in a bombing attack on an airfield near **Amiens**. About 15 miles west of the target the New Zealanders were 'jumped'

¹ They included 376 Fortresses, 268 Thunderbolts, 257 Spitfires, 104 Typhoons, 36 Marauders and 12 Mitchells.

by fifteen to twenty Focke-Wulfs and Messerschmitts, and a running fight ensued in which Checketts, **Hume**, Tucker, and Flying Officer Sutherland ¹ were among those hotly engaged. **Hume** reported a definite kill. In the midst of the battle he noticed a single Messerschmitt about to dive on a group of Spitfires, and he turned swiftly to attack it. The pilot did not see him approach and **Hume** was able to fly up close behind and fire an accurate burst. A few seconds later the enemy machine blew up in mid-air.

The destruction of a Focke-Wulf in even more unusual circumstances was reported by Pilot Officer Houlton ² the following week. He drove the German fighter in a wild dive right down to ground level and then, after a lengthy steeplechase round woods and over an airfield, saw the enemy machine make a sudden turn, hit some overhead cables, and go down to explode in a mass of flames as it struck the ground. On this occasion Biggin Hill Spitfires were covering Fortresses attacking a target near St. Omer and had become involved with a large formation of Focke-Wulfs and Messerschmitts, estimated as between fifty and sixty machines. The British pilots claimed three destroyed and

others damaged without loss.

Altogether the New Zealand squadron enjoyed a remarkable run of successes during its missions from Biggin Hill, but there were inevitably certain unlucky days. The 22nd August, for example, was particularly unfortunate. That day the squadron lost four pilots while covering a bombing raid on the airfield at Beaumont-le-Roger. Half-way between the French coast and the target the Biggin Hill Wing was attacked head-on by forty to fifty FW190s. Soon a further fifteen to twenty German fighters joined in, and bitter fighting developed in which the two Biggin Hill squadrons – No. 485 New Zealand and No. 341 French – became split up.

‘Spitfires and Focke-Wulfs swirled all around,’ writes one pilot. ‘There were shouts for help, a few highly-seasoned Parisian oaths and the New Zealanders yelling like demons. In a few seconds our impeccable formation had been scattered and in its place there was a mad jumble of enormous radial engines, of short sleek wings edged with lightning and black crosses all over the place. Tracer-bullets whizzed in every direction. I attacked a Focke-Wulf from three-quarters rear. A shell exploded in his cockpit. The perspex hood flew off and passed within a few feet of my machine. I twisted and turned. Parachutes had now begun to blossom on every side. Vertical trails of heavy black smoke hung in the air without dissipating. They marked the final trajectory of aircraft whose debris now lay scattered and blazing in the meadows 20,000 feet below. All the way to the coast the fighting went on. Then the Focke-Wulfs, short of ammunition and with tanks running dry, did not insist. They dived down and disappeared in the rising mist.’

¹ Flight Lieutenant M. G. Sutherland; born North Spit, Otago Heads, 10 May 1919; Harbour Board employee; joined [RNZAF](#) Jun 1941; p.w. 22 Aug 1943.

² Flight Lieutenant J. A. Houlton, DFC; born [Christchurch](#), 23 Sep 1922; civil servant; joined [RNZAF](#) Jun 1941.

When No. 485 eventually returned to base it was found that Flying Officers Rae and Sutherland and Flight Sergeants Clark ¹ and White ² were missing. However, Rae and White had landed safely. They evaded capture and subsequently got back to England, when it was learnt that Rae's motor had cut and forced him down in enemy territory, and that White had shot down a Focke-Wulf before being compelled to land in **France**. White related his experience thus:

When half way from the French coast to the target the Wing was attacked. I was flying Green 3 and was attacked from all directions by three or four F.W.190s, and my aircraft was hit in the glycol tank. I rolled and headed back towards the sea but finding my radio telephone dead, I headed back inland and was intercepted by eight F.W.190s, four of which immediately went on to another Spitfire which seemed to be in the same predicament as me. I went down from 12,000 feet to the deck with the four F.W.190s behind me. A few moments later saw one of them on the deck by itself so dived and attacked it from 150 yards. Glycol streaming from my engine caused the windshield to mist up. I looked out of the side and saw tree tops above me, so I pulled up and then saw the F.W.190 on the ground, crash- landed. After a few more manoeuvres I had a head-on with another F.W. 190 but my guns would not fire. My engine then stopped so I force landed near Balbec with pursuing F.W.190s still firing shells at me as I crash- landed.

Squadron Leader Checketts had a remarkable experience early in September. He was leading the squadron as high cover to Marauders bombing ammunition supplies in the marshalling yards at Cambrai, and the Spitfires were just swinging away from the target when some twenty Focke-Wulfs dived on them from out of the sun. The squadron broke up and dogfighting began. Checketts records how he sent one of the German machines down in flames and then:

Suddenly flak bursts appeared all around me and I started to weave and twist to avoid them. I then saw 5 F.W.190s at three o'clock above me coming down to attack us and called my No. 2 to break. We fought for

altitude and finally got it, when to my surprise saw two more F.W.190s above me. One of them came for me in a port turn, the same as mine, and the other took the other turn and attacked head on. The first enemy aircraft could not get me and I thought the other one could not either. His first attack was miles out and I thought I would get a shot at him next time round, but we both missed. His third attack was terrific and I saw all his cannon firing, also his spinner and engine cowlings. There was a terrific explosion at my feet and my cockpit filled with flames. I frantically clutched my hood release and dragged the hood open. The flames gushed round my face and I released my harness and stood out into the slipstream. The stench of burning flesh was sickening and I seemed to be hours trying to escape this inferno. At last my body was wholly out but the toe of my flying boot caught on my windscreen catch and I was being dragged swiftly down; a terrific kick and

¹ Pilot Officer F. D. Clark; born [Wanganui](#), 30 Jun 1922; clerical cadet; joined [RNZAF](#) Aug 1941; killed on air operations, 22 Aug 1943.

² Flight Lieutenant L. S. McQ. White, DFC; born Gore, 24 May 1917; farmer; joined [RNZAF](#) Jul 1941.

I was hurtling head over heels down and down. I clutched my ripcord and pulled and a hard jerk stayed my fall. The F.W.190 flew close to me and I was terribly afraid – would he shoot me? No. I saw my No. 2 fly away home to dinner as I drifted slowly down with the white canopy billowing above me and my friend the enemy watching me.

Checketts was then about four miles east of Cayeux. He narrowly missed a power cable on the way down and landed in a field where peasants were busy harvesting. Immediately a boy took him on the back of his bicycle and hid him in the depths of a wood. Checketts was badly burnt on the face, arms and legs, and as he lost consciousness he could hear the Germans searching for him. When he came to he saw a man standing less than twelve paces from him. Checketts lay very still for

some time, then suddenly something touched the back of his neck and a voice whispered 'All right'. It was a French- man who had crawled up behind him. He warned him that the man standing near was a German soldier, so they crept stealthily away from the wood and after dodging soldiers and patrols eventually reached the Frenchman's home, where another British pilot was already in hiding. Checketts was nursed and fed, the people, he says, 'starving themselves in order that I might have plenty.' He was unable to see for five days and could not walk on account of his burns. Then after spending a fortnight in bed, or else hiding in a hayloft when German patrols were active in the neighbourhood, he received further help which enabled him to return to England within a month.

Checketts was made a member of the Distinguished Service Order a few weeks later. During the short period he had been in command of the New Zealand Spitfire Squadron it had destroyed eighteen enemy aircraft, with three more probably destroyed, for the loss of only seven pilots, three of whom, including himself, had made their way back to England.

Squadron Leader Hume, experienced pilot and determined fighter who had been with No. 485 for nearly two years, followed Checketts as squadron commander, and under his leadership the New Zealanders continued to fly intensively on escort duties and offensive patrols across the Channel. A vigorous action was fought on 16 September. That day the Spitfires were flying as high cover to Marauders attacking the airfield at Beaumont-le-Roger. Shortly after leaving the target the New Zealanders became involved with a mixed formation of Focke-Wulfs and Messerschmitts. These fighters tried twice to get to the bombers but were prevented by a section of six Spitfires from No. 485 which dived on them and finally drove them down almost to ground level, while the rest of the **Biggin Hill Wing** was able to escort the bombers clear of the French coast. Among the pilots in action with the German fighters was a Maori pilot, Warrant Officer Wipiti, ¹ who shared a Focke-Wulf with Houlton. Another German fighter was shot down by Flying Officer Metcalfe, ² but a few moments later he was himself shot down, his

Spitfire crashing in flames. Flight Lieutenant Gibbs lost touch with the others and was on his way to the coast when a Messerschmitt flew across his nose; he gave chase and shot it down into some woods. One pilot gives this fleeting impression of the battle:

The sky seemed full of enemy fighters brushing past me and attacking on every side in a firework display of tracer bullets. I saw a Focke-Wulf catch alight. Tongues of flame came from his punctured tanks, licking the fuselage and heavy black smoke trailed upwards. The German pilot threw his machine into a desperate turn. Then suddenly it exploded like a grenade – a blinding flash, a black cloud and debris floating down.

Another Focke-Wulf was breaking away hotly pursued by a Spitfire. I did my best to play my part and back our man up and give him cover but he was far ahead and I could not follow his rolls and turns. Climbing again I opened fire at any German plane passing within range and defended myself to the best of my ability.

Then I noticed two Huns converging on the tail of a Spitfire below me. A slight pressure of the rudder and I had one of them in my sights. Quickly I squeezed the firing button. Flashes appeared on his fuselage, so I pulled up out of my dive and saw him going down with a trail of smoke coming from his engine.

I was beginning to feel dizzy and my arms were aching – manoeuvring a Spitfire whose controls are stiffened by speed is exhausting work – especially at 25,000 feet. Was not sorry when the Germans, who had perhaps had enough, dived away towards their base and merged into the countryside far below.

A similar battle two weeks later led to Flying Officer Mortimer ³ spending nearly a year in [France](#). Having disposed of one Focke-Wulf 190 and engaged another, he found his Spitfire so badly damaged that he had to land in the sea near the [Somme](#) estuary. Almost knocked out by the crash, he was carried down to the bottom before he could struggle

free, reach the surface and inflate his dinghy. For the rest of that day and night he tried to sail towards England but the tide swept him up the **Somme** and into a muddy creek. Covered with a mixture of oil, blood, and black mud, he staggered ashore at dawn and narrowly missed walking straight into a German camp. Then a lucky encounter provided food and wine, after which he wandered for five more days and nights before he found more friends. They put him in touch with a French Resistance group, but it was only after a series of further adventures

¹ Warrant Officer B. S. Wipiti, DFM; born **New Plymouth**, 16 Jan 1922; refrigerator serviceman; joined **RNZAF** Jan 1941; killed on air operations, 3 Oct 1943.

² Flying Officer M. Metcalfe; born **Wellington**, 17 Mar 1923; student; joined **RNZAF** Jul 1941; killed on air operations, 16 Sep 1943.

³ Flight Lieutenant J. E. Mortimer, DFC; born **Auckland**, 12 Jul 1916; warehouseman; joined **RNZAF** Apr 1941.

‘dodging and even rubbing shoulders with the Germans’ that he finally got back to England eleven months later.

From the middle of October No. 485 Squadron operated from Hornchurch in Essex for a few weeks before moving northwards to an airfield near Edinburgh, where it remained for the winter months. Apart from occasional patrols flown in defence of the Scottish capital and the Firth of Forth, this was an uneventful period and pilots were glad when, at the end of February 1944, the squadron returned south to Hornchurch to join the Second Tactical **Air Force** and take part in the final preparations for the invasion of **Europe**.

* * * * *

For No. 486 Typhoon Squadron, the second New Zealand day-fighter unit in the **Royal Air Force**, 1943 was also a year of particular interest

and achievement. During the early months the Typhoons were employed mainly on interception patrols against the fast German fighter-bombers that flew in low over the sea to attack south coast towns and shipping. Lack of heavy bomber aircraft and the strength and efficiency of the British defences had compelled the Germans to adopt this form of reprisal against the Allied bombing raids. Even so, it was short-lived. High-powered radar stations along the south coast of England and a highly efficient Observer Corps ¹ now combined to provide an effective system of early warning against enemy raiders flying in low from the sea. Successful interceptions by British fighters became more frequent and the anti-aircraft guns also took their toll. By June 1943, with the mounting scale of the Allied bomber offensive, the Germans could no longer spare aircraft for even this modest scale of attack. Thereafter daylight raids by piloted aircraft against the **United Kingdom** were negligible and the Typhoon squadrons, including No. 486, were able to turn more to the offensive as the year advanced.

January 1943 found the New Zealand squadron at Tangmere airfield in **Sussex**, the base from which they had already achieved notable success against the tip-and-run raiders. In spite of wintry weather the regular patrols, on which Typhoons normally flew in pairs, were continued between Beachy Head and the Isle of Wight– the squadron's allotted 'beat'. But it was not until the middle of the month that Sergeant Taylor-Cannon ² –known on the squadron as 'Hyphen' – scored another definite kill. He shot a Messerschmitt

¹ The members of the Observer Corps were all volunteers and included many veterans of earlier wars. They manned their posts, often sited in exposed conditions, in all weathers and it was frequently due to their prompt sighting and identification of enemy raiders that defending fighters and anti-aircraft guns were brought into action.

² Squadron Leader K. G. Taylor-Cannon, DFC and bar; born **Oamaru**, 20 Dec 1921; student; joined **RNZAF** Apr 1941; commanded No. 486 (NZ) Sqdn, 1945; killed on air operations, 13

Apr 1945.

fighter-bomber down into the sea after a long chase out over the Channel some 40 miles beyond the Isle of Wight.

Interceptions became more frequent during February and March and three raiders were definitely destroyed, the successful pilots being Pilot Officer Murphy, ¹ Flight Sergeant Tyerman, ² and Flight Sergeant Fitzgibbon. ³ Murphy's success occurred when he was nearing the end of a coastal patrol just before dusk one February afternoon. He chased a Ju88 through the gathering gloom just above the sea, scoring numerous cannon strikes; the enemy bomber then caught fire, hit the water, and burnt in a pool of flame. Tyerman was on patrol with Sergeant Jorgensen ⁴ when control directed them towards Bognor Regis, the large seaside resort near Portsmouth. They sighted a Focke-Wulf bomber flying in low towards the town. To divert the German pilot from his objective Jorgensen opened fire at long range. The German turned away, at the same time jettisoning a bomb which burst on hitting the sea and threw up a large column of water right in front of Jorgensen's Typhoon. He pulled up sharply in an attempt to avoid it but quite a lot of water entered the air intake of his engine. He was just able to reach land before the engine stopped and then force-land in a field. Meanwhile Tyerman had closed on the Focke-Wulf and opened fire. He saw vivid strikes on the fuselage and pieces fall away. The enemy machine then slid along the surface of the water and disintegrated in a burst of smoke and flame.

A few days later Fitzgibbon reported the third definite kill after a long chase out to sea. On return to the English coast he found the countryside shrouded in mist and, running short of petrol, was forced to make an emergency landing. His Typhoon was wrecked but he escaped serious injury. Only a few weeks earlier, Fitzgibbon had had another narrow escape. While taking off in company with a second Typhoon a tire burst. His aircraft swung violently towards the other Typhoon. Its pilot just managed to accelerate enough to jump over Fitzgibbon's

lurching machine, which then careered wildly across the aerodrome before it finally crashed into a hangar.

As the German tip-and-run raids on the south coast diminished, the regular fighter patrols were generally replaced by a system of immediate readiness in which squadrons maintained one or two sections prepared to take off at short notice. This 'cockpit readiness',

¹ Squadron Leader F. Murphy, DFC; born Bolton, Lancashire, 19 Jan 1917; clerk; joined [RNZAF](#) Mar 1941.

² Pilot Officer W. B. Tyerman; born [Taihape](#), 22 Oct 1920; sheep farmer; joined [RNZAF](#) Mar 1941; killed on air operations, 10 Nov 1943.

³ Pilot Officer R. H. Fitzgibbon; born Rangiora, 20 Oct 1920; motor mechanic; joined [RNZAF](#) Mar 1941; killed on air operations, 6 Sep 1943.

⁴ Pilot Officer M. O. Jorgensen; born [Auckland](#), 7 May 1922; carpet warehouseman; joined [RNZAF](#) May 1941; killed on air operations, 16 Sep 1943.

as it was often called, became very familiar to the pilots of No. 486 Squadron during the next few months.

The system adopted was for two men to maintain an hourly vigil in their machines. Engines would be warmed up, after which the tanks were topped up at the petrol bowsers. Each pilot then checked over his instruments and completed the usual 'drill before take-off', so that everything was ready for a flying start. In the event of a scramble aircraft usually took off against the prevailing westerly wind straight across the airfield out of their pens, each of which was fitted with a loudspeaker connected to the Operations Room, a mile or so away. In the early dawn, when pilots who had been roused early might be inclined

to doze in the cockpit, there might come a sudden click as the loudspeaker was switched on, then the duty WAAF's urgent call 'Scramble – Clincher Red Section!' and again 'Clincher Red – Scramble!' There would be a frozen second while the sleepy pilot became fully awake to find his hands already reaching automatically for the doping pumps, the ignition and the booster coil buttons. Opening the throttle the moment the engine fired, he was soon zigzagging his machine wildly between the aircraft parked out on the field and then away across the grass, with the Typhoon's Sabre engine sounding shrill and loud even through his earphones. In less than a minute the undercarriage would be raised and the Typhoon heading for the coast just above the treetops, slowly building up its speed to the maximum.

Guided by his Ground Control, who had been watching the 'plot' of the raider, the pilot would begin searching for his target. Often the radar plot would turn out to be false or the enemy machine would have already turned for home and a disconsolate pilot, denied the thrill of pursuit, would return to base cursing his luck after a fruitless search. But there were many successful interceptions, of which No. 486 Squadron continued to have its share. One action towards the end of May is thus recorded:

Squadron Leader D. J. Scott, Flight Lieutenant A. E. Umbers ¹ and Flying Officer A. H. Smith, ² were scrambled under Kenley control shortly after mid- day. They were informed of 'bandits' over Brighton and were vectored in that direction. But Scott at once realised that it would be impossible to catch the enemy there as he saw bombs already bursting so he flew straight out to sea in order to intercept.

After two minutes flying the section saw twelve aircraft in line abreast, flying flat out on the deck roughly two miles away. Two were lagging

¹ Squadron Leader A. E. Umbers, DFC and bar; born Dunedin, 30 Jun 1919; clerk; joined **RNZAF** Nov 1940; commanded No. 486 (NZ) Sqdn, 1944–45; killed on air operations, 14 Feb 1945.

² Squadron Leader A. H. Smith, DFC and bar; born **Auckland**, 12 Jan 1921; accountant; joined **RNZAF** Mar 1941; commanded No. 197 Sqdn, 1944; p.w. 31 Dec 1944.

slightly, later recognised as a FW190 behind the main formation and a Me190 to starboard. Scott selected the Focke-Wulf and allotted the Messerschmitt to Umbers.

Scott then fired a burst at long range to make the German pilot weave, which he did, and this enabled him to close more rapidly. Scott fired another two bursts and saw strikes on the fuselage and pieces of the aircraft breaking away. After his second burst the enemy machine blew up and cart-wheeled in the air, debris flying in all directions, through which Scott flew, pieces striking the main plane and oil cooler, without causing much damage. The other pilots went on after the main body but apparently the Hun had rear cover waiting for us some miles out to sea, for at this point five or six enemy fighters swept down in order to cut us off. In this manoeuvre they were successful for Scott was compelled to turn into them but was unable to position himself for a shot. Umbers abandoned his chase and came across to protect his leader's tail. As he did so something hit his starboard wing tip and on landing he found a hole clean through the wing, apparently made by a cannon shell but it had no effect on the handling of his aircraft. By this time another section, which had been scrambled from Tangmere, had arrived on the scene but the Hun had disappeared so our aircraft returned to base. Before turning back Scott flew over the burning wreckage on the water and signalled the position of the Hun but there was no sign of him.

Scott had taken over command of No. 486 at the beginning of April from Squadron Leader Roberts, ¹ a Londoner, who had led the squadron since its formation. Scott had begun his career with the **RAF** in 1941 with the night-fighter squadron commanded by R. F. Aitken, then a Squadron Leader. Scott soon won particular distinction as a night-fighter pilot and rose from the rank of Flight Sergeant to Squadron

Leader in nine months. While flying intruder patrols with No. 3 Squadron, he accounted for five enemy machines. A typical attack was that made on a Dornier 217 over the airfield at Venlo. Scott sighted the German machine at about 1000 feet as it came in to land, oblivious of his presence and with its landing light shining brightly; after a long burst he had the satisfaction of seeing it crash in flames on its own airfield below. Before he was appointed to command the New Zealand Typhoons, Scott had served at Fighter Command Headquarters and then with No. 198 Typhoon Squadron. At Tangmere he soon proved himself an efficient and popular leader, welding his pilots into a first-class team. He was as thorough on the ground as in the air and soon his dispersal huts were a model which became renowned throughout Fighter Command. Neat lawns and flower beds were laid down and highly productive vegetable gardens were developed. All this work was done by the men in their spare time and the effect on squadron morale was particularly favourable.

¹ Wing Commander C. L. C. Roberts; born Forest Hill, London, 22 Aug 1916; joined RAF 1935; CFI No. 57 OTU, 1941–42; commanded No. 486 (NZ) Sqdn, 1942–43, and No. 257 Sqdn, 1943; Sector Commander HQ Middle East, 1944; commanded No. 26 AACU, 1944–45.

As the weeks passed scrambles became less frequent and, after a period during which pilots became rather restless at their inactivity, No. 486 Squadron was allowed to turn to offensive patrols over the Channel and northern France. It was, in fact, shortly after Scott's arrival that the New Zealand Typhoons flew their first offensive patrols in between their periods of watchfulness along the south coast. Within a fortnight the squadron had claimed two Focke-Wulf 190s destroyed, another probably destroyed, and a fourth damaged in various sweeps across the Channel. Soon the Typhoons were also attacking enemy ships off the French coast. In one attack, early in May, a 3000-ton freighter sighted off Le Havre was left enveloped in smoke after 'a violent explosion on the stern as ammunition detonated.' Two flak ships escorting the

freighter were also hit. The pilots had flown in at mast height in the face of anti-aircraft fire from all three ships and from coastal batteries. Such missions, which gave each pilot full opportunity to fire his guns and see his bullets kicking up clouds of spray around the ships as he swept down to attack and then pull out just above the masts, provided a welcome change from the weary hours of coastal patrolling or cockpit readiness that still filled so many days.

From the middle of 1943 **RAF** fighter-bombers were employed to an increasing extent in attacks on enemy airfields as well as on ports and shipping, and the New Zealand Typhoons frequently escorted these aircraft on such missions. There were definite advantages in using the fighter-bombers in offensive operations over northern **France**, for not only were these aircraft faster and less dependent on a strong escort but their versatility ensured full employment either as fighter or bomber, whereas the light and medium bombers might well be grounded for days on end owing to lack of suitable targets.

The typical fighter-bomber operation in which the New Zealanders took part at this time employed eight bomb-carrying Typhoons – nicknamed ‘Bomphoons’ by the service – escorted by a similar number of Typhoon fighters armed with cannon and machine gun. The aircraft would form up and set course across the Channel at low level in order to avoid early detection by the German coastal radar posts; then, some 15 miles from the French coast, the formations would begin to climb at a rate that would enable them to be just above the level of the enemy's light flak when crossing the coast. The machines continued to climb until they reached 12,000 feet when they levelled out and increased speed towards their target. On reaching it the ‘Bomphoons’ adopted an echelon formation and the leader rolled over and dived to the attack, releasing his bombs at about 7000 feet. Meanwhile the escort would be sweeping round the target, diving slightly to keep up with the bombers. As they turned for home all the Typhoons regained formation, when they were free to operate, if necessary, as a formidable fighter force.

It was in such a mission towards the end of June that the New Zealanders added two more Focke-Wulf 190s to their score. On this occasion Scott led nine Typhoons as escort to fighter-bombers of No. **181 Squadron** in an attack on the large German-occupied airfield at Abbeville. It was a day of clear skies and bright sunshine as the force assembled over Selsey Bill and set off across the Channel, flying a few feet above the sea. The Typhoons crossed the coast near the mouth of the **Somme**, with the New Zealanders flying just over 1000 feet above and up sun of the fighter-bombers. Approaching Abbeville No. 486 Typhoons went slightly ahead and swept round to the south of the target as the bombers went down to attack. 'Bombing was excellent,' says a report of the action, 'bursts were seen among buildings and aircraft on the field followed by a huge column of smoke which rose to 3000 feet.' On the way out from the target the New Zealanders flew above and behind the bombers. Then, a few miles off the mouth of the **Somme**, Scott noticed a lagging bomber so he took part of the escort round to cover it. At this moment five Focke-Wulfs were seen coming out from the coast and, just as the leading pair opened fire on the straggler, Scott led six of his Typhoons down in a head-on attack. The Germans immediately broke away and turned inland but Scott caught up with one of them and opened fire. He saw his bullets ploughing up the foam on either side of the enemy fighter and then suddenly it pulled up violently, turned over, and dived straight into the sea. Flight Lieutenant Umbers chased another Focke-Wulf through a series of aerobatic manoeuvres, got in several sharp bursts, and then saw it go down into the Channel.

During these months the New Zealanders also played a not inconsiderable part in air-sea rescue operations. There was a particularly interesting episode in mid-July. A Wellington bomber had come down in the sea off the French coast after being damaged by flak in a night raid. The crew had been able to scramble into their dinghy and for the next day and a half had taken turns at paddling towards England. But a strong current carried the small craft back towards **France** and they made little headway. As their rations dwindled so did their hopes of rescue fade, for although they had seen many aircraft flying overhead

and fired Very lights, none had noticed their dinghy.

The men had been in their dinghy for thirty-six hours when they were sighted by Wing Commander Scott while he was leading a formation of New Zealand Typhoons across the Channel to search for shipping in the approaches to Le Havre. A signal giving the dinghy's position brought the RAF Air-Sea Rescue organisation into action. Relays of Spitfires were ordered to patrol over the dinghy and a Coastal Command Hudson carrying an airborne lifeboat was ordered to the scene.

The New Zealand Typhoons had by this time returned to base to refuel, but soon Scott and four of his pilots were airborne again to relieve a formation of Spitfires patrolling over the dinghy. Shortly after they had taken over, the Hudson carrying an airborne lifeboat arrived on the scene under escort of four Spitfires. It is interesting to record here that the Hudson was navigated by Flying Officer Hender ¹ of No. **279 Squadron**, one of the small group of New Zealanders flying with the Air-Sea Rescue squadrons at this time. Hender released his lifeboat skilfully and it floated down to land near the bomber crew. They were seen to board it, start up the motors, and set course for the English coast. By this time a further four Typhoons of No. 486 Squadron, led by Umbers, had arrived to take over the patrol from Scott. However Scott, who had just been warned by control of German fighters in the area, decided to remain as long as fuel permitted.

His action was well justified for, a few minutes later, a formation of fifteen Focke-Wulfs appeared from the south. Scott thereupon ordered both his sections into a defensive circle. The Germans hesitated to attack and remained hovering a few thousand feet above the Typhoons. Still maintaining a circle formation, Scott began to lure the Germans away from the dinghy – a delicate manoeuvre but it was successful. Then on reaching a point some ten miles away, Scott chose a moment when the enemy fighters were turning away from him as they circled above, ordered his pilots into battle formation, and pulled up sharply to the attack. The Germans quickly swung round and dived towards the tail

of the New Zealand formation, opening fire as they swept down. Soon aircraft were milling about all over the sky and, as several pilots noted in their reports, 'it was extremely difficult to distinguish friend from foe during the battle.'

In its early stages Scott was involved in a remarkable incident. As the Germans came down he pulled up towards their leader and they both went into a sharp turn, Scott firing a short burst as they did so. However, the turn made by the German was tighter and Scott struck the slipstream, which threw his machine into a spin. He recovered when only a few hundred feet above the sea, just in time to see the splash as an aircraft went into the sea and a parachute billowing out on the surface. Fitzgibbon had seen Scott's aircraft begin to spin and had continued the attack, sending the
Focke-

¹ Squadron Leader W. C. K. Hender; born [Lyttelton](#), 20 Mar 1910; farmer; joined [RNZAF](#) May 1941.

Wulf

over on its back; and with a puff of smoke from its engine and pieces falling away it had dived straight into the sea near Scott. The pilot baled out but his parachute barely had time to open.

Meanwhile Scott pulled up to join the remainder of his formation and saw a number of dogfights going on around him. Flight Lieutenant Umbers and Pilot Officer Sames ¹ were both hotly engaged. Sames was climbing to attack when he saw four Focke-Wulfs diving towards him. Suddenly one of them made a climbing turn in front of him, presenting an almost perfect target. Sames opened fire and saw strikes, a burst of flame from the engine, and pieces of fuselage break away. He continued to climb and turn, manoeuvring for a favourable position to continue his attack. Then he fired a second burst from above and behind and another from below the tail. There were strikes on the fuselage and wing root,

whereupon the German machine went on its back down into the sea. There was no sign of the pilot baling out but more fragments were seen to fall into the water.

Umbers opened fire in a steep climbing turn on another FW 190, which was also climbing and turning in the same direction. As the German levelled off just above him, Umbers fired a second burst. He saw a violent explosion in the engine and on the leading edge of one wing. By this time Umbers' machine was practically standing on its tail and he was forced to stall turn and roll out. As he came out of the roll, he saw the enemy aircraft dive away with a dense cloud of black smoke pouring from it. He was about to give chase when he noticed a Focke-Wulf firing at another Typhoon, so broke away to help. Relieving Spitfires now appeared on the scene and the Germans fled, leaving the New Zealanders to return to base and report the destruction of two German fighters and the probable destruction of two more, without loss to themselves. Meanwhile the lifeboat had continued on its way unmolested. It was later met by a high-speed launch from Newhaven and the six members of the bomber crew landed safely, little the worse for their experience. As a mark of their appreciation and admiration for the part the New Zealanders had played in their rescue the bomber men autographed one of their yellow scull caps and presented this to No. 486 Squadron, together with the centre keel-board from the lifeboat. The latter, polished and varnished, was thereafter much prized as the squadron scoreboard, and by the end of the war it was to register a substantial total of enemy aircraft destroyed and ships damaged and sunk.

The summer months of 1943 continued to be eventful for No. 486 Squadron. On some days the Typhoons escorted fighter-bombers in

¹ Flight Lieutenant A. N. Sames, DFC; born Newmarket, **Auckland**, 25 Jul 1918; carpenter; joined **RNZAF** Mar 1941.

raids on enemy airfields, while on others they were themselves escorted by Spitfires to make cannon attacks on enemy fighters in their

dispersal pens. The assault on enemy shipping along the Channel coast continued and the Typhoons were also active on sweeps over enemy territory and in searches and patrols over the Channel. During the long summer days crews were at constant readiness from dawn to dusk over a period of eighteen hours and frequently the squadron flew three missions in one day.

There were several notable attacks on ships in the Channel during the early part of August. On the 3rd a naval auxiliary vessel and twelve 'R' boats were attacked off the French coast. The larger ship was left burning and hits were reported on seven of the 'R' boats. A few days later an enemy coaster intercepted near Cherbourg was heavily attacked and set on fire. The following week two more coasters were found outside the estuary at Ouistreham and attacked in the face of considerable anti-aircraft fire from shore batteries as well as from the ships. Both vessels were hit and, as the Typhoons turned for home, one of them was on fire and the other appeared to be sinking. Similar attacks followed during the next few months.

The New Zealanders were now frequently flying as part of the complete Typhoon Wing that had been formed at Tangmere. One of the three squadrons would carry bombs while the other two acted as escort, and operating in this manner the Typhoons made some very effective attacks on targets in northern **France. At other times the wing flew as part of the fighter escort in larger operations, covering Mitchell bombers in their raids on power-stations, ports and airfields, and marshalling yards.**

In September Scott, who had led the squadron so well – only one Typhoon had been lost for nine enemy fighters destroyed – was appointed to lead the **Tangmere Wing. His promotion to Wing Commander had come only twenty months after he had been commissioned. At the same time he was made a member of the Distinguished Service Order, the citation for which described him as 'a first-class leader whose great skill and fine fighting qualities had been reflected in the high standard of operational efficiency of a squadron**

which has obtained many successes.' At the beginning of 1944 Scott was appointed to command the base at Hawkinge in No. 11 Fighter Group, and shortly after the invasion of **Normandy** he was to lead a Typhoon Wing from an airfield in **France**.

A few weeks after his arrival at Hawkinge Scott was concerned in a very gallant episode. A Spitfire, damaged by enemy action, hit the ground a short distance from the boundary in attempting an emergency landing, bounced on to the airfield and burst into flames. Scott was among the first to reach the scene and ran straight to the fiercely burning cockpit to rescue the pilot. He had great difficulty in freeing him from his parachute and harness, and by the time he had succeeded in extricating the wounded man and carrying him to a safe distance, he was badly burnt about the face and hands.

Squadron Leader Waddy ¹ succeeded Scott in charge of No. 486 Squadron and under his leadership the New Zealanders continued to fly a wide variety of missions during the closing months of the year. The squadron's role now gradually changed from that of a pure fighter squadron to fighter-bombing. Many different types of target were bombed, but it was the attacks on enemy ports and shipping which produced the most spectacular results.

On 3 November the Typhoons sank two 'R' boats and five barges near the mouth of the Seine; electric pylons carrying power-lines across the river were also damaged. A fortnight later two 1000-ton naval auxiliaries were attacked off Le Havre. One was sunk and the other left blazing from stem to stern. 'As the Typhoons went in at mast top height,' says a contemporary account of the second action, 'the pilots glimpsed red flashes from guns firing at them from the shore and streams of coloured tracer spurted from the ships. The sea was pattered with miniature geysers as the aircraft approached, then spurts of flame appeared on the ships and guns swung unattended as the crews fell dead. Then the second squadron added its quota of cannon shells, and as the pilots flew home they watched two black columns of smoke mounting into the still

morning air.'

Air-sea rescue was still part of the squadron's work and one Beaufighter crew were particularly grateful for its watchfulness. A formation of Typhoons was returning from a mission over France when far below them they noticed a puff of smoke, followed by the twinkle of a red Very light. Down went the Typhoons, and on sighting the dinghy they signalled its position and threw out markers and rations. They continued circling until their petrol was almost exhausted and reached base as darkness fell with just sufficient fuel to land. Next morning the New Zealanders were disappointed to hear that Albacores of the Fleet Air Arm which flew out during the night to drop flares had failed to find the dinghy. It had probably drifted some distance from its early position with the strong wind and tide. Patrols during the next morning failed to find the dinghy and it was late afternoon when Scott led four pilots from No. 486 Squadron to continue the search. They flew over the empty sea until their petrol was running low and then, just as Scott was about to give the order to return to base, he sighted the dinghy again. A signal was sent and within a short time a motor launch reached the spot and the crew were safe.

¹ Squadron Leader I. D. Waddy, DFC; born **Blenheim**, 5 Nov 1914; sheep farmer; joined **RNZAF** Aug 1940; commanded No. 486 Sqdn, 1943, and No. 164 Sqdn, 1944; p.w. 25 Aug 1944.

By the beginning of 1944 No. 486 Squadron was fully occupied in both the fighter and the fighter-bomber roles. The sites from which the Germans were preparing to launch their secret weapons against England were now the primary target and the Typhoons were frequently called upon to escort Mitchells and Marauders to bomb the launching ramps and supply depots. They also carried bombs to these targets themselves. When because of low cloud or mist over France attacks on the flying-bomb sites were not possible, the Typhoons ranged widely over enemy territory, attacking targets of opportunity. Thus as the weeks passed the New Zealanders began to make their contribution towards the final

preparations for the invasion of **Europe**, a contribution which was to be intensified when, early in April, the squadron was re-equipped with the Tempest fighter, the fastest machine then in service with the **Royal Air Force**.

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The men of Fighter Command had now established a fine record of achievement in the daylight offensive against the **Luftwaffe**. During 1943 they had flown nearly one hundred thousand sorties over enemy territory, and although many of these sorties were made as close escort to Allied bomber formations when the fighter pilots were not free to seek combat except in defence of their charges, the final assessment of squadron reports showed the destruction of 705 German machines in the various missions over **France** and the Low Countries. German records give substantial confirmation of this total.

Less tangible but equally important results flowed from Fighter Command's effort. Within their effective range the day-fighter squadrons had achieved a large measure of air superiority over the **Luftwaffe**, thus enabling Allied bombers and fighter-bombers to launch heavier and more destructive daylight attacks. The Germans had long ceased to hold the initiative in the West and they were given no opportunity to regain it. Moreover, by helping to contain within the western zone two-thirds of all the first-line single-engined fighters of the **Luftwaffe**, including many of its best units, **RAF** Fighter Command had continued to give valuable aid to the fighting fronts in **Russia** and the **Middle East**.

By the beginning of 1944 Fighter Command sorties often exceeded a thousand a day, thus doubling the scale of attack achieved by the **Luftwaffe** over **Britain** for a few weeks in 1940. But the target area which Fighter Command now had to cover was much greater than that which had confronted the Germans, and there was the imminent threat of V-weapon attack to be met as well as the need to secure and maintain air supremacy for the approaching assault on the Continent. An even heavier scale of fighter and fighter-bomber attacks was therefore

planned for the spring of 1944.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 8 – NIGHT FIGHTERS

CHAPTER 8

Night Fighters

AFTER the failure of their 'blitz' on British cities during the early months of 1941 the Germans had maintained only a small and intermittent offensive by night against the **United Kingdom**. The operations were devoted mainly to minelaying and reconnaissance and, apart from the short series of 'Baedeker raids' in the middle of 1942, only occasional attacks were made on inland targets by long-range bombers. They usually met with heavy losses. German crews complained that the British defences were becoming 'increasingly dangerous', yet little was done to improve the training, tactics, and equipment of units engaged against the **United Kingdom**.

At the beginning of 1943 **Hitler**, infuriated by Bomber Command's successful pathfinder raids, demanded heavier reprisals. But the German bomber force in the West was now only a shadow of its former self and, with the heavy demands of the Russian and **Mediterranean** fronts, there was little to spare for any effective reply to the massive attacks falling upon **Germany**. Yet **Hitler** was insistent that there should be reprisals and on his direct order a new *Angriffsfuehrer England* – England Attack Command – was formed in March 1943 under Oberst Peltz, a prominent bomber pilot who was generally regarded as a man of superior leadership and organising ability. He was later to command *Fliegerkorps IX* which had all jet fighters under its control.

A belated attempt was thus made to build up a force of fast night bombers, but German bomber production was such that it would be some months before new aircraft such as the Messerschmitt 410, the Junkers 188, and the Heinkel 177 were available in any quantity. In the meantime FW 190 day fighters were thrown into night operations to reinforce the Dornier 217s and the veteran Junkers 88s. At the same time in an effort to secure better results, Peltz introduced new tactics and radar devices and gave orders that crews were to be more carefully briefed.

These various improvements and improvisations did not provide anything like the scale of reprisal **Hitler desired, nor did they prevent a higher proportion of losses than in earlier years. Worse still, the German bomber programme, which had envisaged the replacement of current twin-engined bombers by four-engined types, went badly awry. For example, the Heinkel 177, with its four engines and two airscrews, upon which Goering had placed high hopes, proved a costly failure. Planned to begin operations early in 1941, the He 177 did not appear over England until three years later. Time and again it had been grounded for persistent technical defects in both engines and airframe – the engines caught fire so often in the air that German crews nicknamed it the *Luftwaffenfeurzeug*, or ‘Air Force cigarette-lighter.’ The Junkers 288, which was to be similarly powered by two pairs of coupled engines, never even appeared. Meanwhile captured German crews showed a lack of confidence in their machines equalled only by their own lack of experience in operations.**

The whole German bomber force, in fact, was now paying the penalty for Goering's facile optimism and failure to plan ahead during the early years of the war. German aeronautical research had been remarkably efficient, but lack of firm direction, contradictory orders, and frequent changes of policy had led to something like anarchy in bomber production.

On **Hitler's insistence, the **Luftwaffe** attempted a last desperate throw against England early in 1944. This assault was only made possible by the withdrawal of units from **Italy** to supplement the meagre bomber force left in **France**. It proved a dismal failure and thereafter the **German Air Force**, never properly organised for strategic employment, finally became impotent over **Britain**.**

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During 1943 the British night-fighter force, although not so large as in the previous year, proved more than equal to the demands made upon it. At the beginning of the year there were twenty-one squadrons, eight

of them equipped with the versatile Mosquito and eleven with Beaufighters and two with Bostons, specially adapted for night intruder work.

The crews of these squadrons, many now well versed in the difficult art of night fighting, continued to use radar as their principal aid to night interception. Patrols were maintained whenever there was any likelihood of enemy activity and other crews were kept ready to take the air should a heavy attack appear imminent. On patrol the Beaufighters and Mosquitos usually flew above cloud over their sectors, keeping in close touch with ground control interception stations, where radar plots and reports from the Observer Corps gave the height and course of any hostile aircraft in the area. This information was then used to direct crews towards a target.

Patient experiment and the experience gained in operations since the system was introduced early in 1941 had brought many improvements in equipment and technique. Ground control stations were now more efficient and new types of airborne radar apparatus gave better all-round results. Nevertheless, successful interceptions could only be achieved by skilful teamwork on the part of the pilot and his navigator/radar operator, working in close co-operation with their ground controller.

The control station would first indicate over the radio telephone the direction of a suspected aircraft and then the radar operator – familiarly known as ‘the crystal-gazer’ – would switch on his set, a miniature of that on the ground. Soon he might pick up a ‘blip’ on his screen, which, according to the response of IFF apparatus (Identification, Friend or Foe), would be identified as coming from a friendly or hostile machine. If the response came from a ‘bandit’ the operator would give his pilot directions regarding course, height and speed, until a visual sighting was made.

An experienced crew fortunate enough to be directed towards a target by Ground Control could thus be expected to make contact and

finally bring the enemy to combat. On the other hand, a crew new to night interception had little hope of success until they had become expert in the use of their apparatus and adept in the current tactics. Thorough training and constant practice were needed to keep abreast of the latest developments in the technique employed. The work was often monotonous, demanding the utmost patience, concentration and skill; all too frequently long patrols were flown under trying conditions, without even a sign of action. Moreover, with fast-moving targets, often flying at high level and adopting a variety of evasive tactics, crews had many disappointments by losing their quarry before they were in a position for attack. The high proportion of interceptions and combats reported was indeed a tribute to their tenacity and skill.

One night-fighter pilot gives this impression of his work:

When Jerry stays at home a patrol is a dull enough affair – especially when the night is cold and unfriendly, the horizon an indistinct smudge and the stars but fleeting blobs of light between clouds. You are hurtling with all lights out through a dark tunnel. You take comfort in the array of phosphorescent dials in the cockpit, in the steady pulsating of your motors and in, perhaps, a thought or two of a bright fire waiting for you when you get down, a cup of steaming cocoa and a cigarette – unless there is business about, and that is different.

There are nights though when every moment of the trip is a sheer joy, when there is magic in the air; nights clear and frosty when the stars are near and in clusters like primroses; blue-green summer nights with far-away pinpoints for stars; nights of the moon when the surface of the earth shows up in sharp relief, cold, stark, mysterious and still, and the sea has a sheen whose loveliness no brush can paint.

You could come across Huns, a dark shape darting across your bows, a suggestion of a swastika caught in the tail of a glance, a silhouette against stars, and you could hit them but often never know if the blow had been fatal. But to-night is full moon. We are going to fasten on till he falls out of the sky with both engines on fire.

The engines are already warming up. The slipstream nearly takes us off our feet as we scramble aboard. Willing hands are handing up gloves, scarf, maps; a mouth frames some last-minute message of good luck though no sound comes above the noise of the engines. A rapid check of instruments as the engines rev up with an almost unbearable roar. Chocks away, hatches closed and we are taxiing round the perimeter track to the marshalling point. Now we are lined up with the runway. The lane of lights narrows in the distance, obeying the law of perspective like any art master's railway lines. The engines are cleared, the throttles pushed slowly open and we move forward, slowly at first, then, tail raised, faster and faster till the flare-path lights race past in a broken line. Flying speed attained, she lifts off the deck. We are free of the earth and climbing rapidly towards cloud faintly luminous in the moon. The airfield lights recede and we are shut off from the earth.

On patrol the minutes drag by slowly. The cloud is breaking in a strong wind and scurrying across the moon. We watch and listen.

Then suddenly orders come over the R/T: 'Climb to operational height and steer due west.' 'Hostile aircraft approaching position D from south-east.'

A mixture of fear and elation and we increase speed and steer for interception. Each second – miles and distance matter no longer – each second draws us nearer to the enemy. We make a quick speed calculation. How many seconds now and in what part of our sky will he appear? We strive to pierce the darkness, eyes straining, anticipation and exasperation struggling with one another. For a moment the moon gleams on some object entering the cloud half a mile to starboard and we realise we are on his track. We increase speed, skim under the cloud, estimating the position at which he is likely to emerge. Or is he an old hand, and will he, sensing our presence, dodge us by changing his direction in cloud? In a moment he is slap-bang in front of us, like a silver fish. A Dornier with his high wing and twin fins; no mistaking him. His tracer is passing above us like a trail of elongated sparks. The

rear gunner has got us against a background of cloud. We do a quick check turn, dive a little and pull our nose up right under him and give him a long burst. He begins to do a steep climbing-turn prior to evasive dive. But we've got his starboard engine. A piece of cowling blows off, there is a long plume of grey-white smoke and then a tongue of flame, a further half-hearted stream of tracer, again gloriously above us, and now he is dropping like a plummet line. There is a deep red glow in the cloud below us and a spiral of smoke.

We pull out a thousand feet above a sea, placid in the evening. There is no sign of the Dornier.

* * * * *

At the beginning of 1943 the outstanding personalities among the New Zealanders with the night-fighter force were Wing Commander R. F. Aitken, who commanded the forward base at Bradwell Bay – Aitken had been prominent in night operations from early in 1941 when he led No. **3 Squadron** – Wing Commander J. S. McLean, who commanded RAF Station, Hunsdon, and Wing Commander I. S. Smith, who led No. 151 Mosquito Squadron. Squadron Leader Sutton,¹ who in the previous year had been prominent on night intruder operations, was now a flight commander of No. **85 Squadron** based at Hunsdon. Among the aircrew the main Dominion representation came from No. 488 Beaufighter Squadron.

Since its formation in June 1942 this New Zealand unit had been stationed on the west coast of **Scotland**, a locality seldom visited by German bombers – much to the disgust of the aircrews. But now came a period with greater opportunities for action and No. 488 was soon to establish a fine record of achievement, not only in defensive patrols over England but also in attacks on enemy transport, aircraft, and airfields on the Continent. Wing Commander Trousdale² continued to lead the squadron during the early months of 1943. His flight commanders were Squadron Leader Rabone,³ who had also been with the squadron since its formation, and Squadron Leader Nesbitt-Dufort,⁴ an Englishman,

who had recently succeeded Squadron Leader Gard'ner,⁵ now on the night operations staff of No. 13 Group which controlled the New Zealand squadron at this time.

In the first two months of 1943 there were only two German night raids of note – one against London and the other over western districts – otherwise enemy activity was confined to minelaying and reconnaissance sorties. Yet despite wintry weather and the fact that, with only small enemy forces operating over a wide area, opportunities for interception were few, British night fighters achieved particularly good results, altogether nineteen German machines being claimed destroyed during this period.

Flight Lieutenant Jameson⁶ and Pilot Officer Newton,⁷ both flying with No. 125 Beaufighter Squadron, were among those who reported successful interceptions. They were in action within a few minutes of each other one night in mid-February when thirty German bombers made scattered attacks on south Wales and south-west England. Twenty minutes after taking off Jameson was vectored

¹ Squadron Leader K. R. Sutton, DFC; born Wellington, 18 May 1919; joined RAF Mar 1939; transferred RNZAF Mar 1944; Intruder Controller, HQ Fighter Command, 1943; commanded RAF Station, Llanbedr, 1943–45.

² Wing Commander R. M. Trousdale, DFC and bar; born Auckland, 23 Jan 1921; joined RAF Mar 1939; transferred RNZAF Jan 1945; commanded No. 488 (NZ) Sqdn, 1942–43; killed in aircraft accident, 16 Jun 1947.

³ Squadron Leader P. W. Rabone, DFC; born Salisbury, England, 2 Mar 1918; joined RAF Mar 1939; transferred RNZAF Mar 1944; killed on air operations, 24 Jul 1944.

⁴ Wing Commander J. Nesbitt-Dufort, DSO; born 17 Feb 1912; joined RAF 1935; commanded No. 488 (NZ) Sqdn and RAF

Station, West Kirby, 1943.

⁵ Squadron Leader J. R. Gard'ner; born Dunedin, 14 Jun 1918; joined **RAF** Jan 1939; transferred **RNZAF** Jan 1944.

⁶ Flight Lieutenant G. E. Jameson, DSO, DFC; born **Christchurch**, 20 Nov 1921; farmer; joined **RNZAF** Jan 1941.

⁷ Flight Lieutenant H. B. Newton, DFC; born **New Plymouth**, 16 Nov 1916; insurance agent; joined **RNZAF** Nov 1940.

towards a target. His radar operator soon made contact and, following his directions, Jameson eventually sighted a Dornier 217 flying just below broken cloud about half a mile away. He closed in, opened fire, and set the enemy's port engine ablaze. Jameson then went in for the kill, but just as he opened fire again his operator warned him that another German bomber was closing in on them. Accurate fire from this machine forced Jameson to break away, but a few minutes later he had the satisfaction of seeing below him the burning wreckage of the Dornier he had attacked. It had crashed near Swansea.

Newton's patrol the same night was remarkable. After nine months' uneventful flying on night operations he was in combat four times within ten minutes and claimed two Dorniers destroyed, another damaged, and a fourth probably destroyed. Newton was airborne on an exercise with ground control when he was suddenly warned of enemy raiders in his vicinity. A few moments later he was directed towards a target travelling at high speed about two miles ahead of him. Newton, however, had the advantage of height so he dived and closed in. His radar operator obtained a contact and a few seconds later Newton saw a German bomber flying through the top of a thin cloud layer and 'jinking' from side to side. Two short bursts brought pieces of flaming material falling away from the enemy machine. Another burst and it went down with both engines belching smoke and flames. Newton was then immediately vectored towards his second target which proved to be two

Dornier 217s. When sighted they were flying slightly ahead and just above the Beaufighter. After a short chase Newton scored hits on the engines and fuselage of one bomber. Then it disappeared so he went after the second. Several short bursts found their mark, the machine burst into flames and then dived straight into the sea, where Newton's radar operator could see it burning on the water.

Scarcely recovered from these encounters, Newton was directed towards another German raider a few thousand feet above him. Contact was gained after a stern chase. Then, climbing at full throttle, Newton sighted the Dornier and opened fire with a long burst from slightly below and astern. Cannon shells hit the port engine and fuselage and after further bursts the Dornier turned on its side and went down towards the sea. He did not see it hit the water, but another pilot confirmed its destruction. Although this was the first occasion Newton had been in combat as a night-fighter pilot, he had already seen action while flying with **No. 101 Squadron on bombing missions during 1941. The following year while flying a Wellington bomber to the **Middle East**, Newton was forced down in Portugal, but after three weeks' internment he escaped and returned to England.**

In March the Germans diverted a greater part of their effort against **Britain from minelaying to the bombing of land targets. With the increased opportunities for interception offered by this change of tactics and the advantages given by a new type of airborne radar, British night-fighter patrols were particularly successful. Twenty-six enemy machines were claimed destroyed or probably destroyed during the month.**

In an attempt to reduce losses the Germans began fitting special radar sets in their bombers to indicate the approach of stalking fighters. At the same time they introduced faster night bombers which could possibly outpace the British night fighters. The Focke-Wulf 190, adapted as a fighter-bomber, made its first appearance on night operations over the **United Kingdom during April, and the Messerschmitt 410, a fast fighter-bomber developed from the twin-engined Messerschmitt 110,**

followed in July. However, although the FW 190 was a fast and versatile machine, the Germans soon encountered difficulties in operating this single-seater day fighter over enemy territory by night. On 16 April, when it first operated, four out of the thirteen machines despatched became lost and landed or crash-landed in Kent.

The first victories by night fighters against the Focke-Wulf 190s came on 16 May, when four of these aircraft were destroyed by Mosquitos, while two Messerschmitt 410s were shot down by British pilots on the first night they were encountered in July. By that time new tactics were being used by the Germans. Their fighter-bombers climbed to 20,000 feet as they crossed the French coast; then to avoid loss through bad navigation they were guided to their target by radio telephone. Height was maintained until the bombs had been dropped; then they immediately dived for home and were directed by radio telephone to one of a number of airfields in northern **France**. Nevertheless, British pilots continued to make successful interceptions and, on the whole, the German fighter-bomber, carrying a small bomb load and forced to fly at greater height, proved singularly ineffective at night. Eventually most of them were withdrawn to meet the urgent needs of other fronts.

Meanwhile there had been intermittent action by German long-range bombers, including the veteran Junkers 88. Flight Sergeant Kemp ¹ of No. 151 Mosquito Squadron was in action with one of these machines early in May. He was pilot of one of five fighters 'scrambled' by his squadron from its base in **Wiltshire** to intercept raiders operating against Cardiff. On patrol he sighted a target over the Bristol Channel and was able to open fire before the German crew had any inkling that they were being stalked by a night fighter.

¹ Pilot Officer H. K. Kemp; born **Auckland**, 6 Sep 1921; warehouseman; joined **RNZAF** Mar 1941; killed on air operations, 11 Apr 1944.

His first burst hit the port engine. 'The Junkers then started to weave frantically,' Kemp reported, 'but I got in another burst and this hit his starboard engine. There was a large flash followed by flames.' He then closed in to about 150 feet and fired another burst which brought a stream of oil pouring over his Mosquito. The Ju88 finally crashed near Minehead.

The Germans increased their effort against England for a short period in October 1943, when night raiders operated on twenty-one nights and flew a total of just over five hundred sorties. All the attacks were aimed at **London**, but after crossing the coast the enemy formations often became scattered and only a small number actually succeeded in dropping their bombs in the **London** area.

During this period of increased activity the British night fighters had to struggle against the effects of metallised strips dropped by the enemy in imitation of those which Bomber Command had introduced over **Germany** during the attacks against **Hamburg** some three months earlier. Yet despite the skilful use of these strips, the high speed of the Messerschmitt 410 flying at great heights, and the warning of the approach of British night fighters given by radar tail-warning sets with which all their long-range bombers were now equipped, the Germans lost twenty-eight aircraft in just over three weeks. The enemy effort was not sustained and fell away sharply in November and December.

But in these months preparations were being made for what it was hoped would be a more effective series of reprisal raids against **Britain**. The opening of these attacks, which were to be short and heavy and led by pathfinders on the **RAF** pattern, was delayed until larger forces could be assembled and finally did not begin until the end of January 1944.

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Throughout this fourth year of war Fighter Command had not been content to remain wholly on the defensive at night. Indeed, offensive patrols over the Continent were flown by almost all the squadrons of the

British night-fighter force during 1943, and their attacks on enemy airfields and communications proved an effective supplement to the daylight raids.

At the beginning of the year offensive activity at night was largely confined to the 'Intruder' operations over enemy air bases by two squadrons specially trained for such duties, but as the year progressed there was a steady increase in the night offensive, with sorties directed against both ground and air targets. Towards the end of January it was decided to add a flight of six aircraft to each of the Mosquito night-defence squadrons for use on 'Ranger' patrols against ground targets, particularly enemy transport. This expansion was not immediate owing to the current shortage of Mosquito aircraft, so until sufficient machines were available each night-fighter squadron was allowed to provide not more than three aircraft for 'Ranger' missions during each full-moon period. During April 289 sorties were made over enemy territory by night – double the total flown in any of the previous three months. In the second half of the year 2250 such patrols were flown.

The two 'Intruder' squadrons, No. 418 Canadian Squadron and No. 605 RAF Squadron – at this time equipped with Bostons – were both based on stations commanded by New Zealanders. The Canadians operated from Bradwell Bay where Wing Commander Aitken was in charge. Detachments from other night-fighter squadrons also flew from Bradwell Bay on offensive missions over the Continent during the moonlight periods. No. 605 Squadron was stationed at Ford, a satellite of Tangmere, which for the first four months of the year was commanded by Group Captain H. D. McGregor.

One of the flight commanders in No. 605 was Squadron Leader Mack¹ and by August he had flown fifty-two operations over enemy territory. He had earlier completed a tour of duty with Bomber Command, flying in early raids on such targets as **Hamburg, the Ruhr, and Stavanger in **Norway**. On his first operational sortie – a leaflet raid five days after war began – his aircraft was forced down in **Belgium**. The crew were interned, but Mack escaped and rejoined his unit three months later. During his**

tour on 'Intruders' he attacked three enemy aircraft over **France**, but as they were not seen to crash he only claimed them as damaged. On one occasion his aircraft struck what was thought to be a balloon cable about 430 miles from base. Although four feet of the starboard wing, including most of the aileron, was torn off, he got his aircraft back to base. In October 1943 Mack was posted to Headquarters Fighter Command as an intruder controller. Flying Officer F. E. Hogg,² who had flown as a navigator in the early intruder operations, also did good work with No. 605 Squadron; by mid-1944 he had completed eighty-eight missions.

In early 'Ranger' patrols Flight Sergeant Blackburn³ of No. 141 Squadron won commendation for his work as a navigator, showing 'exceptional skill and resource.' On occasion he flew with his commanding officer and several successful patrols were the direct result

¹ Squadron Leader A. W. Mack, DFC; born **Wellington**, 20 Jan 1916; joined **RAF** 1937 transferred **RNZAF** Jan 1944.

² Flight Lieutenant F. E. Hogg, DFC and bar, **Croix de Guerre** (Bel.); born Edinburgh, 3 Oct 1919; warehouseman; joined **RNZAF** Nov 1939.

³ Pilot Officer T. B. Blackburn, DFM; born **Christchurch**, 17 Jun 1917; joined **RNZAF** Feb 1939; killed in flying accident, 26 Apr 1943.

of his careful navigation; he was also prominent in attacks on enemy shipping. Unfortunately Blackburn was killed on 26 April 1943 when his Mosquito crashed on a training flight.

One of the most interesting tasks undertaken by the British night fighters during 1943 was the protection from enemy night fighters of the stream of bombers flying into **Germany**. The patrols were flown by Mosquitos fitted with special equipment which enabled them to home to the transmissions sent out by German fighters, and the first squadron to

be so equipped claimed to have destroyed sixteen enemy machines during the second half of the year. Free-lance patrols over German night-fighter bases were also employed with good effect.

Squadron Leader Brinsden ¹ was prominent on operations in support of the British bombers with No. 25 Mosquito Squadron. He had fought over **France** and in the Battle of **Britain** and was one of the original flight commanders in No. 485 New Zealand Spitfire Squadron. On the night of 17 August Brinsden was captain of one of the Mosquitos which flew in support of Bomber Command's attack on the German experimental station at Peene- munde. After patrolling in the vicinity of Sylt he decided to bomb the airfield there.

We determined to fly out to sea, at about 2000 feet, as though flying home, then descend gradually, still heading westwards until at sea level, about face and fly back to Sylt, hoping by these means to outwit the radar screen and carry out a surprise attack.

All went well. As we approached Sylt pinpointing was easy for the town was silhouetted against a clear sky and the full moon made the scene as light as day. Over the town then at roof height, a slight turn to port towards the aerodrome hangers [sic] shining in the moonlight at about half a mile away, range shortening, coming up to optimum – stand by – bombs gone. Now a vicious turn to starboard to pass between the hangers – and blindness. A searchlight shining right into the cockpit from the nearest hanger roof. No forward vision; no cockpit instruments; nothing to help us orientate ourselves, and too low to evade vigorously. Then tangerine tracer shells passing too close to be safe. Now something had to be done. Violent evasion – and at sea level – while still heading generally eastwards was the only course open. At last the searchlights were lost and the tracer stopped but before vision had fully returned a violent acceleration, a dreadful shuddering, broken air screws screaming. We had touched the water – and bounced.

Warning my navigator to prepare for a ditching I meanwhile scanned the cockpit. Rev. counter needles were against the stops but other

instruments seemed normal. Would it fly us home? Too soon it became evident that it would not and pre-ditching action was taken.

The ditching was normal and I had some seconds in which to gather vital papers before the aircraft sank. Then swam towards the dinghy and joined my navigator who by this time was sitting in it. A quick survey of our

¹ Wing Commander F. N. Brinsden; born Takapuna, 27 Mar 1919; joined **RAF** 1937 transferred **RNZAF** Jan 1944; p.w. 18 Aug 1943; retransferred **RAF** 1947.

position showed us to be between Sylt and the mainland and south of the railway embankment joining the two. Fortunately neither of us was seriously injured.

Little could be done to manoeuvre the dinghy. The type we had was a beast of burden, not of navigation, and although we rigged our seat type dinghy sails and endeavoured to sail out of the bay and westward under a favourable off-shore breeze, dawn brought an inshore one and a change of tide, and back we went into the bay.

Finally at the mercy of another inshore breeze we were blown ashore at mid-day on the 18th into an encircling ring of troops, who were impatiently waiting our arrival, having watched us drifting up and down the bay for the last six hours!

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No. 488 New Zealand Squadron was now taking a prominent part in the night offensive. It had first seen action over north-west **France** earlier in the year while still based at Ayr in **Scotland**. While training and intermittent patrols over that area continued, detachments had begun to fly to airfields in the south during each moonlight period for 'Ranger' patrols over the Continent. Wing Commander Trousdale led the first detachment to Coltishall on 15 February. The other two aircraft

were captained by Squadron Leader Rabone and Flying Officer Gunn,¹ who made the first offensive sorties the next night. Rabone encountered bad weather and was forced to return after flying some ten miles into enemy-occupied territory, but Gunn was more fortunate and reported the squadron's first success in its new role – an engine and two barges seriously damaged near Nieuport. He was opposed by accurate flak and searchlights but had the satisfaction of seeing the barges on fire. The following night Trousdale, while flying over **Belgium**, located a train on which he scored cannon strikes; he also shot up two barges. On 19 February Gunn flew the last 'Ranger' patrol of the February moon period when he succeeded in shooting up two railway engines and two barges, without encountering any serious opposition. Trousdale was now posted to the staff of No. 13 Fighter Group and was succeeded by Wing Commander Nesbitt-Dufort, one of the flight commanders. His flight was taken over by Squadron Leader McIntyre,² who fought in the Battle of **Britain** and had been one of the founder members of No. 485 Squadron.

The RAF was now intensifying its campaign against the enemy's railway system on the Continent, and crews were ordered to concentrate their attacks against railway engines since it was felt that their

¹ Flight Lieutenant J. A. Gunn; born **Gisborne**, 12 Feb 1920; joined **RNZAF** Aug 1940; motor mechanic; killed on air operations, 15 Sep 1943.

² Squadron Leader A. G. McIntyre; born **Auckland**, 4 Jan 1917; joined **RAF** Apr 1940.

damage or destruction would have the maximum effect. Most of the attacks were made by night fighters for there was anxiety lest casualties be inflicted on civilians travelling by day. The Beaufighter, with its impressive fire power of four cannon and six machine guns, proved highly successful in such missions. Taking off singly in the light of the rising moon, crews would fly low over **France**, **Belgium**, or **Holland** seeking a main railway line along which troop or supply trains would be

passing. On sighting a target the pilot would 'pull out all the stops' and roar into the attack with cannon and machine guns blazing. The train would then grind to a standstill with the engine enveloped in smoke and spurting steam in all directions from the holes in its boiler. Occasionally a fortunate crew might see an engine explode or burst into flames but it was always difficult to determine whether a locomotive had actually been destroyed. Therefore it was usual for crews to claim them as damaged unless the engine was actually seen to blow up.

Beaufighters from No. 488 Squadron flew regularly on such missions during the moon period, which lasted for approximately a week and came towards the middle of each month. Usually three crews would fly south, operate for several nights and then be relieved by another three crews for the remainder of the period, so that in this way most members of the squadron had an opportunity of taking part in offensive work as a relief from the monotony of training and the relatively uneventful defensive patrols. Their efforts met with encouraging success. By the end of June, when No. 488 Squadron began to re-equip with Mosquito night fighters, crews had destroyed or damaged forty locomotives during their sorties over enemy-occupied territory.

The most successful 'train-busting' team during this phase was Pilot Officer Reed ¹ and his English navigator, Flight Sergeant Bricker, ² who claimed no fewer than thirteen engines either destroyed or damaged – twice they attacked three engines during a single sortie. After one such mission Reed reported:

We crossed the French coast, north of Isigny and gave a long burst at a train three miles east of Caretan; the engine burst into flames which were visible for a couple of miles. Approaching Folligny on the return route a second train was attacked – it stopped and the engine emitted clouds of steam. On homeward course another train proceeding from Airel to Caretan was attacked with a long burst stopping the train. Clouds of steam came from the engine.

Squadron Leader Davison, ³ who became a flight commander in

¹ Flight Lieutenant G. F. Reed, DFC; born **Auckland**, 4 Apr 1920; clerk; joined **RNZAF** Jul 1940.

² Flight Lieutenant R. Bricker, DFC; born **London**, 2 Mar 1912; sales manager; joined **RAF** Jan 1941.

³ Squadron Leader F. W. Davison; born **Timaru**, 2 Aug 1921; watchmaker and jeweller; joined **RNZAF** Feb 1941.

April, and his navigator, Flying Officer Cutfield, ¹ were credited with successful attacks on ten engines. Pilot Officer Watt, ² who flew with an English navigator, claimed six locomotives damaged, four of them during one sortie, while several other New Zealanders, including Flight Lieutenant Browne, ³ Flying Officer Jeffs, ⁴ Pilot Officers Fleming, ⁵ Bergemann ⁶ and Robinson, ⁷ made successful attacks against trains, lorries and other targets. Often the Beaufighters encountered intense anti-aircraft fire as they crossed the enemy coast, and many of the trains they attacked were equipped with a special anti-aircraft gun truck, the gunners putting up a stout defence. However, no aircraft were lost nor were any seriously damaged. A large part of the credit for this freedom from casualties and also for the overall success achieved in these patrols must go to the navigators who, apart from their other duties, managed to keep their pilots clear of well-defended areas and get them home again after what was often a 'Cook's Tour' of the Continent.

The news that No. 488 Squadron was to exchange its Beaufighters for Mosquitos was greeted with great enthusiasm by the aircrew and they entered with a will into the period of intensive training which followed. There had been a change of command at the end of May when Wing Commander Burton-Gyles, ⁸ an outstanding English 'Intruder' pilot, succeeded Nesbitt-Dufort. The experience of the new commanding officer was a great advantage to the squadron during the three months it spent converting to Mosquitos and in training at Ayr and then at Drem, near Edinburgh. Unfortunately, he did not remain to lead the aircrews

on operations, as early in September he left to take command of No. 23 Squadron in **Malta** and was replaced by another British pilot, Wing Commander Hamley,⁹ who had considerable experience of many types of aircraft

¹ Flight Lieutenant A. S. Cutfield; born **Cambridge**, 24 May 1916; clerk; joined **RNZAF** Mar 1940.

² Flying Officer E. C. Watt; born Gore, 15 Feb 1918; school teacher; joined **RNZAF** Nov 1940; killed in flying accident, 13 Jul 1943.

³ Squadron Leader A. E. Browne, DFC; born **Auckland**, 14 Jul 1913; factory manager; joined **RNZAF** Dec 1940.

⁴ Flight Lieutenant R. G. Jeffs; born **Napier**, 4 May 1918; piece goods salesman; joined **RNZAF** Jan 1941.

⁵ Flight Lieutenant K. M. Fleming; born **Auckland**, 23 Dec 1920; shop assistant; joined **RNZAF** Jun 1941.

⁶ Flight Lieutenant R. D. Bergemann; born **Auckland**, 10 Aug 1919; draughtsman; joined **RNZAF** Apr 1941.

⁷ Flight Lieutenant D. N. Robinson, DFC; born **Gisborne**, 19 Apr 1922; station hand; joined **RNZAF** Jun 1941.

⁸ Wing Commander P. R. Burton-Gyles, DSO, DFC and bar; born Southsea, 6 Oct 1918; joined **RAF** 1937; commanded No. 488 (NZ) Sqdn, 1943; killed on air operations, 10 Dec 1943.

⁹ Group Captain P. H. Hamley, AFC; **RAF**; born **Plymouth, Devon**, 18 Jan 1912; joined **RAF** 1931; commanded No. 488 (NZ) Sqdn, 1943; commanded No. 62 OTU, 1943–44; Ops Staff, No. 10 Fighter Group, 1944–45.

and had recently been the commanding officer of an operational training unit.

On 3 September the squadron began the long-awaited move south to Bradwell Bay in Essex to take part in the night defence of that area. A few days before leaving **Scotland** the New Zealanders took part in an unusual rescue mission when they searched for fishing smacks carrying refugees from **Denmark** that had been sighted in the North Sea. The vessels were found in very bad weather more than 200 miles east of the Scottish coast and were seen to be shipping heavy seas. But the Danes did not appear dismayed and stood on deck under their national flag, waving sheets to the circling aircraft. The vessels were escorted until the aircraft were forced to return to base because of petrol shortage and eventually the ships arrived safely in Scottish ports.

At Bradwell Bay the squadron settled down quickly and began the last stage of training crews to operational efficiency with their new machines. This was not easy for the Mark VIII radar set with which the Mosquitos were fitted was quite new to most of the navigators and, in addition, the squadron was receiving many new crews, the majority unfamiliar with Mosquitos. Much time had therefore to be spent in practice flying in between operational patrols. Meanwhile the ground crews were kept very busy making themselves familiar with the servicing routine of the new type of aircraft. Inspections took longer than when the unit was equipped with Beaufighters, and faults, which later became routine, at first took time to isolate.

During this transitional period the New Zealanders received much valuable help from members of No. 605 Intruder Squadron which now shared the same airfield, and a fine spirit of companionship was built up between the two squadrons. By a strange coincidence the original No. 605, like the original No. 488 Squadron, had been in the **Far East**. Previously its pilots had put up a high score while flying Hurricanes in the Battle of **Britain**. In their 'Intruder' patrols they now ranged as far afield as the Baltic on special missions by day as well as by night.

No. 488's hard work of the past months was rewarded on 15 September when, after a fortnight of patrols with many unsuccessful chases, the first German aircraft were claimed destroyed by crews flying Mosquitos. Flight Lieutenant Gunn was on patrol off the south-east coast when enemy raiders appeared in the area and Gunn was given directions to intercept them. He made contact with an Heinkel 111 and the combat took place close to the airfield. Many members of the squadron saw a 'great ball of fire in the sky, heard the explosion which followed and saw the aircraft plunge into the sea.' There was jubilation in the squadron's dispersal area but this was soon replaced by gloom when there was no further news of Gunn. It was later ascertained that his aircraft had been shot down by the Heinkel while pressing home his final attack.

The loss of Gunn and his Scottish navigator, Flying Officer Affleck,¹ a deservedly popular team, was quickly avenged. Flight Lieutenant Watts,² on patrol off the south coast, was given a vector and after radar contact sighted a Dornier 217. Then followed a chase in which Watts closed to 500 feet before opening fire. He later reported:

.... I gave a three-second burst, which struck the enemy aircraft on the starboard engine and fuselage, causing debris to fly off. The engine caught fire, and he went down towards the sea.

The Dornier crashed about 30 miles south-east of Foreness and continued to burn for some minutes before disappearing beneath the water. For the rest of the month the New Zealanders continued to patrol their sector, aided by occasional 'scrambles' from the ground, but there were no further interceptions.

Early in October an all New Zealand crew, Pilot Officers Knox³ and Ryan,⁴ engaged a Dornier 217 near **Canterbury** after a long pursuit through thick mist. They made two attacks, and during the second Knox saw strikes on the Dornier's engine and fuselage before contact was lost in the mist. Three days later the squadron lost its most experienced pilot, Flight Lieutenant Ball,⁵ and his Scottish navigator,

Flying Officer Kemp, ⁶ when their Mosquito crashed near Bradwell Bay on return from a patrol. Ball had returned to begin a second tour of duty with No. 488 Squadron in July. He had earlier completed two tours of bomber operations, the second with No. 75 Squadron. Kemp also had much experience of bomber and night-fighter operations. This was not the only loss suffered by the squadron at this time; a few days later another crew were lost during a practice flight when their Mosquito dived into the River Blackwater.

New and inexperienced crews were continually joining the squadron at this time and had to be trained for operations. Much of this

¹ Flying Officer J. Affleck; born Roslin, Midlothian, 2 Jan 1920; joined **RAF** Sep 1939; killed on air operations, 15 Sep 1943.

² Wing Commander R. G. Watts; born **Auckland**, 11 Mar 1916; shepherd; joined **RNZAF** Dec 1940; commanded No. 488 Sqdn, 1944–45.

³ Flight Lieutenant N. McA. Knox; born Dunedin, 2 Sep 1916; clerk; joined **RNZAF** Jun 1941.

⁴ Flight Lieutenant T. P. Ryan, DFC; born **Morrinsville**, 29 Mar 1916; engineer; joined **RAF** Aug 1941; transferred **RNZAF** Jan 1944.

⁵ Flight Lieutenant E. C. Ball; born Kinsdale, **Ireland**, 28 Mar 1912; shepherd; joined **RNZAF** Mar 1940; killed on air operations, 9 Oct 1943.

⁶ Flying Officer W. Kemp; born Aberdeen, 13 Jul 1918; joined **RAF** Apr 1939; killed on air operations, 9 Oct 1943.

work fell on the two flight commanders, Squadron Leader Hobbis, ¹ a

prominent English tennis player, and Squadron Leader Davison. Among the more experienced pilots were Flight Lieutenant Cook ² and Flying Officer Hall. ³ Cook had already completed a tour of night fighting with No. 141 Squadron, and towards the end of 1942 he had chased a Dornier 217 which, in its frantic efforts to escape, crashed into a gasometer at Bognor. Hall had previously flown many photographic reconnaissance sorties in Spitfires.

Early in November No. 488 Squadron claimed its first Messerschmitt 410 destroyed. This success, which came only after a long and difficult chase, was scored by the squadron's leading 'train busting' team, Reed and Bricker. Reed's report is as follows:

I was scrambled for incoming raids and whilst at 25,000 feet was vectored on to a possible enemy aircraft at 17,000 feet, distance 6 miles. I put my nose down increasing speed to 320 m.p.h. and my navigator obtained a contact at 1¾ miles range, crossing port–starboard at 10,000 feet. I turned hard to starboard and although the contact was lost it was later regained. Closed to 4,000 feet, target well above. I had a vague visual and closed into 800 feet when target went into light cloud, exhausts being visible. As both aircraft came out of cloud I identified the enemy aircraft as a Me410. I opened fire with two second burst of cannon from 250 yards from slightly above and to starboard and the enemy's starboard engine caught fire but it then appeared to fly straight on with no evasive action or return fire. I gave a further three seconds burst from 250 yards, above and to starboard, and the enemy aircraft rolled over to port diving vertically. My navigator saw the port wing buckle under and the aircraft disintegrate in flames in cloud.

Another Me410 was shot down towards the end of the month by Flying Officer Hall. On patrol over south-east England he was vectored towards a target and, after a long pursuit, was able to overhaul the Messerschmitt. Opening fire with a short burst from a range of 600 feet, Hall saw strikes on the fuselage. A large yellow explosion followed and the enemy machine was last seen diving down into cloud. During the chase the two aircraft had flown across the south of England and out

over the Channel almost to the French coast at Calais before Hall turned for home on orders from Ground Control. He did not see the Messerschmitt crash but it was later confirmed as destroyed.

Unfortunately the same night, Squadron Leader Hobbis failed to return from patrol after signalling that his Mosquito had caught fire. To take his post as 'A' Flight commander, Watts was promoted Squadron Leader. Meanwhile in 'B' Flight Squadron Leader Davison

¹ Squadron Leader D. O. Hobbis, DFC; born Tynemouth, Northumberland, 25 Apr 1910; joined **RAF** Sep 1939; commanded No. 1451 Flight, 1942; killed on air operations, 25 Nov 1943.

² Flight Lieutenant W. R. Cook; born **Timaru**, 8 Oct 1918; clerk; joined **RNZAF** Mar 1941.

³ Flight Lieutenant P. F. L. Hall, DFC and bar; born **Opotiki**, 16 May 1922; schoolmaster; joined **RNZAF** Jul 1941.

had been posted and replaced by Squadron Leader Bunting, ¹ of Worcester, who had already won distinction as a night-fighter pilot. There was now intense rivalry between the two flights as to which of them would score the next success. 'A' Flight was to be the fortunate one when, on 20 December, Flying Officer Robinson and his British navigator, Flying Officer Clarke, ² destroyed another of the elusive Me410s. Radar contact was obtained on a target flying well above the Mosquito so Robinson climbed to 25,000 feet before he sighted the raider. Although it was flying at 300 miles an hour, he was able to close and open fire but owing to vapour trails could not observe results. The Messerschmitt then began climbing and diving in tight turns for it was now held by searchlights. Robinson kept up his attack and saw strikes on the port engine and fuselage and a red glow inside the enemy machine. He met determined return fire as he went in for the kill. Pieces flew off the enemy aircraft, which then turned steeply and dived to

crash and explode near Rye, in **Sussex**.

Towards the end of the year Wing Commander Hamley was promoted Group Captain and placed in charge of an operational training unit. He was succeeded by Wing Commander Haine,³ of Gloucester, who had been flying on operations since the beginning of the war, had risen from sergeant pilot and won commendation during the Battle of **Britain** as a **Blenheim** day-fighter pilot. Early in May 1940 he was shot down over **Holland** just after the Germans had invaded that country. After eluding enemy paratroops and making an unsuccessful attempt to capture a Messerschmitt fighter in which he hoped to fly back across the Channel, he was taken aboard the destroyer bringing Queen Wilhelmina to England. **Haine** was not unknown to many members of the squadron as they had been trained at the unit where he had been in charge of flying training.

Flying Officer Bergemann and his British navigator, Flying Officer Bishop,⁴ scored the first success of 1944. Taking off in the late evening of 2 January, they spent two hours on practice runs before they were given a course which resulted in an interception. A difficult chase followed, from 25,000 feet right down to 6000 feet at speeds approaching 350 miles an hour. But radar contact was held and eventually Bergemann caught a glimpse of the enemy machine weaving from side to side some 800 feet ahead. Three fierce attacks

¹ Squadron Leader E. N. Bunting, DFC and bar; born St. Johns, Worcs., 8 Jun 1917; joined **RAF** Oct 1939; killed on air operations, 30 Jul 1944.

² Flight Lieutenant W. T. Clarke, DFM; born Croydon, **Surrey**, 11 Apr 1919; joined **RAF** Mar 1938.

³ Wing Commander R. C. Haine, DFC; **RAF**; born St. Stephens, Gloucestershire, 1 Oct 1916; joined **RAF** 1935; commanded No. 96 Sqdn, 1941–43, and No. 488 (NZ) Sqdn, 1944; CI No. 57 OTU, 1945.

⁴ Squadron Leader K. R. Bishop; born **London**, 15 Sep 1922; joined **RAF** Sep 1941.

had to be made before the Messerschmitt finally went down, and in the end Bergemann nearly collided with his target as the German pilot made a last desperate effort to break away. Pieces of debris from the enemy machine hit the Mosquito and damaged the starboard engine, forcing Bergemann to make an emergency landing at an airfield near the coast.

This was the beginning of a very successful period for No. 488 Squadron which coincided with a substantial increase in enemy activity over England.

* * * * *

As 1943 drew to a close the Germans prepared for further reprisal raids against **Britain**. With their morale at a low ebb – the fall of **Sicily** had been followed by the capitulation of **Italy** and in Russia German armies had just been flung back beyond Kiev – propaganda was urgently needed for the home front. Something had to be done. Perhaps the news that **Britain** was again under heavy attack would have a heartening effect.

The German bomber force in the West was therefore reinforced from **Italy** and by the end of December it totalled some 550 bombers – a somewhat assorted collection made up mainly of Junkers 88s, Junkers 188s and Dornier 217s, thirty of the new Heinkel 177s, at last available for long-range bombing operations against the **British Isles**, twenty Messerschmitt 410s and twenty-five Focke-Wulf 190s. This force, however, was not as formidable as it seemed. There had already been a marked deterioration in the efficiency and striking power of the enemy bomber force in the **Mediterranean** and the general standard of training throughout the German bomber squadrons was not high enough to allow an effective and concentrated attack on vital British targets.

Recognition of this deep-rooted weakness in his force led the German commander, Oberst Peltz, to imitate the [RAF](#) pattern of pathfinding and to form units manned by crews specially trained in navigation who would be assisted by radar and radio ground control. By these means he hoped to overcome the low standard of operational efficiency so evident among the squadrons available.

The new offensive was timed to begin over the Christmas period, but was delayed until the New Year by bad weather. On 20 January 1944 Peltz delivered a speech to German bomber crews specially paraded at Chateaudun for the purpose. The *Herrenvolk*, he said, had hitherto had to endure the destruction of their home towns by British bombs without being able to retaliate. The position had now changed. The time for retribution had arrived and large-scale attacks on England would now commence. As a further boost to morale Peltz inaugurated new target areas in [London](#), each of which bore the name of a German city that had been devastated by RAF Bomber Command. The curtain went up the following night with an attack on 'Munchen' – [London](#)'s West End – against which 270 sorties were flown.

It fell far below expectations. The pathfinder technique proved too elaborate for inexperienced crews and few aircraft succeeded in reaching Greater London. Not more than thirty tons of bombs fell on the capital, while nearly 300 tons were scattered around the countryside at large. There was then an interval of eight days before the next major attack, but it achieved no greater success, while two further raids in the first half of February were dismal failures; on both occasions only a very small proportion of the total bomb load fell on the target. It was not until 18 February that the Germans, using a simpler pathfinder technique, succeeded in dropping a worth-while quantity of bombs – about 175 tons – in the [London](#) area. Nevertheless, during March and until the last attack on 18 April only about half of the total number of aircraft operating on any one night were able to reach the target area. Moreover, the German effort fell off consistently. After the opening attack not more than 100 to 140 bombers operated on any one night. In

between the raids on **London**, Hull was the target for two attacks and a third was directed against **Bristol**. But the increased distances to these cities brought serious errors in navigation and German crews were often unable to identify their targets; in the attack on **Bristol**, for example, the bombing concentration fell near Weston-super-Mare, about 20 miles away.

Altogether the Germans failed to obtain any noteworthy success during this offensive. Their bombers suffered heavy losses, about 135 aircraft being destroyed by night fighters and anti-aircraft guns – approximately 6 per cent of the sorties flown – while further losses were incurred through the inexperience of the crews and from successful Allied low-level attacks on German bomber bases on the Continent.

The British night defence, of which Fighter Command's thirteen Mosquito and three Beaufighter squadrons were the spearhead, proved equal to the test. At first, there was alarm when the enemy raiders began dropping metallised strips on a large scale in an attempt to swamp the British radar with spurious echoes. As yet there was no effective counter and it was fortunate that the existing radar system was not so seriously affected as had been feared. Nevertheless, there were occasions when it was virtually blinded over wide areas. Then the ground control stations were unable to track enemy aircraft and assist the patrolling night fighters; searchlights and anti-aircraft guns had to revert to sound location. On the other hand, British radar counter measures were so successful in disrupting German navigational aids that the enemy crews, unable to find their targets, were often unaware they were being led astray by their own radar devices.

Civilian casualties from air raids in **Britain** during the first four months of 1944 amounted to 1497 persons killed and 2841 seriously injured – nearly all of them Londoners – but, grievous though this was, it scarcely compared with the 41,480 people killed and 48,470 seriously injured during the 'blitz' of 1940. The British people, particularly the Londoners who, after the spate of German propa- ganda, had prepared for a renewal of air raids on a similar scale to that which they had endured

in the early days of the war, were surprised at the weakness of the enemy attack. They dubbed it the 'Baby Blitz', and it is under this name that the brief assault of early 1944 which signalled the final collapse of the German bomber force has passed into history.

* * * * *

The renewal of the German attack had brought increased activity for the British night fighters in both defensive patrols over England and intruder operations over enemy bomber bases on the Continent. New Zealanders were early in action. In the opening raid Warrant Officer Kemp shot down the first Heinkel 177 destroyed over England. Flying a Mosquito of No. **151 Squadron**, Kemp had been airborne for about half an hour when ground control warned him that enemy aircraft were in the area and he was given several vectors. After flying for some time without making contact, Kemp saw a searchlight cone appear, and as he dived towards it his British radar operator, Flight Sergeant Maidment,¹ obtained a head-on contact at two miles range. A few moments later Kemp sighted the enemy bomber and began to close in. But the enemy machine, apparently aware of the Mosquito's approach, suddenly peeled off and dived away taking violent evasive action. Contact was lost but quickly regained when the German bomber began to fly straight and level, heading for the North Sea. Kemp again closed in and opened fire. There was a violent explosion and a shower of sparks appeared on the port wing. In the light of the explosion Kemp saw a white swastika on the tail of the bomber as it skidded to one side. It then went down in a steep dive and was subsequently found crashed near Haslemere, in **Surrey**.

The same night the New Zealand Mosquito Squadron put up twelve aircraft on patrols in the vicinity of **London**. Several inci-

¹ Flight Sergeant J. R. Maidment; born Camberwell, **London**, 14 Oct 1922; joined **RAF** Sep 1941; killed on air operations, 11

Apr 1944.

dents

were reported. One crew, Flying Officer Bergemann and Flying Officer Bishop, who only a few nights earlier had shot down an Me410 into the Channel, were on the point of opening fire on an enemy bomber when it was hit by an anti-aircraft shell and blew up. But the most notable episode was the destruction of two enemy bombers by Flight Lieutenant Hall ¹ and his navigator, Flying Officer Cairns. ² They were on a free-lance patrol when they sighted and attacked a Dornier 217 coned by searchlights. After a long and accurate burst from the Mosquito's guns, the Dornier broke up and fell into the sea in flames. Turning back towards the coast, Hall saw another machine caught by intersecting beams. It proved to be a Junkers 88. Hall attacked as the German pilot swung away from bursting anti-aircraft shells. Both engines of the enemy machine caught fire and almost immediately the fuselage burst into flames. The aircraft then went down like a flaming torch and crashed near Lympne, in Kent. ³

It was not long before 488 Squadron was again in the news. On the night of 4 February Flight Sergeant Vlotman, ⁴ a Dutch night-fighter pilot flying with the New Zealanders, destroyed a Dornier 217, which fell into the sea 40 miles east of Foreness. Vlotman was interviewed by Dutch journalists and an article on his exploits appeared in the underground newspapers in **Holland**. He also broadcast to **Holland** over the **BBC**, but his identity was not disclosed for fear of reprisals against members of his family still in **Holland**.

February was a month of intense activity for the New Zealanders with the Mosquitos airborne on defensive patrols almost every night. Normally they operated in co-operation with the ground control interception station, each crew patrolling for a period of about three hours. On occasion extra machines would be scrambled to intercept suspected enemy aircraft, but until the 24th only a few fleeting visuals

were reported. Meanwhile two crews had been lost. Early in the month Flight Sergeant Watson ⁵ and his navigator, Flight Sergeant Edwards, ⁶ were lost on patrol. Flying Officer Riwai, ⁷ a



PRE-INVASION AIR ATTACKS

¹ Squadron Leader J. A. S. Hall, DFC and bar; born **Oxford**, 25 Dec 1921; joined **RAF** Aug 1940.

² Flight Lieutenant J. P. Cairns, DFC and bar; **RAF**; born Working, **Surrey**, 19 Feb 1916; joined **RAF** Aug 1939.

³ This episode received considerable publicity at the time and photographs of the pilot and navigator appeared in the London Sunday newspapers over the caption 'The Flying Tigers'. The following morning raw meat was placed in front of the two airmen when they appeared for breakfast.

⁴ Flying Officer C. J. Vlotman; born The Hague, **Holland**, 12 Feb 1915; joined **RAF** Aug 1941.

⁵ Flight Sergeant K. J. Watson; born **Palmerston North**, 10 Mar 1923; motor mechanic; joined **RNZAF** Mar 1942; killed in flying accident, 3 Feb 1944.

⁶ Flight Sergeant E. F. Edwards; born Wakefield, 23 Apr 1917; orchard worker; joined **RNZAF** Mar 1942; killed in flying accident, 3 Feb 1944.

⁷ Flying Officer T. R. Riwai; born **Otaki**, 13 Sep 1918; general clerk; joined **RNZAF** Mar 1942; killed on air operations, 21 Feb 1944.

Maori pilot serving with the squadron, and his navigator, Flight Sergeant Clark, ¹ were killed when their Mosquito crashed at the end of the airfield whilst taking off on a night operation.

On the 24th there was considerable enemy activity over south-eastern England but outside the New Zealanders' normal patrol area. However, two hours before midnight. Flight Lieutenant P. F. L. Hall was ordered to scramble and to fly into the patrol area of a neighbouring squadron and there to 'free-lance' with the aid of searchlights. Hall chased several searchlight intersections before he identified a Dornier 217, caught in the beams as it dived towards the coast. He opened fire and saw strikes followed by smoke, but the enemy aircraft then eluded him. Continuing his patrol Hall saw a searchlight intersection slightly below him and on investigation saw a German bomber approaching from directly ahead, the black crosses on the wings plainly visible in the glare of the searchlight beams. He fired several sharp bursts which set the bomber's port engine on fire. Then it went into a steep dive, with burning pieces falling away, and finally hit the ground and exploded. Subsequent inspection of the wreckage showed the destroyed aircraft to be a Heinkel 177.

Further successes were scored by No. 488 Squadron during March when the Germans made further attacks on **London**. On the night of the 14th Squadron Leader Bunting shot down a Junkers 188 after searchlights had betrayed its position. The engagement was brief as, after the first burst of cannon fire, the bomber dived vertically to the ground where it exploded in a mass of smoke and flame. Then a week

later, on 21 March, the squadron created a record by destroying no fewer than five German raiders.

On this night a large raid was plotted approaching from the Dutch islands. Very appropriately the first aircraft of the German formation – a Junkers 88 – was shot down into the sea by the Dutch pilot, Vlotman. Shortly after this success, Vlotman was put into contact with an enemy aircraft which he was unable to identify. It was a very dark night and the German crew were dropping large quantities of metallised strips, but Vlotman succeeded in maintaining contact and opened fire from 200 yards. The enemy machine went down into the sea near **Herne Bay**. During the action pieces of wreckage hit the Mosquito and next morning were found embedded in the radiator and nose. The next pilot to land was Flight Lieutenant J. A. S. Hall of **London**, who had witnessed the destruction of the Dutchman's first victim. He had then himself intercepted a Junkers 88 over Essex which he shot down in flames, the wreckage

¹ Flight Sergeant I. Clark; born **Mataura**, 12 Dec 1919; clerk; joined **RNZAF** May 1942; killed on air operations, 21 Feb 1944.

falling on an American airfield near Halstead. Two more Huns went to Squadron Leader Bunting. He had been co-operating with searchlights before making contact with a Junkers 88, which he set on fire. The German bomber then dived away to explode on hitting the ground. Bunting resumed his patrol until vectored towards another raider. A contact was obtained at nearly four miles range and there began a long and hard chase, with the German bomber turning and twisting in the hands of an obviously experienced pilot. But eventually Bunting was able to manoeuvre into a favourable position and open fire. The bomber, now recognised as a Junkers 188, burst into flames and exploded on hitting the ground.

For the remainder of the month the New Zealanders alternated practice flights in co-operation with Bomber Command aircraft with

further interception patrols, but there was only one night when there was any activity in their area. On that occasion **Flying Officer C. M. Wilson**¹ and his navigator Flying Officer A. W. Wilson,² were lost in action whilst patrolling off North Foreland.

It was to be almost a month before the squadron was again successfully engaged with the enemy. This was on the night of 18 April when the Germans made their final attack of the 'Baby Blitz' on **London**. Two enemy aircraft were destroyed that night, one by Flight Lieutenant J. A. S. Hall and his navigator, Flying Officer Cairns, the other by Warrant Officer Bourke³ and Flying Officer Skudder.⁴ Hall's target was a Junkers 88. After a prolonged chase it was finally overtaken near the Belgian coast and shot down into the sea, its destruction being witnessed by a pilot from a Canadian night-fighter squadron. While this crew were being congratulated, Bourke and Skudder landed to report the destruction of another Junkers 88. Bourke's combat report reads:

Contact was obtained at 6,000 feet range, about 500 feet above. I closed in at 200 m.p.h. on the enemy aircraft which was doing approximately 170 m.p.h. A visual was obtained at 800 feet and the enemy aircraft was seen to be taking gentle evasive action and was dropping 'Window'. Target was at first believed to be a Junkers 188 but when I opened fire at 250 yards dead astern and slightly below, I recognised the aircraft as an 88. My first burst of 1 ½ seconds hit the port engine and the port wing. The engine burst into flames and the enemy aircraft dived straight down into the sea on fire. There was no return fire

This same night there was an unusual incident. In the early hours Flying Control reported that an aircraft, possibly a Mosquito, was

¹ **Flying Officer C. M. Wilson**; born **Auckland**, 15 Jun 1923; student; joined **RNZAF** Feb 1942; killed on air operations, 25 Mar 1944.

² **Flying Officer A. W. Wilson**; born **Invercargill**, 17 Feb 1923; electrical engineer cadet; joined **RNZAF** Nov 1941; killed on air

operations, 25 Mar 1944.

³ Pilot Officer R. F. D. Bourke; born Pahiatua, 15 Sep 1921; farmer; joined **RNZAF** Jul 1941.

⁴ Flight Lieutenant I. C. Skudder; born Kawakawa, 7 Nov 1922; clerk; joined **RNZAF** Jul 1942.

coming in to land, with one engine on fire. It appeared, however, that it could not be one from No. 488 but from another squadron. Aircraft in the circuit made way for the disabled machine and members of the New Zealand unit, including the commanding officer, stood by to render assistance. The strange aircraft made a crash-landing with wheels retracted and as it skidded to a stop Wing Commander Haine, an ambulance, and fire tender arrived on the scene. The fire tender began to spray foam on the burning motor and then, 'to the utter amazement of the bystanders', four Germans clambered down from the aircraft. It was a Junkers 88. A certain similarity in construction to the Mosquito, the darkness and a somewhat natural lack of suspicion, had combined to distract attention from the aircraft until that moment. The German airmen were taken prisoner, and the Junkers, after it had been explored by members of the squadron, was removed to an experimental establishment where it was subsequently repaired and flown in tests against British aircraft.

* * * * *

At the beginning of April 1944 the actual strength of the German bomber units in the West had fallen below 200 aircraft, with many units holding less than half their establishment. And now, on top of the losses sustained in the reprisal raids against **London** during the previous months, came the German decision to concentrate all possible resources on fighter production. Moreover, such aircraft of suitable bomber type, like the Junkers 88, as continued to be built were needed largely for the maintenance and still further expansion of the night defences of the

Reich. Consequently, with no stock of reserve aircraft, bomber losses could not be replaced, and it was a sadly depleted force that remained in France to resist the Allied invasion. In Britain confidence in the ability of the air defences to inflict further losses led to the conviction that German bombers could do little to interfere with the growing concentrations of shipping, material and troops. This was to be fully justified by subsequent events. Such was the decline of the Luftwaffe's striking power that the Allied preparations for invasion now moved rapidly towards their climax almost unmolested from air attack. Things had certainly changed since the summer of 1940.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 9 – PRELUDE TO INVASION

CHAPTER 9

Prelude to Invasion

‘ WE shall be back,’ Winston Churchill had told the French in June 1940 just after **Dunkirk, and now, after long years of doubt, disappointment, and prolonged debate at many conferences, the fulfilment of that promise was at hand. An invasion of Western **Europe** was to be ‘the supreme operation for 1944’. It would be launched during May of that year. General Dwight D. Eisenhower was appointed Supreme Commander on 6 December 1943, and a few weeks later a directive from the Combined Chiefs of Staff defined his task in these words: ‘You will enter the Continent of **Europe** and, in conjunction with the other Allied nations, undertake operations aimed at the heart of **Germany** and the destruction of her armed forces.’**

Eisenhower had already achieved notable success as Commander-in-Chief in North Africa, where he had proved it was possible to create a closely knit Anglo-American command organisation inspired by a spirit of unity and common purpose which would override international prejudices and inter-service rivalries. This welding together of the Allied armies in the field was, in fact, Eisenhower's unique contribution to victory, but he was also a great man, peculiarly fitted for the role of Allied Supreme Commander. Universally trusted, he evoked spontaneous affection, respect, and loyalty from political and military leaders alike, from the people of **America and **Britain** and from their troops in the field.**

Eisenhower was fortunate in obtaining for his staff men whose ability had already been demonstrated in previous campaigns, notably Air Chief Marshal Sir Arthur W. Tedder, who was appointed Deputy Supreme Commander. Tedder had exactly the qualities and the experience for this role. In Africa and the Mediterranean he had directed the Allied Air Forces with a brilliant hand. The Americans liked and respected him and he understood what the Army needed. Moreover, by character and experience he was well fitted to resolve the inter-service

and inter-Allied difficulties that were bound to arise. Eisenhower's immediate subordinates were Admiral Sir Bertram Ramsay, in charge of naval operations, and Air Chief Marshal Sir Trafford Leigh-Mallory, in command of the Allied Expeditionary Air Forces. There was no corresponding appointment of a Commander-in-Chief Allied Land Forces, but General Sir Bernard Montgomery was given operational control over all land forces in the assault phase, after which it was understood that Eisenhower would assume direct control of land operations himself.

The early planning for operation **OVERLORD**, as the invasion was known, had been in the capable hands of Lieutenant-General Sir Frederick Morgan. He had begun work in **London** during the dark days of 1941 and had laboured steadily until March 1943, when a bigger Anglo-American Planning Staff was formed under his direction and given the code-name **COSSAC** - an abbreviation for Chief of Staff to Supreme Allied Commander, at that time still to be appointed. The tremendous task of detailed planning and preparation for operations by land, sea, and air with all their various ramifications was continued and in January 1944, when Eisenhower took over, **COSSAC** became **SHAEF** - Supreme Headquarters **Allied Expeditionary Force**. Specially erected buildings in Bushey Park, near historic Hampton Court on the outskirts of **London**, were now provided for a large part of the general staff of **SHAEF**.

The original **COSSAC** plan for **OVERLORD** envisaged an initial assault by three divisions on the Caen-Bayeux sector of the **Normandy** coast, to take place at the beginning of May 1944. Then would come the seizure of Cherbourg and the Brittany ports and, after sufficient build-up of forces, the capture of **Paris** and the Seine ports. The **Normandy** coast had been selected as the most suitable area for the landing only after careful consideration of all the difficulties involved. An attack on the **Pas de Calais** would have offered the shortest sea crossing and maximum opportunities for exploiting Allied air capabilities, particularly where the short-range fighters were concerned. But the **Pas de Calais** was the best-defended region precisely because it was the most vulnerable. Moreover, the Allied ground forces would find it difficult to expand from the

beaches to ports as distant as Antwerp and Le Havre. The region near Caen was second best from the air point of view but far more promising for the ground forces. This was the least-defended area within Allied range, the surface was suitable for quick airfield development, and it was near the excellent port of Cherbourg. Thus the invasion planners had early come to regard the **Normandy** beaches as the most suitable point for the assault, notwithstanding their considerable distance from English bases. There was little reason afterwards to regret this choice.

Important changes in the general plan for **OVERLORD** were, however, made early in February 1944. Eisenhower, strongly supported by Montgomery and other top leaders, thought that the three-division assault was insufficient and the initial landing on too narrow a front; Morgan thought so, too, but he had been compelled to plan on the basis of a fixed number of ships, landing craft and other resources.¹ Eisenhower now refused to accept these limitations and insisted on employing five divisions in the initial landing with some extension of the front.

This enlarged assault scheme underlined a war-long problem of the Western Allies – the shortage of landing craft – and in order to allow more time for their arrival from British and American ship-yards, it became necessary to postpone D Day until the beginning of June. Another factor which made a later date desirable was, as Eisenhower records, ‘the high degree of dependence we were placing on the preparatory effort of the air force.’ Plans for the bombing of critical transportation centres in **France** were still under discussion, and an early invasion would provide only a minimum opportunity for such attack, whereas the improved weather expected for the month of May would give the Allied Air Forces much more time and better opportunity to impede the movement of German reserves and demolish German defences along the coastline.

Nevertheless, acceptance of the later date was disappointing for the Allied armies needed all the summer weather they could get for the European campaign. Moreover, it now became necessary to delay the

complementary attack against southern France – Operation ANVIL – which had been planned to take place simultaneously with the invasion across the Channel. Even with the June date now fixed for the landing in Normandy, it was found that there were not enough landing craft and other facilities available to mount both the cross-Channel and the Mediterranean attacks in the required strength at the same time.

With

OVERLORD

established on a broader basis and the date for its launching more firmly fixed, Eisenhower and the various commanders with their staffs went ahead with the involved and intricate planning and preparation. Truly formidable was the amount of detailed work required for the whole gigantic undertaking. There were all the complicated arrangements for the moving of large armies and vast quantities of material into the southern half of England, the setting up of camps, airfields, dumps and transport centres, the provision and assembly of many ships, the embarkation at congested ports according to a strict schedule, and the safe conduct of the whole expedition across the Channel. Then, above all, there was the planning in all their various aspects of the difficult and hazardous landing on an exposed coast, the establishment of a bridge-

¹ Unfortunately when, in August 1943, the Combined Chiefs of Staff had accepted the COSSAC Plan and fixed the target date, they had not then and there made the decisions, particularly those relating to the allocation of shipping resources, necessary to its success.

head

and the subsequent attack inland, with all the consequent problems of maintenance, supply and reinforcement. The special tactical problems anticipated in the initial assault were many and some proved most difficult of solution. The actual composition of the naval assault forces

was not settled until relatively late in the period and this laid an additional burden upon the planning staffs. Many other difficulties arose, some of them out of the complex nature of the Anglo-American planning organisation itself, yet in the end all was worked out in the greatest detail – for the actual operations of the land, sea and air forces, for meeting their requirements in men and machines, equipment, ammunition, stores and rations, and for the replacements that would be needed. Altogether, the military preparations that were completed in **Britain** during the spring of 1944 were the most elaborate in the history of warfare.

One particularly interesting feature of the operational planning was the attention given to devising means of deceiving the Germans as to the point and timing of the actual landings. The main problem was to convince them that the intention was to strike directly across the Channel at its narrowest point, against the stronghold of Calais. Because of the obvious advantages that would accrue from a successful assault in this region, the Germans kept strong forces there and fortified that section of the coast more strongly than any other. The defences were, in fact, so strong that none of the Allied leaders believed they would be breached except at terrific cost. A wide variety of measures was therefore necessary to persuade the enemy that the Allies would be tempted into this operation. Among the more obvious methods employed were simulated concentrations of troops in **Kent** and **Sussex**, fleets of dummy ships in the south-eastern ports, landing exercises on the nearby beaches, increased wireless activity and the judicious release of misleading information. In addition, there were certain important air operations presently to be described. The result exceeded expectations. Extraordinary credence was given by the enemy Intelligence division to the evidence put at its disposal and the whole **German High Command**, including Field Marshal von Runstedt, Commander-in-Chief on the Western Front, became more or less certain that the **Pas de Calais** was the Allied objective.

It is well to remember, however, that at this time the Germans were

denied effective air reconnaissance of the **United Kingdom** and its adjacent waters. Had this not obtained, the deception might have been much more difficult.

* * * * *

Throughout these months of military planning and preparation the Allied Air Forces were in action, paving the way for this greatest venture of the war. In the broad strategic sense, the air had already made a notable contribution. The winning of the Battle of the **Atlantic** had ensured the passage to the battlefield of a vast mass of troops and supplies from the **United States** and **Canada**, while the bomber offensive against **Germany** had undoubtedly weakened the enemy war potential. By March 1944, however, large numbers of bomber, fighter-bomber, fighter and reconnaissance aircraft were operating from **Britain** on a wide range of missions more directly connected with the actual landings in **Normandy**. The principal Allied forces thus engaged were RAF Bomber and Coastal Commands; the **United States 8th Air Force** with its component bomber and fighter commands; and the Allied Expeditionary Air Force which contained the RAF Second Tactical Air Force, the **United States 9th Air Force**, and the Air Defence of Great Britain. ¹

Control and co-ordination of the operations of these various formations proved a difficult and delicate problem. Air Chief Marshal Leigh-Mallory had been appointed to command the Allied Expeditionary Air Force at the end of 1943, and he had planned in anticipation that he would eventually be responsible for all air operations in connection with the invasion. Unfortunately, however, Leigh-Mallory had not won the confidence of the Americans, nor had he always been successful in his dealings with the other services. A resolute and aggressive commander of fighters in the earlier years, he lacked the diplomatic touch. While holding strong opinions about the use of air power, many of which were to be proved correct by events, his method and manner of presenting his views tended to arouse resentment. Admittedly, amidst the clash of personalities and strong feelings regarding the control and direction of operations, his position was a difficult one. But there was now some

reluctance to place the United States Strategic Air Forces and RAF Bomber Command under his jurisdiction.

The employment and control of the heavy bomber forces were, in fact, settled only after considerable controversy. At the beginning of 1944 both Bomber Command and the United States Strategic Air Forces were still directly responsible to the Combined Chiefs of Staff, and their commanders, Air Marshal Harris and General Carl Spaatz respectively, were reluctant to be diverted from their appointed task of crippling German industry just when they believed they were about to achieve decisive success. Both men were convinced that **Germany could be bombed into impotence, if not submission,**

¹ RAF Fighter Command had been divided on the formation of the Second Tactical **Air Force and this was the name given to the part that was to be retained for the defence of the **United Kingdom**. However, the term proved unpopular and the old name was revived in October 1944.**

provided that heavy bombing attacks were maintained without respite; any slackening or pause would give the enemy opportunity to patch up existing damage and carry through his programme of dispersal. In addition to these operational considerations, there was substantial political opposition to any change of control.

Eisenhower, however, insisted that all air resources be employed to ensure the success of the main Allied effort, **OVERLORD. His view prevailed, and on 17 April 1944 the Combined Chiefs of Staff placed the Strategic Air Forces under his 'operational control'. Eisenhower then delegated to Tedder the intricate task of co-ordinating the efforts of the British and American heavy bombers and of Leigh- Mallory's Allied Expeditionary Air Force. Thus, in the end, it was Tedder who exercised the final authority of the Supreme Commander in respect of air operations.**

Tedder's appointment, however, did not entirely eradicate the weakness of the air command. He had no staff and there was no supreme

air headquarters. Tedder had to co-ordinate as best he could the efforts of three separate air forces, each with its own Commander- in-Chief and each jealous of its own position. Nevertheless, out of this complex and unwieldy arrangement he managed, by deft direction, to ensure that the air forces achieved their tasks in the combined operations with outstanding success.

During April Tedder decided that air operations could be best planned and ordered from the Headquarters of AEF, already situated at the former Fighter Command Headquarters at Stanmore, a pleasant suburb to the north of London. There, the commanders of all strategic and tactical air forces subsequently met at daily conferences and from there operational orders were co-ordinated. An Advanced AEF was created at the beginning of May in the former No. 11 Fighter Group Headquarters at Uxbridge, and Air Marshal Sir Arthur Coningham, the distinguished New Zealand airman who had already achieved outstanding success in charge of the Tactical Air Force in the Middle East, was appointed to command. It was a key post, for Coningham handled direct all units of the British and American air forces allotted to him and became the air commander with whom Montgomery worked while Commander-in-Chief of all the land forces during the initial land operations.

At Coningham's headquarters was a Combined Operations Room, staffed by men from RAF Second Tactical Air Force and the United States 9th Air Force, which controlled the fighter-bombers and light and medium bombers of the two air forces. Also under Coningham's command was the adjacent Combined Control Centre set up in the famous 11 Group Operations Room from which Sir Keith Park ¹ had directed his squadrons in the Battle of Britain. There, using the existing well-tried and efficient signal systems with expanded communications, an Anglo-American staff controlled the initial fighter operations and issued executive orders to the fighter-bombers. Coningham also commanded a Combined Reconnaissance Centre to handle the visual and photographic needs of both British and American forces during the initial phases of OVERLORD.

Coningham was the outstanding New Zealand personality in the vast organisation now established for the planning of air operations, but there were many men from the Dominion – veterans of earlier campaigns – who held senior posts. Group Captain D. H. F. Barnett and Wing Commander Player ² were prominent members of Leigh- Mallory's staff; Group Captain P. G. Jameson and Wing Commander R. W. Baker were in charge of planning at No. 11 Fighter Group; Group Captain S. C. Elworthy was at Bomber Command Headquarters and Group Captain Faville ³ on the operational staff at Coastal Command; Group Captain R. L. Kippenberger and Wing Commander G. R. Magill on the operations staff of No. 2 Bomber Group. Wing Commander Bagnall ⁴ was with a group of the Allied Expeditionary Air Force, while Group Captain Richmond, ⁵ Group Captain Smythe, ⁶ Group Captain A. Wall, ⁷ and Wing Commander Dawson ⁸ were engaged on various staff duties during this period.

The whole chain of command and the administrative organisation for the various British and American air forces to be employed

¹ Air Chief Marshal Sir Keith R. Park, GCB, KBE, MC and bar, DFC, Croix de Guerre (Fr.), Legion of Merit (US); **RAF** (retd); born **Thames**, 15 Jun 1892; in First World War served Egypt, **Gallipoli**, and **France** with NZ Fd Arty, 1914–15, and Royal Fd Arty, 1915–16; seconded RFC 1917; permanent commission **RAF** 1919; SASO HQ Fighter Command, 1938–40; commanded No. 11 Fighter Group during Battle of **Britain**; AOC No. 23 Training Group, 1941; AOC RAF Egypt, 1942; AOC RAF Malta, 1942–43; AOC-in-C **Middle East**, 1944–45; Allied Air C-in-C, SE Asia, 1945–46.

² Wing Commander J. H. Player, DSO, DFC; born **Auckland**, 13 Jul 1914; joined **RAF** 1937; commanded No. 255 Sqdn, 1942; Personal Staff Officer, AC-in-C AEAFF, 1944–45; Staff duties, DG of P, **Air Ministry**, 1945; died of injuries received in flying accident, 8 Aug 1947.

³ Group Captain R. Faville, CBE; **RAF**; born **Christchurch**, 5

Aug 1908; permanent commission **RAF** 1932; commanded No. 42 Sqn, 1940–41; **Coastal Command** Development Unit, 1941–42; Group Captain, Operations, HQ Coastal Command, 1944–45.

⁴ Wing Commander D. R. Bagnall, DSO, DFC, DFC (US); born **Auckland**, 23 Sep 1918; joined **RAF** 1938; commanded No. 40 Sqn, **Middle East**, 1943–44; Air Staff, No. 28 Group, AEAFF, 1944; Air Branch, SHAEF, 1944–45.

⁵ Group Captain R. C. Richmond; **RAF** (retd); born **Wellington**, 14 Mar 1905; joined **RAF** 1930; permanent commission **RAF** 1935; signals duties, HQ Middle East, 1940–41; HQ Fighter Command, 1943–44; commanded No. 70 Wing, 1944; commanded **RAF** Station, Yatesbury, 1947–48; signals duties, No. 3 Group, 1948–49.

⁶ Group Captain D. W. Smythe; **RAF**; born **Devonport**, 11 Jul 1910; joined **RAF** 1929; served with DSM (Air), **Air Ministry**, 1941–44; commanded No. 24 MU 1945–47.

⁷ Group Captain A. Wall, OBE; **RAF** (retd); born **Christchurch**, 11 Jan 1908; Cranwell cadet 1926–28; permanent commission **RAF** 1928; equipment duties, DGE, **Air Ministry** 1941–43; Group Captain, equipment staff, RAF Staff College, 1943–44; Group Captain D of Policy, **Air Ministry**, 1944–45.

⁸ Wing Commander H. L. Dawson, DFC; **RAF** (retd); born **Ellerslie**, **Auckland**, 19 Feb 1914; joined **RAF** 1934; commanded RAF Station, Hal Far, **Malta**, 1942–43; served with D of AT, **Air Ministry**, 1943–44.

was extremely complicated. However, in practice it functioned well, not so much because of its structure or in spite of it, but rather because of the good sense and fine spirit of British and American commanders, particularly when working together in the field of operations, and the intense conviction all down the line that the invasion had to succeed. 'It will, I think, be a considerable time,' General Morgan has observed,

'before anybody will be able to set down in the form of a diagram the channels through which General Eisenhower's orders reached his aircraft.' But reach them they did and to good purpose.

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Air superiority was the principal prerequisite for a successful assault of Europe from the west and the winning of air superiority had long been a cardinal point of the air planning. Operations to ensure the necessary ascendancy over the Luftwaffe were already in progress and Tedder was confident that this would be gained before the assault was launched. The long-term strategic bombing plan, originated by the Combined Chiefs of Staff in June 1943 and directed against enemy aircraft production and assembly by the US Strategic Air Forces ¹ and RAF Bomber Command, had already inflicted severe blows on the supply and maintenance organisation of the Luftwaffe. Moreover, the heavy daylight raids were achieving a steady attrition of the German fighter forces. Indeed, largely as a result of the Allied day and night bombing attack the Luftwaffe, which had been used with exceptional efficiency to blast a path across Europe for the German armies in 1940, was now hopelessly unbalanced and incapable of sustained offensive action.

Parallel with these attacks by the strategic air forces, a campaign of day and night intruding against enemy airfields designed to hamper German training schedules as well as to destroy enemy machines in the air was now being waged by aircraft of the Allied Expeditionary Air Force with very great success. Raids on operational airfields in the west were also causing considerable destruction of buildings and facilities.

The attacks on forward German air bases were to be intensified as D Day approached in order to neutralise the considerable number of airfields within 150 miles of Caen. Bomber bases located in France, Belgium, Holland, and western Germany within range of the assault area and of ports of embarkation in the United Kingdom were also selected as targets. But to avoid giving any indication of the area selected for the Allied landings, the forward airfields in a long

¹ United States 8th Air Force operating from Britain and US 15th Air Force from the Mediterranean.

stretch of enemy territory were to be attacked. In the event thirty-four of the more important air bases received 6717 tons of bombs from 3915 sorties between 11 May and D Day. The result was impressive. ‘... we were afforded immunity from enemy air reconnaissance during the vital period,’ writes General Montgomery. ‘... moreover, not one single attack was carried out by the German Air Force on the assault forces during the sea passage or at any time on the beaches during D-day.’ ¹

Next to the winning of air superiority, the disruption of German communications and channels of reinforcement and supply was the most important task set the Allied Air Forces, and to this end plans had been prepared for crippling the French and Belgian railways. From experience in Italy it had been discovered that a whole railway system could be paralysed if attacks were concentrated on centres of maintenance and repair. Primary targets, therefore, were railway workshops and locomotive sheds, the destruction of which would cause long-term and widespread dislocation which the enemy could not rapidly make good. Since most of these centres were alongside major junctions and marshalling yards, it was possible to strike simultaneously at both the current traffic and capital equipment of the railways. When this process of attrition was well advanced the main attack would be switched to locomotives, lines and bridges, paying special attention in the final week to the road and rail bridges over the Seine, inflicting, it was hoped, damage so severe that the already weakened repair services would be unable to cope with it. Enemy forces moving towards Normandy would then have to take to the roads at a considerable distance from the battle area and so provide excellent targets for the fighters and fighter-bombers.

While the primary purpose of the rail offensive was to reduce the enemy's capacity for moving troops and supplies, it was important that

it should also contribute to the deception plan. By a fortunate accident of geography a single bombardment programme could achieve both objectives. The chief German supply routes to western **Normandy** were either extensions of, or overshoots from, lines which served the **Pas de Calais** or the Le Havre– **Amiens** area. They ran either through **Paris** or across the Seine, west of the capital. Thus the bombing of repair depots and junctions between the Seine and the Meuse could disrupt German communications with **Normandy** almost as effectively as attacks directed at the region between the Seine and Loire. Moreover, the general paralysis of the railway system could best be achieved by attacks on targets in the Region Nord, for it was here that the principal maintenance facilities were located. Nor would the bombing of the Seine bridges

¹ *Normandy to the Baltic* (Hutchinson), p. 22.

betray the Allied intention since this would appear as a last act in an attempt to isolate the **Pas de Calais**.

For the execution of this plan a team of railway experts chose eighty key targets in northern **France** and **Belgium**, thirty-nine of which were to be dealt with by RAF Bomber Command, twenty-three by **US 8th Air Force**, and eighteen by AEEAF aircraft. Attacks by heavy and medium bombers on these centres were to be maintained up to and after D Day and supplemented by fighter and fighter-bomber attacks designed to cut lines and halt or destroy traffic on the move. This would be the first stage of a campaign which, as it spread eastward, would ultimately affect the whole of the German war effort.

But it was only after an exhaustive examination of other possibilities that these proposals were accepted and finally implemented. Indeed, the whole idea of drastically reducing the rail capacity of western **Europe** by bombing had brought about a protracted controversy. There were fears lest this ambitious scheme should jeopardise the attainment of air supremacy before D Day. It would also delay the

opening of the oil campaign which certain air leaders felt – and events were to prove them right – would prove well-nigh decisive in the defeat of **Germany**. Moreover many people, among them Winston Churchill and members of the British Cabinet, were appalled at the estimates of French and Belgian civilian casualties likely to result when the rail centres were bombed. The various differences of opinion were not along national or service lines but rather criss-cross between them. However, convinced by Tedder of the importance of carrying out the plan, Eisenhower gradually overcame the various doubts and hesitations by insisting resolutely on its sober military necessity. On 5 April 1944 he wrote to the British Prime Minister:

We must never forget that one of the fundamental factors leading to the decision for undertaking ‘Overlord’ was the conviction that our overpowering **Air Force** would make feasible an operation which might otherwise be considered extremely hazardous, if not foolhardy The weight of the argument that has been brought against the bombing of transportation centres in occupied territories is heavy indeed; but I and my military advisers have become convinced that the bombing of these centres will increase our chances for success in the critical battle I personally believe that estimates of probable casualties have been grossly exaggerated. ¹

Finally it was agreed that the attacks had to be executed as laid down, with the hope that the measures adopted for warning the population would be effective in minimising casualties. In the outcome the efficacy of the rail bombing plan as preparation for the ground attack was clearly proved. Moreover, not only were the

¹ Quoted by Winston Churchill in *The Second World War* (Cassell), Vol. V, p. 466.

civilian casualties a small fraction of those originally estimated, but the French nation as a whole accepted their necessity and developed no antagonism toward the Allied forces as a result.

Throughout the months before D Day the air forces also had to deal with the threatened German assault on the **United Kingdom** with flying bombs and rockets. Attacks on the launching sites – known as ‘Crossbow’ operations – had begun in December 1943, and they continued to demand a considerable diversion of effort. However, the bombing, although it did not of itself succeed in eliminating the menace, was to be fully justified, for not only did the original scheme have to be abandoned by the Germans but their subsequent attempts were also delayed. And there is little doubt that it was this considerable delay in the inauguration of the enemy's offensive that robbed it of any major military effect.

Particularly valuable work was to be done during this period by the Allied reconnaissance squadrons. Previously, the selection of the actual invasion area had only been made after prolonged air reconnaissance of the whole of the West European coast. Now, after the decision to land in **Normandy**, innumerable sorties were flown so that detailed information and complete photographic cover could be secured. In February nearly a hundred small areas in **Normandy** were surveyed from the air to select suitable airfield sites for use when the air forces moved on to the Continent. In March beaches, ports, and coastal batteries and other defences, airfield facilities, V-weapon sites, dumps and other military installations, radar posts and countless other targets were subjected to the scrutiny of air reconnaissance. By May the whole of the European coastline from **Brest** to Den Helder had been photographed, elaborate target dossiers compiled, and a mass of information provided for the land and sea forces.

The principal task allotted to RAF Coastal Command during these months of final preparations was the protection of shipping in the **Atlantic** sea lanes along which large numbers of troops and vast quantities of equipment were now reaching the **United Kingdom**. This duty was to be faithfully carried out, and Allied shipping losses in the areas swept by air patrols were to be negligible. The attack on German sea communications in European waters was also maintained with

marked success. In addition, **Coastal Command** continued to provide efficient photographic, meteorological, and air-sea rescue services.

Such, in brief, were the military plans and the assigned role of the air forces in preparation for the invasion of Western Europe. It is now necessary to describe in more detail some of the many operations in which New Zealanders serving with the various **RAF Commands** played their part.

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Royal Air Force Bomber Command made a major contribution to the preparations for **OVERLORD**. First there was the campaign against German industry and air power; then came a series of devastating attacks on key railway centres, and finally a number of effective raids on coastal defences, supply bases, and airfields.

The long campaign against German cities and industrial areas had reached a climax during the winter months in the Battle of **Berlin**, and then, in conjunction with the **United States Air Force**, Bomber Command had turned its attention primarily to the enemy's aircraft industry. The operations of February 1944, which included the 'Big Week' towards the end of the month, have already been described in a previous chapter. They were followed in March by raids on the aircraft production centres of **Frankfurt**, **Nuremberg** and **Stuttgart**. **Frankfurt** was attacked twice by a total of 1680 aircraft; the raids on **Nuremberg** and **Stuttgart**, by 860 and 750 bombers respectively, were also heavy. **Berlin**, **Essen**, and the important communications centre of **Aachen** were further targets for severe attacks. In the following month British bombers flew in force to the German cities of Brunswick, **Friedrichshafen**, **Munich** and **Schweinfurt** - all of which were closely associated with German aircraft production. Targets in the Ruhr and Rhineland were also heavily bombed on several nights and there were attacks against aircraft factories and repair centres in **France**, **Belgium**, and **Norway**.

In many of these raids the bombers wrought widespread destruction. Photographs taken after the heavy March raids on **Frankfurt** enabled the **Air Ministry** to report 'severe devastation in the administrative and commercial centre of the city which for all practical purposes has been destroyed. From there the devastation spreads to the west and east and is particularly marked in the western area where there were numerous factories and warehouses. Grain silos and warehouses along the river front have gone. One huge warehouse, with a capacity of some 20,000 tons burnt for five days. There were direct hits on the main railway station, large numbers of goods sheds have been destroyed and repair shops gutted'

The attack by 320 Lancasters against **Friedrichshafen** towards the end of April was described as particularly effective, 'all six factories of importance within this small town being almost completely devastated.' At **Munich** the damage was regarded as being 'on a scale seldom achieved in relation to the size of the force employed.' The pilot of a Mosquito who flew over the town just after the last of the 265 bombers had left saw 'an enormous pall of smoke nearly four miles high.' Diving through the dense clouds of smoke, he found 'huge fires in the city and whole blocks of buildings ablaze.' The heavy raids on the bomb-scarred cities of **Cologne**, **Dortmund**, **Duisburg**, **Dusseldorf**, and **Essen** also caused further widespread destruction.

Occasionally, however, difficulties which had long dogged the night-bomber crews intervened to upset the concentration of attack. The force of six hundred bombers which flew to **Karlsruhe** on the night of 24 April had to battle against strong winds and fly through electric storms and clouds heavy with ice. 'Large chunks of ice broke off the mainplanes and crashed against the sides of the aircraft while St. Elmo's fire streaked off every odd point,' reads a typical report. Over the target, too, there was considerable cloud and the bombing was scattered. Two nights later, when a strong force of Lancasters and Halifaxes attacked **Schweinfurt**, rough weather and high winds caused a considerable displacement of the bombing. The first markers fell south of the target and were followed by

others still further from the aiming point.

But even if the bombing was not always precise, the weight of attack against **Germany** was certainly heavy. In one period of eight nights during April Bomber Command flew a total of 5757 sorties and dropped 17,610 tons of bombs, and on five nights forces of over one thousand bombers were despatched. Moreover, the **RAF** raids were now opposed by a steadily increasing force of German night fighters, and this driving of the **Luftwaffe** more and more on to the defensive was a direct contribution to the achievement of Allied air superiority.

Bomber Command opened its campaign against enemy rail communications with an attack by 260 bombers on the marshalling yards at Trappes, 20 miles west of **Paris**, on the night of 6 March. Reconnaissance photographs, taken shortly after the attack, showed extremely heavy damage throughout the yards with a particularly large concentration of craters in the main reception sidings. Wreckage and derailed trucks lay in confusion on all sides. All the tracks of the main electrified line between **Paris** and Chartres were cut and there was widespread damage to installations and depots. Two months later the marshalling yard was still under repair.

Of other attacks in March and early April, some of the most successful were those on **Paris-la Chappelle**, Charleroi-St. Martin, **Paris-Juvisy**, Laon and **Aachen**; at each of these centres the locomotive servicing and maintenance facilities were rendered almost, if not completely, useless and great havoc was wrought in the marshalling yards. At Paris-Noisy le Sec, the whole railway complex was almost annihilated. After the raid on Vaires, also in the **Paris** area, photographs showed 'over two hundred craters on one railway siding while in another siding two long depressions in the ground alone remained to show where two ammunition trains had previously stood.' Other damaging attacks in this early period were made on Ottignies, Rouen, Namur, Lens and Tergnier.

These first raids on rail centres were almost unopposed by fighters,

but the vital nature of the targets being attacked soon caused the Germans to make radical changes in their defensive system. The network of visual and radar beacons used for the assembly of night fighters was extended into **France** and **Belgium**, with a corresponding redistribution of the night-fighter force to bases as far west as the mouth of the Seine. Eventually, as a result of this redeployment and the introduction of improved airborne radar, the enemy was able to intercept bomber forces making quite shallow penetrations over the Continent. In May, when the light summer nights made interception easier, the casualty rate rose sharply. However, by employing smaller forces simultaneously on a number of targets and by making the attacks of short duration, losses were kept within reasonable bounds.

Bomber Command's initial attacks on the marshalling yards and railway centres were made without any special changes in tactics. Markers were laid by Oboe-equipped Mosquitos of the Pathfinder Force which flew over at great height just as in the attacks on German cities; then the main force flew in to drop its high explosives. The only difference was that in order to avoid casualties among French civilians, crews were told not to bomb unless they could see the markers clearly. However, before long a Master Bomber, with a deputy in case of accident or casualty, was sent to direct each attack. It was his task to check the position of the markers dropped by pathfinder aircraft and then direct the main force to bomb the most accurately placed of these markers. In addition, 'offset marking' was introduced. This was a technique developed by Lancaster crews of No. 5 Bomber Group to overcome the problem of target markers being obscured by smoke - a difficulty which frequently occurred in the later stages of a raid. Some well-defined point near the target was chosen and clearly marked; then from this point crews made a timed run over the target and released their bombs. As a result of these improvements, much greater economy and precision of attack were achieved.

Since most of the railway centres in **France** were defended by few anti-aircraft guns the bombers were able to attack at low level, which

also made for increased accuracy in bombing. Indeed, the majority of the subsequent raids on marshalling yards proved to be extremely accurate, with such concentration that the bomb craters often overlapped each other in the target area which was churned up into a landscape of fantastic desolation similar to the well-remembered 'No Man's Land' of the First World War.

At the end of March the bombed railway lines were often repaired within a few days, but before the end of April it was taking more than a week to get them restored and by the middle of May the accumulation of wreckage was often so vast and extensive that even important routes were closed for weeks after an attack. By that time many of the major marshalling yards and large depots for the servicing and maintenance had been wrecked and little could be done to restore them owing to the serious shortage of cranes. A growing paralysis spread over the rail networks of the Region Nord, west of a line [Paris- Amiens-Boulogne](#) and south [Belgium](#), and in this area all the principal routes were at one time or another interrupted.

During the last days of April and throughout May, Bomber Command maintained a heavy scale of attack. In the last week of April Aulnoye, Villeneuve St. George, Acheres, Montzen, St. Ghislain, Arras and Bethune were all attacked. During May the heaviest attacks were made on Mantes-Gassicourt, Liege, Ghent, Courtrai, Lille, Hasselt, Louvain, Boulogne, Orleans, Tours, Le Mans, Metz, Mulhouse, Rheims, Troyes and Charleroi. Photographic interpretation continued to show the devastating effect on the centres attacked, and other intelligence sources confirmed this evidence as well as supplying indications of damage to signals and ancillary services, damage which did not always appear in photographs.

In order to extend the paralysis inflicted on the regions north and west of [Paris](#), attacks were made in the period immediately before D Day on the eastern routes to [Paris](#) and the important alternative routes round the south of that city. Attacks on these centres were, however, considerably restricted by the necessity of avoiding heavy civilian

casualties or damage to historic buildings. A typical example of this restriction was furnished by the important junction of Le Bourget which, because of the strong probability of bombing causing heavy civilian casualties, was not attacked at all. Nevertheless, the destruction and dislocation caused by the bombing raids in this final stage proved extremely effective, as subsequent events were to demonstrate.

Altogether, in the three months before D Day, only four of the eighty special targets escaped serious damage and traffic over the whole of **France** declined by 70 per cent. Of the thirty-seven special targets assigned to Bomber Command all were assessed as 'very seriously damaged', and in almost every case 'to such an extent that no further attacks were necessary until vital repairs had been affected.' Interesting evidence of the success of the whole rail campaign was discovered after the war at the headquarters of Region Nord in **Brussels**. There the Germans had kept an elaborate chart showing the weekly state of traffic lines and rolling stock, and on this chart from the end of March the graphs went steadily down until at last, towards the end of May, the Germans had abandoned the attempt to keep account of the damage and destruction.

Simultaneously with the last attacks on rail targets, Bomber Command had begun attacking coastal fortifications. Here again the main problem was to keep the enemy guessing where the actual landings were to be made, and the only way of doing this was by the rather extravagant method of bombing at least two coastal batteries or defence works elsewhere for every one that was attacked on the actual invasion coast of **Normandy**. The guns were very small targets and many were enclosed in thick concrete casemates, but the casemates for some were still under construction. It was considered that where the building of casemates was completed aerial bombing could do very little harm, but in one attack at least this opinion proved wrong. On the night of 28 May sixty-four Lancasters guided by seven Pathfinder Mosquitos attacked the coastal battery at St. Martin de Varreville, and a captured German report said that after several direct hits on one of the casemates there it

‘apparently burst open and then collapsed.’ In other attacks, even when the casemate itself was undamaged, the guns were often thrown out of alignment or their field of fire restricted by mounds of earth thrown up during the bombing, while command posts, fire director gear, and signal equipment were smashed and the batteries rendered ineffective. By D Day Bomber Command had dropped over 9200 tons of bombs on coastal batteries between Boulogne and Cherbourg.

In addition to these raids on fortifications and railways British bomber crews attacked a number of other military objectives. During May the military depots at Bourg Leopold in **Belgium and at Mailly le Camp near Rheims were wrecked. An impressive account of the attack on Mailly le Camp, which was a large tank training school as well as the Headquarters of *21 Panzer Division*, is contained in the report of the officer commanding this depot. ‘The main concentration,’ he writes, ‘was accurately aimed at the most important building In that part of the camp which was destroyed the concentration of bombs was so great that not only did the splinter proof trenches receive direct hits but even the bombs that missed choked them up and made the sides cave in.’ Five large ammunition dumps in **France** used by the German Army and **Air Force** were also attacked during May, and in April Bomber Command destroyed the large explosive works at St. Medard-en-Jalles, near Bordeaux.**

There were also attacks on wireless and radar stations. Four of these small and difficult targets were allotted to Bomber Command and the raids which were carried out towards the end of May were indeed triumphs of precision bombing. At Boulogne-Mt. Couple at least seventy heavy bombs fell on the target area, which was only some 300 yards long and 150 yards wide. Few of the transmitters on this site survived the attack and only three were subsequently identified in operation. At another station near Dieppe the aerial masts were all demolished and most of the buildings received direct hits. At Cherbourg-Urville the centre of a very neat bomb pattern coincided almost exactly with the centre of the target area, and the destruction of this particular station,

which was the headquarters of the **German Air Force** signals intelligence service in north-west **France**, may well have been an important contributory factor to the lack of enemy air reaction to the assault. Enemy airfields attacked by Bomber Command during May included those at Montdidier, Tours, Rennes, Nantes and **Brest**.

Typical of many eventful flights during this period was the experience of Flight Sergeant Gibson ¹ and his crew during their sortie to Maily le Camp in Lancaster 'K for King' of No. 166 Squadron. Shortly after bombs had been dropped, the bomber was attacked by a Messerschmitt 110; the upper turret was smashed, the controls damaged, petrol tanks punctured, and an engine put out of action. Return fire drove the fighter off but it continued to shadow at a distance, taking 'pot shots' at the Lancaster as opportunity offered. Eventually the German came in again, only to meet accurate fire from the bomber's rear turret. There was a sudden explosion, and the gunner saw the Messerschmitt burst into flames, dive, and explode on the ground. The Lancaster then began its flight home with Gibson struggling to maintain control and conserve fuel whilst his flight engineer worked frantically to link up the tanks. At last the English coast came in sight but, with the petrol almost gone, it seemed unlikely they would be able to make a safe landing so Gibson ordered his crew to crash positions. Then followed that agonising period of suspense so well known to many crews. All listened intently to the drone of the engines, waiting against hope for them to falter as the tanks ran dry. A parachute which had opened during the combat lay strewn on the floor of the aircraft. Within a minute or two all three engines spluttered and stopped. But the lights of an airfield now appeared in the distance and Gibson began a glide approach. To watchers on the ground it seemed that the Lancaster was bound to crash into the control tower – its

¹ Flying Officer A. Gibson, DFM; born Westport, 7 Jan 1923; apprentice fitter-turner; joined **RNZAF** Apr 1942.

occupants hastily took shelter – but at the last minute the bomber cleared the tower, crossed the runway, and came to rest on the airfield without harm.

Gibson was one of the relatively large contingent of New Zealand pilots, navigators, bomb aimers, wireless operators, and air gunners who flew with Bomber Command in this pre-D Day period. There was also a representative group of men from the Dominion working on the ground who gave faithful service in support of the air operations. Among senior officers, Air Vice-Marshal C. R. Carr continued in command of No. 4 Bomber Group, while Air Commodore A. McKee was now in charge of the large bomber base at Mildenhall, Suffolk, which controlled four bomber stations with five operational squadrons and various other units. Group Captain L. E. Jarman commanded the Pathfinder Station at Wyton, Huntingdon, and Group Captain G. J. Grindell the airfield at Fiskerton, near Nottingham, from which Lancasters operated. Early in April 1944 Group Captain Elworthy took charge of the large base at Waddington, Lincolnshire, with four bomber stations and five operational squadrons under his control.

With the Pathfinder squadrons, New Zealand airmen continued to play a prominent part. Wing Commander J. F. Barron, who had already achieved a fine record of service as captain of pathfinder aircraft, was now leading a Lancaster squadron. He also acted as Master Bomber on several raids. In one such raid early in May, says an official report, ‘his determination and courage in directing the attack were largely responsible for the success achieved. Disregarding the defences he flew below five thousand feet and directed the bombing from a very low level in order to obtain maximum precision.’ It was while acting as Master Bomber in a late May attack on Le Mans marshalling yards that Barron lost his life. It was his seventy-eighth operation with Bomber Command and his thirty-second with the Pathfinders. Another outstanding leader with the Pathfinder Force was Wing Commander Watts,¹ who now led a Mosquito squadron with conspicuous success. In a long and distinguished career with Bomber Command, Watts survived many

hazardous missions only to lose his life early in July 1944 when his Mosquito was shot down during a raid on [Berlin](#).

Among senior captains with the Pathfinder Force, Squadron Leader Heney ² was prominent in operations with No. 582 Lancaster Squadron. On one sortie to the Ruhr his bomber was set on fire over

¹ Wing Commander S. D. Watts, DSO, DFC; born [Morrinsville](#), 3 Mar 1916; hardware assistant; joined [RNZAF](#) Oct 1940; commanded No. 692 Sqdn, 1944; killed on air operations, 10 Jul 1944.

² Squadron Leader H. W. B. Heney, DSO; born [Kaiapoi](#), 12 Aug 1920; motor-vehicle instructor; joined [RNZAF](#) Oct 1939; killed on air operations, 27 May 1944.

the target by a shower of incendiaries dropped from an aircraft above; then, after a long and difficult return flight, came attack by a German fighter intruding over England, and finally a long wait over base while an obstructed runway was cleared. Heney, described by a senior officer as ‘an outstanding member of a gallant squadron’ was lost with his crew in a raid on the German airfield at Rennes towards the end of May 1944.

Squadron Leader McMillan, ¹ with a long and successful career in [India](#) and [Burma](#), and Flight Lieutenant Cochrane, ² who had earlier completed a tour of operations with a Wellington squadron, now captained Lancasters. Both men were subsequently to act as Master Bomber on many raids and gain further distinction. Other outstanding pathfinder captains were Squadron Leader Horton, ³ who continued with No. 105 Mosquito Squadron, Flight Lieutenant V. S. Moore and Flight Lieutenant Holdaway, ⁴ both of whom also flew Mosquitos. Flight Lieutenant Breckon ⁵ and Flight Lieutenant Hartley ⁶ of No. 109 Mosquito Squadron, and Flying Officer J. M. Smith, ⁷ who captained a Lancaster of No. [97 Squadron](#), also achieved a fine record of service.

Another prominent Lancaster captain was Flight Lieutenant Verran ⁸ of No. **83 Squadron**, who had operated in **France** and over **Germany** during the first year of war.

Among experienced navigators now with the Pathfinder squadrons were Flight Lieutenant Dill, ⁹ who had previously flown with the New Zealand bomber squadron, Flight Lieutenant Galbraith, ¹⁰ who had a long period of service with Wellingtons, and Flying Officer **Matheson**, ¹¹ who had been with No. 218 Stirling Squadron. **Matheson** was lost in July 1944 when flying as navigator to Wing Commander Watts.

¹ Wing Commander B. W. McMillan, DSO, DFC, AFC; born Stratford, 24 Oct 1912; clerk-engineer; joined **RAF** 1937; commanded No. 227 Sqdn, 1945; killed in flying accident, 30 Jan 1948.

² Squadron Leader A. W. G. Cochrane, DSO, DFC and two bars; born Rawene, 10 Oct 1916; shop assistant; joined **RNZAF** Sep 1940.

³ Wing Commander T. W. Horton, DSO, DFC and bar; born **Masterton**, 29 Dec 1919; law clerk; joined **RNZAF** Oct 1939.

⁴ Flight Lieutenant E. A. Holdaway, DFC and bar; born Carterton, 8 Jan 1918; storeman; joined **RNZAF** Dec 1940.

⁵ Flight Lieutenant I. O. Breckon, DFC and bar; born **Auckland**, 6 Jan 1916; joined **RNZAF** Apr 1940; transferred **RAF** 1947.

⁶ Squadron Leader R. Hartley, DFC and bar; born **Auckland**, 5 Oct 1909; store manager; joined **RAF** Sep 1940.

⁷ Squadron Leader J. M. Smith, DFC and bar; born **Frankton**, 14 Jan 1915; plasterer; joined **RNZAF** Dec 1940.

⁸ Squadron Leader J. V. Verran, DFC and bar; born Waipawa, 9 Dec 1915; joined **RAF** Aug 1939; p.w. 27 Aug 1944.

⁹ Flight Lieutenant T. G. Dill, DFM; born **Auckland**, 28 Jun 1921; farmer; joined **RNZAF** Jun 1942.

¹⁰ Flight Lieutenant A. R. Galbraith, DFC; born **Auckland**, 20 Apr 1918; clerk; joined **RNZAF** Sep 1940.

¹¹ Flying Officer A. A. Matheson, DFM; born Carterton, 23 May 1915; sheep farmer; joined **RNZAF** May 1941; killed on air operations, 10 Jul 1944.

In the main bomber force Wing Commanders Maling, ¹ **Nelson**, ² and St. John were now in charge of **RAF** squadrons. Maling had seen long service with the air arm, much of it in **India** where he had been posted shortly after joining the **RAF**. In India he flew with a bomber squadron; then he spent over three years as a test pilot and became well known for his efficiency and wide technical knowledge. He also commanded a bomber squadron for a long period and served as a flying instructor before returning to the **United Kingdom**, where he held several appointments before taking control of No. 619 Lancaster Squadron. Nelson, a Cranwell cadet, had served with a bomber squadron in **Aden** before the war; then he specialised in armament duties and went to **Canada** to assist in the Empire Air Training Scheme. He assumed command of his old squadron, now equipped with Lancasters, early in March 1944. St. John, who had already distinguished himself in bomber operations, was now in charge of No. 103 Lancaster Squadron. He remained in this post for almost a year and by the end of the war had completed a third tour of operations.

A **Halifax** squadron engaged on what were known as 'special duties' – the dropping of agents and supplies to the resistance movements in **Europe** – was now led by Wing Commander A. H. C. Boxer, who had been

engaged in these duties over a long period. Boxer directed the diverse activities of his unit, which included many Polish crews, with exceptional ability, and took part himself in many long and hazardous flights over enemy-occupied territories.

Squadron Leaders Calvert,³ Hegman,⁴ Hogg,⁵ Lamason,⁶ and Miller⁷ were prominent during this period as senior captains and flight commanders. Calvert for example, continued a notable career with No. 630 Squadron, while Hogg, who had been with the New Zealand Bomber Squadron in the early days of the war, now completed a third tour of operations with No. 90 Squadron. Hegman, after a successful period with No. 7 Squadron, lost his life in a raid on Berlin.

¹ Wing Commander J. R. Maling, AFC; born **Timaru**, 5 Nov 1913; joined **RAF** 1934; transferred **RNZAF** Jul 1945; commanded No. 27 Sqdn, **India**, 1940–41; No. 619 Sqdn, 1944; p.w. 26 Jul 1944.

² Wing Commander J. D. Nelson, DFC; born **Wellington**, 3 Jan 1914; Cranwell cadet 1932–33; permanent commission **RAF** 1933; commanded No. 12 Sqdn, 1944; **RAF** Station, Sandtuft, 1944–45.

³ Squadron Leader R. O. Calvert, DFC and two bars; born **Cambridge**, 31 Oct 1913; wool classer; joined **RNZAF** Dec 1940.

⁴ Squadron Leader J. A. Hegman, DSO, DFC; born **Auckland**, 23 Jun 1916; farmer; joined **RNZAF** Mar 1941; killed on air operations, 15 Feb 1944.

⁵ Squadron Leader R. J. K. Hogg, DSO, DFC; born **Milton**, 9 Jun 1916; clerk; joined **RAF** Dec 1938.

⁶ Squadron Leader P. J. Lamason, DFC and bar; born **Napier**, 15 Sep 1918; stock inspector; joined **RNZAF** Sep 1940; p.w. 8 Jun 1944.

⁷ Squadron Leader D. Miller, DSO, DFC; born **Auckland**, 12 Nov 1917; clerk; joined **RNZAF** Jul 1940.

With No. 617 Lancaster Squadron, which often operated independently on particularly hazardous missions, Squadron Leader J. L. Munro and Flight Lieutenant R. S. D. Kearns won distinction as captains of aircraft and Flight Lieutenant W. J. M. Barclay as navigator. All three men were veterans of the Pathfinder Force. Their squadron, which had become famous overnight with the raid on the Ruhr dams in 1943, was now led by Wing Commander Cheshire who, like his predecessor Guy Gibson, was a magnificent pilot and courageous leader. On completion of his fourth operational tour in July 1944, Cheshire was awarded the Victoria Cross. He was one of the few outstanding British bomber pilots to survive the war.

Throughout this period New Zealand aircrews with Bomber Command maintained their reputation for skill and determination in operations. Typically, Flight Lieutenant Sparks, ¹ a Lancaster captain with No. **15 Squadron**, had with his crew fought off attacks by enemy fighters on five occasions. Flight Lieutenant Johnston ² was another captain with a fine record in No. **15 Squadron**. While approaching **Friedrichshafen** on one raid his Lancaster was damaged almost simultaneously by fire from a night fighter and flak. Un-deterred, he had continued to the target and dropped his bombs. Pilot Officer Nicklin, ³ who captained a Lancaster of No. 57 Squadron, had a particularly difficult sortie when sent to attack **Schweinfurt**. He was circling the target waiting instructions to bomb when his aircraft was subjected to a furious onslaught by a fighter, during which his rear gunner was seriously wounded and the mid-upper gunner baled out. With both turrets out of action, intercommunication useless and controls damaged, the bomber was in a precarious position. Nevertheless, Nicklin remained in the target area until ordered to bomb, when, despite attack by a second fighter, he succeeded in making a good attack. He then flew the crippled bomber back to England and made a safe landing at a strange airfield.

In an attack on **Frankfurt** during March, Flight Sergeant Marriott ⁴ of No. **626 Squadron** was on the final approach to the target when his Lancaster was extensively damaged by a Junkers 88. The enemy machine returned for the 'kill'. The bomber received further hits but, following skilful evasive tactics by Marriott and spirited return

¹ Flight Lieutenant M. J. Sparks, DFC; born **Christchurch**, 22 Feb 1917; salesman; joined **RNZAF** Dec 1941.

² Flight Lieutenant M. Johnston, DFC; born Hobart, **Tasmania**, 11 Sep 1920; civil servant; joined **RNZAF** Jan 1942.

³ Flight Lieutenant A. E. Nicklin, DFC; born **Rotorua**, 12 Nov 1915; dairy farmer; joined **RNZAF** Apr 1942.

⁴ Pilot Officer C. R. Marriott, DFM; born **Christchurch**, 25 Sep 1923; laboratory assistant; joined **RNZAF** Mar 1942; killed on air operations, 11 May 1944.

fire from his rear gunner, the Junkers was finally driven off. Marriott pressed home his attack and then set course for base but petrol shortage forced him to land at an advanced airfield.

Flight Lieutenant Fabian ¹ had a notable career as navigation leader of No. **15 Squadron**. On one sortie to **Dusseldorf** during April his Lancaster was badly damaged by a Messerschmitt 109 when a flak shell exploded underneath. The bomb aimer and wireless operator were mortally wounded and fire broke out in the fuselage. Fabian extinguished the flames and rendered first aid and administered morphia to the injured men. Ordering a slightly wounded man to take over the wireless set, he then helped his captain navigate the bomber back to England.

A bomb aimer with a remarkable record was Flight Sergeant K. Smith, ² of No. 158 Halifax Squadron, who in a series of seventeen

operations was to return with no fewer than thirteen photographs of his aiming points.

Two captains of Lancaster bombers, Pilot Officer Speirs ³ of No. 7 Squadron and Flight Sergeant Brown ⁴ of No. 620 Squadron, survived remarkable experiences at this time. Sent to bomb the marshalling yards at Chambly, north of Paris, one night early in May, Speirs was just turning away from the target when his aircraft received a direct hit. 'The stick flew out of my hand and both the starboard engines and the starboard wing tank caught fire. The Lancaster went into a steep dive out of control so I gave the order to jump. Then I was thrown against the side of the fuselage and knocked unconscious. When I came to I had fallen through the perspex roof and was hanging on my harness upside down' Speirs landed near a forest and at dawn set off towards Paris. He soon found friends who helped him to make his way out of France, and after a series of adventures he returned to England fourteen weeks after he had been shot down.

Brown's Lancaster was hit by flak over France and forced down in a remote district. His navigator was killed in the crash and, of the rest of the crew, only Brown and his bomb aimer evaded capture. After making their way across country, sleeping in woods and obtaining intermittent help from French farms, the two men joined up with the Maquis. During one expedition to cut a railway line the party was ambushed and Brown's companion captured. A week later the Maquis headquarters was attacked in force by the Germans

¹ Flight Lieutenant J. C. K. Fabian, DFC and bar; born Wellington, 12 Mar 1909; barrister; joined RNZAF Jul 1941.

² Flying Officer K. Smith, DFM; born Westport, 13 Jul 1923; engineer; joined RNZAF Mar 1942.

³ Flying Officer A. R. Speirs, DFC; born Nelson, 13 Apr 1923; clerk; joined RNZAF May 1941.

⁴ Pilot Officer L. J. S. Brown, MM; born Milton, 21 Mar 1918; school teacher; joined **RNZAF** Feb 1942.

and Brown joined in the fight. The members of the Resistance Group then had to separate, but Brown was helped to reach and cross the frontier into **Spain** from where he returned to England by way of Gibraltar. His adventures had lasted five months.

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No. 75 New Zealand Bomber Squadron based at Mepal, near Ely, was to play a prominent part in the various operations preparatory to the landing in **Normandy**. In the fourteen weeks before D Day its crews flew 592 sorties, dropped 1958 tons of bombs, and laid 339 mines in enemy waters; twelve aircraft were lost on these missions. Wing Commander R. D. Max continued in command until early in May when he was succeeded by Wing Commander Leslie, ¹ who had been with Bomber Command in the early days of the war and had also seen service in the **Middle East**. Squadron Leaders Climie, ² Gibb, ³ and Watson ⁴ were the flight commanders at this period. When Watson was lost with his crew on a supply-dropping mission over **France** he was succeeded by Squadron Leader L. J. Drummond.

At the beginning of March 1944 No. 75 Squadron was preparing to exchange its Stirlings for Lancaster bombers, but while awaiting delivery of the new machines crews continued with minelaying and supply-dropping missions to the French Resistance Movement. The areas in which mines were laid were usually along the French coast off Cherbourg, Le Havre, St. Malo and the Biscay ports, but on three nights mines were also laid in **Kiel** Bay, along the Dutch coast, and in the Heligoland Bight.

For supply-dropping just over one hundred sorties were despatched by No. 75 Squadron during the first fortnight of March. These were interesting if rather uneventful missions. 'The target was reached just

after midnight,' says a typical report. 'The area was identified near a wood at the intersection of a road and railway. The reception was good, consisting of three bonfires and a faint flashing light from a man holding a torch. Twelve containers were then dropped from about 500 feet. On the return flight two packages of leaflets were also dropped at Aix-les-Bains and St. Genix. The weather was good and base was reached without further incident.'

¹ Wing Commander R. J. A. Leslie, DSO, AFC; **RAF**; born Inglewood, 3 Mar 1919; clerk; joined **RNZAF** Jun 1939; transferred **RAF** Apr 1940 and re-transferred **RNZAF** Apr 1945; commanded No. 75 (NZ) Sqdn, 1944; CI No. 1653 Conversion Unit, 1945.

² Squadron Leader J. K. Climie, DFC; born **Lower Hutt**, 12 Dec 1916; draughtsman; joined **RNZAF** Sep 1940.

³ Squadron Leader D. S. Gibb, DFC; born **Christchurch**, 30 May 1914; school teacher; joined **RNZAF** May 1940.

⁴ Squadron Leader R. J. Watson, DFC; born Waimate, 5 Jul 1916; law clerk; joined **RNZAF** Dec 1940; killed on air operations, 5 Mar 1944.

These supply missions were arranged as far as possible for clear weather but crews did not always find conditions ideal at this season of the year. 'In the target area,' says another squadron report, 'there was variable cloud, bases from 500 feet to zero and snow showers. Sixteen containers were dropped but the five packages of leaflets could not be released owing to the hatch being frozen.'

On 13 March the first Lancaster bomber was received at Mepal and during the next six weeks the Stirlings were gradually taken off operations, the last sorties with Stirlings being flown on the night of 23 April when five aircraft laid mines in **Kiel** Bay. Meanwhile the New

Zealand crews had begun to take part in the attack on rail targets in **France**, **Belgium**, and **Germany**. Their first target was the marshalling yard at **Amiens**, bombed by twelve Stirlings on 16 March. Subsequent objectives were the marshalling yards at Laon, Aulnoye, Courtrai, and Lille.

No. 75's first sorties with Lancasters were made on the night of 9 April against the railway centre of Villeneuve St. George, about 11 miles south-east of **Paris**. Of the eleven Lancasters which took off from Mepal that night, eight were captained by New Zealanders- Squadron Leader Climie, Flight Lieutenants Fauvel ¹ and E. F. Witting, Flying Officer Murray, ² and Pilot Officers Armstrong, ³ Millar, ⁴ Burton, ⁵ and W. J. Willis. All crews returned safely and reported successful attacks. On following nights the Lancasters bombed the marshalling yards at Laon and Rouen and the communication centre of **Aachen**. Towards the end of April the New Zealand Squadron also took part in five raids on targets in **Germany**, sending a total of sixty-four aircraft to bomb **Cologne**, **Dusseldorf**, **Karlsruhe**, **Essen**, and **Friedrichshafen**. The squadron was fortunate in that only one bomber, captained by Flying Officer Herron, ⁶ was lost during this active period.

In May the main effort of the New Zealand Squadron was directed against the enemy's communication system, and crews took part in such notable raids as that against the large railway depot of Chambly and in both raids on the marshalling yards at **Aachen**. The missions to **Aachen** were particularly eventful for Flight Lieutenant Berney ⁷ and his crew. On the first occasion they were attacked by

¹ Flight Lieutenant S. F. Fauvel; born **Wellington**, 22 May 1923; factory worker; joined **RNZAF** Sep 1941; killed on air operations, 28 May 1944.

² Flying Officer H. J. Murray; born Pleasant Point, 11 Dec 1917; fitter; joined **RNZAF** Oct 1941; killed on air operations, 18 Apr 1944.

³ Pilot Officer C. E. Armstrong; born **Napier**, 9 May 1916; greenkeeper; joined **RNZAF** Jan 1942; killed on air operations, 23 May 1944.

⁴ Flying Officer R. Millar; born Pukerau, 19 Oct 1913; salesman; joined **RNZAF** May 1941.

⁵ Flight Lieutenant H. L. Burton, DFC; born Dunedin, 12 May 1919; cashier; joined **RNZAF** Oct 1941.

⁶ Flying Officer R. W. Herron; born **Auckland**, 26 Jul 1920; school teacher; joined **RNZAF** Apr 1942; killed on air operations, 27 Apr 1944.

⁷ Squadron Leader R. B. Berney, AFC, DFM, DFC (US); born Eketahuna, 9 Dec 1916; farm worker; joined **RNZAF** Mar 1940.

a German night fighter and, after a brief exchange of fire, they had the satisfaction of seeing the fighter catch fire and go down. On the second raid the Lancaster was intercepted by a Messerschmitt and there was a series of inconclusive combats before the fighter broke away.

Other rail centres attacked by the squadron during May were those at Courtrai, Louvain, Le Mans, Angers and Trappes. All these missions were comparatively uneventful, except that whilst flying back from Louvain the Lancaster captained by Flight Lieutenant Clark ¹ was attacked by a Junkers 88. Spirited return fire from the British bomber set the Junkers on fire and it was seen to go down and explode on the water near the coast. In addition to these attacks on rail centres, the New Zealanders flew to **Germany** on two occasions during May. **Duisburg** was the target for twenty-five squadron aircraft on the 21st and the following night twenty-three Lancasters went to **Dortmund**. Three aircraft, of which Pilot Officer Armstrong, Pilot Officer Burke, ² and Pilot Officer Willis were the captains, were lost in these two raids. The Lancasters also bombed the coastal batteries at Cap Gris Nez and

Boulogne during May and these attacks were continued on the nights immediately preceding the invasion.

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Medium bombers, fighter-bombers, and fighters with the Allied Expeditionary Air Force flew a wide variety of missions during the months immediately before D Day. Flying-bomb sites received a large proportion of the initial effort and remained a continuing commitment, but after April operations were directed more and more against rail targets, airfields, roads, bridges and military installations in **France. Day and night fighters retained for the defence of the **British Isles** were also able to take part in these operations for enemy reaction to the Allied preparations proved considerably less than expected. Yet the need for pure fighter aircraft continued, and thousands of sorties were flown by Spitfires and long-range Mustangs both in protecting medium and light bombers and in escorting and shepherding home the long-range bombers of the United States Air Forces returning from deep penetrations into **Germany**.**

In this phase of the campaign against the German V-weapon sites 14,000 tons of bombs were dropped by aircraft of the AEAFF. The attacks on these targets were both difficult and costly, for many of the sites were well hidden either in or at the edge of woods and

¹ Flight Lieutenant S. A. Clark, DFC; born Rangiora, 24 Nov 1913; gasworks employee; joined **RNZAF Aug 1941.**

² Pilot Officer E. L. Burke; born Manaia, 10 Mar 1918; farmer; joined **RNZAF Dec 1941; killed on air operations 22 May 1944**

heavily defended by flak. However, by careful study of photographs and through hard-won experience, the aircrews learnt to detect their presence in spite of the German efforts at camouflage. The shape and

layout of the buildings and the specially built roads and railways that led to them were the most revealing features. By D Day it was estimated that, of the ninety-seven identified flying-bomb sites, eighty-six had been neutralised, while supply and storage depots had also been damaged.

In their attacks on rail targets in northern **France** and **Belgium**, the British and American medium bombers, fighter-bombers, and fighters swept over a very wide area creating havoc in marshalling yards, repair depots, and installations along the tracks, as well as among locomotives and trains on the move. The raids were intensified during May. On the 21st, for example, over 800 Thunderbolts, Spitfires, Typhoons, and Tempests operated throughout the day, claiming 67 locomotives destroyed and over 90 damaged. In the last fortnight before D Day, fighters and bombers of the AEF flew 1388 sorties with the primary purpose of attacking locomotives, and during this period they claimed 157 locomotives destroyed and 82 damaged, as well as considerable damage to rolling stock. These claims were probably somewhat inflated, but there is no doubt that AEF attacks made an important contribution to the widespread dislocation of the enemy rail system which denied to the enemy armies in the field the reinforcements and freedom of movement necessary to mount decisive counter-attacks.

Complementary to this assault on rail motive power was the attack on rail and road bridges leading into the invasion area. However, in order not to display special interest in the **Normandy** area the early attacks were made on bridges over the Seine, with some others over the Oise, the Meuse, and the Albert Canal, leaving until the last weeks the task of destroying bridges south of **Paris** to Orleans and west along the Loire. Bridges are difficult targets but the success of the fighter-bombers, particularly the Typhoons, surpassed expectations. While it is probable that in one or two attacks a lucky hit exploded demolition charges set in place by the Germans, the fighter-bombers demonstrated beyond all doubt their ability to attack these targets effectively. By D Day twelve railway bridges and the same number of road bridges over the

River Seine had been rendered impassable. In addition, three railway bridges at Liege and others at Hasselt, Herenthals, Namur, Conflans, Valenciennes, Hirson, Kinz-Karthaus and Tours, as well as the important road bridge at Saumur, were also put out of action.

Airfields, ammunition dumps, military camps and headquarters, together with radar stations and defence posts along the Channel coast, were among other targets attacked by RAF Mitchells, Mosquitos, Spitfires, and Typhoons in the last few weeks before the invasion. Such was the destruction of repair, maintenance, and servicing facilities on the forward airfields that the Germans were forced to operate from bases a long way from the actual assault area. This, no doubt, was one reason for the lack of enemy air interference with the landing and the subsequent inability of the German **Air Force to intervene at critical times in the land battle.**

The low-level attacks on the Germans' coastal radar stations were equally effective. By D Day, mainly as a result of attacks by Typhoon and Spitfire squadrons with rocket projectiles and bombs, large stretches of the Channel coast were deprived of their vital radar cover. The enemy did not obtain the early warning of the approach of the Allied armada that his radar coverage should have provided; radar-controlled gunfire was interfered with; no fighter aircraft hindered the airborne operations, and altogether the enemy was confused and his troop movements delayed.

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Royal Air Force medium bombers made their first large attack on transport targets on 23 March when five squadrons of No. **2 Group attacked the marshalling yards of Creil. Good bombing results were reported. Flight Sergeant Anstey ¹ who, with Flight Sergeants Winter ² and Jarvis ³ as his navigator and air gunner, flew a Mitchell of No. **98 Squadron** in this attack, encountered heavy flak during the flight to the target, but their machine was not among the ten Mitchells which came back damaged.**

In the following weeks New Zealand pilots, navigators, and wireless operators and air gunners flew on many such missions in which marshalling yards, repair depots, and engines were effectively attacked. No. 226 Mitchell Squadron, with which fifteen New Zealanders were then flying, records operating frequently on two missions and sometimes three in one day.

During May the medium bombers made twenty-three attacks against railway centres, twenty-one against bridges, nine against airfields, and eleven attacks against flying-bomb sites. A particularly heavy and successful attack was made on 2 May against marshalling yards at Namur by thirty-six Mitchells of the **Dunsfold Wing**, with six squadrons of Spitfires and three of Mustangs providing fighter

¹ Flying Officer R. S. Anstey; born **Wellington**, 15 Jun 1920; clerk; joined **RNZAF** May 1942.

² Flight Sergeant J. B. Winter; born **Invercargill**, 2 Oct 1920; assurance agent; joined **RNZAF** Mar 1942; died of injuries sustained on air operations, 8 May 1944.

³ Warrant Officer L. J. Jarvis; born **Wellington**, 1 Jul 1922; motor-body builder; joined **RNZAF** Apr 1942.

escort. Flying Officer Findlater, ¹ Flight Sergeant Miller, ² and Flight Sergeant Jones, ³ of No. **180 Squadron**, and Flying Officer Martin ⁴ of No. **98 Squadron** captained bombers on this raid. Photographs showed a remarkable concentration of bomb bursts in the target area, with hits on the engine sheds and repair depots as well as in the railway sidings. On this occasion there was little opposition from flak and no enemy aircraft were seen.

By contrast Mitchells of No. **98 Squadron** attacking a flying-bomb site a few days later met extremely accurate flak. While turning away from the target the leading aircraft received a direct hit in the nose, fell

out of formation, and went straight down to crash in flames. Several other aircraft were hit, including the Mitchell captained by Anstey. Shrapnel from an anti-aircraft shell struck his navigator, Winter, inflicting severe wounds in the head, and he died shortly after the machine landed back at base.

No. 487 New Zealand Squadron, under Wing Commander I. S. Smith, played its part in these operations as one of the six Mosquito squadrons of No. **2 Group**, transferred from Bomber Command to Second Tactical Air Force on its formation. The Mosquitos were employed in both night and day operations during this period. Their main targets were enemy airfields on the Continent, against which a total of 442 sorties were flown in May, but there were also a number of attacks on rail and military targets and against flying-bomb sites.

In their daylight operations the Mosquitos, usually flying in small formations, went in to attack their targets from low level with short-delay bombs. Such tactics demanded careful planning beforehand and strict discipline in flight. After preliminary preparation by navigators and pilots there would be a general briefing, at which the leader would give his crews all available information about the target and then discuss such matters as the tactics of approach and withdrawal, the use of 'Gee' as an aid to accurate navigation, and the technique of dive-bombing, which involved the correct spacing of the attacking aircraft in order to avoid damage from the blast of exploding bombs dropped by the preceding machines. The Mosquitos would take off singly and then form up in loose pairs at intervals of 300 yards, crossing the coast just above the house tops. The formation would head out to sea, pick up the appropriate direction line on their 'Gee' charts, and then fly along a radio beam

¹ Flight Lieutenant H. G. Findlater; born Owaka, Otago, 11 Jul 1923; electroplater; joined **RNZAF** Dec 1941.

² Flying Officer M. J. Miller; born Balclutha, 20 Jul 1921;

farmhand; joined **RNZAF** Jul 1942.

³ Flying Officer T. C. Jones; born **Wanganui**, 3 Jan 1921; farmer; joined **RNZAF** Mar 1942.

⁴ Flight Lieutenant D. J. Martin; born **Palmerston North**, 15 Dec 1919; truck driver; joined **RNZAF** Mar 1942.

towards the French coast. Some 20 miles from **France** the Mosquitos would climb to 500 feet, at which height landfall was made and course set for their target. Over France the intervals between the pairs of aircraft would be gradually increased to about a mile and a half and a weaving form of flight adopted to confuse enemy anti aircraft gunners. On reaching the target the first two Mosquitos would sweep down to the attack with cannons blazing and release their bombs. A mile or so between each pair allowed time for the explosion of the bombs before the next machines began their attack. After bombing, the Mosquitos would regain height to begin the homeward flight, which their superior speed usually enabled them to complete without interception.

Many effective attacks resulted from such tactics although there were, of course, inevitable exceptions. For example, one day towards the end of March when eight Mosquitos flew to attack a flying-bomb site in northern **France**, the target proved difficult to identify, and while several pairs of Mosquitos were circling over the area at the same time two aircraft flew into the blast from the bombs dropped by another machine. One Mosquito went down to crash and blew up among the trees below, while the other, with its fuselage torn and twisted and controls damaged, was just able to limp back to the English coast.

Daylight operations by No. 487 Squadron during April and May included attacks on the railway repair depot at St Geristain in **Belgium**, the marshalling yards at Abancourt and Serquex, the radar stations at Le Treport and Sortosville-en-Beaumont, the coastal battery at Fecamps, and flying-bomb sites in the Dieppe area. By night the main effort was

devoted to intruder patrols and attacks against enemy airfields in **Belgium**, **France** and **Holland**, and in the six weeks before D Day thirty sorties were flown on such missions, without loss.

Squadron Leader Lucas, a popular and efficient captain with a long and varied career in air operations, led several of the daylight attacks made by the New Zealand Mosquitos during this period. Two other experienced pilots were Flight Lieutenant Runciman, ¹ who had previously flown Bomber Command Stirlings, and Flight Lieutenant Watkin, ² who had been with **Coastal Command** in the early months of the war and then in **Canada** and New Zealand. Flying Officers R. C. Beazer, M. L. S. Darrall, D. R. Fowler, F. Scott, ³ and M. N. Sparks were also prominent as pilots, and Flying Officer

¹ Squadron Leader W. J. Runciman, AFC, DFM; born **Auckland**, 22 Oct 1920; draughts man; joined **RNZAF** Oct 1940; transferred **RAF** 1947.

² Squadron Leader B. L. Watkin; born **Opotiki**, 8 Dec 1917; salesman; joined **RAF** Aug 1938; transferred **RNZAF** Jan 1944.

³ Flight Lieutenant F. Scott; born Inglewood, 31 Jan 1922; lorry driver; joined **RNZAF** Feb 1942.

F. S. Stevenson and Pilot Officer Redman ¹ as navigators with the squadron at this time.

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In the various fighter and fighter-bomber operations during these months three New Zealand units - No. 485 Spitfire Squadron, No. 486 Tempest Squadron, and No. 488 Mosquito Squadron - each played their part; at the same time there were many New Zealand pilots flying Spitfires, Typhoons, and Mustangs with **RAF** units.

New Zealanders were also among the senior officers who commanded

or controlled fighters and fighter-bombers operating across the Channel. Group Captain P. L. Donkin continued in command of an RAF Reconnaissance Wing which was now attached to the Canadian Army, and Wing Commander R. F. Aitken remained in charge of a forward base from which night fighters flew intruder patrols over enemy airfields. At the beginning of May Wing Commander Deere took charge of a forward airfield of Second Tactical **Air Force** with three French squadrons under his command, including some of the pilots he had led from Biggin Hill in the previous summer. His Wing Commander Flying was Crawford-Compton, who frequently led the Frenchmen to bomb flying-bomb sites, shoot up railway engines, and attack military installations and coastal targets in the **Pas de Calais**. One day in May, in a typical operation of this period, Compton led Spitfires to bomb a junction, tunnel entrance, and railway viaduct south of Dieppe. Hits were seen on the end of the viaduct, on the tracks at the mouth of the tunnel, and on the railway junction. A few days later an ammunition dump in a forest near Dieppe was blown up, and the same afternoon five trains were attacked in the area south of the Seine, three engines being left with steam pouring out of their punctured boilers.

Typhoon squadrons operated from an advanced airfield in southern England under the command of Wing Commander D. J. Scott, and their low-level attacks on bridges and coastal radar stations were particularly successful. In one raid against a large radar station near Dieppe towards the end of May, over a hundred rocket projectiles were aimed at the target; the long-range reporting post was destroyed and other buildings used for medium-range reporting, night-fighter control, and the direction of coastal batteries were badly damaged. 'These radar targets,' writes Air Chief Marshal Leigh-Mallory, 'were very heavily defended by flak and low level attacks upon them demanded great skill and daring. R.A.F. pilots of 2nd **Tactical Air Force** were mainly employed and losses were

¹ Flying Officer A. J. Redman; born **Wellington**, 9 Nov 1911; motor driver; joined **RNZAF** Sep 1941.

very heavy. There is no doubt, however, that these attacks saved the lives of many soldiers, sailors and airmen on D-day.'

Spitfire wings were led by Wing Commanders C. E. Malfroy and R. D. Yule during the early months of 1944 and then both men were appointed to operational control posts with the Second Tactical **Air Force**. Wing Commander Wells ¹ was at No. 11 Fighter Group Headquarters until March. Then he flew with a Canadian wing of the **Tactical Air Force** for several weeks before taking command of a new Spitfire wing formed at Detling with three squadrons that had only recently returned from **Sicily**. Flight Lieutenants Spurdle ² and Burrett ³ were among the New Zealand pilots who flew with the **Detling Wing** under Wells's leadership during the subsequent weeks. Squadron Leader M. G. Barnett led Spitfires from a forward base in **Sussex** in this period.

Mustang squadrons flew many long-range sorties both as bomber escort and in low-level attacks on ground targets, and in these duties Squadron Leader Westenra ⁴ was prominent in command of No. 65 Squadron. Flight Lieutenants Collyns ⁵ and Barrett ⁶ were among his senior pilots. The deep penetrations into enemy territory made by the Mustangs gave greater opportunity for meeting enemy fighters and all three New Zealand airmen were in action at various times during this period. On one Ranger operation over **Denmark** in the middle of May, Westenra and his pilots met German fighters near Aalborg and, in a 'hectic battle which finished up right on the deck', they claimed eight enemy machines for the loss of only two pilots.

No. 485 New Zealand Squadron flying Spitfires of shorter range had no such luck during these months, but this was nevertheless a period of solid, if unspectacular, achievement for the pilots. Transferred from **Scotland** to Hornchurch in Essex at the beginning of March 1944, the squadron had joined one of the tactical air force wings that were soon to operate on the Continent in support of the

¹ Wing Commander E. P. Wells, DSO, DFC and bar; born 26 Jul 1916; farmer; joined **RNZAF** Oct 1939; commanded No. 485 (NZ) Sqdn, 1942; Wing Leader, Kenley, 1942–43; Wing Commander, Training, No. 11 Fighter Group, 1943–44; Wing Leader, Tangmere, Detling, West Malling and Hawkinge, 1944; commanded Fighter Leader School, Central Flying Establishment, 1944–45.

² Wing Commander R. L. Spurdle, DFC and bar; born **Wanganui**, 3 Mar 1918; ware houseman; joined **RNZAF** Sep 1939; transferred **RAF** Jul 1940; commanded No. 80 Sqdn, 1944–45; Staff duty, Admin. Plans, No. **83 Group**, 2nd TAF, 1945; Wing Leader, No. 39 Wing, No. **83 Group**, 1945.

³ Flight Lieutenant H. J. Burrett; born **Auckland**, 2 Aug 1918; joined **RNZAF** Jul 1941.

⁴ Squadron Leader D. F. Westenra, DFC and bar; born **Christchurch**, 29 Apr 1918; farmer; joined **RAF** Feb 1940; transferred **RNZAF** Jan 1944; commanded No. 93 Sqdn, **Middle East**, 1943–44, and No. 65 Sqdn, 1944.

⁵ Flight Lieutenant B. G. Collyns, DFC; born **Greymouth**, 24 Feb 1913; sheep farmer; joined **RNZAF** Nov 1939.

⁶ Flight Lieutenant R. Barrett; born **Auckland**, 30 Nov 1919; clerk; joined **RNZAF** Nov 1939; killed on air operations, 17 May 1944.

Allied armies. After a short period at Hornchurch the New Zealanders moved to a forward airfield in **Sussex**, where they lived under canvas and operated under conditions similar to those they would experience when they moved across the Channel.

At first the squadron operated mainly in the role of bomber support, covering the withdrawal of Fortresses from their raids on targets in

Germany and escorting Marauders to attack marshalling yards and V-weapon sites. All these operations were flown without notable incident. Pilots saw more action when, towards the end of April, they began to carry bombs and attack flying-bomb sites and ground targets on the Continent. Such missions, interspersed with escort duties and Ranger patrols over **Belgium** and **France**, were continued throughout May, and at the end of that month the Spitfires joined in the attacks against German radar stations along the French coast. Altogether this was a period of intensive effort in which the squadron flew as many as four operations in one day and a total of over four hundred sorties in the five weeks before D Day. Squadron Leader Niven,¹ a Scot from Edinburgh, who succeeded Squadron Leader M. R. D. Hume at the beginning of the year, was in command of No. 485 Squadron during this period. Flight Lieutenant Lee² and Flight Lieutenant Black³ were the flight commanders.

No. 486 New Zealand Squadron operated during the early months of 1944 with Typhoon fighter-bombers in attacks on V-weapon sites in northern **France**. Pilots also flew long-range missions in search of enemy aircraft and to bomb airfields in the **Brest** and **Paris** areas. Few German fighters were sighted during these flights over enemy territory but on a number of occasions the Typhoons encountered sharp anti-aircraft fire. During a sortie to the **Paris** area Flying Officer Miller⁴ had a narrow escape when his Typhoon received two direct hits. One of the petrol tanks exploded and caught fire and at first Miller thought he would have to bale out. However, the rush of air put out the flames and he was able to retain control and fly back across the Channel. Flight Sergeant Swinton⁵ was lost on a Ranger patrol about the same time, and from another long patrol Squadron Leader Iremonger,⁶ who
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¹ Squadron Leader J. B. Niven, DFC and bar; born Edinburgh, 16 Aug 1920; joined **RAF** Jul 1939; commanded No. 485 Sqdn, 1944.

² Flight Lieutenant L. S. Lee; born **Auckland**, 25 Sep 1919; student; joined **RNZAF** Sep 1939.

³ Flight Lieutenant L. S. Black, DFC; born **Wellington**, 12 Apr 1914; barrister; joined **RNZAF** Apr 1940; killed in flying accident, 5 Mar 1945.

⁴ Flight Lieutenant W. L. Miller; born Waimate, 5 Feb 1918; clerk; joined **RNZAF** Jul 1940.

⁵ Warrant Officer W. J. Swinton; born Te Kaha, **Auckland**, 6 Dec 1921; dairy-farm labourer; joined **RNZAF** Aug 1941; p.w. 10 Feb 1944.

⁶ Wing Commander J. H. Iremonger, DFC; **RAF**; born Warminster, **Wiltshire**, 31 Mar 1918; permanent commission **RAF** 1938; commanded No. 486 (NZ) Sqdn, 1944.

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No. 486 Squadron during these months, returned with his Typhoon badly shot up by flak.

At the end of March the New Zealanders began to exchange their Typhoons for Tempest aircraft. The Tempest, designed as a medium altitude day or night fighter and fitted to carry long-range tanks, bombs, and rocket projectiles, was the newest product of the Hawker Aircraft Company which had produced in turn the famous Hurricane and the versatile Typhoon. After a brief period of training and practice flights, the squadron moved to an advanced airfield in **Kent** where it joined the first Tempest wing of the Allied Expeditionary **Air Force**. Operations during the next few weeks included attacks on bridges, railways, and flying-bomb sites in northern **France**, together with reconnaissance and Ranger patrols. The Tempests also attacked ships and gun positions along the French and Belgian coasts and took part in several fighter

sweeps. On 21 May the squadron flew as part of a large force of Spitfires, Typhoons, and Tempests which made widespread attacks on trains and military transport in **France, Belgium, and Holland**. The New Zealanders for their part attacked goods trains between St. Omer and Lille and installations along the line. Four locomotives were reported hit and damaged. Twenty RAF pilots were lost that day but the New Zealanders were lucky and completed their mission without casualty. This good fortune continued to favour No. 486 in its operations, and during the last five weeks before D Day 208 sorties were flown without the loss of a single aircraft.

No. 488 New Zealand Mosquito Squadron continued to play a prominent part in night-fighter operations under the leadership of Wing Commander R. C. Haine; Squadron Leaders E. N. Bunting and R. G. Watts were the flight commanders. During the early months of 1944, which saw a renewal of German night bombing raids against England, the New Zealanders had flown from Bradwell Bay in Essex. The German raids were intermittent, scattered, and on a smaller scale than anticipated, but No. 488 crews were particularly successful in their interception patrols and by mid-April, when the 'Baby Blitz' came to an end, they had destroyed eighteen German aircraft and claimed two more as probably destroyed. Details of these successes have already been recorded.

Early in May 1944 the New Zealanders moved to a base in Wiltshire from which they flew night patrols in protection of southern and western districts, where invasion forces were now assembling. Patrols were uneventful until the night of 14 May when several crews were in action. Airborne just after midnight, Flight Lieutenant J. A. S. Hall and Flying Officer J. P. Cairns obtained a radar contact which, after a long chase, led to the sighting of a Junkers 188. Hall flew right underneath to obtain a clear-cut identification and then dropped back a hundred yards or so astern and opened fire.

The first burst found its mark and the Junkers went straight down to explode in a mass of flames as it hit the ground. Three members of the

crew who baled out were subsequently captured. On patrol about the same time, Flight Sergeant Mitchell ¹ and his navigator, Sergeant Ballard, ² of London, intercepted another German bomber. They scored hits but lost sight of their target before being able to administer the coup-de-grâce. Searchlights illuminated a target for Flying Officer R. G. Jeffs and, closing in on what proved to be a Junkers 88, he opened fire. Both engines of the enemy bomber caught alight and it went down to crash in flames. All the crew baled out and were taken prisoner. Ten minutes later Jeffs sighted and attacked a Dornier 217, which went down with smoke pouring from one engine but was not seen to crash.

During the last few weeks before D Day there were very few nights when the enemy operated over the areas patrolled by No. 488 Squadron and no conclusive actions were reported. This was, however, the general experience of both day and night defence squadrons for the German air reaction to the Allied preparations was remarkably weak. By night a few isolated attempts to attack Portsmouth and Plymouth areas were all that the now depleted German bomber forces could achieve. By day the number of German aircraft which approached the British coast was negligible and even reconnaissance machines failed to penetrate the defences. Indeed, most of the reconnaissance sorties flown by the Luftwaffe from France were limited to brief appearances in mid-Channel. All this was not surprising for standing patrols by RAF fighters as far as forty to fifty miles south of the Isle of Wight, and the frequent bombing attacks on their bases were making life particularly difficult for the German squadrons in northern France.

Mastery of the air over the Channel, wrested from the Germans in earlier years by RAF Fighter Command, was now complete. It proved of incalculable value to the Allied armies, navies, and air forces which were able to complete their preparations for the assault virtually unmolested.

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The air war at sea now claims attention. Here Hitler's hopes that Admiral Doenitz with his U-boats would be able to upset the build-up of

forces and supplies in **Britain** had been frustrated by the signal

¹ Flying Officer R. W. Mitchell; born Taumarunui, 15 Mar 1912; leather goods salesman; joined **RNZAF** Dec 1941.

² Flight Lieutenant R. L. Ballard; born **London**, 25 Oct 1916; joined **RAF** Jul 1940.

Allied victories in the **Atlantic** battle during 1943. Thereupon the Germans had planned to conserve their forces until the invasion actually began, when mass attacks would be launched upon the assault ships and the subsequent supply convoys. To this end Doenitz instructed his U-boat commanders to patrol cautiously and attack only under the most favourable conditions. But even so the German U-boat arm suffered further considerable loss during the early months of 1944 for a relatively small return in sinkings. From January to the end of May, **Coastal Command** aircraft alone sighted and attacked over one hundred U-boats; twenty-four of them were sunk outright with others seriously damaged.

Royal Air Force Coastal Command was now a formidable force. In January 1944 it possessed some thirty anti-submarine squadrons equipped with long-range Liberator, Fortress, **Halifax**, and Wellington land planes, together with Sunderland and Catalina flying boats. Operating from bases that stretched in a wide arc from **Iceland** through the **United Kingdom** to Gibraltar and the Azores, these squadrons were employed in escorting convoys and hunting U-boats in the open **Atlantic**, the **Bay of Biscay**, and the Western Approaches. Farther south, on the route to the Cape, cover was provided by aircraft based at Gibraltar and in **West Africa**, among them the Sunderlands of No. 490 New Zealand Squadron.

The success of **Coastal Command**'s patrols during this period may be gauged from the fact that huge convoys continued to pass almost unmolested from Gibraltar, the **United States**, and **Canada** to British ports. In March 1944 only one merchant ship in convoy was sunk in the

North Atlantic, whereas eleven vessels went down in the **Indian Ocean** where the Allied defence was much weaker. During May not a single merchant ship was lost in the **Atlantic** areas swept by **Coastal Command**.

The **Bay of Biscay** continued to be the main hunting ground for aircraft based in south-west England. Intensive day and night patrols over those waters resulted in seventy-two attacks on U-boats during the first five months of 1944; but it is interesting to note that the large majority of these attacks took place at night with the aid of the Leigh Light or flares. The German U-boat commanders were now very wary of being caught on the surface by day in a region so well covered by air patrols. They preferred to sacrifice both speed and time by travelling submerged throughout almost their whole passage across the bay, venturing up only for short periods during the hours of darkness to recharge batteries and change air.

In the wider spaces of the **Atlantic** targets were now fewer; nevertheless, **Coastal Command** aircraft attacked more than fifty U-boats during this same period. One German submarine – U.231 – was depth-charged and destroyed in the light of the January moon by a No. **172 Squadron** Wellington flying 400 miles north-east of its base in the Azores. Another praiseworthy kill was made by a Catalina flying boat of No. **210 Squadron** at the extreme range of 750 miles north of her base in the Shetland Islands. Called out in support of a convoy returning from North Russia, the Catalina sighted the U-boat some 200 miles north-west of the Lofoten Islands. Because of the length of her patrol the flying boat carried only two depth-charges. These, however, were so well placed that the U-boat was sent to the bottom.

Tribute to the effectiveness of the aerial depth-charge attacks was paid by the Germans themselves. One day in March as U.265 began to sink by the stern after an attack by a Sunderland in the North-Western Approaches, the German commander flashed a signal 'Fine Bombish' before he and his men abandoned ship. While flying in to the attack the Sunderland had been hit, and members of the crew had to plug holes in

the hull so that their machine would remain afloat when it alighted at its base in Northern Ireland.

An outstanding feature of the pre-D Day operations by **RAF Coastal Command** was the May offensive in the area between **Norway**, Shetland, and **Iceland**. It was appreciated that as the Allied invasion across the Channel became imminent, Doenitz would try to reinforce his Biscay flotillas from **Norway** so air patrols over northern waters were strengthened. The first sighting and attack was, appropriately enough, made by a Norwegian crew on 16 May, and during the next fortnight twelve more U-boats were depth-charged from the air. Six of them were sunk outright and others forced back to port.

New Zealanders, both air and ground crew, were to be found with almost all **Coastal Command** squadrons, in the United Kingdom, **Iceland**, Gibraltar, **West Africa**, and the Azores. In some units the representation was limited to a few individuals but in others, notably the Liberator and **Halifax** squadrons, there was a relatively large contingent of pilots, navigators, wireless operators, and air gunners, as well as armourers, fitters, and radar mechanics.

Squadron Leader M. A. Ensor was the outstanding personality with No. 224 Liberator Squadron at St. Eval in **Cornwall**, where he won commendation for his work as flight commander both in the air and on the ground. With No. **53 Squadron** also flying from St. Eval, Pilot Officer W. Anderson captained a Liberator in several attacks on U-boats. In another crew of this squadron, Flight Sergeants H. J. Mills and F. E. Bailey flew as radar operator/air gunners. In February they took part in a lengthy action round a convoy some 400 miles west of **Ireland**, and during two operational flights the crew sighted six U-boats and attacked five of them. Flight Lieutenants Jenkins ¹ and Nicholls ² of No. **547 Squadron** both captained Liberators in night attacks in the **Bay of Biscay**, and Flying Officers Culling-Mannix ³ and McDowall ⁴ flew Halifaxes of No. 502 Squadron in night patrols over the same area. Culling-Mannix and his crew failed to return from patrol early in

February, only a few days after having made a damaging attack on a German submarine.

During the intensive operations over northern waters towards the end of May 1944, New Zealanders saw at least two U-boats destroyed. One of them was attacked by a Sunderland from Invergordon with an all-New Zealand crew captained by Warrant Officer MacDonald.⁵ A contemporary report tells how one of the gunners first sighted the submarine when the Sunderland was about 200 miles north-east of the Shetlands. The flying boat swept in to drop a stick of depth-charges, and a few seconds later the rear gunner 'let out a wild Maori yell' as he saw the depth-charges straddle the target. One of them must have scored a direct hit for a few seconds later the U-boat blew up, leaving the sea strewn with oil and wreckage. Two months later this same Sunderland crew were forced down in the sea north-west of Dakar while flying to **West Africa** to join No. 490 Squadron. They got ashore after some adventures and were eventually rescued from the beach by a French corvette.

The squadrons based, on the West African coast flew patrols to protect convoys in that area and also to harass U-boats on passage to the **Indian Ocean**. Unfortunately, few opportunities for attack presented themselves during these months, but the crews who flew the many long and uneventful patrols at least had the satisfaction of seeing the convoys pass safely on their way.

No. 490 New Zealand Squadron, under Wing Commander B. S. Nicholl, was based at Jui near **Freetown**, with a detachment commanded by Squadron Leader P. R. Godby at Fisherman's Lake, 150 miles south-east in Liberia, and continued to take a prominent part in the patrol and escort duties. During April, in spite of the fact that three U-boats patrolled off the West African coast for the greater part of the month, no shipping was attacked in that area. Again in May convoys passed unmolested even though there was some increase in the number of transit U-boats as well as those on patrol. It is

¹ Flight Lieutenant H. G. Jenkins; born **Auckland**, 8 Feb 1919; clerk; joined **RNZAF** May 1941.

² Flight Lieutenant H. R. Nicholls; born **Auckland**, 15 Oct 1917; clerk; joined **RNZAF** Sep 1939.

³ Flying Officer F. T. Culling-Mannix; born **Timaru**, 1 Oct 1917; civil servant; joined **RNZAF** Jun 1941; killed on air operations, 5 Feb 1944.

⁴ Flight Lieutenant W. McDowall; born **Waterside, Scotland**, 20 Sep 1920; joined **RNZAF** Aug 1941.

⁵ Flight Lieutenant J. S. MacDonald; born **Wellington**, 26 Aug 1914; salesman; joined **RNZAF** Oct 1939.

difficult to believe that no opportunity for attack fell in the way of German U-boat commanders during this period, and the conclusion that the constant air sweeps had much to do with the enemy's inactivity can scarcely be avoided.

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Against enemy shipping in European waters both RAF Bomber and Coastal Commands were active during these months. Bomber Command continued laying mines, a task which had long been an important part of bomber operations. Now that the technique of high-level minelaying with the aid of H2S was firmly established, aircraft dropped their mines with precision through the densest cloud and were able to penetrate even the most distant and heavily defended areas from the Baltic to the **Bay of Biscay**. Altogether from 1 March to the eve of D Day, crews flew 2333 sorties in which 7377 mines of many types were laid for the loss of 37 aircraft. The main aims of the minelaying campaign remained the dislocation and disruption of seaborne traffic carrying raw materials to the German war machine, interference with the passage of troopships

between **Germany, Norway and Russia**, disorganisation of U-boat training in the Baltic, and the restriction of U-boat movements to and from operational bases on the Biscay coast. As the time for **OVERLORD** drew near, however, there came the special task of ensuring that the flanks of the invading forces would be protected from attack by German surface vessels and U-boats. Mines were therefore laid in the Channel area to restrict the movement of enemy surface craft and to prevent the U-boats securing advanced bases. To avoid forewarning the Germans, these operations were skilfully woven into the general pattern of the minelaying campaign and were completed without arousing any suspicion that the **Normandy** coast had received special attention. The areas most frequently covered included the channels between Ushant and the **Brest** peninsula, the approaches to Morlaix, St. Malo, and Cherbourg, and regions off the Dutch and Belgian coasts.

While the main burden of the offensive was borne by the **Stirling** and **Halifax** squadrons of Bomber Command, Lancasters were prominent in operations along the north-west German coast where their longer range and larger load capacity were a great asset. On one night alone Lancasters laid 450 mines in the Gulf of Danzig. On another occasion a small force of Lancasters laid mines in the sea canal linking the important East Prussian ports of Königsberg and Pillau, almost 1000 miles from their base. This was a difficult and hazardous operation in a narrow channel little more than 50 yards wide and heavily defended on both sides by flak batteries and searchlights.

Mosquitos of the Pathfinder Force made a notable and interesting contribution on the night of 12 May when aircraft of No. 692 Squadron mined the **Kiel** Canal in bright moonlight from very low level. This was the first occasion on which Mosquitos were used for sea mining at night. The mission holds special New Zealand interest for it was led by Wing Commander Watts, an experienced bomber pilot with a fine record. His careful planning, skill, and fine airmanship contributed largely to the success obtained. Another Mosquito was captained by Flight Lieutenant Farrow, ¹ who had Flying Officer Strang ² as his navigator, while Flying

Officer Matheson was navigator in a third aircraft.

No. **692 Squadron** was supported by nine Mosquitos from No. 139 Squadron whose task was to mark the route and indicate the target with flares. Other Pathfinder Mosquitos made a 'spoof' attack on the lock-gates at Brunsbuttel to divert the enemy defences while 'Intruders' from No. **100 Group** shot up gun positions along the canal. The minelaying force flew over the sea at 10,000 feet to a point near Heligoland, where on sighting the Very lights fired by No. **139 Squadron** they turned south-east and began reducing height. By the time they reached the red spot fires, dropped to mark the last leg to the target, they were flying at 8000 feet and, swinging east, began the long dive which would take them over the canal at 300 feet. Watts led the first wave of six aircraft down in their dive and, in the light of the moon and the first of the dawn which was beginning to colour the eastern sky, the crews saw below them the three- and-a-half-mile stretch of the canal which was their target. One by one the leading aircraft swept down to release their mines, and with the second wave quickly merging with the first, eleven mines were 'laid fair and square in the canal' within a matter of minutes.

The canal was defended along its entire length by anti-aircraft guns and searchlights and an extensive system of balloon barrages above each of the bridges which crossed it. However, in this surprise attack, opposition from the defences in the mining area was slight. Only one Mosquito was shot down; a second failed to locate the target but returned safely with the rest of the force. As a result of this brilliant operation the **Kiel** Canal was completely closed to traffic for seven days, by which time sixty-three ships were held up at one end.

In an attempt to counter the ever-increasing threat to their merchant shipping and U-boats, the Germans had continually been forced to expand their minesweeping force and to increase the

¹ Squadron Leader J. P. Farrow, DFC, DFM; born **Gisborne**, 9 Aug 1918; truck driver; joined **RNZAF** Jul 1940; p.w. 27 Jun 1944.

² Flying Officer C. R. Strang; born Riverston, **Auckland**, 22 Sep 1921; bank clerk; joined **RNZAF** Jul 1941; killed on air operations, 26 Jun 1944.

number of vessels used for escort duties. Now more than one-third of all German naval personnel were employed on these tasks – a significant diversion of effort which had an important bearing on the quality and size of the naval forces available to oppose the Allied armada shortly to sail across the Channel. Even so, with minelaying aircraft of Bomber Command operating in strength, the Germans were frequently unable to clear channels for their shipping without long delays. Rear Admiral Gatow, writing in the *Deutsche Allgemeine Zeitung* at this time, admitted that the mining of shipping routes in the North Sea was so intense that it was causing the heaviest strain on the German minesweeping flotillas. In April Danzig Bay was closed to traffic for fifteen days, the ports of Königsberg and Pillau for thirteen days, while **Kiel** and many other ports could not be used for long periods.

In addition to this interruption of merchant traffic which delayed delivery of urgently required materials and upset production schedules, many ships were sunk and their valuable cargoes lost. A contemporary report covering the first five months of 1944 stated that at a conservative estimate the Germans had lost, without hope of replacement, no less than three million tons of cargo-carrying capacity and almost one and a half million tons of imports—a serious drain on the enemy war potential at a critical time. German naval losses were also heavy.

German difficulties were further increased by the operations of **Coastal Command's** bomber and torpedo-bomber squadrons, whose crews continued to harass German shipping off the coasts of **Norway** and the Frisian Islands, in the North Sea and the **English Channel**. Because of the frequent air patrols over these waters, enemy ships now seldom sailed by day, and most sightings and attacks were made by night. There were, however, several spectacular actions against heavily defended

convoys in daylight when cargo vessels, mine- sweepers, anti-aircraft ships, and naval auxiliaries were sunk and damaged.

No. 489 New Zealand Beaufighter Squadron, under Wing Commander J. S. Dinsdale, was one of the torpedo-carrying units engaged in this campaign. Together with No. 455 Australian Squadron, also flying Beaufighters, it made up an **Anzac Wing** which operated over Dutch coastal waters. In May 1944 there were several notable actions in this area. On the 14th the target was a convoy of four ships protected by sixteen escorts, sighted off Ameland in the Frisian Islands. Six Beaufighters from No. 489 carried torpedoes, and a further six aircraft from the New Zealand Squadron, together with twelve from No. 455 Squadron, made up the anti-flak force. Flight Lieutenant T. H. Davidson led the Torbeaus in low over the sea; they had to fly through a curtain of anti-aircraft fire but as they broke away crews saw that several torpedoes had scored hits. On one 2000-ton ship which Davidson and Flight Sergeant Langley ¹ attacked there was a huge explosion followed by a cloud of smoke and flames. It was soon blazing furiously. A great column of smoke rose from a second ship at which Flying Officer J. G. Gow and Flying Officer Fraser ² had aimed their torpedoes, and a minesweeper appeared to be listing badly. In addition, many cannon strikes were seen on the other merchantmen and on several of the escorts. During the attack, however, the Beaufighter piloted by Flying Officer I. A. Pettit was shot down and four other machines were hit and damaged by flak; one of them had to make a crash-landing on return to base.

Whilst attacking another well-defended convoy a few days later No. 489 Squadron lost two more Beaufighters. One was flown by Flying Officer Cameron ³ of **Inverness**, the other by Warrant Officer Wright. ⁴ The pilot of a third, Flight Sergeant Langley, was badly wounded in the throat, arms, and thigh whilst approaching to drop his torpedo, but despite these injuries he completed his attack and then, aided by his navigator, flew his damaged machine back across the North Sea to make a successful night landing. Langley, weak from loss of blood, collapsed at the controls as the Beaufighter came to rest.

In the last weeks before D Day the New Zealand Beaufighters flew patrols along the enemy coast in search of E-boats and other light naval craft that were operating from bases between Ijmuiden and Cherbourg. Such patrols marked the first stage of operations designed to ensure that the Allied invasion fleets would not be molested by surface craft during their passage to **Normandy** from ports in southern England. The main **NEPTUNE** operations—the naval component of **OVERLORD**—were planned to begin on the eve of D Day when squadrons of RAF Coastal Command and the Fleet Air Arm would co-operate with surface vessels of the Allied navies in a wide and complicated pattern of patrols which, it was hoped, would seal both the eastern and western entrances to the Channel.

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During May 1944, while Allied fighters and bombers were developing their offensive against the enemy's communications and

¹ Flying Officer M. L. Langley, CGM; born Dunedin, 11 Jun 1920; furrier; joined **RNZAF** Feb 1942.

² Flight Lieutenant W. A. Fraser, DFC, DFM; born Dunedin, 8 Dec 1921; sheep farmer; joined **RNZAF** May 1941.

³ Flying Officer W. I. Cameron; born **Inverness, Scotland**, 4 Aug 1922; student; joined **RAF** Aug 1940; killed on air operations, 19 May 1944.

⁴ Pilot Officer J. A. S. Wright; born Dunedin, 14 Sep 1920; accountant; joined **RNZAF** Dec 1941; killed on air operations, 19 May 1944.

coastal defences, the final details of the **Normandy** assault plan were settled. This provided for the operation to begin with the dropping of three airborne divisions behind the German coastal defences during the night immediately preceding the main invasion from the sea. These

divisions – the 6th British in the Orne Valley and the 82nd and 101st American at the base of the Cherbourg peninsula – were to secure the flanks of the bridgehead and weaken the beach defences at key points by attacks from the rear. Their landing was to be followed soon after daybreak by the seaborne assault in which the First United States Army, under Lieutenant-General Omar Bradley, would land north and east of the Vire estuary, and the Second British Army under Lieutenant-General M. C. Dempsey was to land between Bayeux and Caen. Their immediate task was to establish bridgeheads to accommodate follow-up troops; then the initial objectives of attack included Caen, Bayeux, Isigny and Carentan, with the airfields in their vicinity and the port of Cherbourg. Thereafter, Allied forces were to advance on Brittany with the objective of capturing ports southward to Nantes. The next main aim was to drive eastwards on the line of the Loire in the general direction of **Paris and north across the Seine, destroying as many as possible of the German forces in this area.**

Because it was intended to supply the **United States forces engaged in **Europe** directly from American ports, **United States** troops were assigned the right flank in these operations. They were to take Cherbourg and the Brittany ports as supply bases while the British protected the left flank of the Allied forces against what was expected to be the main German counter-attack from the east. Then, driving east and north along the coast, the British armies were to seize the Channel ports as far north as Antwerp, through which they were to be supplied from England.**

To ensure the safe arrival of the assault troops on the beaches the Allied navies would provide covering forces to protect the flanks of the sea lanes used by the assault craft, with minesweeping vessels to clear channels ahead of them. Once within range of the landing areas the heavy naval guns were to open fire on the coastal batteries to supplement the work of the air forces, and then, as the landing craft drove inshore, there was to be an intense bombardment of the beach defences by every gun that could be brought to bear.

Once assault forces had established themselves on shore, naval forces were to maintain swept channels between **France** and England through which supplies and reinforcements could be passed. Since the initial port facilities would be very limited, provision had been made for the establishment off the French coast of five protected anchorages, two of which were subsequently to be extended into artificial harbours. ¹ Through these points the bulk of the stores were to be unloaded during the early stages of the campaign. To provide oil and petrol in quantity, tanker discharge points were to be set up off the French coast and submarine pipelines laid beneath the Channel, the latter under the code-name PLUTO. ²

The extent of the problem of berthing, loading, and moving the forces involved in this great amphibious assault is perhaps best indicated by the fact that over 5000 ships and 4000 additional 'ship-to-shore' craft were to be engaged in the Channel during the assault and build-up period. The naval forces included 25 flotillas of minesweepers of all types, 6 battleships, 2 monitors (15-inch-gun bombardment ships), 22 cruisers, 119 destroyers, 113 sloops, frigates and corvettes, 80 patrol craft, anti-submarine trawlers and gunboats, and 360 motor launches, motor torpedo-boats, motor gunboats, and American PT boats.

The Allied air forces, now in action, were to increase the intensity of their attacks as D Day approached. In the assault itself they were to prepare the way for the ground forces by destroying the enemy's radar installations and by attacking coastal batteries and beach defences between Ouistreham and Varreville; and, in conjunction with the navies, they were to protect the cross-Channel movement from enemy air and sea attack. They were also assigned the tasks of providing cover over the landing beaches and of attacking the enemy to reduce his ability to reinforce and counter-attack. There would also be the air lift of the airborne forces. After the establishment of a bridgehead the Allied air forces would support the armies in their advance inland.

During the assault it was planned to maintain a sustained density of

ten fighter squadrons to cover the landing beaches, five over the British sector and five over the American. An additional six squadrons were to be maintained in readiness to support the beach cover if necessary. Over the main approach channels there would be a sustained density of five squadrons, centred at roughly 60 miles and three at 80 miles from the south coast of England. Additionally, a striking force of thirty-three fighter squadrons, subsequent to its initial employment as escort to the airborne formations, was to be held in reserve for use as the situation might require.

¹ The famous 'Mulberries', components for which had now been completed in England. They were to be towed across the Channel and then sunk or moored off the **Normandy** coast to the north-east and north-west of Bayeux. Each harbour was to be roughly the size of **Dover** and was to consist of an outer floating breakwater, an inner fixed breakwater made of concrete caissons, and four floating piers running out from the beaches. In the interval before these harbours were completed, shelter for the unloading was to be provided by sinking lines of obsolete ships to form breakwaters at each of the five main assault sectors.

² Pipeline under the ocean.

As D Day approached, the air squadrons that were to support the **Normandy** invasion crowded into the airfields and bases of the **United Kingdom**. Some airfields that had previously held two squadrons now had six. Satellite fields had become main bases. In fact, the southern half of England, including **Cornwall**, was virtually one huge airfield, in places with barely orbiting and navigational space between one landing ground and the next.

The total strength of the Allied air forces now available in **Britain** for D Day was in the region of 13,000 aircraft. Just over half of these – about 7000 – were **United States** machines trained in day operations over a wide area, and including a powerful force of some 2500 heavy and

medium bombers capable, in reasonable conditions, of attacking targets with great precision. American fighters were also now capable of providing protection in deep penetrations over enemy territory. The RAF forces, though slightly fewer in total numbers, possessed greater operational experience and versatility. They included a large proportion of bomber and reconnaissance squadrons, highly trained in both day and night operations over **Europe** and its contiguous seas, together with large numbers of high-performance fighters that could guarantee air superiority over the whole of the assault area, as well as the protection of the **United Kingdom**, the main base for OVERLORD.

The variety, balance, and formidable nature of the Allied air forces that were to support the invasion of **Europe** is indicated in the following table:

	USAAF	RAF and Associates	Grand Total
Heavy bombers – day	2500		2500
Heavy bombers – night		1458	1458
Medium and light bombers – day	704		704
Medium and light bombers – day and night		294	294
Fighters and fighter-bombers – day	2300	2100	4400
Fighters and bomber support – night		400	400
Troop-carrier and transport	1166	460	1626
Coastal	40	1030	1070
Reconnaissance	230	390	620
Air-sea rescue		96	96
	—	—	—
Total aircraft	6940	6228	13,168
	—	—	—
Gliders	1619	972	2591
	—	—	—

Against this great concentration of Allied air power the Germans were able to deploy in the West only a very limited force whose strength was further weakened by lack of adequate reserves of trained men and equipment. On 5 June 1944 *Luftflotte 3*, the operational air command

on which fell the burden of defence in the West, possessed a total of barely 800 serviceable aircraft distributed among airfields between south and south-west **France** and **Belgium**. Particularly outstanding was the weakness of the ground-attack units in **France** – there was only a handful of FW190 fighter-bombers available for this role – while the long-range bomber squadrons could muster no more than some 130 aircraft and there were not more than 170 single-engined fighters. Moreover, included in the total strength were the anti-shipping squadrons based at such distant airfields as Bordeaux, Toulouse and Marseilles, which amounted in all to some 200 aircraft, a potentially formidable force but weakened by a high proportion of inexperienced crews.

During the first week of June no major redistribution of German air strength took place and there appears to have been no attempt to have ready a force of some considerable striking power to operate in an emergency. This was no doubt largely because home defence remained a prime commitment of the German fighter force, as in other theatres enemy air strength was already far from adequate to meet the demands now made upon it. But there was also the fact that until the very last moment the **German High Command** remained uncertain of Allied intentions, and the possibility of landings either to the east or west of the Seine estuary had to be envisaged. This uncertainty was maintained and even increased by the conflicting reports received from various sources and by the widespread nature of the Allied air attacks. The result was that the **Luftwaffe** was forced to adopt a policy of waiting on events, a policy which inevitably imposed serious limitations on the activity possible in the initial stages of an Allied invasion.

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While the Germans were thus held in suspense wondering when and where the blow might fall, the men of the Allied invasion forces worked to complete their preparations on the airfields, at the ports and naval bases, and in the wired and guarded camps of the marshalling areas.

When all was ready there came the briefing, which was thorough and complete. Inside closely guarded rooms the men of every unit were given a clear picture of their particular task. Aerial photographs taken almost from wave-top height gave troops a picture of the invasion beaches as they would first see them. Other photographs taken from various heights and angles revealed the German defences in all their detail. For the briefing of the British glider pilots and air crews there was a detailed model of the Orne Valley, correct even to the height of the trees and the size of the houses. In addition, there was a film which gave the impression that one was actually flying over the coast of **France** following the precise route that the gliders, tugs, and troop-carriers would be taking. As they watched this film pilots saw features and landmarks coming in to view and learnt what to look for. Subsequent screening of the film through a blue filter which gave a faithful representation of moonlight conditions enabled crews, knowing the landmarks, to see which were most likely to be visible at night. Briefing completed, the whole mighty host of soldiers, sailors, and airmen then waited, tense as a coiled spring, waiting for the moment when its energy would be released to vault the **English Channel** in the greatest amphibious assault ever attempted.

Throughout most of May the weather had been almost ideal, with a succession of soft spring days and the **English Channel** smooth and sunlit. But the first days of June brought a gradual deterioration and with it a series of dramatic conferences at Southwick House, near Portsmouth. Here Eisenhower and his commanders were meeting daily to correlate last-minute preparations and to receive the weather forecasts upon which depended the final decision as to the date of launching the assault.

D Day had been provisionally fixed for 5 June, and with the approach of the critical period tension continued to mount as prospects for reasonable weather became worse and worse. On the morning of 4 June the predictions received were so bad that Eisenhower reluctantly decided that a postponement of twenty-four hours would be necessary. A

further conference the same evening presented little if any improvement and tension mounted even higher because, as Eisenhower remarks: 'The inescapable consequences of further postponement were almost too bitter to contemplate.' Owing to the state of tides the latest possible date for the invasion was 7 June, but a further postponement until then was impracticable as the naval bombardment forces, which had already sailed from their northern bases, would have to put back to refuel and the whole schedule would be upset.

In the early hours before dawn on 5 June the storm reached its height. At 3.30 a.m., as Eisenhower drove to Southwick House, the wind howled through the pine trees and the rain came in violent squalls. 'It seemed impossible,' he writes, 'that in such conditions there was any reason for even discussing the situation.' But the forecast now presented a gleam of hope since a short interval of fair weather was expected which would last until the next morning. At this critical moment Eisenhower was therefore faced with the alternatives of taking the risks involved in an assault during what was likely to be only a partial and temporary break in the bad weather, or of putting off the whole thing for several weeks until tide and moon should again be favourable. Such a postponement would, he considered, be most harmful to the morale of the Allied forces, apart from the likelihood of their losing the benefits of tactical surprise. And so at 4 a.m. on 5 June, with the storm still beating at the windows of the library in Southwick House where the Allied commanders sat in conference, Eisenhower took the final and irrevocable decision: 'The invasion of **Europe** would take place on the following day.'

Within a few hours of this decision the first invasion convoys were slipping out to sea into the stormy Channel, on the far side of which lay their goal – **Hitler's** Fortress Europe, with its reputedly impregnable Atlantic Wall. The wind came in fierce gusts, the sea was wild and rough, and the clouds low and threatening. It was scarcely an auspicious beginning. Indeed, it was in such a gale that the last great invasion armada to sail the **English Channel** had come to grief four centuries

earlier. But only a few small craft were forced back, and throughout the day more and more ships sailed from ports as far apart as Falmouth and the Nore, until by mid-afternoon a vast concourse of landing craft, supply vessels, and warships was moving towards the south of the Isle of Wight to 'Area Z' – unofficially known as ' **Piccadilly Circus**' – from where they would begin their passage across the Channel.

Shortly after midday flotillas of minesweepers had begun sweeping clear channels for them southwards to the bay of the Seine. Fewer mines were encountered than had been expected. The reason was revealed after the war by Admiral Krancke, the Commander of Naval Group, West. Coastal waters from Le Havre to **Dunkirk**, he said, had been successfully mined in the spring, but the German Navy's plan to lay a special barrage of mines between Cherbourg and Le Havre had been foiled by Allied air and naval power. The bombing of the French railways had delayed the arrival of the mines, and when at last there were sufficient stocks available at Le Havre, a minelaying flotilla had been despatched from **Brest** to carry out the plan. But Coastal Command and the **Royal Navy** intercepted the ships; only one got through and the barrage was never laid.

As the convoys steamed on swarms of fighters wove a protective screen above them. On the flanks Allied warships and aircraft of RAF Coastal Command patrolled far and wide searching for U-boats and enemy surface craft, reinforcing the protection afforded by the minefields already laid. Reconnaissance and intruder air patrols continued in strength with attacks on airfields and communications over a wide area. Allied aircraft also maintained their assault on the region between Calais and Le Havre where, as part of the deception plan, they had been striking with increasing vigour during the past few days, not only at the coastal guns but also at the actual beach defences.

On the airfields throughout southern England there was great activity as aircraft were refuelled and made ready for their further tasks during the night and the following morning. Particular significance was given to these preparations by the fact that the wings and fuselages of

all operational machines were now painted with special markings – a band of two black stripes within three white stripes – that would be readily distinguishable both from ships and from the ground. And although to the thousands of airmen who had been flying on operations across the Channel during the past months, invading continental Europe was nothing new, the historic importance of the events that were about to unfold was everywhere sensed. Morale was conspicuously high, as the Air Commanders found when they flew from airfield to airfield to speak to the pilots and crews and wish them luck.

The last glow of sunset had scarcely faded from the sky when the first aircraft took off carrying men of the airborne forces who were to mark with lights the landing and dropping zones. Soon other machines, bombers and night fighters, were leaving their bases on various missions. Among them were the squadrons of No. 100 Bomber Group whose crews, led by some of the most experienced officers in Bomber Command, were to take part in the elaborate series of operations designed to keep the enemy's attention distracted from Normandy. Lancasters were to simulate the approach of convoys towards the Pas de Calais by dropping bundles of 'window', strips of metallised paper, as they flew round and round in a continuous orbit moving gradually towards the French coast. Other bombers set off to represent an airborne invasion in flight and to drop dummies and noise-making machines north of Rouen. Stirlings carried special equipment to jam the few radar stations that were still in action near the assault area and so provide a screen behind which bombing and airborne landings could take place. Then, shortly before midnight, while the assault ships were tossing on the dark waters of the Channel, the main force of RAF bombers flew overhead to prepare for their approach.

Here was the full turn of the wheel. Four years earlier, almost to the day, the RAF had covered the evacuation of the British Expeditionary Force from the beaches of Dunkirk. Since then other expeditionary forces had been covered in their successful landings in North Africa, Sicily, and Italy, but none of these could compare in power or purpose

with the vast armada that now moved in full flood of strength and confidence back to [France](#).

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 10 – NORMANDY

CHAPTER 10

Normandy

FORTITUDE, faith, and foresight were now rewarded. In spite of bad weather the sea passage across the Channel was successfully accomplished, and a degree of surprise achieved for which Eisenhower 'had hardly dared to hope.' Indeed, the crossing, as Admiral Ramsay records, had an air of unreality about it, so completely absent was any sign that the enemy was aware of what was happening. No U-boats were encountered, bad weather had driven the enemy surface patrol craft into port, and no reconnaissance aircraft put in an appearance. Not until the invasion fleets were close inshore was there any enemy activity, and then it was largely ineffective. The Germans had been confident that, with their elaborate early-warning system, they would not be surprised, but they had reckoned without Allied air and scientific counter measures. In particular, almost all their radar stations on the Channel coast had been bombed out of action or else jammed during the vital period; only a few to the north of the Seine were allowed to continue operating so that they might pick up the air formations acting as decoys in that area.

Air and naval bombardments preceded the landings and afforded invaluable help in ensuring their success. Although strongly protected coastal batteries were generally able to withstand the rain of high explosives, the field works behind the beaches were largely destroyed, wire entanglements were broken down, and some of the minefields set off. Smoke shells also blinded the defenders and rendered useless many guns which had escaped damage, for the crews were driven into their bomb-proof shelters until the landing forces were close inshore. This was as well for the high seas added enormously to the difficulties of getting the troops ashore. Landing craft were hurled on to the beaches by the waves and many of the smaller ones were swamped before they could reach the shore; others were flung upon and holed by the mined underwater obstacles. Troops were swept off their feet while wading through the breakers and were drowned and many of those who reached

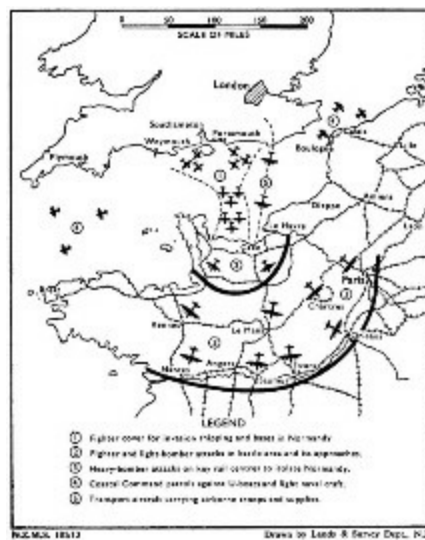
dry land were near exhaustion. Moreover, it was not possible on every sector to swim in the amphibious tanks which were to provide fire support for the infantry clearing the beach exits. Yet, despite these difficulties, the landings went ahead and on all but one sector the process of securing the beachheads was completed more or less according to plan. By the end of the day all the assaulting divisions were ashore and **Hitler's** Atlantic Wall had been breached along almost the whole invasion coast. 'As a result of our operations,' says Montgomery in his review of the day's events, 'we had gained a foothold on the Continent of **Europe**. We had achieved surprise, the troops had fought magnificently and their losses had been much lower than had ever seemed possible'

And so it was. At a cost of fewer than 2500 lives the Allies had gained a notable victory and accomplished the first phase of what Winston Churchill rightly called 'the most difficult and complicated operation that has ever taken place.'

To assist the landings the Allied air forces had applied the whole of their collective striking power. Four and a half hours before the first seaborne troops set foot upon the shore of **France** the air transport commands had commenced dropping assault forces on either flank of the invasion area, and in this operation, the biggest of its kind thus far attempted, 2395 aircraft and 867 gliders participated. The sudden and unexpected airborne landings, coupled with the dropping of explosive dummy parachutists elsewhere, greatly confused the enemy and were undoubtedly one of the reasons for his slow reaction and uncertain counter-attack. Yet they but heralded the main aerial assault. This began just before dawn when 1047 aircraft of RAF Bomber Command dropped over 5260 tons of bombs on ten selected coastal batteries between Cherbourg and Le Havre. As day broke, bombers of the **US 8th Air Force** took up the attack, 1038 aircraft dropping 1575 tons on the shore defences during the half hour preceding the landings; medium, light, and fighter-bombers of the Allied Expeditionary Air Force then swarmed in to attack individual targets along the shores and artillery

positions farther inland. During the remainder of the day the heavy bombers concentrated upon communication centres through which the enemy would have to bring up his reinforcements, while the fighters and fighter-bombers of AEF roamed over the actual battle area, attacking German defensive positions, shooting up buildings known to house headquarters, strafing troop concentrations and destroying transport. Altogether during the twenty-four hours of 6 June, the Strategic and Tactical Air Forces flew 10,585 sorties in addition to those flown by the transport commands in the paratroop and glider operations.

German air operations presented a remarkable contrast. Throughout the day there was no sign of the **Luftwaffe** over the beaches, and it was almost dark before the British troops saw their first hostile aircraft. Then four Heinkels sneaked in and managed to scatter their bomb loads near the Canadian positions before a



AIR OPERATIONS—THE INVASION OF NORMANDY

squadron of Spitfires pounced upon them. None got away. Altogether on 6 June the Germans flew only 319 sorties over **France**, and all but a few of these were driven back or shot down. Convinced that the first assault would be a feint, they did not move reserves until late the next day, by which time they found their forward airfields had been heavily bombed. Allied command of the air thus went virtually unchallenged. Eloquent proof of this supremacy came towards the evening of D Day

with a bold mass landing of gliders in broad daylight. This operation took place just when the Germans were preparing a counter stroke to isolate the British forces in the

Orne Valley that were covering the vital northern flank. Of 249 gliders which crossed the coast, only one failed to make its proper landfall and this was shot down by flak. The reinforcements they brought doubled the strength of **6th Airborne Division** in one swift stroke and brought great relief to its weary parachute battalions.

The failure of the **Luftwaffe** served to increase the confusion and uncertainty that marked initial enemy reaction to the Allied landings. The Germans had not expected the assault to be launched at a time when the weather was so unsettled, and with their reconnaissance aircraft swept from the sky and communications disrupted by bombing, it was some time before adequate information got back to **Hitler** and even more before coherent orders were issued from higher headquarters to the fighting formations. Moreover, the Germans were convinced that the **Normandy** landings were merely a diversion and only the prelude to the main invasion that was to be launched against the **Pas de Calais**. How little was realised in **Berlin** or **Paris** of the magnitude of Allied operations is shown by **Hitler's** order, fantastic in retrospect, that the bridgehead must be 'cleaned up by midnight.' The Germans completely misunderstood the scope and purpose of the assault, and this in turn affected decisions regarding calling in reinforcements from northern **France**. On top of this no co-ordinated plan had been made to deal with a major onslaught in **Normandy**. There was, in fact, a fundamental disagreement between Field Marshal Karl von Rundstedt, who was Commander-in-Chief West, and Field Marshal Erwin Rommel, the erstwhile hero of North Africa, whom **Hitler** had placed in command of the armies holding the Channel coast. Rundstedt had favoured a system of defence in depth, holding strongly only the most vulnerable sections of the coast and the major ports, but Rommel staked all on defeating the Allied armies on the beaches. 'The first twenty-four hours,' he had declared, 'will be decisive.' Although **Hitler** preferred Rommel's more

aggressive ideas and placed upon him the primary responsibility for repelling the invasion, the conflict had never been finally resolved. Thus, from the outset, did the Germans pave the way for their eventual defeat in **Normandy**.

Following the success of their initial assault the Allied armies began to fight their way inland in order to gain sufficient depth for assembling the large forces and supplies needed to develop their plan of campaign. A period of hard and incessant fighting was anticipated in which Rommel, with characteristic vigour, would make desperate efforts to contain the British and American troops to the beachheads he had been unable to prevent them from securing. Therefore, it was of paramount importance that the Germans should be denied freedom of movement for preparing a successful counter-attack and prevented from bringing supplies and reinforcements into the battle zone. It was to these ends that the Allied air forces now directed their collective striking power.

Bridges, railways, and road junctions both within the battle area and on the routes leading to it were the principal targets; the heavy bombers concentrated on rail marshalling yards and junctions while the medium and fighter-bombers attacked bridges and lines and maintained constant patrols along both roads and railways. All but two of the Seine bridges below **Paris** had been cut by Allied bombers before D Day and now these were demolished, together with the principal road and rail bridges across the Loire. Thus the battle area in **Normandy** was almost completely isolated except for the routes which led into it through the **Paris - Orleans** gap between the two rivers, and even there the roads and railways inevitably became congested, affording rich targets for the fighter-bombers and opportunities for sabotage by French patriots.

The effectiveness of fighter-bomber operations in the early stages is well illustrated by the experience of the *Panzer Lehr Division* commanded by General Bayerlein. Ordered to move towards Bayeux on the morning of 7 June, his columns were discovered almost as soon as they took to the road.

‘By noon,’ says Bayerlein, ‘my men were calling the main road from Vire to Le Beny Bocage, Jaco-Rennstrecke –“fighter-bomber racecourse.” Every vehicle was covered with branches of trees and moved along hedgerows and the fringes of woods But by the end of the day I had lost forty petrol waggons and ninety other trucks. Five of my tanks had been knocked out, as well as eighty-four half-tracks, prime movers and S.P. guns. These losses were serious for a division not yet in action.’

Bayerlein's *Panzer Lehr* was one of the two armoured divisions already in **Normandy with which Rommel hoped to counter-attack the British beachheads. But when this division straggled into Tilly-sur-Seusses, south of Bayeux, late on the 8th, it was incapable of serious offensive action.**

Widespread confusion and delay were caused to the enemy attempts at supply and reinforcement from farther afield. The *17th SS Panzer Grenadier Division* which had been based at Thouars, south of the Loire, began its movement on the very day of the assault but, after a single day on the rails, cuts produced by bombing forced several sections to detrain at various points from Le Fleche in the north to below Saumur in the south. Other elements proceeding by road had hardly begun their march before dive-bombers twice attacked them, inflicting heavy damage to vehicles, guns, and personnel. Thereafter the march was continued along secondary roads and only at night. It took five full days to cover two hundred miles to the front. Parts of *2 SS Panzer Division* were involved in a later epic of frustration. Tracked elements left Limoges on 11 June and its tank detachments set out from Toulouse several days afterwards. The Maquis made the journey through southern **France anything but tranquil, but the real trouble began when the nine trains employed in the movement reached the Loire. Here broken bridges forced detrainment on the south bank of the river, whence the units moved across to Angers as best they could. An attempt was made to continue by rail, but two trains were blocked in open country and that, as the German railway chief noted, ‘completed the rail movement.’ Thereafter, and with important parts of the division still stuck far back**

at Angers, the order for all was a 'road march'. Not until the closing days of the month were elements of *2 Panzer Division* identified on the fighting front.

Such a 'pilgrim's progress' was the lot of many other units headed for the battlefield. In general, rail movements originating east of the Seine ended not far west of the French capital. Approximately half the troops coming from the south were forced to detrain below the Loire barrier and those who got across advanced no more than fifty miles further by rail. The German summary of troop movements in June indicates that few trains reached their destination; 'Landmarsch' is the laconic entry which concludes most of its descriptions. In retrospect, von Rundstedt gave his opinion that even had a greater number of divisions been available for his use, the net result of any effort to bring them into action could have only brought about an increase in the confusion which prevailed.

German supplies of fuel were already short on the *Normandy* battlefield as a result of the earlier bombing. To aggravate that shortage and also to strike at supplies of ammunition, medium and fighter-bombers made repeated attacks against the forest areas sheltering the enemy's forward dumps. Exact measurement of the contribution thus made to the enemy's critical shortage can never be determined, but beyond doubt his difficulties were increased. The destruction of two million litres of gasoline at Rennes and the firing of fuel supplies at Vire and oil storage tanks at Tours certainly involved no small local loss. The needs of *2 SS Panzer Division*, for example, were such that fuel was ordered to be flown to its relief on 13 June. Yet two weeks later its commander was forced to report that 'the attacking panzer units cannot bring up all their tanks owing to the lack of fuel.'

German military centres were also attacked with notable success. On 10 June the battle headquarters of *Panzer Group West* was located in an orchard at La Caine, 12 miles south of Caen. Here General der Panzertruppen Freiherr Geyr von Schweppenburg was completing the final details of Rommel's plan for an offensive that was to split the

invasion front. Geyr had commanded an armoured corps with some success in **Russia** but he had never before taken the field against an opponent who held command of the air and he did not trouble to camouflage his headquarters at La Caine, where four large wireless trucks and several office caravans and tents stood in the open. On the previous day, British Intelligence had located Geyr's headquarters and reconnaissance aircraft had confirmed its position. That evening the **RAF** bombed it so accurately that little was left of the headquarters except its surprised and enraged commander. According to one eyewitness, all the staff officers were killed or wounded, the wireless trucks and most of the transport were knocked out. It was twelve hours before **Seventh Army** learnt of the disaster. The wounded Geyr and his shattered headquarters were then withdrawn to **Paris** to recuperate.

Altogether the disruption and confusion caused by the air attacks was such that Rommel's attempts to drive the Allies back into the sea were doomed from the outset. Compelled to commit his formations piecemeal as they arrived in the battle area, he was unable to assemble sufficient strength at any point for a decisive breakthrough to the coast. On 12 June he reported to **Berlin**: 'The strength of the enemy on land is increasing appreciably more quickly than our reserves can reach the front Our position is becoming exceptionally difficult since the enemy can cripple the movement of our forces throughout the day while he himself operates under cover of very strong aircraft formations.'

By this time the Allied beachheads had been firmly linked into a continuous front covering some fifty miles and varying in depth from eight to twelve miles. On and off the beaches the men of the supply services were performing prodigies of achievement under most difficult conditions. Rough weather persisted and the problems of unloading vast numbers of men and vehicles and thousands of tons of stores over beaches strewn with mines and obstacles were complicated by the heavy seas which swamped many of the small ferries. Nevertheless, by the end of the sixth day 326,000 men, 54,000 vehicles, and 104,000 tons of stores had been landed in **Normandy**. This was considerably less than the

planned schedule, but during the second week, as the protected anchorages were completed and the artificial harbours began to take shape, the supply situation improved considerably.

As this build-up continued, the Allied armies strove to extend their foothold and prepare for the eventual breakout across **France**. Montgomery's plan, as previously drawn up, was for the Americans to overrun the Cotentin peninsula and capture the port of Cherbourg. With a supply base thus assured, they were to carry out a big wheel right round towards the Seine, against which they were to drive the Germans. The British Army group on the left was, in the first instance, to attract to itself the maximum weight of German armour by its threat of a direct advance towards **Paris**; it was then to wheel round on the hinge of the Orne and advance on the Seine in co-operation with the Americans.

But now elemental nature, which had nearly strangled the whole Allied enterprise at birth, intervened once again and threatened disaster. Before dawn on 19 June a furious and unexpected gale sprang up in the Channel. On the south coast of England convoys were driven back to port; in mid-Channel tows broke loose and were lost, among them twenty-two sections representing more than two and a half miles of floating roadway for the piers of the artificial harbours; off the **Normandy** beaches, ships and craft dragged their anchors and were dashed ashore; beneath the turbulent waters dormant pressure mines were activated by the surge of the sea and added to the losses caused by the storm. During the following days the artificial harbours began to disintegrate and unloading virtually came to a halt. The discharge of stores and ammunition, which had reached a peak of 24,412 tons on 18 June, fell to 4560 tons on the 20th. After four days the fury of the gale gradually abated, but high seas continued to hinder the work of salvage and unloading. Some eight hundred craft lay stranded on the beaches, most of them damaged, while wreckage was strewn over the sands along the whole invasion coastline.

Before the storm subsided the ammunition stocks of both the Allied armies were dangerously low. Conditions would seem to have been ideal

for a major German counter-attack. But it did not come. So extensive was the dislocation of his rail and road communications that, instead of being able to gather forces for a decisive blow, the enemy was hard put to it even to hold the invading armies. The Americans had already cut across the Cotentin peninsula and reached the west coast by 18 June. A week later they were fighting in the streets of Cherbourg and the thunder of German demolitions in the port area reverberated from the surrounding hills. Cherbourg fell on 26 June, but the port had been blocked and demolished with exceptional thoroughness and it was nearly two months before it could be restored to full use. Along the remainder of the front there was continuous fighting, but with only local gains and almost stalemate on the eastern sector. In front of Caen, which unfortunately had not been taken in the first rush, the British armies met particularly fierce resistance; by 30 June they were engaging in this region the greater part of seven panzer divisions – two-thirds of the total German armoured strength in **Normandy**. This was, however, more or less as Montgomery had planned, and the Caen sector now became the crucible in which the German armour was melted away.

Throughout these weeks the Allied air forces continued to enjoy almost complete supremacy over the battle area and indeed over much of Nazi-occupied Western Europe. Heavy bombers from both the **Royal Air Force** and the **United States Air Force** continued their campaign against enemy communications, airfields, and fuel dumps; they also made several notable attacks against oil plants and refineries in **Germany**. Medium and fighter-bombers were particularly active in direct support of the ground troops, striking persistent blows at enemy strongpoints, concentrations of troops, vehicles and armour; they also used cannon, rocket projectile, and bomb to good effect against enemy movement by road and rail.

By the end of June thirty squadrons of the Allied Tactical Air Forces were operating from bases in the **Normandy** bridgehead. Previously they had been compelled to fly from airfields in southern England, but as soon as a foothold was gained in **Normandy** work began on the

preparation of landing strips. Unfortunately the number of strips that could be provided was restricted by the delay in capturing sufficient ground in the most suitable area to the east and south-east of Caen. Nor was the operation of aircraft from **Normandy** without its difficulties. The light, dusty soil was found to contain a high proportion of abrasive silica which shortened the life of engines and made efficient servicing and maintenance far from easy. A certain amount of trouble was also experienced from enemy artillery fire, particularly on the strips which were built alongside the main road from Caen to Bayeux. The Germans could observe the take-off and landing of aircraft on these forward grounds, some of which had to be evacuated when the casualty rate from shelling became too high. Nevertheless, operations in close support of the ground forces continued at high pressure; during July Second Tactical Air Force alone flew more than 27,800 sorties over **Normandy**.

The activities of the **Luftwaffe** were in striking contrast to this intense Allied air effort. Apart from sporadic attacks on the assault area, they were limited to cautious patrolling by day and sea mining by a small number of heavy bombers at night. Nearly 800 single-engined fighters had been transferred from **Germany** to the West in the first fortnight of the invasion, but *Luftflotte 3* was never able to challenge Allied command of the air because of the disruption of its ground organisation. Galland, Commander-in-Chief of the **Luftwaffe** fighter arm, has told how, when the transfer began, most of the carefully prepared and provisioned airfields had been bombed out and units had to land at hastily chosen landing grounds. The poor signals network broke down and this caused further confusion. Because of the indifferent navigating ability of many of the pilots, accustomed to flying under an expert fighter control system in **Germany**, many units came down in the wrong place. The alternative airfields were too few, poorly camouflaged and badly supplied. The main ground parties came by rail and in most cases days or weeks late. Subsequently the slightest sign of activity sufficed to betray an airfield to alert Allied reconnaissance and this resulted in prompt visits by low-flying fighters. In the first two weeks more than half the German fighters sent to **France** were destroyed, and the supply

of replacements became difficult for the **Luftwaffe** was now confronted with another danger which threatened its very survival.

In moving his main fighter strength to **France**, Goering had anticipated that, while the **Normandy** battle was raging, there would be few large-scale raids on **Germany** itself. In the middle of June, however, the **United States Air Force** resumed its campaign against the synthetic oil plants upon which the **Luftwaffe** relied for almost the whole of its fuel. During May American bombing had reduced the average daily output of aviation spirit from 5850 tons to 2800, mainly because production was completely interrupted at the two main refineries, Leuna and Politz. A week after D Day the third largest plant, **Gelsenkirchen**, ceased operations after a night attack by RAF Bomber Command. Total production of aviation spirit for June fell to 53,000 tons as compared with 175,000 tons in April. Speer warned **Hitler** of the danger to **Germany's** oil supplies and advocated the strictest economy and a substantial increase in protective measures, particularly fighter aircraft. But since the start of the invasion the day-fighter strength in **Germany** itself had fallen from 991 to 544 machines, and it had been prevented from falling still farther only by the dangerous expedient of bringing instructional units into the front line. German fighter production was greater than ever and continuing to rise, but it was not increasing fast enough to keep pace with losses. ¹ Therefore, to meet the fresh crisis created by the heavy bomber attacks on the 'oil front', Goering was compelled to curtail the westward flow of fighter replacements and to retain in **Germany** twenty-five squadrons which had come back to refit. This left only some forty squadrons in the West as against sixty-three in **Germany**. Thus the strategic bombers helped to create for the rest of the Allied air forces an opportunity to roam almost unopposed over **France** and the Low Countries, ravaging and disrupting enemy supply lines and installations.

Persistent bad weather and the shortage of airfields in the bridgehead prevented the air forces from maintaining a complete blockade

¹ In the three months ending 30 June, 4545 single-engined fighters were delivered from German factories, but during the same period 5527 were destroyed in action, in accidents, or on the ground. These severe casualties were an indication both of the intensity of the air fighting over **Germany** and of the relative deterioration in the quality of German pilots and machines.

on all troop movements to the battle area. Even so, the reinforcement of **Normandy** was painfully slow. After seven weeks the Germans had succeeded in bringing up only some twenty divisions to support the eight which were in western **Normandy** at the outset, and very few of these divisions arrived at full strength or in good condition. Most of them straggled up, a battalion or regiment at a time, and were flung into battle in such haste and disorder that they suffered heavy casualties before they had time to settle down. And while reserves might arrive slowly replacements came hardly at all. Between 6 June and 23 July the German *Seventh Army* and *Panzer Group West* lost 116,863 killed, wounded, or missing, but only 10,078 men were sent up from the training depots. The equipment situation was equally grave; of the 250 tanks destroyed in the first six weeks, only seventeen appear to have been replaced. Although the shortage of reinforcements was largely due to the exhaustion of the general pool of manpower, failure to make good the tank losses resulted directly from the Allied bombing of railways. At no time during the entire war was German tank production higher than in May, June, and July of 1944. In these three months 2313 tanks were accepted from the factories and in the same period the losses were 1730. The Germans had the tanks but they could not transport them to the western front.

Moreover, it was as a direct result of Allied air attacks on communications that eighteen divisions of the German Army were kept immobilised in the **Pas de Calais** area throughout June and the first half of July. These divisions were separated from the **Normandy** battlefield by the barrier of the Seine, since every road and rail bridge across that river between **Paris** and the sea had now been wrecked. Rommel would

have liked to move some at least of these divisions into **Normandy**, but the fear of a second landing persisted and he knew that once a division was moved from the **Pas de Calais** to **Normandy** it could not be moved back again in time to meet a second landing. Thus by their continued attacks on communications the air forces gravely curtailed the enemy's strategic mobility and so enabled the Allies to win the battle of the build-up in spite of setbacks caused by the June storms in the Channel. By the beginning of July about 1,000,000 men, including thirteen American, eleven British, and one Canadian division, had been landed in **Normandy**. In the same period just over 566,640 tons of supplies and 171,532 vehicles had been put ashore. This accomplishment was soon to pay large dividends.

The Germans were even less successful in attacking Allied supply lines than they were in protecting their own. In his plans for disrupting the Allied seaborne invasion Admiral Doenitz had relied mainly on the bold employment of his U-boats and a fleet of small but fast surface craft. He expected that the new type of U-boats, along with the older ones fitted with the 'Schnorkel' device, would be able to operate successfully even in the shallow waters of the Channel. However, by the beginning of June 1944, only two of the revolutionary electro U-boats had been completed and the programme for their mass production was already three or four months behind schedule. This was largely because of the dislocation caused by Allied bombing. The prototype of the new submarine had been destroyed in an air raid on **Kiel**, whereupon the Germans had decided to continue mass production without waiting for another prototype to be finished and tested. As a result faults in design were not discovered until after assembly or, worse still, until trials were carried out at sea. Moreover, in the hope of saving time and escaping from bombing, the production of parts and sections had been farmed out to firms which had never been engaged in naval construction before and whose workers lacked the necessary skill and precision.

Because of these delays, Doenitz was forced to rely upon the older type of U-boat, a fleet of which was gathered in the Biscay ports. His

efforts to transfer reinforcements from **Norway** and the Baltic had, however, met with disaster. Not being fitted with Schnorkel, these submarines were obliged to fight it out on the surface with aircraft of **RAF Coastal Command** in the waters to the north of **Scotland**. Only a few succeeded in getting through; nine were sunk or badly damaged; the rest turned back. This defeat left **Doenitz** with only forty-two serviceable U-boats in the French Biscay ports when the invasion began. By that time six of them had been equipped and tested with Schnorkel but they were hardly battle-worthy. Nevertheless, on the afternoon of 6 June, they set out from **Brest**, and at dark the other thirty-six sailed from Biscay ports. These travelled on the surface in the hope of making good the time lost by lack of warning, but they were soon picked up by the Allied air patrols. In the next few days twelve of them were sunk or damaged too severely to proceed, and on 12 June the remainder were ordered back to port. Ever the six which had been converted made slow progress up the Channel. Some were damaged by air attack while others developed technical faults, and in the end not one single U-boat reached the assault area in the first three weeks after D Day. On 28 June one merchantman was lost to submarine attack in the assault area and another was torpedoed the following day, but after that U-boats accounted for only one more merchant vessel in the invasion area during July.

German surface craft were similarly unsuccessful. Neither destroyers from **St. Nazaire** nor torpedo boats from **Le Havre** and **Cherbourg** were able to avoid the relentless patrols which screened the shipping corridor. The only German counter measure which caused any real anxiety was the pressure mine laid in the anchorages by low-flying aircraft, but constant and courageous sweeping kept this menace in check.

Enemy resistance, bad weather, and the nature of the terrain combined to delay the final all-out attack by the Allied armies until 25 July. In the interim they continued to battle for position and to build up the great reserves that would be needed to sustain their advance once they got into the open. While the **British Second Army** maintained

incessant pressure on the Caen sector to contain the enemy's armoured strength, the **United States** forces in the Cherbourg peninsula fought their way southward to gain ground for the break-out, which was now to be limited to the right flank. These weeks of battle along the whole front involved some of the fiercest and most bloody fighting of the whole campaign. In his efforts to prevent a breakout the enemy fought desperately, but before the end of July his armies, unprotected from the air, unbalanced on the ground, exhausted in battle and starved of supplies and reinforcements, were ripe for defeat.

Allied air operations over the battlefield during these weeks are best illustrated by extracts from captured enemy records. On 6 July the German *84 Corps* reported: 'The enemy controls the air to such an extent that movement on the roads is impossible. The enemy artillery guided by aerial observation is able to destroy our infantry in their defensive positions without exposing itself to any kind of retaliation.' The same story was told on 17 July by General von Luttwitz, who commanded *2 Panzer Division*: 'The enemy have complete mastery of the air. They bomb and strafe every movement, even single vehicles and soldiers. They reconnoitre our area constantly and direct their artillery fire. Against all this the **Luftwaffe** is conspicuous by its complete absence. During the last four weeks the total number of German aircraft over the divisional area was six'

Meanwhile confusion and uncertainty reigned in the German higher command. At the end of June, Rommel had proposed to **Hitler** that the *Seventh Army* should fight a rearguard action back to the Seine and then create a new line along that river and across to **Switzerland**. The latest British offensive had been stopped only by committing his entire reserves. If the withdrawal from **Normandy** did not begin immediately the *Seventh Army* would be destroyed. But **Hitler** would not hear of any withdrawal, not even of tactical adjustment of the line for better defence. As always, his orders were to stand fast. He appeared to be encouraged by the outcome of the Caen battle, regarding it as proof that the Allies could be prevented from breaking out into **France**.

As the imminence of disaster in **Normandy** became evident, the disagreements among **Hitler** and his generals grew more violent. After the fall of Cherbourg and the failure of the German counter-attack in front of Caen, Keitel is said to have telephoned from **Berlin**, complaining bitterly about the trend of events.

‘What shall we do?’, cried the despairing Keitel, ‘What shall we do?’

Von Rundstedt, who was no ardent Nazi but a soldier of the old school, replied impassively, ‘What shall you do? Make peace you fools, what else can you do?’

Keitel told **Hitler** of this remark, and the following day Rundstedt was relieved of his post as Commander-in-Chief West.

A fortnight later, on 17 July, Rommel was struck down. Returning to his headquarters from a survey of the front, his car was spotted by Allied aircraft. As the planes roared down to attack, Rommel shouted to the driver to race for shelter in the next village, but the fighters were too swift. His driver was killed at the wheel, the car crashed into a tree, and Rommel sustained severe concussion when he was hurled on to the road. He was carried unconscious into a nearby village which, ironically enough, was called Ste. Foy de Montgomery. Rommel recovered, but he had become implicated in the plot to assassinate **Hitler** and was forced to commit suicide less than three months later. ¹

Field Marshal von Kluge was now Commander-in-Chief West with orders from **Hitler** to ‘throw the enemy back into the sea.’ He had taken up his post with enthusiasm but, after an inspection of the front, he reported to **Hitler** on 22 July in these words: ‘Within a short time the enemy will succeed in breaking through our thinly held front, especially that of Seventh Army, and in thrusting deep into **France** The force is fighting heroically everywhere but the unequal struggle is nearing its end.’ His gloomy prophecy was soon fulfilled. Three days later, on 25 July, the American Army, under General Bradley, struck south from St. Lo.

The attack was preceded by a massive air bombardment. It fell mainly upon the sector held by Bayerlein's panzer division and a regiment of paratroops. Wherever possible the German tanks had been placed in the entrances of hedged lanes but even this natural protection did not save them.

'The planes kept coming over as if on a conveyor belt,' says Bayerlein, 'and the bomb carpets unrolled in great rectangles. My flak had hardly opened its

¹ On 20 July an attempt was made by a disaffected group to assassinate **Hitler** with a bomb placed in his conference room. The attempt nearly succeeded. Three officers standing beside him were killed outright but **Hitler** survived with only minor injuries.

mouth when the batteries received direct hits which knocked out half of the guns and silenced the rest. After an hour I had no communication with any- body, even by radio. By noon, nothing was visible but dust and smoke. My front lines looked like the face of the moon and at least seventy per cent of my troops were out of action – dead, wounded, crazed or numbed – all my forward tanks were knocked out and the roads were practically impassable.'

The American attack made rapid progress. Slashing his way down to the base of the Cherbourg peninsula, Bradley passed through the bottleneck at Avranches and launched his columns into the rear of the German forces. Meanwhile the British armies under Montgomery's direction shifted the weight of their attack from the Caen sector to their right at Caumont and drove for the high ground between the Vire and the Orne.

With a clean and decisive breakout now achieved, the immediate task was to inflict the greatest possible destruction on the enemy by encircling his forces which were still compelled to face generally northward against the British and Canadians. This Bradley proceeded to

do. However, as the American attacks gathered momentum to the southward, **Hitler** ordered von Kluge to move westward all available armour and reserves to counter-attack against the narrow strip through which American forces were pouring deep into his rear. Bitter fighting ensued around Mortain but, thanks to the timely intervention of the Allied air forces, the German thrust was held and then thrown back. Low-flying attacks by RAF Typhoons using rocket projectiles were particularly effective in breaking up enemy formations and destroying their tanks and vehicles.

By the end of the first week in August the battle in **Normandy** had assumed this overall picture: Montgomery's Army Group was attacking southward from the old **Normandy** beachhead while Bradley's forces, with their left anchored near the initial break-through, were carrying out a great encircling movement designed to trap the entire German forces in the Mortain – Falaise region. In the meantime the Allied air forces kept up an incessant battering against any possible crossings of the Seine so as to impede the escape of German forces to the north of that river before the trap could be closed. They also operated intensively over the Falaise area where they found rich targets – long columns of enemy transport packed bumper to bumper and rendered immobile by appalling congestion as the Germans began their headlong retreat. Soon the countryside was littered with the wreckage of vehicles and equipment.

Complete co-ordination of the great enveloping movement proved difficult to achieve. With the mass of the Allied armies attacking from the perimeter of a large half-circle towards a common centre, determination of the exact points at which each element should halt in order not to become involved against friendly units coming from the opposite direction proved a tricky problem. 'Mix ups on the front occurred,' says Eisenhower, 'and there was no way to stop them except by halting troops in places even at the cost of allowing some Germans to escape.' In the event considerable numbers of Germans did succeed in getting back across the Seine, but only at the cost of heavy casualties

and after almost completely abandoning their heavy equipment. Eight infantry divisions and two panzer divisions, however, were captured almost in their entirety.

By the middle of August the Allied armies were sweeping forward towards the Seine on a broad front. The citizens of **Paris** now rose in revolt and on 25 August they surged out to meet the advancing Allied columns. By dawn the next morning American cavalry stood before the cathedral of Notre Dame and French armour was driving in triumph down the Champs Élysées. The Battle of **Normandy** was over and, with **Paris** liberated and the Germans in full retreat to the north of the Seine, it seemed that the Battle of **France** was also won.

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During these historic months New Zealanders, both air and ground crews, served with all the principal **RAF** formations – with Second Tactical Air Force, Bomber, Coastal and Transport Commands, and in the Air Defence of Great Britain. The Dominion contribution, including the six New Zealand squadrons in **Europe**, amounted to some 3850 men, of whom the large majority were air-crew. Their record of service and achievement in the air operations over **Normandy** is a notable one.

Air Marshal Sir Arthur Coningham's work as field commander of the Allied Expeditionary Air Force was particularly outstanding. A dynamic personality, extremely popular with his staff, Coningham had come to this post after a highly successful career in the Middle East, where his co-ordination of the American and British air effort within that command and his whole-hearted support of the British **Eighth Army** had contributed in large measure to the victory in North Africa. Now Coningham was to repeat this success in **France**, and under his direction the tactical air forces achieved spectacular results in close-support operations, in restricting enemy movement of supplies and reinforcements, and in maintaining air supremacy over the battle area.

Coningham's task was more difficult than appeared at the time for

Montgomery, brilliant army commander though he was, did not prove easy of access when it came to co-ordinating land and air operations. Moreover, difficulties and misunderstandings arose over the failure to capture sufficient ground in the early stages for the development of airfields in the area south-east of Caen. Coningham, eager to deploy his squadrons in **Normandy** as soon as possible, fretted at the delay. He was much concerned at the waste involved in the continued location of short-range fighters in England and anxious lest 'the rate of effort which could be maintained over **Normandy** would be insufficient to maintain air superiority, to harass the enemy communications and delay the build-up of enemy ground forces, which could otherwise concentrate in superior numbers against the bridgehead.' In the event, thanks to the superb efforts of both air and ground crews, the delay proved less serious than was at first imagined.

Probably the most spectacular achievement of Coningham's squadrons during the campaign was their contribution to the defeat of the German counter-attack at Mortain and the subsequent destruction of the German force in the Falaise pocket. At Mortain on 7 August, it will be remembered, the Germans launched an all-out attack to cut off the American advance at the narrow Avranches gap. It was supported by the best of the German panzer divisions. A report of the day's events tells how:

As the morning wore on, it became all too clear that the enemy was making a desperate attempt to reach the sea and cut off the Avranches corridor. German heavy tanks continued to lumber through the mist and the American attempts to halt them with bazookas and anti-tank guns were without much avail. At mid-day, the mist lifted and fighters and fighter-bombers of the **Tactical Air Force** went into action. The first two **RAF** squadrons to take off from advanced landing grounds in the bridgehead spotted some 50 to 60 tanks and 200 vehicles filling a hedge-lined road. The Typhoons swept down to attack the front and rear of the column and brought it to a halt amidst great confusion. Soon a 'shuttle service' of fighters and fighter-bombers was in operation; flight after

flight sought out their targets, attacked with cannon and rocket projectile and then returned to base to refuel and re-arm. Many tanks were destroyed or disabled but the greatest destruction was wrought amongst the soft or unarmoured vehicles. The moral effect of the rocket attacks appears to have been even greater than the material damage they caused. Enemy tank crews and drivers were seen to abandon their charges and run to cover under the trees and hedgerows. By late afternoon, the situation had eased. Later that evening, the **Luftwaffe** admitted that they had been so hard pressed by Allied fighters on taking off from their bases that the German fighters were unable to reach the Mortain area. There is no doubt that the intervention of the **Tactical Air Force** on this day was both timely and decisive. The critical attack by enemy armour was broken up and though bitter fighting continued for the next four days, the Germans failed to make any further progress.

New Zealand fighter pilots who held senior posts under Coningham at this time were Group Captain P. G. Jameson, in command of a mobile wing of Mustang fighters, Group Captain P. L. Donkin, in charge of a fighter reconnaissance wing, and Group Captain D. J. Scott, commanding a four-squadron Typhoon wing. Wing Commander R. F. Aitken was in charge of a night-fighter airfield while Wing Commanders A. C. Deere, J. M. Checketts, and W. V. Crawford-Compton each led **RAF** fighter wings. Spitfire squadrons were commanded by Squadron Leaders M. G. Barnett, J. C. F. Hayter, ¹J. N. Mackenzie, ²R. L. Spurdle, and D. F. Westenra; Typhoon fighter-bombers were led by Squadron Leader A. H. Smith and Mustangs by Squadron Leader E. L. Joyce. ³Three New Zealand units, No. 485 Spitfire squadron, No. 487 Mosquito bomber squadron and No. 488 Mosquito night-fighter squadron, were each to play their part in operations with the Second Tactical **Air Force**. No.486 Tempest Squadron also operated over **Normandy** during the early stages before it was called upon to patrol against the flying bombs.

During the assault itself, New Zealand fighter pilots shared in a wide variety of missions; they patrolled over the beaches and shipping off the coast, escorted bombers to their targets, and protected the formations of

gliders with their tugs as they streamed inland carrying reinforcements to the troops holding the flanks of the landing area. Enemy opposition in the air was less than anticipated and at first relatively few combats were reported. However, it is of interest to record that Flying Officer Lelong⁴ of No. 605 Mosquito Squadron was the first pilot to destroy an enemy aircraft in support of the **Normandy** landings. Flying an 'Intruder' patrol over the German airfield at Evreux on the eve of D Day, he sighted and attacked a Messerschmitt 410 which went down and blew up on the ground. Four nights later Lelong shot down a Junkers 88 over an airfield near **Paris**.

From the outset there was ample scope for action against ground targets, and as the land battle developed Spitfires, Mustangs, and Typhoons were employed more and more in close-support operations. These were of three main types— armed reconnaissance in search of enemy movement, fighter cover, and attacks in the actual battle area by aircraft carrying bombs or rocket projectiles. The emphasis on each of these tasks naturally varied with the progress of the land

¹ Squadron Leader J. C. F. Hayter, DFC and bar; born **Canterbury**, 18 Oct 1917; joined **RNZAF** Nov 1938; transferred **RAF** Aug 1939 and **RNZAF** Aug 1944; commanded No. 274 Sqdn, **Middle East**, 1942; No. 74 Sqdn, **Middle East** and **Europe**, 1943-44.

² Squadron Leader J. N. Mackenzie, DFC; born Goodwood, 11 Aug 1914; joined **RAF** 1937; transferred **RNZAF** Jan 1944; commanded No. 488 (NZ) Sqdn, **Singapore**, 1942; No. 64 Sqdn, 1944.

³ Squadron Leader E. L. Joyce, DFM; born **Hamilton**, 17 Feb 1920; salesman; joined **RNZAF** 11 Mar 1940; commanded No. 73 Sqdn, **Italy**, 1943, and No. 122 Sqdn, 1944; killed on air operations, 18 Jun 1944.

⁴ Flight Lieutenant R. E. Lelong, DFC and bar; born

battle. Thus throughout July, when the front in Normandy was fairly static, the defence of the bridgehead with its vulnerable concentrations of equipment and supplies was of great importance and fighter patrols accounted for a large number of sorties. However, in August, as the battle became more fluid, reconnaissance and attack became the main tasks. When a call came for support in connection with an army movement such as an advance due to begin at a certain hour, then the air attack would be planned in some detail and the crews briefed accordingly. But often during the land fighting word might be received from a reconnaissance aircraft or through army forward posts that a collection of German transport or tanks or a concentration of troops had been found at a certain point, and it would be necessary to take action with the minimum of delay. Squadrons or wings would immediately be notified of the target and pilots would take off as quickly as possible to make their attack. Frequently aircraft were maintained on patrol near the front lines under the orders of an air force officer in a radio-equipped tank or armoured car. Such visual control posts, as they were known, proved of great value, for they not only enabled fighters and fighter-bombers to be employed in the closest co-operation with the ground forces but also minimised the danger of attack on our own troops and positions.

Jameson's wing had outstanding success in its operations over Normandy, claiming eighty-five enemy aircraft destroyed between D Day and the end of August as well as large quantities of enemy transport destroyed or damaged. A fine record, particularly against ground targets, was also established by Scott's wing. In clear weather his Typhoons flew as many as four missions a day while still based in England; and their rocket projectiles were fired with deadly effect against enemy gun positions, tanks and transport, railways and bridges, as well as buildings used by the Germans as headquarters and supply centres. The Spitfire wings led by Crawford-Compton, Checketts, and Wells also had notable success in their patrols over Normandy. Compton's squadrons saw more

action than most and during the first month Compton himself shot down four enemy machines. Other fighter pilots who had successful combats in the early stages were Flight Lieutenant Mason ¹ of No. 33 Squadron and Flight Lieutenant B. G. Collyns of No. 19 Squadron. On one sortie Mason set a Focke-Wulf on fire and then attacked a Messerschmitt fighter which blew up in mid-air. Collyns was credited with the destruction of six enemy machines, as well as several probables, before he was shot down in a battle east of **Paris**. Flight Lieutenants

¹ Flight Lieutenant L. G. Mason, DFC; born Johnsonville, 26 May 1919; tailor's cutter; joined **RNZAF** Jul 1940.

Brough ¹ and Palmer ² were prominent among those who saw action with RAF Typhoon squadrons.

The New Zealand Spitfire Squadron was active in patrol and attack from the outset. During the afternoon of D Day squadron pilots, flying the third patrol of the day, destroyed two enemy bombers over **Normandy**. One crashed on a roadway a few miles north of Carentan after an attack by Flying Officer J. A. Houlton; the other broke up in mid-air and went down into a field, its destruction being shared by Houlton and three other pilots. By the end of the first week the New Zealanders had accounted for seven more enemy machines, most of the combats taking place at dawn or dusk. Flying Officer Yeatman, ³ a **Malta** veteran, shared a Focke-Wulf with Flight Sergeant Eyre, ⁴ and then during a patrol over Caen Flying Officers Houlton, Stead, ⁵ and Transom ⁶ and Pilot Officer Patterson ⁷ accounted for four more enemy aircraft. A few days later Houlton claimed his third for the week - a Messerschmitt fighter-bomber which blew up in mid-air - and on the same patrol Flight Lieutenant Newenham ⁸ sent another Messerschmitt crashing into a wood. After this fine start, however, the squadron had no further luck during June for its patrols were confined to the beach-head, where enemy machines seldom appeared during daylight. Day after day the

Spitfires continued to fly across the Channel from their base at Selsey, in [Sussex](#), but after the first week they were sometimes able to use the emergency landing strips in [Normandy](#) for refuelling and re-arming in between patrols, thus saving the flight to and from England.

During June No. 485 Squadron also made a number of attacks on flying-bomb sites in northern [France](#) and for the next six weeks devoted its whole effort to the campaign against this weapon. The Spitfires either carried bombs to these targets or else escorted heavy bombers there. Few enemy aircraft were sighted and, apart from the fairly intense flak which usually greeted the British formations over

¹ Squadron Leader E. T. Brough, DFC; born [Owaka](#), 20 Jun 1918; butcher; joined [RNZAF](#) Apr 1941; commanded No. 137 Sqdn, 1944.

² Flight Lieutenant F. J. M. Palmer; born [Auckland](#), 29 May 1918; storeman; joined [RNZAF](#) Jun 1940.

³ Flight Lieutenant J. F. P. Yeatman, DFC; born [Brighton](#), England, 17 Feb 1919; clerk; joined [RNZAF](#) Mar 1941.

⁴ Flying Officer M. H. Eyre; born [Auckland](#), 7 Aug 1923; farmhand; joined [RNZAF](#) Mar 1942.

⁵ Flight Lieutenant A. B. Stead, DFC; born [Wellington](#), 26 Aug 1920; warehouseman; joined [RNZAF](#) Mar 1941; killed on air operations, 6 Jan 1945.

⁶ Flight Lieutenant F. Transom; born [Taihape](#), 12 Oct 1921; student teacher; joined [RNZAF](#) Nov 1941.

⁷ Flying Officer H. W. B. Patterson; born [Gisborne](#), 1 Jun 1919; plumber; joined [RNZAF](#) Oct 1941.

⁸ Squadron Leader W. A. Newenham, DFC; born **Nelson**, 23 Jun 1914; salesman; joined **RNZAF** Oct 1939.

France, the patrols were uneventful. There was more action when the squadron returned to the battlefield in mid-August; by this time the Germans were in full retreat towards the Seine, and in armed reconnaissance against the retiring columns pilots achieved considerable success. Throughout all these weeks, however, there were no further combats with enemy aircraft, and by the end of August No. 485 Squadron had flown 1339 sorties since D Day without losing a single pilot.

Night fighters played a dual role during the campaign in **Normandy**. They patrolled the beachhead and its approaches to intercept German night bombers and minelaying aircraft and, in addition, ranged far and wide over enemy airfields, roads, and railways attacking any movement they discovered. No. 488 New Zealand Mosquito Squadron achieved outstanding success in such operations. In the eleven weeks from D Day to the end of August, it claimed no fewer than thirty-four enemy machines for the loss of only one crew, thereby establishing a record among the night-fighter squadrons of the Second Tactical Air Force. In every case the enemy machine was either seen to crash or else its destruction was confirmed by ground sources. Flight Lieutenant G. E. Jameson, with his English navigator, Flying Officer A. N. Crookes, ¹did particularly fine work. One night towards the end of July they shot down no fewer than four German bombers in twenty minutes - an amazing performance which was acclaimed throughout the **Royal Air Force** as one of the finest night-fighter patrols of the war. The first three bombers were Ju88s and they crashed within sight of the British lines at Caen; the fourth, a Dornier 217, nose-dived and exploded on the ground a few miles south of Lisieux. By the middle of August Jameson had accounted for another four enemy machines and, with a total score of eleven, he became New Zealand's leading night-fighter pilot.

Flight Lieutenant P. F. L. Hall and Flying Officer R. D. Marriott² were another outstanding squadron crew. Shortly after D Day they destroyed a Junkers 88 near St. Lo. A few nights later they sent another down to crash in the beachhead; debris hit the Mosquito and put an engine out of action, but Hall flew back safely across the Channel. A few weeks later he and his navigator accounted for two more bombers over the battle area near Lessay. Flying Officer 'Doug' Robinson and his navigator, 'Cherub' Keeping,³ also

¹ Flight Lieutenant A. N. Crookes, DFC and two bars, DFC (US); born New Tupton, [Derbyshire](#), 23 Dec 1920; joined [RAF](#) Jul 1941.

² Wing Commander R. D. Marriott, DFC; born Malacca, [Malaya](#), 9 Jun 1911; joined [RAF](#) Dec 1941.

³ Flight Lieutenant K. C. Keeping; born Newquay, [Cornwall](#), 22 Sep 1921; joined [RAF](#) Apr 1940.

destroyed four enemy aircraft. In one engagement shortly after D Day their target, a Focke-Wulf 190 fighter-bomber, blew up in mid-air and burning petrol scorched the underside of the Mosquito as it flew over the explosion. Squadron Leader E. N. Bunting and Pilot Officer McCabe¹ were other pilots who increased the squadron's score in the early stages.

No. 488's most successful period came at the beginning of August when the Germans were sending their bombers over at night in some strength in a desperate attempt to prevent the Allied armies from closing the jaws of the Falaise trap. It was one night during this week that Flight Lieutenant A. E. Browne scored an unusual triple success. After intercepting and shooting down a Junkers 188 bomber over the American front near Avranches, he found and chased two more bombers, one of them over Rennes and the other farther north. In both cases the German machine was driven down and, whilst making violent evasive turns, hit the ground and blew up. Browne did not fire a single shot. The

low standard of training among German aircrews at this stage of the war no doubt had some bearing on the relative ease with which many of the enemy bombers were despatched. Nevertheless, it must be emphasised that even at this period the successful interception and bringing to action of fast enemy aircraft at night and often in cloudy skies was no easy matter, the more so since the German crews were now supplied with liberal quantities of small metallised strips which they threw out to confuse the radar of the pursuing British aircraft. Patience, skill, and courage were needed as much as ever and they were not always rewarded.

New Zealand aircrews were also in action over **Normandy** both by night and by day with the medium bomber squadrons. Flying Bostons, Mitchells and Mosquitos, they ranged far and wide over and beyond the battlefield attacking bridges, road and rail junctions, fuel dumps and airfields; they also bombed enemy strongpoints and gun positions, troop concentrations, tank laagers, and chateaux suspected of housing enemy headquarters. In one raid shortly after D Day, four squadrons of Mitchells attacked a German panzer headquarters near the battle area, and when Canadian troops captured the position shortly afterwards they found the whole place cratered and in ruins and the surroundings strewn with wrecked vehicles and equipment. By night the medium bombers operated along the whole Allied front for American aircraft did not undertake night operations; by day they were mainly employed ahead of

¹ Flight Lieutenant O. J. McCabe; born **Frankton**, 18 Apr 1921; civil servant; joined **RNZAF** Jan 1942.

the British and Canadian armies and as the weeks passed there came a steady flow of requests for support in ground operations. Typically, on 22 June, after a call from the 51st Highland Division, seventy-two Mitchells and Bostons made a daylight attack on a steelworks in Caen which was being used by the Germans as a strongpoint. Crews saw buildings disintegrate amid masses of smoke and flame, and the next

day a signal was received from the Highland Division expressing their appreciation for 'an extremely effective attack'. As usual, anti-aircraft fire in the target area was fairly intense and several machines were hit, one of them having to make a forced landing on a fighter strip in the beachhead.

The Mosquito bombers from No. 487 New Zealand Squadron flew more than nine hundred sorties over **Normandy** between D Day and the end of August. During the night before the landings crews operated against enemy airfields, roads, and bridges in the area of Caen and St. Lo. Subsequently they went further afield seeking enemy movement towards the battlefield. Trains were found and attacked, important crossroads were strafed, and both rail and road bridges bombed. On the night raids it was seldom possible to see the full effect of bombing and pilots usually had to return with the laconic report, 'No definite result seen.' By day, however, it was different. For example, on 11 June when crews attacked petrol wagons in the marshalling yards at Chatellerault, they started a huge fire which was still burning twelve hours later. On this occasion the Mosquitos had taken off from their base at **Thorney Island** in Hampshire within an hour of receiving news of the target, and then had flown through low cloud almost the whole way across the Channel and northern **France**.

Other objectives were attacked by day with similar precision. Early in August Wing Commander I. S. Smith led twelve crews to bomb the barracks at Poitiers where German troops were assembling to attack the Maquis in that area. The raid was particularly successful. Of three large barrack blocks one was almost destroyed, another partially destroyed, and the third, along with other buildings - one of which contained fifty motor vehicles - was gutted by fire. Photographs showed that only four bombs fell outside the barracks. A few weeks later the Mosquitos attacked a German SS headquarters at Vincey, near Metz. The two-hour flight from England was made at low level through cloud and drizzle, but fortunately at the last moment the cloud lifted and, as the Mosquitos pulled up over a hill and prepared for their bombing run, the target stood

out clearly. Direct hits wiped out almost the whole of one large building and left others in ruins. On this raid the Mosquito flown by Flying Officer Heaton ¹ was hit by anti-aircraft fire just after leaving the target and compelled to force-land. However, both Heaton and his navigator, Warrant Officer Mason, ² succeeded in evading capture and, with help from the Maquis, reached the Allied lines eight days later.

During another raid about the same time one young navigator, Flying Officer Judson, ³ showed particular fortitude. While bombing a railway south of the Loire, his Mosquito was badly hit and Judson himself seriously wounded. Yet, half conscious and blinded by blood from injuries to his head and his right eye, Judson navigated his Mosquito back towards the American lines until his pilot could no longer retain control. He then baled out and, landing safely, determined to evade capture. He hid in a hedge until the following evening, and then, after obtaining food and shelter at an isolated farmhouse, set off to trek northwards for ten days. Eventually, after receiving further help and medical attention, he was able to reach the Allied lines exactly one month after being shot down. Another member of No. 487 Squadron, Flying Officer Whincop, ⁴ had a narrow escape when the **Gestapo** came to search the farmhouse where he was sheltering after being shot down behind the enemy lines. However, he was not discovered and soon rejoined the Allied forces as the tide of battle flowed over the area.

Probably the most successful period for the medium bomber crews came during the Allied advance to the Seine. The afternoon of 18 August was particularly eventful. The jaws of the Falaise trap were about to close and some hundreds of trucks, lorries, and tanks were spotted moving towards Vimoutiers in a desperate attempt at last-minute escape. Maximum effort was therefore directed to this area. Never before had crews seen so many targets and they were able to attack with comparative immunity. Photographs amply demonstrated the high claims they made. Road blocks were formed by blazing trucks, and the drivers behind either abandoned their vehicles or drove off across country to find shelter in the woods; others turned back, vainly

endeavouring to discover a safer way out. Some troops even spread out white flags on their vehicles. The area between Trun and Chambois soon became known as 'The Shambles'.

This harassing of the retreating enemy in the area to the west of the Seine by the **RAF** bombers culminated in their attacks at Rouen

¹ Flight Lieutenant E. C. Heaton; born Hastings, 10 Jun 1917; bank clerk; joined **RNZAF** Jul 1942.

² Flying Officer K. G. Mason; born **Wellington**, 11 May 1923; apprentice; joined **RNZAF** Nov 1941.

³ Flight Lieutenant W. G. Judson, DFC; born Inglewood, 23 Aug 1922; farmhand; joined **RNZAF** Jun 1941.

⁴ Flying Officer G. Whincop, Croix de Guerre (Fr.); born **Tauranga**, 11 Jun 1922; warehouseman; joined **RNZAF** Oct 1941.

on a block of vehicles to which they were diverted whilst in the air on 26 August after a report from a reconnaissance machine. Subsequently, to the west of the wrecked bridge at Rouen, there was found a mass of burnt vehicles and equipment including tanks, armoured cars, and trucks.

For Coastal Command crews the main scene of activity during these weeks was the **English Channel** and its approaches. Here they flew day and night patrols to prevent enemy submarines and surface craft from interfering with the invasion fleets and the subsequent supply convoys. Since the German U-boat fleet in the Biscay ports presented the greatest threat, the main air effort was devoted to the 'Cork' patrols - an elaborate system of sweeps and searches designed to close the western entrance to the Channel. It was in this area that Squadron Leader M. A. Ensor, flying a Liberator of No. 224 Squadron, depth-charged a U-boat by the light of a full moon on the night after D Day. On dawn patrol the

next morning another Liberator, captained by Flying Officer Mygind ¹ of No. **547 Squadron**, attacked a German submarine off **Brest**. Other men who saw action in the first few days were Sergeant Kemp ² of No. **206 Squadron**, Warrant Officer Osborne ³ of No. **58 Halifax Squadron**, and Flight Sergeant Raynel ⁴ of No. **228 Sunderland Squadron**.

Coastal Command's initial counter-attack proved remarkably effective. Within four days no fewer than twenty-three U-boats were sighted and attacked, six of them being sunk outright and others so damaged that they were forced back to port. Subsequently, by their constant patrols throughout the twenty-four hours, the Liberator, **Halifax**, and Sunderland crews succeeded in maintaining a wide air barrier between **Cornwall** and Brittany, beyond which it proved well-nigh impossible for German submarines to pass. Yet the Germans did not accept this defeat easily. They sent out fighter aircraft, and the U-boats themselves fought back fiercely on the surface with their cannon and machine guns. Among the casualties was Flight Lieutenant Jenkison, ⁵ who was lost with his crew after attacking an enemy submarine in the vicinity of the **Channel Islands**. Warrant Officer R. F. Upton and his crew had an unenviable experience when their **Halifax** was attacked by seven Ju88s to the

¹ Flight Lieutenant V. C. Mygind; born Eketahuna, 3 Jul 1922; electrical engineer; joined **RNZAF** Jun 1941.

² Warrant Officer I. T. Kemp; born **Invercargill**, 30 Oct 1922; hospital porter; joined **RNZAF** May 1942.

³ Warrant Officer D. Osborne; born Cleethorpes, England, 15 Jun 1920; newspaper compositor; joined **RNZAF** Jun 1941.

⁴ Warrant Officer R. S. G. Raynel; born Matamata, 15 Aug 1920; butcher; joined **RNZAF** Dec 1941; killed on air operations, 27 Apr 1945.

⁵ Flight Lieutenant J. E. Jenkison; born **Motueka**, 27 Dec 1918; civil servant; joined **RNZAF** Mar 1941; killed on air operations, 12 Jun 1944.

south of Ushant. Before the bomber could reach cloud cover, the wireless operator was killed, the engineer severely wounded, and the aircraft itself badly damaged.

Operations against German surface craft were conducted with relentless efficiency by Beaufighter, Mosquito, and Wellington crews. Such was the intensity of the watch maintained from the air that German E-boats and minelayers seldom operated by day; at night when they ventured out from their shelters in the Channel ports, they were found by radar and then bombed and machine-gunned by the light of flares. Minor naval units based south of the **Dover** Straits were prevented from entering the Channel, and eventually the last hope of supply or escape by sea was denied to the German garrisons cut off by the advance of the Allied armies.

Wing Commander E. H. McHardy, Wing Commander G. D. Sise, and Squadron Leader Tacon ¹were prominent in these operations. Beaufighters led by McHardy had notable success against E-boats in the Channel. Sise and Tacon led Mosquitos and Beaufighters against enemy shipping in the waters between **Brest** and Bordeaux, where a heavy toll was taken of minesweepers, naval auxiliaries, and coasters. On 14 August Sise led twenty-five Mosquitos to the well-defended Gironde estuary to attack shipping there; one minesweeper blew up, another was set on fire, and three other ships including a destroyer were damaged. Ten days later Tacon led Beaufighters into the harbour at Le Verdon to attack the last two German destroyers left in the Biscay area. There was an intense barrage but both ships were repeatedly hit and left shrouded in smoke and flames. They sank shortly afterwards.

No. 489 New Zealand Squadron played its part in the anti-E-boat operations, with Wing Commander J. S. Dinsdale, Squadron Leaders D. H. Hammond and F. K. Moynihan, and Flight Lieutenant T. H. Davidson

each leading formations in patrol and attack. There were also several operations against enemy ships along the Dutch coast. On 15 June, when eleven Beaufighters from the squadron were among the force of forty aircraft which made a daylight attack in that area, the main target was an 8000-ton merchantman and an E-boat depot ship; they were accompanied by seventeen minesweepers and anti-aircraft escorts. In a well co-ordinated attack, both the larger ships and one of the escorts were sunk without a single aircraft being lost. A fortnight later, in a dusk attack on a convoy off the Frisian Islands, crews from No. 489 Squadron scored hits on at least two cargo ships; one was seen to blow up

¹ Wing Commander E. W. Tacon, DSO, MVO, DFC and bar, AFC; **RAF**; born **Napier**, 6 Dec 1917; joined **RAF** May 1939; **Coastal Command**, 1939–41; flying training appointments in **Canada**, **New Zealand**, and **United Kingdom**, 1942–44; commanded No. 236 Sqdn, 1944; p.w. 12 Sep 1944; Commander of the King's Flight, 1946–50.

and another was set on fire. Further attacks were made during the following weeks. Indeed, the diminishing threat of German surface craft in the Channel area enabled the Beaufighter squadrons to return to their campaign against Dutch and Norwegian coastal convoys much sooner than had been expected.

New Zealanders with Bomber Command flew a variety of missions over **Normandy**. After the remarkable series of operations in support of the actual landings there was a renewal of the attack on enemy communications, and despite continual bad weather, with much low cloud, Lancasters, Halifaxes, and Mosquitos operated against such objectives on every one of the seven nights following D Day. Heavy attacks fell on the rail centres at Caen, Lisieux, St. Lo, Vire, Argentan, Chateaudun, Rennes, and Evreux. Bridges and tunnels were also bombed.

A particularly successful raid against the Saumur tunnel on the main railway from south-west **France** to **Normandy** was made by thirty-one Lancasters and Mosquitos. Led by Wing Commander G. L. Cheshire, whose No. **617 Squadron** provided the major part of the attacking force, the bombers attacked by the light of flares in the early hours of 9 June. Most of the Lancasters were carrying 'Tallboys' - special five-ton bombs of terrific power - all of which crashed down within the space of a few minutes. One scored a direct hit on the tunnel entrance and the roof caved in. Others fell in the deep cutting leading to the tunnel and effectively blocked the approach with deep craters over 100 feet across. Two months later when the Allies captured Saumur the line was still closed.

Throughout the following weeks the assault on rail and road communications continued over a wide area, causing heavy damage to depots and marshalling yards, blocking lines and destroying large quantities of rolling stock. During July, when the Germans began to move formations from both the **Pas de Calais** and the Low Countries, they tried to bring these reinforcements to centres in the **Paris** area for detrainment. Heavy attacks were therefore launched against such centres as Aulnoye, Dijon, Villeneuve St. George, Vaires, Tours, and Revigny. As a result all the through lines running west to **Paris** and east to the Meuse were cut. By the end of July, when the Allied armies broke out from their bridgehead, Bomber Command's attacks in **Normandy** had achieved their purpose and the offensive slackened. During the next month, however, over one thousand sorties were directed against communication centres well beyond the actual battle area, against such junctions as Dijon, Douai, Lens, Somain and Givors. Bomber Command's final attack in the rail offensive took place on the night of 18 August when Connantre was heavily damaged. Since D Day the British heavy bombers had flown over eight thousand sorties against communication targets and dropped some 29,300 tons of bombs for the loss of 186 aircraft and crews.

Such losses indicated that the German fighter force was still capable

of putting up a stiff resistance against the deeper penetrations made by the heavier bombers; indeed, after its initial setback in **Normandy**, the **Luftwaffe** was able to function with considerable efficiency from serviceable airfields in **Belgium** and **Holland**. To counter this renewed activity, Bomber Command, in conjunction with the **United States 8th Air Force**, launched a mass attack on twenty airfields in these countries during daylight on 15 August. Bomber Command, for its part, sent just over 1000 aircraft against nine German night-fighter bases. At each target there was severe damage to runways, buildings, and aircraft on the ground. A fortnight later British crews made another heavy attack on six airfields in **Holland**, where the remainder of the **Luftwaffe's** close-support units had now taken station, together with long-range bombers, night fighters, and the aircraft used for launching flying bombs. German air activity was noticeably less during the weeks immediately following these heavy raids.

During the **Normandy** campaign both British and American bombers were frequently called upon to intervene closely in the land battle. Montgomery was particularly anxious to have the support of the heavy bombers since he realised that, at a few hours' notice, one thousand aircraft could put down a barrage which, for the time being, was equal in weight to the shells of four thousand guns. To bring up such a mass of artillery to the required position in any reasonable time would have been a physical impossibility, but the bombers could strike without giving the enemy any warning. Air Marshal Harris at first expressed doubts about the use of his heavy bombers in the battlefield very close to the Allied lines. However, in the event, by extremely careful planning and the extraordinary skill of the crews, the risk was brought down to much less than the soldier ran in the First World War when his own guns put down the barrage. The main safeguard was the use of a double check: a carefully timed run by each aircraft and a very careful assessment of the position of target indicators by a Master Bomber.

The RAF Lancasters and Halifaxes operated mainly in support of the British and Canadian armies and in nine major attacks between D Day

and mid-August dropped over 19,500 tons of bombs on German strongpoints and troop concentrations. Their first operation took place on the night of 7 June when 212 Lancasters and Halifaxes bombed a German fuel centre in the Foret de Cerisy. This attack was made in a response to a request from the First United States Army, which was meeting strong opposition in the beachhead. A week later when troop concentrations in front of the Second British Army were bombed, there was particularly widespread destruction at the main road junction in Aunay-sur-Oden. On 30 June the Germans were preparing to counter-attack at Villers Bocage when 266 aircraft arrived overhead and completely blocked all roads with craters and rubble. The enemy attack did not take place.

At the beginning of July the British armies were still held up in front of Caen and Montgomery asked for **RAF** heavy bombers to break the deadlock. Accordingly, at dusk on 7 July some 470 Lancasters and Halifaxes, each carrying five tons of bombs, saturated an area of two and a half square miles on the northern outskirts of Caen where there were strong German defensive positions. Unfortunately, owing to approaching storms, the bombing had to take place six hours before the ground assault began. Nevertheless, the results were quite dramatic; the German defence crumpled and within twenty-four hours British and Canadian troops had captured the whole of Caen north and west of the River Orne. Montgomery has written of 'the tremendous effect' on the enemy of 'this remarkably accurate operation': ¹'... some German defenders,' he says, 'were found still stunned many hours after the attack had been carried out. The troops in the defences north of the town were cut off and received no food, petrol or ammunition as a result, while one regiment ... was wiped out.' Montgomery also adds that 'the capture of Caen greatly simplified our problems on the eastern flank' and 'the Bomber Command attack played a vital part in the success of the operation.' The air bombardment did, however, have one unfortunate result. As the British tanks moved forward they found their advance was often hindered by bomb craters and by obstructions, such as fallen masonry and debris. Consequently, in subsequent operations of this

nature it was decided to reserve heavy bombs for specific centres of enemy resistance and to employ small bombs in the path of the advance.

Five more attacks were made by Bomber Command during the next few weeks to help break down the 'strong ring fence' that Rommel had erected round the eastern flank of the **Normandy** bridgehead. On the morning of 18 July over one thousand Lancasters and Halifaxes flew across the Channel to support a major thrust southwards by the British and Canadian armies, and for three hours the ground between Caen and Troarn shuddered under the heaviest and most concentrated air attack so far attempted in **France**. 'After

¹ *Normandy to the Baltic*, p.74.

the bombing,' says one military observer, 'the 29th Armoured Brigade, advancing in column of regiments on a front of a thousand yards, drove untroubled to the second railway In the villages on either side the dazed defenders were still in their shelters when they found themselves attacked by infantry who were clearing the flanks.' Unfortunately, however, after the troops had advanced some two to three miles beyond Caen they met heavy opposition. Then came heavy rain, and the battlefield, which had previously been inches deep in dust, was turned into a sea of mud. Further advance ceased.

On 30 July, when the British Army renewed its push southwards, Bomber Command again led the way with an attack by nearly seven hundred aircraft. In defiance of low and threatening clouds crews hit their targets 'with remarkable accuracy' and the ground assault made substantial progress. A week later 1018 Lancasters and Halifaxes prepared the way for the final breakout by the First Canadian Army. The air bombardment took place an hour before midnight – a daring innovation only made possible by the navigational skill of the aircrews and the efficient marking technique which had now been developed.

Bomber Command's last two close-support operations of this period

came in mid-August as the British and Canadian armies fought their way southwards to close the upper jaws of the Falaise trap. On the night of 12 August 138 heavy bombers attacked road junctions ahead of the advancing columns, and in the early afternoon of 14 August some six hundred aircraft attacked enemy concentrations and strongpoints directly ahead of the Canadians, then striking directly towards Falaise. The town fell on 16 August. ¹

The overall results of Bomber Command's intervention in the land battle were substantial. At critical stages, British and Canadian forces were able to capture well-defended positions with few casualties while the moral effect on the Germans was tremendous. Officers of Rundstedt's staff have testified to the 'terrifying immobility on the battlefield' which was produced by what they called our 'carpet-bombing'. The troops could not move; the communication system broke down; artillery and anti-tank weapons were knocked out, and tanks were immobilised in craters or beneath heaps

¹ Unfortunately, the raid on 14 August was marred by an incident involving the loss of some eighty soldiers and a number of guns and vehicles. It appears that some of the forward troops, on seeing the aircraft approaching with their bomb doors open, lit yellow recognition flares and these were mistaken for yellow target indicators by certain crews. Subsequent inquiry established that, at a conference before the attack, the Canadians had assured Bomber Command that no pyrotechnics would be used by the ground forces that might be confused with target indicators dropped from the air; unfortunately they overlooked the existence of an army operational order which stated that troops being attacked by friendly aircraft would fire yellow or orange signals. It was also discovered that a few aircrews failed to make the carefully timed runs to their targets which they had been ordered to do.

of earth and debris. Nor was the moral effect confined to the Germans. Most British soldiers who fought in **Normandy** would agree with Montgomery's comment that 'it was a most inspiring sight to see

the might of Bomber Command arriving to join in the battle.'

During the **Normandy** campaign Bomber Command also attacked the Channel ports in support of the Navy. The most outstanding operation was that against the German fleet of light naval vessels in Le Havre and Boulogne on 14–15 June. These small but fast ships, carrying mines and torpedoes, presented a real threat to Allied shipping in the Channel but within twenty-four hours, at negligible cost to Bomber Command, the Germans lost all power of seriously disrupting the passage of convoys to **Normandy**. At Le Havre the dock area was badly damaged and fifty-five vessels of various types, including a number of naval craft, were sunk; while at Boulogne twenty-seven vessels were sunk and others damaged. In all some 130 naval and auxiliary craft were put out of action, virtually the whole of the enemy's light naval forces in the Channel area. At the same time the concrete shelters used to house E-boats at Le Havre were hit by several of the new 12,000-pound medium-capacity bombs.

At the end of August German E and R-boats were using the Dutch port of IJmuiden, where they had the advantage of serviceable pens. These were massively constructed and resistant to almost anything but the heaviest bombs. However, in two small but effective attacks several 12,000-pound penetration bombs scored direct hits, one making a hole 15 feet across in the roof centre, the other blowing out a large part of the back of the pen, leaving a gap measuring 94 feet by 30 feet. In attacks on the Biscay ports at least eight direct hits were scored on the U-boat shelters at **Brest** and six at La Pallice.

Bomber Command gave further support to the Navy during these months by continuing its minelaying campaign. During July and August more than one thousand mines were laid from the air off **Brest**, La Pallice, and in the Gironde River to disrupt U-boat operations from these bases. Intensified minelaying was also carried out in the Kattegat and off the south coast of **Norway** to hamper German troop movements to and from **Norway**. Towards the end of the summer, operations were extended to the eastern Baltic where canal approaches to the ports of

Swinemunde and Konigsberg were mined; altogether more than five hundred mines were dropped in the Baltic area during August and September 1944. The effectiveness of the minelaying in the Baltic is indicated in the reports sent to the German Admiralty. At the end of September one senior officer wrote despairingly: 'Without training in the Baltic and safe escort through coastal waters, there can be no U-boat war. Without seaborne supplies it is impossible to hold **Norway but we no longer command the sea routes within our own sphere of influence as shown by the day and week long blocking of the Baltic approaches.'**

Crews from No. 75 New Zealand Squadron, under the leadership of Wing Commander Leslie, flew in all these various missions and their experiences may be regarded as typical of most of the bomber squadrons with which New Zealanders were flying at this time. The first week of the invasion was a period of intensive activity with the Lancasters operating over **Normandy on six successive nights. On D Day itself, following a maximum effort against coastal batteries, twenty-four Lancasters gave support to British troops in their beachheads by bombing the road centre at Lisieux, through which German tanks and infantry were moving forward to the attack. Other targets for the New Zealanders in the early stages of the assault were the rail centres of Massy Palaiseau, Fougères, Dreux, and Nantes. Two aircraft were lost with their crews in the attack on Dreux and after several other raids machines returned badly damaged by flak. One crew had a particularly eventful sortie to Nantes. Over the target an anti-aircraft shell exploded in the cockpit, severely wounding the captain and the flight engineer. As the Lancaster began to go down the controls were seized by the bomb aimer, Warrant Officer Hurse ¹of Carisbrook, **Australia**, whose only experience as a pilot was a little dual instruction on Stirlings. Aided by the navigator, Flying Officer Zillwood, ²he managed to fly the bomber 400 miles back to England where, says the squadron record, he 'rounded off his exploit with a perfect landing.'**

During the following weeks No. 75 Squadron attacked a wide variety of targets in **France, including rail centres, supply dumps, and oil**

storage depots. Most crews completed their missions without incident but on the night of 15 June, when twenty-three squadron aircraft bombed the marshalling yards at Valenciennes, enemy fighters were unusually active. Several combats were reported, one Lancaster was shot down, and a second machine crash-landed at Manston. The New Zealanders also took part in the notable raid against the port area of Le Havre in mid-June and in the attack against Villers Bocage at the end of the month – Bomber Command's first daylight operation over **Normandy** in support of the British

¹ Pilot Officer A. W. Hurse; born Carisbrook, **Australia**, 19 Jan 1920; joined RAAF Jan 1942.

² Flight Lieutenant A. H. R. Zillwood, DFC; born Carterton, 7 Feb 1920; telegraph cadet; joined **RAF** Oct 1941; transferred **RNZAF** Oct 1943.

Army. It was while flying back from Villers Bocage that Squadron Leader Williamson ¹brought his Lancaster down on one of the new landing strips in the beach-head in order to seek medical aid for his flight engineer, who had been wounded by flak. This was the first time a British heavy bomber landed in **Normandy** after the invasion began.

In July and August a large part of the squadron's effort was directed against flying-bomb launching sites in northern **France** and there were also several raids on targets in **Germany**. Nevertheless, the New Zealanders continued to operate frequently in support of the armies in **France**, attacking German supply depots and communications as well as troop concentrations and strongpoints on the battlefield. During the first week of July the important rail centre of Vaires was bombed twice and there were further raids on the marshalling yards at Lens and Chalons-sur-Marne. On the 18th the squadron flew its first mission in direct support of Allied troops. That day twenty-eight crews took part in the big **RAF** dawn attack on the village of Cagny, to the east of Caen, where there were large concentrations of German troops and armour.

'Fairly heavy anti-aircraft fire did not prevent an accurate attack,' says the squadron record, 'and fortunately only one aircraft suffered damage.' This was captained by Flight Sergeant Moriarty, ²who displayed particular fortitude after an anti-aircraft shell had burst inside his machine. Flying splinters struck him on the head, causing serious injury to his left eye. Although he was suffering intense pain, Moriarty insisted on flying his machine back across the Channel to England where he carried out 'a masterly landing.'

A fortnight later, on 30 July, seventeen crews made a daylight attack on German troops and armour at Amaye-sur-Seulles. 'All attacked at low level,' says the record. 'The bombing was well concentrated and ably controlled with a gradual advance southwards as ordered. It was a good prang.' Similar operations were flown during the first half of August, and in one period of six days the New Zealand Squadron flew 110 sorties over **Normandy – this at a time when the weather was anything but favourable for intensive flying. Squadron aircraft also bombed a German supply centre near **Paris**, petrol dumps at Lucheux, and oil storage depots at Bordeaux. No. 75's last close-support operation in **Normandy** was flown on 14 August when twenty-two Lancasters bombed enemy concentrations at Hamel in the path of the British and Canadian armies advancing towards Falaise. Altogether in the course of the **Normandy** campaign the New Zealand Squadron had flown 916 sorties and dropped**

¹ Squadron Leader N. A. Williamson, DFC; born **Gisborne, 24 Oct 1918; civil servant; joined **RNZAF** Sep 1940.**

² Flying Officer D. J. Moriarty, CGM; born **Wanganui, 13 Aug 1921; clerk; joined **RNZAF** Feb 1942.**

3520 tons of bombs for the loss of nineteen Lancasters with their crews.

There were few survivors from the missing aircraft, but one young

navigator, Flying Officer Wilkinson, ¹ had a series of adventures which must be related. After bailing out from his burning bomber well behind the enemy lines, he went into hiding for the best part of a day in order to avoid the search parties that combed the vicinity of the crash. Then, estimating his position from his own navigation in flight, he began to move westwards, walking across country by night and sleeping in the hedgerows by day. Even so, it was anything but easy going for the Germans seemed to be every- where. Near St. Aubin he almost walked into a stationary truck full of soldiers and shortly afterwards he was forced to go to ground in a drainpipe. On another occasion he found himself in a German camp and had to worm his way out on his stomach. Eventually gun flashes indicated the direction of the front line, but the way was barred by a river and sentries patrolled the bridges. Undaunted, Wilkinson swam across, picked his way through the swamps on the other side, and at last reached the shelter of some woods. This was on the sixth night and he was soaked through, cold and very hungry. As he moved on he nearly stumbled on some Germans lying in a forward observation post. 'Fortunately,' he said afterwards, 'one of them coughed when I was only a few yards away. But I heard a rifle bolt being pushed home so hit the earth quickly and then crawled slowly away, making for the far side of the field. Later, feeling badly in need of a drink, I crept into a bomb crater to find some water. On lifting my head I found two rifles pointing at me. I put up my hands and crawled out. To my great relief the men behind the rifles were members of the Durham Light Infantry.'

* * * * *

Throughout the campaign in **Normandy** the dominant influence of air power had been plainly manifest. Allied supremacy in the air was undoubtedly the most important single factor contributing to the success of the initial assault, for its influence penetrated to almost every aspect of plans and operations on both sides. It had played the decisive part in winning the Battle of the **Atlantic**, the essential prelude to the concentration for

; it had protected the invasion base from interference by the enemy's bombers and V-weapons and had prevented him from discovering through reconnaissance the state of Allied preparations or the start of the cross-Channel movement. Through air power the Allies had been able not

¹ Flight Lieutenant J. S. Wilkinson; born **Wellington**, 27 Jun 1923; bank clerk; joined **RNZAF** Sep 1942.

only to surprise the enemy but also to mislead him. The deception plan could never have been carried through without the technique of radio and radar counter measures developed by Bomber Command, and the application of that technique succeeded only because of the superb skill of the **RAF** crews trained in battle over **Germany**. Strategic bombing had, moreover, prevented the completion of the Atlantic Wall defences. Had the Germans been able to carry out the improvements they planned, these defences would have been as formidable in **Normandy** as they were in the **Pas de Calais**.¹ However, since 1943 **Hitler** had been forced to divert labour and materials to the repair of factories and communications in **Germany**, V-weapon sites and railways in **France**, and U-boat bases in **Norway** and the **Bay of Biscay**. Even after Rommel had brought fresh vigour and vision to the fortification of the Channel coast, his plans were only partly fulfilled because the destruction of French railways hindered the transport of supplies, and the bombing attacks on **Germany** led to the retention within the Reich of the anti-aircraft guns and equipment which could have made the Allied landings too costly to contemplate.

Once the land fighting began the British and American squadrons had quickly established command of the air over the battlefield, and by their further attacks on communications they drastically reduced the enemy's capacity to remove troops and supplies so that, in spite of his natural advantages, he lost the critical battle of the build-up and all his

counter-attacks were frustrated. Intervening directly in the ground fighting, both fighters and bombers had paved the way for and supported the advance of the armies at each stage of the campaign. Perhaps the most striking illustration of the effectiveness of air power during these months was that, while the Germans were forced off the roads and railways and driven to extreme efforts at camouflaging their movements, the Allied convoys could move in closely packed columns whose spacing seemed to be determined only by the amount of dust kicked up ahead. They needed no 'broomstick commandos' of the kind employed by the Germans to wipe out the tracks made on roads when their vehicles sought daytime safety under such cover as they might find or improvise.

In considering these achievements of the Allied air forces in **Normandy**, it is well to remember that in the last resort they resulted from the efforts of thousands of individual men, British and American alike, each faithfully carrying out his particular duty in the air or on the ground. From the air commanders who planned

¹ In its last situation report before D Day, Rommel's headquarters stated that the planned defences of the *Fifteenth Army* sector were 68 per cent completed but that in the area of the *Seventh Army* only 18 per cent had been finished.

and controlled operations and the aircrews who flew the actual missions down to those who served in more humble but very necessary roles – the mechanic at the dispersal point, the wireless operator at his post – all had played their part. The cost of success had not been light. From April to September 1944 **Royal Air Force** Bomber Command alone lost 11,580 men, most of them in operations connected with the invasion. The total casualties suffered by the Allied air forces in Western Europe during the same period were 33,540 killed, missing, or prisoner of war, and 4650 wounded.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 11 – FLYING BOMBS AND ROCKETS

CHAPTER 11

Flying Bombs and Rockets

WITH the eclipse of the **Luftwaffe** and the failure of the U-boats to upset Allied invasion plans, the Germans had set high hopes on what they called their new *Vergeltungswaffen* or reprisal weapons. As early as June 1943, **Hitler** had told his assembled military leaders that it was only necessary for **Germany** to hold out; a new and decisive attack was in preparation that would reduce **London** to rubble and force **Britain** to capitulate. One of the weapons he proposed to use was the flying bomb, or 'V-1', a small pilotless aircraft driven by a simple form of jet engine and carrying well over half a ton of explosive that detonated upon impact with terrific blast effect. Another was the V-2 rocket which, carrying approximately the same weight of explosive, could be shot high into the air to fall at supersonic speed and with great penetrative power.

Plans for the intensive development of these projectiles had been put forward during 1942, but **Hitler** had been sceptical of their value until, towards the end of that year, the first flying bomb was successfully launched from the experimental station at **Peenemunde** on the Baltic coast. Six months later, after further trials with both the V-1 and V-2, **Hitler** ordered production to be speeded up and a provisional date for opening the offensive was fixed at mid-December 1943. The construction of launching sites in **France** was begun in August by 40,000 conscript workers and it was expected to have ninety-six sites ready by the target date. But the Germans appear to have been unaware of the extent to which their intentions were known and they reckoned without the intervention of the Allied air forces.

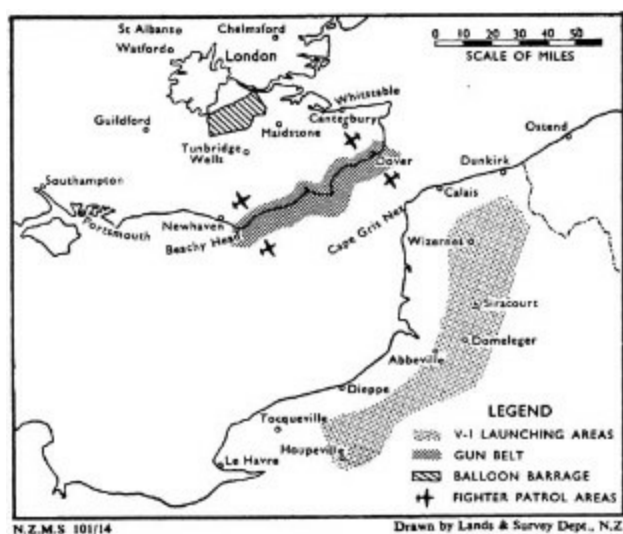
By April 1943 British agents, with the help of the Polish underground, had learned enough to give a general warning that something unusual was afoot. The following month an **RAF** reconnaissance plane brought back photographs of **Peenemunde** which, skilfully interpreted, revealed that the Germans were experimenting with pilotless aircraft. Further evidence continued to reach **London**, and then early in

November came the discovery of the launching sites in **France**. Some sceptics thought that the preparations were a gigantic hoax designed to draw Allied bombers away from their targets in **Germany**, but the counsel of those who took the menace seriously prevailed; in August a heavy **RAF** raid was made on **Peenemunde**, and early in December a prolonged bombing campaign was commenced against the launching sites in northern **France**. This onslaught from the air completely upset German plans. Development of the V-2 was delayed by some two months and almost all the V-1 launching areas were destroyed. The Germans then set about constructing new sites in the hope that they would still be able to launch simultaneous flying-bomb and rocket attacks before the Allies landed in **Europe**. But they were frustrated by the continuing air attack. When the invasion took place German preparations for using their V-weapons were still incomplete.

The long-delayed attack finally began on 13 June 1944, seven days after the Allied landings in **Normandy**. Shortly before dawn that day the first flying bomb left the steel rails of its launching ramp, hidden near a farmhouse in the **Pas de Calais**, to begin its noisy and fiery journey to England. Members of the Royal Observer Corps, noting the unusual sound of its flight and the glow at its rear, reported it crossing the **Kent** coast. A few minutes later it crashed and exploded at Swanscombe, a small town near Gravesend. Ten more bombs were launched during the next hour, but only four of them crossed the English coast and only one reached **London**, where it killed six people and demolished a railway bridge in the East End. The three bombs which fell outside **London** caused no casualties. Fire from German batteries on the French coast created a diversion but the **Luftwaffe**'s efforts to add confusion to the initial attack failed miserably; only one Me410 was reported over **London** and it was shot down. Thereupon there was a lull of three days before the next flying bombs arrived.

This feeble beginning was far from what **Hitler** had intended when, impatient for counter-action to the Allied invasion, he ordered the bombardment to start on this date. His instructions were that a salvo of

sixty-four missiles was to be fired before midnight and so timed that they would all explode in **London** at the same moment. An hour later a second salvo was to follow and thereafter harassing fire was to be maintained until dawn. These orders, however, ignored the practical difficulties caused by the Allied air attacks. The modified launching sites constructed to replace the bombed 'ski' sites had not been completed nor had stocks of bombs been accumulated nearby for fear of discovery and attack from the air. Much of the equipment required to get the sites ready for action was kept some distance away, while stocks of flying bombs were scattered in dumps throughout northern **France, Belgium,** and **Germany**. Between these supply centres and the launching sites, Allied bombing had thrown the railways into almost complete



DEFENCE AGAINST THE FLYING BOMBS
DEFENCE AGAINST THE FLYING BOMBS

confusion. Indeed, so formidable were the difficulties encountered by the **Luftwaffe Flak Regiment 155W**, the formation responsible for firing arrangements, that when zero hour came only seven sites had been ready to fire. As a result of their false start the Germans lost the advantage of heavy surprise attack, and during the three days' respite the British defences were alerted for what was to follow.

The firing was renewed at midnight on 15 June, by which time the Germans had managed to complete preparations for a much heavier scale of attack. Within the next twenty-four hours they succeeded in

launching over two hundred flying bombs, of which seventy-three fell in Greater London and about the same number in the surrounding countryside, some of them in places as far apart as **Sussex** and **Suffolk**. Now the assault began in earnest, and for the next eighty-two days there were but few brief intervals when the distinctive menacing buzz of the flying bomb was not heard over some part of south-east England. A peak was reached on 2 August when some 210 bombs crossed the coast, of which more than half found their mark in **London**. Even so, this was considerably fewer than the Germans had planned. Not only did their equipment prove unreliable, but launching operations were seriously embarrassed by Allied bombing of supply depots and communications as well as of the actual sites; moreover, much of the sting was soon taken out of the attack by the British fighter and gun defences. Towards the end of August the northward advance of the British and Canadian armies forced the enemy to abandon one launching site after another, and the last V-1 to be fired from northern **France** fell in Hertfordshire during the afternoon of 1 September. Four days later there was a despairing postscript when specially equipped Heinkel 111 bombers, whose airborne launchings had made a small contribution to the offensive since the early part of July, fired at least nine missiles before they evacuated their bases. Not one exploded in **London**.

The capture of the launching areas in the **Pas de Calais** did not, however, completely end the flying-bomb menace. During the next seven months the Germans succeeded in maintaining a small and intermittent scale of attack with missiles launched from aircraft over the North Sea and from ramps in **Holland**. It was not until the morning of 29 March 1945 that the last flying bomb to elude the British defences exploded at Datchworth, a small village in **Kent**, some 25 miles from the centre of **London**. By that time the Germans had launched over 8000 bombs against England, but of these barely half had crossed the English coast and only one quarter had reached Greater London. The British defences brought down no fewer than 3957, more than half the total number reported, 1878 being credited to anti-aircraft batteries, 1847 to fighter aircraft, and 232 to the balloon barrage.

The German development of their V-2 rocket had lagged behind that of the flying bomb, and before firing of this second reprisal weapon could be started the Allied armies had overrun the intended launching areas in **France** and **Belgium**. However, the enemy continued his preparations in **Holland** and it was from a site near the Hague that the first rocket was launched against England on the evening of 8 September 1944. It fell in Chiswick, a western suburb of **London**, where it killed three people and seriously injured another ten; almost simultaneously a second V-2 fell near Epping, fortunately without casualties. Missiles continued to arrive intermittently during the next ten days at the rate of rather more than two a day; then suddenly there came a lull of a week. Montgomery's armies had begun their thrust towards **Arnhem**, and with this threat of further Allied advance into **Holland** the German rocket batteries had been ordered eastward. However, with the repulse of the attack on **Arnhem** the batteries returned to the Hague area and renewed the assault which, with **London** as the main target, was to continue with only brief respites for the next six months.

British counter measures, which included the bombing of suspected launching areas, communications, and supply depots, were developed to mitigate the intensity of the attack but they met with only partial success. In the first half of January 1945 an average of eight rockets a day fell on England and in mid-February it rose to ten. Fortunately, however, the accuracy of the V-2 was poor, less than half the 1300 rockets aimed at **London** finding their mark; some fell back near the firing point soon after they had been launched while others dropped short into the North Sea or came down in the countryside surrounding the capital. The weight of the attack on **London** was also reduced by the fact that from October 1944 the Germans fired many of their missiles against targets on the Continent, in particular against the supply port of Antwerp, where they caused considerable damage and heavy casualties. The Germans were finally compelled to abandon the attack with rockets towards the end of March 1945, by which time the Allied armies had crossed the Rhine and were advancing across **Holland** into **Germany**.

For the people of **London**, who had already withstood heavy air attack and for almost five years had accepted irksome restrictions and worked long hours with little respite, the nine months of the German V-weapon assault were a severe ordeal. Indeed, many found this attack by airborne robots quite uncanny and more difficult to bear than the orthodox bombing. The flying bombs in particular produced considerable nervous strain and for a time there was some absenteeism in industry and a fall in production. However, Londoners soon grew accustomed to seeing the 'doodle-bugs' or 'buzz-bombs', as they called them, over their city and many became adept at assessing the danger as a bomb approached; people would wait for the ominous cut of the engine or the dip of the nose which signalled the descent before diving for cover; if the bomb passed by, it was ignored. Only occasionally were they kept guessing by wayward missiles which made a sudden unexpected turn or else began a wide circle before making the plunge earthwards.

The rockets proved less terrifying than the flying bombs, probably because they approached unseen and unheard; there was no period of suspense since the first indication that a rocket had arrived was a loud explosion, closely followed by the rumble of its supersonic flight through the atmosphere. By that time people knew they were safe – at least until the next one. The scale of the V-2 attacks and the resulting casualties and damage were also not so heavy as with the flying bomb. Yet there were some tragic incidents reminiscent of the worst days of the early air raids. On 25 November 1944 a rocket fell on a crowded Woolworth store in Deptford and 160 people were killed and 108 seriously injured. At Smithfield Market, in the centre of **London**, 110 people lost their lives and 123 were severely hurt on 8 March 1945. Nineteen days later a tenement building at Stepney was hit and 131 men, women, and children were killed.

Altogether 8938 people lost their lives and a further 25,000 were seriously injured as a result of the German V-weapon attacks – the large majority of them Londoners. There was also widespread destruction of property – most of it in the capital – including over 200,000 houses

destroyed or seriously damaged. Such loss and devastation was grievous indeed, yet it was only a fraction of what might have resulted had the Germans been left to perfect their weapons without interruption and had they not been prevented from using them earlier and on the scale originally planned.

When **Hitler** ordered the offensive to begin in mid-June, he had expected the effect to be dramatic. Indeed, both he and his military advisers thought that, in their anxiety to relieve **London**, the Allies might be tempted into precipitate action regarding the expected second landing in the **Pas de Calais** and that this would end in disaster. But German hopes were doomed to disappointment. The flying bombs did not induce a second landing. Nor did they have any noticeable effect on the progress of the campaign in **Normandy**. As early as 18 June the British Prime Minister assured General Eisenhower that there was to be no alteration in agreed strategy and that **London** would endure the assault. In his *Crusade in Europe* Eisenhower writes: 'We in the field wanted to capture the areas from which these weapons were fired against southern England. However, it must be said to the credit of the British leaders that never once did one of them urge me to vary any detail of my planned operations merely for the purpose of eliminating this scourge.'

The advent of the German V-weapons did, however, have a disturbing effect on Allied air operations. With the invasion less than two weeks old, there was a considerable diversion of air power to counter the flying bomb. Many fighter squadrons, including most of the newest and fastest machines, had to be retained in England and employed on interception patrols, while both the British and American heavy bomber forces were used in an attempt to counter the threat at its source. Such measures absorbed a very large effort which might otherwise have been used for additional close support of the armies and the bombing of **Germany**. Yet, compared with the optimistic statements of the Germans and the vast resources poured into developing their V-weapons, this was a comparatively small return; according to Speer the whole productive effort and the huge quantities of fuel consumed during the ten months

of the assault would have been better used in putting several thousand fighters into the air.

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The part played by the fighter pilots and bomber crews during the actual V-weapon attacks must now be told.

By May 1944 most of the original 'ski' sites had been destroyed and it seemed that the danger of any large-scale assault had been averted; moreover, demands for additional air power to prepare for the **Normandy** invasion were becoming more insistent as D Day approached. Although one of the new 'modified' launching sites had been identified as early as 27 April and over sixty reported by the beginning of June, in the preoccupation with **OVERLORD** the imminent threat represented by these structures was underestimated. Attacks on V-weapons targets came to a virtual standstill towards the end of May and for over a fortnight the Germans were able to continue their preparations almost unhindered by direct attack. However, the arrival of the first flying bombs in mid-June brought prompt counter-action. Both British and American heavy bombers were turned upon the new launching sites and supply depots, and elaborate defence arrangements involving both fighters and anti-aircraft guns were put into operation over southern England.

The main defence plan had been prepared at RAF Fighter Headquarters by Air Marshal Roderic Hill ¹ in collaboration with General Sir Frederick Pile of Anti-Aircraft Command; it provided for defence in depth with a front line of fighter aircraft patrolling the Channel and the South Coast, a second line of anti-aircraft guns sited on the North Downs, and a third line of balloons around **London** itself. At first eleven **RAF** squadrons flew 'anti-diver' patrols, Tempest, Spitfire, and Typhoon fighters operating by day and Mosquitos at night. But it soon became necessary to bring in reinforcements, including a wing of Mustang fighters from Second **Tactical Air Force**, and soon an average of fifteen day and nine night-fighter squadrons were engaged on interception patrols. A similar strengthening of the gun defences also took place and

by the middle of August no fewer than 800 heavy and 1100 light guns of the **Royal Artillery** were in action, together with 700 rocket barrels and some 600 light guns manned by the **RAF Regiment** and the Royal Armoured Corps.

¹ Air Chief Marshal Sir Roderic M. Hill, KCB, MC, AFC and bar, Legion of Merit (US), Order of White Lion (Czech), Order of Leopold with Palm and Croix de Guerre (Bel.); **RAF** (retd); born **Hampstead, London**, 1 Mar 1894; joined RFC 1916; permanent commission **RAF** 1919; DTD, **Air Ministry** and MAP, 1938–40; DG of R and D, MAP, 1940–41; Controller of Technical Services, British Air Commission, **Washington**, 1941–42; Commandant RAF Staff College, 1942–43; AOC No. 12 Fighter Group, 1943; AOC-in-C, ADGB, 1943–44; AOC-in-C Fighter Command, 1944–45; Air Member for Training, **Air Ministry**, 1945–46; Air Member Technical Services, 1947–48.

The fighter squadrons had a difficult task. Even though coastal radar stations were used to detect the approach of flying bombs, pilots on patrol over the Channel had only a few minutes in which to intercept a bomb before it crossed the coast. From there to the gun belt was only a matter of 30 miles, and although pilots were helped by controllers at radar stations and observer posts and by marker shells and signal rockets, they had barely five minutes' flying time from the coast in which to attack their fleeting targets. If in actual pursuit of a bomb, the fighters were allowed to fly on over the gun belt and the gunners had to withhold their fire; this gave pilots just another minute before coming up against the **London** balloon barrage. Swiftiness in pursuit was therefore essential, and to give additional speed aircraft were stripped of armour and all possible external fittings while engines were modified to take special high-octane fuel and to accept a higher boost than usual; even the paint was removed and outer surfaces polished. These changes increased the speed of some single-engined fighters by as much as thirty miles an hour, yet the margin was still slight. Indeed, the speed of the flying bomb – some 350 miles an hour – was such that only the fastest fighters, the Tempests, Spitfire XIVs, and later the Mustang IIIs, could

operate with consistent success.

There was considerable danger in attacking the V-1 even though it could not shoot back. Its explosion could be lethal in the air within 200 yards and in the early weeks several pilots were killed and aircraft badly damaged by bursting bombs. Diving on to the bomb to attain extra speed brought the danger of entering the lethal distance while shooting; turbulence of the hot gases from the jet engine also upset the aim of a fighter attacking from the rear. The best form of attack had to be discovered by trial and error and eventually most pilots found that, if possible, it was best to allow the bomb to overtake them and then fire deflection shots as it passed. Occasionally, unorthodox methods were used with success. Pilots would fly alongside a bomb and then tip it over with the wing of their machine – the wings did not actually touch since the air passing over the wing surface of the fighter was sufficient to unbalance the robot, which then overturned and went into a dive.

During the first month of the attack fighter aircraft operated with notable success, shooting down 924 bombs – almost three times as many as were destroyed by the anti-aircraft guns and balloons combined. Unfortunately, however, by mid-July the daily average of bombs reaching **London was still almost forty a day. Moreover, competition and uncertainty of operational priority in dull weather had created friction between fighter pilots and anti-aircraft gunners. Pilots blamed the gunners for firing on them and the gunners blamed the pilots for flying into their area. Some hard things were said by each about the other. Therefore, on 13 July, in the hope of achieving better results and closer co-ordination, Air Marshal Hill gave orders moving all guns to the coast and creating two distinct areas for fighters, one over the sea in front of the gun belt and the other inland behind it. This division of their patrol area made the task of the fighter squadrons more difficult but the new system quickly justified itself. During the second week after the redeployment a record number of bombs was destroyed and the following week the guns exceeded the fighter score for the first time. Moreover, gun batteries and airfields were now more or less in the same areas and,**

with personal contact between airmen and gunners, harmonious co-operation was soon restored. 'The mists of suspicion whose gathering had troubled me so much were dispersed almost overnight,' Hill writes. 'Flying towards the South Coast I could see over Romney Marsh a wall of black smoke marking the position of the "Diver" barrage. From time to time a fresh salvo would be added to repair the slow erosion of the wind. On the far side of the barrage fighters were shooting down flying bombs into the Channel; on the nearer side more fighters waited on its fringe to pounce on the occasional bomb that got so far. The whole was as fine a spectacle of co-operation as any commander could wish to see.'

By mid-August the whole organisation was operating with a relentless efficiency which guaranteed the destruction of from one-half to three-quarters of all the bombs that approached **Britain** whatever the weather. By the end of the month only an occasional bomb was getting through, and in one period of twenty-four hours only four out of ninety-seven bombs reported by the defence actually reached **London**. Thus, early in September, when the capture of the launching areas ended the main attack, the British defences had attained a very large measure of ascendancy over this novel and ingenious weapon. Fighter pilots had now destroyed a total of 1771 bombs; the gunners, achieving notable success in the second phase, had raised their score to 1460, and the balloons had brought down 232.

New Zealand pilots flying Spitfires, Mosquitos, Mustangs, Tempests, and Typhoons played a prominent part in the fighter patrols. No. 486 New Zealand Tempest Squadron was in action from the outset. After flying sweeps and convoy patrols over the Channel during the early days of the invasion, its pilots found themselves switched overnight to the defence of **London**. By 4 September they had flown 2443 sorties and destroyed 223 flying bombs, a record excelled by only one other squadron.¹ Altogether New Zealand pilots destroyed nearly three hundred V-1s, and eight

¹ No. 3 Tempest Squadron, which destroyed 258 flying

bombs.

of them – all but one from No. 486 Squadron – were among the thirty-four British pilots credited with the destruction of ten or more bombs.

No. 486 Squadron was one of three squadrons forming No. 150 Wing, at this time the only formation in the **RAF equipped with the new and fast Tempest fighter. With its formidable **Napier** sabre engine of twenty-four cylinders, the Hawker Tempest was not only the most modern fighter of the **RAF** but of all the Allied air forces. Sidney Camm, chief designer at Hawkers – he had designed the famous Hurricane before the war – had taken his latest creation, the Typhoon, which was an assault plane, massive, thick-winged, capable of carrying a good load, and after six months' work had transformed it into the Tempest. The fuselage was slightly longer, enabling it to carry extra petrol, and the undercarriage lengthened to allow the use of an enormous four-bladed propeller nearly twelve feet in diameter. To improve downward visibility the cockpit had been moved farther aft and reduced in size to the strict minimum until it was only a transparent plastic blister on a perfect streamlined fuselage. The tail fin had been enlarged to ensure perfect stability at very high speeds and flaps had been fitted along practically the whole of the trailing edge of the wings to give maximum safety in landing. Indeed, everything possible had been done to give the Tempest a high performance at medium and low altitudes. Special auxiliary tanks were designed to fit under the wings and quite extraordinary attention was paid to the riveting, the joints and the surface polish. The result was a superb combat machine.**

The New Zealand Tempests began intensive flying on the morning of 16 June patrolling the **Kent coast from their base at Newchurch, near Romney; this was a new landing ground with a steel mesh runway and the squadron lived under canvas. On patrol pilots quickly adapted themselves to their new and novel task. The first day two flying bombs were brought down, two days later the score had reached fifteen, and by**

the end of a fortnight the total destroyed was over ninety.

Remarkable patrols were flown during these early weeks by Flight Lieutenant Tanner ¹ and Warrant Officer Hooper. ² On the evening of 30 June Tanner was patrolling off Rye when he sighted a bomb flying at the unusual height of 5000 feet, and although it was travelling at 390 miles an hour he intercepted and sent it down about six miles from the coast. Five minutes later he destroyed

¹ Flight Lieutenant E. W. Tanner; born **Tauranga**, 20 Sep 1921; clerk; joined **RNZAF** Sep 1941.

² Flying Officer G. J. Hooper, DFC; born 1 Feb 1920; fireman; joined **RNZAF** Jun 1941; p.w. 2 Feb 1945.

another bomb in the same area and then went on to attack a third, which went down to explode on the ground near Rye. Hooper attacked three 'Divers' during a midday patrol. He sighted his first target 15 miles south of Beachy Head and pursued it towards the coast, where he set it on fire in the air; five minutes later he shared in the destruction of another bomb which exploded in mid-air, and then shortly afterwards sent a third down into the sea off Beachy Head.

Throughout the long summer days of July and August patrols were constant, but chance and the weather played a part in the rate of scoring. On some days the squadron's score mounted rapidly, but on others it advanced but slowly in tantalising ones or twos or else showed no increase at all. On 4 July pilots achieved a record of thirteen flying bombs destroyed in just over twelve hours, but from the morning of the 9th to the afternoon of the 12th no fewer than 78 sorties were flown without result. Both the luck and skill of individual pilots also varied. Nevertheless, they continued to maintain close guard over their allotted area and were quick to seize every opportunity for interception. One pilot, airborne to test his machine, overheard a report that a bomb was approaching his airfield. He took up the chase and 'had a crack at it.'

Somewhat to his surprise the bomb turned slowly over in flight and flew along upside down for some distance before diving sharply to explode in a field.

No. 486 Squadron's top-scoring pilots were Warrant Officer Eagleson,¹ with twenty-one flying bombs destroyed, Flying Officer Cammock,² with twenty and one shared, Flight Lieutenant McCaw,³ nineteen and one shared, and Flight Lieutenant Cullen,⁴ who brought down sixteen. These men displayed outstanding skill both as pilots and marksmen, sending many of their targets down into the sea before they reached the coast and others into the open countryside nearby.

Eagleson opened his score by destroying three bombs on 18 June – a very active day during which pilots flew fifty-six patrols between dawn and dusk and shot down eleven V-1s. On a subsequent morning patrol he destroyed two within twenty minutes; on another occasion he saw a damaged V-1 gliding directly towards a small village north of **Eastbourne** and, swooping down, exploded it in mid-air before it could do any harm. Cammock had a similar experience early in

¹ Flying Officer O. D. Eagleson, DFC; born **Auckland**, 19 Dec 1922; apprentice; joined **RNZAF** Mar 1942.

² Flying Officer R. J. Cammock, DFC; born **Christchurch**, 4 Jul 1923; clerk; joined **RNZAF** Aug 1941; killed on air operations, 6 Oct 1944.

³ Flight Lieutenant J. H. McCaw, DFC; born **Oamaru**, 31 Dec 1919; student; joined **RNZAF** Jul 1941.

⁴ Squadron Leader J. R. Cullen, DFC and bar; born **Waihi**, 1 May 1919; farmer; joined **RNZAF** Nov 1941; commanded No. 183 Sqdn, 1945.

July. He saw a bomb already damaged by another aircraft going

down into the town of Hastings and, diving after it, he succeeded in exploding the missile just before it made the final plunge earth-wards. A few weeks later Cammock destroyed four bombs within thirty-six hours, two of them inside five minutes of an evening patrol.

McCaw was the first squadron pilot to destroy four bombs during a single patrol. This happened one evening early in July while he was flying one of the last sorties near Biggin Hill; when he landed it was almost midnight and the last of the summer twilight had faded from the sky. By the end of August Flight Lieutenant Cullen had flown more than 200 sorties with No. 486, including ninety-three patrols against flying bombs. He had opened his score during the evening of 18 June and a week later shot down two bombs in one patrol; early in July he made successful interceptions on three consecutive days.

Other pilots who had particular success were Flying Officer Danzey,¹ who destroyed eleven V-1s, three of them at almost point-blank range, Flight Lieutenant Sweetman,² whose 'bag' was ten and one shared, and Flying Officer Lawless,³ who destroyed ten during his sixty patrols. Flight Sergeant O'Connor's⁴ score was eight destroyed and one shared, while Flight Lieutenant Williams,⁵ Pilot Officer Stafford,⁶ Pilot Officer Smith,⁷ and Warrant Officers Hooper and Kalka⁸ were each credited with the destruction of eight. In addition, ten more New Zealanders who flew with No. 486 Squadron had individual scores of five or over.

The squadron's many successes were not achieved without cost. Three pilots were killed and ten injured, while seventeen Tempests were destroyed or damaged beyond repair and a similar number suffered minor damage. Most of the casualties resulted from aircraft being caught in the flames or struck by wreckage from bursting bombs. But there were other hazards. Towards the end of July one Tempest, diving through cloud in pursuit of a V-1, flew into a Spitfire flying below. The wing tip of the Tempest tore through

¹ Flying Officer R. J. Danzey, DFC; born [Auckland](#), 11 Nov

1921; storekeeper; joined **RNZAF** Nov 1941.

² Squadron Leader H. N. Sweetman, DFC; born **Auckland**, 10 Oct 1921; clerk; joined **RNZAF** Apr 1940; test pilot, Hawkers, 1943–44; commanded No. 3 Sqdn, 1944–45.

³ Flight Lieutenant F. B. Lawless, DFC; born **Christchurch**, 26 Aug 1922; insurance clerk; joined **RNZAF** Mar 1941.

⁴ Flying Officer B. J. O'Connor, DFC; born **Napier**, 14 Jun 1922; motor mechanic; joined **RNZAF** Aug 1940.

⁵ Flight Lieutenant S. S. Williams; born **Wanganui**, 4 Feb 1920; diesel engineer; joined **RNZAF** Apr 1941; killed on air operations, 22 Dec 1944.

⁶ Flight Lieutenant J. H. Stafford, DFC; born New Lynn, 19 Aug 1922; student; joined **RNZAF** Mar 1942.

⁷ Flying Officer K. A. Smith; born **Masterton**, 20 May 1922; clerk; joined **RNZAF** Oct 1940; p.w. 26 Apr 1945.

⁸ Flying Officer W. A. Kalka; born **Auckland**, 12 Jun 1923; electrical engineer; joined **RNZAF** Sep 1941; killed on air operations, 25 Mar 1945.

the rear of the Spitfire's cockpit and both pilots were killed in the double crash. On patrol early in July Warrant Officer Sheddan ¹ had what was probably a unique experience. While pursuing a target over the **Eastbourne** area – he had just destroyed one and attacked another – an empty cannon-shell case, ejected by another aircraft flying close by, lodged in his engine and cut the oil supply. Sheddan was forced to crash-land and was thrown out of his machine and injured, but fortunately not seriously; he was able to rejoin the squadron a month later.

Among New Zealand fighter pilots flying with **RAF** units the most successful was Flight Lieutenant A. E. Umbers who commanded a flight in No. 3 Tempest Squadron – the top-scoring unit in this campaign. Umbers quickly demonstrated his skill in intercepting and shooting down flying bombs. He achieved his first success on 16 June. Four days later he had raised his score to five and by the end of the main campaign he had at least seventeen confirmed successes to his credit. He flew his most successful patrol one morning early in August, destroying three and sharing in the destruction of another – the fourth would have been wholly his had not a Mustang pilot stolen in while he was firing and cheated him of his prey.

Other successful pilots were Flight Lieutenant Madden,² who commanded a flight of No. 610 Spitfire Squadron, Flight Lieutenant Kleinmeyer,³ flight commander in No. 129 Mustang Squadron, Flight Lieutenant Bonham⁴ of No. 501 Tempest Squadron, and Flying Officer A. N. Sames, who flew with No. 137 Typhoon Squadron. On one patrol Madden found his ammunition exhausted whilst attacking so he flew alongside the bomb and tried to tip it over with his wing. Twice the bomb righted itself but his persistence was rewarded when, at the third attempt, it turned over and plunged down to explode in a wood. Kleinmeyer adopted even more unusual tactics to destroy his target one evening early in August. During his approach he overshot but, turning sharply, he flew across the nose of the bomb, catching it in the slipstream from his aircraft so that it rolled over and crashed. On patrol towards the end of August Bonham destroyed three bombs in thirty minutes without firing a single shot. Having expended all his ammunition in blowing up his first target in mid-air, he went on to intercept three more bombs and in each case succeeded in tipping them over with his wing.

¹ Squadron Leader C. J. Sheddan, DFC; born Waimate, 3 Mar 1918; tractor driver; joined **RNZAF** Apr 1941; commanded No. 486 (NZ) Sqdn, 1945.

² Flight Lieutenant B. M. Madden; born **Wellington**, 2 Nov 1919; law clerk; joined **RNZAF** Jan 1941; killed on air operations, 18 Dec 1944.

³ Flight Lieutenant R. G. Kleinmeyer, DFC; born Toowoomba, **Australia**, 27 Sep 1917; surveyor's assistant; joined **RNZAF** Jan 1941.

⁴ Flight Lieutenant G. L. Bonham, DFC; born Dunedin, 24 Mar 1921; P & T employee; joined **RNZAF** Jul 1940; killed on air operations, 25 Sep 1944.

Sames had several narrow escapes. On one occasion his second burst ignited the bomb's fuel supply and he flew straight through a sheet of flame which badly scorched his aircraft. Another day when he exploded a bomb in mid-air, his Typhoon was hit by wreckage, several pieces passing through the wings and fuselage.

Two New Zealand pilots who had successful night patrols were Flight Lieutenant Walton ¹ and Flying Officer Worthington, ² both flying with No. 605 Mosquito Squadron from Manston airfield. By night the glare from the propulsion unit made the sighting of flying bombs relatively easy, but this advantage was somewhat discounted by the difficulty of assessing the range and bringing accurate fire to bear; moreover, to gain a margin of speed over their targets the Mosquitos had to attack in a dive. Nevertheless, on successive nights towards the end of June, Walton and his British navigator succeeded in destroying two flying bombs in a single patrol.

While fighter pilots were thus achieving outstanding success in shooting down the V-1s in flight, bomber crews flew across the Channel to attack launching areas, storage depots, and targets connected with the manufacture of the German weapons. In the three months from mid-June 1944, RAF Bomber Command despatched some 16,660 sorties to drop 60,237 tons of bombs. Aircraft of **US 8th Air Force** added a further 16,400 tons in 6415 sorties. Medium and fighter-bombers of Second

Tactical Air Force also joined in the assault whenever they could be spared from their main task of supporting the Allied armies on the Continent; they contributed another 1700 tons of bombs. Unfortunately, this massive air effort – Bomber Command's contribution alone equalled a complete month's bombing at the height of the bomber offensive – was not attended by the success which had marked the attacks earlier in the year. In particular, the bombing of launching sites, which absorbed most of the effort, seems to have had little effect on the German rate of firing their missiles. The new 'modified' sites, small and well hidden as they were, proved difficult targets; moreover, they were cheap and easy to build and the Germans had ample reserves, so that whenever the bombers succeeded in destroying one of them another sprang up in its place.

The raids on the enemy transport and supply organisation, especially those in which Bomber Command used its five-ton 'Tall-boy' bombs, were somewhat more effective. Early in July the **RAF attacked one of the main storage depots situated in what had**

¹ **Flight Lieutenant R. C. Walton; born **Tauranga**, 16 Sep 1916; farmer; joined **RNZAF** Oct 1941.**

² **Flight Lieutenant J. C. Worthington, DFC; born **Waihi**, 18 Oct 1918; butcher; joined **RNZAF** Oct 1941.**

previously been mushroom-producing caves in the limestone hill overlooking the River Oise at St. Leu d'Esserent. In two attacks within three nights Lancasters of No. **5 Group dropped over 2280 tons of bombs, including eleven 'Tallboys'. The approaches to the tunnels were blocked, the roofs of the caves collapsed at a number of places, and some 300 flying bombs were buried beyond hope of recovery. The whole area between the river and the bomb store was also ploughed up by craters and both road and rail communications disrupted. For the next ten days after these attacks the daily average of flying-bomb launchings fell by**

nearly a third. Other storage depots, notably those at Foret de L'Isle Adam, Domleger, St. Martin L'Hortier and Nucourt, were attacked by **RAF** bombers during July and August. After the war the Germans admitted that such raids seriously upset their supply system and prevented operations to the full capacity of the available launching sites.

Crews flying these missions over **France** found that opposition both from fighters and anti-aircraft batteries was usually less severe than that experienced over targets in **Germany**. However, on 7 July when 228 Lancasters attacked St. Leu d'Esserent, German night fighters stationed in **France** were reinforced by others from the Low Countries and in bright moonlight they succeeded in shooting down thirty-one of the bombers – this was almost a quarter of Bomber Command's total losses in attacks on V-weapon targets during these months. Flight Lieutenant Milne ¹ and his crew of No. **50 Squadron** had an eventful flight. They had just bombed when their Lancaster was set upon by a Messerschmitt night fighter. One shell burst in the starboard outer petrol tank and another went through the main spar; petrol caught fire and acted as a beacon to other night fighters. However, by fine airmanship Milne evaded three further attacks and got his bomber safely back to England. On another raid Pilot Officer King ² of No. **158 Squadron**, although wounded, navigated his **Halifax** back to base after it had been holed in over 130 places. Only a few months earlier King and his bomb aimer had nicknamed their aircraft 'Friday the 13th!'

Lancasters from No. 75 Squadron flew in eleven of Bomber Command's raids on V-weapon targets. Altogether 223 sorties were despatched, which represented more than one-fifth of the total squadron effort from the eve of D Day until the end of August. The squadron was fortunate in losing only one crew during these attacks although several aircraft were badly damaged by flak. Whilst

¹ Flight Lieutenant M. McL. Milne, DFC; born Hastings, 7 May 1915; diesel engineer; joined **RNZAF** Dec 1941; died 1 Aug

1952.

² Flying Officer H. J. King, DFC; born Dunedin, 13 Nov 1922; clerk; joined **RNZAF** Mar 1942.

attacking a launching site near Linzeux early in July, one Lancaster ran into heavy anti-aircraft fire, and a shell, bursting directly below the starboard wing, sent the bomber into a violent dive. It went zooming down for some 5000 feet before the captain, Pilot Officer Wisker, ¹ could regain control and level out. Undeterred by this experience and the fact that his machine was now difficult to handle, he determined to go on and complete the attack. Shortly afterwards an engine failed and Wisker had a hard struggle to maintain height, but eventually base was reached and a safe landing made. It was then found that shell fragments had holed the Lancaster in more than two hundred places.

Typical of this spirit in which the squadron faced enemy opposition was the action of bomb aimer Flying Officer Mayhill ² during the attack on the storage depot at Pont Remy. His Lancaster was hit as it neared the target and he was wounded in the face and eyes by perspex splinters. The electrical release system was out of action, blood was streaming down his face and he was in great pain, but he insisted on completing his duties and, working the bomb release by hand, made his attack.

Thirty-eight crews from No. 75 Squadron took part in the two August raids on **Russelsheim**, which contained the huge Opel motor works where flying bombs were being manufactured. Enemy fighters were active on both nights and three of the New Zealand Lancasters were among the thirty-five bombers which failed to return. These attacks were part of a series of Allied raids on the sources of flying-bomb production, and in addition to Bomber Command's attacks, aircraft of **US 8th Air Force** bombed the experimental establishment at **Peenemunde** and also raided the Volkswagenwerke at Fallersleben, the largest pressed-steel works in **Germany**.

Heavy bomber operations against V-weapon targets virtually ceased when the main flying-bomb attack came to an end early in September 1944. Many fighter squadrons were then also released from their defensive patrols over England. At the end of the month the Tempest Wing, which included No. 486 New Zealand Squadron, flew to the Continent to join Second Tactical Air Force, and thereafter the Tempests were mainly employed in close support of the ground forces and in attacks on enemy communications. Apart from occasional sorties by aircraft from 2nd TAF the reconnaissance and attack of V-weapon sites in **Holland** was now left to the fighter squadrons remaining in England.

¹ Flying Officer R. J. Wisker, DFC; born Stockton, 15 Dec 1918; rope splicer; joined **RNZAF** Sep 1941.

² Flight Lieutenant R. D. Mayhill, DFC; born **Auckland**, 6 Feb 1924; student; joined **RNZAF** Aug 1942.

From mid-September until the end of 1944 the flying bombs which reached England were all launched at night from converted Heinkel bombers over the North Sea. RAF Mosquitos flew interception patrols in all weathers and shot down sixteen of these carrier aircraft. Against the missiles themselves the British defences continued to achieve notable success. Of the 576 bombs that approached the coast between 16 September and 14 January 1945 – when this form of attack was finally abandoned by the Germans – 331 were destroyed by the gun batteries, night fighters destroyed another 71, and only 66 reached Greater London. But during the early morning of 24 December the Heinkels sprang a surprise when they launched their bombs off the east coast with **Manchester** as their target; although only one bomb fell in **Manchester** itself, six went down within ten miles of the city centre and eleven more within fifteen miles. The Germans had, in fact, succeeded in turning the northern flank of the defences but fortunately they were unable to develop this new line of attack. Three weeks later the airborne

launchings ceased entirely.

In March 1945 the Germans made a final attempt to attack London with flying bombs of longer range – 220 miles instead of the original 150 – which they fired from ramps in Holland. The attempt was frustrated by the defences and by renewed attacks on the launching sites. Of more than 150 bombs fired by the Germans only thirteen reached the British capital. But it must be remembered this was not the only threat that London had to withstand during the last nine months of the war. Early in September 1944 the Germans had begun firing their second reprisal weapon, the V-2 rocket.

Preparation of counter measures against the V-2 had been hampered by lack of knowledge regarding its exact nature and performance. Early estimates of the size and destructive power of the missile varied enormously and it was not until July 1944, barely two months before the attack began, that definite information became available. This was partly because the Germans, perturbed by Bomber Command's raid on Peenemunde in August 1943, had moved most of the development work connected with the V-2 to a new station at Blizna, about 170 miles west of Warsaw. Seven months elapsed before this was discovered. However, thanks to the work of Polish agents, the interrogation of prisoners, the capture of documents and the examination and reconstruction of a rocket which fell in Sweden, fairly accurate details were available before the first rocket landed in England.

The work of the Polish agents was outstanding. Not only did they set up an organisation so that they could reach places where rockets fell before the German search parties, but they even planted men in Blizna itself. Their work was crowned by a remarkable exploit in which their leader was picked up in Poland by the RAF and brought to the United Kingdom by way of Italy, with all the documents and parts that he was able to carry. The captain of the Dakota aircraft which picked him up was Flight Lieutenant Culliford, ¹ a New Zealander flying with No. 267 Transport Squadron. His report of the mission tells how it nearly ended in disaster.

The airstrip in the Carpathian Mountains selected for the 'pick- up' was in German hands by day and was only taken over by the partisans at night. When Culliford landed, guided only by the light of their torches, they told him that some four hundred Luftwaffe personnel were encamped about a mile from the field and that a considerable force of German troops was also on the move in the vicinity. The Dakota was therefore unloaded and reloaded 'with incredible rapidity', and in less than five minutes was ready to take off. Culliford opened the throttles but the machine remained stationary – its brakes had jammed and the wheels had sunk into the soft ground. What followed is best described in Culliford's own words:

We cut the connections supplying hydraulic fluid to the brake drums but in spite of all boost used the machine refused to budge. I stopped the engines and reluctantly prepared to destroy the machine. But first, we managed to persuade the people on the ground to delay a little, and on investigation it was found that the wheels were deeper into the earth, although they showed no signs of having revolved. The second pilot managed to produce a spade and each wheel was dug out. The passengers were reloaded with their equipment, the engines started, and we tried again. The machine slewed slightly to starboard and stopped. We again stopped the engines, and once again prepared to demolish the machine – the wireless operator tore up all his documents and placed them in a position where they would burn with the aircraft; we unloaded our kit and passengers, and again looked at the undercarriage. The port wheel had turned a quarter of a revolution.

Knowing that the personnel and equipment were urgently needed else- where, we persuaded the people on the ground to dig for us for another thirty minutes. This time the machine came free, and we taxied rapidly in a brakeless circle, and finding that the people holding the torches for the flare path had all gone home, we came round again with the port landing light on and headed roughly N.W. towards a green light in the corner of the field. After swinging violently towards a stone wall, I

closed my starboard throttle, came round in another circle, and set off again in a N.W. direction. This time we ploughed along over soft ground and waffled into the air at 65 m.p.h. just over the ditch at the far end of the field.

Airborne, we found that we could not raise our undercarriage, having lost all our hydraulic fluid, and finding our speed thus materially reduced,

¹ Flight Lieutenant S. G. Culliford, DSO, *Virtuti Militari* (Pol.); born **Napier**, 18 Mar 1920; student; joined **RNZAF** May 1941.

we poured water from the emergency rations into the hydraulic reservoir until we could pump up the undercarriage by hand.

Since it was now late, after over an hour's delay on the ground, a course had to be set through an area known to be infested with night fighters, because it was necessary to be out of **Yugoslavia** before daylight. No opposition was however encountered. **Brindisi** was reached just as the sun was rising, and a successful up-wind landing, in spite of the lack of brakes, was made on a runway under construction.

As August 1944 drew to a close there came positive indications that rocket attacks on **London** were imminent and on 30 August **RAF** fighters began to fly armed reconnaissance sorties over **Holland** to locate and attack firing points. A week later, however, these patrols, together with other counter measures, were suddenly discontinued. A wave of optimism had been raised by the rapid advance of the Allied armies towards **Belgium** and **Holland** and on 4 September the British Chiefs of Staff decided that, with the capture of the **Pas de Calais**, danger from the rocket had ended. This view was not shared by Air Marshal Hill at **RAF** Fighter Headquarters, whose Intelligence staff argued that attacks could still come from western **Holland**, which lay within 200 miles of **London**. Nevertheless, on 7 September Mr Duncan Sandys of the **War**

Cabinet announced that the **Battle of London** was over, except possibly for a 'few last shots'. It was soon evident, however, that the battle was far from over. The following evening the first V-2 rocket fell in **London** and during the next six months over a thousand rockets and nearly five hundred flying bombs came down in England.

As soon as the rocket attacks began **RAF** fighters renewed their patrols over south-west **Holland**. Photographic aircraft were also despatched and machines from No. **100 Group**, responsible for radio counter measures, were sent up to listen for and jam any radio signals which might be connected with the firing. At the same time radar stations between **Dover** and Lowestoft were increased from three to six, while sound-ranging and flash-spotting equipment were sent to the Continent in the hope of locating actual firing points. However, despite the use of every available device, exact location by purely technical means proved an insoluble problem; all that could be done was to indicate the general area. The Dutch Resistance Movement provided much valuable information which was supplemented by the reports of Allied airmen, but even when all available information was examined it still remained difficult to pinpoint firing positions. This is not surprising for all that the Germans needed to fire their rockets was a slab of concrete about twelve feet square and a small platform in which to fit the fins of the missile. The rockets were carried from factory to storage depot by rail and then to the firing point by road on trailers specially fitted so that the rocket could be raised to the vertical firing position. Barely two hours were needed to prepare for firing and it was only during this time that the sites were really vulnerable to discovery and attack from the air.

Thanks largely to the Dutch, it was soon established that the first rockets were being fired from the island of **Walcheren** and woods around the Hague. Reports were also received that storage depots had been set up at Wassenaar, near the Hague, on three estates named Terhorst, Raaphorst, and Eikenhorst. On 14 September thirty-seven aircraft of Bomber Command attacked Raaphorst with 192 tons of bombs; three

days later thirty bombers dropped 172 tons of bombs at Eikenhorst. During the first ten days of the assault **RAF** fighter pilots flew nearly one thousand sorties against targets thought to be connected with the rocket. Tempests of No. 486 New Zealand Squadron took part in these operations until their transfer to the Continent at the end of September. They attacked suspected storage depots and firing points, camps and camouflaged buildings hidden in woods near the Hague; lorries and trains on the supply routes were other targets. On several occasions pilots saw the peculiar vapour trails left by the rockets as they rose into the stratosphere.

Fighter and fighter-bomber attacks continued throughout the winter, Spitfires of No. 12 Fighter Group which operated from bases in East Anglia bearing the brunt of the offensive. The Coltishall Wing led by Wing Commander Fitzgerald, ¹ a veteran New Zealand fighter pilot, did particularly good work. In the last six weeks of the year its pilots flew 470 sorties and dropped over 54 tons of bombs on rocket targets. Their Spitfire XVIs could carry two 250-pound bombs and extra fuel tankage to operate direct from England; by refuelling at advanced bases in **Belgium**, they could dispense with the extra tank and take twice the weight of bombs. Flight Lieutenant Oliver, ² flight commander with No. **602 Squadron**, and Flight Lieutenant H. J. Burrett, who led a flight of No. **229 Squadron**, were among the pilots who flew Spitfires of the **Coltishall Wing**.

Targets were attacked with notable skill and precision. On 24 December bombs were hurled into a block of flats in the centre of the Hague that was being used by the Germans to accommodate firing troops; a few weeks later two factories in **Holland** suspected of manufacturing fuel for the rockets were successfully attacked; storage depots, railway sidings, and road bridges were also frequent targets. From January 1945 the main effort was concentrated against

¹ Wing Commander T. B. Fitzgerald, DFC; born **Timaru**, 11 Jul 1919; joined **RNZAF** Jun 1937; transferred **RAF** Jun 1938;

test pilot, Hawker Aircraft Ltd., 1942; test pilot, De Havilland Aircraft Company Ltd., 1943–44; Wing Leader, Coltishall, 1944; Admin. duties, HQ 2nd TAF, 1945; transferred **RNZAF** 1946.

² Flight Lieutenant B. J. Oliver, DFC; born **Christchurch**, 22 Jul 1922; labourer; joined **RNZAF** Feb 1941.

the wooded parkland near the Hague known as the Haagsche Bosch, which was then the principal firing area. Severe winter weather restricted operations but towards the end of February the Germans were forced to abandon the Hague woods and improvise firing facilities in the racecourse at Duindigt to the north. The fighter-bombers followed them there and practically drove them out in the middle of March. By that time the target area was heavily pitted with craters and, according to one observer, 'looked as if Bomber Command and not Fighter Command had been attacking it.' Thereafter, the German V-weapon campaign became one of retreat and abandonment, with a last few spiteful missiles being fired from open roadways.

Thus **Hitler's** V-weapon attack finally fizzled out. Thanks largely to the efforts of Allied airmen, a desperate attempt to snatch victory with novel and ingenious weapons had been met and defeated, albeit with heavy loss of life and much damage to property, but without any effective hindrance to British war-making capacity or to the operations on the Continent. Against the flying bombs the Allied air forces had achieved particular success both in defence and attack; effective counter measures to the rocket had proved more difficult to devise, but the **RAF** fighter offensive, limited though it was, had eventually succeeded in restricting the rate of firing while the campaign against enemy transport by Second Tactical Air Force also had its effect. Above all, there was the major achievement, in which the **RAF** had played the principal role, of delaying the initial attack by both flying bombs and rockets, a delay which robbed the whole German campaign of any marked military effect.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 12 – FORWARD TO THE RHINE

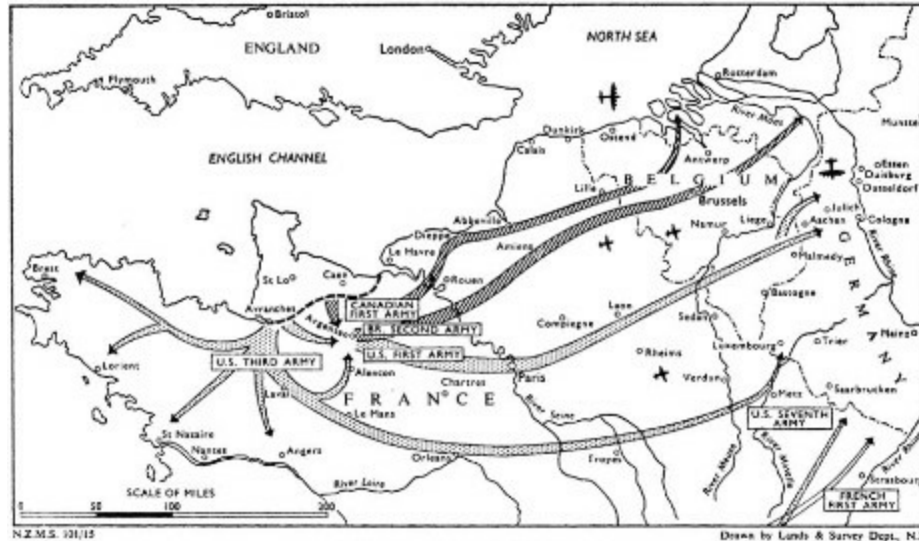
CHAPTER 12

Forward to the Rhine

By the end of August 1944 the Germans were in full retreat across **France**. The Battle of **Normandy** was won, **Paris** had been liberated, and the Allied armies, sweeping over the Seine on a wide front, pressed on towards the Belgian border in pursuit. Their advance was extremely rapid. Within a week it took them across the **Somme** and the Marne, through **France** and the Argonne, over the very battlefields where the tide of the First World War had ebbed and flowed for four long indecisive years. Montgomery's spearheads covered a distance of 200 miles in four days to reach **Brussels** on 3 September, and the next day they entered Antwerp, hustling the Germans out of the city before they could begin demolitions in the port. There was an equally forceful American advance on the right to Liege and Metz. Meanwhile, the Canadians enjoyed the sweet revenge of capturing Dieppe; then, moving north, they invested the Channel ports and cleared large sections of the 'flying bomb coast' towards the Scheldt estuary. In the south the Franco-American Army that had landed just east of Marseilles in mid-August moved rapidly up the Rhone Valley to link up with Patton's Third US Army. By the second week of September the Allied front stretched from Antwerp to the Swiss border.

At this stage some confusion and uncertainty appear to have arisen within the Allied High Command regarding future strategy. Certainly, decision as to the next move was far from easy. Flushed with success, each of the British and American army commanders felt that the advance into **Germany** should be pressed forward at once on his own particular sector. Montgomery, for example, argued strongly for an immediate all-out thrust in the north across the lower reaches of the Rhine to take the enemy forces by surprise and defeat them on the northern plains of **Germany**. But problems of supply, difficult enough during the early stages of the advance, had now become acute. The British forces in **Belgium**, for example, were still dependent on supplies brought by road from Bayeux, a distance of 250 miles, while the

American pipelines ran back even further in a wide sweep of some 400 miles through **Paris** to Cherbourg which, with the Germans holding the sea approaches to Antwerp and the Channel ports not yet cleared, was still the closest major port in working order. Eisenhower, who had now taken over



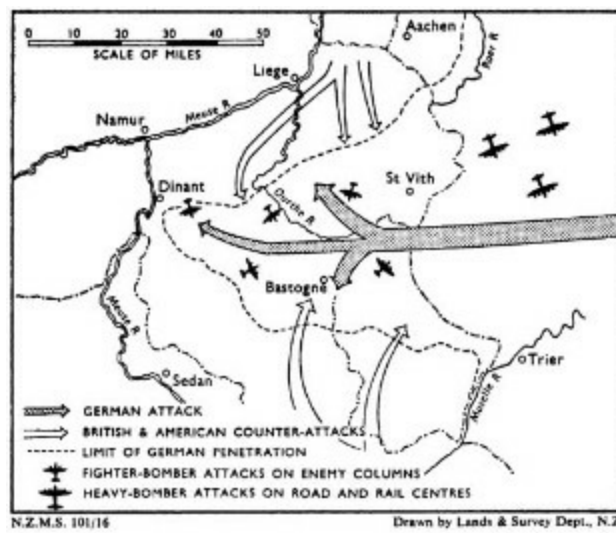
THE PURSUIT TO THE RHINE
THE PURSUIT TO THE RHINE

direct command of the land forces from Montgomery, was anxious to relieve the supply position by opening the approaches to Antwerp; then he favoured advancing to the Rhine on a broad front with his army groups abreast. However, the attractive possibility of quickly turning the German northern flank led him to delay the freeing of Antwerp in favour of an attempt to seize the bridges over the Maas, Waal, and Lower Rhine. This operation was begun in mid- September with the aid of three airborne divisions, two American and one British. Bad weather and the speed of the enemy's concentration prevented a full success. The crossings of the Maas and Waal were secured but that of the Lower Rhine at **Arnhem** had to be abandoned after the British **1st Airborne Division** had fought one of the most gallant actions of the war.

With this setback, hopes of an early thrust into **Germany** faded. All along the line enemy resistance was now stiffening, while in the forward extremities of the Allied armies the life blood of supply ran perilously thin. Eisenhower therefore determined to open Antwerp. This involved

the clearance of the Scheldt estuary, which task was undertaken by the British and Canadian armies. It proved more difficult than expected, and only after a whole series of complicated and often bloody combined operations, including the capture of **Walcheren**, was it finally completed early in November. Meanwhile, to the south the American armies were pressing forward to the German frontier through the Ardennes and the Vosges mountains. Here they came up against formidable natural barriers and the prepared defences of the Siegfried Line. Progress was slow and losses heavy. Only at **Aachen**, which fell towards the end of October, was there marked penetration of the main frontier defences, and even here resolute German counter-action prevented a clean breakthrough.

A general offensive, aimed at occupying the left bank of the Rhine, began in mid-November but it was held up by appalling weather – the worst for fifty years – which flooded the forward areas and reduced many roads to quagmires. Throughout the front the fighting descended to the worst kind of infantry slogging. Advances were slow and laborious and gains were ordinarily measured in yards rather than miles. The opening of Antwerp and the restoration of main railways had eased the supply situation but this could not compensate for the early onset of winter. The muddy state of the ground made the defence of naturally strong positions much easier for the Germans, while the dispersion of the Allied attacks relieved them of anxiety about a dense concentration. They were, in fact, offered an opportunity for recovery and counter-attack, of which von Rundstedt was quick to take advantage. Troops were withdrawn into reserve, armoured divisions refitted and a whole new army



THE ARDENNES BATTLE THE ARDENNES BATTLE

created, together with a sizeable air striking force. These formations were now employed in a daring and desperate thrust towards Antwerp which **Hitler** hoped would wreck Allied plans and hopes for an early end to the war. In the early hours of 16 December the Germans struck at the thinnest sector of the American front in the Ardennes.

The timing and direction of the attack took the Allies by surprise and at first the enemy forces carried all before them. Dense fog which shrouded the whole area for several days covered their forward movement and enabled supplies and reinforcements to be brought up without discovery and attack from the air. However, contrary to **Hitler's** expectations, the American troops in the path of the advance soon recovered from their initial shock and fought back vigorously, in particular at the vital road junction of Bastogne, where the stout resistance of 101 Airborne Division provided the first setback to the German plan. The hinges of the salient also held firm, thus preventing the enemy from widening his base of operations. By staunchly defending the northern flank, Montgomery was able to deflect the course of the enemy's advance to the south-west away from his immediate objective, the Meuse. Then, on 23 December the weather cleared. This was the beginning of the end since the Allied air forces now took to the air in strength and fell upon the German supply columns. Soon enemy formations found themselves short of fuel, ammunition, and

reinforcements and faced by increasing resistance and determined counter-attack. By the beginning of January they were in full retreat from the salient after a maximum penetration of some 50 miles. However, the Germans fought bitter rearguard actions to cover their withdrawal, so that it was only after several weeks of hard battle that the Allies were able to restore the position. Thereupon operations aimed at clearing the area west of the Rhine were resumed after a delay of two months. In bitter weather and over snow-covered ground, troops had to fight their way through very difficult territory, but the supply situation was improving and during February there was steady progress on all sectors.

As the Allied armies pressed forward to the Rhine German resistance became noticeably weaker. Heavy losses in the Ardennes battle, the depletion of his strategic reserves and the growing dislocation in his rear as the result of the Allied bombing offensive, all tended to weaken the enemy's strength in the West. Nor could he expect any relief from other fronts, least of all from the East where the Russian armies were now rolling forward across **Poland** towards **Germany**. By the middle of March the British, American, and French armies had fought and won their last major battle to the west of the Rhine, and during the next fortnight they swept across this barrier to begin the final advance into the heart of **Germany**. The complete collapse of German resistance was now only a matter of weeks.

German air operations over the western front in this last autumn and winter of the war were relatively weak and ineffective. Only during the Ardennes battle did the **Luftwaffe** appear in strength to support its ground forces. Meanwhile the German squadrons were driven first from **France** and then from **Belgium**, and finally forced back in considerable disorder to airfields in western **Germany**, where lack of fuel and facilities added to their difficulties. Subsequent efforts to rebuild a close-support force for Rundstedt's armies were hindered by the continuing shortage of fuel and the urgent need to resist Allied heavy bomber raids. Indeed, in a desperate effort to combat the bombing, the main fighter force was held

back in central **Germany** and built up strenuously to reach a strength of some 3000 aircraft by mid-November 1944. Towards the end of that month, however, **Hitler** ordered the transfer of a substantial part of this force to the Western Front to support his gamble in the Ardennes. In the face of strong counter- action by the Allied air forces, it achieved little; squadrons suffered crippling losses both in the air and on the ground and the plans so carefully prepared by Goering and fighter leader Peltz went badly awry. A surprise attack against Allied airfields which should have preceded the offensive did not take place until New Year's Day 1945. It proved a costly, if spectacular, enterprise and gave little help to the German armies for they were then already on the defensive. ¹ Under the strain of heavy losses and the growing fuel shortage the German air effort faded away during the later stages of the Ardennes battle. In mid-January considerable forces were transferred to the Russian front, and thereafter **Luftwaffe** operations in the west were limited to armed reconnaissance by jet aircraft and occasional harassing attacks which, although often irritating, amounted to a negligible effort.

In sharp contrast the Allied air forces gave close support in full measure throughout the campaign. Operating in formidable strength – the average force available was some 12,000 aircraft – they helped British and American troops to achieve their objectives with the minimum of delay and with fewer casualties than had previously seemed possible. The Second Tactical Air Force under Air Marshal Coningham, Bomber Command under Air Chief Marshal Harris, and Fighter Command under Air Marshal Hill were the principal British formations involved, and for the most part they were employed in co-operation with Montgomery's 21st Army Group. The United States had its 9th **Air Force**, which provided strong tactical formations for each of the American armies, while heavy bombers of General Doolittle's veteran 8th Air Force were also used in their close support. The general co-ordination of the air operations was in the hands of Air Chief Marshal Tedder at SHAEF (Supreme Headquarters Allied Expeditionary Force) which was established at **Versailles** early in October 1944. ² Tedder's task was far from easy but he possessed unrivalled experience of close-support

operations, and this, together with his deft handling of both men and situations, proved of inestimable value to the Allied cause.

Massive heavy bomber attacks at critical times in the land battle



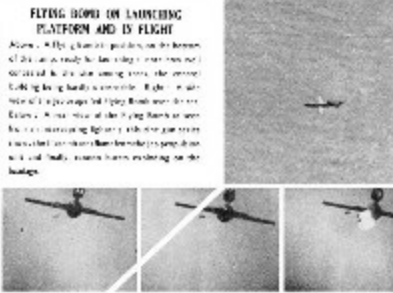
Rocket-firing Typhoons at the Falaise Gap – from a painting by Frank Wootton

Rocket-firing Typhoons at the Falaise Gap – from a painting by Frank Wootton



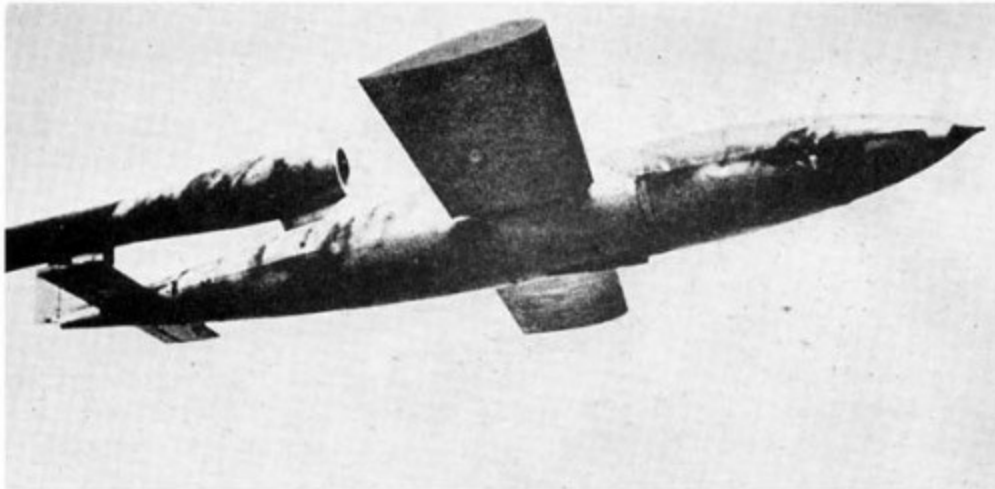
German transport
after the stampede
through the Falaise
Gap

German transport after the stampede through the Falaise Gap



FLYING BOMB ON LAUNCHING PLATFORM AND IN FLIGHT

Above: A Flying Bomb in position, on the bottom of the ramp, ready for launching: note how well concealed is the site among trees, the control building being hardly discernable. Right: A side view of the jet-propelled Flying Bomb over the sea. Below: A rear view of the Flying Bomb as seen from an intercepting fighter; this cine gun series shows the intermittent flame from the jet-propulsion unit and finally, cannon bursts exploding on the fuselage.



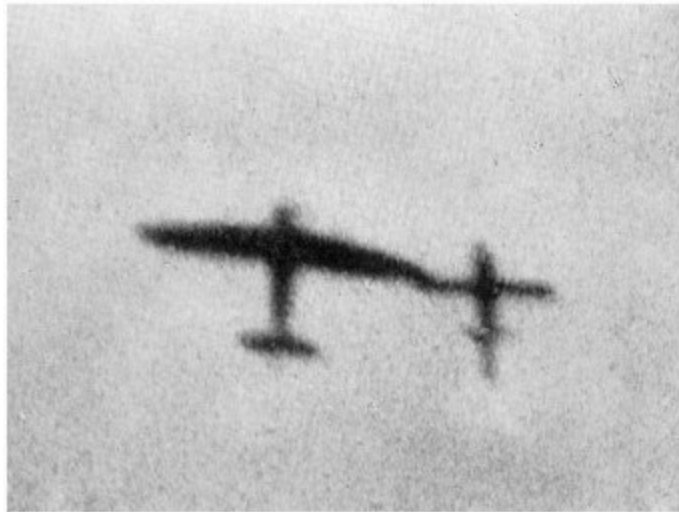
The V-1 flying bomb.

The V-1 flying bomb



A V-1 launching site in the woods near Almelo

A V-1 launching site in the woods near Almelo



A Spitfire tips over a flying bomb

A Spitfire tips over a flying bomb

V-2 rocket leaving the firing table



V-2 rocket leaving the firing table



An airfield in Holland, with Spitfires in the snow

An airfield in [Holland](#), with Spitfires in the snow

A Mitchell bomber of the Second Tactical Air Force during an attack on a railway bridge in Holland

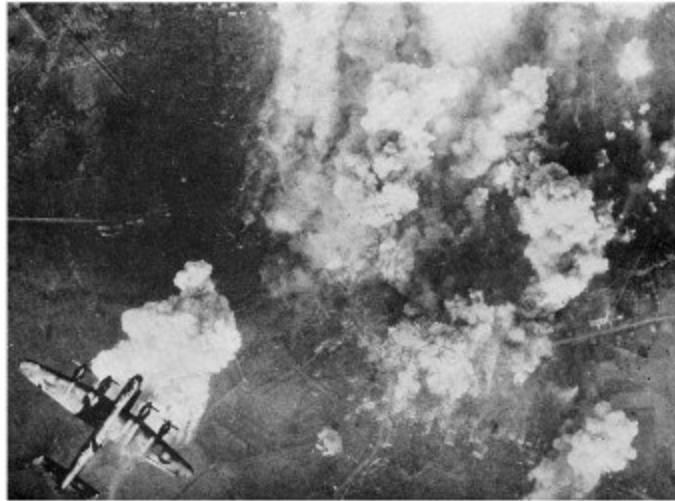


A Mitchell bomber of the Second Tactical Air Force during an attack on a railway bridge in [Holland](#)



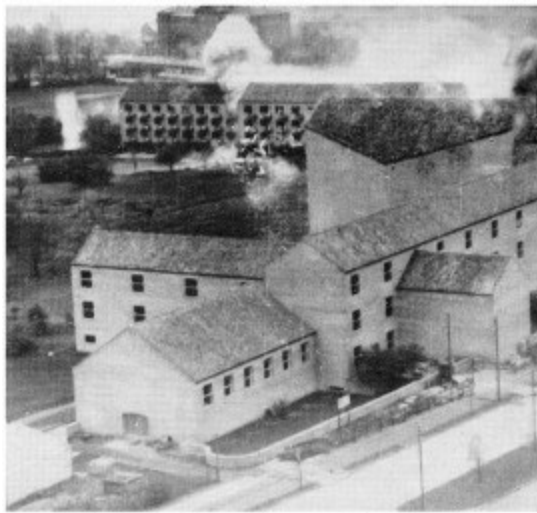
Servicing a Spitfire fighter on a Belgian airfield during the winter of 1944

Servicing a Spitfire fighter on a Belgian airfield during the winter of 1944



Bomber Command support for the advance to the Rhine – a Lancaster over Heinsburg

Bomber Command support for the advance to the Rhine – a Lancaster over Heinsburg



Low level attack on Gestapo headquarters at Aarhus in Denmark on 31 October 1944 (see page 363)

Low-level attack on Gestapo headquarters at Aarhus in Denmark on 31 October 1944 (see page 363)



The airborne landing near Arnhem on 17 September 1944

The airborne landing near Arnhem on 17 September 1944



Brunswick burns on 15 October 1944

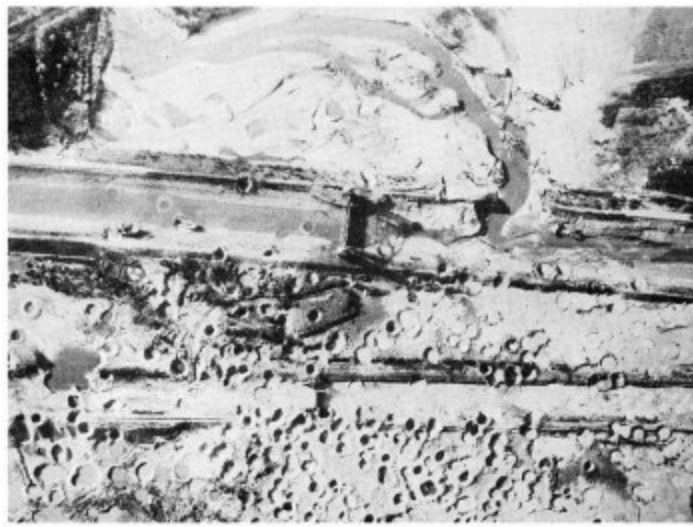
Brunswick burns on 15 October 1944

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Pathfinder target indicators over Pforzheim on 24 February 1945

Pathfinder target indicators over Pforzheim on 24 February 1945



Destruction of the Dortmund-Ems Canal

Destruction of the Dortmund-Ems Canal

The *Tirpitz* capsized at Tromso



The *Tirpitz* capsized at Tromso



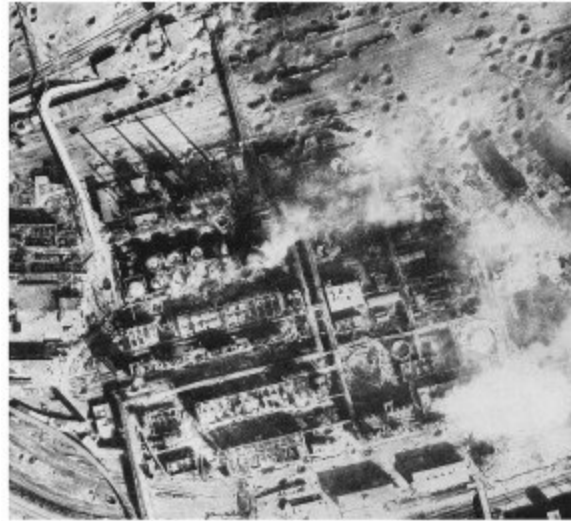
Halifax attacking a synthetic oil plant in the Ruhr

Halifax attacking a synthetic oil plant in the Ruhr

A machine-tool shop wrecked in Dusseldorf



A machine-tool shop wrecked in Dusseldorf



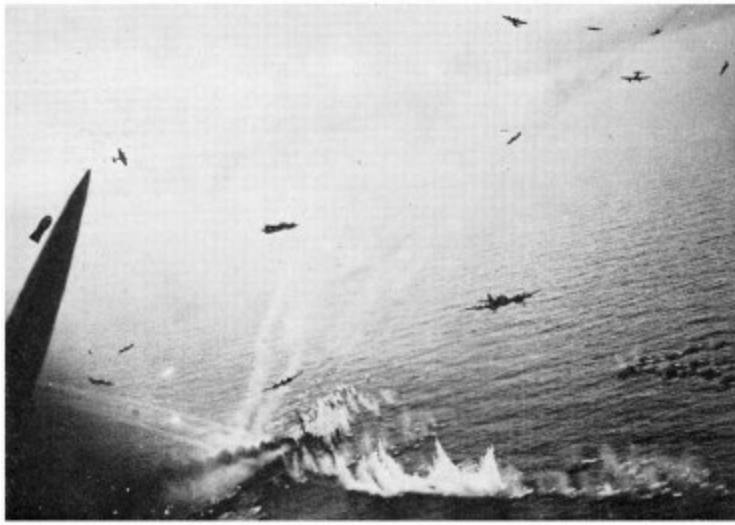
Gutted buildings of a synthetic oil plant at Bohlen

Gutted buildings of a synthetic oil plant at Bohlen



The heart of Berlin, May 1945

The heart of Berlin, May 1945



A strike against enemy shipping by Beaufighters of Coastal Command

A strike against enemy shipping by Beaufighters of Coastal Command

Intense flak protects an enemy convoy in the Den Halder Roads



Intense flak protects an enemy convoy in the Den Halder Roads



Attacking cargo ships in a Norwegian fiord

Attacking cargo ships in a Norwegian fiord



Bomb damage in a U-boat pen at Brest

Bomb damage in a U-boat pen at Brest

¹ The attack was launched at dawn by some 750 fighter-bombers and fell mainly upon the congested British airfields in **Belgium**. It achieved almost complete surprise and in low-level machine-gun attacks 155 Allied aircraft were destroyed and a further 135 damaged. Anti-aircraft guns and Allied fighters already in the air or taking off in pursuit succeeded in destroying 193 German machines. The Germans could ill afford such losses whereas the Allies, although they received a rude shock, had adequate replacements available and their operations were not seriously affected. On the actual day of the attack 2nd TAF alone flew 1084 sorties.

² A reorganisation of command, involving the absorption of Leigh-Mallory's AEAFF headquarters, had brought army and air staffs together at **Versailles**. Leigh-Mallory was appointed to command the Allied Air Forces in SE Asia but, while flying to take up this post, his aircraft crashed in the mountains near Grenoble and all on board were killed.

continued to be a prominent feature of Allied air operations. Indeed, such was the extent to which the army had come to rely upon heavy bomber support that there was, as Leigh-Mallory puts it, 'danger of treating the heavy bomber as merely a component part of Corps artillery thrown in to add some fire support.'¹ It must be remembered that the

bombing had to be laid on to suit the army plan and was sometimes delayed or postponed because the army could not always be ready to attack at the agreed time or because of unfavourable weather over the target. Bad conditions over the army area sometimes coincided with good weather over **Germany**. Because the heavy bombers had been committed to, and were standing by for, attacks on the battle front, opportunities for using them against vital industrial targets in **Germany** were lost. That the strategic bomber forces were still able to achieve the almost complete breakdown of the German economy while contributing so much to direct support of the Allied armies, is a remarkable tribute to their power and efficiency at this stage of the war.

Royal Air Force Bomber Command made over ninety attacks against targets on or near the battlefield during the advance from the Seine to the Rhine. First came the assault on the German strong-holds at Boulogne, Calais, Le Havre, and **Brest**. Within the space of a month some 25,000 tons of bombs fell on these targets and, in spite of **Hitler's** orders that these ports were to be 'defended to the last man', they fell with remarkable rapidity. At Boulogne a single raid by 762 aircraft led to the surrender of the town a few days later, together with eight thousand prisoners. Calais also fell quickly after a series of attacks in which 1637 aircraft dropped nearly eight thousand tons of bombs within five days. But the most spectacular victory of all was the reduction of Le Havre where there was a particularly strong garrison of picked troops. During the first week of September their defences were subjected to seven attacks; in a single daylight raid no fewer than 5000 tons of bombs were hurled into one small area. The town was captured on 12 September with relatively few British casualties and some 11,000 prisoners were taken. After Bomber Command's onslaught organised resistance had become impossible. The bitter defence of **Brest** continued until 19 September, when it finally surrendered to American troops after heavy attacks by both British and American bombers.

¹ Leigh-Mallory was particularly critical of the large effort devoted to bombing the Channel ports during September 1944.

In a subsequent report he declared, 'I feel that in the broad view this bombing effort would have been more profitably directed against targets inside [Germany](#), particularly as the disorganisation of the retreating army was most acute at this time. I should have been happier to see it used against focal points in the communication system behind the enemy frontier, in an effort to delay the movement of reinforcements with which the enemy succeeded, in mid-September, in stabilising a line along the Rhine and Moselle.'

Bomber Command now swung north to help open the approaches to Antwerp. The real key to Antwerp was [Walcheren](#). This island fortress, about nine miles in length and about the same distance in breadth, had one weakness – it was almost entirely below sea level. Bomber Command was requested to breach the protecting sea wall to inundate the powerful inland batteries and thus open the way for amphibious assault across the Scheldt. Operations began in daylight on 3 October when eight waves of thirty Lancasters attacked Westkapelle, the most western promontory of the island. Here the sea wall was more than 200 feet thick at its base, tapering upwards to a thickness of 60 feet at the top, but a breach was quickly made and water poured through, swamping four batteries and threatening seven others as it spread over the island. A small force of Lancasters following up with 12,000-pound 'Tallboy' bombs was able to return without bombing and the operation earned Montgomery's praise as one of 'truly magnificent accuracy.' In subsequent attacks the British bombers cut the wall east and west of Flushing on the south side of the island and at Veere on the eastern side. By the end of October Bomber Command had flown a total of 3200 sorties and dropped over 10,000 tons of bombs on the sea walls, gun batteries, and enemy strongpoints. The batteries were difficult targets and the weather was frequently atrocious, but crews did their best and their attacks were certainly a great help to the land and sea forces in the final clearance of the Scheldt estuary.

During the autumn and winter months substantial support was given to the Allied armies fighting their way towards the Rhine. On 7 October

seven hundred Lancasters and Halifaxes attacked the towns of Cleve and Emmerich, south-east of Nijmegen on the flank of the British Second Army. There was tremendous destruction at both targets. The same day Lancasters of No. **617 Squadron**, using 'Tallboys', broke the **Kembs Dam** on the Upper Rhine, north of Basle; this attack was made at the request of the Americans, who feared the Germans would open the sluice gates to let loose a great flood of water when their troops attempted to cross the river. In mid-November Bomber Command gave further assistance to the United States First and Ninth Armies in their advance against German positions on the line of the River Roer. In preparation for the ground attack, 1130 British aircraft bombed the towns of Duren, Julich, and Heinsburg just behind the front in order to disrupt communications and destroy enemy troop concentrations, stores, and supply depots. All three towns were practically wiped out.

When the Germans counter-attacked in the Ardennes RAF bombers operated intensively over and behind the battle area. On 26 December, at a critical point in the fighting, 300 Lancasters and Halifaxes bombed the important road centre of St. Vith, completely blocking it with rubble and seriously hindering enemy movement forward; a few days later an attack on German concentrations at Houffalize inflicted severe losses. Behind the front, rail targets at Bonn, Coblenz, Munchen-Gladbach, Rheydt, and Trier were all heavily bombed; in the last week of December British crews dropped nearly 13,000 tons of bombs on such objectives. After the war German Minister Speer declared: 'Transport difficulties were decisive in causing the swift breakdown of the Ardennes offensive – the most advanced railheads of the Reichsbahn were withdrawn further and further back during the offensive owing to the continuous air attacks.'

In the subsequent fighting west of the Rhine, Bomber Command gave further demonstrations of its striking power in support of the armies. The heavy raids on Cleve, Goch, and Wesel were particularly effective in opening the way for assault by the British and Canadian armies; attacks on bridges, strongpoints, and key communication

centres also helped to speed the advance.

No. 75 NZ Lancaster Squadron contributed its full share to Bomber Command's attacks in support of the ground forces. During operations against the Channel ports in September, crews operated on eight occasions. For the one major attack on Boulogne fourteen Lancasters were sent from Mepal; in three attacks on Calais there were fifty-three sorties, and against Le Havre ninety-nine sorties were flown on four missions within five days. These raids were completed without incident except for one machine which crashed on return after two of its engines had been knocked out by flak over Boulogne.

In October No. 75 flew five army support missions, four of them against targets at **Walcheren** Island. Twenty-one crews took part in the big raid which breached the sea wall at Westkapelle when, according to the squadron diary, 'some crews had to make two or three attempts owing to low cloud,' but 'the bombing was good and some flooding was seen.' The remainder of the squadron's effort was directed against gun batteries at Flushing and Westkapelle. On 16 November twenty-five New Zealand bombers took part in the bombing attacks which preceded the American offensive in the area of Heinsburg. The squadron record says: 'All crews were successful in bombing the town which was identified visually. As aircraft left, the whole area was covered by a thick pall of smoke. Flak fairly intense but only two aircraft received minor damage.'

During the German offensive and Allied counter operations in the Ardennes, No. 75 Squadron bombed railway centres and marshalling yards serving enemy troops. Altogether 182 sorties were flown for the loss of two aircraft. On 21 December twenty Lancasters went to Trier; two days later a further twenty-one sorties were made against this target. In the last five days of 1944 New Zealand crews bombed railway facilities at Rheydt, **Cologne**, Coblenz, and Vohwinkel. During the evening of 1 January Vohwinkel was again attacked; raids on Neuss and **Krefeld** followed within the next ten days, and on the 13th the squadron was represented in the first of the two attacks which devastated the marshalling yards at Saarbrücken.

After the Ardennes campaign the main targets for the Lancasters were communications and oil centres in **Germany**, but in March they returned to the battle area to make a series of attacks on bridges and strongpoints near the proposed bridgehead across the Rhine. No. 75's contribution was substantial. For example, in Bomber Command's four attacks on Wesel, three of them by day, New Zealand crews flew a total of seventy-one sorties. All were completed without major incident.

Spectacular and extensive though they were, these operations over the battlefield by the heavy bombers were necessarily intermittent since their main task had long been to strike ahead of the armies into **Germany** itself. The main burden of day-to-day support was therefore borne by the Allied fighter and medium-bomber squadrons with their constant patrols against ground targets, protection of forward areas from enemy air attacks, fighter escort, and such routine but very necessary tasks as visual, photo and weather reconnaissance. It was in this role that the **RAF's Second Tactical Air Force** did magnificent work.

Second Tactical Air Force had four main sections: No. **83 Group**, a force of fighters, fighter-bombers, and reconnaissance aircraft assigned to support Second British Army; No. **84 Group**, a similar force which had the task of helping First Canadian Army; No. 85 Group, a base defence formation operating fighters and night fighters; and finally, the veteran **RAF No. 2 Group**, a day and night medium-bomber force which covered the whole of 21 Army Group's front.

As the campaign progressed tremendous efforts were demanded of the ground, engineering, and supply staffs in order to keep these forces operating as far forward as possible, thereby increasing their range and endurance over the front. The initial transfer of some eighty squadrons and their equipment to the Continent was in itself a major achievement. Later, with the need for forward deployment it became necessary to build airfields from virgin ground as well as to reconstruct and repair existing bases, yet during the winter months, when the difficulties of supply and maintenance were increased by heavy rains, frost, and snow, relatively

few airfields were out of action, and supplies continued to come forward in quantity.

An outstanding feature of 2nd TAF organisation was the Mobile Wing in which every necessary detail of a static airfield was duplicated on wheels or under canvas. Briefing rooms, operations rooms, flying-control vans, signals offices, to say nothing of all kinds of heavy workshops, messes, and kitchens, could all take to the road at short notice. Even runways and roadways of steel-wire track could be rolled up in sections and stowed on lorries which rumbled forward in long convoys over the cobblestone roads of **France** and **Belgium**. Thus, like small villages, units could be clustered behind the armies at any given point, with their squadrons flying from captured airfields or landing strips formed by bulldozers.

Four New Zealand squadrons were to operate with **Second Tactical Air Force** during this period: No. 485 Spitfire Squadron and No. 486 Tempest Squadron in day-fighter patrols, No. 487 Mosquito Squadron in medium-bomber attacks, and No. 488 Mosquito Squadron in night patrols over enemy territory. In addition, New Zealanders were to fly with **RAF** formations, some of them as wing and squadron leaders, many more as pilots of Spitfire, Tempest, and Typhoon fighters or as captains, navigators, wireless operators, and gunners with Mitchell and Mosquito bombers.

Three New Zealanders had the distinction of commanding wings in 2nd TAF at this time. Group Captain Jameson was in charge of a mobile wing of Tempest fighters supporting the British Army, Group Captain Scott controlled a wing of rocket-firing Typhoons, or 'Tiffies' as they were known, working with the Canadian Army, and **Group Captain Kippenberger**, who had been with the **RAF** in **France** during 1940, returned to command a three-squadron wing of **Boston** and Mitchell medium bombers. It is also interesting to record that two New Zealanders, Wing Commanders Deere and Yule, were responsible for planning and controlling many of the operations by the fighter wings of

Second Tactical Air Force. As operations officers at the Group Control centres of Nos. 83 and 84 Groups, they kept in touch with the army by means of field communications and teleprinters and liaison officers, so that requests for air support could be promptly and effectively met. At **No. 2 Group HQ** another experienced New Zealand pilot, Wing Commander Magill, continued to be responsible for planning and arranging medium-bomber operations.

The closing days of August 1944 saw 2nd TAF squadrons operating intensively over and ahead of the British armies as they surged towards **Belgium** in pursuit of the enemy. The open rolling country through which the pursuit passed offered few places for concealment and was eminently suitable for low-flying attacks by fighters and fighter-bombers, so that, with pilots now highly experienced in such operations, action against the retreating enemy columns proved singularly successful. As the ground forces advanced squadrons made a series of leapfrog moves across northern **France** to the Dutch frontier; ground staffs and fuel were brought forward by air whenever possible, and on occasion aircraft of the Tactical **Air Force** were themselves used for transport.

By the second week of September Coningham had established his main headquarters at **Amiens**, **No. 83 Group** and its squadrons were in the **Brussels** area, and **No. 84 Group** was in the Pas de Calais with its units at Merville and Lille. Fighters and fighter-bombers of **No. 83 Group** now turned to cover the consolidation of Montgomery's forces in **Belgium** and **Holland** and to harass the enemy as he continued his withdrawal north of Antwerp and Ghent. The crossing places to the islands in the Scheldt estuary provided good targets, and effective attacks were also made on roads and railways along the left bank of the Maas and to the east of the Rhine. Units of **84 Group** were simultaneously employed in helping the Canadians with their attacks on the Channel ports where, using both rocket and bomb, they did particularly good work in softening the enemy defences. Meanwhile, **85 Group's** main headquarters and a fighter operations room had been set

up at Ghent, whereupon the main tasks of its squadrons became the night defence of 21 Army Group area and intruder operations behind the enemy lines. The medium bombers of No. **2 Group**, still operating from bases in England, took part in the assault on the Channel ports and the Scheldt crossings and continued to attack enemy rail and water transport over a wide area both by day and by night.

Montgomery's attempt to force a crossing of the Lower Rhine by capturing the bridges between **Eindhoven** and **Arnhem** began on Sunday, 17 September, and in support of this operation 2nd TAF and Fighter Command made a notable effort. Particularly effective were the cover, escort, anti-flak, and perimeter patrols flown for the airborne operations. On the first day not one British troop-carrying aircraft or glider bound for **Arnhem** was lost by enemy action and the casualties suffered by the Americans were almost entirely due to flak. The next day the aerial convoys which left England were much more vulnerable, for this second lift was made up almost entirely of tugs and gliders – slow, unwieldy combinations incapable of protecting themselves by violent evasive action. Nevertheless, their fighter screen was so vigilant and strong that of the 1200 gliders which took off from England only thirteen were shot down. Fighter-bombers also operated in direct support of the ground forces advancing to link up with the troops dropped from the air, while the mediums bombed the roads and railways along which the Germans would try to bring reinforcements. A notable example of the help afforded by fighter-bombers occurred the first afternoon when elements of Second British Army moving up towards Eindhoven called for assistance against counter-attacking German troops concealed in woods on both sides of the road. ‘Soon,’ says one observer, ‘a constant stream of Typhoons was skimming down almost to the tops of the trees to fire their rockets and machine-guns. Eight Typhoons from **83 Group** arrived every five minutes and as each aircraft made several strikes, it appeared to the onlooker that the stream was continuous. After the first half hour a “cab-rank” of eight Typhoons was on call overhead all the time. As the tanks of the Irish Guards rolled forward up the road the Typhoon pilots were directed to their targets by radio from an armoured vehicle moving

with the column. The white road standing out against the dark pines was easily identified and all the tanks carried orange markings which were plainly visible from the air. The Typhoons were so efficiently directed that they were able to strike at targets within two hundred yards of the tanks.'

During the week of bitter fighting which followed, the medium and fighter-bombers continued to strike at German positions in and around the town of **Arnhem** and at enemy troops moving towards it; fighters escorted the reinforcement and supply-carrying aircraft and maintained cover over the battle area. So effective were the cover patrols that, except for an occasional nuisance raid, all but the most forward ground forces remained free from interference by the **German Air Force**. Unfortunately, however, the weather succeeded where the **Luftwaffe** failed. Not only did it prevent the timely arrival of airborne reinforcements but it also hindered all-out attack from the air against German formations moving in on the flanks of the advance towards **Arnhem**, where British paratroops were under increasing pressure from all sides. The Germans managed to effect a surprisingly rapid concentration of forces to oppose Montgomery's advance and prevent a widening of the corridor sufficiently quickly to reinforce **Arnhem**. As a result it became impossible to hold the town, and during the night of 25 September the remnants of the gallant **British 1st Airborne Division** were withdrawn. Thus the Allies failed to secure the last bridge that would have put them across the Rhine, although after a stern struggle they managed to retain the other crossings. On 27 September British Spitfires completely frustrated a major effort by the **Luftwaffe** to destroy the bridges at Nijmegen; of the 256 aircraft sent by the Germans, forty-six were claimed destroyed. ¹

¹ See map on p. 379

During the autumn fighting in **Holland** and to the west of the Rhine, 2nd TAF continued to operate day and night in support of the British

and Canadian armies. In the Scheldt estuary medium and fighter-bombers kept up a continual pounding of enemy positions and gave direct support in the various stages of the assault on the island of **Walcheren**. Montgomery records how in the final attack on Westkapelle fighter-bombers 'pressed home a determined attack just as the assault troops were about to land and this had a profound effect on the operation at a time when the support craft were suffering heavy casualties.' Second British Army fighting west of the Maas also received valuable assistance in overcoming stubborn enemy rearguard action and counter-attack; a large measure of success attended fighter-bomber attacks against gun emplacements, pillboxes, and other strongpoints in the enemy lines, while the strafing of wooded areas induced the enemy to abandon positions.

Equally effective was the vigorous offensive waged by both medium and fighter-bombers against troop concentrations, supply dumps, road and rail bridges, and transport centres behind the enemy lines. On 12 October, for example, Typhoons attacked the headquarters of General Student, commander of the redoubtable German *First Parachute Army*, situated north-east of Emmerlich, and claimed to have destroyed the centre of the building. Three days later five squadrons of fighter-bombers attacked the headquarters of the German *Fifteenth Army* at Dordrecht, scoring direct hits; some two hundred casualties were reported, including a field marshal and two generals.

The last months of 1944 brought particularly wet and stormy weather which waterlogged airfields and gave poor visibility in the air. Nevertheless, squadrons were quick to take advantage of any break or clearance of the skies and continue their attacks over and beyond the enemy lines. The frequent fighter-bomber operations compelled German road and rail transport to move mainly at night, which gave No. **2 Group**'s roving Mosquitos some excellent targets. One night early in November these aircraft operating over western **Holland** found forty-six trains which they bombed and machine-gunned. By this time all the German trains were strongly defended by anti-aircraft guns, and crews

had to fly in to attack their objectives in the face of withering fire. Moreover, the rapid repairs made by the Germans required frequent visits to the same targets, but there is strong evidence that the continual damage to lines and bridges was now causing considerable embarrassment to the enemy transport system. Further raids also took place against German headquarters in towns and villages, the most notable of which was an attack by thirty-six Typhoons against the **Gestapo** headquarters in **Amsterdam** on 26 November. During this period **Fighter Command** Spitfires and Mustangs also operated frequently over **Belgium** and **Holland** against German airfields and transport targets.

Second Tactical Air Force made a notable contribution to the defeat of the German counter-attack in the Ardennes. During the first week, squadrons flew in particularly difficult weather to provide reconnaissance and to attack the enemy's forward units. Then, as the skies cleared, medium and fighter-bombers operated in strength against his supply columns and road and rail centres. In five days they flew nearly 6000 sorties against such targets. Operations on 29 December were particularly successful; in addition to vigorous action against the **Luftwaffe**, in which thirty-two enemy machines were claimed destroyed, squadrons attacked forty-seven trains and over two hundred vehicles. The ceaseless assault on supplies and communications was, in fact, largely responsible for the collapse of the enemy offensive.

As the broken German wave receded from the Ardennes, **2nd TAF** continued to attack road and rail communications and to harass the retreating enemy columns. Then in the third week of January its squadrons turned to support **Montgomery's** armies in their drive to clear the area between the Rhine and the Meuse. The main features of this operation as far as the ground forces were concerned were the appalling weather in the early stages and the intense opposition of the enemy. In the central and southern sectors mud and slush were indescribable; heavily wooded areas were lacking in roads and tracks and the low-lying meadows were either flooded or saturated. 'The advance,' says **Montgomery**, 'was mainly conducted in various types of amphibious

vehicles.' The aircrews for their part had to contend with poor visibility on many days as well as sodden airfields and makeshift equipment on the ground. Nevertheless, during February 2nd TAF flew a total of 18,520 sorties in close support of the ground fighting and against targets behind the enemy lines. On one clear day towards the end of the month, squadrons operating over a wide area reported attacks on 160 trains, 275 motor vehicles, 80 barges, and on 104 railway lines and bridges.

It was during this period that German jet aircraft ¹ began to have a nuisance effect but frequent attacks and patrols over their bases kept them in check. In spite of indifferent weather and difficulties of servicing and maintenance, 2nd TAF continued to hold mastery of the skies, and by its ever vigilant reconnaissance, close support, and constant attacks against enemy communications and supplies made the task of Montgomery's armies much easier and less costly

¹ Principally the Messerschmitt 262 which had been operating on a small scale as a fighter-bomber and reconnaissance aircraft since September 1944.

in casualties. Early in March, by which time 21 Army Group had reached the Rhine all along its front, 2nd TAF began to prepare the way for the crossing of this last barrier and the final thrust into **Germany**.

Such were the operations in which New Zealand airmen played their part, both in the air and on the ground, with Second Tactical **Air Force**. The contribution was a notable one, and not its least interesting feature was the relatively large number of men who held senior posts.

Foremost among them was that lively personality, Air Marshal Coningham, who was in command of 2nd TAF itself. Coningham deserves to be remembered among the most successful air leaders of the Second World War. He had shown great skill in developing this highly efficient weapon for close collaboration with the ground forces and in its

employment had displayed sound judgment and a fine offensive spirit; indeed, such was the confidence placed in his leadership that, in the Ardennes battle, American tactical squadrons had also been placed under his control, so that during this vital period he was virtually in control of all Allied close-support operations.

The same flair for leadership was shown in the lower formations by such men as Jameson, Scott, and Crawford-Compton. By February 1945 Jameson's wing of Tempest fighters had, since D Day, claimed the destruction of more than 200 enemy aircraft, together with a formidable total of motor vehicles, tanks, railway engines, trucks, and barges. Scott's Typhoon wing also enjoyed great success in its operations, notably in support of the Canadian assault on the Channel ports and during the battles at [Arnhem](#) and in the Scheldt estuary. Crawford-Compton won further distinction flying as leader of a Spitfire wing which included two Free French squadrons; his third squadron – the famous No. 74 led by ‘Sailor’ Malan in the Battle of [Britain](#) – was commanded by Squadron Leader J. C. F. Hayter, who had led the unit in the [Middle East](#) before it returned to take part in the [Normandy](#) campaign.

Other prominent fighter leaders were Wing Commander Mason ¹ and Wing Commander R. L. Spurdle. Mason first led Typhoons under Scott and later a wing of Tempests which, under his aggressive leadership, destroyed twenty-six enemy machines within three months; in December 1944 he led a particularly successful raid on a German headquarters in the Nijmegen area which drew prompt congratulations from the army. Spurdle commanded a Tempest squadron in Jameson's wing until the end of 1944, when he became

¹ Wing Commander H. M. Mason, DFC; born [Napier](#), 30 Sep 1921; motor engineer; joined [RNZAF](#) May 1941; commanded No. 183 Sqdn, 1945; Wing Leader No. 135 Wing, 1945.

leader of a reconnaissance wing attached to the Canadian Army. He

was succeeded by Squadron Leader Mackie ¹ who had previously led Spitfires in the **Desert Air Force**; by February 1945 Mackie was credited with the destruction of eighteen enemy aircraft.

Squadron Leaders E. T. Brough, J. R. Cullen, M. R. D. Hume, R. M. Mathieson, A. H. Smith, H. N. Sweetman, and K. F. Thiele also led fighter squadrons in 2nd TAF with notable success during this period, Sweetman and Thiele both enjoying the distinction of commanding the famous No. 3 Tempest Squadron.

Thiele had a remarkable career. After two very eventful bomber tours and a period with RAF Ferry Command, he had been transferred to fighters at his own request and by the end of the war had won the Distinguished Flying Cross three times; he had also been made a Companion of the Distinguished Service Order. With No. 3 Squadron, his luck held until one day early in February 1945 when, while attacking a train near **Dortmund**, his Tempest was hit by flak, the engine failed, and fire broke out in the cockpit. Badly burnt about the face, eyes, and arms, Thiele baled out from about 2000 feet and landed near the battery which had shot him down. He was captured and roughly handled, but a month later he succeeded in making his way back to the Allied lines.

Many New Zealand fighter pilots achieved a fine record of service with **RAF** squadrons, notably Flight Lieutenant Mart, ² prominent with Tempests, Flight Lieutenant F. B. Lawless, who led rocket-firing Typhoons with great success during the Ardennes battle, and Flight Lieutenant L. G. Mason, who flew Spitfires in attacks on barges, trains, and motor vehicles.

Flight Lieutenant G. F. Reed did good work as captain of Mosquito night fighters; on successive nights in March he destroyed a Junkers 188 and a Heinkel 177. Flying Officer Wetere, ³ on his second tour of operations, and Flying Officer Milich ⁴ were Maori airmen to win distinction for their work with Typhoon squadrons; Milich lost his life during a low-level attack on an enemy headquarters in **Holland**.

With the day and night bombers of No. 2 Group, Flying Officer Freeman,⁵ a Mitchell pilot, Flying Officer Martin,⁶ who flew

¹ Wing Commander E. D. Mackie, DSO, DFC and bar, DFC (US); born **Waihi**, 31 Oct 1917; joined **RNZAF** Jan 1941; commanded No. 92 Sqdn, **Middle East**, 1943–44; commanded No. 80 Sqdn and Wing Leader No. **122 Wing**, 1945.

² Flight Lieutenant W. G. Mart, DFC; born Bournemouth, 11 Oct 1919; clerk; joined **RNZAF** Jul 1940.

³ Flight Lieutenant J. H. Wetere, DFC; born Hoe-O-Tainui, 16 Aug 1918; civil servant; joined **RNZAF** Nov 1940.

⁴ Flying Officer M. A. Milich, DFC; born Waiharara, 10 Apr 1921; driver; joined **RNZAF** Aug 1942; killed on air operations, 8 Dec 1944.

⁵ Flight Lieutenant N. D. Freeman, DFC; born Dunedin, 19 Dec 1917; advertising salesman; joined **RNZAF** May 1941.

⁶ Flying Officer C. S. Martin, DFC; born **Christchurch**, 12 Mar 1920; clerk; joined **RNZAF** Jun 1942.

Mosquitos, Flight Lieutenant G. A. H. Field and Flight Lieutenant Wasey,¹ Mitchell navigators, and Flying Officers Barry² and Ingram,³ who navigated Mosquitos, all earned particular distinction. Freeman, now on his second tour – his first had been flown in the **Mediterranean** where on one occasion he had shadowed the Italian battle fleet for over eight hours – frequently led formations against heavily defended targets. Martin flew many successful night sorties against road, rail, and river traffic and was prominent in support of the airborne landings at **Arnhem**. Field frequently flew as leading navigator to his No. **226 Squadron** and on occasion navigated for his wing. By the end of November he had flown over ninety sorties and had twice won

commendation for outstanding work. Also flying with No. 226, Wasey had by January completed no fewer than 120 sorties. Ingram, a veteran navigator who had been with light bombers in **France** during the early days of the war, was now completing his third tour of operations.

* * * * *

The four New Zealand squadrons with Second Tactical Air Force each had a fine record of achievement. No. 485 Spitfire Squadron was the first to operate from the Continent. It crossed to **France** at the end of August 1944 and by the end of the following February had flown more than 1390 sorties from bases in **France**, **Belgium**, and **Holland**. Dive-bombing and strafing attacks in support of the Canadian Army absorbed much of this effort, but pilots also flew many armed reconnaissances over enemy territory and escorted Mitchell, **Boston**, Lancaster, and **Halifax** bombers. For most of this period No. 485 continued to enjoy almost incredibly good fortune in that, from 21 October 1943 until 6 January 1945, not a single casualty was incurred on operations. This was a record unique in 2nd TAF and all the more remarkable in view of the hazardous nature of the squadron's work and the success it achieved.

From mid-September No. 485 was commanded by Squadron Leader Pattison,⁴ a Battle of **Britain** pilot and one of the original members of the squadron. Pattison, now on his third tour of operations, was expert in dive-bombing tactics, and his fine leadership of the New Zealand squadron was subsequently recognised by his admission to the Distinguished Service Order. Towards the end of

¹ Flight Lieutenant W. H. Wasey, DFC; born Thetford, Norfolk, 7 Aug 1921; apprentice; joined **RNZAF** Jun 1941.

² Flying Officer M. A. Barry, DFC; born **Wellington**, 1 May 1919; accounts clerk; joined **RNZAF** Mar 1941.

³ Flight Lieutenant N. J. Ingram, DFC, DFM; born

Wellington, 17 Nov 1918; accountant; joined RAF Aug 1938; transferred RNZAF Jan 1944.

⁴ Squadron Leader J. G. Pattison, DSO, DFC; born Waipawa, 27 Jan 1917; farmer; joined RNZAF Oct 1939; commanded No. 485 (NZ) Sqdn, 1944–45.

February Pattison was succeeded by Squadron Leader Macdonald ¹ who, after service in the Pacific, had flown as a flight commander of No. 222 Spitfire Squadron which operated in the same wing as the New Zealanders. Flight Lieutenants L. S. Black, Browne, ² Hardy, ³ A. B. Stead, and L. S. McQ. White served as flight commanders and gained distinction for their work with the squadron during this period. Black was on his second tour with No. 485 – altogether he served with the squadron for over two years; Browne and Hardy had completed successful tours in North Africa; in 1942 Stead had been prominent in the defence of Malta and in long-range dive-bombing missions from the island; while White had returned to operations after evading capture in France. Flight Lieutenant J. F. P. Yeatman, Flying Officers D. F. Clarke, ⁴ and R. M. Clarke ⁵ were other pilots to achieve fine records. A veteran Maori fighter pilot with the squadron was Flight Lieutenant Bennett, ⁶ who had flown with the Desert Air Force from El Alamein to Italy.

During the autumn of 1944 the New Zealand Spitfires flew from Merville airfield to assist Canadian operations against the Channel ports and in the Scheldt estuary. The first mission was flown on 13 September when No. 485 was one of three squadrons sent to attack strongly held positions three miles south of Boulogne. As the Spitfires left the area pilots saw enemy troops out in the open with their hands high above their heads. During the following weeks there were further spectacular attacks; direct hits were scored on a gun battery at Dunkirk, defensive positions at Boulogne were effectively strafed, and eleven direct hits scored on a gun battery south-west of Calais.

Early in October Spitfires led by Flight Lieutenant Hardy took part in

a most successful mission which broke up German preparations for a local counter-attack against British and Canadian troops on the border of **Belgium** and **Holland**. The target, a wood about five miles south of Tilburg where enemy infantry were assembling, was indicated by red smoke markers and the New Zealand pilots twice swept the area with cannon and machine guns, pressing home their attacks despite strong flak opposition. One Spitfire was hit, but

¹ Squadron Leader K. J. Macdonald, DFC; born Dunedin, 30 Nov 1916; P & T employee; joined **RNZAF** Apr 1940; commanded No. 485 (NZ) Sqdn, 1945.

² Squadron Leader S. F. Browne, DFC and bar; born **Wellington**, 20 Oct 1919; medica student; joined **RNZAF** Mar 1941; commanded No. 485 (NZ) Sqdn, 1945.

³ Flight Lieutenant O. L. Hardy, DFC and bar; born **Auckland**, 31 Jul 1922; mechanica engineer; joined **RNZAF** Mar 1941.

⁴ Flying Officer D. F. Clarke, DFC; born **Te Kuiti**, 3 Aug 1921; farmer; joined **RNZAF** Dec 1941.

⁵ Flying Officer R. M. Clarke, DFC; born Matamata, 25 Apr 1921; clerk; joined **RNZAF** Jan 1942.

⁶ Flight Lieutenant E. T. K. Bennett; born Hastings, 16 Mar 1920; labourer; joined **RNZAF** Mar 1941.

the pilot, Flight Lieutenant King, ¹ succeeded in making a forced landing just inside the Allied lines. For the remainder of the month No. 485 was particularly active in dive-bombing and strafing enemy pockets of resistance in the Breskens area; there were also several successful attacks on gun positions and fortified buildings in the vicinity of Oostburg just over the Dutch border. Pilots were quick to seize every

opportunity for harassing the enemy as, for example, on 20 October, when the squadron was returning from a dive-bombing attack near Breskens and White sighted and blew up an ammunition lorry parked in an orchard. He then led his section down to strafe a nearby dump, and ammunition was seen 'hurtling about for twenty minutes afterwards.'

No. 485 Squadron took part in the reduction of **Walcheren** and the final clearance of the Scheldt estuary. Twenty-four sorties were flown to cover assault forces as they approached the island on 1 November, and in the following three days dive-bombing and strafing attacks were made against enemy positions stubbornly holding out. The squadron then returned to England for nearly three weeks for an air firing course, but before the end of the month was back in action. In December No. 485 played its part in the air operations which did so much to repulse the German thrust through the Ardennes. At first, like so many other squadrons, it was handicapped by persistent fog and the generally unfavourable weather; nevertheless, pilots flew sixteen missions in the first critical fortnight, mainly in support of Allied bombers. An interesting diversion from these operations occurred on 26 December when six sorties were flown to intercept midget submarines reported in the Scheldt estuary. One section of two aircraft flown by Flying Officer Kearins ² and Pilot Officer Collect ³ attacked three of these vessels; two were claimed destroyed and a third escaped in a hurried dive.

On New Year's Day, when the Germans made their surprise attack on Allied airfields, No. 485 was among the squadrons unfortunate enough to be caught on the ground; had the airfield at Gilze Rijen not been icebound the Spitfires would have been airborne at the time of the raid. As it was pilots could only fire at the enemy machines with whatever weapons were available and soon a pillar of smoke and flame rose from their own aircraft burning on the ground. That day No. 485 lost thirteen of its Spitfires, but fortunately replacement aircraft were received in a matter of hours and full-scale operations resumed two days later.

¹ Flight Lieutenant J. N. King; born **Tauranga**, 13 Aug 1921;

orchard worker; joined **RNZAF** May 1941.

² Flight Lieutenant T. S. F. Kearins; Croix de Guerre (Fr.); born **Dannevirke**, 15 Nov 1921; farmer; joined **RNZAF** Nov 1940.

³ Flying Officer M. A. Collett; born Waipawa, 25 Oct 1923; civil servant; joined **RNZAF** Apr 1942.

During the early weeks of 1945, when the Allied armies were fighting their way forward to the Rhine, No. 485 was mainly employed in armed reconnaissance over forward areas. It was during one such mission on 6 January that the squadron's long spell of good fortune was broken. On patrol that afternoon Flight Lieutenant Stead took his section down to attack a train, and as the locomotive blew up his Spitfire and that of Pilot Officer Matthews ¹ were hit by flying debris; Stead was killed while attempting a crash-landing and Matthews fatally injured when he had to bale out at low level.

On 17 January twelve Spitfires made an outstanding attack against the main dyke on the shore of the River Meuse, scoring nine direct hits on the dyke and a direct hit on a nearby building. The following weeks saw further attacks on rail and road transport. During one of them five petrol lorries were blown up and five more vehicles destroyed or damaged; on another occasion twenty-three motor vehicles were shot up. By the time of the Rhine crossing the squadron scoreboard showed a formidable total of motor vehicles, petrol tankers, barges, and railway targets destroyed or damaged in addition to the enemy aircraft attacked both in the air and on the ground.

No. 486 New Zealand Tempest Squadron, following its successful patrols against the flying bomb, flew to the Continent towards the end of September 1944. There it joined Group Captain Jameson's famous No. **122 Wing**, which now moved forward to Volkel airfield in **Holland**. When No. 486 Squadron arrived at Volkel it was allotted a site which, as the squadron diarist puts it, 'consisted of the ruins of hangars and lot of

mud.' However, the site was soon cleared, the aircraft began operating, and from the debris of the blown-up enemy hangars there arose what came to be known as 'Shanty Town' – a most wonderful collection of odd buildings but all snugly built and equipped with bunks and stoves, the latter acquired in the usual way. While operating from Volkel the Tempests were often fired on in the circuit by German ground forces firmly entrenched in the nearby Reichwald forest. There were also intermittent attacks on the airfield by Me262 jet fighters carrying anti-personnel bombs, but the position was later reversed and pilots were able to destroy several Me262s.

During the advance to the Rhine No. 486's main task was to fly armed reconnaissances in support of Montgomery's Second British Army, and by the end of February 1945 pilots had flown 1427 sorties and claimed twenty enemy aircraft destroyed, three probably destroyed, and sixteen damaged. In addition, a substantial total of

¹ Pilot Officer F. C. Matthews; born [Palmerston North](#), 1 Mar 1924; civil servant; joined [RNZAF](#) Sep 1942; killed on air operations, 6 Jan 1945.

enemy motor vehicles, tanks, locomotives, barges, and railway trucks was added to the scoreboard. These successes were achieved for the loss of eight pilots.

Squadron Leader J. H. Iremonger continued in command until mid-December 1944, when he was relieved by Squadron Leader A. E. Umbers. Two months later Umbers was killed when his machine crashed in flames after being hit by a direct burst of flak in the Meppen area. Flight Lieutenant K. G. Taylor-Cannon, one of the flight commanders, was then promoted to lead the squadron. Flight Lieutenants W. L. Miller, Powell, ¹ J. H. Stafford, and S. S. Williams served the squadron well as flight commanders during this period.

The Battle of the Ardennes was a particularly successful period for

No. 486 with thirteen enemy aircraft destroyed, two probably destroyed, and eight damaged within a month. It was while eight Tempests were over the Julich-Malmedy area on Christmas Day that the first Me262 jet aircraft definitely destroyed by the squadron was shared by Flying Officers Bremner ² and Stafford. Two days later, during an armed reconnaissance in the vicinity of **Munster**, a similar formation 'bounced' a mixed force of over forty Me109s and FW190s. A fierce dogfight ensued in which Flight Lieutenant Taylor-Cannon, Flying Officer K. A. Smith, and Flying Officer Short ³ each destroyed a Focke-Wulf 190; Flight Lieutenant E. W. Tanner got an FW190 and probably destroyed an Me109. Flying Officer Hall ⁴ damaged an Me109 and forced it to break off its attack on Stafford. Hall failed to return and was last seen in combat with another Messerschmitt.

When the **Luftwaffe** attacked Allied airfields on 1 January 1945, No. 486 Squadron was in the air with Jameson's wing at the time. Intercepting some of the raiders as they were making for their bases, the wing destroyed eight enemy machines, probably destroyed another, and damaged four. Of these the New Zealanders claimed four FW190s and one Me109 destroyed, one FW190 probably destroyed, and two Me109s damaged.

Umbers was leading the squadron on a reconnaissance to **Hanover** when they were diverted to **Eindhoven**. A few moments later they sighted a formation of enemy fighters. Umbers led the attack and shot down two of them inside a minute. 'I opened fire and observed strikes on the wing roots and fuselage,' he later reported. 'The 190

¹ Flight Lieutenant N. J. Powell; born **Dargaville**, 21 Apr 1921; butcher; joined **RNZAF** Sep 1941.

² Flying Officer R. D. Bremner, DFC; born **Taihape**, 25 Apr 1921; farmer; joined **RNZAF** May 1942.

³ Flying Officer S. J. Short; born Cardiff, Wales, 10 May

1923; sewing-machine mechanic; joined **RNZAF** Jan 1942.

⁴ Flying Officer B. M. Hall; born **Dannevirke**, 21 Jan 1922; farmer; joined **RNZAF** Mar 1942; killed on air operations, 27 Dec 1944.

streamed smoke and slowed up very suddenly but I maintained fire until the last moment then pulled up violently to avoid him. As I climbed I saw the 190 hit the ground, skid along and burst into flames.' He then saw a lone Me109 attempting to join a formation of twenty flying above. As he went into the attack the Messerschmitt broke violently to starboard but Umbers followed and, after a short burst, saw it fall to the ground and explode. Flying Officer Trott ¹ and Pilot Officers G. J. Hooper, C. J. Sheddan, and Steedman ² each reported successful actions. Trott had attacked and damaged a Messerschmitt when he in turn was engaged by three more of them. Trott eluded his assailants and made for Volkel, arriving just in time to pounce on a Focke-Wulf and send it down in full view of those on the airfield who had been strafed by this machine. Hooper shot down a Focke-Wulf and damaged a Messerschmitt; having expended all his ammunition, he was returning to base when he sighted three FW190s. He closed and made several dummy attacks, causing them to fly in a tight circle, and called Sheddan and Steedman to the scene. Sheddan then destroyed one of the enemy aircraft and Steedman probably destroyed another.

During the early months of 1945 the New Zealand Tempests, fitted with long-range drop tanks, ranged far ahead of the armies seeking opportunities to cut the enemy's supply lines. Such places as Rheine, Osnabruck, **Munster**, Minden, Bielefeld, **Paderborn**, and **Hanover** became well known to pilots, and on one occasion they even penetrated to within fifty miles of **Berlin**, attacking **Hamm** marshalling yards on the return flight. On several occasions engines were seen to blow up, and one day pilots had the satisfaction of seeing a whole ammunition train explode in a mass of smoke and flame. These missions, however, were not without their hazards. During one attack on a train near **Arnhem**

Flying Officer Cammock's Tempest was hit by flak; almost at once it burst into flames and crashed into the guards-van to explode on impact. In other low-level attacks Tempests flown by Flying Officer Hart ³ and Hooper were shot down by anti-aircraft fire; both pilots baled out and were captured but Hooper subsequently escaped and after a series of adventures reached the Allied lines.

One further incident deserves to be recorded. It happened in mid-February while the squadron was attacking a train some 15 miles north of the Dummer Lake. Trott was just pulling out after making his attack when his machine was hit by flak from batteries in nearby

¹ Flying Officer W. A. L. Trott, DFC; born [Wellington](#), 4 Nov 1923; clerk; joined [RNZAF](#) Dec 1941; killed in flying accident, 17 Feb 1955.

² Flying Officer J. Steedman; born [Whangarei](#), 18 Aug 1922; farmhand; joined [RNZAF](#) Apr 1942.

³ Flight Lieutenant W. A. Hart, DFC; born [Wellington](#), 24 Jun 1921; insurance clerk; joined [RNZAF](#) May 1942; p.w. 7 Oct 1944.

fields and woods. He was severely wounded by a piece of shrapnel which struck him in the left groin, but he flew the 150 miles back to base, made a good landing, and taxied off the runway before he finally collapsed.

No. 487 Mosquito Squadron won a high reputation for operational efficiency among [RAF](#) medium-bomber units and during the advance to the Rhine crews flew some 670 sorties, mainly against enemy movement by night. The squadron continued to operate from an airfield near Portsmouth until early in February 1945, then it moved to the Continent to be based at Rosieres en Santerre, about 25 miles east of [Amiens](#).

Wing Commander Porteous, ¹ an experienced English pilot who had won distinction for his work in North Africa as a 'tank buster', took over command from Wing Commander I. S. Smith at the end of August and remained in charge until mid-December. He was then succeeded by Wing Commander R. W. Baker, who had earlier led the New Zealand Spitfire Squadron. Baker was lost over **Germany** towards the end of February, whereupon Squadron Leader Denton, ² one of the flight commanders, was promoted to lead the squadron. Other flight commanders during this period were Squadron Leader W. J. Runciman, a veteran bomber pilot, Squadron Leader Young, ³ who at the outbreak of war was serving with a bomber squadron at **Aden**, Squadron Leader Medwin, ⁴ who had flown on operations from **Malta**, and Squadron Leader Kemp, ⁵ with two previous tours in the **Middle East** on Beaufighters. Among the pilots, Flight Lieutenant Thorpe, ⁶ Flying Officer Gilbertson, ⁷ and Warrant Officer Cullum ⁸ achieved fine records with the squadron during these months.

With the Allied advance, crews found their nightly patrols greatly extended. They now ranged far and wide over **Holland** and well into **Germany** to attack movement on railways, roads, canals, and other targets of opportunity. In October many sorties were flown against the docks and shipping at Flushing and targets in the

¹ Group Captain R. C. Porteous, DSO; born Ootacamund, Nilgiri Hills, **India**; joined **RAF** 1936; killed in flying accident, 9 Jul 1953.

² Wing Commander F. H. Denton, DFC and bar; born **Greymouth**, 23 Apr 1917; joined **RAF** Jan 1940; commanded No. 487 (NZ) Sqdn, 1945.

³ Squadron Leader R. C. Young, DFC; born Kakanui, 22 Oct 1913; joined **RAF** 1937; transferred **RNZAF** Jan 1944.

⁴ Squadron Leader I. G. Medwin; born Ulverstone, **Tasmania**, 13 Jun 1917; salesman; joined **RNZAF** Jan 1941; killed on air

operations, 6 Apr 1945.

⁵ Wing Commander W. P. Kemp, DSO, DFC; born Russell, 1 Mar 1915; abattoir assistant; joined **RNZAF** Sep 1940; commanded No. 487 (NZ) Sqdn, 1945.

⁶ Squadron Leader G. D. Thorpe, DFC; born Eltham, 28 Jul 1917; commercial traveller; joined **RNZAF** Jul 1940.

⁷ Flying Officer L. D. Gilbertson, DFC; born **Waipukurau**, 2 Jul 1922; shepherd; joined **RNZAF** Feb 1942; p.w. 22 Feb 1945.

⁸ Flying Officer R. Cullum, DFC; born **Petone**, 19 Feb 1922; labourer; joined **RNZAF** Dec 1941.

Breskens area. One night early in the month ten Mosquitos operated over the Dutch islands with considerable success. Ships, barges, a ferry terminus, and a factory were attacked and of the fifteen trains bombed or strafed the majority were left burning. However, the highlight of the squadron's work in October 1944 was the daylight precision attack on the **Gestapo headquarters at Aarhus in **Denmark**.**

News had been received in **London** that the Resistance Movement in Jutland was seriously threatened by the activities of the **Gestapo** and the destruction of enemy records housed in two college buildings of Aarhus University was essential if the movement was to continue its work. Twenty-five Mosquitos from No. 140 Wing, No. **2 Group**, including nine from No. 487 Squadron, were selected for this difficult task, which involved a round trip of 1235 miles, more than half of it over the sea. Escorted by eight Mustangs of No. **12 Group**, they set course for **Denmark** on the morning of 31 October. Squadron Leader Denton, Flight Lieutenants Thorpe, Kemp, and Anderson ¹ each piloted Mosquitos of the New Zealand squadron and Flying Officer Coe ² flew as navigator; Flight Lieutenant Henderson ³ and Warrant Officer Hawke ⁴ formed a crew with No. 464 Australian Squadron and Flight Sergeant Morrison ⁵ navigated

another aircraft from this unit. A two-hour flight across the North Sea brought the force to Aarhus shortly before noon, and as they swept in at tree-top height crews found the area covered by low cloud. Visibility was so poor that many lights were on in the town. The attack achieved complete surprise and it was some time before anti-aircraft guns in the harbour area burst into life. In eleven minutes the two buildings were destroyed, along with the **Gestapo** records. Nearby barracks were also hit and more than one hundred Germans were reported killed, among them the **Gestapo** chief of Jutland. This brilliant operation was completed for the loss of one Mosquito from No. 487 Squadron; damaged by bomb bursts, this aircraft force-landed in **Sweden** but the crew were later flown back to England. Several other aircraft were damaged by flak, and Denton went in so low that his machine hit one of the buildings and lost its tail wheel and the port half of the tail plane. Nevertheless, he flew back and landed safely.

During the final stages of the fighting to clear the Germans from the Scheldt estuary and then from the west bank of the Meuse,

¹ Flight Lieutenant A. S. Anderson; born **Sydney**, 19 Oct 1911; hatter; joined **RNZAF** Dec 1939; killed on air operations, 19 Nov 1944.

² Flying Officer A. J. Coe; born **Christchurch**, 23 Jan 1920; labourer; joined **RNZAF** Nov 1940; killed on air operations, 6 Apr 1945.

³ Flight Lieutenant W. C. Henderson, DFC; born Milton, 13 Apr 1918; agricultural labourer; joined **RNZAF** Sep 1941.

⁴ Warrant Officer R. J. Hawke, DFC; born **Temuka**, 7 Feb 1917; meter reader; joined **RNZAF** Jul 1941.

⁵ Warrant Officer H. V. Morrison; born Dunedin, 11 Feb 1923; railway porter; joined **RNZAF** Jul 1942.

the New Zealanders flew sorties to northern **Holland** and to the Ruhr. Operating singly, each crew was given a set area to patrol some thirty miles behind the enemy front; trains were bombed and strafed and villages used by the enemy as billeting areas and ammunition dumps were successfully attacked. An unusual diversion from these routine patrols was flown on 4 November when fourteen aircraft assisted artillery observation by dropping flares in the Moerdijk area.

During the Battle of the Ardennes night patrols by the Mosquitos were extended to areas beyond the American front. Crews often had to fly in appalling weather but they made repeated attacks on rail and supply centres, including the key towns of St. Vith and Houffalize. On most occasions results could not be observed owing to low cloud. Early in January 1945 the squadron was grounded for a week by heavy snowfalls and poor visibility in its patrol area, but on the 12th fourteen Mosquitos got off to harass German troops during their retreat. Two nights later fifteen crews returned to the attack and reported fires and explosions after their bombing.

From mid-January No. 487 began to operate deeper into **Germany** and, although there was little improvement in the weather, the Mosquitos seized every opportunity during the following weeks to attack enemy movement and to provide support for the British and Canadian armies as they fought to clear their sectors of the Rhine-land. Among the towns bombed were Geldern and Kempen – railheads on the main lines through the Rhineland – and Rheinburg, later one of the starting points for the assault across the Rhine.

One day towards the end of February there was a mass attack on German communications in which 143 Mosquitos from No. 2 Group took part. They found numerous targets – No. 140 Wing alone claimed forty goods trucks destroyed and another 579 damaged; there were also many successful attacks on such targets as locomotives, signal boxes, barges, and tugs. But twenty-one Mosquitos failed to return and forty were damaged. The eighteen crews from No. 487 which flew a sweep over the

area of **Hamburg, Bremen**, and the North Sea had their share of incident. Flying Officer Gilbertson was attacking locomotives and tenders grouped in one heavily defended railway centre when his aircraft was hit by flak and an engine set on fire; but he persisted with his attack until he and his navigator were forced by the flames and smoke to bale out. Flight Lieutenant Dempsey's ¹ Mosquito was also repeatedly hit as he pressed home his attack. One engine was put out of action and large holes torn in the tail plane and fuselage but he succeeded in reaching base. Altogether five New Zealand aircraft with their

¹ Squadron Leader R. J. Dempsey, DFC; born **Oamaru**, 15 Feb 1913; school teacher; joined **RNZAF** Jan 1941.

crews were lost this day, but despite these casualties squadron aircraft were again over enemy rear areas that night.

A week later No. 487 Squadron made what was as yet its deepest penetration into **Germany** when twelve Mosquitos bombed rail junctions, bridges, and trains and strafed factories and buildings east of **Cologne**, with the farthest point of the patrol at Magdeburg, 60 miles west of **Berlin**.

No. 488 Mosquito Squadron was one of the most successful night-fighter units with Second Tactical Air Force. In the Battle of Normandy its crews had achieved the remarkable total of thirty-four enemy aircraft destroyed by night, and a further six were to be added to this score during the advance to the Rhine. The New Zealanders continued to operate from bases in southern England until mid-November when they were transferred to the Continent and based at **Amiens-Glisy**. This was an old French airfield which the Germans had greatly improved, but it had been so consistently bombed that it now consisted largely of filled-in craters and the once fine German hangars were completely demolished. Very little rain was sufficient to produce vast quantities of mud, while a spell of dry weather soon produced a fine, white dust easily disturbed by the slipstream of a taxiing aircraft. At first, accommodation was very

limited and the squadron erected tents for dispersals and workshops until wooden huts were available. Wing Commander R. C. Haine continued in command until the end of November 1944 when he handed over to Wing Commander R. G. Watts, who was to lead the squadron for the rest of the war. Squadron Leaders F. W. Davison and J. R. Gard'ner did good work as flight commanders during this period.

Front-line patrols flown from Hunsdon in October were uneventful, but on 4 November Warrant Officer Marshall ¹ and his navigator, Flying Officer Prescott, ² sent a Messerschmitt 110 spiralling down to explode 20 miles from **Arnhem** — this was the first of these fast twin-engined fighter-bombers destroyed by the squadron. For the following seven weeks No. 488 again flew many patrols without reward; several contacts were obtained but they were mainly of enemy fighters, and crews reported that these escaped by virtue of their superior speed. It was not until 23 December, when the German offensive through the Ardennes was a week old, that the squadron again saw action. This was an eventful night with four enemy aircraft destroyed and another damaged. Flight Lieutenant Stewart ³

¹ Flying Officer J. W. Marshall; born **Auckland**, 21 Apr 1920; school teacher; joined **RNZAF** Jan 1942.

² Flight Lieutenant P. F. Prescott; born **Coromandel**, 24 Dec 1912; accountant; joined **RNZAF** May 1942.

³ Flight Lieutenant K. W. Stewart, DFC; born **Dunedin**, 7 Oct 1915; solicitor; joined **RNZAF** May 1941.

and Flying Officer Brumby ¹ destroyed two Junkers 88s. On patrol over the Roermond area, they obtained their first radar contact at a range of four miles, whereupon as Stewart later reported:

For positive identification I closed in to below and astern with the target weaving gently. Then the enemy suddenly fired off a red flare

which illuminated the black crosses so I dropped back to 150 yards astern and opened fire. After my second burst the port engine caught fire and the enemy aircraft spun down in flames exploding before it hit the ground near Maeseeyck.

Was then instructed to climb to 7,000 feet and on doing so saw further flares. Permission was obtained to investigate but over target throttled back, turned, climbed and straightened out before I obtained a visual at 2,000 feet, which my navigator confirmed with his night glasses as another Junkers 88. At 300 yards this aircraft also dropped reddish flares and we plainly saw the black crosses and also the bomb racks. I closed in and gave two short bursts which started a fire in the fuselage. The enemy bomber then did a diving turn to starboard and when I was down to 1,000 feet he hit the ground and exploded.

Wing Commander Watts with Flying Officer I. C. Skudder patrolled the Nijmegen area this same night. Investigating what at first was thought to be an Allied aircraft, Skudder confirmed through his night glasses that it was a Junkers 188. The enemy machine peeled off to port, releasing a bunch of coloured flares in an attempt to deceive the Mosquito crew but Watts opened fire and, closing in, set the fuselage ablaze. As he broke away Watts was able to watch the Junkers spiral down and explode. Flight Lieutenants J. A. S. Hall and J. P. Cairns, the successful British team, added to their score by destroying a Messerschmitt 410 after a long chase which developed into a regular dogfight; eventually, however, the Messerschmitt's starboard engine burst into flames and it exploded in mid-air. The fifth combat was reported by Flight Lieutenant R. G. Jeffs who, with Flying Officer A. N. Crookes, his British navigator, damaged a Junkers 88 near Malmedy, 20 miles south-east of Liege.

On 27 December five Mosquitos from No. 488 were ordered to an airfield in the American sector. They took off early in the morning and by the time they reached their destination fog had closed in. Four crews got down safely; the last aircraft ran off the edge of the runway and was badly damaged but fortunately the crew emerged unhurt. This crash set

in motion a train of unfortunate incidents. One of the remaining Mosquitos, crewed by Hall and Cairns, was 'scrambled' for a patrol, and after a long sortie in bad visibility they had to land at another airfield which was covered by ice. The Mosquito skidded on the icy strip and struck a deep rut. The undercarriage collapsed and the machine was badly damaged. Meanwhile Flight Lieutenant Stewart and Flying Officer Brumby flew a
three-

¹ Flight Lieutenant H. E. Brumby, DFC; born [Auckland](#), 24 Dec 1921; civil servant; joined [RNZAF](#) Oct 1942.

hour

patrol from [Amiens](#). They sighted two Junkers 87s, but their Mosquito was then hit by flak and had to force-land at Melsbroek. The crew were extremely fortunate to escape injury as their aircraft turned over on its back and broke up.

January 1945 was a most difficult month for No. 488 Squadron. Extremely bad weather, including several heavy falls of snow at base, reduced the time spent on operations to 175 hours - the lowest effort for more than a year. The first victory of the New Year was delayed until 21 February. On this day Stewart and Brumby shot down a Junkers 88 night fighter. At the time the first radar contact was obtained the Junkers was stalking the Mosquito under its own ground control. The roles were quickly reversed as Stewart turned towards the enemy and opened fire. Strikes on the fuselage and mainplane were followed by an explosion, and shortly afterwards the German bomber hit the ground in flames near Groenlo on the Dutch border, 20 miles north-east of Emmerich. Further successes were to follow in March as the Allied armies prepared to cross the Rhine.

*** * * * ***

Throughout this period Fighter Command squadrons based in southern England, while devoting much of their effort to the campaign against German V-weapons, also played a part in continental operations. They escorted bombers to their targets and provided cover and protection to troop-carrying aircraft and gliders; many lives were also saved by the vigilance and devotion of the air-sea rescue squadrons.

Four veteran New Zealand pilots, Wing Commanders J. M. Checketts, Gray, ¹ T. B. Fitzgerald and E. P. Wells, flew as wing leaders with Fighter Command during this last year of the war. Wells led Belgian and Canadian squadrons in his wing; the others led RAF Spitfires, usually as escort to heavy bombers. Within the fighter wings, Squadron Leader M. G. Barnett was in command of a squadron of Tempests; Spitfires were led by Squadron Leader Maskill ² and Mustangs by Squadron Leaders Porteous ³ and Strachan, ⁴ who was lost whilst covering a shipping strike by Coastal Command Beaufighters off the Norwegian coast in January 1945. Flying Officer R. E. Lelong had a notable career with No. 605 Squadron, which

¹ Wing Commander C. F. Gray, DSO, DFC and two bars; **RAF**; born **Christchurch**, 9 Nov 1914; joined **RAF** Jan 1939; commanded Nos. 403, 616, 64, and 81 Sqdns, 1941–43; Wing Leader, **Malta**, **Sicily**, and **Europe**, 1943–45; commanded RAF Station, Skeabrae, 1945; Directorate of Air Foreign Liaison, 1947–49; British Joint Services Mission, **Washington**, 1949–52.

² Squadron Leader I. P. J. Maskill, DFC; born Alexandra, 21 May 1920; linesman; joined **RNZAF** Jan 1941; commanded No. 91 Sqn, 1945.

³ Squadron Leader J. K. Porteous, DFC; born **Auckland**, 4 Nov 1916; clerk; joined **RNZAF** Apr 1940; commanded No. 122 Sqn, 1944.

⁴ Squadron Leader I. D. S. Strachan; born **Christchurch**, 20 May 1917; joined **RAF** 1937; commanded Nos. 284 and 65 Sqdns,

1944–45; killed on air operations, 29 Jan 1945.

specialised in ‘intruder’ patrols deep into enemy territory. On one such mission early in October 1944 he found thirteen Dornier flying boats moored in Jasmunder Bay in the Baltic and destroyed at least six of them in as many minutes, leaving the bay covered by a thick pall of smoke. By March 1945 Lelong was credited with the destruction of at least thirteen enemy aircraft.

New Zealand airmen also continued to hold senior posts in the Fighter Command organisation, notably Group Captain Whitley,¹ whose long operational experience both in **Europe** and the Middle East had led to command of the RAF Fighter Leaders' School. Wing Commanders R. F. Aitken, Gawith,² Kain,³ C. E. Malfroy, and Mowat⁴ were in charge of fighter airfields and various operational staff posts were held by Wing Commanders R. W. Baker, J. S. McLean, and Rose.⁵

¹ Group Captain E. W. Whitley, DSO, DFC; **RAF**; born Epsom, **Auckland**, 17 Aug 1908; joined **RAF** 1930; commanded No. 245 Sqn, 1939–40; RAF Station, **Haifa**, 1941; No. 234 Wing, **Middle East**, 1942; Nos. 209 and 210 Groups, **Middle East**, 1943; Fighter Leaders' School, 1944; No. 58 OTU 1945; RAF Station, Church Fenton, 1945.

² Wing Commander A. A. Gawith, DFC, Bronze Star Medal (US); born **Masterton**, 9 May 1916; joined **RAF** Jun 1938; transferred **RNZAF** Jan 1944; commanded No. 1451 Flight, 1941; Staff duties, No. 9 Fighter Group, 1942; Senior Liaison Officer, 9th Air Defence Command, **USAAF**, 1944; commanded RAF Station, Cleave, 1944–45.

³ Wing Commander D. Kain; born **Wanganui**, 16 Oct 1915; joined **RAF** 1935; transferred **RNZAF** Oct 1944; commanded No. 64 Sqn, 1941; No. 229 Sqn, **Middle East** and **Malta**, 1942, and No. 127 Sqn, **Middle East**, 1943; RAF Station, Edcu, 1943–44; and RAF Station, Predannack, 1944–45.

⁴ Wing Commander N. J. Mowat, DSO; born **Oamaru**, 18 Sep 1914; joined RAF Mar 1939; transferred **RNZAF** Jan 1945; commanded No. 607 Sqdn, 1941–42; No. 166 Wing, **India**, 1942–43; held various appointments **India** and ACSEA, 1943–44; commanded RAF Station, Peterhead, 1944–45; killed in flying accident, 7 Nov 1946.

⁵ Wing Commander A. H. Rose; born **Wellington**, 10 Sep 1905; joined **RAF** Apr 1940.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 13 – TRANSPORT AND SPECIAL DUTIES

CHAPTER 13

Transport and Special Duties

‘ THE great advances,’ writes General Eisenhower, ‘had the effect of multiplying many of the administrative and maintenance problems with which we constantly had to wrestle. Again a tremendous strain was placed upon our supply lines. Distance alone would have been enough to stop our spearheads had we been dependent solely on surface transport, efficient as it was. Distant and fast-moving columns were sometimes almost entirely dependent upon air supply, and during April we kept 1500 planes constantly working in our supply system. They became known as “flying box cars” and were never more essential than in these concluding stages of the war During that month the air forces delivered to the front lines 60,000 tons of freight, in which was included 10,000,000 gallons of petrol.’

In this passage the Supreme Commander describes one of the ways in which the men of the Allied transport squadrons assisted in the achievement of final victory. Equally important was their contribution in other directions. On the British side RAF Transport Command acted as carrier for all three services, providing a world-wide organisation with more than 130 stations and staging posts in various Allied territories to control and service aircraft and to handle freight and passengers; by 1944 its scheduled services were operating over 100,000 miles of regular routes, stretching as far afield as North **Africa, Egypt, **Iraq**, **India**, and **Australia**, as well as across the North and South Atlantic and to **West Africa**. In addition, its crews ferried many thousands of aircraft from **Britain** or trans- **Atlantic** bases to the various theatres of war; the **North Atlantic** crossing, which only a few years earlier was regarded as a hazardous venture, became a matter of routine and by the end of the war 27,000 machines had made the passage. In support of the armies and air forces transport aircraft maintained a continual flow of supplies and reinforcements and on several notable occasions carried troops and their equipment into actual battle. They also delivered mail and evacuated casualties from forward areas – in the first six months of the**

European campaign alone 50,000 casualties, over three-quarters of them stretcher cases, were flown back to England without a single mishap.

Pioneering efforts in the Middle East and over the North Atlantic had provided much of the knowledge and experience upon which these achievements were based. The vast organisation of RAF Transport Command was a late development. During the first three and a half years of the war British air transport had been conducted by a rather unusual variety of bodies which, acutely short of aircraft, had to maintain themselves as best they could by successful improvisation. It was not until March 1943 that, with the rapidly increasing demands for air transport, a separate RAF command was formed to co-ordinate and expand the various existing services.

Led by Air Chief Marshal Sir Frederick Bowhill,¹ the new command was made up of No. 44 Group, operating from the United Kingdom, and No. 45 (previously Ferry Command) in Canada with its two wings, one operating over the North Atlantic and the other over the South; there was also No. 216 Wing in the Middle East and No. 179 Wing in India.² Expansion began at once and by 1945 two new groups had been added to those in Britain. One of them, No. 46 Group, was to do splendid work in support of the British air and ground forces; it also undertook parachute dropping, glider towing and airborne supply, thus reinforcing AEF's No. 38 Group, which was primarily responsible for these important duties.

More than 500 New Zealanders were to serve with these various formations during the last two years of the war. The majority flew as pilots, navigators, and wireless operators, but men with long operational experience were also concerned in the work of planning, control, training, and administration with Transport Command. As Senior Air Staff Officer at No. 46 Group, Group Captain Nicholls³ planned many of the transport operations during the last stages of the campaign in Europe. Wing Commander Joel⁴ served on the staff of No. 38 Group, where he was specially concerned with the Special Air Service operations which dropped agents and saboteurs in Europe. Joel had already completed three tours of operations in the

¹ Air Chief Marshal Sir Frederick Bowhill, GBE, KCB, CMG, DSO, Order of St. Vladimir (Rus.), Order of St. Saviour (Gr.), Order of Orange Nassau (Hol.), Legion of Merit (US), Order of St. Olav (Nor.), Order of Polonia Restituta (Pol.), **RAF** (retd); born Morar, **India**, 1 Sep 1880; joined RN 1913; seconded RNAS 1914 and **RAF** 1918; permanent commission **RAF** 1919; AOC-in-C **Coastal Command**, 1937–41; AOC-in-C, **RAF Ferry Command**, 1941–43; AOC-in-C, **RAF Transport Command**, 1943–45.

² The work of the transport wings in the Middle and **Far East** will be described in Volume III.

³ Group Captain C. W. K. Nicholls, DSO, OBE; **RAF**; born **Palmerston North**, 7 Oct 1918; joined **RAF** 1934; test pilot, Aeronautical and Armament Experimental Establishment, 1940–41; commanded Handling Sqdn, Empire Central Flying School, Hullavington, 1942–43; commanded Operational Training Wing, **Ohakea**, 1943–44; NZ Fighter Wing, **Bougainville**, 1944; SASO Northern Group, 1944; SASO No. **46 Group**, Transport Command, 1945–46; commanded No. 24 Commonwealth Sqdn, 1946–48; Air Attache, Nanking, 1948–49.

⁴ Wing Commander L. J. Joel, DFC; **RAF**; born Dunedin, 3 Jan 1917; joined **RAF** Aug 1938; commanded No. 55 Sqdn, **Middle East**, 1943–44; Operations staff, No. **38 Group**, 1944–45.

Middle East. Wing Commander McHardy ¹ and Squadron Leader Clark ² were among those who held senior posts in the **Atlantic** ferry service. McHardy set up the **RAF** staging post at Para Belem in **Brazil** and was subsequently in charge of the Liberator unit which, operating from Florida and Nassau, carried urgent supplies across the South Atlantic and brought back ferry crews. Clark was prominent in the organisation for delivering sea planes; in 1943 he was senior control officer at Darrell's Island, Bermuda, and was later in charge of despatch and control at Lake Gander. Squadron Leader Thomson ³ served with an overseas despatch unit in the south of England which handled

reinforcement and ferry aircraft destined for the Middle and Far East; in July 1943 he was co-pilot in the Dakota which made history by towing a Hadrian glider laden with urgent supplies across the North Atlantic.

Navigation duties were carried out by Squadron Leader Austin ⁴ whose varied career included two tours of bomber operations and service in England, India, Malta, and the Middle East. Squadron Leaders Scott ⁵ and Julian ⁶ were among those who trained transport crews for their duties, while Squadron Leader Lewis, ⁷ who had won distinction in early bomber operations, was in charge of a large staging post on the Continent. An important contribution to the development of troop-carrying operations was made by Flight Lieutenant R. W. H. Carter. As a test pilot he was the first to fly a Whitley aircraft towing a Horsa glider. After taking part in all trials of this combination, he subsequently made the first flight trials of the Hamilcar, using Halifax and Stirling bombers as the tug aircraft.

The work of the transport crews was varied, often quite eventful, and sometimes extremely hazardous. Those who flew with the squadrons of No. 44 Group had the least interesting role, their main task being the maintenance of regular military services carrying passengers, mails, and freight over the scheduled routes. Both

¹ Wing Commander E. H. McHardy, DSO, DFC and bar, Croix de Guerre (Fr.); RAF; born Palmerston, 24 Jun 1920; joined RAF May 1939; commanded No. 404 Sqdn 1942; No. 143 Sqdn, 1943–44.

² Squadron Leader L. E. Clark, DFC; born Christchurch, 16 Aug 1906; joined RAF Nov 1939; transferred RNZAF Jan 1944.

³ Wing Commander C. W. H. Thomson; RAF; born Stratford, 21 Sep 1914; joined RAF 1939; attached BOAC 1941–42; Staff Navigator RAF Ferry Command, 1942–43; Staff Navigator No. 116 Wing, Transport Command, 1944–45.

⁴ Squadron Leader W. S. Austin, DFC; born **Greymouth**, 14 Jul 1915; law clerk; joined **RNZAF** Nov 1939.

⁵ Wing Commander R. C. E. Scott, AFC and bar; **RAF**; born **Wellington**, 11 Jan 1918; joined **RAF** Jan 1940; commanded No. 1517 **BATF**, 1942–44; duties with Directorate of Operational Training, 1944–46; commanded the King's Flight, 1950–53; Air Attaché, Berne, 1953–

⁶ Squadron Leader J. T. Julian; born **Auckland**, 20 Apr 1909; builder and contractor; joined **RAF** Nov 1939; transferred **RNZAF** May 1945.

⁷ Squadron Leader R. E. Lewis, DFC; born **Wellington**, 3 Dec 1916; joined **RAF** Apr 1939.

by day and night they flew their Dakotas, Liberators, and Yorks along between the staging posts which formed the beads on the long string of communications around the world. At each post **RAF** ground staff were ready to refuel and service their machines, whether it be in the sweltering heat of Bahrein or the bitter cold of Goose Bay – a monotonous role but they served the aircrews well. In addition to these regular services, there were the VIP flights which carried Allied military and political leaders on their missions, and occasionally special operations such as the movement of Bomber Command personnel and equipment to Archangel in September 1944 for the attack on the German battleship *Tirpitz*.

New Zealanders were particularly prominent in these duties with No. **511 Squadron**, which flew from Lyneham in **Wiltshire**, and with No. **24 Squadron** at Hendon, near **London**; Squadron Leader Donald ¹ and Flight Lieutenant Drew ² both won special commendation for their work with these units. By May 1945 the crews of No. **511 Squadron** had flown more than twelve million miles, carried 24,700 passengers and over 7000 tons of mail and freight. The record of No. **24 Squadron** was equally notable, among its highlights being the carriage of King George VI on a tour of

the **Middle East** and the British Prime Minister and his staff to several conferences. It is of interest to add that two years after the war this unit was renamed No. 24 Commonwealth Squadron, with representative crews from **Britain, Canada, Australia, South Africa** and **New Zealand**, and was employed primarily on special flights carrying statesmen and military leaders. A **New Zealand** airman, Group Captain Nicholls, then had the distinction of being its first commanding officer.

The ferrying of reinforcement and replacement aircraft from the **United Kingdom** to distant theatres of war was another task shared by **New Zealand** aircrew with No. **44 Group**. Many of them were based at **Pershore** airfield, in **Worcestershire**, from where they flew machines to the **Middle East, India**, and beyond; returning by air, they were often able to make three or four such flights a month. But before this routine was established some men had remarkable experiences. On one delivery flight to the **Middle East**, Flying Officer Penman³ lost three aircraft at **Malta** through enemy bombing and was later forced down in the desert; whilst returning to **England** by sea his ship was torpedoed at night; after twelve hours in the water he was picked up by a **German U-boat**, but almost immediately

¹ Squadron Leader G. V. Donald, AFC; born **Masterton**, 4 Jan 1919; joined **RAF** Jun 1939; transferred **RNZAF** Jan 1944.

² Flight Lieutenant A. S. Drew, DFC, AFC; born **Auckland**, 27 Jun 1914; linotype operator; joined **RNZAF** Nov 1940.

³ Flight Lieutenant F. S. Penman; born **Dunedin**, 10 Mar 1919; salesman; joined **RNZAF** Feb 1941; p.w. 12 Sep 1942.

this vessel was attacked and sunk by an Allied aircraft; Penman was then rescued by an Italian submarine and finally reached a prisoner-of-war camp.

With No. **45 Group** the chief duty was the delivery of new aircraft

and the carriage of passengers and freight across the **Atlantic**. By 1943 flights across this vast ocean had become more or less routine and many crews could, with real feeling, echo the words of an early **Coastal Command** song: 'We've flown the **North Atlantic** in blinding rain and blinding sleet, We've flown that blooming ocean until it made us almost weep.' Dorval airfield, near Montreal, was the main starting point for the **Atlantic** ferry, and it was here that machines received from the factories of **North America** and the Far West were tested and modified in preparation for their ocean flight. There were two main routes across the **Atlantic** – the northern to Prestwick in **Scotland**, which had been pioneered by **RAF** and civilian pilots in the early days, and the southern to **Africa**, which had been opened at the end of 1942. Over the northern route heavy bombers often flew direct to **Britain**, calling possibly at Gander, **Newfoundland**, or at a base in the Azores, which had been acquired by agreement with the Portuguese Government at the end of 1943. Light bombers, including Canadian-built Mosquitos and other machines of limited range, usually flew by stages via Greenland and **Iceland**.

On this **North Atlantic** passage crews experienced some of the most hazardous flying in the world, especially during the winter months when airfields were covered with snow and there were frequent storms with low cloud over the ocean and fog banks off **Newfoundland**. The worst part of the flight often came as aircraft approached the 'point of no return' – a technical term which every trans-oceanic flier knew well – for it meant the position from which there would not be enough fuel for the machine to turn back to base in case of trouble.

The South Atlantic route over which many aircraft were delivered to the **Middle East** was more congenial; it took crews through such exotic places as Nassau in the Bahamas, the island of Trinidad, and Para Belem, to the sandy airfield set amid scrub near Natal, on the extreme eastern coastline of **Brazil**. From there they flew 1400 miles across the ocean to that small isolated speck of land known as Ascension Island where, during 1942, American engineers had blasted away huge

quantities of lava rock to construct a runway capable of receiving the largest aircraft. From Ascension, the flight continued to Accra on the Gold Coast, where machines were usually handed over for delivery to **Cairo** by way of the well-established route through Kano in Nigeria. One New Zealander, who spent several years on the South Atlantic Ferry, gives this account of his work:

A delivery on the southern route usually meant landing to refuel about every seven hours, although on some occasions we made flights of up to ten. Thanks to the existence of Ascension Island we had a comfortable margin for the **Atlantic** flight plan. Radio played an important part on the crossing and, although the facilities we had appear meagre in the light of post-war developments, they were a major guide to navigation and the means of saving both planes and crews. When Africa-bound we usually experienced headwinds and quite often had to fly against gales up to 60 knots; the weather between **Brazil** and **Ascension** was usually moderate but between the Island and **Africa** we frequently encountered violent tropical disturbances and at other times had to fly above sand storms hundreds of miles out to sea, but the small R.A.F. unit at **Ascension** did a remarkable job of charting the weather for us on this leg of the flight.

On all our delivery flights we carried a cargo of vital war equipment; sometimes we would be briefed to land at an airport in Florida to load up with supplies destined for the **Eighth Army**. On such occasions we flew Dakota transports which carried the maximum of 30,000 lb. of freight lashed in at the point of balance. Flying these transports on the southern route was a comparatively simple matter, since the Douglas craft had ample fuel tanks for long flights and were aero-dynamically most suited for hauling loads in any type of weather. But I remember one occasion during a flight from Trinidad to Natal when we encountered a violent storm over Dutch Guiana; thunder clouds reared up and we were unable to break through the tops, so we had to fly on for several hours amid a frightening display of electronics in what seemed a hell of darkness and with the transport swaying wildly to and fro, one

moment careering upwards and the next second bouncing crazily down. I think that such storms which accompanied **Brazil's** frequent rainy season deluges accounted for most of the losses on this route.

With the Atlantic Ferry, Squadron Leader Adams ¹ led the first group of Marauders through to the **Middle East** via the South **Atlantic** route. Flying Officer Thorburn ² flew regularly over the South Atlantic. In May 1944 he was radio officer in a **Baltimore** engaged on a special mission. As it approached the Trinidad coast the aircraft exploded in mid-air and fell into the sea. Thorburn, who was badly burned, was fortunate to be picked up by an American merchantman. Other airmen with long service on the Atlantic Ferry were Squadron Leader A. W. Mack, who had previously flown on both bomber and fighter operations, and Flight Lieutenants Irwin ³ and Webb ⁴ who flew consistently from mid-1942.

¹ Wing Commander J. Adams, DFC, AFC; born **Christchurch**, 31 Aug 1913; joined **RAF** 1937; transferred **RNZAF** Jun 1939; commanded No. 5 BATF 1941; CO No. 40 Sqdn, **RNZAF**, 1943–44.

² Flight Lieutenant R. H. Thorburn; born **Palmerston North**, 26 May 1920; carpenter; joined **RNZAF** Jan 1941.

³ Flight Lieutenant K. Irwin; born Te Kopuru, 7 Sep 1920; farmer; joined **RNZAF** Sep 1941.

⁴ Flight Lieutenant R. P. Webb, AFC; born **Taihape**, 2 Dec 1920; labourer; joined **RNZAF** Mar 1941.

Flight Lieutenants Henderson ¹ and Clarke, ² who also saw early service on the **Atlantic** route, were among the pioneers of the **Pacific** route from **Canada** to **Australia**. Aircraft on this run took off from Dorval, crossed **North America** to **San Francisco**, and then flew to **Sydney** via **Honolulu**, **Canton**, **Fiji** and **Auckland**, a total of 11,520 miles. Henderson was navigator in the aircraft which made a survey of this route and was prominent in the organisation of the flight, while Clarke

flew as a pilot on this route from the time it was opened.

Transport and supply missions in support of Allied operations on the Continent were the main tasks for the aircrews with Nos. 38 and 46 Groups. These were the units which, along with various other duties, carried the men of the British airborne divisions – ‘The Red Berets’ – to **Normandy**, **Arnhem**, and across the Rhine; they also evacuated thousands of casualties from the front line and then flew them back across the Channel to England. No. **38 Group** was the pioneer formation; it had begun in 1940 as a small unit equipped with six Whitley aircraft discarded by Bomber Command, and during the early years its crews had been mainly employed in exercises with British paratroop regiments and in dropping saboteurs and supplies over **Europe**. The airborne invasion of **Sicily** in 1943 gave No. **38 Group** its first major task, and the experience gained in this and other transport operations in the **Middle East** was used to train additional crews and those of No. **46 Group** which was formed in **Britain** early in 1944.

More than 150 New Zealanders, nearly half of them pilots, served with these formations during the final campaign in **Europe**. Squadron Leader Daniell,³ who flew Dakotas, Squadron Leader D. S. Gibb, who captained Stirlings, and Squadron Leader Jamieson,⁴ who flew Albemarles, were to achieve a particularly fine record in troop-carrying and supply missions. All three men were veterans of the earlier campaigns. Gibb had completed two tours with Bomber Command, Jamieson had taken part in the airborne invasion of **Sicily**, while Daniell had seen service as a transport pilot in the **Middle East** from the early days of the **Takoradi** air route, during the siege of **Malta**, throughout the desert campaigns and in **Sicily**

¹ Flight Lieutenant J. A. Henderson; born **Oamaru**, 31 Mar 1909; surveyor; joined **RNZAF** Feb 1941.

² Flight Lieutenant W. P. N. Clarke, AFC; born **Dunedin**, 5 Nov 1921; farmhand; joined **RNZAF** Sep 1941.

³ Squadron Leader R. D. Daniell, DFC, AFC, Flying Cross (Hol.); born **Hamilton**, 29 Oct 1920; joined **RNZAF** Dec 1939; transferred **RAF** Jun 1940; re-transferred **RNZAF** Jun 1945.

⁴ Squadron Leader R. W. Jamieson, DFC; born **Nelson**, 4 Nov 1917; joined **RAF** 1937.

and **Italy**. Flying Officers Siegert ¹ and Sutherland ² were also to distinguish themselves as captains of aircraft, while Flight Lieutenant Reevely ³ gave valuable service as a gunnery leader. Flight Sergeants Bretherton, ⁴ Fulker, ⁵ Brydon ⁶ and Nicholls, ⁷ all of whom had taken part in the invasion of **Sicily**, continued to do good work with troop-carrying and supply squadrons. Several pilots, notably Flight Lieutenant Buchanan, ⁸ were to be commended for their part in the Air Despatch Letter Service which, operating in all weathers, delivered important despatches and mail to commands in the field.

The part played by the aircrews of Nos. 38 and 46 Groups in support of the British airborne divisions is of particular interest. In the opening stages of the **Normandy** invasion two separate missions were flown to enable **6 Airborne Division** to capture and hold vital areas on the left flank of the bridgehead. The first took place during the night preceding the seaborne landings; it involved 294 aircraft and 98 glider combinations carrying first pathfinders, then the main body of paratroops, and finally men and equipment in gliders. To deceive the enemy as to their real purpose, many of the aircraft carried bombs with which they went on to attack targets further inland. On the whole the navigation was remarkably accurate and, although a high wind tended to scatter the parachutists, most of the principal objectives were achieved. Altogether 4310 parachutists were dropped that night and 493 glider troops successfully landed together with 17 guns, 44 jeeps, and 55 motor cycles. Seven aircraft and twenty-two gliders were lost, most of the latter through broken tow ropes or through being cast off too soon. One important lesson learned this night and applied in future operations

was the importance of pilots maintaining a steady course when approaching the dropping zone in the face of anti-aircraft fire; it was found that 'jinking' threw many of the parachute troops off balance at the critical moment when the red light had been switched on and they were preparing to jump.

During the evening of D Day itself Halifaxes, Stirlings, and



PRINCIPAL TARGETS ATTACKED BY BOMBER COMMAND, 1944-45

¹ Flight Lieutenant C. L. Siegert, DFC; born Fairlie, 14 Mar 1923; clerk; joined **RNZAF** Mar 1942.

² Flying Officer N. W. Sutherland, DFC; born Palmerston, 31 Dec 1920; student; joined **RNZAF** Apr 1942.

³ Flight Lieutenant W. D. Reevely, DFC; born **Auckland**, 20 Feb 1918; traveller; joined **RNZAF** Jun 1940.

⁴ Flight Lieutenant B. J. F. Bretherton, DFC; born Cromwell, 27 Dec 1920; radio mechanic; joined **RNZAF** Dec 1939.

⁵ Flying Officer L. Fulker, DFC; born **Sydney**, 31 May 1921; labourer; joined **RNZAF** Apr 1941; killed on air operations, 12 Sep

1944.

⁶ Flying Officer S. L. Brydon; born Maromaku, 12 Jan 1918; farmhand; joined **RNZAF** Jan 1941.

⁷ Flying Officer J. A. P. Nicholls; born Martinborough, 13 Mar 1920; radio serviceman; joined **RNZAF** Jun 1941; killed in aircraft accident, 16 Apr 1945.

⁸ Flight Lieutenant E. K. Buchanan, AFC; born **Auckland**, 6 Oct 1920; civil engineer; joined **RNZAF** Oct 1941.

Dakotas towed 256 gliders bearing reinforcements and further supplies to General Gale's **6 Airborne Division**. This second operation proved highly successful, all but a few of the gliders reaching their destination. Squadron Leader Daniell, who flew a Dakota with No. **48 Squadron**, afterwards related:

The main glider force took off at 4 p.m. on D-Day and we were glad of the opportunity to fly over the beachhead in daylight. We had our final briefing and the weather seemed more favourable. Out on the runway we checked our aircraft, chatted with the glider pilots and the men who were going along to keep a field-gun company – eighteen of them were in my glider. Incidentally the total load carried in each of these Horsa gliders was nearly 3 ½ tons.

We took off across a very stiff breeze which caused some anxious moments as the combination took the air. In taking off in these heavily loaded gliders the unusual feature is the slowness with which one gains flying speed. The runway flashes by under the wheels and its end, over a mile away, is almost reached before the whole contraption is in the air still clambering for more speed. From that moment onwards, both for the tug and the glider pilot, the actual control of their aircraft is a full time job of manual labour. Constantly buffeted by the slipstream of the aircraft in front the 'combinations' battle along in pairs which form a

great stream. Ground speed in a head wind may fall to 80 m.p.h. and the usually accepted evasive tactics to A.A. fire are virtually impossible.

However, as we jostled about on this evening of D-Day, we knew that many fighter squadrons would escort us and that others would be attacking enemy fighter airfields in **France** ahead of us. After nearly two hours over England we crossed the south coast in a great procession nearly eighty miles long; I think we were about half way down the 'stream'. Le Havre came in sight and I marvelled that it was possible to fly over the French coast without defensive armament at less than one hundred miles an hour. Soon the beaches of **Normandy** were in sight with the greatest array of ships I had ever seen; some unloading on to the beaches, some of them waiting off-shore and others still miles out to sea. The mouth of the River Orne where we were to cross the coast now came into sight below the battle haze and smoke. The sun was fairly low in the sky but it was not difficult to identify the landing zone which the gliders were to use. However, as aircraft jostled for position, the cumulative effect of slipstreams made things difficult since every pilot was letting down to the correct dropping height of 12,000 feet. A few miles inland towards Caen I called my glider pilot. "Thirty seconds to go to release point 'matchbox' – Good luck." He came back "Thank you, tug – cheerio." A few moments later I felt my aircraft surge forward as he cast off. In front we could see hundreds of gliders wheeling in free flight and preparing to land. Several crashed into each other as they ran along the ground like great beetles. Two spilled open and shot out their contents. Several caught fire and others struck mines. Little puffs of smoke mushroomed up as enemy mortar shells found their mark.

Turning away we caught a glimpse of the great battle going on at the outskirts of Caen. Odd bursts of enemy anti-aircraft fire were now finding their mark. One of our flight just behind was set on fire. Two figures left by parachute and landed in the River Orne while the burning machine with the pilot still at the controls turned and eventually belly landed near the gliders. As I flew low out over the sea there was a **Stirling** and two gliders in the 'drink'. Back at base we learnt that the

glider landing had been judged a great success.

One New Zealand wireless operator, Flight Sergeant Burgess, ¹ who flew to **Normandy** on the evening of D Day, shared with his crew in an amazing series of adventures which culminated two days later with their hailing a surprised British soldier near Caen with the news that they had sixty prisoners for him. Over France the **RAF** men had just released their glider when their **Stirling** was hit by flak and set on fire, forcing them to crash-land behind the German lines. All the crew managed to scramble uninjured from the blazing bomber but almost at once found themselves covered by German tommy guns. The prisoners were marched along with a retreating enemy detachment until dawn the following morning when, finding themselves in no-man's-land, the whole party took cover in a bombed chateau. The day passed with British and German shells whizzing overhead and the prisoners witnessed an aerial battle in which Spitfires sent a formation of Ju88s crashing in flames. During the afternoon British mortars began to get the chateau's range, whereupon the Germans and their prisoners – now more or less on even terms – moved first into a slit-trench and later to a cellar. Then, after a night of more shelling and bombardment, the German commander asked that he and his men be taken prisoners, so Burgess and his navigator set off in search of British troops. Having made contact, the airmen lined up the Germans and marched them to a brigade headquarters where they were handed over. Then after a few hours in the trenches the airmen obtained a captured German staff car and motored to the beach, where they found a ship about to return across the Channel.

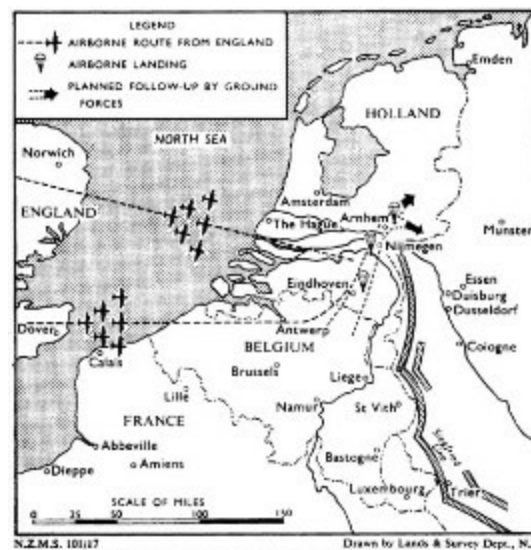
September 1944 brought the epic of **Arnhem**. Here, during the audacious attempt to seize the last bridge that would put Montgomery's armies across the Lower Rhine, the aircrews of Nos. 38 and 46 Groups made a determined and courageous effort in support of **1 Airborne Division**. Altogether they flew nine separate missions – three carrying the assault troops and their equipment and then, in the face of bitter opposition, six more with ammunition and supplies. During these operations the two groups lost 326 men, together with 52 aircraft and

19 gliders, most of them during the later stages of the battle when there occurred more than one example of what the tough and hardened warriors on the ground were moved to call 'the extreme of heroism.'

The first operation, in which 358 aircraft towed gliders, was highly successful in that the troops were landed in adequate numbers

¹ Flight Sergeant N. P. Burgess; born **Christchurch**, 11 Oct 1918; clerk; joined FAA Apr 1941; transferred **RAF** Dec 1941; **RNZAF** Oct 1943.

on their selected zones and were able to capture their initial objectives. On the second day, however, things began to go wrong.



AIRBORNE ASSAULT AT ARNHEM

The airlift that morning was delayed for five hours by fog and low cloud over airfields in **Britain** and by the time it arrived the situation in and around **Arnhem** had seriously deteriorated. It was unfortunate that the **RAF** had insufficient transport aircraft available to take the whole of the division to its destination in one lift. On top of this the nature of the terrain at **Arnhem** had led to the choice of landing zones between two and eight miles from the river bridge, which was the main objective.

Further misfortunes occurred on the third day. The most serious was

the failure of communications – in particular, a vital message reporting that the Germans still held the zone on which supplies were to be dropped from the air did not get through. As a result the 180 aircraft which carried out the first resupply mission released their cargoes, not on the airborne troops, but on their enemies. Worse still, to reach the appointed zone, the Stirlings and unarmed Dakotas had to fly low in the face of sharp and accurate anti-aircraft fire. Thirteen were shot down and ninety-seven more returned badly damaged.

‘ [Arnhem](#), 19th September, 1630 hours,’ runs the war diary of 1 Airborne Division. ‘Resupply dropped on prearranged Supply Dropping Point V which was in enemy hands. Yellow smoke, yellow triangles and every conceivable means were used to attract attention of pilots and get them to drop supplies within our lines; this had very limited success.’ It had, indeed. The weather was misty, but the arranged dropping point could be seen and the pilots had eyes for nothing else. ‘My most poignant memory,’ writes Lieutenant-Colonel Packe, of the Royal Army Service Corps, ‘will always be the time I spent watching the supply aircraft coming over and dropping their containers on an area not under our control They were met by a screen of flak, and it was awe-inspiring to see them fly straight into it, straight into a flaming hell. We thought that some would not face it and would jettison their cargoes, in which case we should get them, for they would fall short and therefore in our lines; but they all stuck to their course and went on, nor did they hesitate. A [Stirling](#) and a Dakota were seen that day, both on fire, circling round the zone. They were doomed and their pilots knew it, but they might still drop their supplies on the right spot. To do so immediately, however, might interfere with those more fortunate than themselves who were timed to arrive a moment or two before them. So they held off, awaiting their turn. It came, and they went in, blazing, to release the containers; before they fell “like two torches from the sky”, they had done all in their power to ensure success.’

On the following days despite mounting casualties the supply squadrons continued their gallant but, in the circumstances, far from

fruitful efforts since less than one-tenth of the total tonnage dropped was collected by the beleaguered division. On the fifth day, when part of their fighter escort was grounded by bad weather, crews had to contend with enemy fighter attacks as well as intense anti-aircraft fire, and out of 117 Stirlings and Dakotas despatched 23 were shot down and a further 38 damaged. Flying Officer Siegert and his crew had an eventful flight that day. They were chased by several Focke-Wulfs and, after shooting one down, managed to shake off the rest by a violent high-speed dive. Others were less fortunate. While approaching [Arnhem](#) the [Stirling](#) captained by Flying Officer Bebarfald ¹ was badly hit by flak but flew on to the dropping zone. Containers and panniers had just been released when Messerschmitts attacked, setting the bomber on fire. As it began to disintegrate in

¹ Flying Officer B. A. Bebarfald; born [Nelson](#), 8 Jul 1921; clerk; joined [RNZAF](#) Sep 1941; killed on air operations, 21 Sep 1944.

the air Bebarfald gave the order to bale out but, in spite of his efforts at the controls, there was only time for two of his crew to escape before the machine went down.

‘Our Squadrons were badly mauled that day,’ writes a New Zealand Dakota captain. ‘As we sighted [Arnhem](#) some four engined Stirlings were just finishing their supply drop. All hell seemed to have been let loose. The sky was black with flak bursts over the army lads. As we approached, two Stirlings blew up with a terrific flash and the picture looked far from rosy. We were at 3,500 feet and had to get down to 1,200 feet before releasing the panniers at 110 m.p.h. There seemed to be hundreds of gun flashes from the ground. To complicate things, the three aircraft in front were dropping higher than I was so that panniers dangling from parachutes were filling the air all around, a grave menace if a wing should foul them. Somehow we jockeyed across. As soon as the word was passed that the supplies were gone, I turned the wick up to full power and climbed faster than a lift taking evasive action all the time

till the thumps, twangs and bursting shells were far behind.'

'Like everyone else, I suppose, I made a hasty check of engine instruments. They seemed O.K. and I turned to watch the following aircraft go through. The C.O. had turned and run back across the dropping zone to rid the aircraft of a few baskets not dropped on the first run. As he crossed the river, I could see a pannier trailing from behind his tail. I turned to go and inspect when it suddenly broke away and fell to the ground but no parachute appeared. There was a despatcher, R.A.S.C. private, clinging to it as it went. His harness had been caught up and he had been dragged from the aircraft without his parachute pack. These R.A.S.C. men did a grand job. Most of them had only had an hour or two in the air before being called upon for these supply operations.'

'Our troubles were not yet over. A few minutes after leaving **Arnhem** dozens of Hun fighters appeared up to twenty at one time attacking a Dakota. Soon some Spitfires appeared and began to mix it but Dakota after Dakota was going down – my No. 2 in formation had not been able to keep station with me and was one of the first victims. When the air fighting started, I made myself scarce among fluffy cloud which half filled the sky at six thousand feet. The transports struggled to out manoeuvre the fighters. One survived six attacks without any return fire before he crash-landed in flames. It was so hot inside that the pilot opened the hatch above his head, stood up in the cockpit and landed it leaning out the top.'

Such were some of the hazards encountered by the aircrews in their efforts to aid the men on the ground. Yet, despite all their courage and resolution, the battle had already been lost. The Germans, recovering from their initial shock, had reacted quickly and the men of **1 Airborne Division**, denied adequate supplies from the air and with Montgomery's columns unable to break through to their relief, were confined and besieged within a rapidly shrinking perimeter. The end came after nine days' bitter fighting when the remnants of the division straggled back

across the river, leaving some 7500 of their comrades either killed or captured.

The airborne operation across the Rhine in March 1945 was in striking contrast. 'It was more like an exercise,' writes one New Zealand squadron leader whose **Halifax** towed a glider containing men of **6 Airborne Division**. 'For most of the time we were over our own territory then, during the short flight over the German lines we had terrific fighter cover; we experienced comparatively little flak.' Altogether fifty-five New Zealanders, twenty-three of them captains, were among the crews of 440 aircraft which towed gliders across the Rhine. The flight from England was made under almost perfect conditions, but in the actual landing area crews found much smoke and dust – some of it had drifted across after the bombing of Wesel. Nevertheless, the landing of the gliders, the majority now flown by **RAF** pilots, was exceedingly accurate, some touching down within fifty yards of their target. Anti-aircraft fire accounted for ten of the gliders and damaged others, but within a matter of hours the division had captured all its objectives, and by the following morning a firm link had been established with the British Army on the ground.

One of the main reasons for the success was the fact that **6 Airborne Division** had been carried to its destination in one lift, to achieve which Nos. 38 and 46 Groups had made a supreme effort employing every available aircraft and crew. On top of this was the arrangement whereby the airborne supplies were dropped not twenty-four hours after the landing but the same evening; finally, plans had been made for a rapid link-up with the army on the ground. The lessons of **Arnhem** had been well learnt.

These airborne operations, spectacular though they were, formed but one of the many tasks undertaken by the aircrews of No. 38 and 46 Groups during the campaign in **Europe**. From D Day onwards Dakotas of No. **46 Group** operated intensively to carry supplies to the Continent and bring back casualties. Among the first Dakotas to land in **Normandy** were those piloted by Flight Lieutenant H. J. Barley and Warrant Officer

Chesney ¹ of No. 233 Squadron; on the outward trip they carried advance personnel and freight for a wing of Second Tactical Air Force and each brought back fourteen wounded. 'Some of the men were severely injured,' writes Chesney, 'and although we were flying low they required the aid of oxygen. On this and other similar flights we invariably did our best to make the wounded men comfortable.'

In their first fortnight's operations to **Normandy** aircraft of No. **46 Group** carried over 250 tons of freight, four tons of mail, and 5500 passengers, all without loss. Some of the early missions were quite eventful. On 17 June Dakotas of No. **512 Squadron**, landing at a dusty strip close to the front line, came under enemy fire. 'We

¹ Flying Officer R. Chesney; born **Timaru**, 1 Apr 1922; clerk; joined **RNZAF** Jul 1941.

left the strip immediately on landing,' says Flight Sergeant Garvin, ¹ 'then taxied behind woods which ran parallel with the landing strip, thus gaining slight cover. After embarking casualties we were able to regain access to the strip through a small opening in the trees whereupon we took off smartly between bursts of fire.' On another occasion crews who landed at an advanced strip were 'surprised at the apparent lack of welcome until they observed helmets peering over the top of slit-trenches; shell bursts at the end of the runway soon convinced all and sundry that this could not possibly be the right place, so with one accord they took to the air once more and hastened with all speed to another landing ground.'

During the rapid advance across **France** and into **Belgium** when both armies and air forces outstripped their supplies, transport squadrons operated non-stop shuttle services from England carrying petrol, ammunition of all kinds, food, clothing, and other urgent supplies. One airfield in **Belgium** was taken over by a wing of Transport Command two days after its capture and the following day was in full operation. In one month 3438 aircraft landed from the **United Kingdom**, more than 7000

tons of freight were handled, 4280 passengers were received or despatched, and 7200 casualties evacuated to England, many of them brought to the airfield by air from front-line landing strips. A New Zealand flight commander whose squadron took a prominent part in these supply operations records that:

Between four and five hundred Dakotas a day were employed in flying supplies into the depots at **Brussels**. Their cargoes were chiefly aviation and motor petrol but most kinds of ordnance stores were carried including tons of winter clothing to aerodromes all round the European theatre.

Aero engines, tank engines, personnel were flown into the area in an endless stream. Thousands of B.L.A. men and women going on leave were flown back to aerodromes around **London**. This business became a dull routine except for the vagaries of the English and Continental weather, which at times taxed our skill to the utmost. All pilots were graded into First, Second and Third class categories. Captains in the first grade were expected to fly in any weather on their own initiative. In this way it was hoped that really urgent supplies would always be delivered. Radar aids in our aircraft made all the difference between success and failure.

Meanwhile, in addition to supplying the armed forces, the transport aircraft also carried medical equipment, food, clothing, and **Red Cross** supplies of all kinds to the liberated cities of **France, Holland, and Belgium**. In one day No. **46 Group** alone carried 167 tons of goods to **Paris**.

Throughout the autumn and winter No. **46 Group** continued its supply missions, and although many continental airfields were in very poor shape the Dakota crews operated with commendable

¹ Flying Officer W. B. Garvin; born **Auckland**, 11 May 1918; taxi driver; joined **RNZAF** May 1942.

regularity and with scarcely any accidents except for wing tips damaged on congested emergency landing grounds. In December 1944 the airfield at Nivelles, close to **Brussels**, was made available solely for the use of transport aircraft. Steel planking for the runway was flown from England by transport aircraft and a strip 1200 yards in length was constructed. It proved of inestimable value during the following months.

As the Allied armies swept forward into **Germany**, No. **46 Group** played a prominent part in keeping advanced armoured columns on the move by flying supplies of all kinds, particularly petrol and oil, to forward strips. On their return flight its aircraft brought back liberated prisoners of war. During April and May 1945, Stirlings and Dakotas lifted some 80,000 Allied repatriates from continental airfields and flew them back to England.

Passengers and supplies of a somewhat different kind were carried by the crews of No. **38 Group** whose main task, apart from airborne operations, was to help the various agencies working behind the enemy lines. In this role they supplemented the work of Bomber Command, in which certain units had been flying 'special duty' missions since the early days of the war – notably Nos. 138 and 161 Squadrons which, by 1943, had become expert in dropping and picking up agents in various parts of **Europe**. With the advent of the invasion, operations in support of the various resistance movements were greatly expanded and from the main **RAF** base at Tempsford in Bedfordshire more than 28,000 containers, 10,000 packages, and 1000 agents were delivered to Western Europe between April 1943 and May 1945. The containers, each holding about 220 pounds, were carried in the bomb bays of Stirlings and Halifaxes, while packages were stowed in their fuselages. In this way supplies of all kinds were cast down to eager and resolute hands in **France, Belgium, Holland, Denmark, Poland, and Norway**. Small arms of all kinds, with the appropriate ammunition, were prominent among these supplies, but hardly less important were explosives for the work of sabotage, wireless equipment, food, clothing, medical supplies and, grimmest of all, poison pills for those who, if captured, might not be able

to endure the excruciating tortures which were so prominent a feature of interrogation by the **Gestapo**.

Among the New Zealanders who flew special duty missions, Wing Commander A. H. C. Boxer had a particularly long and distinguished career which included many flights to **Poland** and 'pick-up' operations in **France**. For the last year of the war Boxer was to command No. **161 Squadron**, which specialised in carrying Allied agents and in bringing back Allied airmen who had evaded capture. Flight Lieutenants Moffat ¹ and Strathern ² achieved a fine record of successful sorties as captains with No. **138 Squadron**; both survived several encounters with enemy fighters. Flying Officers Bell, ³ Cox, ⁴ and Kay ⁵ were among the pilots who flew many missions with No. **38 Group**. On one occasion Bell's aircraft was hit by flak while crossing the enemy coast. He flew on, but soon engine failure forced him to turn back. The night was moonless and very dark, the bomber soon became very difficult to control, and eventually Bell had to land on the sea. This he managed successfully, and although language difficulties increased the hazards of the incident – he was carrying a load of French paratroopers – all but two of the passengers were transferred to dinghies and subsequently rescued. Bell himself dived into the sea to save one man who could not swim.

The special duty aircraft was very much a lone wolf; it had no fighter escort and exploited low flying under most difficult conditions, contending with both flak and fighter defences. Moonlight nights were favoured for sorties, but it was exacting work requiring the most accurate navigation. Location of the actual landing or dropping zone was often the hardest part of a flight since reception committees naturally tended to select remote spots in forests or desolate valleys; in the absence of landmarks such as river, road or railway, these were extremely hard to find, since usually the only help received from the ground was the light from a few electric hand torches and this could easily be obscured by ground mist or low cloud. The torch- holders flashed an agreed recognition signal and arranged themselves in a pattern to indicate the dropping or landing zone.

If supplies were to be dropped the aircrew had to work hard to unload their cargo quickly in order to prevent the packages from being scattered. Landing to set down or pick up passengers was more precarious, since there was always the risk of arrangements going wrong. For example, a pilot landed one night at the usual recognition signal but immediately he touched down his plane was fired upon by Germans surrounding the ground. Behind the Maquis signaller stood a soldier pressing a revolver into his back. Realising the situation in a flash the pilot took off again, luckily with only a slight wound in the neck.

A cryptic phrase in a **BBC** foreign news bulletin was the usual method of warning recipients that a special drop was to take place.

¹ Flight Lieutenant W. P. Moffat, DFC; born **Palmerston North**, 23 Sep 1914; factory manager; joined **RNZAF** Jul 1942.

² Flight Lieutenant W. M. Strathern, DFC and bar; **RAF**; born **Invercargill**, 2 Aug 1919; electrical wireman; joined **RNZAF** Jan 1942.

³ Flight Lieutenant W. P. Bell, DFC; born **Blenheim**, 7 Dec 1912; farmer; joined **RNZAF** Apr 1941.

⁴ Flight Lieutenant F. A. Cox; born **Christchurch**, 6 Feb 1919; clerk; joined **RNZAF** Oct 1941.

⁵ Flight Lieutenant J. H. Kay, DFC; born **Auckland**, 10 May 1922; civil servant; joined **RNZAF** Dec 1941.

This was the call to action which sent men out into the night from their homes – maybe in some remote French or Dutch village or in a distant part of **Norway** – to make their way to the prearranged ground, where they waited for the sound of aircraft engines – and also for the noise of a German patrol. Sometimes bad weather or enemy fighters

prevented the aircraft from reaching them and they waited in vain; on other occasions containers and packages dropped by parachute might be scattered by the wind and men would have to spend most of the night seeking them, since discovery of parachute or package by the **Gestapo** invited examination of the whole district. Altogether the difficulties of delivery and reception were many but by 1944, with closer liaison between the **RAF** and the teams in the field, careful training and mutual understanding of each other's problems, a highly organised system was developed which, on the whole, operated with remarkable efficiency.

Of its results, one example is given by General Eisenhower in his despatch on the campaign in **Europe**. Describing the liberation of Brittany, he says: 'The resistance forces in this area had been built up around a core of **Special Air Service** troops to a total strength of 30,000 men. As the Allied columns advanced these French forces ambushed the retreating enemy, attacked isolated groups and strongpoints and protected bridges from destruction. They also provided our troops with invaluable assistance by supplying information of the enemy's disposition and intention. Not least in importance they had, by their ceaseless harassing activities, surrounded the Germans with a terrible atmosphere of danger and hatred which ate into the confidence of the leaders and the courage of the soldiers.'

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 14 – BOMBER COMMAND AND THE BATTLE OF GERMANY

CHAPTER 14

Bomber Command and the Battle of Germany

DURING the spring and early summer of 1944, with the Allied bombers almost fully engaged in support of the **Normandy** campaign and in attacking V-weapon targets, **Germany** had enjoyed a respite from heavy air attack. This respite, as Harris and Spaatz feared, the Germans had used to repair and rebuild damaged factories and to reorganise and disperse their war production. In these months, despite a new big mobilisation for the **Wehrmacht**, their war economy continued to expand, the output of armaments of all kinds increased and, in July 1944, **Germany** reached its highest level of war production. But this was the turning point. That same month British and American bombers returned to the assault of the Reich – an assault which was to be developed on a massive and previously unheard of scale during the last autumn and winter of the war. Within the space of nine months well over half a million tons of bombs were hurled down upon German cities, industrial centres, oil plants, and communications in a terrific onslaught that was to defeat the most energetic attempts at repair, dispersal and reorganisation, and bring ruin to the enemy's war economy.

Royal Air Force Bomber Command returned to the Battle of **Germany** with a force of 1500 heavy bombers, two-thirds of them Lancasters and the rest Halifaxes. There was also a small force of some 200 Mosquito light bombers, some of which were employed as pathfinders, others on special missions to deceive and disrupt the enemy defences. Notable advances had now been made in tactics, in radio counter measures and in navigational aids, which enabled this British force to be employed with devastating effect. In the sphere of tactics the despatch on major raids of a Master Bomber, an experienced pilot who flew over the target and directed the bombing by radio-telephone, proved highly successful in achieving greater concentration. Radio counter measures now employed no fewer than ten squadrons whose aircraft, equipped with a wide variety of scientific devices, jammed enemy radio and radar transmissions and

interfered with the equipment carried by the German night fighters. Existing navigational aids were steadily improved and refined and in October 1944 there came an interesting innovation in the form of a new radar aid, known as 'GH', which proved of immense value. ¹

Until September 1944 the German night-fighter force remained a formidable obstacle to successful night operations, but in that month the air defence of **Germany began to crumble. Not only was the **Luftwaffe** becoming very short of fuel, but with the German Army driven out of **France** the enemy's early-warning system was lost; simultaneously **RAF** ground stations for navigational aids were moved to the Continent and the range of 'Gee', 'Oboe', and 'GH' greatly extended. Every advantage was then taken of the desperate position of the enemy defences and extremely complicated operations were planned which made it most difficult for the Germans to concentrate their night fighters over any given target or on the route of any particular bomber stream. The collapse of the German defence system also made it possible for Bomber Command to operate more frequently by day against targets in **Germany**. Operations became less dependent on the weather, and during the last winter of the war they were maintained on a scale which would have been impossible but a year earlier.**

Of particular interest was the introduction at British airfields of the apparatus known as FIDO – the initials stood for 'Fog Investigation and Dispersal Operation' – which was responsible for saving many valuable aircraft and lives. Petrol burners were installed at short intervals along a runway and around the perimeter of selected airfields, and when lit heated the air sufficiently to disperse the fog. After considerable experiment three main airfields which had served for some time as emergency landing grounds were so fitted; Carnaby, in **Yorkshire, for the northern area; Manston, in **Kent**, for the southern region and for aircraft operating on the other side of the Channel; and Woodbridge, in Suffolk, for the benefit of the squadrons based in East Anglia. The lighted runway at each was some 3000 yards long and 250 yards wide and the latest navigational aids and systems of flying control were installed. By**

May 1945, 1200 aircraft had made landings at Woodbridge alone by the use of 'Fido'.

The main weight of Bomber Command's attack during the latter part of 1944 fell upon German cities. Beginning with a raid by 600

¹ This device exactly reversed the method of 'Oboe'; whereas the 'Oboe' ground stations made the first transmissions and used the echoes to guide the aircraft, the first 'GH' transmissions were made by the aircraft itself. This had the great advantage that a far greater number of aircraft could use the device simultaneously. There was, of course, the disadvantage that the necessary calculations of position, which with 'Oboe' were made at the ground stations, had to be made in the aircraft; but against this a number of aircraft, bombing on their own fixes, tended to cancel out the cumulative errors which arose from a system used by only one machine at a time.

Lancasters and Halifaxes against **Kiel** on 23 July, British bombers attacked eighteen German towns during the next five weeks, dropping 30,000 tons of bombs. At almost every target the bomb concentration was greater than ever before. In **Stuttgart**, which was hit three times within five nights, there was terrific destruction and more than 100,000 people were made homeless. After one single raid on **Bremen**, reconnaissance photographs showed 'an area of almost complete devastation extending for over three miles from the old city as far as the west part of the docks; three quarters of the Atlas Shipyard buildings were destroyed, nearly forty dockside warehouses gutted and rail facilities severely damaged'. There was a period in mid-September when columns of smoke rose from half a dozen German cities at the same time. Speaking in **Essen** that month, Goebbels declared 'that our worst headache is the air war. The test to which the enemy is putting our people, particularly in the west, is severe and grievous.'

But as yet the onslaught had only begun. In October, Bomber Command intensified its attack, devoting a major part of its effort to the Ruhr. Here the great industrial centres of **Bochum**, **Dortmund**, **Duisburg**,

Dusseldorf, and **Essen** were subjected to repeated and massive attacks. Over 1000 Lancasters and Halifaxes were sent to **Essen** on the night of 23 October and 770 in the daylight raid which followed two days later. **Dusseldorf** was the target for a thousand-bomber raid in which 4500 tons of bombs fell on the city, while bomb-scarred **Cologne**, attacked three times in four days by large forces, received nearly 10,000 tons. The attacks on **Duisburg** during the day and night of 14 October were among the heaviest of the whole war in space and time. Within eighteen hours over 2000 aircraft dropped a total of 9299 tons of high explosive, which was more than the **Luftwaffe** had dropped on **London** during the whole year of the blitz. When **Bochum** received its second attack of the month from a force of over 700 bombers, the city soon became engulfed in a sea of flame and a few days later reconnaissance pilots found 'large concentrations of craters intermingled with gutted buildings to form huge areas of complete devastation.'

Further blows of tremendous weight and great severity continued to fall on the Ruhr cities during November 1944. **Duisburg**, **Essen**, and **Solingen** – the **Sheffield of Germany** – were each heavily bombed twice more and there were further massive raids on **Dortmund**, **Hagen**, **Neuss**, **Oberhausen**, and **Munster**. Outside the Ruhr the northern ports, together with industrial cities in central and southern **Germany**, were also bombed, particularly heavy attacks falling on **Bremen**, **Wilhelmshaven**, **Brunswick**, **Karlsruhe**, and **Stuttgart**.

Certainly the tonnage of bombs unloaded on German towns by the **RAF** during the autumn of 1944 was much greater than it had been during any previous period of the war, yet the damage inflicted on the enemy's war industry did not rise proportionately. This was particularly true of the Ruhr and Rhineland where, in cities like **Cologne** and **Essen**, many of the heavy blast bombs did little more than convulse the rubble. 'Effective additional damage,' says Sir Arthur Harris, 'could only be done to the already devastated cities of the Ruhr by the enormous expenditure of bombs, and as much as four to five thousand tons in a single attack and sometimes up to 10,000 tons in two attacks in close

succession.' Actually the Ruhr-Rhineland area was no longer the concentrated arsenal it had been in the first four years of the war. Many of the light industries – especially those making munitions, small arms, radio equipment, and all manner of accessories and components for tanks, aircraft, vehicles, and U-boats – had long since been dispersed in small towns or else had been removed to central or eastern **Germany**. Consequently the immediate output of munitions and weapons, other than tanks, was not directly affected to any considerable extent by Bomber Command's renewed onslaught. On the other hand, the heavy industries that the Germans had not been able to disperse or transplant suffered severely; in particular, the production of coal and steel which, until September, had been maintained at a level little below the peak of the previous year, now showed a sharp decline. During the last quarter of 1944 the Ruhr produced barely half the hard coal and crude steel that it had produced in the first quarter.

Even so, there seems little doubt that the most important result of Bomber Command's renewed onslaught on German cities during the autumn of 1944 was the incidental destruction of transport facilities. 'Transport governs all,' declared Speer, addressing German production leaders early in November. 'The most urgent problem is the coal crisis which its disruption has already caused.' What had happened was that although large quantities of coal were still being produced in the Ruhr it was proving impossible to distribute them. Already only some 10,000 wagon-loads a day were leaving the Ruhr as against the 20,000 being moved before the bombing began. Speer was deeply disturbed at this trend of events but hoped that the approaching winter weather would restrict the bombing, when it would be possible to restore the situation by a tremendous effort at repair and reconstruction. But all his plans and hopes were doomed to be frustrated. Not only did the attacks continue throughout the winter but, from November onward, Bomber Command began to concentrate more and more against railway centres and communications, with results even more marked than they had been during the autumn.

Greater concentration of the Allied bombing effort against transport targets had long been urged by Air Marshal Tedder. In his opinion the one common factor in the whole German economy vital to both war industry and to the armies in the field was the German system of railways, roads, and canals. The heavy air attacks before D Day had paralysed the French and **Belgium** railways to an even greater degree than had been anticipated. A similar campaign against the German transport system, Tedder argued, would have the same devastating effect; it would not only produce economic chaos inside the Reich but would also substantially reduce military supplies to the western front. In spite of doubts on the part of the British Air Staff and Air Chief Marshal Harris's concern that heavier casualties would be incurred if he concentrated on one type of target, Tedder had eventually won support for his views. Early in November a new directive to the Allied bombing forces gave transport clear priority, with oil, for attack.

British crews bombed eleven communication centres in **Germany** during the closing weeks of 1944, among them the important railway junctions of Aschaffenburg, near **Frankfurt**, Soest and Saarbrücken. An outstandingly successful attack was made on the railway centre at Giessen on the night of 6 December. After two hundred Lancasters had been over in clear weather, craters studded the marshalling yards, engine sheds were wrecked, and other buildings destroyed; three weeks later the marshalling yards were still completely out of action. But by far the most important contribution made by Bomber Command to the transport offensive during this period was the series of attacks on the important **Dortmund**-Ems and Mittelland canals.

The **Dortmund**-Ems canal, as its name implies, not only linked the North Sea port of **Emden** with the Ruhr but also, through a junction with the Mittelland canal near Rheine, carried all the inland water-borne traffic between the Ruhr and central and eastern **Germany**. This traffic, which now amounted to some thirty million tons a year, consisted largely of coal and coke moving from the Ruhr and raw materials, such as iron ore, being carried to its furnaces and factories. There was one

point where this canal was particularly vulnerable to air attack, namely in the neighbourhood of Ladbergen, where the canal was carried over the River Glane in an aqueduct. Well aware of the danger, the Germans had constructed a second branch also across the river on an aqueduct; thus, should the first be blocked, there would be an alternative channel. At the same time elaborate camouflaging of the course of the Glane was attempted and safety gates were built on both branches of the canal to prevent long stretches being drained by breaching the embankments.

Towards the end of September 1944, ninety-nine Lancasters attacked and hit both branches at points where they were above the level of the surrounding country. Water drained from both canals into the river below and, in spite of the safety gates, a stretch 18 miles long was left almost dry with more than a hundred barges stranded. The energy with which the Germans set about repairing the waterway gave eloquent testimony to its importance. Within a month these repairs had been completed. Thereupon, early in November, Bomber Command attacked again, this time with 176 aircraft. The western branch of the canal was breached in the same place as before, only this time the breach was wider, while in the eastern branch two lengths of embankment, together amounting to 1500 feet, were destroyed; two bombs also pierced the aqueduct at the point where it crossed the River Glane and left a hole going down to the riverbed some 70 by 230 feet in dimension. The water, carrying many barges with it, drained into the countryside. Once again the Germans set about repairs but this time they sealed off the eastern branch, evidently considering it was beyond hope. The reconstruction was completed by 21 November and on that day the canal was being filled with water. The same night 228 RAF bombers attacked again, scoring at least four direct hits on the aqueduct and breaching the embankment on both sides of the safety gates.

Tenaciously the Germans began repairs yet again, and a month later photographic reconnaissance revealed that by feverish activity their engineers had accomplished the feat of reconstruction. Nine minutes only sufficed for 102 Lancasters to wreck the results of their labours.

Attacking in daylight on 1 January 1945, the bombers almost obliterated their target and reconnaissance after the raid showed delayed-action bombs still bursting as water poured through a wide breach in the western wall to flood the surrounding countryside. The bombing of the Mittelland canal at Gravenhorst was equally effective. After the raid on 21 November 18 miles of this canal was drained and navigation stopped, photographs showing fifty-nine barges stranded over a distance of barely a mile. In the next attack on this target on 1 January, British crews put down a most accurate concentration of bombs and long stretches of the embankment were destroyed. Repairs were attempted but navigation beyond Gravenhorst was never again resumed.

As the movement of coal by rail was more and more restricted through air attack, its transport by canal had become decisive in the maintenance of industry in **Germany**. Yet, since the end of September 1944, there had been few days when the Germans were able to use these two important waterways; even though they made the utmost use of those few days by rushing closely packed convoys of barges through the danger points, throughout all these months there was an average loss to the central and eastern areas of **Germany** of some 40,000 tons of coal a day, or the equivalent of fifty train loads.

German cities and communication centres continued to receive heavy attacks throughout the winter months, but the outstanding feature of this period was Bomber Command's larger and highly successful part in the oil campaign. A brief retrospect is necessary to note the development of this campaign and the difficulties and controversies that accompanied it.

German oil production had long been regarded as an important objective, but until 1944 conditions for successful attack had been lacking. In the spring of that year, **United States** bombers operating from both the **United Kingdom** and **Italy** began an offensive against oil targets which, although limited in weight and extent, produced promising results. However, it was not until early June that high priority

was ordered for the attack of the enemy's oil supplies. The general arrangement then was that RAF Bomber Command and the **US 8th Air Force** would attack synthetic oil plants in central and eastern **Germany**, together with crude oil plants around **Hamburg, Bremen, and Hanover**. At the same time the **US 15th Air Force** based in **Italy** was to bomb the refineries around **Ploesti**, Vienna, and Budapest, together with synthetic plants in Silesia and **Poland**. **Royal Air Force 205 Group** also operating from **Italy** was to continue its immensely effective work of mining the Danube so as to obstruct oil shipments to the Reich.

Bomber Command entered the oil campaign with an initial list of ten synthetic plants in the Ruhr. Here in the past few months the Americans had sustained fairly heavy casualties from flak, and the accuracy of their daylight attacks had been considerably reduced by the ever-present industrial haze; however, it was hoped that Bomber Command, with its new navigational aids, would be able to overcome this obstacle even though its attacks would be launched at night. The first **RAF** attack took place on the night of 12 June when some three hundred aircraft were sent to bomb the Nordstern plant at **Gelsenkirchen**, one of the largest in **Germany**. Bombing on markers dropped by Oboe-equipped pathfinders was very effective and photographic reconnaissance revealed widespread damage over the entire area of the plant. Most of the subsequent attacks were equally successful and by the end of September British crews had dropped 12,600 tons of bombs on all ten of their allotted targets. Meanwhile American bombers, in a series of spectacular daylight raids, had dropped more than 50,000 tons.

The combined onslaught produced something like panic in **Germany** for it coincided with the loss of the Roumanian oilfields, which forced the Germans to rely more than ever on their own synthetic plants. At the end of August Speer told **Hitler** that the oil situation contained 'all the portents of catastrophe', adding that 'the last air attacks have again hit the most important oil works heavily The three hydrogenation plants at Leuna, **Bruix** and Politz, although only recently in commission

again, have been brought to a complete standstill for some weeks' In the second week of September, just when these plants were about to resume the refining of petrol, there were further heavy attacks and for nine days synthetic production ceased entirely. The month's output of aviation and motor spirit was only 57,400 tons, barely one-sixth of the amount consumed in August. Stocks of petrol which had stood at more than a million tons in April were now reduced to 327,000 – one month's supply at the rate of consumption prevailing before the air attacks began. For September the petrol allocation to the German forces had been cut by 50 per cent and in October there was a further reduction. Among other things, this had an immediate effect on the **German Air Force**. Not only were training schedules drastically reduced but actual operations were also restricted. Thus, in spite of the delivery of more than 3000 single-engined fighters in September (an all-time record for the Reich), the **Luftwaffe** was even less capable of defending the oil plants than it had been in the summer.

Unfortunately, however, the Allied air forces failed to follow up their initial success in the oil campaign. During October 1944, less than one-tenth of their total effort was directed against oil targets as compared with more than 25 per cent in both July and August. Bomber Command devoted only six per cent of its October sorties to oil. This reduction of effort allowed the Germans, by a series of brilliant expedients, to repair and rebuild their refineries sufficiently to produce 96,000 tons of petrol in November. This was only a third of the output for April and less than current consumption, but, by enforcing the most stringent economies, **Hitler** was able to postpone the day of reckoning into the New Year.

The slackening of the oil offensive was due to several reasons. Bad weather which came unexpectedly early gave the key refineries in eastern **Germany** and **Czechoslovakia** a degree of protection which the **Luftwaffe** could not provide. The summer raids on these plants had been made entirely by the Americans and, although they had caused great damage, this had seldom resulted in plants being put out of action for more than two or three weeks. The Americans had found that they

needed to make repeated attacks if they were to keep the refineries idle, but the autumn weather made this increasingly difficult. Bomber Command, which could deliver much heavier and more concentrated blows, was therefore asked to help with these distant targets. But Air Marshal Harris was anything but enthusiastic about the proposal. From the outset he had been 'altogether opposed' to the oil campaign and still very much doubted its value. In his opinion oil was only another 'panacea' target and 'the arguments of the economic experts had invariably proved fallacious.' Harris was subsequently to admit that for once the experts had been right, but at the time he persisted in the belief that he could do most damage to the enemy by intensifying his area attacks on industrial cities.

One reason for Harris's reluctance to attack the more remote oil plants was the fact that these lay beyond the range of the radar navigational aids which had enabled his bombers to strike so effectively at targets in the Ruhr. He argued, therefore, that refineries such as Leuna, [Brux](#), and Politz could not be bombed accurately except in weather good enough for visual bombing, and such weather would favour the enemy defences. The Luftwaffe's night-fighter force was still formidable and Bomber Command would suffer heavy losses if he sent main forces deep into [Germany](#) to attack objectives so obvious and vital as the synthetic plants. Since the chances of success appeared to him to be small, he was not prepared to take the risk until he had compelled the [Luftwaffe](#) to dispose its night fighters in defence of many widely separated targets. He could compel such dispersion, he thought, only by resuming mass raids on major cities. So strongly did Harris hold these opinions that when pressed to intensify the attack on oil targets he offered to resign, and it was not until mid-December that he was finally prevailed upon to bomb the distant oil refineries at Leuna and Politz. In the event, only seven out of seven hundred aircraft were lost in the two attacks. Bomber Command's loss rate had, in fact, been steadily decreasing since the summer, and in September and October it was less than two per cent.

Meanwhile German hopes that the bad weather and fogs of winter would prevent a renewal of the offensive had not been realised. In November the total Allied effort against oil was nearly treble that for October. The United States Air Forces bombed plants and refineries over a wide area, dropping a total of 21,500 tons in persistent daylight attacks. Bomber Command, while still devoting more than half its effort to German cities, added a further 14,000 tons in operations against synthetic plants in its familiar battle-ground of the Ruhr. The heaviest **RAF** raids fell on the refinery at Homberg. This had already been badly damaged by Bomber Command in the summer and the additional damage now wrought caused the plant to be finally closed down. At Castrop-Rauxel the plant had not resumed full production after earlier damage when it was again attacked by 260 Lancasters on 21 November. Thereupon all attempts at further repair were abandoned. By the end of the month most of the synthetic oil plants in the Ruhr were no longer operating.

Two notable developments in December 1944 marked the opening of the final stage in the campaign against German oil supplies. Firstly, the **US 15th Air Force** carried out over a period of ten days what were, in many ways, the most remarkable series of sustained operations in the whole offensive. In particular, they achieved the immobilisation of the Silesian synthetic plants – clinched four weeks later by their capture by the Russian Army – and stopped production in the synthetic plant at **Brux**, which was working up to a substantial output after it had been heavily damaged early in the previous summer. Secondly, **RAF Bomber Command** with its successful attacks on the synthetic plants at Politz and Leuna now entered more fully into the oil campaign. In fact, the 47,000 tons dropped by British crews on oil targets during the first twelve weeks of 1945 was considerably more than the effort for the whole of the previous year. In January 1945 strong forces of Lancasters made further attacks on Leuna and Politz and also bombed the large oil plants at **Brux**, Wanne-Eickel, and Zeitz. In addition, the Benzol plants at **Dortmund**, Castrop-Rauxel, Fortsetzung, and Langendreer were subjected to heavy raids. By the beginning of February the plant at

Politz had been reduced to 'a shambles of wrecked buildings, shattered tanks and buckled piping.' It did not resume production again.

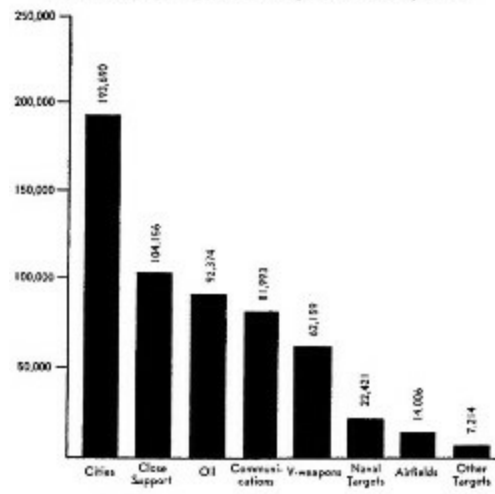
As the Allied attack continued the German repair organisation became increasingly powerless to deal with the heavy destruction, especially that dealt out by the large bombs of the [Royal Air Force](#). Speer commented to [Hitler](#) upon the great effectiveness of these heavy bombs and spoke of their 'extraordinary accuracy in attaining the target even though they were often dropped at night.' In his opinion, Bomber Command's night attacks 'caused considerably more damage than day raids' and were often the decisive factor in putting out of action the largest and most important of the enemy's synthetic oil plants. 'Repair measures,' he adds, 'were executed at most plants until the end of the war but towards the end the bombers succeeded in timing their attacks either shortly before or shortly after the resumption of production so that it was no longer possible to attain any output worthy of the name.'

Meanwhile Bomber Command had also continued to attack German industrial cities, communication centres, and rail marshalling yards. No fewer than 50,000 tons of bombs were carried to these targets in both day and night raids during the first eight weeks of 1945. The British bomber force was now at the height of its power and efficiency and, even though January and February brought particularly unfavourable weather, there was a higher average total of sorties for these months than in any previous winter of the war. With ground stations established on the edge of [Germany](#) and with the enemy air defence largely impotent, aircraft could now attack distant targets with a certainty of success, so the offensive was carried into industrial Saxony, where towns that had been previously untouched were largely destroyed. Dresden, for example, was devastated over a wide area on the night of 13 February by a force of just over 800 aircraft, while other important industrial centres such as Dessau and Chemnitz were successfully attacked for the first time. Smaller towns in the west which had previously been considered too small and too difficult as targets were also raided with marked effect. At the same time the further bombing of

such cities as **Cologne, Hanover, Kassel, Munich, and Nuremberg** served to augment the attacks on specific rail and communication targets.

These attacks, particularly those directed against marshalling yards and bridges in the Ruhr, increased the confusion wrought throughout **Germany** by the earlier Allied raids on rail and water transport. In his interrogation after the war Speer declared: 'From November onwards, with the sharp deterioration in the transport position, the coal situation became so catastrophic that it was impossible to avoid the most severe dislocations in the whole of the armaments industry.' By March 1945 important power-stations, after struggling for months with inadequate supplies of coal, had begun to close down completely. Gasworks throughout **Germany** were in a similar plight, while metal-producing plants and munition factories no longer produced. The German railways were reduced to a few days' supply of coal; some divisions had even less, locomotives were standing idle, and coal in transit was being confiscated to keep military trains moving. Meanwhile, at the Ruhr collieries the coal was piling up in huge dumps; by the end of February, stocks there stood at well over 2,000,000 tons as against 415,000 tons six months earlier. Thus did the transport campaign reach its climax.

No less dramatic was the ultimate effect of the air campaign against the enemy's oil supplies. By March 1945 the German armies were desperately short of fuel, and the small reserves of aviation spirit that still remained would soon be exhausted. After the war both Speer and Jodl separately confirmed that lack of fuel was substantially responsible for the rapid collapse of the German forces on the eastern front. In the third week of January 1200 tanks had been massed at Baranovka to stem the Russian drive into Upper Silesia. 'When the Russian attack started,' says Speer, 'the tanks were practically unable to move.' On the Western Front the position was no better. From January onwards the quantities of fuel available were reduced to insignificant proportions. 'The main burden of the fighting,' says the commander of the Fuehrer Escort Brigade, 'was borne by the infantry because, in spite of concentration of fuel supplies, our tanks have only been mobile in special circumstances.'



(Based on figures in Air Ministry monthly summary of operations.)

RAF Bomber Command

Distribution of Effort by Bomb Tonnages, June 1944–April 1945

(Based on figures in Air Ministry monthly summary of operations.)

During this final battle of **Germany**, Bomber Command also attacked naval targets with marked success. At Dutch, Norwegian, and Baltic ports the bombers sank or damaged both warships and merchantmen, smashed U-boat and E-boat pens, and inflicted widespread destruction upon dock areas and shipyards. Minelaying was also sustained, and although the effort was on a somewhat smaller scale – as a result of the Allied advance many areas no longer needed attention – the mines laid from the air continued to take a heavy toll of enemy ships along those routes still open for them.

A particularly outstanding achievement was the sinking of the *Tirpitz*. There had been several earlier attempts to sink this great 43,000-ton battleship, but in September 1944 it still remained afloat at Alten Fiord in the north of **Norway**, causing no little irritation and anxiety at the British Admiralty. ¹ Alten Fiord was out of range of Lancasters carrying a normal bomb load so two squadrons, Nos. 9 and 617, which had specialised in precision bombing, were sent to attack from a base in **Russia**; by approaching from the east there was also a better chance of achieving surprise and of aiming at least some bombs before the smoke screen set up for the protection of the battleship could provide effective cover. However when, on 14 September, the twenty-

seven Lancasters reached the fiord, they found it filled with smoke and only one crew got a sight on the battleship, which was hit by a 12,000-pound bomb in the bows. The damage was not very clear in the reconnaissance photographs but captured German documents show that it was more severe than was thought at the time – in fact, the *Tirpitz* could not have been repaired before the end of the war. The battleship now moved slowly to Tromso, which was just within range of Lancasters based in [Britain](#) but so far north that there was little time left before the darkness of the Arctic winter descended to prevent daylight attack for several months. On 29 October a second attack by the same two squadrons was foiled at the last moment when low cloud drifted in from the sea and completely covered the target area. A fortnight later, however, the Lancasters found Tromso clear of smoke and cloud and the first 12,000-pound bomb dropped hit the *Tirpitz* amidships, causing a jet of steam to burst from her riven deck and form a huge mushroom above her. Two more bombs also found their mark, and as the last aircraft turned away the great battleship heeled slowly over; when a Mosquito flew over two hours later only the bottom of her hull showed above the water.

Ten New Zealanders were among the crews who flew these spectacular but difficult operations and four of them were captains of aircraft – Flight Lieutenant Gumbley ² and Flying Officer Joplin ³ who flew with No. [617 Squadron](#), and Flying Officers Coster ⁴ and

¹ In April 1942 Halifaxes had made two low-level attacks at night when the *Tirpitz* was anchored off Trondheim, but a smoke screen had provided an effective shield. Following an attack by a Russian submarine three months later, the *Tirpitz* was in dock for six months undergoing repairs. In the autumn of 1943 two midget submarines of the Royal Navy penetrated the anti-submarine defences at Kaa Fiord, off Alten Fiord, where the *Tirpitz* had been based for some time. Torpedo hits put her out of action for a further six months. Then, during the spring and summer of 1944, dive-bombers of the Fleet Air Arm operating from aircraft carriers succeeded in confining the battleship to Kaa Fiord.

² Flight Lieutenant B. A. Gumbley, DFM; born **Napier**, 12 May 1915; projectionist; joined **RNZAF** Aug 1941; killed on air operations 21 Mar 1945.

³ Flight Lieutenant A. W. Joplin; born **Auckland**, 23 Oct 1923; clerk; joined **RNZAF** May 1942.

⁴ Flying Officer D. A. Coster; born **Invercargill**, 13 Jul 1918; tractor driver; joined **RNZAF** May 1942.

Harper, ¹ who flew with No. **9 Squadron**. Coster and his crew had an unenviable experience during the final raid. On the run up to bomb their Lancaster was hit by flak, and shortly afterwards two engines developed trouble. With little hope of reaching base the crew set course for **Sweden**, where they force-landed safely but not before they had been attacked by Messerschmitts on the way. A few days later the crew were flown back to England by the **RAF's** 'special air service'.

New Zealand pilots, navigators, bomb aimers, wireless operators, and gunners were similarly well represented in the many raids on German industrial centres, transport targets, and oil plants. Some flew with No. 75 Squadron, many more as crew members of **RAF** Lancasters, Halifaxes, and Mosquitos. There were some remarkable experiences. On 1 January 1945 Flying Officer Denton ² captained a Lancaster of No. **9 Squadron** in the attack on the **Dortmund**-Ems canal, the vulnerable stretch of which was well defended by anti-aircraft guns. Bombs had just been released when the Lancaster was hit by two heavy shells in quick succession. Gaping holes were torn in the fuselage, fire broke out in the mid-upper turret, and ammunition began to explode in all directions; through the shattered perspex screen in the nose rushed a continuous stream of air to fan the flames. With its trimming gear damaged the bomber became tail heavy, and it was only by forcing the control column forward with his knees that Denton was able to maintain level flight. Further misfortunes soon followed. The starboard inner engine caught fire and

had to be feathered; then the inter-com. failed. The crippled aircraft was now alone and an easy target for any enemy fighters which might appear, for the bomber stream and its escort were well out of sight. Charts for navigation had been blown away by the first inrush of air so an approximate course was set towards the Allied lines. Every minute the situation inside the bomber became more desperate. Parachutes had been torn to pieces by shell fragments; two members of the crew were so severely burned that they subsequently died; the rear gunner, overcome by the fire and the fumes, had been dragged from his turret and lay unconscious with his clothing smouldering, while Denton and the rest were feeling the effects of frostbite and fatigue. Finally, the Rhine could be seen below. Flying over it at 4000 feet, the Lancaster was again the target for enemy flak and, during efforts to evade it, further height was lost. Once friendly territory had been reached the climax came quickly. The port inner engine failed and Denton made an

¹ Flying Officer M. L. T. Harper, DFC; born **Invercargill**, 19 Nov 1919; railway porter; joined **RNZAF** May 1942.

² Flight Lieutenant F. H. Denton, DFC; born **Christchurch**, 25 Mar 1920; farmer; joined **RNZAF** May 1942.

immediate crash-landing. As he did so the fuselage broke in half where flak damage and fire had been most severe.

Another amazing series of incidents befell Flying Officer Byers ¹ and his crew of No. **61 Squadron** one night in December during the attack on Giessen. First came a sharp fighter attack; then, just as the bombs were released, a nearby burst of flak sent their Lancaster plunging almost out of control. A minute later incendiaries dropped from an aircraft above struck the fuselage, followed almost immediately by a burst of fire from a fighter which killed the mid-upper gunner and set his turret alight. The blaze soon gained a firm hold and a second fire developed in the port wing, sending long tongues of flame licking along the fuselage. Byers

now ordered the crew to bale out but the wireless operator, busy over his set, did not hear the order. He remained in the aircraft and, as the Lancaster flew on, managed to subdue the fire in the mid-upper turret. Byers, who had stayed at the controls, thereupon decided to attempt a landing on the Continent. Eluding a trailing fighter, he flew towards Liege on fixes supplied by his companion. Eventually the Lancaster arrived over an airfield – it was unlighted and its short runway was normally only used for fighters, but Byers managed a safe landing with the aid of the aircraft's lights and Very cartridges.

Occasionally these grim experiences had their lighter side. When one New Zealand navigator, after baling out from his crippled Lancaster, crashed through the roof of a granary in a Dutch village, the people sleeping below mistook his arrival for that of a delayed-action bomb and hastily left the building, leaving him trapped until daybreak. The navigator, Flying Officer Pratt ² of No. [462 Squadron](#), tells his story thus:

We jumped at seventeen thousand feet. There was a terrific gale at that height and I thought I should never get down as I was being blown along almost horizontally. At long last I saw a dark mass below me. Then a church steeple flashed by and I went crash through a roof. I found myself swinging by my parachute harness in inky darkness and released myself. I think I was knocked out for half an hour. When I came to it was still dark and I felt all the way round the walls and gradually realised that there was no door. I could see a glimmer of light from the hole I had made in coming through the roof and managed to climb through it to the roof top. I shouted and shouted without result for a long time, but when light finally came there must have been half the village packed into the streets below. When the police finally rescued me I found I had crashed through the roof into a loft twenty feet high with only a trap door exit in the floor.

During this last year of war New Zealand airmen distinguished themselves in many different roles with Bomber Command. Several

¹ Flying Officer I. H. Byers, DFC; born **Shannon**, 30 Sep 1917; factory manager; joined **RNZAF** Jul 1942.

² Flying Officer O. D. Pratt; born **Invercargill**, 12 Sep 1912; accountant; joined **RNZAF** May 1942.

veteran pilots were concerned with the control and planning of operations; others commanded squadrons or served as flight commanders with operational units, some being selected to undertake the highly important duties of Master Bomber during major raids. Experienced men who had been fortunate enough to survive the earlier campaigns flew with the pathfinder squadrons paving the way night after night for the main bomber force; among captains of aircraft the proportion of New Zealanders was relatively high, while in the many important tasks connected with organisation, training, and maintenance the Dominion continued to be well represented.

Air Vice-Marshal C. R. Carr, Air Commodore S. C. Elworthy, and Air Commodore A. McKee were outstanding personalities. Carr, in his fourth year as commander of No. 4 Bomber Group, continued to direct the operations of his **Halifax** squadrons with typical energy and skill; Elworthy, as Senior Air Staff Officer at No. 5 Group, was responsible for the planning and execution of many notable missions, including the series of attacks which resulted in the sinking of the *Tirpitz*; McKee continued in charge of the important bomber base at Mildenhall, where his handling of the operational squadrons and other units under his control won special commendation. Among squadron commanders, Wing Commander J. R. St. John's fine record of service – he completed three tours of operations – won him admission to the Distinguished Service Order. Other New Zealanders in charge of bomber squadrons during this period were Wing Commanders D. W. S. Clark and **Shannon**, ¹ who led Halifaxes in Carr's group, and Wing Commanders J. R. Maling, Scott, ² and Shorthouse, ³ with Lancasters.

Wing Commander B. W. McMillan with No. **582 Squadron**, Squadron

Leader A. W. G. Cochrane of No. 156 Squadron, and Squadron Leader Bromley⁴ with No. 35 Squadron were among the small group of experienced pilots entrusted with the exacting and hazardous duties of Master Bomber. The Master Bomber and his deputy stayed over the target throughout an attack. After assessing

¹ Group Captain U. Y. Shannon, DFC; **RAF**; born **Wellington**, 6 Dec 1905; joined **RAF** 1930; commanded No. 30 Sqdn, **Iraq**, **Egypt**, and **Greece**, 1938–41; **RAF Station**, **Gordons Tree**, **Middle East**, 1941; No. 10 Sqdn, 1944–45; **RAF Station**, **Full Sutton**, 1945.

² Wing Commander C. W. Scott, AFC, **Croix de Guerre (Fr.)**, **Chevalier of the Order of Leopold (Bel.)**; born **Milton**, 20 Sep 1917; transport driver; joined **RNZAF** Jan 1940.

³ Wing Commander J. S. Shorthouse, DFC; born **Portsmouth**, **England**, 11 Apr 1920; joined **RNZAF** Apr 1939; transferred **RAF** Jan 1940; transferred **RNZAF** Jul 1945; commanded No. 189 Sqdn, 1944–45.

⁴ Wing Commander C. W. Bromley, DFC, AFC; **RAF**; born **Melbourne**, 27 May 1915; joined **RAF** 1938; commanded No. 6 **BATF**, 1941–42; asst Air Attaché, **Stockholm**, 1945–47.

the accuracy of target indicators dropped by marker aircraft and broadcasting instructions for bombing to the main force, they watched the progress of the raid, ready to order further marking or to correct any drift of the bombing away from the target. McMillan directed many successful attacks and also gave outstanding service with his pathfinder squadron; in December 1944 he was made a Companion of the Distinguished Service Order and two months later was awarded the Distinguished Flying Cross. Cochrane flew at least fourteen missions as Master or Deputy Master Bomber and by the middle of February 1945 had completed over eighty sorties, including forty-eight as a pathfinder

captain. On the night of 7 February 1945 he controlled the important attack on the fortified town of Goch. Early in the raid his Lancaster collided with another bomber, and although part of the port wing was torn away, he continued to direct the attack until all aircraft had bombed. Such was the quality of Cochrane's work as Master Bomber that he was decorated in three consecutive months – he was made a Companion of the Distinguished Service Order in January 1945, the next month he received a bar to the Distinguished Flying Cross he already held, and a second bar followed in March.

Many New Zealanders who flew with pathfinder squadrons during this last year of war were on their second or third tours of operations. One pilot, Squadron Leader Ashworth,¹ was to complete a total of 110 sorties which involved some five hundred hours on operations. Ashworth, who began his career with No. 75 Squadron early in 1941, had also flown many sorties in the **Middle East** before taking a prominent part in the formation of the PFF and the evolution of its tactics. Squadron Leader G. M. Allcock, who had flown transport aircraft in the **Middle East** and then served as a flight commander with the New Zealander bomber squadron, was to complete his second tour of bombing operations with No. **7 Squadron**. With this same unit Squadron Leader Bray² and Flight Lieutenant Muir,³ now on their second tours, were outstanding as captains of target-marking aircraft. Squadron Leader J. M. Smith, who had flown consistently since 1941, was equally successful with No. **97 Squadron**.

With the main bomber force, Flight Lieutenant Allen⁴ and Squad-

¹ Squadron Leader A. Ashworth, DSO, DFC and bar, AFC; **RAF**; born **Gisborne**, 3 May 1920; draughtsman; joined **RNZAF** Sep 1939; transferred **RAF** Jun 1940.

² Squadron Leader A. C. Bray, DFC and bar; born **Ashburton**, 8 May 1914; clerk; joined **RNZAF** Sep 1940.

³ Flight Lieutenant A. J. Muir, DFC and bar; born Dunedin, 30 May 1913; plumber joined **RNZAF** Apr 1942.

⁴ Flight Lieutenant T. W. Allen, DSO, DFC; born **Auckland** 11 Mar 1922; engineer; joined **RNZAF** May 1941.

ron

Leaders W. T. Brown, ¹ Gainsford, ² Glensor, ³ Harrison, ⁴ and Scott won distinction as flight commanders and captains of aircraft. Glensor had originally been a navigator in Wellingtons. Shot down over **Essen** in the middle of September 1942, he had evaded capture and, in spite of very great hardships, had made his way through **France** and **Spain** to return to the **United Kingdom** some four months later. He immediately applied to resume operations and was subsequently trained as a pilot. Prominent navigators were Flying Officers Avery ⁵ of No. **106 Squadron**, Creamer ⁶ of No. **227 Squadron**, and Kelly ⁷ and Stevens ⁸ of No. **619 Squadron**. Flight Lieutenant Gordon ⁹ had a fine record as bombing leader with No. **625 Squadron**, while other air bombers to distinguish themselves were Flying Officers Combs ¹⁰ of No. **514 Squadron** and Birtles ¹¹ of No. **619 Squadron**. Flight Lieutenant Twist ¹² did valuable work as flight engineer leader with No. **106 Squadron**. He had enlisted in the **Royal Air Force** in 1940 as an aircrewhand and in a varied career had flown in bombing attacks on targets in **Germany**, **Italy**, and the **Middle East**.

New Zealanders were also prominent among the crews of Bomber Command's versatile Mosquito squadrons. The Mosquitos had long been employed both as pathfinders and for diversionary raids; their harassing attacks had also been a constant and, from the enemy's point of view, a most irritating and unpleasant feature of the bomber offensive. Night after night, flying at between 30,000 and 40,000 feet, they were over **Germany** inflicting damage out of all proportion to the weight of bombs they dropped; sirens wailed continually in enemy cities and night

fighters were drawn away from the main bomber stream. As the war progressed the strength of their raids,

¹ Squadron Leader W. T. Brown, DFC and bar; born **Oamaru**, 13 Aug 1911; fields instructor; joined **RNZAF** Sep 1941.

² Squadron Leader A. P. Gainsford, DSO, DFC, AFC; born **Auckland**, 20 Nov 1913; mercer; joined **RNZAF** Sep 1940.

³ Squadron Leader R. E. Glensor, DFC; born **Wellington**, 13 Nov 1916; clerk; joined **RNZAF** Sep 1940.

⁴ Squadron Leader J. A. Harrison, DSO, DFC; born **Hastings**, 28 Sep 1914; farmer; joined **RNZAF** Nov 1940.

⁵ Flying Officer G. A. Avery; born **Blenheim**, 20 Dec 1920; farmer; joined **RNZAF** Oct 1942.

⁶ Flying Officer J. W. Creamer, DFC; born **Auckland**, 27 Apr 1912; school teacher; joined **RNZAF** Feb 1942.

⁷ Flying Officer K. L. Kelly, DFC; born **Christchurch**, 28 Jan 1925; clerk; joined **RNZAF** Oct 1942; killed in flying accident, 23 Aug 1945.

⁸ Flying Officer W. G. Stevens, DFC; born **Southland**, 13 May 1910; clerk; joined **RNZAF** Sep 1942.

⁹ Flight Lieutenant R. C. Gordon, DFC, DFM; born **Taihape**, 15 Mar 1916; sheep farmer; joined **RNZAF** Jul 1941.

¹⁰ Flying Officer W. L. Combs, DFC; born **Masterton**, 29 Jan 1911; civil servant; joined **RNZAF** May 1941.

¹¹ Flight Lieutenant J. L. Birtles, DFC; born **Otaki**, 30 Oct 1911; dairy farmer; joined **RNZAF** Apr 1942.

¹² Flight Lieutenant D. Twist, DFC; born **Thames**, 26 Oct 1920; student; joined **RAF** May 1940; transferred **RNZAF** Jan 1944.

which had been as low as one or two aircraft a night in 1943, increased to as many as 122 in February 1945. In their widespread activities over **Germany**, **Berlin** was the chief sufferer, being visited on about 170 occasions. Material destruction was caused at steel-works, power-stations, blast furnaces and synthetic oil plants in such towns as **Cologne**, **Duisburg**, and **Hamburg**.

Squadron Leaders T. W. Horton, G. L. Mandeno, and A. George ¹ were outstanding Mosquito captains. Horton, who early in the war had captained Blenheims, continued with No. **105 Squadron** to become flight commander and deputy squadron commander. By April 1945 he had completed 111 missions, including eighty-four with the pathfinder force. Mandeno, a veteran pilot of Whitleys, commanded a flight of No. **139 Squadron** during his third tour of operations. George, who had won distinction with Wellingtons during the early years, also flew with No. **139 Squadron**.

Other prominent Mosquito pilots were Flight Lieutenant A. A. Dray, who had served with his No. **109 Squadron** since the pioneer days of Oboe-marking during 1943, Flight Lieutenant Tudhope, ² on a second long period of duty with No. 139, and Flight Lieutenant Grey ³ and Flying Officer J. F. Thomson, both with No. **627 Squadron**.

Squadron Leaders Finlay ⁴ and G. A. Patrick were two outstanding navigators. After a first tour of thirty-three sorties with Wellingtons, Finlay went on to complete a further 104 missions in Mosquitos. Awarded a bar to his Distinguished Flying Cross in October 1944, Finlay's exceptional service won him admission to the Distinguished

Service Order. Patrick, another pioneer of Oboe-marking, now flew with No. 35 Lancaster Squadron. On one occasion in November 1944, he was a member of a crew detailed for marking duties over [Dusseldorf](#). Shortly after take-off, the radar aids to navigation failed but 'he directed his captain so accurately that the bomber reached the target on time and on the return journey crossed the English coast barely two miles off track.' For this exceptional feat of navigation and his record of no fewer than 118 bomber sorties, Patrick was also made a Companion of the Distinguished Service Order. Another navigator who achieved a fine record of service was Flying Officer L. B. Winsloe ⁵ of No. 105 Mosquito Squadron; he had previously completed a tour of operations with heavy bombers.

¹ Squadron Leader A. George, DFC, DFM; born [Hawera](#), 7 Apr 1912; farmhand; joined [RNZAF](#) Sep 1940.

² Flight Lieutenant D. H. Tudhope, DFC and bar; born [Hamilton](#), 9 Nov 1921; joined [RNZAF](#) Aug 1941.

³ Flight Lieutenant J. G. Grey, DFC and bar; born Dunedin, 21 Dec 1917; farmer; joined [RNZAF](#) Sep 1940.

⁴ Squadron Leader W. G. Finlay, DSO, DFC and bar, Croix de Guerre (Fr.); born [Hamilton](#), 20 Oct 1917; joined [RNZAF](#) Sep 1940.

⁵ Flying Officer L. B. Winsloe, DFC and bar; born Gore, 21 Aug 1916; salesman; joined [RNZAF](#) Dec 1940.

New Zealand airmen also played their part in the 'radio counter-measures' which did so much to ensure the success of the main bomber force by screening its movements and disrupting the enemy defences. From June 1944 to May 1945 a total of eighty-three men from the Dominion served with the squadrons of No. 100 (Bomber Support) Group.

Their Halifax, **Stirling**, Mosquito, Liberator, and Fortress aircraft were fitted with a variety of ingenious devices with which they were able to jam the enemy's early-warning system, upset radio-telephone communications between his ground controllers and fighters, and interfere with the transmissions from airborne radar and interception apparatus. Flight Lieutenant Lye, ¹ a captain of No. **214 Squadron**, flew many sorties to jam ground-to-air communications and Flight Lieutenant Sturrock, ² of No. **171 Squadron**, often dropped 'window' to create diversions for the main force. With the Mosquito night-fighter squadrons' operations as 'intruders' against enemy fighters and their airfields or as escorts to the bombers, Flight Lieutenants Win, ³ T. P. Ryan, Badley, ⁴ and Flying Officer Cotter ⁵ were prominent. Win as pilot and Ryan as navigator formed a successful crew with No. **85 Squadron** and during their tour shot down a Junkers 88 and a Messerschmitt 110. The destruction of the Messerschmitt was a fine example of teamwork. The enemy used elaborate evasive tactics and resorted to low flying in a desperate effort to elude the Mosquito, but the New Zealanders maintained contact during a long chase and finally destroyed their target as it was about to land.

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No. 75 New Zealand Lancaster Squadron played a prominent part in the final battle of **Germany**. From July 1944 until the end of the war, its crews flew 2020 sorties against industrial centres, oil plants, and communications – this in addition to their many missions in close support of the armies, against V-weapon targets, and in minelaying. Such was the squadron's contribution that throughout all these months it consistently occupied top or second place among the squadrons of No. **3 Group** for total sorties flown and tons of

¹ Flight Lieutenant C. E. Lye, DFC; born **Auckland**, 13 Feb 1920; telephone mechanic; joined **RNZAF** Sep 1941.

² Flight Lieutenant H. Sturrock, DFC; born **Christchurch**, 20

Nov 1921; apprentice; joined RNZAF Dec 1941.

³ Flight Lieutenant F. D. Win, DFC; born Reefton, 9 Mar 1916; railway porter; joined RNZAF Dec 1940.

⁴ Flight Lieutenant D. L. Badley, DFC; born Napier, 11 Feb 1922; clerk; joined RNZAF Dec 1941.

⁵ Flying Officer K. M. Cotter, DFC; born Te Kuiti, 14 Jan 1922; apprentice; joined RNZAF Feb 1942.

bombs dropped. This was striking testimony to the efficiency of the squadron organisation and to the enthusiasm and skill of the ground staff in keeping aircraft serviceable.

Wing Commander R. J. A. Leslie continued in command until early December 1944, when he was succeeded by Wing Commander Newton,¹ who had earlier won distinction as a flight commander with the squadron. Unfortunately Newton failed to return from a raid three weeks later. Wing Commander C. H. Baigent then took over and led the squadron for the remainder of the war; barely twenty-two years of age, Baigent began his third tour as the youngest squadron commander in Bomber Command.

The three flights of No. 75 Squadron were at first commanded by Squadron Leaders R. B. Berney, L. J. Drummond, and N. A. Williamson; subsequently Squadron Leaders J. M. Bailey, Earl,² Gunn,³ McKenna,⁴ Parker,⁵ Rodgers,⁶ and J. L. Wright led flights for varying periods. All were experienced men who had gained distinction for their work in Bomber Command and they served the squadron well.

A fine record of service as Lancaster captains was achieved by Flight Lieutenants Andrew,⁷ Abraham,⁸ A. C. Baxter,⁹ Kilpatrick,¹⁰ Sadgrove,¹¹ Spilman¹² and Wakelin,¹³ while among the navigators the work of Flight Lieutenants Creagh,¹⁴ Bawden,¹⁵ and Flying

¹ Wing Commander R. J. Newton, DFC; born **Christchurch**, 17 Jul 1916; commercial traveller; joined **RNZAF** Apr 1940; commanded No. 75 (NZ) Sqdn, 1944; killed on air operations, 1 Jan 1945.

² Squadron Leader R. C. Earl, DFC; born **Bristol**, Gloucestershire, 6 Jan 1920; clerk; joined **RNZAF** Mar 1941.

³ Squadron Leader G. R. Gunn; born **Masterton**, 8 May 1918; quantity surveyor; joined **RNZAF** Mar 1941; killed on air operations, 17 Sep 1944.

⁴ Squadron Leader L. D. McKenna, DFC; born **Timaru**, 20 Jun 1922; clerk; joined **RNZAF** May 1942.

⁵ Squadron Leader J. C. Parker, DFC and bar; born **Motueka**, 22 Apr 1920; clerk; joined **RNZAF** Dec 1940.

⁶ Squadron Leader J. R. Rodgers, DFC, DFM; born **Timaru**, 7 Apr 1917; radio salesman; joined **RNZAF** Jul 1941.

⁷ Flight Lieutenant V. J. Andrew, DFC; born **Onehunga**, 8 Nov 1919; refrigeration engineer; joined **RNZAF** Feb 1942.

⁸ Flight Lieutenant E. J. Abraham, DFC; born **Palmerston North**, 26 Feb 1920; school teacher; joined **RNZAF** Jul 1942.

⁹ Flight Lieutenant A. C. Baxter, DFC and bar; born **Egmont Village**, 19 Aug 1911; shepherd; joined **RNZAF** Mar 1940; MP for **Raglan**, 1946–49.

¹⁰ Flight Lieutenant M. A. Kilpatrick, DFC; born **Bulls**, 4 Nov 1918; truck driver; joined **RNZAF** Mar 1942.

¹¹ Flight Lieutenant D. R. Sadgrove, DFC; born **Auckland**, 3

Mar 1923; bank clerk; joined **RNZAF** May 1942.

¹² Flight Lieutenant S. L. Spilman; born **Wellington**, 11 Jul 1922; warehouseman; joined **RNZAF** May 1941.

¹³ Flight Lieutenant W. J. Wakelin, DFC; born **Petone**, 5 Jan 1913; salesman; joined **RNZAF** Nov 1939.

¹⁴ Flight Lieutenant A. G. Creagh, DFC; born **Melbourne, Australia**, 11 Feb 1915; lathe machinist; joined **RNZAF** Nov 1940.

¹⁵ Flight Lieutenant N. H. Bawden; born Waipawa, 4 Apr 1910; carpenter; joined **RNZAF** Aug 1941.

Officers Morris ¹ and Tait ² was to win special commendation. Creagh was Squadron Navigation Officer for a long period until succeeded by Bawden early in February. Flight Lieutenant Russell ³ was the squadron's bombing leader for the last year of the war. Other bomb aimers to distinguish themselves were Flight Lieutenant Ramsay ⁴ and Flying Officer Parker, ⁵ while Flying Officers Williamson ⁶ and Wilson ⁷ gave outstanding service as wireless operators.

During the summer and autumn of 1944, crews attacked targets ranging from the northern ports of **Bremen**, **Kiel**, and **Stettin** to **Stuttgart** in the south, but the major effort was devoted to the Ruhr against such familiar targets as **Essen**, **Duisburg**, and **Cologne**. Oil plants were also bombed. These were still well defended by fighters and anti-aircraft batteries, and in one July attack on the refinery at Homberg seven of the twenty-six Lancasters despatched by the squadron were shot down. But such losses did not go entirely unavenged. On 25 July the destruction of a Focke-Wulf 190 was reported by Flight Sergeant Smith, ⁸ and three nights later Squadron Leader Drummond and his crew, after a series of lively engagements, sent a German fighter down in flames and damaged a Junkers 88. Towards the end of August the

destruction of another Junkers 88 was reported by Flying Officer Scott ⁹ on return from Stettin.

In November a larger part of the squadron's effort was devoted to daylight attacks on oil targets; in four raids on the Meerbeck plant at Homberg crews flew seventy-five sorties; other objectives were the synthetic plants at Castrop-Rauxel, **Dortmund**, and **Gelsenkirchen** and the benzol plant at Osterfeld. In addition, the steel centre of Solingen was raided twice, together with the communication centres of Coblenz, Neuss, and **Cologne**.

By December No. 75 Squadron was operating mainly by day using the 'GH' blind bombing technique. Fog and mist often covered the base at Mepal so that take-off became an uncertain affair, and on

¹ Flying Officer W. R. Morris, DFC; born **Wellington**, 8 May 1923; insurance clerk; joined **RNZAF** Aug 1942.

² Flying Officer R. S. Tait, DFC; born **Hamilton**, 24 Feb 1924; clerk; joined **RNZAF** Oct 1942.

³ Flight Lieutenant G. A. Russell, DFC; born **Wellington**, 30 Sep 1911; grader operator; joined **RNZAF** Mar 1941.

⁴ Flight Lieutenant R. A. Ramsay, DFC; born **Balclutha**, 12 Feb 1920; insurance clerk; joined **RNZAF** Dec 1941.

⁵ Flying Officer M. E. Parker, DFC; born **Dargaville**, 24 Dec 1921; warehouseman; joined **RNZAF** Jul 1941.

⁶ Flying Officer I. J. Williamson, DFC; born **Gore**, 26 Mar 1912; omnibus driver; joined **RNZAF** Nov 1941.

⁷ Flight Lieutenant W. L. Wilson, DFC; born **Invercargill**, 23 Dec 1921; exchange clerk; joined **RNZAF** Jan 1941.

⁸ Flying Officer M. Smith; born **Christchurch**, 1 Aug 1919; commercial traveller; joined **RNZAF** May 1942.

⁹ Flying Officer J. H. Scott; born Merton, 26 Oct 1915; farmhand; joined **RNZAF** Jul 1942; killed on air operations, 4 Nov 1944.

several occasions fog even descended before all aircraft were airborne. Yet 250 sorties were flown during this mid-winter month. In the first fortnight German communications were the principal target, with attacks on the marshalling yards at **Hamm** and the rail centres at **Duisburg** and **Siegen**. The Lancasters also took part in damaging raids on **Witten** and **Oberhausen** and penetrated deep into **Germany** to bomb the heavily defended Leuna synthetic oil plant at **Merseburg**.

Close support of the Allied forces in the Ardennes absorbed most of the squadron's effort during the last days of December and for the following three weeks. In spite of appalling weather which alternated between fog, snow, and rain, No. 75 helped to hasten the German retreat by attacking marshalling yards behind the enemy salient; there were also attacks on benzol plants at **Dortmund**, **Langendreer**, and **Duisburg** and on the synthetic oil plant at **Wanne-Eickel**.

Twenty New Zealand Lancasters took part in the attacks of 13 February which brought devastation to much of **Dresden**. 'Some aircraft were able to bomb visually,' says the squadron record. 'Crews reported the whole town well alight and that they could see the glow of fires when 100 miles away on the return flight.' The following night twenty-one aircraft flew in the first attack on **Chemnitz**, and during the next few weeks there were further raids on German industrial towns, among them the important aircraft manufacturing centre of **Dessau**. But in February and March oil was the squadron's main objective. There were thirteen attacks on Benzol plants and five on synthetic oil plants in which a total of 316 sorties was flown by New Zealand Lancasters.

In this final battle of Germany No. 75 Squadron lost thirty-two Lancasters with their crews which, be it remembered, meant the loss of more than two hundred highly trained and skilled men. Casualties were heaviest during the summer months of 1944 when the German fighters, with their early-warning system more or less intact, could still put up a strong resistance; but even during the autumn and winter when the fighters were frustrated by lack of warning and fuel shortage, the danger from flak remained and over some targets it even increased.

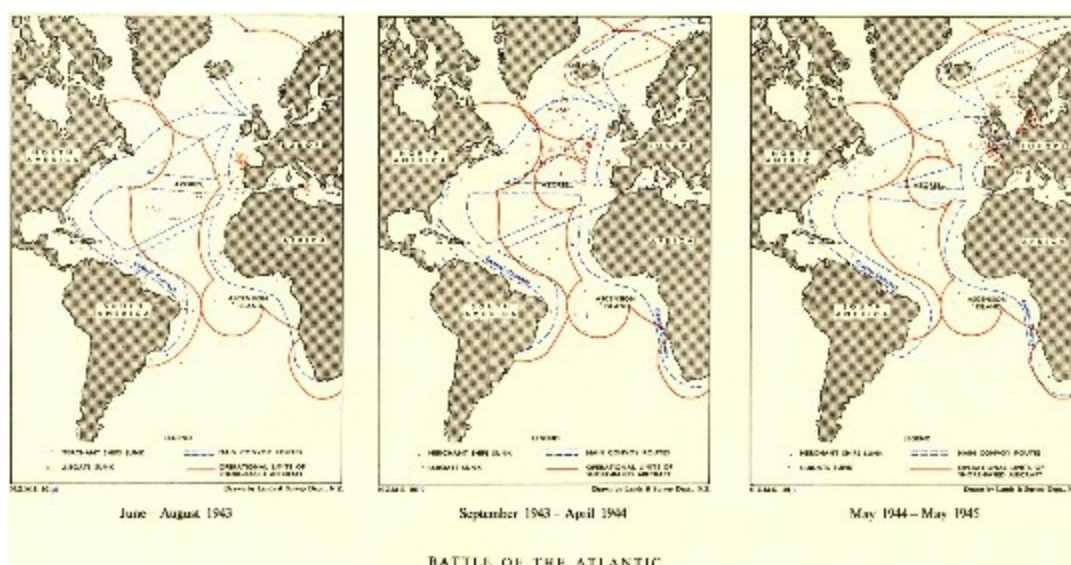
Some idea of the grim ordeal through which many men passed may be gained from the experiences of two crews lost over **Germany one night towards the end of July 1944. The first crew were over **France** on their way to bomb **Stuttgart** when they were attacked by a night fighter. Cannon shells ripped through the length of the fuselage, the rear gunner was killed instantly, equipment was smashed and the intercom put out of action. The bomber began to dive steeply and a fire started in the bomb bay, filling the fuselage with acrid fumes and smoke. The controls were so damaged that it was only by the combined strength of captain and second pilot, with their feet on the instrument panel, that the dive was arrested. But the fire spread rapidly and the crew's troubles were further increased by the attention of several searchlights and their attendant guns. As the Lancaster continued to lose height the captain, Flight Lieutenant Stokes, ¹ gave the order to abandon, while he himself remained at the controls to facilitate the exit of the crew. By so doing he forfeited his own chance of survival. The second pilot was the last out and his chute had barely opened when the bomber crashed and exploded immediately beneath him.**

The mid-upper gunner struck his head on the tail while baling out, lost consciousness until very near the ground and, although he pulled the ripcord in time for his parachute to take the weight, he landed heavily. Two hours later, dazed and badly shaken, he found himself crawling along a road. Fortunately he was first seen by patriots who sheltered him until the district was captured by the Americans. The rest of the crew landed safely and, with help from members of the French

Resistance, they, too, evaded capture.

The second crew had bombed and were flying back across **France** when an enemy fighter attacked. Its first bursts put all four engines out of action; then it raked the fuselage with bullets, killing both wireless operator and mid-upper gunner and wounding the navigator. Closing in for a second attack, the fighter met determined fire from the Lancaster's rear guns and down it went. But this was too late to save the bomber. Blazing furiously it also began to go down out of control. By a supreme effort the pilot, Flying Officer Blance, ² succeeded in arresting the downward plunge just long enough for three of his crew to bale out safely but he and his bomb aimer were unable to leave. Bomber and fighter eventually crashed within half a mile of each other. Of the survivors only the rear gunner, Flight Sergeant Kirk, ³ managed to evade capture. Most of the time Kirk was in **France** he spent at a camp of the Resistance Movement and on one occasion he took part in ambushing some German tanks.

In March 1945 the Allied bomber offensive reached its climax. By that time **Germany's** basic industries, coal, steel, gas and electric power, oil and transport, were all faced with ruin; **Germany** was



BATTLE OF THE ATLANTIC

¹ Flight Lieutenant N. A. D. Stokes; born **Christchurch**, 31 Dec 1918; clerk; joined **RNZAF** Feb 1942; killed on air operations, 29 Jul 1944. Stokes and his air gunner, Sergeant N. V. Wilding, from Monmouthshire, were buried by the French at Yevres, near Chartres. Each year a commemorative service is held during Battle of **Britain** week in the village church.

² Flying Officer I. E. Blance; born **New Plymouth**, 7 Jan 1923; cinema projectionist; joined **RNZAF** Feb 1942; killed on air operations, 29 Jul 1944.

³ Warrant Officer A. C. Kirk; born **Christchurch**, 23 Mar 1923; butcher; joined **RNZAF** May 1942.

in chaos and the total collapse of her power to wage war was imminent. Indeed, in the last stages of the land campaign, says General Eisenhower in his report, the enemy forces 'could do little more than wait for the Allied avalanche to sweep over them. Weapons, ammunition and food alike ran short and the dearth of fuel caused their powers of tactical mobility to dwindle to the vanishing point.'

The final concentration of effort against German communications and oil supplies was undoubtedly the most important factor in bringing about this situation. But there had also been a remarkable increase in the actual weight of attack – no less than 75 per cent of the bombs which fell on **Germany** during the whole of the war were dropped after 1 July 1944. Moreover, as the scale of the bombing mounted the ability of the **Luftwaffe** to defend German industry had steadily declined, enabling the Allied bombers to launch frequent and accurate attacks which defeated the most energetic attempts at repair; prior to 1944 the German economy had been able to absorb the shock of strategic bombardment but thereafter its effect was rapidly cumulative.

Had there been firmer direction and closer co-ordination of the tremendous air power available during the last year of the war, the

economic collapse of **Germany** might well have occurred earlier. Throughout the summer and well into the autumn of 1944 there had been continual debate and discussion regarding policy and objectives, with the many interested parties pressing the claims of various target systems. Matters were not helped when, in September of that year, control of the heavy bombers was handed back from the Supreme Commander in **Europe** to the Combined Chiefs of Staff. Their subsequent vague directives and the conflicting views expressed by an elaborate system of committees and advisory bodies only served to complicate rather than clarify bombing policy. Not for nothing did Air Marshal Harris complain that 'too many cooks were stirring the broth', and Sir Arthur Tedder declare that 'the bombing offensive was taking the form not of a comprehensive pattern but what could only be described as a patchwork quilt.' It was, in fact, not until the end of 1944 that a large measure of co-ordination was achieved in the Allied bombing campaign against **Germany**.

Nevertheless, in spite of these shortcomings the campaign had become increasingly effective, and of its ultimate success there can be little doubt. At the time no one was in a better position to judge matters than Albert Speer, German Minister for War Production, who had made the most determined and remarkable efforts to avoid catastrophe on the industrial home front. Yet on 15 March 1945 he was forced to tell Hitler: 'The final collapse of the German economy can be counted on with certainty within four to eight weeks ... After this collapse even military continuation of the war will become impossible.'

This was the goal towards which the Allied strategic air forces had long striven. For RAF Bomber Command its attainment marked the end of more than five and a half years of effort, an effort which, from small beginnings, had been sustained through all manner of difficulties and disappointments. The casualties had been grievous. Of the 125,000 members of aircrew who entered Bomber Command units during the war, 56,000 lost their lives (47,300 of them on operations), about a third of that number were injured, and a further 12,000 held prisoner by the

enemy. In addition, some 2000 men and women were killed or wounded while engaged in various ground duties, either from enemy action, from accidents such as occurred in the handling of vast quantities of bombs, or from the effects of exposure whilst working all hours of the day or night in the bitter cold of six war winters. High praise, indeed, is due to the members of Bomber Command's ground staff whose faithful service on the operational airfields and with training and supply units contributed much to the success of the offensive. Most of their duties were exceedingly dull and they had none of the thrills of action. There was, for example, precious little excitement to be derived from working in the open, in rain, wind or snow, in daylight and through darkness, twenty feet up in the air on the aircraft engines and air-frames, at all the many and intricate tasks that had to be undertaken to keep the bombers serviceable.

To the aircrew who flew and fought with Bomber Command, no more sincere tribute can be paid than that of their famous commander, Sir Arthur Harris, who writes:

There is no parallel in warfare to such courage and determination in the face of danger over so prolonged a period, of danger which at times was so great that scarcely one man in three could expect to survive his tour of thirty operations; Of those who survived their first tour of operations, between six and seven thousand undertook a second, and many a third tour. It was, moreover, a clear and highly conscious courage, by which the risk was taken with calm forethought, for their air-crew were all highly skilled men, much above the average in education, who had to understand every aspect and detail of their task. It was, furthermore, the courage of the small hours, of men virtually alone, for at his battle station the airman is virtually alone. It was the courage of men with long-drawn apprehensions of daily 'going over the top.' They were without exception volunteers, for no man was trained for air-crew with the R.A.F. who did not volunteer for this. Such devotion must never be forgotten. It is unforgettable by anyone whose contacts gave them knowledge and understanding of what these young men

experienced and faced. ¹

¹ **Bomber Offensive, p. 267.**

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 15 – COASTAL COMMAND PATROLS

CHAPTER 15

Coastal Command Patrols

THROUGHOUT this last year of the war when fighter pilots and bomber crews were carrying the offensive towards the heart of **Germany** their comrades in **Coastal Command** were equally active against the enemy at sea. Little was said of their work at the time but their contribution to the final victory was a notable one. Thanks largely to their efforts, the movement of supplies to the armies fighting on the Continent proceeded almost unmolested, the U-boats were held in check, naval surface craft were driven from their hunting grounds, and enemy merchant ships harassed and sunk; continuous photographic and weather reconnaissances were also provided for all three services. Indeed, it might well be said that without **Coastal Command's** vigilant and relentless sorties the triumphs of the Allied armies could not have been achieved, and the bombers could not have been sent to wreck German industry.

The battle against the U-boats continued to demand the major effort. From D Day to the end of the war crews flew over 20,000 sorties over areas as widely separated as the **English Channel**, Ice-land, Biscay, the North Sea, the Western Approaches, and the west coast of **Africa**. During these patrols they sank fifty-six U-boats outright and destroyed a further nine in co-operation with surface forces; their constant guard of convoys at sea and in the approaches to Allied ports also saved many ships from being attacked or even sighted. Indeed, the enormous deterrent value of the air patrols can scarcely be over-emphasised.

In June 1944, during the first weeks of the **Normandy** campaign, **Coastal Command** had scored a notable victory; no U-boats reached the invasion area and nine were sunk while attempting to do so – five of them within three days. Constant patrol and attack kept the others down and finally forced them back. However, in spite of this setback the German submarines made further attempts during July and August to penetrate the Channel defences and get amongst Allied shipping. But for

fear of air attack they now travelled under water, raising their schnorkels for only a few hours at a time to recharge the batteries upon which they had to rely when travelling completely submerged.

Schnorkelling just below the surface was disliked by the U-boat crews because of the fumes and uneven air pressure it caused inside the vessel, and also because in calm seas the tube made a considerable flutter which could be seen by ships or aircraft. Nevertheless, the schnorkel did make it possible for the German submarines to crawl undetected along the coast to their patrol positions where, if the depth of the water permitted, they lay on the sea bed awaiting opportunity for attack. Outlying rocks made their detection by aircraft radar difficult, while the many wrecks, eddies, and tide-rips in the comparatively shallow waters of the **English Channel militated against the successful use of asdic. However, in these two months air and surface forces succeeded in destroying thirteen U-boats, while only eight Allied ships were lost in the Channel area.**

Towards the end of August 1944 the southward advance of the American armies forced the Germans to abandon their operational bases in the Biscay ports. This was a serious blow to Doenitz's hopes of renewing the U-boat war on a large scale, but by skilful planning and routing he did succeed in transferring a large part of the Biscay flotillas to Norwegian and German bases. This move he covered by a sharp renewal of operations in English coastal waters, principally in the northern and southern approaches to the Irish Sea. Counter-action by **Coastal Command brought good results, especially during the second half of September when five U-boats were sunk in places as far apart as the coast of **Norway** and the Azores. This was highly satisfactory, but it did not diminish the enemy's determination to continue the offensive. On the contrary, Doenitz now planned a new and audacious campaign in the British coastal areas from which he had been driven four years earlier. Such was the tenacity of the German U-boat arm.**

The final phase of the submarine war began in October 1944. Although by this time there was little chance of making the new

campaign big enough to cut off Allied supplies, the success of the schnorkel and the possibilities of the new electro U-boats encouraged German hopes that at least serious damage would be done. Both **Hitler** and Doenitz expected great things from the new types of submarines by which, according to Doenitz, 'all equipment at present employed in naval warfare can be circumvented and eliminated since they could remain submerged and their underwater speed was greater than that of most Allied merchantmen and escort vessels.' The first of these new U-boats would soon be ready for operations and it was planned to produce more than two hundred by the end of the year.

Meanwhile, Doenitz sent his older-type boats from their Norwegian bases to operate against Allied convoys to **Russia** and in the coastal waters of the **United Kingdom**. Employing tactics of evasion with great skill, they achieved increasing success during the next few months, particularly in English coastal waters, where they torpedoed both warships and merchant vessels almost within sight of air and naval bases. Greater experience in the use of the schnorkel, together with the onset of winter, gave them almost complete immunity from air attack. **Coastal Command** crews now had extremely small chance of sighting a target. During November only four aircraft managed to attack schnorkelling U-boats, and all that was seen after the depth-charges had been dropped was whitish steamy smoke at the head of a long wake of bubbles. At the end of December a Wellington of **Coastal Command** did sink a U-boat off Cherbourg, but there was no evidence of success in any of the other counter-attacks in the Channel area where seven merchant ships and two frigates were torpedoed during the last fortnight of that month.

At the beginning of 1945, therefore, it seemed to British observers that the long war against the U-boat was far from ended and that the enemy, with his new weapons, possessed the power to achieve a stalemate. During the following months **Coastal Command**, by constant patrolling, sought to prevent the enemy from regaining the mastery with his new weapons. Every possible scientific means was employed to

augment the natural skill of pilots and crews. Intensive efforts were made to improve radar equipment and to make crews highly efficient in its use, and by mid-January 1945 experiments with the new 'Sono' buoy were in full swing. This apparatus was a means of detecting the noise made by the propellers of a submerged U-boat. The tactics employed were to drop a pattern of five buoys in the neighbourhood of a suspected U-boat and, by listening to the signals received, determine its course and position, whereupon an attack would be delivered.

These measures brought some successes during patrols in the vicinity of the **British Isles**. In February one U-boat was sunk by **Coastal Command** and a second by surface craft as a result of a periscope sighting from the air; in March two more were sunk, one in the Channel and one off Northern Ireland, and in April two in the Channel, one in the Irish Sea, and two more off the western coast of **Ireland**. Efforts were also made to attack U-boats in their home waters and in the training grounds of the southern Baltic. Since these areas were well defended by both fighters and anti-aircraft batteries, Leigh-Light aircraft were assigned to the task and they made fifteen attacks in these areas by night. Yet the last months of the war brought no slackening of the enemy's effort. In February, eight ships were sunk in British coastal waters and a further nineteen during March and April.

Thus did the battle continue to the end, with the air patrols keeping the enemy under and greatly limiting his power of attack, while he, by his skill, grim determination, and the aid of various new devices, was able to elude the defences and score a certain measure of success. Fortunately the effect of Allied air raids on U-boat production and training was such that the 'revolution at sea', which the Grand Admiral had promised, never took place; by February 1945 only two of the new types of submarine had been sent out on operations, and although over one hundred had been commissioned the chances of bringing them into service were further reduced by the advance of the Red Army towards the Baltic ports.

Throughout this last phase of the war at sea New Zealanders played their part in patrol and attack. Some flew with the Liberators, Halifaxes, and Wellingtons which maintained the day and night vigil in the Channel and protected supply convoys in the Western Approaches; others were with Catalina, Sunderland, and Liberator squadrons at bleak and remote spots in northern **Scotland** or the Shetlands, from where they flew long patrols over the northern seas as far as the Arctic circle protecting convoys to **Russia** and seeking U-boats on passage from their bases in **Norway**. There was also a substantial representation with the squadrons on the West African coast and in the Azores. No. 490 New Zealand Squadron continued to patrol from a base in **West Africa** until the end of the war.

Wing Commanders D. M. Brass and M. A. Ensor achieved a fine record of service in command of anti-submarine squadrons based in the **United Kingdom**. Brass, who had been with **Coastal Command** since the early days, was in charge of Leigh-Light Wellingtons for the last two years of the war, where his service won him admission to the Distinguished Service Order. His squadron record contains this tribute: 'Brass has served the squadron well. Taking over at the peak of the U-boat war he led the squadron through some of its busiest days – the final stages of the Biscay battle – the vast operation which kept the U-boats out of the Channel during the invasion and finally in patrols off the Dutch Coast. He will be remembered by those who served under him as a great personality' Wing Commander Ensor, who was now completing his third tour of operations, led a squadron of Liberators which in this last year destroyed no fewer than seven U-boats. 'This remarkable success,' says an official report, 'was due in very large measure to his efforts. His enthusiasm for operations and his lead to his crews set a very high standard.' Ensor was among the few pilots of **Coastal Command** who had the distinction of two confirmed U-boat kills. He was awarded a bar to the Distinguished Service Order in February 1945. Other prominent leaders were Wing Commander Frame,¹ who commanded Sunderlands in **West Africa**, Squadron Leaders S. G. Baggott

and Gibson,² who saw long service with flying boats, and Squadron Leader Alington,³ with Leigh-Light Wellingtons.

Pilots, navigators, wireless operators, and gunners saw their share of what little action there was in this last and difficult phase of the submarine war. Flying Officer Riddell⁴ navigated Sunderland W of No. **201 Squadron** which sank U.107 in the **Bay of Biscay** during August 1944; that same month Warrant Officer F. E. Bailey was radar operator in a Leigh-Light Liberator of No. **53 Squadron** which depth-charged U.618 in the Bay and then brought naval vessels to the scene to finish it off. This was the sixth attack in which Bailey had taken part – an unusual record. On patrol off the Norwegian coast in a Liberator of No. **86 Squadron**, Flight Sergeant Carter⁵ made the first sighting of U.317 and manned the front guns during the subsequent attack which sank it. Wireless operator in another Liberator, Flight Sergeant Bennett⁶ took part in the attack on a U-boat in the far north to the west of the Lofoten Islands. Flight Sergeant Nicholson,⁷ a young New Zealand gunner flying with No. **206 Squadron**, won commendation for gallantry in an action with three Messerschmitt fighters off the Norwegian coast. Early in the fight his turret was hit and he was badly wounded, but he got his guns into action again and continued to fire. There were other similar episodes.

In West Africa No. 490 New Zealand Squadron, equipped with Sunderland flying boats, continued to operate from Jui, near Free-town, with an advanced base at Fisherman's Lake in Liberia. Wing Commander B. S. Nicholl continued to lead the squadron until September 1944, when he was appointed to command the **RAF** base, and for the rest of the war No. 490 was led by Wing Commander Gill,⁸ a distinguished bomber pilot; Squadron Leaders A. M. Foster

¹ Wing Commander A. Frame, DFC; born **Oamaru**, 6 Sep 1916; joined **RAF** Mar 1938; transferred **RNZAF** Jan 1944; commanded No. 204 Sqdn, **West Africa**, 1944–45.

² Wing Commander T. P. Gibson, DFC; **RAF**; born **Christchurch**, 25 Oct 1913; joined **RAF** May 1938; commanded New Camp Air Base, Gibraltar, 1944–45.

³ Wing Commander G. C. Alington; born **Ashburton**, 24 Nov 1918; joined **RAF** Aug 1938.

⁴ Flying Officer I. C. Riddell; born **Wellington**, 31 Oct 1919; clerk; joined **RNZAF** Jul 1941.

⁵ Warrant Officer D. Carter, DFM; born **Sydney**, 20 Aug 1923; audit clerk; joined **RNZAF** Oct 1941.

⁶ Flying Officer R. D. Bennett; born **Te Kopuru**, 22 Mar 1917; labourer; joined **RNZAF** Jan 1941.

⁷ Warrant Officer J. A. Nicholson, DFM; born **Dunedin**, 8 Nov 1920; storeman; joined **RNZAF** Jul 1942.

⁸ Group Captain T. F. Gill, DSO; **RNZAF**; born **Wellington**, 31 Jan 1917; joined **RAF** Jun 1939; commanded No. 490 (NZ) Sqdn, **West Africa**, 1944–45; SASO **RNZAF** HQ London, 1945–47; Director, Air Staff Policy and Plans, **RNZAF**, 1950–53

and F. W. Kilgour were among the experienced pilots who flew with the squadron at this time.

West African waters were now so well covered by air patrols that few U-boats ventured to operate there, while those on passage to the **Indian Ocean** usually passed well out of range. Crews there fore had to face not only the boredom that lack of action produces but also the difficulties of operating in a tropical climate with its sudden, violent, and treacherous storms. On patrol in mid-July one Sunderland was forced down when 200 miles out to sea. The pilot, Flying Officer McGreal, ¹ made a good landing but the aircraft broke up quickly in the heavy swell. Dinghies

were launched but two of the crew were unable to get clear; one of them, Warrant Officer Opie,² the wireless operator, was last seen at his post trying to send out distress signals. In the water Sergeant Jones³ of Swansea supported an injured comrade until McGreal swam across to inflate the second dinghy and retrieve the paddles. The survivors drifted without food and water until the next evening before they were sighted and rescued.

No. 490 Squadron's main task was the escort of convoys and this duty was performed with creditable efficiency. Early in March 1945 when the long immunity enjoyed by Allied shipping in West African waters was suddenly broken by the torpedoing of a ship 500 miles off Walvis Bay, the New Zealanders headed the list of units in the area with the largest total of hours flown in the hunt for the U-boat concerned.

Early in December 1944 a flight of four Sunderland aircraft, manned almost entirely by members of No. 490 who had completed their operational tours, arrived in New Zealand. The aircraft were captained by Wing Commander D. W. Baird and Flight Lieutenants Shephard,⁴ H. K. Patience, and Pettit,⁵ Their flight of some 16,000 miles from the **United Kingdom** had taken them via **West Africa**, **Brazil**, Texas, across the **United States** and the **Pacific**.

* * * * *

During this last year of war New Zealanders also continued to play their part in **Coastal Command's** campaign against enemy surface shipping. In this campaign the main weapon was the Strike

¹ Flight Lieutenant M. E. McGreal; born **Auckland**, 30 Jul 1918; school teacher; joined **RNZAF** Jan 1940.

² Warrant Officer R. A. P. Opie; born **New Plymouth**, 21 Nov 1920; buttermaker; joined **RNZAF** Feb 1942; killed on air operations, 13 Jul 1944.

³ Flight Sergeant D. C. Jones; born Swansea, 15 Jun 1922; joined **RNZAF** Sep 1941.

⁴ Flight Lieutenant J. S. Shephard; born Dunedin, 3 Oct 1915; clerk; joined **RNZAF** Nov 1939.

⁵ Flight Lieutenant J. C. L. Pettit; born **Wellington**, 16 Feb 1911; store manager; joined **RNZAF** Oct 1941.

Wing, with its flak section flying in ahead to silence the enemy gunners and then the rest following swiftly with their rocket or torpedo attacks. There were now three Strike Wings, two equipped with Beaufighters and one with Mosquitos, and their main area of operations lay over the North Sea and along the Dutch and Norwegian coasts. Sometimes wings combined for special missions, as on 25 September 1944 when seventy Beaufighters penetrated the heavily defended anchorage at Den Helder to attack shipping and port installations with notable success; nine ships – escorts, mine sweepers, and flak ships - were set on fire and one of them finally blew up in a sheet of flame.

By this time wing strikes along the Dutch coast had become so effective that the enemy had been driven from that area by day and the port of **Rotterdam** remained closed to shipping. The 'Drem' system was then devised under which a large force would fly out individually to the patrol area in the darkness and form up at first light round a circle of flame floats; it could then sweep along enemy shipping routes before dawn and before convoys moving by night could seek shelter. About the same time the 'outrider' system was developed under which one or two aircraft flew ahead of the main striking force and guided it to its target by radio telephone.

But targets remained scarce, and in October the main effort was transferred to the Norwegian coast. Since Sweden and **Finland** had just closed their ports to enemy ships, this was now the only route by which the Germans could obtain certain ores and other raw materials to

sustain their war industries. Another reason for concentrating the attack in northern waters was to prevent the enemy from moving troops south to take part in the European battle. During October there were six wing strikes in the Norwegian area. One of the most notable took place in the first week when twenty-six Beaufighters and Mosquitos from Banff crossed the North Sea before dawn, formed up round 'Drem' flares, and then surprised a convoy of five cargo ships and six escorts about to enter Egersund anchorage. The attack was brilliantly executed and crews claimed two cargo vessels sunk, one trawler type auxiliary sunk, and one large ship of 3500 tons seriously damaged.

Also during October, Coastal Command's two Halifax squadrons began operating into the Skagerrak and the Kattegat against German convoys making night passage between Oslo and the Danish ports. It was not always possible for crews to see the results of their bombing attacks, but there was one brilliant exception on 25 October when a Halifax of No. 58 Squadron set a cargo vessel and its escort on fire with a single stick of bombs; the flames were still visible to the jubilant crew when their aircraft was 20 miles away. Using a combination of radar and flares, the Halifax crews showed great skill in their subsequent night operations, and during the last six months of the war they claimed more than 25,000 tons of enemy shipping sunk and over 100,000 tons damaged.

Beaufighter and Mosquito operations over Norwegian waters were intensified during the winter – in the short daylight hours of December 1944 more ships were sunk in this area than ever before in a single month. When it was found that enemy convoys seldom sailed in daylight, the Strike Squadrons carried their attack into the small land-locked anchorages and into the deep fiords against whose precipitous cliffs vessels would often be moored in an effort to escape detection. To reach such targets crews often had to fly far inland over snow-covered peaks and then make their final approach in a swift dive down the side of a steep mountain. The German fighter squadrons in Norway were still active and of high morale so that interceptions were frequent, and on

one occasion over forty Messerschmitts and Focke-Wulfs attacked a British formation. However, long-range Mustang fighters now gave cover on most missions, and though damage and casualties were sometimes quite heavy the Strike Wings were never prevented from reaching their targets. The havoc and destruction they caused is reflected in the contemporary reports of the *Reichskommissar* for Shipping which complain increasingly of 'The catastrophic round journey time of ships on the Norwegian coast and the heavy losses due to enemy action.'

The scale of attack during the last four months of war was particularly heavy and during that time **Coastal Command** aircraft sank over 180,000 tons of enemy shipping. This brought their total for the war to 690,000 tons, which represented a loss to the Germans of 486 ships. The additional loss to the enemy through the delays and damage which the attacks occasioned cannot be measured so exactly, but it was certainly substantial.

Three New Zealanders, Wing Commanders G. D. Sise, E. H. McHardy, and D. H. Hammond, achieved particular distinction as leaders of Strike formations during the last year of war. McHardy had been with **Coastal Command** from the early days and was prominent in leading Beaufighters from bases in East Anglia and later from **Scotland**. Hammond, who had come to **Coastal Command** after a successful career in the **Middle East**, also led Beaufighters, notably in the big raid on Den Helder in September 1944; he further distinguished himself as flight leader and later in command of No. 489 New Zealand Squadron.

Wing Commander Sise, who led the Banff Mosquito Wing on many of its most successful missions, was regarded as Coastal Command's leading 'ship-buster'. He was indeed, as one citation puts it, 'a fine pilot and brilliant leader who displayed great gallantry in operations against the enemy.' Typically, one day in November 1944 whilst leading the attack on ships in Floro harbour, his Mosquito was hit and an engine set on fire, but he continued with the attack and then flew the damaged machine back across the North Sea. Shortly afterwards Sise led thirty-four Mosquitos into Nordgulen Fiord to attack a convoy sheltering there.

The ships were hidden at the far eastern end which is enclosed by very high mountains, and the attack had to be made in a steep dive down the sides of precipitous cliffs; nevertheless, almost all the ships were hit by rockets or cannon fire and two of them were left burning furiously. By the end of the war Sise had completed over 150 operational sorties and had been awarded bars to both the Distinguished Flying Cross and the Distinguished Service Order.

No. 489 New Zealand Squadron operated with the 'Anzac' Beaufighter Wing which also included an Australian and a British squadron. Led by Wing Commander Robertson ¹ and Wing Commander Hammond, the New Zealanders flew no fewer than 1250 sorties during the last year of the war, mainly in patrol and attack over the North Sea and along the Norwegian coast. On wing strikes the Beaufighters frequently carried torpedoes and acted as the main striking force, but on occasion they also operated in the anti-flak role, flying in ahead to saturate the enemy defence with their cannon fire. Hammond, Flight Lieutenants T. H. Davidson, J. G. Gow, A. R. Osment, and McKegg ² were among the pilots who led formations in these duties with notable success.

During the summer of 1944 the New Zealanders flew from Langham airfield in Norfolk, taking part in twelve wing strikes against enemy ships in the Dutch coastal waters and in two large attacks on the well-defended anchorage at Den Helder. August was a particularly successful month. On the 10th, Hammond led ten Beaufighters carrying torpedoes in a dusk strike against a convoy that had just sailed from the Weser. There were five cargo vessels escorted by ten flak ships. A merchantman of between 4000 and 5000 tons was twice hit by torpedoes and left burning furiously. Another cargo vessel was also hit and six of the escorts were set on fire; one of these blew up and another was left sinking. Five days later, twelve New Zealand Beaufighters were among the force of thirty-two aircraft which attacked a convoy off Heligoland and set two cargo ships and five of the escorts on fire. On the 29th, in the same area, New Zealand crews scored more torpedo hits on two large cargo vessels. All these attacks were made in the face of

¹ Wing Commander L. A. Robertson; born Stratford, 7 Jul 1916; joined RNZAF Jun 1937; commanded No. 489 (NZ) Sqdn, 1944–45.

² Flight Lieutenant H. R. McKegg, DFC; born **Auckland**, 6 Dec 1921; bank clerk; joined **RNZAF** Nov 1941.

intense anti-aircraft fire and many of the Beaufighters were badly shot up. During this one month No. 489 Squadron lost five aircraft with their crews.

Night rover patrols also produced their share of incident. It was during one such mission that Warrant Officer Mann ¹ and his crew had a most unenviable experience. Flying in to drop a torpedo, their machine hit the mast of one of the ships. Although part of the starboard wing was torn away, Mann was able to make a landing on the sea, but owing to the weather it was eight days before he and his Lancashire navigator, Flight Sergeant Kennedy, ² were rescued. During that time they made every effort to put as much distance as possible between them and the enemy coast. Shortly afterwards, undeterred by this experience, they returned to their squadron, to continue flying until the end of the war.

In October 1944 the **Anzac Wing** moved north and for the rest of the war it operated over Norwegian waters from the airfield at Dallachy, some 30 miles east of **Inverness**. Here, on the north-east coast of **Scotland**, the airfield was exposed to the full force of the frequent gales which swept in from the North Sea, so that aircraft had to be moored down or else protected by small hangars or earthen mounds. When the winter storms were at their height it was difficult to move about the airfield and the wide dispersal of buildings and Nissen huts where crews slept did not help matters. 'We shall not easily forget that last winter of the war,' writes one pilot. 'Taking off from the ice-bound or snow-covered field we sometimes flew 400 miles across the North Sea to find the Norwegian Coast shrouded in mist or low cloud. Flying among the islands and into the fiords in search of ships hiding there was rather

hazardous since some of the passages were so narrow that there was little room in which to manoeuvre one's machine.'

However, despite the difficulties of both climate and terrain, operations were maintained at a high level, with crews of No. 489 Squadron taking part in many large strikes and also flying rover patrols by day and night in search of targets. Here are extracts from contemporary reports of several notable operations in which the New Zealanders were well represented:

Sula Fiord, 27 November: Convoy of two large merchant ships and four escorts attacked by the **Dallachy Wing**. Results of torpedo attacks not observed but many hits with rocket projectiles seen on 3,500 ton ship and one escort was set on fire and left sinking. Three Beaufighters were damaged but all returned safely. Reports subsequently received show that the other large ship was the 'Fidelitas' of 5,740 tons. She did, in fact, receive a torpedo hit and sank as a result.

¹ Flying Officer D. H. Mann, DFC; born **Greymouth**, 15 Dec 1918; joiner; joined **RNZAF** Jul 1941

² Warrant Officer D. M. Kennedy; born Southport, Lancs., 24 Feb 1923; joined **RAF** May 1941.

Vilnes Fiord, 9 December: Twenty-three Beaufighters attacked a 2,000 ton cargo ship. Showers of debris were thrown into the air and the vessel was last seen heading for the shore under a heavy pall of smoke.

Forde Fiord, 9 February: Thirty Beaufighters sighted and attacked a Narvik class destroyer. The fiord is narrow and flanked by steep hills; consequently it was impossible for all the aircraft to attack together. They also had to fly through an intense barrage put up by both ships and land batteries. Nevertheless the destroyer and two auxiliaries were hit. Six of our aircraft were shot down by flak and a further three by enemy fighters.

***Egersund Fiord, 28 March:* Two cargo ships and an escort vessel were seriously damaged after attack by twenty-eight Beaufighters from Dallachy. Formidable anti-aircraft fire was experienced and four Beaufighters did not return from this strike.**

Apart from these wing strikes, there were also some fine individual efforts by No. 489 Squadron crews. On a night rover patrol towards the end of February, Flying Officer Taylor ¹ torpedoed the 2500-ton *Alsterstum*. She was carrying a cargo of mines, and when his torpedo struck home Taylor saw 'a sheet of flame followed by an intense glow which culminated in a shattering explosion.' A few weeks later Warrant Officer Priest ² torpedoed a 3000-ton cargo vessel in the Skagerrak; flames from the burning ships were still visible when the Beaufighter was 20 miles away on its homeward flight.

During the period from its formation in August 1942 to April 1944, crews of the New Zealand squadron were responsible for the destruction of eleven ships totalling 38,700 tons and the damaging of a further thirteen ships totalling some 40,000 tons. From May 1944 until the end of the war No. 489 Squadron formed part of the Anzac Strike Wing which sank nineteen ships of 67,000 tons and twelve escort vessels. A further eighteen cargo ships, together with forty-nine escorts of various types, were damaged. The cost of these successes was not light for the squadron lost thirty-one aircraft during its operational career; only a fortunate few of the crews survived.

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Photographic reconnaissance, meteorological flights, and air-sea rescue were among the other tasks of **Coastal Command in which New Zealand airmen shared. The work of the photographic organisation was greatly expanded during the last two years of the war to meet the ever-growing needs of the Allied commands in all three services. By 1944 the **RAF** was flying over one hundred sorties on a**

¹ Flight Lieutenant E. P. Taylor, DFC; born **Melbourne**, 22 Sep 1922; electrical salesman; joined **RNZAF** Feb 1942.

² Flying Officer R. S. Priest, DFC; born Waipawa, 25 May 1923; motor mechanic; joined **RNZAF** Jul 1942.

peak day, which meant the subsequent processing, plotting, and interpretation of more than 50,000 exposures.

During the early months of that year a great deal of its work was devoted to preparations for the Allied invasion of **Normandy**. Photographic cover of the areas selected for the landings yielded valuable information concerning enemy defences, the terrain, roads and bridges, and enabled models to be constructed for planning and briefing. Much attention was also given to German preparations for launching their V-weapons and to the industries engaged in the production of oil and aircraft, especially of jet aircraft. Once the Allied forces were established on the Continent, reconnaissance of enemy communications became a major commitment. This often involved low flying in the face of intense flak over rail centres and troop concentrations; many sorties were also flown in preparation for the airborne landings. In addition, targets attacked by the Allied bombers were regularly photographed and shipping movements, U-boat construction, and the enemy's development of underground factories were carefully watched. Finally, in the last stages of the war air cover was obtained of all prisoner-of-war camps, which helped considerably in planning the speedy return to the United Kingdom of the released prisoners.

Spitfires and Mosquitos were used for most missions although Mustangs were sometimes employed on special low-level work. They were unarmed, carrying extra petrol and cameras in place of guns, and relying on their speed to escape interception. Their greatest danger lay in the appearance of vapour trails, those slender white lines left by an aircraft flying high which betray its passage when passing through

certain types of air. The latest type of Spitfire, camouflaged to blend with the sky and covered with a special dope giving a highly polished surface, flying as it could and did at 42,000 feet, was well above the danger belt and therefore almost immune from visual identification. Even were an enemy fighter to climb to these heights, manoeuvre for a successful attack was exceedingly difficult. Anti-aircraft fire, however, remained a danger since the aircraft, of necessity, had to maintain a straight and steady course when taking pictures.

Forty thousand feet is the brink of the stratosphere, and to fly at such heights, even in aircraft fitted with pressure cabins, imposed a severe physical strain. Flying at this height was also a fairly delicate matter since the aeroplane was near its ceiling and a violent or clumsy manoeuvre would lead to a stall. There was also the possibility of the pilot 'passing out' with very little warning if any thing went wrong with the oxygen system, and to guard against this many of them kept a fairly elaborate log, knowing that as long as they could write legibly all was well. Even so, there was always what one pilot calls 'an extraordinary feeling of muffled remoteness.'

The engine itself, which was practically in one's lap, only made a sort of ticking noise like a clockwork mouse. The cold, the low pressure and the immobilizing effect of the elaborate equipment and bulky clothing in the tiny cockpit had the effect of damping down and subduing all the senses, except the sense of sight. On a clear day one could see an immense distance, whole countries at a time. One day over **France** I saw three or four miles below me a row of silver Marauders going in over the green and yellow fields. Around them a scrap was going on, the fighters glinting as they circled in the sun. I felt like a man looking down into a pool watching minnows playing near the bottom.

Outside the aircraft the temperature might be 60° or 70° below freezing and if, as occasionally happened, the cabin heating failed, the cold was agonising. Everything in the cockpit became covered with frost and long icicles grew from the pilot's mask like Jack Frost's beard. Most alarming of all, the entire wind screen and blister hood was liable to

frost over so that it was impossible to see out. At such times the air seemed full of Messerschmitts.

Flight Lieutenant Buchanan ¹ who flew Spitfires, and Flight Lieutenants Cotterill, ² Foster, ³ Olson, ⁴ and Baird, ⁵ who captained Mosquitos, achieved fine records of service with **RAF** photographic squadrons. All five men completed a large total of sorties over **Norway**, **Czechoslovakia**, **Germany**, and **France** against enemy cities, ports, airfields, and railway centres - many of them heavily defended targets - and the record speaks of the 'high skill and courage' they displayed on these missions.

The men of **Coastal Command's** air-sea rescue services also did splendid work. During 1944 alone they rescued 2350 aircrew, mainly from the waters of the North Sea and the **English Channel**, an achievement that was based upon close teamwork by the whole rescue organisation. Aircraft in the air and launches on the sea were alike under the orders of a controller, whose task it was to use both to the best advantage. The search squadrons stood by on their air fields round the coast ready to go out immediately on receiving a call, among them Hudsons and Warwicks carrying lifeboats and amphibian aircraft which picked up a remarkable number of air crews in coastal waters. The marine craft units were equipped with high-speed launches, many of them able to make 35 knots and over, and they were based along the coast of **Britain**.

¹ Wing Commander R. C. Buchanan, DFC, Air Medal (US); born **Mataura**, 15 May 1921; civil engineering cadet; joined **RNZAF** Apr 1941; commanded No. 682 (PR) Sqdn 1944-45; Wing Leader No. 336 PR Wing, 1945.

² Flight Lieutenant G. W. Cotterill, DFC; born Hastings, 22 Apr 1916; joined RAF Sep 1940; killed in flying accident, 8 Nov 1945.

³ Flight Lieutenant R. H. Foster, DFC; born **Oamaru**, 5 Dec 1921; clerk; joined **RNZAF** Mar 1942.

⁴ Flight Lieutenant O. P. Olson, DFC; born **Auckland**, 2 Sep 1920; student; joined **RNZAF** Mar 1941; p.w. 29 Dec 1944.

⁵ Squadron Leader S. I. Baird; born **Carterton**, 14 Apr 1918; journalist; joined **RNZAF** Oct 1939.

A crash call sent them instantly to sea, and neither weather nor the belligerent interest of the enemy deterred their crews as they hurried to the spot where aircraft had come down.

New Zealanders served in both branches of the rescue service, but most of them were with the air squadrons where some fifty men flew as pilots, navigators, and wireless operators during the last two years of war. Flight Lieutenant W. C. K. Hender and Flying Officers Mitchell, ¹ Hodges, ² and Rhodes ³ were among those who did good work with Hudson and **Warwick** squadrons. Flying Officer Saunders, ⁴ who flew a small Walrus seaplane, picked up thirty-nine aircrew in the course of his many searches and patrols. On one occasion he rescued an American fighter pilot by landing his machine on a rough sea within ten miles of the enemy coast; another time he alighted in the Channel at dusk in very rough weather to pick up a British fighter pilot and, unable to take off again, taxied towards the English coast in the darkness for over an hour before being met by a high-speed launch just as the plane was being swamped in the high seas.

Early in October 1944, Flying Officer Williams ⁵ of No. 280 Squadron shared with his crew in an unusual experience. Off Heligoland, they had just dropped a lifeboat to the crew of an American Fortress bomber when two Messerschmitts attacked. One was driven off but the second set the **Warwick** on fire, forcing the pilot to land on the sea where the aircraft broke up and sank almost immediately. The crew in their small dinghy

were not sighted until the following day when another **Warwick**, with Flying Officer Rhodes at the controls, dropped a lifeboat in which they sailed for seventeen hours across the North Sea in bitter weather before being finally picked up.

The crews of the 'Met' aircraft deserve special mention. Day after day they continued their unspectacular but invaluable work, providing information of great importance not only to the other air commands but also to all the Allied military services. No little skill and a measure of quiet courage were needed to complete a 'routine' sortie far out over the **Atlantic** on a winter's day. The vital feature of the 'Met' flights was, in fact, the regularity with

¹ Flying Officer J. Mitchell; born **Camelon, Stirlingshire**, 9 Oct 1914; master butcher; joined **RNZAF** Feb 1942.

² Flying Officer G. L. Hodges; born **Port Chalmers**, 6 Dec 1916; civil servant; joined **RNZAF** Aug 1941.

³ Flying Officer E. G. Rhodes; born **Auckland**, 18 Nov 1912; traveller; joined **RNZAF** Mar 1941.

⁴ Flying Officer A. K. Saunders, DFC, Air Medal (US); born **Owaka**, 26 Sep 1916; truck driver; joined **RNZAF** Oct 1940.

⁵ Flying Officer H. N. Williams; born **Auckland**, 13 Oct 1920; farmhand; joined **RNZAF** Nov 1941.

which they were flown so that a constant weather guard could be maintained from the Arctic to the Azores. But the activities of the 'Met' squadrons were not entirely confined to observations of the weather. Engagements with enemy aircraft were not infrequent and at least one German machine is known to have been destroyed; thirty-six U-boats were also reported and several attacked. Among the New Zealanders who

achieved a long record of service in these duties were Flight Lieutenant Johnston,¹ who had flown from **Iceland** earlier in the war, Flight Lieutenant Mettam,² and Flying Officer Patterson.³

Thus did **Coastal Command** crews pursue their various tasks to the end. The battle that they had to fight was peculiarly exacting, with monotony, and the indifference it breeds, constant foes that had to be fought unceasingly. Mile after mile and hour after hour the sea over which the aircraft flew might stretch empty to the horizon, yet at any moment the sighting of a tiny black speck and an unusual flicker of foam or a radar contact would mean that routine vigil would be exchanged for swift action. But whatever the task, whether it was protecting a heaving convoy far out in the **North Atlantic**, or searching the rough seas in the **Bay of Biscay** for the elusive U-boat, or swooping through the mists of dawn or evening upon enemy ships steaming along the Norwegian coast, pilots and crews of **Coastal Command** continued to display the same resolution and the same skill. The fiery terror of a raid on **Berlin** was not theirs nor did they know the fierce flash of combat fought at 400 miles an hour. The steady process of wearing down the enemy, of denying him an element in which **Britain** has been supreme for half a thousand years, was their task and well did they perform it.

¹ Flight Lieutenant B. G. Johnston; born Cromwell, 8 Jan 1918; clerk; joined **RNZAF** Aug 1940.

² Flight Lieutenant J. Mettam; born **Auckland**, 3 Mar 1909; storeman; joined **RNZAF** Feb 1942.

³ Flying Officer J. E. Patterson; born **Wellington**, 9 Oct 1921; plumber; joined **RNZAF** Aug 1941.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 16 – THE LAST PHASE

CHAPTER 16

The Last Phase

By March 1945 the Allies were pressing in upon **Germany** from all sides and it was clear that the end was at hand. The slender possibility that the enemy's new air and naval weapons might delay the verdict had been destroyed by the Allied bombers. On the Oder and the Rhine the German armies had almost reached the point of exhaustion. They might live for a while on the remaining stocks of weapons, ammunition, and fuel but these would receive little replenishment from a war industry already constricted by creeping paralysis. The better part of Upper Silesia was in Russian hands. The Ruhr was practically in ruins. Its production of coal and steel was reduced to one-fifth of what it had been in the summer of 1944 and, owing to the dislocation of road and rail transport, a mere fraction of this meagre output could be moved to the hungry factories. Indeed, throughout **Germany** the manufacture of arms and munitions was now being maintained only by the assembly of components and the consumption of stocks. Yet in spite of this imminence of complete collapse and final ruin, **Hitler** refused to accede to the Allied demand for 'unconditional surrender' and, under his fanatical leadership, the Germans continued to fight on until their military organisation disappeared and their country was overrun.

The crossing of the Rhine by the British and American armies under Eisenhower was completed by the end of March, and within a fortnight, having encircled and captured the Ruhr, they were sweeping forward into the heart of **Germany**. At times forward elements were covering as much as a hundred miles in a single day. The advance of Montgomery's Second British Army was typical. Crossing the Weser on 5 April, they reached Lüneburg on the 18th and before the end of the month they had crossed the Elbe and were moving towards **Lübeck** on the Baltic coast. Meanwhile, an equally dramatic advance had been made by the Russian armies from the north, and by 25 April they had encircled **Berlin**. That same day units of the US First Army linked up with the van of the Russian forces at Torgau on the Elbe. On 30 April **Hitler** committed

suicide in his underground shelter in **Berlin**. Admiral Doenitz assumed his leader's tattered mantle and within a week had accepted Allied demands for complete surrender. Hostilities finally ceased at midnight on 8 May 1945. Thus did the war in **Europe** reach its climax- a climax which was to prove more tragic for the German people than anything their famous Wagner had ever conceived.

During these last months Allied air supremacy was virtually complete. On 24 March, for example, when the British and American air squadrons flew over 10,000 sorties in support of the Rhine crossing, they sighted fewer than one hundred enemy machines in the air. The last great effort of the **Luftwaffe** had been made in support of the German counter-attack in the Ardennes; thereafter it offered no serious challenge. Although the Germans still possessed a large number of Focke-Wulf and Messerschmitt fighters, shortage of fuel and lack of trained pilots made it impossible for squadrons to take to the air in strength. The jet aircraft, which operated on low-grade fuel, might well have been a serious danger since the Allies had nothing to match their speed, but they never appeared in large numbers because of the bombing of their assembly factories and the airfields from which they operated. ¹

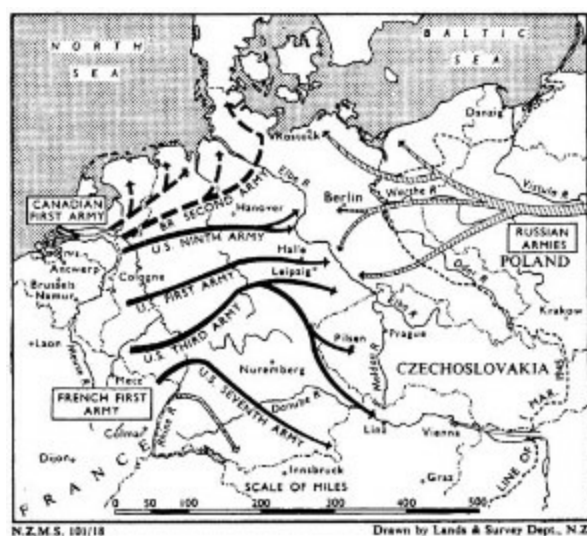
During March 1945 the remnants of the **Luftwaffe** in the West were driven back to airfields and improvised landing grounds in central **Germany**. There they stood in long lines, too cramped for adequate dispersal against attack from the air, and without petrol to fly them elsewhere. Reconnaissance aircraft discovered the crowded airfields and in the second week of April more than 2000 of these grounded machines were destroyed by Allied fighters and bombers. However, the disappearance and destruction of the Luftwaffe did not leave Allied fighters and bombers free to fly over **Germany** unopposed. During these months the enemy increased his anti-aircraft defences and concentrated them in the vital areas so that casualties from this source continued to be relatively heavy. It was, in fact, against a background of fading enemy activity in the air and sharp opposition from his flak batteries that the Allied air forces flew their final strategic and tactical missions

over Western Europe.

Royal Air Force operations were now mainly directed towards helping Montgomery's armies during their advance into **Germany**. Particularly impressive support was provided for the crossing of the Rhine and the capture of the Ruhr. Several weeks before the ground forces attacked, medium and heavy bombers began a sustained campaign against bridges and viaducts in order to isolate the Ruhr and prevent any troops and supplies from moving in or out. Altogether nineteen bridges were attacked and, despite energetic

¹ These airfields were easily identifiable by reason of their exceptionally long runways.

attempts by the enemy to keep them repaired, ten had been destroyed and five rendered impassable before the actual assault took place. Bomber Command made fourteen heavy attacks; the most notable was delivered on 14 March against the railway viaduct at Bielefeld, where a ten-ton 'Grand Slam' bomb shattered two of its spans and other bombs wrecked the bypass which the Germans had been quick



OVERRUNNING GERMANY
OVERRUNNING GERMANY

to build when attacks on the viaducts began earlier in the campaign.

Railway centres and marshalling yards in the Ruhr were also heavily attacked. In the first three weeks of March medium bombers from No. 2 Group made twenty-three attacks against such targets at Munster, Soest, Osnabruck, Hanover, Rheine, Borken, and Dorsten. Bomber Command also made two particularly heavy raids during daylight; in the first, on 11 March, a force of 1055 Lancasters, Halifaxes, and Mosquitos dropped nearly 4700 tons of bombs on Essen, and on the following day an even heavier attack was made against Dortmund where British bombers dropped 4850 tons. Meanwhile fighters and fighter-bombers of Coningham's Second Tactical Air Force made daily sweeps over enemy airfields and attacked roads and railways leading to the proposed bridgehead in the area of

Wesel. On 21 March the fighter-bombers succeeded in cutting German railway lines at forty places, while the mediums attacked seventeen towns close to the Rhine during the day and any transport that could be found by night. As the day of the assault drew nearer the tempo increased, and to transport and communication targets were added enemy batteries, fortified positions, and air bases – in two days nearly 3000 tons of bombs went down on ten Luftwaffe airfields in the vicinity of Wesel.

The actual assault across the Rhine began on the evening of 23 March. An hour and a half before midnight some two hundred Lancasters bombed the town of Wesel which was Montgomery's first objective. After the attack British commandos, who had waited outside the town only 1500 yards from the aiming point, moved forward and overcame the enemy garrison at a cost of only thirty-six casualties. Montgomery signalled to Bomber Command:

The bombing of Wesel last night was a masterpiece and a decisive factor in making possible our entry into the town before midnight.

With the dawn, fighters and fighter-bombers of Second Tactical Air Force took to the air. The fighters patrolled over nearby enemy airfields as well as the actual area of the ground assault; they also protected the

troop-carrying aircraft and gliders which arrived from England during the morning. Fighter and medium bombers gave close support to the advancing troops by attacking enemy positions and batteries; they bombed any movement seen in the battle area and, roving further afield, attacked traffic on the roads and railways leading to it. Altogether on this first day some 170 enemy trucks and motor vehicles, 39 railway engines, and more than 50 enemy aircraft were reported destroyed by the **Tactical Air Force.**

During the next few days reconnaissance patrols, fighter sweeps, and widespread bombing attacks on communications and defended localities continued on an intensive scale. The expansion of the bridgehead beyond the Rhine made rapid progress, and as the German forces in that area began to fall back a large number of targets became available for assault from the air. On the 26th convoys of motor transport were discovered seeking to escape from the neighbourhood of the battlefield, and against them fighter-bombers of 2nd TAF flew over 670 sorties and claimed the destruction of over 130 vehicles. Little was seen of the **Luftwaffe but several fighters were shot down by German flak. Bomber Command also continued to assist the land battle by attacks on enemy communication centres. Six hundred and seven aircraft raided **Hanover, Munster,** and Osnabruck on 25 March and two days later 300 bombers dropped nearly 1000 tons on a big railway junction at **Paderborn**. Continually harassed from the air and with their supply lines wrecked, the Germans were forced back in disorder, and by the beginning of April the Ruhr had been encircled and the German Army in it trapped.**

As Montgomery's armies raced on towards the Elbe, 2nd TAF continued to give them close support. Fighters and fighter-bombers swept ahead of the advancing columns to attack enemy movement. Their bombs and rockets were also employed with good effect against airfields and fortified villages. Simultaneously, the medium bombers were active both by day and by night harassing enemy communications and bombing towns and villages on the line of the advance where the presence of troops and transport was suspected.

Opposition by the **Luftwaffe** to these operations was negligible for constant patrols were now maintained over enemy air bases. On 20 April British fighter-pilots shot down eighteen Messerschmitts and Focke-Wulfs which they caught taking off from an airfield near Hagenau. Towards the end of the month when Montgomery's advanced guards crossed the Elbe, German fighters flying from airfields close at hand made a last despairing effort to harass the advance. The weather was atrocious, thick cloud often as low as 600 feet obscuring the battlefield, making the task of our fighter pilots far from easy. However, on 30 April, in a battle brisker than had been fought for many a long day, they claimed thirty-seven enemy machines destroyed.

By the beginning of May panic-stricken German leaders were trying to escape in ships from the Baltic ports of **Lubeck** and **Kiel**. Second TAF aircraft attacked the convoys with notable success; in one raid on 3 May, seventeen ships were reported sunk and over a hundred damaged.

Bomber Command supported the advance to the Elbe by a series of accurate attacks on enemy road and rail centres and pockets of resistance. For example, during the first week of April the city of Nordhausen in central **Germany**, which had been converted into something of a stronghold, received over 2000 tons of bombs in two successive daylight raids, while on the night of the 14th over 2800 tons went down on the marshalling yards and military barracks at **Potsdam**; similar attacks fell on the marshalling yards at **Leipzig**, Bayreuth, and **Nuremberg**. A few days later the island of Heligoland, whose heavy batteries dominated the sea approaches to **Bremen** and **Hamburg**, was attacked by 953 heavy bombers and almost obliterated. Then, towards the end of the month, Montgomery asked for Bomber Command support in his final assault on **Bremen** and 757 aircraft were despatched to bomb strongpoints, barracks, and camps; although low cloud prevented more than half this force from attacking, the effect was apparently sufficient as the city capitulated within a few days.

Simultaneously with these army support operations the British

bombers made their final attacks of the oil campaign. By the time the Allies crossed the Rhine the German oil industry was on the verge of collapse, so that Bomber Command's missions consisted mainly of policing attacks on plants already heavily bombed and raids against storage depots still in enemy hands. By 18 April all but six of the major oil plants had been captured and these six were still out of action. British bombers also made several heavy attacks on the north German ports during April and as a result four major warships were put out of action, several U-boats and a substantial tonnage of shipping were sunk, and widespread damage inflicted on docks and building yards. In one raid on **Kiel** the cruiser *Emden* and the heavy cruiser *Admiral Hipper* were so badly hit that they were subsequently written off while the pocket battleship *Admiral Scheer* was capsized.

Towards the end of April, with the Allied armies advancing deep into **Germany**, there were no targets left for the strategic air forces. Therefore, on their final missions over **Europe**, the bombers substituted food and medical supplies for bombs and these they dropped on the starving Dutch cities and villages; they also carried Belgian refugees back to their own country. Operation **EXODUS**- bringing back Allied prisoners of war – was Bomber Command's last major task, and during April and May 1945 no fewer than 75,000 men were safely flown to England.

The last phase of the war at sea saw notable activity by **RAF Coastal Command**. Along the Norwegian coast its Beaufighter and Mosquito crews continued to seek out and attack enemy ships – during April the **Dallachy Wing** in **Scotland** made seven successful strikes against targets hidden in the various fiords, often in the lee of steep cliffs. The Strike Wings also flew into the Kattegat by day to harass shipping in that area. Then, in the last week, as the remnants of the German forces fled from **Norway** and the north Danish ports in every kind of craft, **Coastal Command** joined in the final assault and inflicted severe damage on the crowded ships. In one attack on 3 May, against a concentration of ships in the Great Belt, Beaufighters sank two large vessels and damaged

fifteen others, one of them being the 11,000-ton *Der Deutsche*. Operations against the German U-boats reached a similar climax. Patrols in British coastal waters brought better results and by April 1945 Liberators by night and rocket-firing Mosquitos and Beaufighters by day were carrying the war right into German home waters. On 9 April a Mosquito wing sank outright three U-boats which were found on the surface in the Skagerrak. On 4 May the Beaufighters went one better and sank four. The following day Liberators operating singly accounted for five more in the Kattegat area. By that time **Coastal Command** crews had destroyed no fewer than twenty-five U-boats in just over a month. 'The crushing superiority,' declared Admiral Doenitz in an Order of the Day issued simultaneously with his order to cease hostilities, 'has compressed the U-boats into a very narrow area and continuation of the struggle is impossible from the bases that remain.'

For several weeks after the cease fire, aircraft of **Coastal Command** maintained patrols over the **North Atlantic** and the North Sea to locate surrendering U-boats – they had been ordered to surface and fly a black flag – and to make certain that none continued to operate against Allied shipping. The last patrol of the war was, appropriately enough, flown by a veteran Sunderland flying boat which landed at its base in Northern Ireland on 4 June 1945. Its crew, which included men from **Britain**, **Canada**, **Australia**, and New Zealand, was typical of many that had flown together on patrol during the long years of the **Atlantic** battle.

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Such were the final operations in which New Zealand airmen flew with their squadrons in Bomber, Fighter, and Coastal Commands and in the Second Tactical Air Force. Even in this short period their achievements were many. For example, one group of eight Mosquito bomber pilots each made fifteen trips to **Berlin** in less than a month- and **Berlin**, be it remembered, was still a formidable target. It was a New Zealand wing commander who led the **RAF's** first squadron of jet fighters on the Continent; another wing commander led some of the most successful of **Coastal Command's** final attacks on enemy shipping, while

a New Zealand Liberator captain sank one of the last U-boats to be destroyed. Aircrew with Second Tactical Air Force achieved a fine record of enemy aircraft and vehicles destroyed. Typical spirit was displayed by a young night-fighter pilot during the crossing of the Rhine when, scrambled from a forward base in thick weather, he succeeded in intercepting and shooting down a Junkers 188 at only 500 feet. Then, with all bases closed down by fog, he flew across to land in England; the next day the weather was still too bad for him to return to the Continent, but that night he took off to patrol again over the Rhine bridgehead, where he shot down a Heinkel 177 bomber.

Seven New Zealand squadrons continued to operate with the [RAF](#) to the end. No. 75 Lancaster Squadron, which had now been in action for over five years, made a substantial contribution to Bomber Command's final raids with a total of 527 sorties during March and April 1945. [Cologne](#), [Dortmund](#), [Essen](#), [Munster](#), and [Wesel](#) were among the targets bombed before the Allied armies crossed the Rhine and encircled the Ruhr. Crews met considerable opposition from flak during these raids but only two aircraft were lost – both of them whilst attacking the railway viaduct at [Munster](#). In April the New Zealanders took part in Bomber Command's heavy raids on [Bremen](#) and Heligoland. Wing Commander C. H. Baigent, who led twenty-one Lancasters to [Bremen](#), tells how:

For weeks past the Squadron had been practising formation flying and the boys could hold a really tight formation – for Lancasters! On the run in, we received more than our share of uncomfortably accurate predicted flak. There were bags of ‘Whoomps’, ‘Whoomps’, followed by ‘Cracks’ as pieces of shell hit the aircraft. The boys did a marvellous job of work and rather than break formation they closed in tighter still. They had been briefed to bomb on the leader and as our bomb doors opened all the other aircraft followed suit, and then they all waited for our 12,000 Ib. bomb to drop from the bomb bay, which was the signal for all bombs to be dropped. One of the pilots at the rear of the Squadron said it was an unforgettable sight. Twenty-one Lancasters in tight

formation, all with bomb doors open, cruising steadily up to **Bremen**, flak puffs all round, bombs poised, waiting for the leading aircraft to give the bombing signal. As our 12,000 pound 'Cookie' fell away a further twenty bomb loads of about 11,000 pounds each started their journey to the **Bremen** docks. The noise when the whole load landed must have been terrific. We got back to base without much further trouble to find that every aircraft had been hit at least once by flak fragments and that five machines were badly damaged.

The New Zealand Lancasters also took part in the two successful raids on **Kiel**. Of the attack on the night of 9 April which disposed of the *Admiral Scheer*, the *Emden*, and *Admiral Hipper*, the squadron diary records: 'Nineteen aircraft were detailed to attack **Kiel**. Except for slight ground haze, visibility was excellent. A good concentration of bombs was achieved and crews had a good "prang". Many fires and explosions were seen. Flak was moderate. There was no fighter opposition. A further six aircraft went to **Kiel** this night and laid mines.' In the second attack, four nights later, twenty Lancasters dropped bombs and leaflets and five laid mines in what was to prove the squadron's final minelaying operation of the war. Flying Officer Baynes ¹ and his crew fought the squadron's last combat on the night of 14 April when they were attacked by two Ju88s. The German machines were eventually shaken off, but not before the Lancaster had been damaged and the flight engineer killed.

No. 75 Squadron's last attacks on oil targets were against the Leuna synthetic plant at Merseburg and the oil storage depot at

¹ Flying Officer A. R. Baynes; born **Ashburton**, 5 May 1918; transport driver; joined **RNZAF** Jul 1942.

Regensburg, both bombed by twenty aircraft. Flying Officer Wood ¹ and his crew had an unenviable experience during the raid on Merseburg. Over the city their Lancaster was hit in the nose by flak and set on fire. Although some of his flying instruments were smashed and

he was almost blinded by smoke, Wood managed to keep control, even when flames reached his seat and burnt his face and hands. The navigator, Flight Sergeant Pauling, ² fought his way through the flames to extinguish the bomb aimer's burning clothing and then put out the fire with his bare hands. Pauling's charts and logs were destroyed, but he worked out a course for the return flight and Wood flew the Lancaster back and made a safe landing.

No. 75 Squadron flew its last bombing raid of the war on 24 April when nineteen aircraft attacked the marshalling yards at Bad Olde- sloe. The operation was completed without incident, and crews reported accurate bombing and no opposition from the enemy. When the first 'Manna' operation was flown five days later to drop food to the starving people of **Holland**, nine squadron crews were among the force of over 250 aircraft which dropped 500 tons of supplies at **Rotterdam**, the Hague, and Leyden. The crews reported seeing enormous crowds along the route and in the dropping area, cheering and waving to the aircraft. By the time **Germany** capitulated the squadron had flown 126 sorties on 'Manna' operations. This was not the end of flights to the Continent for No. 75 now took its part in the task of bringing back Allied prisoners of war. Within eighteen days 2339 men were flown to England and 132 repatriates carried home to **Belgium**.

No. 485 Spitfire Squadron, with Squadron Leader K. J. Macdonald continuing as leader, operated with Second Tactical **Air Force**. After six months on the Continent in which it had been particularly prominent in dive-bombing attacks, on armed reconnaissance and bomber escort, the squadron was ordered back to England at the end of February 1945 to re-equip with Tempests. Difficulties then arose over the supply of these new fighters, and after several weeks of frustration the squadron returned to the Continent on 19 April to resume operations on Spitfires three days later from a forward base in **Holland**. Thereafter armed reconnaissance was the order of the day, and before the end of hostilities 103 sorties were flown in which pilots scored many successes against rail and road targets. On one typical day a locomotive was blown up, three others were

damaged, three motor transports and a staff car destroyed, with

¹ Flying Officer J. H. T. Wood, DFC; born **Te Arawa**, 19 Sep 1921; farm worker; joined **RNZAF** May 1942.

² Warrant Officer J. A. W. Pauling, DFM; born **Palmerston North**, 10 Nov 1920; joined **RNZAF** May 1942.

other vehicles damaged. The squadron moved into **Germany** at the end of April, flying its last missions from Drope airfield, near Rheine.

It was unfortunate that No. 485 should be out of the front line for part of these last months. However, in its four years of operations the squadron had achieved an excellent record which included the destruction, in combat against the **Luftwaffe**, of no fewer than 63 aircraft with an additional 25 probably destroyed and 32 damaged.

For No. 486 Squadron, which continued to fly with a Tempest wing of Second Tactical Air Force, this last phase of the war was a particularly active and successful period. In ten weeks pilots flew 1029 sorties, during which they claimed no fewer than thirty-seven enemy aircraft destroyed, together with a formidable total of enemy transport. These results were not, however, achieved without cost. Six pilots were lost, including the commanding officer, Squadron Leader K. G. Taylor-Cannon, whose Tempest sustained a direct hit by flak during a low-level attack in mid-April. He succeeded in baling out, but two panels of his parachute were badly burnt and he was fired at from the ground as he made his descent. His body was never found. Flight Lieutenant Schrader,¹ one of the flight commanders, then took charge, but early in May he left to lead No. 616 Meteor Squadron – the first jet fighters with 2nd TAF – and was succeeded by Flight Lieutenant C. J. Sheddan, who continued in command until the squadron was disbanded.

During the crossing of the Rhine No. 486 Squadron maintained 'standing patrols' over the Wesel area and in two days pilots flew a total

of seventy-two sorties; no enemy fighters were encountered. On being relieved from this duty the Tempests made successful strafing attacks on aircraft on the ground, armoured fighting vehicles, motor transport, and other similar targets. An unfortunate episode occurred on the afternoon of 25 March while the squadron was attacking enemy communications aircraft concealed in a wood near the front line. Flying Officer W. A. Kalka's Tempest was hit by flak and as he neared base his ailerons jammed, forcing him to bale out north of the airfield. He came down in the River Maas and was drowned, despite the courage of a Dutch girl who dived into the river in an attempt to save him.

In April No. 486 Squadron moved from **Holland** to **Germany**, first to Rheine-Hopsten, a badly bombed airfield where the squadron's landing strip was 'nothing more than 1,000 yards of sand filled bomb craters,' and then to Fassberg which, by contrast, was

¹ Wing Commander W. E. Schrader, DFC and bar; born **Wellington**, 27 Mar 1921; accounts clerk; joined **RNZAF** Mar 1941; commanded No. 486 (NZ) Sqdn and No. 616 Sqdn, 1945.

regarded as almost luxurious. Thus, in spite of the speed of the Allied advance, pilots were able to maintain armed reconnaissance over a wide area ahead of the leading formations and also give them close support when needed.

An interesting support operation was carried out by the New Zealanders in the first week of April. Seven Tempests on an early morning patrol over the Dummer Lake area were contacted by an **RAF** liaison officer attached to the army, who requested immediate help against strong enemy resistance in the vicinity of Leese – in particular against German troops on one side of a railway embankment who were about to counter-attack the British on the other side. The margin was small but, says an eye-witness, 'the Tempests formed up into line astern and one by one effectively strafed the enemy while the Tommies lay only a few yards from the line of fire of their cannon shells.' The pilots then

went on to strafe the village and there was a huge explosion when a lucky hit on a corner building blew up a petrol store. Another notable episode occurred on 15 April. That morning nine Tempests were on reconnaissance to the south-east of Ulzen when Schrader, who was leading, sighted nine Focke-Wulf 190s. In the dogfight which followed all but one of the enemy machines were shot down, and that one just managed to get away after it had been badly damaged. Only one Tempest was lost; the pilot, Flying Officer Evans,¹ baled out six miles behind the enemy lines and, surviving shots fired at him by German soldiers as he floated down, took cover and later made contact with a British patrol.

A fortnight later No. 486 pilots shot down ten enemy machines during patrols to protect the bridgehead across the Elbe. The first patrol of eight aircraft led by Schrader accounted for three FW 190s and three Me109s; the second, led by Sheddan, destroyed three FW190s; and the third, again with Schrader as leader, reported the destruction of yet another Focke-Wulf 190. The squadron's run of success continued into May and in the first four days a further six enemy aircraft were shot down. In this last phase Squadron Leader Schrader, with a 'bag' of nine aircraft destroyed and one shared, Squadron Leader Sheddan, with three and two shared, and Flying Officer Evans, who destroyed three and probably destroyed a fourth, had been outstanding.

No. 486 Squadron's record shows that, during its three years of operations, pilots destroyed 81 enemy aircraft in combat and damaged a further 27. They also shot down 223 flying bombs and in ground attacks destroyed 323 enemy motor vehicles of various kinds and 14 railway engines.

¹ Flight Lieutenant A. R. Evans, DFC; born Coromandel, 23 Sep 1923; seaman; joined [RNZAF](#) Jul 1942.

No. 487 Squadron, flying Mosquito bombers and led by Wing Commander F. H. Denton, continued to operate mainly at night against enemy road and rail centres and troop concentrations near the front

line. A notable exception must, however, be recorded. This was the daylight precision attack on the German Gestapo headquarters for **Denmark** which was situated in the Shellhaus building at Copenhagen. The raid, which took place on 21 March 1945, was launched in response to a desperate signal from the Danish Resistance:

Military leaders arrested and plans in German hands. Situation never before so desperate. We are regrouping but need help. Bombing of the Shellhaus will give us breathing space.

Eighteen Mosquitos of No. 140 Wing, six each from No. 21 **RAF, No. 464 Australian, and No. 487 New Zealand Squadrons, were detailed for the task and they took off from an advanced base in Norfolk. Denton, with Flying Officer A. J. Coe as his navigator, led the New Zealand formation; a second crew was formed by Flying Officers Peet ¹ and Graham, ² while two other aircraft were captained by Squadron Leader W. P. Kemp and Flight Lieutenant R. J. Dempsey. Flight Lieutenant N. J. Ingram was navigator to the commanding officer of No. **21 Squadron** and acted as deputy navigation leader of the force.**

The Mosquitos, with their escort of Mustang fighters, reached Copenhagen shortly before noon, and immediately swept in to the attack. Direct hits were scored on the Shellhaus, and several bombs were actually seen to bounce in through the windows on the ground floor. Unfortunately one of the leading aircraft struck a large pole and crashed in flames a mile from the target, where it attracted the bombs from several of the following machines. Nevertheless, the whole building was soon ablaze and in the confusion some thirty Danish patriots escaped from their prison cells in the upper floors- the Germans had placed them there as a deterrent to bombing after the raids on other **Gestapo headquarters in **Europe**. Later it was learnt that about sixty Germans and Danish Nazis had been killed and all their records destroyed.**

The attacking aircraft had to fly out through a curtain of flak. One of the New Zealand Mosquitos was hit and crashed as it made towards **Sweden; four others returned damaged – Denton's machine was badly**

shot up and he had to crash-land on return, while Dempsey was forced to fly the 400 miles back to base on one engine. From the whole force four Mosquitos and two of the

¹ Flying Officer G. L. Peet; born **Te Aroha**, 3 Apr 1920; factory hand; joined **RNZAF** Nov 1941; killed on air operations, 11 Apr 1945.

² Flying Officer L. A. Graham; born **Wellington**, 22 Oct 1920; clerk; joined **RNZAF** Sep 1942; killed on air operations, 11 Apr 1945.

escorting fighters were lost. By cruel misfortune one of them crashed into a school in Copenhagen killing over a hundred persons, most of them children. However, in spite of this tragedy, the Danes signalled to **London**:

Sincere admiration your wholehearted co-operation Shellhaus bombing. ... Main building totally destroyed Regrettable accident wholly understood by everyone here Congratulations and thanks to R.A.F.

On the night of the Rhine crossing ten Mosquitos from No. 487 Squadron were among the ninety-six medium bombers which supported the ground forces by attacking enemy transport and assembly areas opposite the British and American fronts. In the following three weeks the squadron was busy bombing enemy columns as they retreated eastwards from the Rhine towards **Bremen** and **Hamburg**, but by the middle of April the Mosquitos were almost out of range of the front line so the squadron moved by air to Melsbroek airfield, near **Brussels**. A week later aircraft from No. 487 were among the force of RAF Mosquitos detailed to attack strong points in **Bremen** under mobile radar control posts before the ground assault began. Six crews bombed in this manner and caused a number of fires; the same night another six crews bombed and strafed villages and marshalling yards and other railway targets; one

pilot who attacked a goods train saw 'three or four trucks in the centre of the train hurled off the line and then a pall of smoke which rose to 600 feet.'

Bad weather now intervened, and No. 487 flew only three further missions before the cease fire brought to an end what had been an almost continuous effort against enemy communications and troops since the squadron joined Second Tactical Air Force in July 1943. Attacking at night, crews had rarely been able to observe definite results and no accurate record of their achievements could be compiled. It is certain, however, that in their attacks behind the enemy front they played a significant part in the destruction of vehicles, railway targets, and troops and thus seriously interfered with the enemy's efforts to reinforce and supply his front line.

No. 488 Mosquito Squadron under Wing Commander R. G. Watts continued as one of the leading night-fighter units with Second **Tactical Air Force. During March and April 1945, its crews flew 265 sorties and claimed seven enemy aircraft destroyed and one probable, which brought the final figures on the squadron scoreboard to sixty-seven destroyed, four probably destroyed, and ten damaged – a fine record in night fighting, especially since the first 'kill' was not registered until November 1943. During the last months of the war the squadron's most successful crew was Flight Lieutenant K. W. Stewart and Flying Officer H. E. Brumby who destroyed five enemy machines. One night towards the end of March they shot down a Messerschmitt 110 and a Heinkel 111 bomber in a single patrol over the Ruhr; a week later they sent another bomber down in flames after stalking it through the darkness for nearly half an hour. No. 488 Squadron flew its final war patrols on 25 April 1945 when the last aircraft to land reported the destruction of a Focke-Wulf 189 – a fitting end to the squadron's highly successful career.**

No. 489 Beaufighter Squadron led by Wing Commander D. H. Hammond and No. 490 Sunderland Squadron under Wing Commander T. F. Gill played their part in the closing stages of the war at sea. The New

Zealand Beaufighters, flying with an [RAF](#) wing, continued to be prominent in patrol and attack over the Norwegian coast, while the Sunderlands flew their last patrols in defence of shipping off the coast of [West Africa](#). No. 489's record of ships sunk and damaged has already been given. No. 490 Squadron's main achievement, like that of so many Coastal Command squadrons, can best be measured in terms of Allied ships saved from U-boat attack and the safe arrival of troops and supplies at their various destinations.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

CHAPTER 17 – MISSION COMPLETED

CHAPTER 17

Mission Completed

THE war against **Germany** was over but **Japan** still fought on, and in order to hasten her defeat the **RAF** now pressed forward its plan to move certain units from **Europe** to the **Far East** to reinforce those already engaged in that area. Some would go to **Burma** and a group of heavy bombers, to be known as 'Tiger Force', would operate from an island base in the **Pacific** against the Japanese mainland. A new stage of intensive training was begun in June 1945, but before final preparations for the transfer were complete the first atomic bombs had been dropped at **Hiroshima** and **Nagasaki** and the war against **Japan** was also ended.

Three New Zealand squadrons were among the units originally chosen to move to the **Far East** and a number of New Zealand aircrew trained with **RAF** squadrons; but with the cancelling of the various arrangements all thoughts turned homewards. Shipping was scarce and in great demand so there were inevitable delays in repatriation, but most men made good use of the time that remained to them in **Britain**. Some took advantage of the Government's rehabilitation scheme and spent time in study or with industrial or commercial firms; others accepted hospitality in British homes or travelled to visit historic and traditional spots in the Old Country. Most valuable work was done by the small group of New Zealanders with the **RAF's** Missing Research Unit which sought information regarding the fate of men lost on operations.

Meanwhile the few available ships ploughed back and forth until, within a year of the end of hostilities, the majority of the New Zealand airmen were back in their own country where they were glad to return to civilian life on the land or in city office and factory. But not all - there is a story of two airmen who, after celebrating their demobilisation in **Wellington** for two days, found the prospect of civilian life so cold and forbidding that they turned into the nearest recruiting station and rejoined. Of those men who preferred to remain in the air service some chose to continue flying with the **RAF**, thus maintaining the link which

had been established in the early days of the First World War. By 1950 some three hundred men from the Dominion were holding commissions in the **Royal Air Force**, playing their part as instructors, squadron commanders, test pilots, or as aircrew in important operations such as the **Berlin** air lift and in the Malayan and Korean campaigns.

* * * * *

The record of her airmen during the war in **Europe** is one of which New Zealand may well be proud. From the early days of the battles for **Norway** and **France** right through the many air campaigns to the final battle of **Germany**, they had, as Lord Tedder remarks, 'shown themselves grand comrades working with their colleagues of the other Dominions and the Home Country.' They had rendered sterling service as leaders, as commanders of various units, and as specialists in many fields. A high standard of personal skill, determination, and courage had been displayed by the aircrew while those who worked on the ground had shown technical integrity, skill, and perseverance in full measure. By their general bearing, fine physique and all-round efficiency, the New Zealanders had won high regard not only in the **RAF** but throughout **Britain**. Here is the message sent to New Zealand by the Air Council at the conclusion of hostilities in **Europe**:

Now that the armed might of Nazi Germany has been laid low, the Air Council send you their warm congratulations on the illustrious part which New Zealand airmen have played in this resounding triumph. Many New Zealanders were serving in the **Royal Air Force** even before the war. The comradeship thus begun grew rapidly and before long large numbers of New Zealand air-crew were serving with distinction in **Royal Air Force** squadrons. They have brought honour to their country and to the **Royal Air Force** by their gallant service in all theatres of war. With great foresight you developed your training organisation, you became a ready partner in the Empire Air Training Plan which was to lay the foundations of our air supremacy; in all this you held nothing back, but gave to the limit of your power.

All that now remains is to review briefly the achievements in which New Zealand airmen may rightly claim their share.

What *was* the contribution of the Allied air forces to the defeat of **Germany**? Much has been written on this subject in the post-war years, but by far the most exhaustive and complete study yet made is that contained in the United States Strategic Bombing Survey. Here is the emphatic conclusion reached in its final report:

Allied air power was decisive in the war in western **Europe**. Hindsight inevitably suggests that it might have been employed differently or better in some respects. Nevertheless, it was decisive. In the air, its victory was complete; at sea, its contribution, combined with naval power, brought an end to the enemy's greatest naval threat - the U-boat; on land, it helped turn the tide overwhelmingly in favour of Allied ground forces. Its power and superiority made possible the success of the invasion. It brought the economy which sustained the enemy's armed forces to virtual collapse, although the full effects of this collapse had not reached the enemy's front lines when they were overrun by Allied forces. It brought home to the German people the full impact of modern war with all its horror and suffering.

Certainly the winning and the holding of air supremacy must be considered the foremost achievement, for it was Allied command of the air which made possible the campaign on the Continent and which gave the heavy bombers their opportunity to wreck the industries of the Reich. Until this supremacy was won **Europe** could not be invaded; further, in selecting targets for the bombers, the air commanders always had to reckon with the German fighter force and the gulf between what ought to be attacked and what could be attacked was always there and was often great.

The defeat of the **Luftwaffe** was a long, costly, and complicated campaign. Its outstanding features were first, the winning of the initiative by the **RAF** during the early years, then the combined assault by British and American squadrons against German fighter strength in

the air and on the ground, and finally, the attack on the synthetic oil plants which deprived the **German Air Force** of fuel. The offensive against the enemy aircraft industry is now known to have been less effective than was thought at the time. Recovery from the bombing was remarkably quick even after the peak attacks of February 1944. In the next five months the Germans more than doubled their production of aircraft, and in September 1944 they turned out no fewer than 3375 machines, which was twice the number estimated by Allied intelligence at the time. Certainly the attacks on aircraft factories and assembly plants warded off the much larger increase which the Germans had planned. But machines were not the limiting factor. It was the shortage of trained and experienced pilots and of aviation fuel which brought about the final collapse of the **Luftwaffe**.

In many respects the air battles of late 1943 and the spring of 1944 were critical for it was during those months that the German fighter squadrons suffered heavy losses both in aerial combat and from the guns of the bomber fleets, losses which virtually wrecked **Hitler's** once proud and powerful air force. By mid-1944 the best German pilots were dead or crippled; they could not be replaced, for **Germany** was never again able to provide proper training even though she could produce the aircraft.

The second outstanding achievement of Allied air power was its disruption of the German war economy. Here the main contributing factors were the **RAF's** long campaign against industrial cities and the final assault by both American and British bombers against enemy transport and oil. It is now generally agreed that the oil and transport campaigns were by far the most successful features of the combined bomber offensive, yet it is as well to remember that it was Bomber Command's earlier attacks on cities which caused the wholesale transfer and dispersal of German industry and thus rendered it more vulnerable to the subsequent attacks on oil and communications. Moreover, to have concentrated the attack solely on these latter objectives would almost certainly have led to an intensification of their defence and made their destruction a more difficult task than it was.

But when this has been said it must still be admitted that a good deal of the bombing effort, particularly that employed against German towns in the later years, was misdirected. There is, indeed, much to be said for the contention that the Allied air forces, while not giving up the attack on industry altogether, might well have begun the intensive assault on oil targets earlier than they did. Such is the view of the compilers of the United States Strategic Survey. Speaking of action by the American Air Force, they state:

As regards the timing of the bombing offensive it can be said that oil production should have been bombed as soon as it became possible, operationally, to penetrate deep into **Germany. This appears to have taken place in February 1944 with the use of long range fighter escort.**

British bombers working by night would not have needed fighter escort, and operationally there seems no reason why their attack on oil in 1944 could not have begun much earlier than it did. What the effect might have been can be judged from the statement of one of **Germany's leading airmen, General Erhard Milch, after his capture in May 1945. He said that 'if the synthetic oil plants had been attacked six months earlier, **Germany** would have been defeated six months sooner.' It is, indeed, an interesting speculation whether the war might not have been shortened if someone who believed as strongly in the offensive against oil as Sir Arthur Harris did in the offensive against cities had been chief of Bomber Command in 1943-45.**

The third major achievement of the Allied air forces was their contribution to the success of the land campaign in **Europe. The German generals were almost unanimous in testifying that their defeats had resulted above all from the Allies' air power. Allied ground commanders, although sometimes critical of the mass bombing attacks on the battlefield, were generous in their tributes for the assistance they received. 'The overwhelming superiority in the air,' says Eisenhower, 'was indeed essential to our victory. It at once undermined the basis of the enemy's strength and enabled us to prepare and execute our own**

ground operations in complete security.'

Undoubtedly the removal of the German air threat, the pre-invasion bombing and the wrecking of enemy communications, all helped to make victory on the ground more certain. There was also a superb co-ordination of effort between the advancing armies and the supporting air forces. From the initial assault in **Normandy** right through to the final battle of **Germany**, the tactical squadrons gave invaluable aid through their reconnaissance and transport operations, by covering and working with the forward troops and, above all, by their incessant attack on enemy strongpoints, communications, and supplies. The heavy bombers also answered frequent calls for direct assistance on the battlefield, and it is as well to emphasise that this involved a considerable diversion of their effort from strategic targets, thus inevitably making the bombing offensive less effective than it might have been.

In the achievement of victory at sea the air forces, and particularly the **RAF**, could claim a large share. No fewer than 339 German and Italian submarines were sunk by Allied shore-based aircraft- 240 of them by the **RAF** - and a further 41 were destroyed in conjunction with naval forces. The toll of enemy shipping was equally impressive. Of the total tonnage sunk and damaged in northern European waters during the war, over four-fifths was the result of air action, either mines laid by Bomber Command or direct attack by **Coastal Command**. In addition, German shipping movements were severely hampered and most of the German fleet was finally disposed of by air bombing. All these were highly satisfactory results, but it is necessary to record two less happy features of the air war at sea, namely, the failure to bomb the German U-boat bases in the French ports before they were encased in concrete and the tardy allocation of long-range aircraft to convoy protection in the **North Atlantic**. In the glow of later achievements it is easy to forget the six million tons of Allied shipping sunk by the U-boats during the black months of 1942.

Against the German V-weapons Allied aircraft enjoyed very

considerable, although not complete, success. **Royal Air Force** reconnaissance gave timely warning of German preparations and the **Allied bombers and fighters** delayed the launching of the actual attack. When it eventually came, much of the sting was removed by **fighter patrols** and by **bomber attacks on the firing and supply sites**. But an end was not put to the nuisance until the armies finally captured the **launching areas**.

Such, then, were the main achievements of Allied air power in **Europe**. They did not by themselves win the war but they were the decisive factor. They were attained only with difficulty and at great cost in men and material. They depended upon good leadership, courage and fortitude, and gallant action on the part of thousands of young men, and upon the extraordinary progress made by Allied research, development, and production. The failure of any one of these might have seriously narrowed the margin.

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Appendix I

PRINCIPAL EVENTS OF THE SECOND WORLD WAR 1943-45

*(With particular reference to air operations in **Europe**)*

1943

JANUARY

- 14–24** Conference between Prime Minister, President Roosevelt, and their Chiefs of Staff at **Casablanca**.
- 21** **Casablanca** directive issued by the Combined Chiefs of Staff defining the primary objects of the combined bomber offensive.
- 27** First USAAF air raid on **Germany** – **Emden** and **Wilhelmshaven** attacked by Fortresses and Liberators.
- 30** Mosquitos made their first daylight attack on **Berlin** (during Goebbels' and Goering's addresses at the 10th anniversary celebrations of **Hitler's** regime.)

FEBRUARY

- Main Allied bombing effort directed against U-boat bases and factories. Heavy RAF attacks on **Lorient** and **St. Nazaire**.
- 2** Remaining German forces trapped at **Stalingrad** capitulated.
- 14** Russian forces recapture **Rostov**.
- 25** Allied air forces commence 'round-the-clock' bombing. Over 2000 sorties in next 48 hours.
- 28** Norwegian commandos from **Britain** destroy German heavy-water installations connected with atomic research at **Norsk Hydro**, near **Rjukan** in **Norway**.

MARCH

- 3** **Knaben** molybdenum mines in **Norway** attacked by Mosquitos of Bomber Command.
- 5–6** Bomber Command's Battle of the Ruhr commences with an attack on **Essen**. 442 aircraft despatched – first full-scale use of 'Oboe' results in the first effective attack on **Essen**.
- 25** Formation of RAF Transport Command.
- 30** The Battle of the **Atlantic** at its height. Record shipping losses

on convoy routes especially in **North Atlantic**, but long-range aircraft achieve increasing success in that area.

APRIL

Fighter Command now mainly employed on escort duties but attack on enemy rail and shipping targets continues.

1

General Sir F. E. Morgan appointed Chief of Staff to Supreme Allied Commander to begin planning for the invasion of NW Europe. Battle of the Ruhr continues with fifteen major raids by Bomber Command in April–May.

MAY

Heavy attacks by U-boat packs in **North Atlantic** now defeated. Aircraft of **Coastal Command** have destroyed 36 U-boats since beginning of year.

12–27

Conference between Prime Minister and President Roosevelt in **Washington**.

13

Allied campaign in North Africa ended.

16–17

Twelve RAF Lancasters attacked and breached the Moehne and Eder Dams. Wing Commander Guy Gibson of No. 617 Squadron awarded the Victoria Cross.

31

The intense period of duels between **Coastal Command** aircraft and U-boats in the Bay of Biscay commenced.

JUNE

1

Formation of Second Tactical Air Force based in **UK** for operations connected with invasion of **Europe**.

10

Combined Chiefs of Staff issued a directive to **RAF** and **USAAF** on the POINTBLANK plan for destruction of the German aircraft industry.

20

First shuttle-bombing raid by Bomber Command, target **Friedrichshafen**. Aircraft landed at **Algiers** and attacked **Spezia** on return journey to **UK**.

22

Rocket projectiles used for the first time against enemy surface shipping by **Coastal Command**.

JULY

9–10

US and British airborne troops land on **Sicily** followed by seaborne forces on 10 July.

17

First aircraft landed on runway cleared of fog by 'Fido'.

24

First of a series of large-scale raids on **Hamburg** which ended 3 August. 'Window' used for first time by Bomber Command.

25

Heavy RAF raid on **Essen** marks end of Battle of Ruhr.

AUGUST

RAF Mosquitos make 18 night raids on **Germany**, including seven on **Berlin**. Heavy bomber targets include Turin, Milan, and Genoa.

- 1 Air attacks on oil refineries and wells at **Ploesti** and Campina made by US 8th and 9th Air Forces operating from North **Africa**.
- 3 U-boats in the Bay of Biscay forced to abandon surface passage owing to heavy casualties inflicted by **Coastal Command**.
- 17 US 8th **Air Force** attack on ball-bearing factories at **Schweinfurt** and **Regensburg**. Of 309 aircraft despatched 60 lost.
- 17-18 First RAF attack on Peenemunde Air Research and Development Station. 597 heavies despatched, 1938 tons of bombs dropped – 40 bombers lost.
- 14-24 Quebec Conference between Prime Minister and President Roosevelt. **COSSAC** plan for cross-Channel invasion approved.

SEPTEMBER

Bomber Command targets include aircraft factories at **Berlin**, **Hanover**, **Munich**, and Dunlop works at Montlucon.

- 15-16 12,000 lb. HC bombs dropped for first time by Bomber Command (**Dortmund**–Ems canal).
- 22-23 First use of ‘SpooF’ raid technique by Bomber Command. Main target **Hanover** – ‘SpooF’ target Oldenburg.

OCTOBER

- 8 First Coastal Command units arrived in the Azores (Terceira) to establish an air base.
- 8-9 Last operation by Wellingtons of Bomber Command.
- 14 Further attack on **Schweinfurt** by US 8th **Air Force**. 60 out of 224 aircraft lost.

NOVEMBER

- 10-11 315 aircraft of Bomber Command attacked Modane, on the Mont Cenis route into **Italy**.
- 15 Formation of Allied Expeditionary Air Force under Air Chief Marshal Sir Trafford Leigh-Mallory. Fighter Command became Air Defence of Great Britain.
- 18-19 ‘Battle of **Berlin**’ opened – fifteen major raids in next three months by Bomber Command.
- 28 Teheran Conference began (President Roosevelt, Marshal Stalin and Mr Churchill).

DECEMBER

- 3** Formation of No. 100 (Special Duties) Group RAF.
- 20** Commencement of attacks on flying-bomb sites.
- 23** General Eisenhower appointed Supreme Allied Commander of Expeditionary Forces in **UK**. Air Chief Marshal Sir Arthur Tedder became Deputy Supreme Commander. General Montgomery appointed Commander-in-Chief British Group of Invasion Armies.

1944

JANUARY

- Attacks by **RAF** and **USAAF** against flying-bomb installations in the Pas de Calais intensified.
- 21** Air Marshal Sir A. Coningham assumed command of **RAF 2nd Tactical Air Force**.
- 21-22** **German Air Force** attacks on **London** recommenced ('Baby Blitz').

FEBRUARY

- 9** Allied bombing of French railway system began in preparation for **OVERLORD**.
- 15-16** Heaviest attack on **Berlin** by Bomber Command: 2643 tons of bombs dropped. 891 aircraft despatched, 806 attacked, 43 missing.
- 18** **RAF Mosquitos** attacked **Amiens** prison to release French patriots.
- 23-24** The 'Big Week' commenced. **RAF** and **USAAF** bombers dropped 16,506 tons of bombs in a six-day series of raids on the German aircraft industry.
- 24-25** Bomber Command and US 8th **Air Force** attacks on ball-bearing industry at **Schweinfurt**.

MARCH

- 4** First American bomber attack on **Berlin**.
- 6** 800 aircraft in daylight attack on **Berlin**.
- 24-25** Last attack of the bomber 'Battle of **Berlin**'. 50 **RAF** and Dominion Air Forces personnel murdered by Germans after attempting to escape from Stalag Luft III.
- 30-31** Bomber Command suffered its heaviest losses in one attack. 95 aircraft missing out of 795 despatched to **Nuremberg**.

APRIL

- Heavy Allied air attacks on French railway system.
- 5** First of a series of 24 day and night attacks by **USAAF** and **RAF** bombers from the **Mediterranean** on the oil refineries at **Ploesti**.

(Last attack 19 August 1944.

- 9–10 Allied air attacks on French coastal batteries began.**
- 11 RAF Mosquitos attacked the ‘House in the Hague’.**
- 14 Strategic bombing in **Europe** placed under the control of the Supreme Commander Allied Expeditionary Force (General Eisenhower) for operations in support of **OVERLORD**.**

MAY

Air operations over the Continent intensified in preparation for invasion. Heavy raids on rail centres, military depots, and installations.

- 11 Allied air offensive opened against enemy airfields within fighter range of Caen.**
- 12 Attacks on German oil industry resumed by US air forces.**
- 30 Allied bombing effort now concentrated against coastal defences and key centres in **Normandy** and in Pas de Calais.**

JUNE

- 6 D Day. Allied armies began landing in **Normandy** closely supported by both Tactical and Strategic Air Forces.**
- 8–9 First 12,000-pound DP bombs (‘Tallboys’) dropped by Bomber Command (Saumur railway tunnel).**
- 9 Allied fighters commenced operating from airstrips in **France**.**
- 10 U-boats, having failed to penetrate Channel defences, began using ‘Schnorkel’ to avoid detection and attack from the air, but without success.**
- 12–13 Bomber Command begins heavy attacks against Ruhr oil targets.**
- 13–14 First flying bombs launched against England.**
- 15–16 Beginning of flying-bomb offensive proper. Between 11.30 p.m. and 6 a.m. 95 crossed the British coast.**
- 16–17 Bomber Command recommenced attacks against ‘Crossbow’ targets (flying-bomb and rocket sites) – period of intensified effort lasted until 6 September 1944.**

JULY

Allied air forces continue to operate intensively in support of the invading armies.

- 7 Bomber Command dropped over 2300 tons of bombs on enemy positions at Caen in 38 minutes.**
- 9 Caen captured by British and Canadian forces.**
- 17 Defences of **UK** against flying bombs re-deployed. New**

- 18 **deployment subsequently proved highly successful. Bomber Command dropped over 5600 tons of bombs to assist British offensive south-east of Caen.**
- 20 **Attempted assassination of Hitler by German Army officers.**
- 24 **Campaign in Normandy officially ended.**
- 24–25 **Bomber Command offensive against German industrial cities resumed (Stuttgart).**
- 25 **1500 aircraft of US 8th Air Force dropped 3500 tons of bombs to assist American offensive in St. Lo area.**
- 30 **American troops entered Granville and Avranches.**
- 31 **American breakthrough at Avranches.**
- AUGUST**
- 4 **Meteor jet aircraft first operational – against flying bombs.**
- 7–8 **1018 aircraft of Bomber Command despatched against concentrations south of Caen in support of First Canadian Army.**
- 7–12 **Defeat of German counter-attack at Mortain, largely by air action.**
- 8 **500 US heavy bombers attacked targets south of Caen to prevent German forces escaping from the Falaise pocket.**
- 14 **672 Bomber Command aircraft attacked targets north of Falaise in support of the Canadian Army.**
- 15 **Allied forces landed on coast of southern France following a four-day intensive air bombardment and attacks by airborne forces.**
- 17 **Canadian forces took Falaise. Retreating enemy decimated by air attacks.**
- 18 **The U-boat threat to the sea communications of the Expeditionary Force considered at an end. During the period Coastal Command aircraft had sunk 30 U-boats and shared in five further kills with naval forces.**
- 20 **First bridgehead across the Seine established by American forces at Mantes.**
- 23 **Paris liberated, organised enemy resistance ceased on 25th.**
- 25 **Bridgeheads across the Lower Seine established by British forces.**
- 27 **First daylight attack by Bomber Command aircraft on Ruhr oil plants.**
- 27–28 **Between dusk on 27th and dusk on 28th, defences destroyed 87 flying bombs out of 97 approaching England. Only four reached**

London.

SEPTEMBER

Strategic air forces intensify their assault on German industrial centres and oil plants.

3 British forces liberated **Brussels.**

4 Antwerp occupied by British troops.

8 First V-2 rockets fired on Western Front fell in the suburbs of **London and **Paris**.**

10 Large-scale attack by Bomber Command on Le Havre; further attack on 11 September.

11–16 Conference in **Quebec between Prime Minister and President Roosevelt.**

15 Strategic air forces in **Europe reverted to the control of the Combined Chiefs of Staff.**

17 First Allied Airborne Army landed in **Holland at **Arnhem** and **Nijmegen**.**

23–24 RAF Bomber Command breached the **Dortmund–Ems canal with 12,000-pound bombs.**

25–26 Withdrawal of First Allied Airborne Army from **Arnhem – 2163 men returned, about 7000 killed, wounded, and missing.**

OCTOBER

Heavy attacks on Ruhr cities by Bomber Command.

3 RAF Bomber Command breached the Dyke near Westkapelle on **Walcheren.**

7 RAF Bomber Command breached **Kembs Dam on the Upper Rhine north of Basle to assist the **US Army**.**

14–15 Heaviest attack of war by Bomber Command on German territory. 1576 aircraft dropped 5453 tons of bombs – also largest tonnage on a single target at night, 4547 tons on **Duisburg.**

15 AEOF disbanded; Air Staff SHAEF formed. ADGB became Fighter Command again.

31 Gestapo HQ at Aarhus, **Denmark, destroyed by RAF Mosquitos.**

NOVEMBER

1 Allied amphibious forces attacked **Walcheren.**

4–5 **Dortmund–Ems canal again breached by Bomber Command.**

9 Capture of **Walcheren completed. Over 2300 tons of bombs dropped on targets near Metz and Thionville by Allied Air Forces in support of Third Army offensive in the Metz-Nancy area.**

12 **Tirpitz** sunk by Lancasters of Bomber Command in Tromso Fiord with 12,000-pound bombs.

16 American offensive towards **Cologne** after Duren, Julich, and Heinsburg had been attacked by RAF Bomber Command, and Eschweiler and Duren by US 8th **Air Force**.

28 Port of Antwerp reopened to traffic.

DECEMBER

16 German counter-attack in the Ardennes sector opens.

24 **RAF** and **USAAF** heavy bombers flew over 2000 sorties against German airfields.

26 Deepest German penetration during Ardennes offensive – 60 miles (near Celles).

27 Large attacks continued to be made by Allied air forces on the Ardennes salient. Bastogne relieved.

31 **RAF** bombed Gestapo HQ in **Oslo**.

1945

JANUARY

Offensive against German oil plants increases.

1 **German Air Force** attack on Allied airfields in **Belgium**, 155 British and American operational aircraft destroyed and 135 damaged. 193 enemy aircraft destroyed by air action and by AA fire.

1–2 **Dortmund–Ems** canal and the Mittelland canal breached by Bomber Command.

26 End of Battle of Ardennes.

FEBRUARY

Strategic air forces concentrate their attacks against German oil and communications.

4–10 Conferences opened at **Yalta** between Prime Minister, President Roosevelt, and Marshal Stalin.

13–14 Bomber Command and 8th **Air Force** attacked Dresden in support of Russian front and Chemnitz on following night.

20–21 First of 36 consecutive night raids made by RAF Mosquitos on **Berlin**.

21 Allied Strategic and Tactical Air Forces began intensified campaign against enemy transport and communications preparatory to the Rhine crossing.

MARCH

11 Bomber Command dropped 4680 tons of HE on **Essen**.

- 12 **Bomber Command attacked [Dortmund](#) with 4851 tons of HE. Heaviest tonnage dropped on one target in one day.**
- 14 **[RAF](#) attacked and destroyed Bielefeld Viaduct with 22,000-pound DP bombs ('Grand Slam'). First time used.**
- 18 **Largest daylight raid on [Berlin](#) – 1300 sorties by US 8th Air Force dropping 2500 tons of bombs.**
- 21 **RAF Mosquito attack on Gestapo HQ at Copenhagen.**
- 24 **Crossing of the Lower Rhine near Wesel preceded by heavy air onslaught and accompanied by airborne landings – 8000 aircraft and 1300 glider sorties.**
- 27 **[RAF](#) aircraft attacked U-boat shelters at Farge using 10-ton bombs. Last rocket (V-2) fell on England.**
- 31 **End of Commonwealth Air Training Scheme announced.**
- APRIL**
- 1 **Encirclement of Ruhr completed when US Ninth and First Armies joined forces at [Paderborn](#).**
- 9 **[Coastal Command](#) anti-shipping Strike Wings used in daytime to attack surfaced U-boats on passage in the Kattegat.**
- 9–10 ***Admiral Scheer* sunk by Bomber Command during an attack on [Kiel](#).**
- 11 **American forces reached the Elbe.**
- 12 **Death of President Roosevelt.**
- 16 **Bomber Command daylight attack on Swinemunde resulted in the sinking of *Lutzow*.**
- 17 **Low-level attack by RAF Mosquitos on Gestapo HQ at Odense in [Denmark](#).**
- 18 **953 RAF bombers attacked the naval base, Heligoland.**
- 20 **Last Allied air attack on [Berlin](#).**
- 22 **Russian forces fighting in [Berlin](#).**
- 24 **First operation on the Continent by [RAF](#) jet aircraft (Meteors).**
- 25 **Western Allied forces made contact with Russian forces at Torgau on the Elbe.**
- 25–26 **Last attack by Bomber Command against oil storage depot at Vallo, [Norway](#).**
- 26 **First PWs repatriated by air, continued until 1 June, during which time Bomber Command alone repatriated 75,000 PWs.**
- 29 **250 RAF bombers commenced food-dropping operations over [Holland](#). These operations continued daily with one exception until 8 May.**

MAY
2 Russian forces captured **Berlin**.

3 Fall of **Hamburg**.

7 Unconditional surrender of **Germany** to the Western Allies and **Russia**.

8 **VE Day**.

JUNE

4 Last patrol by **Coastal Command**. (Sunderland escort to inward-bound convoy across **Atlantic**.)

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

APPENDIX II – STRENGTHS AND CASUALTIES

Appendix II

STRENGTHS AND CASUALTIES

[The figures given below for the **RAF** are taken from a British Government White Paper entitled ‘Strengths and Casualties of the Armed Forces of the **United Kingdom**’, issued in June 1946. The figures for the Commonwealth Air Forces were obtained from their respective Air Departments.]

The strength of the **RAF** was 118,000 at the beginning of the war; this was raised steadily to reach a peak of 1,012,000 in the middle of 1944.

By the end of the war a total of 1,404,000 had served in the **RAF**. Of these, approximately 218,000 were aircrew and 1,186,000 were ground staff, the latter including 219,000 members of the Women's Auxiliary Air Force.

Casualties in the **RAF** amounted to 112,296, including 76,346 killed or missing. The casualties to aircrew alone were 65,727 killed or missing and 16,292 wounded.

The above figures do not include members of the Dominion Air Forces serving under their own Commands or placed at the disposal of the **RAF**. There were approximately 180,000 such men, casualties among whom amounted to 31,784 killed or missing, including 14,600 Canadian, 7021 Australian, 1850 South African, and 2960 New Zealand Air Force personnel.

NEW ZEALANDERS WITH THE (RNZAF attached and New Zealanders in RAF)

Strength

Casualties

		Killed	PW	Total
To Dec 1940	1,650	203	40	243
Dec 1941	3,980	586	123	709
Dec 1942	5,085	1,497	312	1,809
Dec 1943	8,466	2,319	460	2,779
Dec 1944	10,375	3,052	540	3,592
May 1945	10,950	3,285	548	3,833

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

[SECTION]

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NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

ROYAL AIR FORCE

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NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (RNZAF ATTACHED AND NEW ZEALANDERS IN RAF)

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NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

APPENDIX III – NOTES ON THE NEW ZEALAND SQUADRONS

Appendix III

NOTES ON THE NEW ZEALAND SQUADRONS

No. 75 SQUADRON

Squadron Motto: Ake Ake Kia Kaha (For ever and ever be strong).

Date and Place of Formation: 1 April 1940 – Feltwell, Norfolk.

(A New Zealand Flight had been established at Marham, Norfolk, in June 1939 to ferry Wellingtons to New Zealand.)

Squadron Commanders:

Wg Cdr M. W. Buckley	April 1940 to November 1940
Wg Cdr C. E. Kay	November 1940 to September 1941
Wg Cdr R. Sawrey-Cookson	September 1941 to April 1942
Wg Cdr E. H. Olson	April 1942 to July 1942
Wg Cdr V. Mitchell	July 1942 to December 1942
Wg Cdr G. A. Lane	January 1943 to May 1943
Wg Cdr M. Wyatt	May 1943 to August 1943
Wg Cdr R. D. Max	August 1943 to May 1944
Wg Cdr R. J. A. Leslie	May 1944 to December 1944
Wg Cdr R. J. Newton	December 1944 to January 1945
Wg Cdr C. H. Baigent	January 1945 to September 1945

Bases:

Feltwell, Norfolk	April 1940 to August 1942
Mildenhall, Suffolk	August 1942 to November 1942
Newmarket, Suffolk	November 1942 to June 1943
Mepal, Cambridgeshire	June 1943 to July 1945
Spilsby, Lincolnshire	July 1945 to October 1945

Role:

From formation until the end of hostilities in **Europe**, No. 75 Squadron operated as a heavy bomber unit of RAF Bomber Command. Equipped with Wellingtons, it took part in the early bombing offensive against **Germany**, **Italy**, and enemy-occupied territory. It also flew in the first thousand-bomber raids. Towards the end of 1942 the New Zealand Squadron converted to Stirlings and thereafter made a significant contribution to the Battle of the Ruhr, the devastation of **Hamburg**, and the famous raid against the German V-weapon experimental station at **Peenemunde**. In March 1944 No. 75 began to exchange its Stirlings for Lancasters and was ready in time to participate in preparation and support of the Allied invasion, the bombing of flying-bomb sites, and close support of the armies. In the later stages of the war the squadron took a leading part in the offensive against German oil production and transport. No. 75 was also one of the foremost units in Bomber Command's successful minelaying campaign.

First Operation:

27 March 1940 Three Wellingtons dropped leaflets on Brunswick, Ulzen, and Luneburg.

Last Operations:

Last bombing raid: 24 April 1945 Nineteen Lancasters bombed marshalling yards at Bad Oldesloe.

Last war mission: 26 May 1945 Seven Lancasters flew to **Brussels** with 71 Belgian repatriates. 120 ex-PWs were brought back on the return flight.

Disbanded: 15 October 1945

Effort and Achievements:

No. 75 Squadron flew 8150 sorties, totalling 41,247 hours, during which 21,630 tons of bombs and 2344 mines were dropped. A total of 45 enemy fighters was almost certainly destroyed.

Decorations won by New Zealand members of the squadron included:

Victoria Cross	1 Distinguished Flying Cross	88
Distinguished Service Order	6 Distinguished Flying Medal	17
Bar to DFC	4 Conspicuous Gallantry Medal	2

No. 485 SQUADRON

Squadron Motto: Ka whawhai tonu (We will fight on).

Date and Place of Formation: 1 March 1941 – Driffield, Yorkshire.

Commanding Officers:

Sqn Ldr M. W. B. Knight	April 1941 to November 1941
Sqn Ldr E. P. Wells	November 1941 to May 1942
Sqn Ldr R. J. C. Grant	May 1942 to March 1943
Sqn Ldr R. W. Baker	March 1943 to June 1943
Sqn Ldr J. M. Checketts	July 1943 to September 1943
Sqn Ldr M. R. D. Hume	September 1943 to February 1944
Sqn Ldr J. B. Niven	February 1944 to September 1944
Sqn Ldr J. G. Pattison	September 1944 to February 1945
Sqn Ldr K. J. Macdonald	February 1945 to July 1945
Sqn Ldr S. F. Browne	July 1945 to August 1945

Bases:

Driffield, Yorkshire	March 1941 to April 1941
Leconfield, Yorkshire	April 1941 to June 1941
Redhill, Surrey	July 1941 to October 1941
Kenley, Surrey	October 1941 to July 1942
King's Cliffe, Northants	July 1942 to January 1943
Westhampnett, Sussex	January 1943 to May 1943
Merston, Sussex	May 1943 to June 1943
Biggin Hill, Kent	July 1943 to October 1943
Hornchurch, Essex	October 1943 to November 1943
Drem, East Lothian	November 1943 to February 1944
135 Airfield, Hornchurch, Essex	February 1944 to April 1944
ALG Selsey, Sussex	April 1944 to June 1944
ALG Coolham (near Billinghamurst,	June 1944 to July 1944

Sussex) ALG Funtingdon, Sussex	July 1944 to August 1944
ALG Selsey, Sussex	August 1944
Caen-Carpiquet, France	August 1944 to September 1944
Reume, France	September 1944
Merville, France	September 1944 to October 1944
Maldegem, Belgium	November 1944 to January 1945
Gilze Rijen, Holland	January 1945 to February 1945
Predannack, Cornwall	February 1945 to April 1945
Twente, Holland	April 1945
Drope, Germany	April 1945–

Role:

Equipped with Spitfires, No. 485 was a day-fighter squadron until March 1944 when it transferred to fighter bombing. Operated from England, based at some of the most famous fighter stations, until August 1944 when it moved to the Continent. There it flew in the fighter and fighter-bomber role with Second Tactical Air Force.

First Operation:

12 April 1941 Convoy patrol off Flamborough Head shared by six sections of two Spitfires.

Last Operation:

7 May 1945 Patrol over Oldenburg by twelve aircraft.

***Disbanded:* 26 August 1945**

Effort and Achievements:

No. 485 Squadron flew 10,717 sorties, totalling 14,494 hours. In combat 63 enemy aircraft were destroyed, 25 probably destroyed, and 32 damaged. During the short period that the squadron was employed against ground targets pilots destroyed some 70 motor vehicles and blew up 5 railway engines.

Decorations won by New Zealanders with the squadron were:

**Distinguished Service Order 2 Distinguished Flying Cross 17
Bar to DFC 5 Distinguished Flying Medal 1**

No. 486 SQUADRON

Squadron Motto: Hiwa hau Maka (Beware of the wild winds).

**Date and Place of Formation: 7 March 1942 – Kirton-in-Lindsey,
Lincolnshire.**

Commanding Officers:

Sqn Ldr C. L. C. Roberts	March 1942 to March 1943
Sqn Ldr D. J. Scott	April 1943 to September 1943
Sqn Ldr I. D. Waddy	September 1943 to January 1944
Sqn Ldr J. H. Iremonger	January 1944 to December 1944
Sqn Ldr A. E. Umbers	December 1944 to February 1945
Sqn Ldr K. G. Taylor-Cannon	February 1945 to April 1945
Sqn Ldr W. E. Schrader	April 1945 to May 1945
Sqn Ldr C. J. Sheddan	May 1945 to September 1945

Bases:

Kirton-in-Lindsey, Lincolnshire	March 1942 to April 1942
Wittering, Northants	April 1942 to September 1942
North Weald, Essex	September 1942 to October 1942
West Malling, Kent	October 1942
Tangmere, Sussex	October 1942 to January 1944
Beaulieu, Hampshire	January 1944 to February 1944
149 Airfield, Castle Camps, Cambridgeshire	March 1944 to April 1944
Newchurch, Kent	April 1944 to September 1944
Volkel, Holland	October 1944 to April 1945
Hopsten, Germany	April 1945
Fassberg, Germany	April 1945 to May 1945

Celle, Germany

May 1945

Copenhagen, Denmark

May 1945 to July 1945

Lubeck, Germany

July 1945 to September 1945

Role:

No. 486 began as a night-fighter squadron equipped with Hurricane aircraft. Re-equipped with Typhoons in September 1942, was prominent in south coast defence against sneak raiders until June 1943. Then flew mainly as fighter-bombers until February 1944. Re-equipped with Tempests in April and after D Day took a prominent part in defence against flying bombs. After moving to the Continent in September the squadron was employed on standing patrols and armed reconnaissance over **Holland and **Germany** with Second Tactical Air Force**

First Operation:

27 April 1942 Dawn convoy patrol off the East Coast by two Hurricanes.

Last Operation

4 May 1945 Armed reconnaissance of **Kiel area by four Tempests.**

Disbanded: 12 October 1945

Effort and Achievements:

No. 486 Squadron flew 11,019 sorties totalling 13,350 hours. In combat 81 enemy machines were destroyed, 5 probably destroyed, and 22 damaged. Pilots also accounted for 223 flying bombs. In attacks on ground targets 323 motor vehicles and 14 railway engines were destroyed, while 16 ships were almost certainly sunk in port or at sea.

Decorations won by New Zealanders with the squadron were:

Distinguished Service Order 1 Distinguished Flying Cross 20

Bar to DFC

2

No. 487 SQUADRON

Squadron Motto: Ki te Mutunga (Through to the end).

Date and Place of Formation: 15 August 1942 – Feltwell, Norfolk.

Commanding Officers:

Wg Cdr F. C. Seavill August 1942 to December 1942
Wg Cdr G. J. Grindell December 1942 to May 1943
Wg Cdr A. G. Wilson May 1943 to January 1944
Wg Cdr I. S. Smith February 1944 to August 1944
Wg Cdr R. C. Porteous August 1944 to December 1944
Wg Cdr R. W. Baker January 1945 to February 1945
Wg Cdr F. H. Denton February 1945 to August 1945
Wg Cdr W. P. Kemp August 1945 to September 1945

Bases:

Feltwell, Norfolk	August 1942 to April 1943
Methwold, Norfolk	April 1943 to July 1943
Sculthorpe, Norfolk	July 1943 to December 1943
Hunsdon, Hertfordshire	January 1944 to April 1944
Gravesend, Kent	April 1944 to June 1944
Thorney Island, Hants	June 1944 to February 1945
Rosieres en Santerre, France	February 1945 to April 1945
Brussels, Melsbroek	April 1945 to July 1945
Cambrai, Epinoy	July 1945 to September 1945

Role:

Formed as a light day-bomber squadron equipped with Ventura aircraft. Transferred from Bomber Command to 2nd TAF in June 1943; re-equipped with Mosquito bombers in August 1943. Role henceforth predominantly night bombing attacks, but also took part in several special daylight precision attacks.

First Operation:

6 December 1942 16 Venturas attacked Phillips radio works, Eindhoven, by day.

Last Operation:

2–3 May 1945 **13 Mosquitos bombed Itzeloe, Heide, and Elmshorn at night.**

***Disbanded:* 19 September 1945**

Effort and Achievements:

No. 487 Squadron flew 3112 sorties totalling 7892 hours. As its aircraft operated mainly at night, no accurate record of achievements could be compiled, but No. 487's contribution to the campaign against enemy transport and supply was certainly substantial.

Decorations won by New Zealand members of the squadron were:

Victoria Cross	1 Distinguished Flying Cross	7
Distinguished Service Order	1 Distinguished Flying Medal	1
Bar to DFC	1	

No. 488 SQUADRON

***Squadron Motto:* Ka ngarue ratau (We shake them).**

***Date and Place of Formation:* 25 June 1942 – Church Fenton, Yorkshire.**

Commanding Officers:

Wg Cdr R. M. Trousdale	June 1942 to March 1943
Wg Cdr J. Nesbitt-Dufort	March 1943 to July 1943
Wg Cdr A. R. Burton-Giles	July 1943 to September 1943
Wg Cdr P. H. Hamley	September 1943 to January 1944
Wg Cdr R. C. Halne	January 1944 to October 1944
Wg Cdr R. G. Watts	October 1944 to April 1945

Bases:

Church Fenton, Yorkshire	June 1942 to August 1942
Ayr, Ayrshire	August 1942 to August 1943

Drem, East Lothian	August 1943 to September 1943
Bradwell Bay, Essex	September 1943 to May 1944
Zeals, Wiltshire	May 1944 to August 1944
Colerne, Wiltshire	August 1944 to November 1944
Hunsdon, Hertfordshire	November 1944
Amiens-Glisy, France	November 1944 to April 1945
Gilze Rijen, Holland	April 1945

Role:

No. 488 was originally equipped with Beaufighters and operated as a night intruder squadron over France and the Low Countries. Re-equipped with Mosquito night fighters in August 1943 and posted south as defensive night fighters. After D Day operated almost entirely over the Continent as night fighters, achieving outstanding success.

First Operation:

2 October 1942 Interception patrol over Ayrshire by one Beaufighter.

Last Operation:

25–26 April 1945 Seven sorties flown over Germany.

***Disbanded:* 26 April 1945**

Effort and Achievements:

No. 488 Squadron flew 2899 sorties, totalling 6689 hours, during which 67 enemy machines were destroyed, 4 probably destroyed, and 10 damaged. Whilst employed on ranger patrols in 1943, crews also destroyed or damaged some 40 locomotives.

Decorations won by New Zealand members of the squadron were:

Distinguished Service Order	1	Distinguished Flying Cross	4
Bar to DFC		1 Air Force Cross	1

No. 489 SQUADRON

Squadron Motto: Whakatangata Kia Kaha (Quit ye like men, be

strong).

***Date and Place of Formation:* 12 August 1941 – Leuchars, Fife, Scotland.**

Commanding Officers:

Wg Cdr J. A. S. Brown August 1941 to October 1942
Wg Cdr V. C. Darling October 1942 to August 1943
Wg Cdr J. S. Dinsdale August 1943 to August 1944
Wg Cdr L. A. Robertson August 1944 to February 1945
Wg Cdr D. H. Hammond February 1945 to August 1945

Bases:

Leuchars, Fife	August 1941 to March 1942
Thorney Island, Hants	March 1942 to August 1942
Skitten, Nr. Wick, Caithness	August 1942 to September 1942
Wick, Caithness	September 1942 to October 1943
Leuchars	October 1943 to April 1944
Langham, Norfolk	April 1944 to October 1944
Dallachy, Morayshire	October 1944 to June 1945
Banff, Banffshire	June 1945 to August 1945

Role:

Formed as a torpedo-bomber squadron, No. 489 began training with Beaufort aircraft which were to be replaced by Blenheims and finally Hampdens before the squadron became operational. Early sorties were anti-submarine patrols and it was not until August 1942 that the squadron turned to its role of search and attack of enemy shipping. Operating along the Norwegian coast and in the North Sea, it then achieved notable success; crews also flew air-sea rescue searches and anti-submarine patrols and escorted naval vessels and merchant convoys. In October 1943 No. 489 was withdrawn from operations and the obsolete Hampden was replaced by the Beaufighter. In April 1944 it joined forces with No. 455 Australian Squadron to form the Anzac Strike Wing which operated with great success during the last year of the war.

First Operation:

11 May 1942 **Anti-submarine patrols by three Hampdens off the west coast of France.**

Last Operation:

21 May 1945 **Two Beaufighters flew anti-submarine patrols off the Norwegian coast.**

***Disbanded:* 1 August 1945**

Effort and Achievements:

No. 489 Squadron flew 2380 sorties totalling 9773 hours. By the end of May 1944 crews had sunk 11 ships totalling 38,700 tons and damaged a further 13 vessels. During the last year of war No. 489 flew as part of a wing which sank 19 ships totalling 67,000 tons and 12 escort vessels; a further 18 cargo ships and 49 escorts were damaged.

Decorations won by New Zealanders with the squadron were:

**Distinguished Service Order 2 Distinguished Flying Medal 1
Bar to DFC 1 Conspicuous Gallantry Medal 1
Distinguished Flying Cross 19**

No. 490 SQUADRON

***Squadron Motto: Taniwha Kei Runga* (The Taniwha is in the air).**

***Date and Place of Formation:* 28 March 1943 – Jui, West Africa.**

Commanding Officers:

Wg Cdr D. W. Baird June 1943 to November 1943

Wg Cdr B. S. Nicholl November 1943 to October 1944

Wg Cdr T. F. Gill October 1944 to June 1945

***Base:* Jui, West Africa**

Role:

Flying Boat Squadron engaged on anti-submarine patrols, convoy escort, and air-sea rescue in the **Freetown area. No. 490 was originally equipped with Catalinas but later converted to Sunderlands. The first Sunderland patrol was flown in the middle of May 1944 and the squadron continued to operate with these aircraft until the end of the war.**

First Operation:

2 July 1943 Convoy escort patrol by one Catalina.

Last Operation:

6 May 1945 Patrol by one Sunderland.

***Disbanded:* 1 August 1945**

Effort and Achievements:

No. 490 Squadron flew 463 sorties totalling 4853 hours. In addition to some fine rescue work, the squadron made a substantial contribution to the safe passage of Allied convoys through West African waters. A New Zealander with the squadron was awarded the Distinguished Flying Cross.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

NO. 75 SQUADRON

No. 75 SQUADRON

Squadron Motto: Ake Ake Kia Kaha (For ever and ever be strong).

Date and Place of Formation: 1 April 1940 – Feltwell, Norfolk.

(A New Zealand Flight had been established at Marham, Norfolk, in June 1939 to ferry Wellingtons to New Zealand.)

Squadron Commanders:

Wg Cdr M. W. Buckley	April 1940 to November 1940
Wg Cdr C. E. Kay	November 1940 to September 1941
Wg Cdr R. Sawrey-Cookson	September 1941 to April 1942
Wg Cdr E. H. Olson	April 1942 to July 1942
Wg Cdr V. Mitchell	July 1942 to December 1942
Wg Cdr G. A. Lane	January 1943 to May 1943
Wg Cdr M. Wyatt	May 1943 to August 1943
Wg Cdr R. D. Max	August 1943 to May 1944
Wg Cdr R. J. A. Leslie	May 1944 to December 1944
Wg Cdr R. J. Newton	December 1944 to January 1945
Wg Cdr C. H. Baigent	January 1945 to September 1945

Bases:

Feltwell, Norfolk	April 1940 to August 1942
Mildenhall, Suffolk	August 1942 to November 1942
Newmarket, Suffolk	November 1942 to June 1943
Mepal, Cambridgeshire	June 1943 to July 1945
Spilsby, Lincolnshire	July 1945 to October 1945

Role:

From formation until the end of hostilities in [Europe](#), No. 75 Squadron operated as a heavy bomber unit of RAF Bomber Command. Equipped with Wellingtons, it took part in the early bombing offensive

against **Germany, Italy**, and enemy-occupied territory. It also flew in the first thousand-bomber raids. Towards the end of 1942 the New Zealand Squadron converted to Stirlings and thereafter made a significant contribution to the Battle of the Ruhr, the devastation of **Hamburg**, and the famous raid against the German V-weapon experimental station at **Peenemunde**. In March 1944 No. 75 began to exchange its Stirlings for Lancasters and was ready in time to participate in preparation and support of the Allied invasion, the bombing of flying-bomb sites, and close support of the armies. In the later stages of the war the squadron took a leading part in the offensive against German oil production and transport. No. 75 was also one of the foremost units in Bomber Command's successful minelaying campaign.

First Operation:

27 March 1940 **Three Wellingtons dropped leaflets on Brunswick, Ulzen, and Luneburg.**

Last Operations:

Last bombing raid: 24 April 1945 **Nineteen Lancasters bombed marshalling yards at Bad Oldesloe.**

Last war mission: 26 May 1945 **Seven Lancasters flew to **Brussels** with 71 Belgian repatriates. 120 ex-PWs were brought back on the return flight.**

Disbanded: 15 October 1945

Effort and Achievements:

No. 75 Squadron flew 8150 sorties, totalling 41,247 hours, during which 21,630 tons of bombs and 2344 mines were dropped. A total of 45 enemy fighters was almost certainly destroyed.

Decorations won by New Zealand members of the squadron included:

Victoria Cross	1 Distinguished Flying Cross	88
Distinguished Service Order	6 Distinguished Flying Medal	17
Bar to DFC	4 Conspicuous Gallantry Medal	2

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

NO. 485 SQUADRON

No. 485 SQUADRON

Squadron Motto: Ka whawhai tonu (We will fight on).

Date and Place of Formation: 1 March 1941 – Driffield, Yorkshire.

Commanding Officers:

Sqn Ldr M. W. B. Knight April 1941 to November 1941
Sqn Ldr E. P. Wells November 1941 to May 1942
Sqn Ldr R. J. C. Grant May 1942 to March 1943
Sqn Ldr R. W. Baker March 1943 to June 1943
Sqn Ldr J. M. Checketts July 1943 to September 1943
Sqn Ldr M. R. D. Hume September 1943 to February 1944
Sqn Ldr J. B. Niven February 1944 to September 1944
Sqn Ldr J. G. Pattison September 1944 to February 1945
Sqn Ldr K. J. Macdonald February 1945 to July 1945
Sqn Ldr S. F. Browne July 1945 to August 1945

Bases:

Driffield, Yorkshire	March 1941 to April 1941
Leconfield, Yorkshire	April 1941 to June 1941
Redhill, Surrey	July 1941 to October 1941
Kenley, Surrey	October 1941 to July 1942
King's Cliffe, Northants	July 1942 to January 1943
Westhampnett, Sussex	January 1943 to May 1943
Merston, Sussex	May 1943 to June 1943
Biggin Hill, Kent	July 1943 to October 1943
Hornchurch, Essex	October 1943 to November 1943
Drem, East Lothian	November 1943 to February 1944
135 Airfield, Hornchurch, Essex	February 1944 to April 1944
ALG Selsey, Sussex	April 1944 to June 1944
ALG Coolham (near Billinghamurst,	June 1944 to July 1944

Sussex)

ALG Funtingdon, Sussex

ALG Selsey, Sussex

Caen-Carpiquet, France

Reume, France

Merville, France

Maldegem, Belgium

Gilze Rijen, Holland

Predannack, Cornwall

Twente, Holland

Drope, Germany

Role:

July 1944 to August 1944

August 1944

August 1944 to September 1944

September 1944

September 1944 to October 1944

November 1944 to January 1945

January 1945 to February 1945

February 1945 to April 1945

April 1945

April 1945–

Equipped with Spitfires, No. 485 was a day-fighter squadron until March 1944 when it transferred to fighter bombing. Operated from England, based at some of the most famous fighter stations, until August 1944 when it moved to the Continent. There it flew in the fighter and fighter-bomber role with Second Tactical Air Force.

First Operation:

12 April 1941 Convoy patrol off Flamborough Head shared by six sections of two Spitfires.

Last Operation:

7 May 1945 Patrol over Oldenburg by twelve aircraft.

Disbanded: 26 August 1945

Effort and Achievements:

No. 485 Squadron flew 10,717 sorties, totalling 14,494 hours. In combat 63 enemy aircraft were destroyed, 25 probably destroyed, and 32 damaged. During the short period that the squadron was employed against ground targets pilots destroyed some 70 motor vehicles and blew up 5 railway engines.

Decorations won by New Zealanders with the squadron were:

Distinguished Service Order 2 Distinguished Flying Cross 17

Bar to DFC

5 Distinguished Flying Medal 1

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

NO. 486 SQUADRON

No. 486 SQUADRON

Squadron Motto: Hiwa hau Maka (Beware of the wild winds).

Date and Place of Formation: 7 March 1942 – Kirton-in-Lindsey, Lincolnshire.

Commanding Officers:

Sqn Ldr C. L. C. Roberts	March 1942 to March 1943
Sqn Ldr D. J. Scott	April 1943 to September 1943
Sqn Ldr I. D. Waddy	September 1943 to January 1944
Sqn Ldr J. H. Iremonger	January 1944 to December 1944
Sqn Ldr A. E. Umbers	December 1944 to February 1945
Sqn Ldr K. G. Taylor-Cannon	February 1945 to April 1945
Sqn Ldr W. E. Schrader	April 1945 to May 1945
Sqn Ldr C. J. Sheddan	May 1945 to September 1945

Bases:

Kirton-in-Lindsey, Lincolnshire	March 1942 to April 1942
Wittering, Northants	April 1942 to September 1942
North Weald, Essex	September 1942 to October 1942
West Malling, Kent	October 1942
Tangmere, Sussex	October 1942 to January 1944
Beaulieu, Hampshire	January 1944 to February 1944
149 Airfield, Castle Camps, Cambridgeshire	March 1944 to April 1944
Newchurch, Kent	April 1944 to September 1944
Volkel, Holland	October 1944 to April 1945
Hopsten, Germany	April 1945
Fassberg, Germany	April 1945 to May 1945

Celle, Germany

May 1945

Copenhagen, Denmark

May 1945 to July 1945

Lubeck, Germany

July 1945 to September 1945

Role:

No. 486 began as a night-fighter squadron equipped with Hurricane aircraft. Re-equipped with Typhoons in September 1942, was prominent in south coast defence against sneak raiders until June 1943. Then flew mainly as fighter-bombers until February 1944. Re-equipped with Tempests in April and after D Day took a prominent part in defence against flying bombs. After moving to the Continent in September the squadron was employed on standing patrols and armed reconnaissance over **Holland and **Germany** with Second Tactical Air Force**

First Operation:

27 April 1942 Dawn convoy patrol off the East Coast by two Hurricanes.

Last Operation

4 May 1945 Armed reconnaissance of **Kiel area by four Tempests.**

***Disbanded:* 12 October 1945**

Effort and Achievements:

No. 486 Squadron flew 11,019 sorties totalling 13,350 hours. In combat 81 enemy machines were destroyed, 5 probably destroyed, and 22 damaged. Pilots also accounted for 223 flying bombs. In attacks on ground targets 323 motor vehicles and 14 railway engines were destroyed, while 16 ships were almost certainly sunk in port or at sea.

Decorations won by New Zealanders with the squadron were:

Distinguished Service Order 1 Distinguished Flying Cross 20

Bar to DFC

2

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

NO. 487 SQUADRON

No. 487 SQUADRON

Squadron Motto: Ki te Mutunga (Through to the end).

Date and Place of Formation: 15 August 1942 – Feltwell, Norfolk.

Commanding Officers:

Wg Cdr F. C. Seavill	August 1942 to December 1942
Wg Cdr G. J. Grindell	December 1942 to May 1943
Wg Cdr A. G. Wilson	May 1943 to January 1944
Wg Cdr I. S. Smith	February 1944 to August 1944
Wg Cdr R. C. Porteous	August 1944 to December 1944
Wg Cdr R. W. Baker	January 1945 to February 1945
Wg Cdr F. H. Denton	February 1945 to August 1945
Wg Cdr W. P. Kemp	August 1945 to September 1945

Bases:

Feltwell, Norfolk	August 1942 to April 1943
Methwold, Norfolk	April 1943 to July 1943
Sculthorpe, Norfolk	July 1943 to December 1943
Hunsdon, Hertfordshire	January 1944 to April 1944
Gravesend, Kent	April 1944 to June 1944
Thorney Island, Hants	June 1944 to February 1945
Rosieres en Santerre, France	February 1945 to April 1945
Brussels, Melsbroek	April 1945 to July 1945
Cambrai, Epinoy	July 1945 to September 1945

Role:

Formed as a light day-bomber squadron equipped with Ventura aircraft. Transferred from Bomber Command to 2nd TAF in June 1943; re-equipped with Mosquito bombers in August 1943. Role henceforth predominantly night bombing attacks, but also took part in several

special daylight precision attacks.

First Operation:

6 December 1942 **16 Venturas attacked Phillips radio works, Eindhoven, by day.**

Last Operation:

2-3 May 1945 **13 Mosquitos bombed Itzeloe, Heide, and Elmshorn at night.**

***Disbanded:* 19 September 1945**

Effort and Achievements:

No. 487 Squadron flew 3112 sorties totalling 7892 hours. As its aircraft operated mainly at night, no accurate record of achievements could be compiled, but No. 487's contribution to the campaign against enemy transport and supply was certainly substantial.

Decorations won by New Zealand members of the squadron were:

Victoria Cross	1 Distinguished Flying Cross	7
Distinguished Service Order	1 Distinguished Flying Medal	1
Bar to DFC	1	

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

NO. 488 SQUADRON

No. 488 SQUADRON

Squadron Motto: Ka ngarue ratau (We shake them).

Date and Place of Formation: 25 June 1942 – Church Fenton, Yorkshire.

Commanding Officers:

Wg Cdr R. M. Trousdale	June 1942 to March 1943
Wg Cdr J. Nesbitt-Dufort	March 1943 to July 1943
Wg Cdr A. R. Burton-Giles	July 1943 to September 1943
Wg Cdr P. H. Hamley	September 1943 to January 1944
Wg Cdr R. C. Halne	January 1944 to October 1944
Wg Cdr R. G. Watts	October 1944 to April 1945

Bases:

Church Fenton, Yorkshire	June 1942 to August 1942
Ayr, Ayrshire	August 1942 to August 1943
Drem, East Lothian	August 1943 to September 1943
Bradwell Bay, Essex	September 1943 to May 1944
Zeals, Wiltshire	May 1944 to August 1944
Colerne, Wiltshire	August 1944 to November 1944
Hunsdon, Hertfordshire	November 1944
Amiens-Glisy, France	November 1944 to April 1945
Gilze Rijen, Holland	April 1945

Role:

No. 488 was originally equipped with Beaufighters and operated as a night intruder squadron over France and the Low Countries. Re-equipped with Mosquito night fighters in August 1943 and posted south as defensive night fighters. After D Day operated almost entirely over the Continent as night fighters, achieving outstanding success.

First Operation:

2 October 1942 Interception patrol over Ayrshire by one Beaufighter.

Last Operation:

25–26 April 1945 Seven sorties flown over Germany.

Disbanded: 26 April 1945

Effort and Achievements:

No. 488 Squadron flew 2899 sorties, totalling 6689 hours, during which 67 enemy machines were destroyed, 4 probably destroyed, and 10 damaged. Whilst employed on ranger patrols in 1943, crews also destroyed or damaged some 40 locomotives.

Decorations won by New Zealand members of the squadron were:

Distinguished Service Order	1	Distinguished Flying Cross	4
Bar to DFC	1	Air Force Cross	1

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

NO. 489 SQUADRON

No. 489 SQUADRON

Squadron Motto: Whakatangata Kia Kaha (Quit ye like men, be strong).

Date and Place of Formation: 12 August 1941 – Leuchars, Fife, Scotland.

Commanding Officers:

Wg Cdr J. A. S. Brown August 1941 to October 1942
Wg Cdr V. C. Darling October 1942 to August 1943
Wg Cdr J. S. Dinsdale August 1943 to August 1944
Wg Cdr L. A. Robertson August 1944 to February 1945
Wg Cdr D. H. Hammond February 1945 to August 1945

Bases:

Leuchars, Fife	August 1941 to March 1942
Thorney Island, Hants	March 1942 to August 1942
Skitten, Nr. Wick, Caithness	August 1942 to September 1942
Wick, Caithness	September 1942 to October 1943
Leuchars	October 1943 to April 1944
Langham, Norfolk	April 1944 to October 1944
Dallachy, Morayshire	October 1944 to June 1945
Banff, Banffshire	June 1945 to August 1945

Role:

Formed as a torpedo-bomber squadron, No. 489 began training with Beaufort aircraft which were to be replaced by Blenheims and finally Hampdens before the squadron became operational. Early sorties were anti-submarine patrols and it was not until August 1942 that the squadron turned to its role of search and attack of enemy shipping. Operating along the Norwegian coast and in the North Sea, it then

achieved notable success; crews also flew air-sea rescue searches and anti-submarine patrols and escorted naval vessels and merchant convoys. In October 1943 No. 489 was withdrawn from operations and the obsolete Hampden was replaced by the Beaufighter. In April 1944 it joined forces with No. 455 Australian Squadron to form the Anzac Strike Wing which operated with great success during the last year of the war.

First Operation:

11 May 1942 Anti-submarine patrols by three Hampdens off the west coast of **France**.

Last Operation:

21 May 1945 Two Beaufighters flew anti-submarine patrols off the Norwegian coast.

Disbanded: 1 August 1945

Effort and Achievements:

No. 489 Squadron flew 2380 sorties totalling 9773 hours. By the end of May 1944 crews had sunk 11 ships totalling 38,700 tons and damaged a further 13 vessels. During the last year of war No. 489 flew as part of a wing which sank 19 ships totalling 67,000 tons and 12 escort vessels; a further 18 cargo ships and 49 escorts were damaged.

Decorations won by New Zealanders with the squadron were:

Distinguished Service Order	2	Distinguished Flying Medal	1
Bar to DFC	1	Conspicuous Gallantry Medal	1
Distinguished Flying Cross	19		

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

NO. 490 SQUADRON

No. 490 SQUADRON

Squadron Motto: Taniwha Kei Runga (The Taniwha is in the air).

Date and Place of Formation: 28 March 1943 – Jui, West Africa.

Commanding Officers:

Wg Cdr D. W. Baird June 1943 to November 1943

Wg Cdr B. S. Nicholl November 1943 to October 1944

Wg Cdr T. F. Gill October 1944 to June 1945

Base: Jui, West Africa

Role:

Flying Boat Squadron engaged on anti-submarine patrols, convoy escort, and air-sea rescue in the Freetown area. No. 490 was originally equipped with Catalinas but later converted to Sunderlands. The first Sunderland patrol was flown in the middle of May 1944 and the squadron continued to operate with these aircraft until the end of the war.

First Operation:

2 July 1943 Convoy escort patrol by one Catalina.

Last Operation:

6 May 1945 Patrol by one Sunderland.

Disbanded: 1 August 1945

Effort and Achievements:

No. 490 Squadron flew 463 sorties totalling 4853 hours. In addition to some fine rescue work, the squadron made a substantial contribution

to the safe passage of Allied convoys through West African waters. A New Zealander with the squadron was awarded the Distinguished Flying Cross.

NEW ZEALANDERS WITH THE ROYAL AIR FORCE (VOL. II)

APPENDIX IV – PRINCIPAL BRITISH AND GERMAN OPERATIONAL AIRCRAFT (1943-45)

Appendix IV

PRINCIPAL BRITISH AND GERMAN OPERATIONAL AIRCRAFT (1943-45)

[The performance figures given below are those achieved in still air. It should also be remembered that aircraft were often modified in various ways and adapted for special tasks, when their performances varied from those shown.]

RAF BOMBERS

Aircraft Type and Mark	Normal Cruising Speed	Radius of Action with Associated Bomb Load	Typical Bomb Load	Armament
III	200 m.p.h. at 15,000 feet	500 miles with 2000 lb.	Four 500 lb.	Eight .303 in
IV	210 m.p.h. at 15,000 feet	750 miles with 2000 lb. 350 miles with 4000 lb.	Four 500 lb.	Five .5 in
III	215 m.p.h. at 20,000 feet	1000 miles with 7000 lb. 520 miles with 13,000 lb.	Two 2000 lb. and six 1000 lb. or One 8000 lb.	Nine .303 in
VI	218 m.p.h. at 20,000 feet	1080 miles with 7400 lb. 600 miles with 13,000 lb.	As above or Two 4000 lb.	Nine .303 in
LANCASTER I and III	210 m.p.h.	1200 miles with 5500 lb. 500 miles with	Fourteen 1000 lb. or Six 2000 lb.	Nine .303 in

	at 20,000 feet	14,000 lb.	and three 250 lb.	
LANCASTER I, III, and X	220 m.p.h. at 25,000 feet	1250 miles with 10,000 lb. 840 miles with 14,000 lb. 500 miles with 22,000 lb.	One 4000 lb. and six 500 lb. or One 8000 lb. or one 12,000 lb.	Eight .303 in
MITCHELL II	225 m.p.h. at 15,000 feet	820 miles with 4000 lb. 475 miles with 6000 lb.	Six 500 lb. or Four 1000 lb.	Six .5 in
MOSQUITO IV	265 m.p.h. at 15,000 feet	800 miles with 2000 lb. 725 miles with 4000 lb.	Four 500 lb. or One 4000 lb.	Nil
MOSQUITO IX and XVI	245 m.p.h. at 15,000 feet	900 miles with 2000 lb. 700 miles with 5000 lb.	Four 500 lb. or One 4000 lb.	Nil
MOSQUITO XX	265 m.p.h. at 15,000 feet	935 miles with 2000 lb. 700 miles with 5000 lb.	As above	Nil
III	200 m.p.h. at 15,000 feet	1000 miles with 3500 lb. 300 miles with 14,000 lb.	Seven 2000 lb. or Eighteen 500 lb.	Eight .303 in
WELLINGTON X	180 m.p.h. at 15,000 feet	1050 miles with 1500 lb. 600 miles with 4500 lb.	Sixteen 250 lb. or Two 2000 lb.	Six .303 in

RAF

Aircraft Type	Cruising Speed and Endurance	Associated Bomb or Depth-charge Load	Armament
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BEAUFIGHTER	180 knots-41/2 hours	1 torpedo or 8 RP or two 500 lb. and two 250 lb.	Four 20 mm
CATALINA III	100 knots-141/2 hours	2000 lb.	Five .303 in
CATALINA IV (L/L)	106 knots-151/2 hours	1000 lb.	Five .303 in
FORTRESS II	140 knots-103/4 hours	1750 lb.	Six .5 in
II	130 knots-101/2 hours	2000 lb.	Nine .303 in
III	145 knots-10 hours	5500 lb.	Nine .303 in
LIBERATOR III	145 knots-111/2 hours	3000 lb.	Six .5 in
LIBERATOR III and V (VLR)	150 knots-16 hours	2000 lb.	Three .5 in
LIBERATOR VIII	138 knots-101/2 hours	3500 lb.	Six .5 in
LIBERATOR VIII (L/L)	138 knots-13 hours	2000 lb.	Four .303 in
MOSQUITO VI	210 knots-31/4 hours 210 knots-5 hours	Eight RP 1000 lb.	Four 20 mm Four .303 in
SUNDERLAND III	110 knots-111/2 hours	2000 lb.	Seven .303 in
SUNDERLAND V	110 knots-131/2 hours or 15 hours	2000 lb. 1000 lb.	Seven .303 in
WELLINGTON XII (L/L)	140 knots-81/4 hours	2400 lb.	Seven .303 in
WELLINGTON XIV	140 knots-10 hours or 8 hours	1500 lb. 3200 lb.	Seven .303 in

Note: (a) Catalina and Sunderland were flying boats.

(b) L/L = Leigh Light; VLR = Very Long Range; RP = Rocket Projectile.

RAF FIGHTERS AND FIGHTER-BOMBERS

Aircraft Name and Mark	Maximum Speed	Service Ceiling	Rate of Climb	Armament
BEAUFIGHTER VI-F	333 m.p.h. at 15,600	24,500 feet	7.8 minutes	Four 20 mm Six .303 in

	feet		to 15,000 feet	
METEOR I (Jet)	445 m.p.h. at 30,000 feet	42,000 feet	15 minutes to 30,000 feet	Four 20 mm
METEOR III (Jet)	476 m.p.h. at 30,000 feet	44,000 feet	14 minutes to 30,000 feet	Four 20 mm
MOSQUITO VI	378 m.p.h. at 14,000 feet	32,000 feet	9.5 minutes to 15,000 feet	Four 20 mm Four .303 in (Four 500 lb. bombs)
MOSQUITO XII (NF)	370 m.p.h. at 14,000 feet	35,000 feet	7 minutes to 15,000 feet	Four 20 mm
MOSQUITO XXX (NF)	400–407 m.p.h. at 26/28,000 feet	37/38,000 feet	7.5 minutes to 15,000 feet	Four 20 mm
MUSTANG I	390 m.p.h. at 8000 feet	32,000 feet	8.1 minutes to 15,000 feet	Four .5 in Four .303 in
MUSTANG III	442–450 m.p.h. at 24,500– 28,000 feet	41,500 feet	10.5 minutes to 20,000 feet	Four .5 in (Two 500 lb. bombs)
SPITFIRE IX (HF)	416 m.p.h. at 27,500 feet	44,000 feet	6.4 minutes to 20,000	Two 20 mm and Four .303 in or Two 20 mm and Two .5 in

feet

SPITFIRE IX (LF)	404 m.p.h. at 21,000 feet	41,500 feet	6.4 minutes to 20,000 feet	Two 20 mm and Four .303 in or Two 20 mm and Two .5 in (One 500 lb. and two 250 lb. bombs)
SPITFIRE XIV	448 m.p.h. at 26,000 feet	43,500 feet	7 minutes to 20,000 feet	As above
SPITFIRE XXI	454 m.p.h. at 26,000 feet	43,000 feet	8 minutes to 20,000 feet	Four 20 mm (One 500 lb. Two 250 lb. bombs)
TEMPEST V	435 m.p.h. at 19,000 feet	36,000 feet	5 minutes to 15,000 feet	Four 20 mm
TYPHOON I-B	405 m.p.h. at 18,000 feet	33,000 feet	6.2 minutes to 15,000 feet	Four 20 mm (Two 1000 lb. bombs or Eight 60 lb. RP Units)

Note: NF = Night Fighters. HF = High Flying. LF = Low Flying.

GERMAN FIGHTERS

Aircraft Type and Mark	Maximum Speed	Service Ceiling	Rate of Climb	Armament
ARADO 234B (Jet)	490 m.p.h. at 25,000 feet	38,000 feet	8 minutes to 20,000 feet	Four or five 15-20 mm
DORNIER 217J	328 m.p.h. at 20,000 feet	33,000 feet	13.8 minutes to 18,000 feet	Four 7.9 mm Two 13 mm .Four 20 mm
FOCKE-WULF 190A	385 m.p.h. at 19,000 feet	38,000 feet	6.5 minutes to	Two 7.9 mm Four 20 mm

feet 18,000
feet

FOCKE-WULF 190D 420 m.p.h. at 21,500 feet
36,000 feet
7 minutes to 19,500 feet
Four 20 mm

JUNKERS 88c-5 345 m.p.h. at 20,000 feet
33,000 feet
10.3 minutes to 18,500 feet
Three 7.9 mm
Three 7.9-13 mm
Three 20 mm

MESSERSCHMITT 109G 400 m.p.h. at 22,000 feet
40,000 feet
6 minutes to 19,000 feet
Two 7.9-13 mm
Three 20 mm

MESSERSCHMITT 110G 368 m.p.h. at 19,000 feet
36,800 feet
7.3 minutes to 18,000 feet
Six 7.9 mm and five 20 mm
or One 37 mm, two 30 mm, and two 7.9 mm

MESSERSCHMITT 262 (Jet) 500-550 m.p.h. at 29,000 feet
39,500 feet
5 minutes to 32,000 feet
Four 30 mm and 24 rockets

Note: Ju88 and Me110 were twin-engined. They were also the principal German night fighters.

GERMAN BOMBER AND RECONNAISSANCE AIRCRAFT

Aircraft Type and Mark	Normal Cruising Speed	Radius of Action with Associated Bomb Load	Typical Bomb Load	Armament
DORNIER 217E	240 m.p.h. at 15,000 feet	585 miles with 4400 lb	Four 1100 lb. or Two 2200 lb. and four 110 lb.	Four 7.9 mm Four 13 mm One 15 mm
DORNIER 217-M1	300 m.p.h. at 18,000 feet	500 miles with 4400 lb.	Two 2200 lb. and four 110 lb.	Four 7.9 mm Six 13 mm One 15 mm
FOCKE-WULF 200 (Condor)	210 m.p.h. at 16,000 feet	1350 miles on recce without bombs or 1075 miles with 3600 lb.	Three 1100 lb. or Five 550 lb.	Three 15-20 mm and three 13 mm

HEINKEL 111	210 m.p.h. at 17,000 feet	760 miles with 2200 lb.	Four 550 lb.	Seven 7.9 mm Two 20 mm
HEINKEL 177	260 m.p.h. at 17,000 feet	550 miles with 12,100 lb. 1300 miles with 2200 lb.	Six 550 lb. and four 2200 lb. or Four 1650 lb. torpedoes or Two HS 293 glider bombs	Five 13 mm Four 13-20 mm
HENSCHEL 129 (Ground-attack aircraft)	215 m.p.h. at 6500 feet	350 miles with 220 lb. 220 miles with 770 lb.	Two 110 lb.	Two 7.9 mm Four 15-20 mm One 30 mm
JUNKERS 88-B3	277 m.p.h. at 18,000 feet	640 miles with 2200 lb.	Four 550 lb. or Four 550 lb. and ten 154 lb.	Six 7.9 mm or Two 7.9 mm and two 13 mm
JUNKERS 88-S1	290 m.p.h. at 18,000 feet	350 miles with 1980 lb.	Eighteen 110 lb. or Eighteen 154 lb.	One 7.9 mm One 13 mm
JUNKERS 188	255 m.p.h. at sea level	600 miles with 4400 lb.	Ten 154 lb. and either four 1100 lb. or two 2200 lb.	Three 13 mm One 15-20 mm
MESSERSCHMITT 110G	280 m.p.h. at 18,000 feet	440 miles with 2640 lb. 360 miles with 4000 lb.	Four 110 lb. and two 1100 lb. or One 1110 lb. and one 2200 lb.	Six 7.9 mm Two 20-30 mm
MESSERSCHMITT 210	315 m.p.h. at 19,000 feet	675 miles with 1100 lb.	Two 550 lb.	Two 7.9 mm Two 13 mm Two 20 mm
MESSERSCHMITT 410	330 m.p.h. at	1000 miles with 1100 lb.	Two 550 lb.	Two 7.9 mm Two 13 mm

**19,000
feet**

**Two 20
mm**

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GLOSSARY

Glossary

AACU	Anti-Aircraft Co-operation Unit
AC-in-C	Air Commander-in-Chief
ACSEA	Air Command South-East Asia
ADGB	Air Defence of Great Britain
AEAF	Allied Expeditionary Air Force
AFC	Air Force Cross
AFM	Air Force Medal
AGS	Air Gunnery School
AOC	Air Officer Commanding
AOC-in-C	Air Officer Commanding-in-Chief
ATS	Air Training School
BAFO	British Air Forces of Occupation
BATF	Blind Approach Training Flight
Bel	Belgium
BEM	British Empire Medal
BOAC	British Overseas Airways Corporation
Bra	Brazil
CAS	Chief of the Air Staff
CB	Companion of the Bath
CBE	Commander Order of the British Empire
CEO	Chief Engineering Officer
CFI	Chief Flying Instructor
CGI	Chief Ground Instructor
CGM	Conspicuous Gallantry Medal
CI	Chief Instructor
C-in-C	Commander-in-Chief
CMG	Companion of St. Michael and St. George
CO	Commanding Officer
CTO	Chief Technical Officer
DCAS	Deputy Chief of the Air Staff
Den	Denmark

DFC	Distinguished Flying Cross
DFM	Distinguished Flying Medal
DGE	Directorate-General of Equipment
DG of R and D	Director-General of Research and Development
DG of P	Directorate-General of Personnel
D of AT	Directorate of Air Tactics
D of Policy	Directorate of Policy
DSM	Directorate of Servicing and Maintenance
DSO	Companion of the Distinguished Service Order
DTD	Director of Technical Development
FAA	Fleet Air Arm
Fr	France
FTC	Flying Training Command
FTS	Flying Training School
GCB	Knight Grand Cross of the Bath
GM	George Medal
Gr	Greece
GR	General Reconnaissance
Hol	Holland
KCB	Knight Commander of the Bath
KG	Knight of the Order of the Garter
KBE	Knight Commander Order of the British Empire
MAAF	Mediterranean Allied Air Forces
MAP	Ministry of Aircraft Production
MBE	Member of the Order of the British Empire
MC	Military Cross
Med ME	Mediterranean and Middle East
MM	Military Medal
MU	Maintenance Unit
MVO	Member of the Royal Victorian Order
NATO	North Atlantic Treaty Organisation
Nor	Norway
NZEF	New Zealand Expeditionary Force
OBE	Officer Order of the British Empire
OM	Order of Merit
OTU	Operational Training Unit
Pol	Poland

PR	Photographic Reconnaissance
RAAF	Royal Australian Air Force
RAE	Royal Aircraft Establishment
RCAF	Royal Canadian Air Force
RFC	Royal Flying Corps
RN	Royal Navy
RNAS	Royal Naval Air Service
Rus	Russia
SASO	Senior Air Staff Officer
SEAC	South-East Asia Command
SHAEF	Supreme Headquarters Allied Expeditionary Force
TAF	Tactical Air Force
USAAF	United States Army Air Force
VLR	Very Long Range
Yug	Yugoslavia

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