

R.A.F. NARRATIVE

(FIRST DRAFT)(REVISED)

THE LIBERATION OF NORTH WEST EUROPE

VOLUME III

THE LANDINGS IN NORMANDY

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## PREFACE

This is the third Volume of the Overlord Narrative and deals for the most part with the assault on the coast of Normandy known by the code-name Neptune. The story as told here falls naturally into two parts the first of which is concerned with the general history of the planning and execution of Neptune while the second part relates in detail the particular contributions made by each R.A.F. Command and U.S. Air Force.

It will be noticed that although this Volume is concerned primarily with the landing operations commencing on 6 June 1944, it also contains an account of air operations commenced some months before D-Day. That is because D-Day was only a landmark - an important one - in a campaign that had been fought by the Allied Air Forces without interruption from the time that the Allied Expeditionary Air Force had been established. The air operations preparatory to the assault had been carried out with a mounting intensity throughout the months of March, April and May, until they reached a climax on D-Day. Thus the form in which this Narrative has been presented was necessarily dictated by the facts of the air war.

Certain maps, Orders of Battle and other statistical information are to be found throughout the Volume but the reader is urged to study the following documents which, because of their bulk, could not be reproduced as Appendices:-

A.E.A.F. - Overall Air Plan  
2 T.A.F. - Air Staff Plan  
IX Air Force - Tactical Air Plan  
No.11 Group & IX Fighter Command - Joint Air Plan and Executive Order (J.A.P.E.O).  
Despatch - A/C/M Sir Trafford Leigh-Mallory.

This volume was completed in the Air Historical Branch during the Spring of 1949 and is subject to the limitations due to the state of information existing at that time. It is based largely on Allied, and more particularly, on R.A.F. documents in the custody of the Air Ministry and other Departments. Very complete collections of historical material from R.A.F. Commands, and Allied Headquarters such as S.H.A.E.F and Allied Expeditionary Air Force, in addition to Air Ministry Files, have been preserved in the Air Historical Branch. There is also a growing list of German documents many of which have been used in the preparation of this Narrative but unfortunately much remains to be done in the compilation of enemy records before effective use can be made of that material.

PART ONE

CHAPTER 1  
ALLIED STRATEGY IN 1944

CHAPTER 2  
THE JOINT PLAN TO INVADE NORMANDY

CHAPTER 3  
THE OVERALL AIR PLAN

CHAPTER 4  
PREPARATORY AIR OPERATIONS

CHAPTER 5  
THE JOINT FIRE PLAN

CHAPTER 6  
FUNCTIONS AND CONTROL OF AIR FORCES  
AND ALLOTMENT OF AIR TASKS

CHAPTER 7  
AIR OPERATIONS IN THE ASSAULT

CHAPTER 1ALLIED STRATEGY IN 1944Decision to re-enter N.W. Europe

British and American strategy in 1944 rested broadly upon the decisions made by Mr. Roosevelt and Mr. Churchill in consultation with Generalissimo Chiang Kai-shek and M. Stalin at the Conferences known as Sextant and Eureka held at Cairo and Teheran in November/December 1943. Since 1942 it had been the ultimate intention of the Western Powers to re-enter the Continent from the United Kingdom concentrating the maximum of resources in the most convenient theatre so as to force unconditional surrender upon Germany.

The importance of undertaking this operation while the bulk of the German effort was engaged beyond her Eastern frontiers in a grim struggle with Russia was fully appreciated by Anglo-American strategists but until 1944 the conditions which would give an invasion a reasonable chance of success did not exist. The Allies had to be content with reinforcing and strengthening their defences in all parts of the world at the same time undertaking certain offensive operations of limited scope where a favourable opportunity offered. By the end of 1943 however the end of the U-boat war was in sight and the shipping bottleneck had been broken. Victories had been won in the Mediterranean and the Pacific. Air ascendancy had been won over Western Europe and new model armies had been equipped and trained in a successful technique. Thus for the first time we were justified in hoping that the liberation of N.W. Europe and the subsequent invasion of Germany could be brought to a successful conclusion.

After the war had been won in Europe, American and British forces were to be re-deployed for a similar effort against Japan. At Teheran, Stalin promised that Russian forces would also assist in that enterprise.

Plans and preparations for the re-entry into Europe had been under the direction of Lieutenant-General F.E. Morgan, who had been appointed Chief of Staff to the Supreme Allied Commander (C.O.S.S.A.C.) in April 1943. At Teheran, Stalin had approved of the C.O.S.S.A.C.'s plan for Overlord but said that nothing was to be gained by concentrating large numbers of troops in Italy which could not be considered a suitable jumping-off ground for an invasion of Germany. Instead, he urged the advantages of employing the resources already in the Mediterranean theatre in a pincers movement such as the proposed landing on the South Coast of France (Anvil) in conjunction with the major invasion through Normandy (Overlord). The Americans and British agreed to undertake this while the Russians on their part agreed to launch a major offensive to prevent the movement of German troops from the Eastern Front.

Stalin made a point of insisting that a Supreme Commander to co-ordinate all planning for Overlord should be appointed at once. He was assured that this would be done and that a balanced ground and air force would continue to be built up for Overlord and that the forces available were to be allocated as between N.W. France and the Mediterranean to ensure the maximum success of Overlord.

Air Strategy based on Operation Pointblank

Our air strategy was to remain the same. Pointblank was stated to be an essential pre-requisite to Overlord, and the Combined Chiefs of Staff directed that it was to continue to be accorded the highest strategic priority. It was the considered opinion of the C.C.S. that the effects of the continuous pounding of industrial centres in Germany by Bomber Command, and of the steady attrition of the German Air Force resulting from the daylight offensive of the U.S.VIIIth Air Force, were being increasingly felt by the Germans and were making an invaluable contribution to a more favourable course of the war.

Although there were no doubts as to its effectiveness, the Pointblank programme was about three months behind schedule when the Chief of Air Staff rendered his Progress Report to the Conference. This was because allocations of aircraft had been smaller than expected. German fighter strength and production were both higher than we had calculated, as a result of tremendous enemy efforts; nevertheless, the bomber offensive had kept the G.A.F.750 single-engined fighters below its planned strength and it appeared that Germany was "half way towards industrial desolation".

C.C.S. 403/1  
3 Dec. 1943

Apart from the intensification of the combined bomber offensive against the G.A.F., it was anticipated that the time was at hand for the combined Air Forces to begin attacks more closely related to Overlord, when the Supreme Commander (and his Air Commanders) would play a more important part in directing the strategic as well as the tactical bombing effort. This switch of strategic bombers to Overlord targets, in addition to targets in Germany, was approved at Sextant. The agreed statement of this policy reads:-

C.C.S. 398  
18 Nov. 1943

'In the preparatory stage immediately preceding the invasion, the whole of the available air power in the United Kingdom, tactical and strategic, will be employed in a concerted effort to create the conditions essential to the assault'.(1)

In the event, the policy of switching heavy bombers from deep penetration targets to objectives in France was not accepted without a great deal of controversy and heart-burning. The Deputy Supreme Commander strongly supported the Air C.-in-C., A.E.A.F. who had put forward a plan for bombing railway centres, with the object of crippling the French transportation system before D-Day. The Army believed that this was the best possible help that the Air Forces could give to the invasion. Railway experts concurred with this view. The Prime Minister and most of the War Cabinet had their doubts, especially in view of the possible heavy French casualties. U.S.St. A.F., Bomber Operations Staff Air Ministry, and Bomber Command vehemently opposed the plan, mainly on the grounds that it would divert effort from the attack on the G.A.F. and Germany's war making capacity to attacks on targets unsuitable for heavy bombers.

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(1) C.C.S. 398 dated 18 Nov. 1943 "Special Operations for the defeat of Germany and her Satellites - Memo from the U.S. C.O.S."

The Directorates of Intelligence and Bomber operations of the Air Ministry and U.S. Economic Warfare Department believed that the dislocation of railway centres would not prevent the enemy from supplying front line troops by rail. In general the Air Ministry felt that experience gained in the Mediterranean theatre of operations was not valid in the far more complex system of northwest Europe. It suggested, as an alternative, the attack of much more specialized targets such as G.A.F. maintenance facilities, military camps and dumps and shortly before D-Day the attack of bridges and key communications in the immediate battle area. Like the Americans, the Air Staff believed that the heavy bombers should make the G.A.F. impotent by D-Day and that, secondly, they should attack the German oil industry which would affect the enemy on all fronts and compel him to waste his front line fighter strength in the defence of these essential installations.

*this /* The Chief of Air Staff determined to keep an open mind on these conflicting plans and held that the right answer was a compromise between the two main schools of thought, those who believed that bombs dropped outside Germany were merely wasted and those who advocated the switching of all resources to the attack of communications in order to hinder the German build-up to the landings. Ultimately, however, every plan for the employment of heavy bombers in the pre-Overlord phase had to be submitted to the following test: would it or would it not immediately assist the Armies to gain a foothold on the continent? By the end of March the principal commanders in Overlord were compelled to agree that there was no satisfactory alternative to the Transportation Plan. By ~~the~~ time political considerations had entered the picture. Did the bombing of targets in occupied countries justify the slaughter of friendly civilians?

As a result of this and other opposition, it was not until 17 April 1944 that the Supreme Commander was able to issue a directive instructing the Strategic Air Forces to add their weight to the attacks already being made upon Overlord targets by the British and U.S. Tactical Air Forces. While the Strategic Air Forces must continue their mission of reducing the German air combat strength, 'our re-entry on the Continent constitutes the supreme operation for 1944; all possible support must, therefore, be afforded to the Allied armies by our Air Forces to assist in establishing themselves in the lodgement area, and subsequently to support the advance through France and Germany if required by the Supreme Commander.

#### Appointment of Commanders

After Sextant and Eureka events moved fast. In December 1943, General Montgomery(1) was appointed to the command of the 21st Army Group in succession to General Paget and, with several officers of his staff there was brought home from Italy. At the same time, General Montgomery was also appointed Commander-in-Chief of the Allied Land Forces for the initial phase of the

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(1) Arrived in London 2 January 1944.

operation. This was soon followed by the arrival on 15 January of General Eisenhower, who on 24 December had been appointed to the post of Supreme Commander Allied Expeditionary Force (S.C.A.E.F.) with Air Chief Marshal Tedder as his Deputy. On the 15 February Supreme Headquarters was set up in London.

Air Chief Marshal Leigh-Mallory had been one of the three British 'Combined Commanders' responsible for planning Cross-Channel operations since January 1943 when he became A.O.C.-in-C. Fighter Command. He was nominated Air C.-in-C. of all Allied air forces for the re-entry into the Continent as early as the Casablanca Conference but was not confirmed by the Combined Chiefs of Staffs as Air C.-in-C. (Designate) until 20 August 1943 at the Quebec Conference. He received a directive on 16 November and set up H.Q., Allied Expeditionary Air Force (A.E.A.F.) at Stanmore on that date.<sup>(1)</sup> The appointment of Admiral Ramsay as Allied Naval Commander Expeditionary Force (A.N.C.X.F.) dated from 25 October 1943.

#### C.O.S.S.A.C's proposal to postpone Anvil

C.O.S.S.A.C. had already considered the implications of the strategy laid down at Sextant and had reached the conclusion that the resources available for allocation to Overlord and Anvil would be insufficient to guarantee the success of both operations if they were launched in May. Consequently, he recommended that Anvil be reduced to the status of a threat so that additional forces could be used in Normandy. His proposition to reduce Anvil for the sake of ensuring the success of Overlord had the support of Montgomery and Eisenhower but in January Montgomery criticised C.O.S.S.A.C's plan for Overlord because it provided for landings on too narrow a front. Montgomery advocated an assault by five divisions on beaches covering the Normandy coast from the mouth of the Orne to the Grande Rade on the Cotentin Peninsula.

#### General Montgomery's Overlord Plan approved by British C.O.S.

Though the Norfolk House Navy, Army, and Air planning staffs were against Montgomery's revised plan, the complete proposals for a five divisional assault and for the employment on Overlord of about half of the resources to have been devoted to Anvil, were put to the British Chiefs of Staff and approved. Reluctant as they were to abandon Anvil they agreed that it was better to insure the success of Overlord than to attempt both operations with a narrow margin of superiority.

In asking the Combined Chiefs of Staff for their decision General Eisenhower said that he remained impressed with the strategical possibilities of Anvil and was therefore unwilling to ask for its reduction or postponement. But Overlord and Anvil should be viewed as one whole and he was therefore driven to the conclusion that if insufficient resources could be found for both to be undertaken on an adequate scale then Overlord should take precedence. He would also prefer to wait a further month before launching Overlord rather than risk failure by premature action with inadequate forces.

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(1) It is important to remember that the Air C.-in-C. was also responsible to the Chief of the Air Staff and not to the Supreme Commander for the Air Defence of Great Britain.

4(a)

Another reason for delaying the landing date by one month was that the change from a three to a five divisional assault entailed the provision of much additional shipping of a specialized nature and this took time to amass.

Revised Overlord and postponed Anvil approved by C.C.S.

The decision was a difficult one for the Combined Chiefs of Staff. Stalin's warm support for the Anvil project carried some weight as his strategical judgment was highly esteemed by the President. The Allies were definitely committed to Anvil in conjunction with Overlord in May and although it was believed that Stalin would not boggle over a short postponement when this was clearly advantageous, it might be difficult to convince him that we were fulfilling our obligations if we postponed the operation for an indefinite period.

Furthermore, seven of the ten divisions it was proposed to employ in the invasion of the South of France were to have been composed of Fighting French troops who were supremely anxious to play their part in the liberation of their country. It was confidently expected that the arrival of these troops would be the signal for all French Resistance Groups to come into the open against the common enemy.

The Anvil operation was therefore bound up with political as well as strategical considerations and the Combined Chiefs of Staff could not bring themselves to give up lightly all the advantages which might be gained from launching it. Pending a decision on the question, forces continued to build up in both theatres. But as the spring approached it was realised that the Allies could hardly be in a position to launch Anvil by the target date because bases near to the French coast would not be in our hands in time for the operation. Rome was to have fallen in January but in early March the Anzio beach-head was still sealed off.

Accordingly, the Combined Chiefs decided to postpone Anvil and to transfer the resources requested by General Eisenhower to the United Kingdom for employment in Overlord. This transfer was to be made on the understanding that replacements would be provided to the Supreme Allied Commander, Mediterranean by resources diverted from the Pacific and it was arranged that the new Operation Anvil (re-named Dragoon) should be launched in the middle of July.

CHAPTER 2THE JOINT PLAN TO LAND IN NORMANDYSelection of Lodgement Area

C.O.S.S.A.C's Planning Staffs at Norfolk House had given prolonged thought to the selection of the lodgement area before deciding that the Normandy coast offered the best all-round chance of success. The considerations weighing in their choice were that while the initial landings would be easier because this area was less heavily defended than the Pas de Calais, it also offered more favourable prospects for development, both from the beaches and from the ports in the vicinity. Although the Pas de Calais had been favoured by the earlier planners (Round Up and Sledgehammer) on account of its proximity to South-East England, Morgan showed that it was the one area which was most suitable for defence by the enemy. Moreover, it was unsuitable for further development as a base area unless the ports to Antwerp or those to Havre and Rouen could be quickly seized, and this would be difficult to guarantee because of the water obstacles lying in the path of any advance. The fundamental factor which affected the selection of the general area in which the assault could be made was the 'radius of action of fighter aircraft at the time.'

Advantages of Normandy

The Caen sector, on the other hand, was weakly held and reinforcements would be slow in arriving there, even when unimpeded. The beaches were hard and well sheltered from the West, North-West and East. Air defence would be difficult for the enemy without uncovering the Ruhr and North-West Germany. It would, owing to the distance, be difficult for us to provide adequate air cover at first, but the terrain near the beach-head and inland to the South-East was highly suitable for rapid airfield construction. An operation in this area presented the choice of attacking Rouen and Havre quickly or, if preferable, Cherbourg and the Brittany ports. In either case we should thus secure ports large enough to nourish the large invasion forces. The element of surprise was not neglected. The enemy would naturally expect the Allies to select an assault area which included established port facilities for handling mechanized equipment which would put the Normandy beaches out of the question.

C.O.S.S.A.C's Plan

Provided that the necessary air situation could first be achieved, C.O.S.S.A.C., recommended that the landing be made on the Caen beaches, with a view to the seizure of a lodgement area comprising the group of ports from Cherbourg to Nantes. His proposals, developed into the Outline Plan for Overlord, were approved at the Quadrant Conference held in Quebec in August 1943.

Reference has already been made to General Montgomery's contention in January, soon after combined planning began at Twenty-First Army Group Headquarters, that General Morgan's

plan would be better if it provided for initial landings on a much wider front utilising the additional resources thrown up in the event of the postponement of Anvil. C.O.S.S.A.C., had proposed a three-divisional assault on the beaches before Caen and Bayeux and aimed at a comparatively deep penetration in the Caen area at an early stage. Development of a lodgement area would proceed in a southerly and easterly direction because of the pressing need for airfields and because this was the direction in which the ultimate advance on Paris and Germany would probably be made. An effort would then be made to capture Cherbourg and the Brittany group of ports. Airborne troops were to assist in the early capture of Caen.

C.O.S.S.A.C's scheme included a cover and deception plan (Fortitude) designed to give the impression that our main effort would be directed against the Pas de Calais area. Elaborate arrangements were made so that even after we were fully committed to the Normandy operation it might still appear to the enemy that this was only the preliminary to a larger assault against the Pas de Calais.

#### General Montgomery's Plan

General Montgomery's revised plan, as finally adopted, retained the conception of Fortitude in full, but the assault on Normandy was to be made by five seaborne divisions with ancillary forces and the leading elements of three airborne divisions.<sup>(1)</sup> General Montgomery's plan was based on the expectation that the size of the initial assault would make certain that a substantial foothold was won at the outset. By advancing from the Quineville beaches on the East Cotentin, he hoped to seize Cherbourg at an earlier stage in the campaign and thus ensure against complete dependence on the Mulberries. Once the lodgement area had been properly secured and with a major port in our hands, the operation was to be developed so as to widen the base to take in the Brittany ports and, using the Caen sector as a hinge, to break through in the direction of the Paris-Orleans Gap. The salient thus created was to be employed as the lower jaw of a pair of nut crackers, the upper jaw of which was to be a similar advance in the area Falaise-Lisieux.

The revised plan obtained powerful support from the Prime Minister who had always been in favour of the largest assault possible and had also advocated landing on the East Cotentin beaches. At Quadrant, the Chief of the Imperial General Staff and the Joint Planning Staff (J.P.S.), had pointed out that C.O.S.S.A.C's Outline Plan relied on too slender a margin of superiority over the enemy during the early stages, and that his estimated rate of advance was over-optimistic. The other British Chiefs of Staff had agreed and although the plan had been strengthened since August, and also the proposals for using Anvil resources had come from C.O.S.S.A.C. it was considered that many of the original criticisms were still valid.

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(1) The final airborne plan was not completed until the end of May.

Neptune

Although Overlord was inherently a joint undertaking, its first phase, because of its predominant naval flavour, was known by the code name Neptune.<sup>(1)</sup> Neptune might be regarded as ended after the cross-Channel assault had won its initial success and the lodgement area had been stabilised sufficiently to permit the development of further operations. Under the Supreme Commander, responsibility for naval, air and ground operations was entrusted to Admiral Sir Bertram Ramsay, Air Chief Marshal Sir Trafford Leigh-Mallory and General Sir Bernard Montgomery respectively.<sup>(2)</sup> The beaches selected for the assault, stretching from Ouistreham in the east to Quineville in the west, were divided into five main areas, each of which was assigned to one of the assaulting divisions and its supporting forces. Two areas west of Port en Bessin were assigned to U.S. forces, the Omaha sector lying between Port en Bessin and the mouth of the Vire, and the Utah sector lying on the East of the Cotentin Peninsula. The Gold, Juno and Sword areas, lying between Port en Bessin and the mouth of the Orne, were assigned to the British assault forces.

The Naval forces assigned to the operation were divided

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- (1) The code-word 'Neptune' had limited use in the interests of additional security and was applied only to papers which included reference to the actual place and date of the assault. This codeword was thus used in a much more limited scale and by a severely restricted number of people in the interests of extreme security.
  - (2) General Montgomery was raised from his position as an Army Group Commander to the position of temporary Commander-in-Chief of the Combined Land Forces alongside the Air and Naval Commanders-in-Chief (see page 3). Thus General Montgomery and his staff worked on two levels, i.e. the Tactical Air Force/Naval Task Force level and the Naval/Air Commanders-in-Chief level. This is important as will be seen from the lessons learned from the organization which Air Chief Marshal Leigh-Mallory included in his Despatch. Failure to establish a C.-in-C. Land Forces as a separate appointment immediately below the Supreme Commander and on a level with the Naval and Air Commanders-in-Chief made joint planning a very difficult task. Senior R.A.F. officers with experience of that situation have insisted that this lesson should not be forgotten.

into Eastern (British) and Western (U.S.) Task Forces under the command of Rear-Admirals Vian and Kirk respectively.<sup>(1)</sup> Each of the five assault forces was made responsible for the assault within its own area, and the assault force commanders had the assistance of liaison officers on board their H.Q. ships to help in the arranging of air and naval support until such time as the divisional commanders had established their Headquarters ashore. The assault forces were known by the initial letters of the beaches to which they were assigned, i.e., Forces "U", "O", "G", "J" and "S", with the two follow-up Forces being known as Force "L" (British) and Force "B" (U.S.).

#### Airborne Operations

The attack on Cherbourg was to be assisted by two U.S. Airborne Divisions, which were to be dropped inland of the "Utah" area North of the Carentan Estuary in such positions as to protect the seaborne forces in their drive upon Montebourg and Valognes. British Airborne Troops were to seize bridges and other strategic points on the left bank of "Sword" area between the rivers Orne and Dives.

#### Summary of Overlord Plan

The original assault plan may consequently be said to have been made up of the following main features:-

- (i) An Assault on a 5-Divisional front in landing ships and craft on the first tide of D-Day, supported by airborne operations at dawn.
- (ii) Further seaborne landings by follow-up formations on the second tide of D-Day.
- (iii) Reinforcements by sea and air of the remaining follow-up formations on D plus one.
- (iv) Thereafter forces to be built up at an average rate of  $1\frac{1}{2}$  Divisions per day.

Sites /

Among initial objectives were airfields and airfield sites, the towns of Bayeux, Isigny, Caen and Carentan, and the port of Cherbourg. This was to be succeeded by an advance by some of our forces into Brittany with the object of capturing its ports to Nantes inclusive.

The lodgement area having been made into a secure base, preparations were to be undertaken to force a crossing of the Seine, capture Paris and, with the assistance of forces from the Mediterranean, to clear the enemy from Southern France.

The Allied Naval Commander's plan had to take into account the strategy and tactics of the main plan, with reference to the special responsibilities of the Naval Force which not only included the preparations and marshalling in U.K. waters but also their safe progress across the Channel. The Navies also

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- (1) The total of warships, excluding minesweepers, assault craft, etc., was 702 made up as follows:-
    - 6 battleships
    - 2 15" Monitors
    - 22 cruisers
    - 119 destroyers
    - 113 sloops, frigates, corvettes
    - 80 patrol craft
    - 360 motor vessels.

had to provide the lion's share of the continuous bombardment after dawn which was essential to enable the troops to get ashore and secure a foothold. The Navy was expected to provide a measure of early A.A. protection against enemy aircraft, surface protection against light naval forces and U-Boats, swept channels for all shipping and a large proportion of the control personnel to organise beaches, improvised and permanent ports. Naval personnel also shared with men of the Merchant Service in the manning of landing ships and craft. The Naval Forces engaged in the Mulberry and Pluto projects alone continued to be considerable for many months. It is understandable, however, that the share of the Navy in Operation Overlord diminished appreciably once the Naval Assault Forces had completed their task.

Attention will be directed to the responsibilities of the Air Forces in later paragraphs. Here it is sufficient to remark that each plan was produced as a part of a comprehensive scheme after the implications of all operations had been thoroughly examined by Combined and Joint Staffs. The comprehensive invasion scheme is to be regarded as the product of Allied strategy conceived and executed in the manner known in modern times as "Total War".

#### Security of Overlord Plan

A most important aspect of this is that once the higher strategists had decided that the operation was to be mounted the most thorough precautions were to be taken to prevent the enemy appreciating our exact intentions. The ban on entry into restricted areas, especially coastal areas in Southern England, and later, on travel to Eire, was only the other side of the policy which intensified the sweeps over airfields in France and the Low Countries and which impelled A.D.G.B., to make strenuous efforts to prevent enemy air reconnaissance across the Channel. The Deception and Cover Plan (Fortitude) the frequent amphibious and airborne exercises, the mining of Scandinavian and Baltic coasts, the air offensive over Western Europe, the threats against Greece, Yugoslavia and Southern France, were all intended to puzzle and mystify the enemy.

#### Deception Plan

Finally, there remained that part of the Cover Plan connected with the problem of blinding the enemy to the fact that an Invasion Fleet was on the way once our forces had started, or if surprise was considered lost, to its size, composition and destination. Arrangements to the end that the enemy should not learn of its departure through the use of Radar or Signals Intelligence Systems were in the hands of the Combined Signals Board, S.H.A.E.F., but as this was largely an Air Force matter most of the responsibility for working out and executing the Allied Plans was laid upon the Air Signals Officer-in-Chief, A.E.A.F., and upon the Director-General of Signals Air Ministry.

The Counter Measures decided upon were intended, firstly, to prevent early warning of our approach to the enemy. Others were to hinder radar-controlled gunfire against the seaborne and airborne invaders, to interfere with German Fighter R/T control, and to create diversions so that the enemy would be unable to appreciate our true objectives.

A.E.A.F.  
Air Signals  
Report  
on Operation  
Neptune  
See Chap.VIII

In the attempt to prevent the enemy receiving early warning of the approach of invasion forces, air attacks were to be made to destroy vital links in the enemy radar chain stretching along the North coast of France and Belgium. These, together with shorter range coastal stations, backed up

by others inland, were sited at short intervals and included installations of many types for long-range high-level and low-level watching. In selecting targets for air attack, careful attention was paid not only to creating gaps in the enemy cover of the approaches to the Baie de Seine and of its beaches, but also to the general security principle laid down at S.H.A.E.F., that two objectives must be attacked outside to every one attacked inside the Neptune area.

This dispersal of air effort might be regarded as undue waste in the interests of security if a guarantee could be given that the enemy system could be put out of action at short notice. But it was decided not to rely on good weather and the availability of sufficient effort at the eleventh hour. In any case, the general disruption of the enemy radar and radio facilities in north west Europe helped enormously when we wished to create the illusion that a major attempt was being made against the Pas de Calais area.

The detailed Air Signals Plan included many features designed to assist in the feint against the Pas de Calais area. Heavy bomber aircraft, suitably equipped, co-operating with a few small Naval vessels were to carry out operations to give the impression that large convoys were sailing to attack Boulogne (Operation Glimmer) and the Cap d'Antifer (Operation Taxable). Airborne radio jammers were to be directed against enemy transmissions to heighten the effect. All aircraft operating from the United Kingdom were to be routed so as to cause the maximum of confusion. Special missions were to be flown to simulate large-scale operations in areas not to be attacked. Certain measures were designed to protect the airborne forces against air attacks. Dummy airborne operations were planned to take place near Havre and Boulogne. Other Bomber Command aircraft were to carry transmitters to jam enemy coast watchers and night fighter communications.

## CHAPTER 3

THE OVERALL AIR PLANAir Planning Staffs

The R.A.F. Special Planning Staff under Air Vice-Marshal C.K.H. Edmonds and their successors the R.A.F. Branch of C.O.S.S.A.C. under Air Vice-Marshal R. Graham, and Air Vice-Marshal V.E. Groom had been continuously engaged in air planning for the invasion ever since they were appointed by A.C.A.S. (P) (Air Vice-Marshal Sir J. Slessor) in May 1942. During most of the period they had been working as the representatives of the Air Commander-in-Chief designate (Air Marshal Sir T. Leigh-Mallory) along with Army and Navy planners - and more latterly with U.S. colleagues - at Norfolk House, but firm plans could not be produced until the Outline Plan for Overlord had been approved and Headquarters for Naval, Ground and Air Commanders had been set up.<sup>(1)</sup> This was all done in the winter of 1943-44 when Air Commodore S.C. Strafford was Air Head Planner at Norfolk House working with Commodore Mansergh, R.N., Brigadier Maclean of the British Army and a number of American colleagues. The Planning staffs moved with S.H.A.E.F. to Bushy Park in March 1944, but the Main Headquarters of the Army, Navy and Air Commander-in-Chief remained at their inconveniently separated locations of St. Paul's School (Hammersmith), Portsmouth and Starmore respectively.

Command and Control

Before summarising the Air Plan that was subsequently produced, a short note is necessary to explain the system set up for the command and control of the Allied Air Forces. Under the Supreme Commander, who derived his power from the Combined Chiefs of Staff, the Air Commander-in-Chief commanded all Allied Air Forces allotted for direct participation in Overlord. The control of planning and operations of both the British 2nd Tactical Air Force and the U.S. IXth Air Force were, for the limited period immediately before, during, and after the Assault, delegated by Leigh-Mallory to the Commander Advanced A.E.A.F., a position held by Air Marshal A. Coningham, Air Marshal Commanding, 2nd T.A.F. Control of the other formations in the A.E.A.F. was retained by the Air C.-in-C., at his own main Headquarters. He also retained in his own hands the direction of the U.S. Strategic Air Forces and R.A.F. Bomber Command when these Forces operated in tactical support of Overlord, as this involved coordinating these operations with those of the Tactical Air Forces in the same area.

This at all events was the plan envisaged in the original C.C.S. directive to Leigh Mallory and the scheme worked out in the Overall Air Plan. However, as matters developed, the control of the Air Commander-in-Chief over the operations of the strategic bombing forces was so reduced as a result of differences of aims, ideals and

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(1) Air Marshal Sholto Douglas was the first Air C.-in-C. Designate.

(2) For further details see this Narrative, Vol.I, Chap.2.

doctrines between the various air authorities, with differences due perhaps to national pride and ambitions and to the clash of strong personalities, that even before D Day he was only able to set out the objects of attack and co-ordinate their timing.

When the U.S. and British Strategic Air Forces operated in strategic support of Overlord, however, their operations were directed and co-ordinated on behalf of the Supreme Commander by his Deputy, Air Chief Marshal Sir A. Tedder. The latter had been appointed Deputy S.C.A.E.F. not only because of his triumphs in the Mediterranean, where he had worked in harmony with the Americans and with the other Services, but also because it was recognised that the employment of the air forces would have a powerful influence on the course of the European campaign. It was the responsibility of the Deputy Supreme Commander to allocate British and U.S. Heavy Bombers to strategic or tactical tasks as the overall situation required.

In order to secure agreement and uniformity of policy between all Air Forces, all the principal Allied Air Commanders from the Deputy S.C.A.E.F., downwards met at the daily Air Commanders' Conference held from the end of May until September at A.E.A.F. Main Headquarters under the Chairmanship of the Air C.-in-C. Here they discussed the battle as it developed and received the decisions of the Deputy S.C.A.E.F. and the Air C.-in-C., regarding the employment of air effort in the immediate future.

#### The Overall Air Plan

The Overall Air Plan was issued on the authority of the Air C.-in-C., A.E.A.F. on 15 April 1944 and was intended to act as a guide to lower formations and to all other Staffs engaged in detailed planning. It stated that the general aim of the Air Forces would be 'to attain and maintain an air situation which would assure freedom of action for our Forces without effective interference by enemy Air Forces, and to render Air support to our Land and Naval Forces in the achievement of this object'.

A.E.A.F. Over-  
all Air Plan,  
Pt.I para.11

The requirements of this object were stated as 'Principal Air Tasks' in the following terms:-

A.E.A.F. Over-  
all Air Plan,  
Pt.II para.48

- (a) To attain and maintain an air situation whereby the G.A.F. is rendered incapable of effective interference with Allied operations.
- (b) To provide continuous reconnaissance of the enemy's dispositions and movements.
- (c) To disrupt enemy communications and channels of supply by air attack.
- (d) To support the landing and subsequent advance of the Allied Armies.
- (e) To deliver offensive strikes against enemy Naval Forces.
- (f) To provide air lift for airborne forces.

### Four phases of Air Operations

To achieve these objects and to carry out these tasks, Air operations were planned in four phases. It was important to bear in mind that Air operations differed fundamentally from those of the Army and, to some extent, from those of the Navy, in that the Air Forces had been engaged in a kind of invasion of Europe for over two years. To the Air Forces - particularly the R.A.F. - the war had been a continuous series of battles, and they regarded the re-entry into Europe as an operation requiring an intensification of effort, rather than the opening of a new campaign. The operations planned in the Overall Air Plan, therefore, fell into four main phases, the first of which was substantially completed by the time the document was issued.

#### Preliminary Phase

This first or Preliminary Phase covered Air operations which had been in active progress for many months before Easter 1944 in order to win air superiority, to disrupt enemy communications, to provide air reconnaissance of the Assault area, and to attack enemy Naval Forces. The Combined Bomber Offensive (Operation Pointblank) had achieved considerable success in reducing German air power - in particular, its fighter strength - which had always been regarded as its most valuable contribution to Overlord Plans. (1) Pointblank had also done much to reduce German industrial potential, disrupt communications, and lower German morale generally. It had also forced the enemy to concentrate defences upon the German Homeland and was, therefore, of great value to operation Overlord. The Air Plan also referred to fighter sweeps which had aimed at reducing the G.A.F. by bringing its fighters to battle in areas advantageous to ourselves. One of the most important results of these operations was that the enemy had evacuated so many of the airfields within fighter range of the south coast of England that many of them were not immediately available to him in the event of a sudden emergency and would require much time to be made operational. It had also reduced the number of airfields that would have to be attacked in order to cripple the G.A.F. immediately before the invasion.

Finally, attention must be drawn to the importance of the work done by Reconnaissance Squadrons during the Preliminary Phase of Air Operations. In the first place, the selection of the lodgement area was only made after prolonged air reconnaissance of the whole of the western European coastal belt. After the decision to land in Normandy, innumerable sorties had to be flown over an extended period so that complete cover could be secured, and a detailed investigation carried out to catalogue all

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(1) The heavy attacks on the German aircraft industry in the spring of 1944 did not reduce production but due to a number of reasons, shortage of pilots, dispersion of efforts on other fronts, lack of fuel, transportation difficulties, there were insufficient aircraft in the west to oppose the landings.

the data required on the enemy's defences and installations in this area. The whole of the European coastline from Brest to Den Helder had been photographed, elaborate target dossiers had been compiled, largely by the aid of photo reconnaissance, and the advisability of photographing selected targets in the Overlord area was under investigation.

In February, nearly a hundred small areas in Normandy were surveyed from the air in the endeavour to select suitable airfield sites well in advance of the assault. In March, beaches, ports, coastal batteries and other defences, airfield sites, V-1 sites, dumps and other military installations, radar stations, bridges, and countless other targets were subjected to scrutiny by photo-reconnaissance. Without this preliminary work, a successful assault would be unthinkable.

An interesting and novel result of high-level work with survey cameras was the enormous photo-map of the whole invasion area produced from P.R. mosaics. The panorama of the beaches as seen from the sea, photographed by aircraft from wave-top height, was also of great value in the study of gradients and obstacles on assault beaches. The work of producing all this information was continuous but, of necessity, much of it was done during the Preliminary Phase of operations before detailed planning was completed.(1)

#### The Second or Preparatory Phase

The Air Plan regarded the Air Operations beginning in March 1944 as entering on the second or Preparatory Phase. It was intended that as D-Day approached the combined weight of all air attacks would more and more be concentrated upon targets connected with the invasion itself. Pointblank was undoubtedly of major assistance to Overlord, in that one of its primary aims was to beat down the G.A.F. No assault could be undertaken if the enemy enjoyed even local air superiority for any considerable length of time; therefore the invasion planners considered that the Pointblank Plan, with all its other features, was justified because it had resulted in the continuous attrition of the German Fighter Force. It should therefore remain in the first order of priority. But in the final weeks before the invasion fleets sailed, much work remained to be done by the Allied Air Forces to ensure a good chance of success in the joint undertaking. The number of these requirements was far too great for the Tactical Air Forces alone, even if the targets were always suitable for attack by light or medium Bombers, and in consequence it had been agreed that the heavy bombers were to be called upon, where necessary, to undertake commitments in the Tactical area. The great majority of these commitments were bombardment operations. In essence, the plan visualised further Pointblank attacks on enemy aircraft production but also specified planned offensives against railway communications in North West Europe, Coastal batteries, Crossbow and Naval

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(1) The reader is referred to the relevant Section of the A.H.B. narrative of Photo Reconnaissance: also to 'Thirty Four Wing', an illustrated unofficial account of the work of No. 34 Reconnaissance Wing (A.E.A.F.) and to 'Air Recce', a joint production by the 1st Canadian Army and No. 35 Wing (No. 84 Group) R.A.F.

installations, and against airfields within fighter range of the Normandy beaches. Operations in furtherance of the Railway Plan had already begun in March, but as this was a long-term project the programme would not be completed until the last moment, when it was to be supplemented by attacks on bridges as an additional method of crippling the movement of enemy forces and supplies.

No date was laid down for commencing attacks on coastal batteries and Naval targets, but attacks on radar stations were to start a month before D-Day and those on airfields three weeks before D-Day. Operations against Crossbow targets were different, in that they had to be undertaken whenever possible owing to the fear that if allowed to develop without interference, Crossbow weapons might seriously affect the mounting and launching of the Allied assault. Finally, air reconnaissance was to be intensified to ensure that a constant watch was kept on enemy dispositions, movements and constructions. This was essential to keep our information up to date. Despite the urgency of completing all these tasks, the overriding necessity remained that in order to avoid the risk of disclosing our intentions, two-thirds of all the effort had to be expended outside the Neptune area.

#### Assault and Follow-up Phase

With the exception of two days before D-Day when there was a slight pause while squadrons attended to their serviceability, operations preparatory to Overlord merged imperceptibly into those in the Assault Phase itself. The Planners anticipated two crises, the first during the progress of the assault when it hung in the balance whether the troops succeeded in getting ashore or not, the second as soon as the enemy was able to concentrate enough armour to make his major counter-attack. In connection with these crises the Air C.-in-C., anticipated that the enemy might make a determined effort to secure local air supremacy as soon as the landings were begun. Leigh-Mallory believed that there would be a large-scale air battle, similar to that over Dieppe, which might last a week or so before the enemy was defeated. He had no doubts about victory, but did not consider that it would come quickly or easily. At no time would the enemy find targets so favourable for air attack, or an air situation so favourable to the establishment of a limited supremacy, as the period while convoys were discharging off the beaches covered by Allied fighters based solely on airfields in England. Consequently, the Air C.-in-C., attached great importance to the arrangements for air cover to the Expedition just as he had to those made to prevent enemy reconnaissance and to destroy enemy radar.

The one great advantage which the Allies would enjoy over the enemy was numerical superiority, and this he determined to exploit to the utmost. He aimed at using his vast fighter resources so that there were at all times sufficient Allied fighters airborne in the battle area to ensure the minimum interference by the G.A.F. with the landing operations, the Air C.-in-C. held in readiness a strong reserve fighter force available to be thrown into the air battle to meet any threatening concentrations of enemy aircraft over the shipping lanes and assault area.

The Overall Air Plan laid down the following as the functions of the Air Forces during the Assault:-

- (a) To protect the Cross-Channel movement against enemy air attack and assist Allied Naval Forces in the protection of the Assault craft and shipping against attack by enemy Naval Forces.
- and* (b) To prepare the way for the Assault by neutralising the coast/beach defences.
- (c) To protect the landing beaches from enemy air attack.
- (d) To reduce the enemy's ability to mount effective counter-attacks.
- (e) To support the Land Forces in their advance from the Assault beach-head.

#### Tasks of Fighter Squadrons

The main Naval approach channels were to be continuously patrolled by five Fighter Squadrons. Ten Fighter Squadrons were to cover the beach-heads with a further six Squadrons at readiness to be called upon if required. Night Fighter and Intruder operations were planned to assist in protecting the Assault Forces. A large Striking Force of thirty-three Fighter Squadrons was to be established for employment as the air situation required: their primary role was to be offensive, but they could be diverted to defensive purposes if necessary.

The protection of the whole expedition from attacks by enemy Air Forces was thus regarded as the most vital of the services that the Air Forces could render to the Navy and Army. For this purpose, 54 Fighter Squadrons were allocated to Beach Cover and 15 Fighter Squadrons to Shipping Cover. Further Fighter Squadrons were earmarked for Bomber Escort duties, but the exact numbers, although substantial, were not specified as the Plan allocated 33 squadrons to Offensive Fighter Operations and Bomber Escort. An unspecified number of squadrons from a Striking Force (33 Fighter type Squadrons) were also to be given escort duties, in this case for airborne operations.

*and fighter bomber* But the majority of the Striking Force and of the Offensive Fighting Force were to be employed in offensive operations. Thirty-six Fighter Squadrons were also allocated for Direct Support in the battle. It will therefore be appreciated that the Overall Air Plan when making provision against determined air opposition during the critical hours of D-Day itself did not rely on purely defensive measures. It was proposed to carry the war into the enemy's camp by attacking enemy airfields during the three weeks before D-Day. The Plan had endorsed the still earlier Pointblank Plan for wearing away German Fighter strength. The Air C.-in-C., thus felt justified in assuming that his responsibilities for providing an air umbrella could be adequately covered without the necessity of committing the bulk of his Fighter resources to defence measures.

#### Bombardments Operations

*Heavy* The Bombardment Operations to precede and accompany the Assault were a joint commitment and were therefore dealt with in a Joint Fire Plan issued a week earlier. The Air Plan repeated in outline the programme before and after 'H' hour, to be undertaken in succession by Heavy Night Bombers, Medium Bombers, VIIIth Air Force Bombers, Fighter Bombers and Light Bombers. The timing of the various items in the Bombardment

See Chapter V.

Programme was a matter of delicate adjustment between the three Services, because it was intended that from the moment the first bomb exploded there should be no interruption in the attack until the Allied troops were in occupation of the ground.

#### Fighter Reconnaissance

Special arrangements were made to provide a flexible system of reconnaissance during this phase of operations. Each Army (First U.S. and Second British) was given one Fighter Reconnaissance Squadron for service up to noon on D-Day, with the addition of a second one from that time onwards. These Fighter Reconnaissance Squadrons were provided out of four squadrons before noon and five squadrons after noon which were to be put at the disposal of the Commander, Advanced A.E.A.F. for Fighter Reconnaissance purposes. The latter was to use Fighter Reconnaissance resources not allocated directly to First U.S. and Second British Armies for Strategical Reconnaissance and for fulfilling any additional Army tasks, and, in order to ensure quick response, Army requests for reconnaissance were, in the first instance, to be routed to IXth Air Force and 2nd T.A.F. Photo Reconnaissance Squadrons in A.E.A.F. were to remain under the control of H.Q. A.E.A.F. during the Assault Phase.

Spotting for Naval gunfire during the bombardment of shore defences by Naval vessels was to be done by Fleet Air Arm personnel, helped out by one R.A.F. Spitfire Squadron.<sup>(1)</sup> Their work was to be supplemented by three specially trained Mustang Reconnaissance Squadrons of 2nd T.A.F., who were expected to help until approximately noon on D-Day.

#### Tasks for Coastal Command

In addition to its normal responsibilities for protecting Atlantic convoys and of undertaking offensive strikes against enemy shipping, Coastal Command was entrusted with special responsibilities with respect to Neptune. Two lines were to be established across the Channel from Foreland to Calais and from Portland to Jersey, inside of which aircraft were not expected to operate. This Command, however, was to prevent, in conjunction with the Allied Navies, the approach of any enemy surface or underwater craft to this area, so that they would be unable to threaten our Lines of Communication and Supply.

#### Airborne Operations

There were two main and several subsidiary Airborne Operations planned to support Overlord. Paratroops and Gliderborne personnel of 82nd and 101st U.S. Airborne Divisions were to seize positions in the St. Mere Eglise district of the Cotentin on the night of D-1/D-Day. At the same time, positions on the other flank between the Rivers Orne and Dives were to be occupied by the British 6th Airborne Division. Additional missions would be flown on D-Day and re-supply missions would be undertaken as required thereafter. Special operations were undertaken to create diversions and to ensure that the unprotected troop-carrier aircraft would not be molested by enemy aircraft, A.A. and searchlights. Fighter protection was to be provided to cover the withdrawal of aircraft when operations had been

*Peninsula* (1) In the event, two Spitfire Squadrons (Nos. 26 and 63), three Mustang Squadrons (Nos. 2, 268 and 144) and seventeen U.S. Navy pilots in Spitfires assisted No. 3 Naval Wing F.A.A. (Seafires).

completed. (1) S.A.S. and S.O.E. Parties were to be dropped in Brittany and in the Neptune area before the touchdown and on subsequent nights. The aircraft carrying these parties were to operate under direct control of the Air Ministry on orders from H.Q. Airborne Troops.

#### Operational Control of Tactical Air Forces

During the Assault Phase and during operations immediately before and after, a special scheme of operational control was devised to centralise the management of the Tactical Air Forces so long as the tactical area remained limited. This was the air equivalent of the arrangement whereby all operations by Land Forces were, for a limited period, directed by C.-in-C., Twenty First Army Group. A small Operational Headquarters, known as Advanced A.E.A.F., was to be set up at Hillingdon close to No. 11 Group Headquarters, Uxbridge, where Air Marshal Coningham would co-ordinate and direct all air operations in the battle area. He would be the one Air Commander with whom General Montgomery, in his capacity as C.-in-C., Land Forces (during the Initial Phase), would deal. The Commander, Advanced A.E.A.F. would receive all requests for air action and would have the executive authority to implement them. The only exception would occur when Army requests were received for air action outside the battle zone: in such cases, General Montgomery would apply direct to the Air C.-in-C.

Air Marshal Coningham's functions would be exercised through three U.S./British Organisations:-

- (i) A Combined Operations Room for Light and Medium Bomber control.
- (ii) A Combined Control Centre for Fighter control.
- (iii) A Combined Reconnaissance Centre for directing and co-ordinating Fighter and Photo Reconnaissance.

Arrangements were also made for the Air Commander to be represented by Air Staffs on Flag Ships and H.Q. Ships. Three Fighter Direction Tenders were also to be provided for the close control of Fighters engaged on what was admittedly the most vital air commitment, i.e. that of protecting the Assault Task Forces. Mobile control was also to be set up ashore as soon as possible for the control of Fighters and of aircraft operating in direct support of the battle during the follow-up and subsequent stages of the operations.

#### Tasks of the Air Forces subsequent to the Assault

As might be expected, detailed policy for the employment of the Air Forces after the lodgement area had been established was less well defined than was that of the earlier phases. The general aim of the Air C.-in-C., was to hold the German Air Force away from the battle area and to prevent it from intervening. Hardly less important, even at that stage was Leigh-Mallory's desire to assist the ground forces by delaying the movement of enemy reinforcements towards Normandy. Direct support to ground troops in the day-to-day battle, <sup>supply</sup> missions and airborne operations were all to be provided when required.

*a. Backson head-  
quarters,*

(1) The Airborne Plan as it appeared in the Overall Air Plan was replaced by a modified Plan to which references are subsequently made in this narrative.

The tasks of the Air Forces during the phase subsequent to the Assault were stated in the following terms:-

A.E.A.F.  
Overall Air Plan  
Pt. II para. 115.

- (a) Continued attrition of the G.A.F. in the Air and on the Ground and maintenance of bombing pressure on Germany.
- (b) Delay of the arrival of enemy reserves into and movement of reinforcements to the lodgement area.
- (c) Direct Support of the Ground Forces in the development of the lodgement area.
- (d) Providing air lift for further Airborne Operations.
- (e) Providing air transport when necessary and practicable.

*be gradually reduced  
as the G.A.F. effort*

Attacks on enemy airfields were to be continued for as long as necessary, and Fighter Cover over the beaches and over the Mulberries would ~~have to be maintained until the effort of the G.A.F. declined.~~ What Leigh-Mallory regarded as a task of the most importance, however, was the continuance of air attacks on key points in the enemy's rail communications leading into the lodgement area. The primary aim will be to compel the enemy to detrain at a considerable distance and continue by road with consequent delay and increased vulnerability.

At this stage, early and continuous reconnaissance would assume even greater importance if air attacks were to have the effect that was hoped. All types of reconnaissance aircraft were to be working at full pressure during this period, first priority being accorded to enemy rail and road movement. Night reconnaissance (and photography) was to be continued, as was spotting for heavy artillery.

The pooling of all Troop-Carrier and Transport aircraft was foreshadowed in the A.E.A.F. Plan, and allocations were to be made from the pool by the Supreme Commander through the Air C.-in-C. It was anticipated that after D+1 sufficient lift would be available for one Airborne Division, if required by S.C.A.E.F.

#### Move of Air Forces to the Continent

The Plan made it clear that, especially for targets of importance, the scale of Direct Air Support and the earliest moment at which it could be provided, would be directly dependent upon the airfield capacity made available in the expanding lodgement area. (1) While it seemed reasonably certain that many sites of existing airfields would be occupied by the British

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(1) Arrangements made for the rapid construction of airfields on the Continent were fully discussed from the administrative point of view in ~~this narrative, Vol. II~~; 'Administrative Preparations and Plans for Overlord'; Appendix F of the Overall Air Plan contained the phased Build-up Programme for Air Forces and Airfield requirements on the Continent, including Airfield Specifications, System of Marking, etc. The detailed Airfield Construction Programme in the British and U.S. Sectors were made at T.A.F. Army levels.

Forces, it was expected that the terrain in the U.S. Sector in the early stages of the operation would be unsuitable for airfield construction. The move of fighters, fighter-bombers and reconnaissance aircraft to the Continent would depend upon the airfield situation there and upon the amphibious lift available. Light and medium-bombers would not move until advances by our ground troops would have made it uneconomical to operate from the U.K. and until it had become practicable to undertake supply and maintenance from the Continent.

The ultimate requirements of the 2nd Tactical Air Force were estimated to be 24 airfields, and those of the 9th Air Force 35 airfields after their build-up had been completed to the planned levels, but the Phased Programme called for 18 airfields by the end of the first fortnight and 27 by D plus 24. During the first fortnight, squadrons based on the U.K. were to make use of airfields in Normandy only for the periods when they were engaged in operations and were to give way to other squadrons as soon as they had finished. This roulement system enabled many squadrons to operate from one airfield, up to 200 sorties per day being possible from one landing ground.

#### Overall Air Plan Part 3. Air Defence of Great Britain

The last part of the Overall Air Plan dealt with 'Air Defence, Communication, Air Emergency and other Measures'. The invasion could not fail to have a profound effect upon the whole organisation for the defence of Great Britain against air attack, in that while certain areas in the south would temporarily be much more tempting objectives, the situation would gradually change as our Forces established themselves in Normandy. By the middle of April it was appreciated that little was to be feared from day attacks by orthodox aircraft in view of the defence forces available before the move into France. Consequently, only 10 Day Squadrons were at first allotted by the Air Commander-in-Chief to Air Marshal Hill of Air Defence of Great Britain (A.D.G.B.)

Night attacks might be more difficult to meet and during the early stages 17 Night Squadrons were placed under A.D.G.B. Six of these squadrons belonged to No.85 Group and they would ultimately move to France where they were meant to be employed in defence of the beachhead when No.85 Group and 9th Air Defence Command took over that responsibility. The system of static control then existing in A.D.G.B. was to continue but night fighter operations over the Continent, would naturally assume a greater importance as Overlord developed.

A.A. Defence of all vital Neptune areas would be a Twenty-First Army Group responsibility in the early stages, but that responsibility would subsequently devolve upon the Allied A.A. and Coast Defence Committee.

From Yarmouth to Land's End, A.D.G.B. resources, suitably augmented, were to be used for Air/Sea Rescue during Neptune. Launches would be attached to Fighter Direction Tenders in the very early stages, but Air/Sea Rescue aircraft would not be based on the Continent until at least D plus 20.

A Combined Air Transport Operations Room (C.A.T.O.R.) would be set up at A.E.A.F., Headquarters to control American and British transport aircraft used in support of Overlord. An Air Despatch Letter Service and a plan for the air evacuation of casualties were both to be put into operation early in the campaign. Although C.A.T.O.R., was established at H.Q., A.E.A.F., the authority upon which transport aircraft were to be allocated was to be that of the Supreme Commander and not that of the Air C.-in-C., but the latter was responsible for the organization and implementation.

Before proceeding to elaborate certain specific subjects in Appendices 'A' to 'N', a note was added to the Overall Air Plan to the effect that separate plans were in existence relating to Signals, R.A.F. Administration, IXth Air Force Administration and Cover.

Thus it was that Air Chief Marshal Leigh-Mallory and his Staff laid down to all the Allied Air Forces taking any part in Overlord the aims of air operations and the roles they were expected to play.

CHAPTER 4PREPARATORY AIR OPERATIONSThe Employment of Air Forces

The Air Operations in direct preparation for Overlord were characterized both by their variety and their total immensity. They began as the complement of the Combined Bomber Offensive which, by subjugating the G.A.F. was establishing that air superiority which was one of the agreed essentials to a successful assault. On 13 February 1944, the Combined Chiefs of Staff directed the Supreme Commander Allied Expeditionary Force<sup>(1)</sup> to see that the A.E.A.F. assisted in Operation Pointblank where it was possible to do so without detriment to preparations for Overlord.

At this period, the Air C.-in-C., A.E.A.F., and his integrated U.S./British Staff, in conjunction with Twenty-First Army Group Planners, were hammering out a policy for the employment of Air Forces in preparation for Overlord and were compiling programmes of targets which would be in harmony with that policy.

As the employment of Air Forces, and of bombers in particular, has from the time that Air Forces were first created, been a subject of perennial controversy, it is not strange that the question was debated with great thoroughness and some heat on this occasion. The point of view that Air Forces, by striking independently as Strategic Forces, could themselves largely win a war by destroying the means and the will of the enemy to prolong the struggle was upheld by General Spaatz, Commanding General, U.S.St.A.F., and Air Chief Marshal Harris, Commander-in-Chief, Bomber Command. General Spaatz in particular considered that the object of the U.S. Strategical Air Forces was to attack objectives deep inside Germany, not only because they were vital to German war economy but in order to make the German Air Force fight. Consequently, attacks on Overlord targets in North West France or Belgium were to him valueless and outside the purview of his Directive. Air Chief Marshal Harris agreed generally with the U.S. General's views but also maintained that the use of his heavy night bombers against such small targets would be uneconomical in the extreme.

There was no outstanding protagonist of the view that the primary purpose of an Air Force should be merely to support the operations of the Navy or the Army, although there were not wanting several officers of high rank in both Army and Navy whose ideas had not advanced far beyond this stage. Air Chief Marshals Tedder and Leigh-Mallory and Air Marshal Coningham, while no doubt differing on smaller points, were in general agreement on the main question at issue and believed that once the decision had been made

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(1) Telegram from Agwar to SHAEF dated Feb. 131425Z for Eisenhower from The Combined Chiefs of Staff quoted in Appendix VI/9 of the A.H.B. Narrative, The Liberation of North West Europe, Vol.I.

to win the war by re-entering the Continent, the whole of the Allied Air effort should be made available for the supreme operation as an equal partner in a team under one direction. All our Fighting Forces should co-operate to accomplish one main task - the early liberation of Europe. Each of the Services had its distinctive part to play but it was essential that all should work together as one team.

TLM/TS.  
136/15,  
Encl.10.  
D/O letter  
dated  
3 Jan. 1944

The view that eventually prevailed was that expressed by the Chief of Air Staff when he informed the C.-in-C., Bomber Command, that the criterion by which bomber operations would be judged when the date arrived on which Bomber Command was to support Overlord would be the extent to which they directly assisted Overlord and not the extent to which they weakened Germany's power to make war. But although the Initial Joint Plan was issued at the beginning of February, the Chief of Air Staff evidently considered that that time had not arrived.

... In their examination of the tasks which would fall to the Air Forces in preparation for Overlord, the Planning Staffs came to the conclusion that nothing less than the whole of the Allied Air effort would be sufficient, and that to discharge those tasks adequately the preparatory bombing should begin at the earliest possible moment, some of it not later than D minus 90. They were impressed by the number and size of their probable commitments and by the fact that the nearer D-Day approached the greater would be the demands made for Air attacks.

#### The Transportation Plan(1)

It was agreed after exhaustive discussions by the Joint Staffs at Norfolk House and St. Paul's School, and more particularly by a new Allied Air Forces Bombing Committee at Headquarters, A.E.A.F., that during the preparatory period the Air Forces should begin by bombing railway targets, followed at a later date by attacks on coastal defences (batteries and radar installations), airfields, bridges, roads and Naval and Military installations. The discussion of the Transportation Plan produced by the Allied Air Forces Bombing Committee brought to light the fact that it would involve operations in two stages; a strategical phase when the general capacity of the French and Belgian railway systems was to be reduced, and a tactical phase when railway and road centres, bridges and rolling stock were to be attacked in the attempt to stop movement at those points where attacks were successfully delivered. Discussion of this plan began simultaneously with the discussion of the larger question regarding the most effective employment of the Allied Bomber effort. While a decision on the larger question was awaited, a start was made by attacking a small number of railway targets by way of an experiment, the first attack being made on 9 February.

At the commencement, the Planning Staffs agreed that the success or failure of the Neptune Expedition would depend as much on the outcome of the battle fought after the enemy reserves had arrived as upon what happened on the beaches. It thereupon appeared to all who accepted this thesis that there were two possible lines of action, both of which should be taken: the first would be to ensure that having won the beach-heads our own build-up was as rapid as was humanly possible; the second would be to use all practicable means of delaying the enemy

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(1) For a detailed account of the evolution of the Transportation Plan see this narrative, Vol.I, Chap.7.

reserves. So far as the Air Forces were concerned, the first could be assisted by the provision of adequate fighter cover over the swept channels and the beaches, by the possible use of air transport after the Assault and by tactical air support of all kinds to get the troops and equipment firmly ashore. The second could only be done by executing a programme of bombing and sabotage directed against the French railways, roads and bridges, and begun early enough to guarantee a reasonable chance of completion.

It was anticipated that German reserve and reinforcement divisions would move towards the battle area by rail, de-training as near as possible to the battle area and completing their journeys by road. It was felt, therefore, that in the race between our own build-up and the enemy's a vital contribution could be made by air power if it could be used to impose an appreciable delay in the rate of enemy movement. By the beginning of June, this had become to Leigh-Mallory the supreme task of the Air Forces, as he no longer believed by that time that the G.A.F. was capable of challenging the Allied air superiority.

#### Discussions on the Zuckerman Report

S.19639/D.A.T.  
and TLM/TS.  
136/15  
E.11/2 dated  
2 Feb. 1944.

At the beginning of February, the Air Ministry recommended for study the Report on Air Operations in Sicily and Italy, written by Professor Zuckerman, with the conclusions of which the Air Staff and Railway experts were in general agreement. The most important of those conclusions was that the best method of dislocating enemy rail communications was to destroy railway centres in which were concentrated the regulating, marshalling, and repair facilities, as well as large quantities of rolling stock by means of persistent bombing. This was the doctrine which was also being evolved by the Allied Air Forces Bombing Committee, of which Professor Zuckerman was an original member. The Committee had produced a programme of attacks on railway centres and airfields, which was embodied in the Initial Joint Plan and then modified on 17 February by the Supreme Commander. This programme listed attacks on the principal railway centres in the area between Flanders, the Seine Basin and the Rhine at Mulhouse. The first A.E.A.F. plan, and all later versions, emphasised the fact that an attack on communications would not only interfere with military movements, but would also destroy the economic system of Germany. Indeed, the plan was evolved as one which satisfied both tactical and strategical needs.

The proposals to attack railway centres aroused determined opposition of all kinds. Such attacks would involve the risk of very heavy French civilian casualties at a time when we needed French goodwill more than ever. These misgivings were not confined to political circles - although expressed by nearly all the Members of H.M. Government - but were shared by the Deputy Supreme Commander and the Air Staff at the Air Ministry. On technical grounds, apart from the terms of his Directive (which could have been amended) the Commanding General, U.S.St.A.F. objected that the technique of blind bombing employed by U.S. heavy bombers could not be used against any of the railway targets suggested. The C.-in-C., Bomber Command declared that railway targets were unsuitable for attack by heavy night bombers which had, of course, been trained for area bombing.

Even if attacks had been successfully delivered by D-Day on all the targets suggested, there were differences of opinion as to whether the Plan would succeed in reducing the French railways to the degree of paralysis required. It was argued that the French railway network in that region was so dense and complicated that it would be almost impossible to reduce traffic to a sufficiently low level. Only a small part of it would be required to maintain the German Forces, and nothing short of the complete destruction of the whole system would achieve the desired results, it was declared.

Slowly and piecemeal all these and many other objections to the Transportation Plan were made and countered. The opinions of railway experts like Mr. Barrington-Ward<sup>(1)</sup>, Captain Sherrington<sup>(2)</sup>, and Mr. Brant<sup>(3)</sup>, and of Bombing Analysis experts like Professor Zuckerman gradually secured recognition.

At the beginning of March, Leigh-Mallory's Bombing Committee compiled a list of 75 railway targets, consisting of major servicing and repair centres in Northern France and Belgium, and applied for permission to attack them. Successful attacks on these targets would, they were convinced, reduce the capacity of the French railway system as a whole so that by D-Day a growing dislocation and paralysis would force traffic on to a few lines. This would render the task of dealing with rail and road movement all the easier when the time came to put the tactical part of the Plan into execution. The enemy would be compelled to detrain and take to the roads at a distance of perhaps 150 miles from the battle area. It was expected that the fighters and fighter-bombers of the Tactical Air Forces would then intervene, with great effect. Adding to this the extra drain upon the enemy's oil supplies and the extra demands for motor transport that it would create, they were convinced that they had a battle-winning plan. The whole scheme was to be rounded off by a short-term programme of rail and road cutting to create rail and road choke-points by bombing at a suitable time just before and immediately after the assault. Bridge cutting was to commence about a fortnight before D-Day, and traffic blocks were to be created at the last possible moment.

The beginning of the offensive on 9 February, when medium bombers began attacking railway centres, has already been mentioned. Application was then made for permission to bomb all the targets on the new programme. Even if this was granted, no progress could be made with the allocation of these targets until it had been decided whether they were suitable for attack by heavy bombers, and the programme could not be completed without the assistance of Bomber Command and VIIIth Air Force. On the night of 6/7 March, the first of three French railway centres<sup>(4)</sup> was bombed as a trial case by Bomber Command. The result was most gratifying to the advocates of the Transportation Plan, tracks, engine-sheds, and rolling stock all being so heavily damaged that repairs were not effected for over a month. This offered convincing proof that heavy night bombers could be economically employed on such tasks and was a complete answer

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- (1) Railway Executive Committee and Manager of L.N.E.R.
  - (2) Railway Research Service
  - (3) Railway Adviser on Leigh-Mallory's Bombing Committee.
  - (4) Trappes, South-West of Paris.

to those who had criticised the Transportation Plan on such grounds.

TLM.MS 136/15A  
E.18  
25 March 1944.

C.O.S.(44)  
299(o)  
29 March 1944.

Long before this, the Deputy Supreme Commander had become a convinced supporter of the Transportation Plan and had placed its merits before the Supreme Commander and the Chief of the Air Staff. As this policy had to be settled at the highest level, Air Chief Marshal Tedder and General Eisenhower took full responsibility as the main sponsors of the Plan from March onwards. At the end of 25.3.44 March the C.A.S. convened a meeting of Generals Eisenhower and Spaatz, Air Chief Marshals Tedder, Leigh-Mallory and Harris, with Army officers and departmental experts to decide upon the bombing policy they would recommend to the War Cabinet and the C.C.S. as the most profitable to adopt in preparation for Overlord. They decided that with all its possible odium there was no plan for the employment of heavy bombers in support of Overlord<sup>(1)</sup> comparable with the Transportation Plan and asked the Chiefs of Staff for clearance of the railway targets as requested by Leigh-Mallory.

On 5 April the Defence Committee, with Air Chief Marshal Tedder, Air Marshal Bottomley, Air Commodore Bufton and Dr. Zuckerman in attendance, considered memoranda by Leigh-Mallory and the Joint Intelligence Committee on the *QV.*

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(1) The only alternative was the 'Oil Plan' sponsored mainly by General Spaatz but rejected because it was a long term plan.

Transportation Plan and its probable results. The Chief of Air Staff, the Deputy Supreme Commander, the Chief of Naval Staff and the Secretary of State for Air, all spoke in favour, while the Prime Minister, the Chief of the Imperial General Staff and the Secretaries of State for Foreign Affairs, War and Supply were all against, mainly because of the French casualties that would be incurred. In consequence, instructions were issued to the Air Forces that the railway attacks might continue only where there were no great risks to French civilian life. The Chief of Air Staff and the Deputy Supreme Commander were to review Leigh-Mallory's Plan to eliminate targets carrying the greatest certainty of danger to French lives.

*list of targets* A revised ~~plan~~ was presented to the Defence Committee a week later, but met the same opposition. The Prime Minister was still unconvinced of its merits and doubted whether it would have a material effect on the battle. However, sufficient approval was given to allow the bombing programme to continue.

*12.4.44*  
*Chappelle* By this time, the air operations preparatory to Overlord consisted mainly of attacks on railway centres by Bomber Command and A.E.A.F., together with the battle for air superiority in which the U.S. Strategic Air Forces played the chief part. During this period, in addition to Trappes, railway centres at La Chappelle, Juvisy and Noisy le Sec (all in the Paris area), St. Martin (Charleroi) and Laon, Aachen, Ottignies, Rouen, Namur, Lens and Tergnier were all attacked and severely damaged. Energetic attempts were made by the enemy to effect repairs, and through lines were usually opened for traffic within a very short time during this early period. But the attacks were not primarily intended to stop movement at that stage: they were meant to reduce capacity to repair and maintain, by the destruction of servicing shops, sheds, locomotives and facilities generally. After the attacks had been in progress some weeks, it was becoming apparent that French civilian casualties, while often considerable, were not on the scale that had first been feared. It was also discovered that our attacks had on a few occasions even succeeded in killing more German soldiers than French civilians. Advocates of the Plan were able to use these arguments against the constant stream of criticism that continued to be directed against the bombing of the French railways.

*i.e. 15 April, 44* On the same day as the A.E.A.F. Overall Air Plan came out, the Deputy Supreme Commander issued a complete list of Transportation Targets<sup>(1)</sup> to U.S.St.A.F. and Bomber Command and informed them that the Transportation Plan had - with the exception of a few targets in thickly populated areas - been approved. Two days later, General Eisenhower issued Directives to the same Headquarters after being charged by the Combined Chiefs of Staff with the responsibility for controlling the Allied Strategic Air Forces in support of Overlord<sup>(2)</sup>.

With the exception of two railway centres in Paris, all the targets in the Deputy Supreme Commander's list had been approved by the Defence Committee, but by the end of April

(1) "Direction of Operations of Allied Air Forces against Transportation Targets" dated 15 Apr., 1944.

(2) This control was exercised by the D.S.C. when Strategic Bombers operated in Strategic Support and by the Air C.-in-C. A.E.A.F. when they operated in Tactical Support of Overlord.

*Leigh Mallory*

further uneasiness was evinced by H.M. Government when it was found that the U.S. Strategic Air Forces were still not co-operating fully in the execution of the Plan. Out of the 45 targets allotted to the U.S. Heavy Bombers only one had been attacked, whereas the R.A.F. had already completed nearly 40 per cent. of their programme. This meant that all the odium aroused by this type of attack was attached to the operations of the R.A.F. alone, and H.M. Government viewed the political consequences with deep misgiving.

*Leigh Mallory*

The Prime Minister wrote to General Eisenhower<sup>(1)</sup> putting many of the arguments against the Railway Plan and asserting that the great majority of well-informed opinion was against it. Two days later Air Chief Marshal Tedder consulted Air Chief Marshal Leigh-Mallory on the implications of dropping the Railway Plan. The latter argued that to yield to any pressure not to bomb targets because they were situated in densely populated areas would be dangerous because many of the targets which we must inevitably attack nearer to D-Day were in or adjacent to densely populated areas. It would endanger our use of "battle winning air power". Air Chief Marshal Leigh-Mallory had consistently taken the view that casualties to French people should be avoided if possible, but if unavoidable then they might be considered part of the French contribution to the joint cause.

General Eisenhower's letter in reply to the Prime Minister put these points admirably when he said 'Casualties to civilian personnel are inherent in any Plan for the full use of air power to prepare for our Assault'. He believed in the Transportation Plan and saw no alternative, concluding that 'the Overlord concept was based on the assumption that our overwhelming air power would be able to prepare the way for the Assault. If its hands are to be tied, as is now suggested, the perils of an already hazardous undertaking will be greatly enhanced.'

The refusal of S.H.A.E.F. to abandon the scheme and the continued unequal share of the burden shouldered by the R.A.F., led Mr. Churchill to appeal to the President for his opinion. Mr. Roosevelt replied that he left the matter in the hands of 'the responsible Military Commanders<sup>(2)</sup>', and there the matter was allowed to rest. From that time onwards, on the understanding that all possible precautions would be taken in these air operations to minimise loss of life, the Prime Minister supported General Eisenhower and his Deputy.

Telegram  
No. 537  
16 May 44.

During April and May the destruction of railway facilities was proceeding apace, and although military traffic was not seriously affected at first, an appreciable change began to be apparent by the end of May. During the last week of April heavy attacks were made on Aulnoye, Villeneuve, St. Georges, Acheres, Montzen, St. Ghislain, Arras and Bethune. In May, Mantes/Gassicourt, Liege, Ghent, Courtrai, Lille, Hasselt, Louvain, Boulogne, Orleans, Tours, Le Mans, Metz, Mulhouse, Rheims, Troyes and Charleroi were hit, mainly with great effect. A growing paralysis was gradually creeping over the railway network of the Region Nord. To complete the dislocation it would be necessary to carry out the remaining parts of the Plan:-

Air Ch. Mshl.  
Leigh-Mallory's  
Despatch:  
paras. 69 - 70

- Helpful comments  
all points covered*
- (1) To bomb the Grande Ceinture of Paris
  - (2) To attack the chief railway centres in the Loire area
  - (3) To destroy locomotives and rolling stock
  - (4) To cut the bridges across the Seine and the Loire.

General Eisenhower had, on 5 May, removed the suspension laid upon attacks on railway targets in densely populated areas

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- (1) In a personal letter dated 29 April, 1944.
  - (2) Telegram No. 537 from the President to Prime Minister dated 16 May, 1944.

**RAIL TRAFFIC IN REGION NORD, S.N.C.F., IN RELATION  
TO AIR ATTACKS  
JANUARY TO SEPTEMBER, 1944.  
(ALL TRAFFIC FIGURES GIVE WEEKLY TOTALS)**

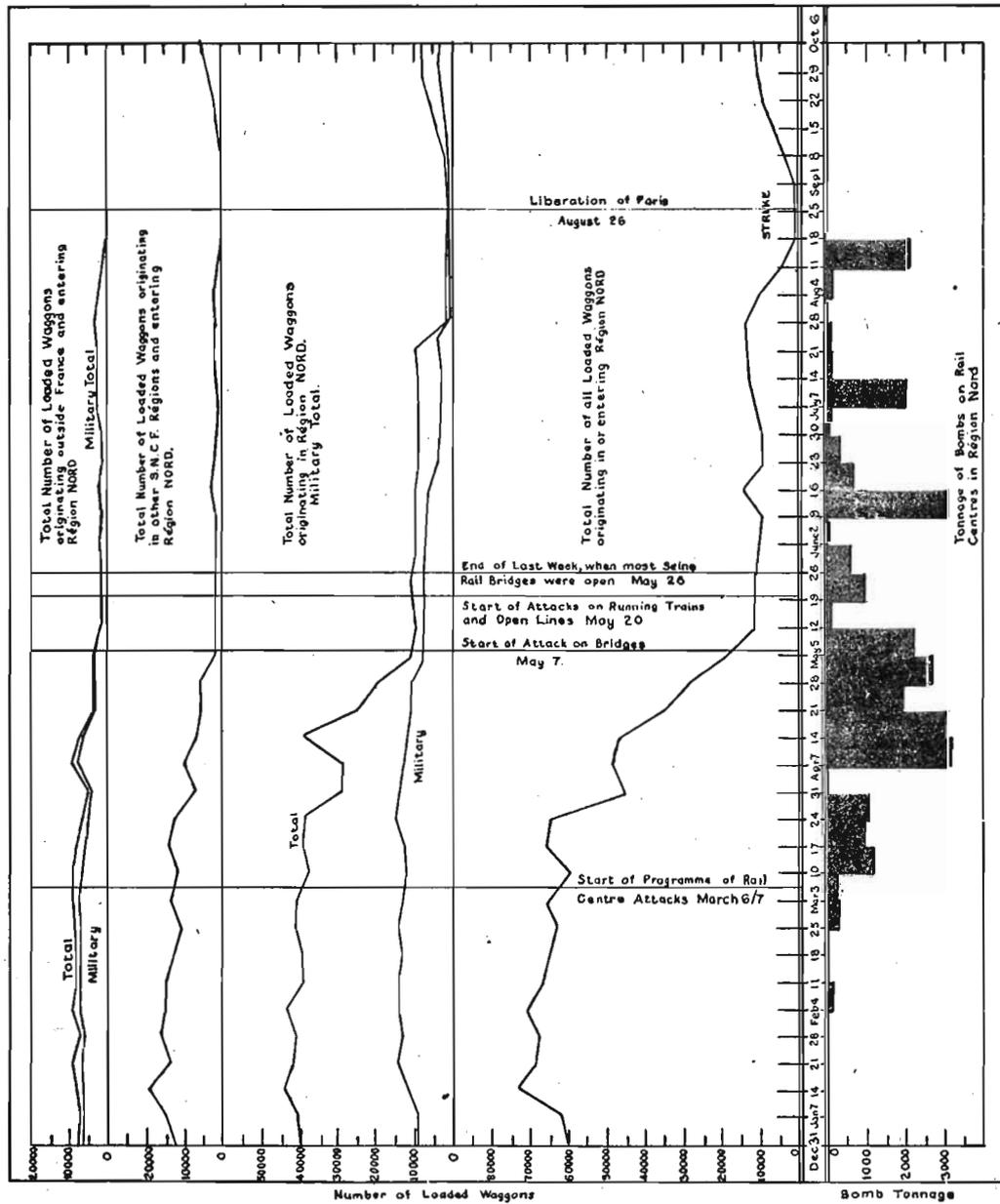


Diagram 26 A.H.B.1.

and thus left the way clear for completing the programme before D-Day. He stipulated, however, that the high casualty targets should be bombed last.

#### Completion of the Preparatory Bombing of Railways

During the final fortnight the intensified attacks were completing the isolation of Normandy while continuing to create the impression that the Pas de Calais was the threatened area. The VIIIth Air Force bombed Konz and Strasbourg with great effect, and Brussels, Rheims, Epinal and Mulhouse less effectively during this period. Using precision technique they also hit the Grande Ceinture, around Paris at Juvisy, Massy/Palaiseaux and Versailles. Le Bourget, an important junction on the Northern Section of the Grande Ceinture was deleted from the list of targets on the insistence of the Deputy Supreme Commander and General Eisenhower. It could only be attacked at high cost to French civilians, whatever bombing technique was used. Bomber Command carried out heavy and successful attacks on Tours (both Stations), Saumur (twice), and Angers in the Loire area, on Tergnier (half way between Paris and the Belgian frontier) and Trappes - partly repaired after being hit in March - was again wrecked by two attacks. The U.S. XVth Air Force began operating against railway targets in Southern France during this period and in three days<sup>(1)</sup> attacked fourteen targets, knocking out six of them. They had also been allotted railway targets in Germany but they did not make any attacks on them before D-Day.

Map No. 1

A map from Air Chief Marshal Leigh-Mallory's Despatch illustrating the campaign against enemy rail communications has been reproduced herewith. Of the eighty targets attacked since 6 March fifty-one were damaged to such an extent that no further attacks were necessary until vital repairs had been carried out (Category 'A'), twenty-five were very severely damaged but needed further attack because vital installations were still intact (Category 'B'), four had received so little damage that they needed further early attention (Category 'C').

#### Summary of Effort against Railway Targets

Air Chief Marshal  
Leigh-Mallory's  
Despatch  
para. 62.

Approximately half of the railway targets listed on 6 March had been attacked by Bomber Command, twenty-two with complete and fifteen with partial success. The VIIIth Air Force had attacked twenty-three targets, fifteen successfully and eight less successfully. The A.E.A.F. had severely damaged fourteen targets and had partially damaged two more out of their allocation of eighteen<sup>(2)</sup>. Bomb tonnages were as follows:-

<u>Force</u>	<u>Targets</u>	<u>Sorties</u>	<u>Bombs (U.S. tons)</u>
R.A.F. Bomber Command	39	8,751	44,744 tons
U.S. VIIIth Air Force	23	4,462	11,648 "
A.E.A.F.	18	8,736	10,125 "
Totals.....	80	21,949	66,517

#### Attacks on Locomotives, Trains and Rolling Stock

By this period railway traffic had been so dis-organised

(1) 25, 26 and 27 May.

(2) See also Bomber Analysis Unit Report No. 1 "The Effects of the Overlord Air Plan to disrupt enemy rail communications" dated 4 Nov., 1944, and the SHAEF, G2 "Survey of Attack on the French Railway Centres" dated 12 Nov. 1944.

and so reduced that it was considered safe to presume that most of the trains still running were of prime military importance. Accordingly, the restrictions imposed on attacks upon trains, locomotives and all rolling stock were removed on 21 May so that everything possible could be done to complete the dis-organisation of the enemy's rail communications. Fighter sweeps and "train busting" missions were organised on a very large scale. The results were impressive and immediate. Experience was also to prove that the results were lasting, even to our own embarrassment. Fighters were sent by A.E.A.F. into France and Belgium, and by the VIIIth Air Force into Germany. On the first day the former claimed to have destroyed 61 locomotives and to have damaged 91, with others attacked, without it being possible to observe the results. The long range Mustangs, Thunderbolts and Lightnings of the VIIIth Air Force claimed 91 locomotives destroyed and 134 damaged, apart from all kinds of damage to trains and rolling stock. On the following days these attacks were continued, both by aircraft sent out for that specific purpose and by others which carried out such attacks incidentally. Altogether, about 4,000 sorties were flown by fighters on such missions. No estimates have been discovered of the total damage caused by these operations.

Train attacks  
from 21.5.

#### Beginning of Collapse of French Railways

TLM/S.136/15/B.  
Encl. 17, para. 7.

As a consequence of the destruction of repair and maintenance facilities, as well as of locomotives, rolling stock, buildings and permanent way, and perhaps, too, of ~~considerable~~ sabotage carried out by French Resistance Groups, movement by rail was a matter of extreme difficulty, exasperating slowness, and considerable danger for the Germans from this time onwards. Much of it was carried out by night in a series of tortuous detours lasting an unpredictable time. There was no freedom of movement possible in a large part of France and Belgium, so that the marshalling of a decisive counter offensive after the landings had taken place became impossible to the enemy. Troops and supplies had to travel by road, usually by night, because Allied air power made movement by day practically impossible. This brought enormous demands for motor transport, petrol, oil and rubber, as well as a great congestion of traffic on roads often not well adapted to carry such loads.

#### The Offensive against Bridges

The last step was the Allied offensive against bridges, planned as <sup>part of</sup> the concluding phase of the Transportation Plan. This scheme was, in the first instance, restricted in scope to efforts to isolate the Assault area by destroying all rail and road bridges on routes leading into it. This would prevent reinforcements being easily moved into the area and would also impede the enemy's retreat. At a later stage the same idea was extended to include schemes to establish successive lines of interdiction across which enemy movement would be made virtually impossible.

Using the American terminology in the case of the Normandy battle area, the first Line of Interdiction would mean the line of the Seine as far as Melun, thence across the Nantes-Orleans gap to follow the line of the Loire down to the sea. As it was not easy to implement this plan of preparatory bombing without revealing the Allied interest in Normandy, no systematic attempt was made to attack the Loire bridges until the Assault had taken place.

Up to this time it had always been considered that bridges were amongst the most unsatisfactory of bombing targets owing to the tonnages of bombs required to secure sufficient

TLM/TS.136/15.  
Encl.11/2,  
para.xiii

Ibid, Encl.25  
para.8.

TLM/TS.136/15/7A  
para.7.

IXth Air Force  
Invasion  
Activities  
p.9.

29

hits to destroy such small targets. Professor Zuckerman's Report on Italy had repeated the conclusion already reached elsewhere that bridges were difficult ~~and unprofitable~~ targets. At the Allied Air Commanders meeting on 6 May, General Spaatz had said that bridge bombing by Heavy Bombers was uneconomical. Air Marshal Coningham had previously asked for experiments and trials to be carried out by Fighter Bombers, and these had been very successful against bridges over the Meuse and Seine. It was soon discovered that Fighter Bombers, when employed on such tasks, could destroy bridges at an average expenditure of 100 sorties, that is, using from 100-200 tons of bombs per bridge (1). The Army had been pressing for early attacks on the Seine bridges, but until four bridges in the cover area had been destroyed Leigh-Mallory would not permit this to be attempted. The main task of bridge-cutting was begun by the U.S. IXth Air Force on 24 May and was so successful that by 6 June all the 24 bridges between Rouen and Paris were blocked, 18 of them being completely broken. 12 other rail and road bridges over the Oise, Meuse, Moselle, ~~Doner~~, Escaut, Albert Canal and Loire (one road bridge) were also impassable or down, all at a cost of 5,370 tons of bombs (5,209 sorties) to A.E.A.F., with the assistance of 367 tons of bombs (445 sorties) from the VIIIth Air Force. The American IXth Air Force low level Fighter Bombers proved particularly good at this work and soon specialised on it to such an extent that they could nearly always guarantee to destroy bridges relatively cheaply in tonnage of bombs though because of the considerable A.A. protection often afforded to important bridges, at considerable cost in men and aircraft.

#### Preparatory Attacks on Coastal Defences

It has previously been stated that the Transportation Plan, if the most important item, was only part of a general scheme of air operations designed to pave the way for a successful invasion. Attacks on railway centres, locomotives, rolling stock and bridges were all part of the Transportation Plan to be undertaken at different stages. But the Air Forces also had to shoulder a number of other commitments which absorbed a considerable proportion of the total air effort available. Of these remaining commitments, pride of place must be given to attacks on Coastal Defences because these were obviously to make a great difference to the chances of a successful Assault.

N.J.C./00/74/38  
8 Apr. 44.  
Appendix 'A'.

The arrangements made by the Neptune Joint Planners for neutralising coastal batteries while our Assault Forces were going into action were embodied in the Joint Fire Plan which will be more fully dealt with in a separate chapter. Of the seven lists of targets in that Plan the first consisted of the coastal defence batteries for air attack before D-Day (2), arranged in priorities so that two batteries in the Pas de Calais and Dieppe areas would be attacked to every one attacked in Normandy. On all except one of the batteries listed in the Neptune area, the concrete casemates were still under construction and thus it was considered advisable to attack these before their enormously strong casemates were completed. It was not considered that air attacks would be very effective against batteries after they had been protected by casemates.

probably

(1) Air Chief Marshal Leigh-Mallory's Despatch (paragraph 8) suggests that the great success attending the earliest attacks was due to lucky hits exploding demolition charges placed on bridges.

(2) For a general analysis of the results of the bombing of Coastal Batteries see B.A.U. Report No. 10 "Attacks on Batteries on the French Coast prior to H-Hour on D-Day".

The C.-in-C. Bomber Command had for many months asserted that his Heavy Bomber Force could not be economically employed on these as on other pin-point targets. The A.E.A.F. Bombing Committee differed from him, and both Army<sup>(1)</sup> and Navy Planners were strongly insistent on the matter being put to the test. Twenty First Army Group wished that all heavy gun (170 m.m. upwards) emplacements should be bombed as soon as it was discovered that concreting had started.

*Le Grand Clos battery, Le Havre, was selected for a trial attack, either by Bomber Command or by VIIIth Air Force. The attack was, in the event, carried out by Marauders of the Ninth Air Force on 10 April. No satisfactory quantitative*

*appreciation of the results could be obtained, and the same was true of many subsequent attacks by Heavy and Medium Bombers on other batteries. On 13 May the C.-in-C. Bomber Command refused to sanction any repeat attacks on batteries until credible evidence was available as to the results of previous attacks. Brigadier-General Smith, Deputy Senior Air Staff Officer, A.E.A.F., believed it unlikely that air attacks could produce satisfactory results or that reliable evidence could be secured afterwards. But both the Army and the Navy believed that even if air attacks could secure a reduction of only 5 per cent. in the efficiency of coastal batteries, they were still well worth while. Leigh-Mallory could not, therefore, repudiate these commitments<sup>(2)</sup>.*

Ten days before D-Day, A.E.A.F. had dropped 5,000 tons and Bomber Command 3,700 tons of bombs on coastal batteries. Only 18 out of the 51 guns attacked in the Assault area were believed damaged. Approximately 420 tons of bombs were required to hit one gun and 2,500 bombs had to be aimed to secure ~~one~~ strike within 5 yards of a target. From 26 May no further attacks were directed on batteries still under construction. On D minus two it was reported that 21 batteries out of the 49 which could fire on the Assault area had been attacked with 6,000 tons of bombs, while 38 batteries outside the area had received 13,000 tons of bombs<sup>(3)</sup>. As these targets were difficult to hit and still more difficult to damage even when hit, several attacks were made on the same batteries.

(1) 21 Army Group attached so much importance to the preparatory bombing of coastal batteries that they set up a special pre-D-Day Bombing Sub-Committee to study this question.

(2) It is interesting to note in this connection that the R.A.F. Bombing Analysis Unit Report No. 31 dated 13 April '45 dealing with Coastal Batteries between Le Havre and Abbeville concluded that after the bombing attacks 30 per cent. of all emplacements were so extensively damaged that it is hardly likely that guns, had they not been damaged directly, could have continued to operate from their old positions (Paragraph 15). 'The bombing both delayed further construction and was very successful in reducing the efficiency of the batteries, not only because of the damage it caused but also because of the threat of further attacks'. (Para. 27)

(3) Attacks on Coastal Batteries in Neptune area for Period 10 April - 5 June Inside Assault area.

	<u>Sorties</u>	<u>Bombs</u>
A.E.A.F.	1,755	2,886 tons + 495 x 60 lb. R.Ps.
R.A.F. Bomber Command	556	2,438 tons
U.S. VIIIth Air Force	184	579 tons
	<u>2,495</u>	<u>5,903 tons + 495 x 60 lb. R.Ps.</u>

A.E.A.F./TS.22014  
Encl. 8a.  
para. 23.

On the final night, when preparatory operations merged into those in direct support of the Assault, 10 important batteries in the Neptune area were attacked, each by 100 Heavy Bombers of Bomber Command. The result was stated to be that only 4 batteries were active during the Assault, but it should be added that these batteries had also been subjected to a Naval bombardment by that time.

#### Destruction of Enemy Radar Cover

One of the greatest obstacles to a successful invasion was the existence of the enemy radar chain extending across the coastal area of Western Europe with the closest coverage in north west France and the Low Countries. Like our own, it consisted of a coastal chain backed up by inland stations. Most of the stations possessed installations of two or three different types on the same site. The number of such stations, apart from any other considerations, precluded attacks on all of them,<sup>(1)</sup> and yet from a Naval and Air point of view it was essential to prevent the chain from functioning at any considerable level of efficiency.

It was decided by the planners that this should be done by a combination of physical air attacks and Radio Counter Measures (R.C.M.). Co-ordination of all measures to secure this end during the opening phase of Overlord was undertaken by a S.H.A.E.F. R.C.M. Advisory Staff, set up on 15 May 1944 under the direction of Air Vice-Marshal V. H. Tait, Director General, Signals, Air Ministry. The Staff advised the Naval and Air Commanders-in-Chief on technical matters connected with Counter Measures and their effects upon our own operations. One of their chief duties was the selection of targets suitable for direct air attack and others suitable for jamming. Action was thereupon initiated by the Air Signals Officer in Chief, H.Q. A.E.A.F. and his staff.

A.E.A.F.  
Air Signals  
Report  
on Operation  
Neptune.

Installations which were unsuitable for jamming, or which could report on shipping or be used to control batteries, or which were located in areas where their presence might endanger our airborne forces, were all scheduled for destruction. Apart from the fact that the number of such targets that could be selected for air attack had to be limited to the capacity of the effort available, it should be recalled that for purposes of security two targets of this type had to be attacked outside the Neptune area to every one attacked inside.

It was also inadvisable to commence the attacks too soon, as this would give the enemy more time to improvise facilities to fill any gaps created. Attacks on long-range Aircraft Reporting Stations began on 10 May. This type of installation could not be quickly repaired and, on account of the narrowness of its beam, could not easily be countered electronically. A week later attacks were begun on the night fighter control stations and on radar installations controlling coastal batteries. During the last week, an intensive series of attacks was commenced upon 42 sites, most of which included more than one type of equipment. Finally during the last three days, attacks were carried out on six sites selected by the Navy and on another six chosen by the Air Forces as being the most worthwhile targets.

(1) The main links in the enemy Radar Chain between Dunkirk and Brest consisted of the following installations:-

Coast Watchers	5 Day-Fighters Control
Aircraft Reporting	4 W/T Jamming
Ground Control Interception	2 Navigational

Attacks varied according to the type of apparatus to be put out of action and to the number of installations grouped on each site. Most of the attacks were carried out by Typhoons of 2nd T.A.F. which fired 4,517 R.Ps in 694 low level daylight sorties. Typhoon and Spitfire bombers flew 759 sorties, dropping 1,258 bombs and firing countless rounds of cannon and machine-gun ammunition at these heavily defended targets many of which had to be attacked at ground level and in face of very heavy enemy A.A. defences. Losses of aircraft were consequently very heavy. Destruction of Enemy 'Y' H.Q.

*As in case of Boulogne*

*houses located by radar to attack cover area. These were used to attack and neutralise the stations.*

*95 heavy bombers on markers laid by four Oboe Mosquitos*

The most spectacular damage was caused by R.A.F. Heavy Bombers using Oboe technique when they attacked four highly important W/T Jamming Stations on the first nights of June. Attacks by cannon and machine-gun fire are believed to have been most effective in damaging delicate equipment and in upsetting the morale of the operators. One of the attacks by Bomber Command - that on the Cherbourg W/T Station situated at Urville-Hague - proved to be of historic importance, although this was not realised at the time. On the night of 3/4 June, ~~99 Oboe bombers~~ obliterated a station which, it was subsequently learnt, was the German "Y" Intelligence Station for North West France. The loss must have had a powerful influence on the battle which followed two days later.

#### Result of Air Attacks

Neptune  
Signals Report  
Sec.VIII  
para.14.

As a result of the air attacks, all six of the long-range Aircraft Reporting Stations south of Boulogne were destroyed before D-Day, and at least fifteen other installations in the area were rendered unserviceable. Large stretches of the Channel coast were thus bereft of their normal radar coverage, either because the installation had been destroyed or because they had been rendered temporarily unserviceable, and the personnel manning these stations were undoubtedly suffering from a severe loss of morale as a result of these attacks. In fact, it was calculated by the radar experts on the Headquarters Staff of A.E.A.F. that on the night of the Assault there was never more than 18 per cent. of the enemy radar apparatus located in North West France in operation, and parts of the night only 5 per cent. was operational. As this was true of the cover area as well as of Normandy, a situation was created whereby it was impossible for the enemy to appreciate the nature of the operations taking place.

Neptune *during*  
Signals Report  
Sec.VIII  
para.30.

Air Chief Marshal  
Leigh-Mallory's  
Despatch  
p.25, para.117.

Leigh-Mallory summarised the position as follows:-

'The enemy did not obtain the early warning of our approach that his radar coverage should have made possible; there is every reason to suppose that his radar-controlled gun-fire was interfered with; no fighter aircraft hindered our airborne operations; the enemy was confused and his troop movements were delayed.'

#### The Airfield Plan

It had been generally agreed that it would be necessary to mount a sustained offensive against the G.A.F. during the last weeks of the air operations preparing the way for our re-entry into the Continent. In April 1944, Germany was being forced to defend the Fatherland against heavy day and night attacks by Allied Bombers. To do this it had been enemy policy to conserve his aircraft resources, particularly his fighters, which were the special target of Operation Pointblank, and consequently Allied aircraft ranging over France and Belgium rarely evoked any fighter opposition. This was reserved for deep penetration raids only.

But no one believed the Germans would permit a vast invasion armada to sprawl across the Channel unmolested by air attacks. It was felt that the G.A.F. would wait until our forces had reached their side of the water so that their advantage of distance would operate to the maximum and that then there would be a grand onslaught on our sea, land and air forces. It was universally expected that this would be accompanied by a great air battle on the Dieppe model, with the Allies enjoying the advantages of numbers and perhaps quality, while the enemy was making the most of his possession of the ground.

By May, the position had changed somewhat. The Allies had won such an overwhelming ascendancy in the air over France and the Low Countries that many of our planners, while making prudent provision for a great air battle, began to think in terms of complete Allied air supremacy. The availability of numerous airfields in North West France and Belgium, however constituted a grave potential threat which could easily materialise if the Germans were determined to mount an all-out air offensive against our Neptune forces. It was therefore planned to destroy aircraft maintenance and repair facilities on main airfields within a radius of 150 miles of Caen as an insurance against this possibility. The destruction of these was to be followed by attacks on runways, airfield surfaces, hangars, parked aircraft, control centres, and airfield installations at a late stage in the preparatory operations. The advantage of this position which the enemy would otherwise possess would thus be denied to him, and his aircraft operating over the beach-head would consequently have to be based outside this area.

Two lists of airfields were scheduled in the Airfield Plan. The first, known as the Area 1 List, consisting of 40 major airfields within fighter range (about 150 miles) of Caen; the second, consisting of 59 Bomber Bases in North West Europe outside this range. This arrangement permitted attacks to be planned with due regard to the interests of security, because the airfields were well distributed geographically, with a denser distribution in the areas around Paris and the Pas de Calais. The attacks began on 11 May and were continued intermittently up to and after D-Day, target priorities being revised from day to day by a Committee at A.E.A.F. Headquarters. Altogether, 34 airfields were attacked before D-Day, mainly by aircraft of the IXth Air Force, although the VIIIth Air Force, Bomber Command, and 2nd T.A.F. also played subsidiary parts<sup>(1)</sup>.

By the time D-Day had arrived, the Airfield Programme was far from completion, but the Air C.-in-C. was no longer worried about the German Air Force. There was still a possibility that the enemy might make a supreme effort, and just before D-Day Air Chief Marshal Tedder, Air Marshal Bottomley and General Spaatz pressed for more effort to be devoted to airfield attacks. Leigh-Mallory was confident that the provision

(1) Statistical Summary of Attacks on Airfields, 11 May - D-Day.

	Attacks	Sorties	Bombs
A.E.A.F.			
IXth Air Force	56	2,550	3,197 tons
2nd T.A.F.	12	312	487 "
R.A.F. Bomber Command	6	119	395 "
U.S. VIIIth Air Force	17	934	2,638 "
	<u>91</u>	<u>3,915</u>	<u>6,717 "</u>

Air Chief Marshal Leigh-Mallory's Despatch, Para. 135.

he had made for fighter cover would be adequate to deal with anything the G.A.F. could do, and insisted that the most important task for the Allied Air Forces was to help the Ground Forces by delaying enemy reserves<sup>(1)</sup>. On D-Day his opinion was fully vindicated. Enemy air reaction to the landings was slow and ineffective. At no time did he show any desire to challenge what really amounted to Allied air supremacy, and very few aircraft were moved into the Neptune area, although several airfields were still available to the enemy.

Air Reconnaissance preparatory to Overlord

Something has already been said of the contribution of our Reconnaissance Squadrons in the air operations preparatory to Overlord. During the earlier stages of planning they were busy obtaining and verifying the necessary data about the area to be invaded, as well as about targets to be attacked, and this was continued up to the time that the Fleets sailed and subsequently as long as the campaign lasted. When active air operations were in full swing from March onwards, there was a definite increase in the routine work of air reconnaissance. Typical examples of such routine work were the photographs taken in the compilation of target dossiers or in the search for targets. Then there were the innumerable damage assessment photographs taken after attacks on these targets. Photographs were taken of beaches and their exits, airfields or sites for possible airfields, dropping and landing zones, low-lying flood areas, camps, motor transport, parks, dumps and communication centres, batteries, gun emplacements, strong-points, headquarters and, indeed, of every kind of military installation. The varied requirements and detailed information sought from photographic reconnaissance forced Reconnaissance Wings to fly a large proportion of low altitude sorties over heavily defended areas. For this purpose, aircraft were equipped with oblique cameras. The development in this technique was probably the outstanding feature of photographic reconnaissance during this period of the war.

S.H.A.E.F.  
Operational  
Memorandum  
No. 16, 8 Apr. 44

Arrangements for the provision of air reconnaissance by both the British and U.S. resources were not settled until early April, up to which time the main burden of providing strategical and tactical reconnaissance for Overlord had fallen on the R.A.F. All air reconnaissance requirements for Overlord were co-ordinated, and priorities were allocated by a S.H.A.E.F. Reconnaissance Committee (G.2 Division) with a similar inter-service Air Reconnaissance Intelligence Section at Headquarters A.E.A.F. to allocate air effort to approved requirements, insofar as the elements under the Supreme Commander were concerned. Strategical reconnaissance beyond the resources of A.E.A.F. Squadrons was requested from A.D.I. (Ph) who would call upon No. 106 Group or VIIIth Air Force Reconnaissance aircraft. It was the policy and practice for operational control and executive action on demands for reconnaissance to be decentralised down to Army/R.A.F. Composite Group Headquarters (and Army/T.A.C.) level.

tactical

As far as the R.A.F. was concerned, No. 34 Reconnaissance Wing was placed directly under the control of Headquarters, A.E.A.F., later to be transferred to 2nd. T.A.F.; No. 39 Wing was placed under No. 83 Group, working with the Second British Army; and No. 35 Wing was under No. 84. Group which was linked with the First Canadian Army. No. 106 Group, of course, was under A.D.I.(Ph) until May 1944 and after that date under the

USA  
ADIA  
7/2

Joint Photographic Reconnaissance Committee (along with U.S. 7th Photo. Group Strategic Reconnaissance aircraft) but continued to furnish strategic photographic reconnaissance for Overlord as required. U.S.A.A.F. Reconnaissance resources in the IXth Air Force included one Photo Reconnaissance Group and one Tactical Reconnaissance Group. They also had strategic reconnaissance aircraft (7th Photo Group of the VIIIth Air Force) which were associated with the R.A.F. aircraft of No. 106 Group under the J.P.R. Committee.

It should be fully realised that the demands of all three Services were extremely varied, as well as being great in quantity. Air Chief Marshal Leigh-Mallory remarks in his Despatch that one R.A.F. Mobile Field Photographic Section alone made more than 120,000 prints for the Army in the two weeks before D-Day. Reconnaissance aircraft under A.E.A.F. flew 3,215 sorties between 1 April and 5 June, 1944, while No. 106 Group and VIIIth Air Force Reconnaissance aircraft flew 1,519 Overlord sorties during the same period.

#### The Air Defence Plan

Operations to defend the Assembly Areas against enemy air attack might with propriety be regarded as air operations preparatory to the Assault. For this purpose, Air Defence of Great Britain and the IXth Air Force produced a Joint Defence Plan for the execution of which No. 11 Group in conjunction with IXth Fighter Command, were made responsible<sup>(1)</sup>. This subject is dealt with in all necessary detail in the appropriate chapters of the A.H.B. Narrative on "Air Defence of Great Britain".

It was not considered that there was any likelihood of the G.A.F. attempting a large-scale day offensive against Southern England, because they had insufficient resources to challenge Allied air superiority. All that the enemy was capable of putting up was a maximum of 100-150 sorties in one night, and of sustaining an offensive at the rate of 25 sorties per night. In these circumstances, and as enemy air activity was in fact on a very small scale except for one or two nights, these operations require little comment.

But one aspect of the Defence Plan was of great importance to Overlord. Measures had to be taken - and they were outstandingly successful - to keep down enemy reconnaissance over Southern England to a minimum. Standing high-level and low-level patrols were maintained far out in the Channel in all weathers and for many months by A.D.G.B. Out of 129 reconnaissance sorties flown by the enemy towards this area in the last six weeks before D-Day, hardly any was allowed to approach the land. It was not expected, or even desired, that a complete blanket could be thrown over all invasion preparations in England. That was why the Cover Plan sought to hide the timing and direction of our operations rather than their general imminence. But when credit is being given for the tactical surprise that was achieved in Normandy, due weight must be accorded to the value of the "iron curtain" that was lowered over the Channel.

#### Crossbow Operations

It was never necessary to put into operation most of the measures designed by the Joint Defence Plan. On the other

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(1) No. 11 Group and IXth Fighter Command Joint Air Plan for Neptune (short title JAPEO) dated 25 May, 1944.

hand, though this was entirely true before D-Day, considerable use was made after that date of provisions which had long been made against attacks by flying-bombs and rockets.

Finally there were very important offensive air operations against V-weapon sites which, though not contributing to Overlord because there is little evidence that V-weapon attacks were ever planned on an appreciable scale against invasion bases, nevertheless had an important nuisance value. The diversion of air effort against these sites (Crossbow Operations) was enormous and lasted from the beginning of December 1943 until a year later. In the six months from 5 December 1943 up to 5 June 1944 over 30,000 short tons of bombs had been dropped in about 30,000 sorties by aircraft of the VIIIth Air Force, R.A.F. Bomber Command and A.E.A.F. on Crossbow Operations.

#### Miscellaneous Air Operations in Preparation for Overlord

The Air Forces were requested by the Army to take on a number of miscellaneous targets of military importance in France and Belgium. These included ammunition, fuel and vehicle dumps, Headquarters, camps, tank depots, etc., and attacks on such targets during the month of May accounted for 1,500 sorties and 5,000 tons of bombs. During the Preparatory Phase, R.A.F. Coastal Command was very active in the Biscay Channel, and Dutch Coastal Areas, flying 5,384 anti-U-boat and anti-shipping patrols between 1 April and D-Day. Sea-mining, to assist the Overlord Plan was also undertaken by Bomber Command at the request of the Admiralty.

#### Results of the Air Offensive

Before leaving the subject of air operations preparatory to the invasion, it is worth pointing out that the aggregate of these operations far exceeded the scale of any other air offensive ever undertaken up to that time. Nearly 200,000 aircraft were despatched on Overlord missions of all types in the two months under review, and about 200,000 tons of bombs, apart from other missiles were rained upon the enemy. On an average, only one aircraft in every thousand was lost in combat, and consequently it must be considered that the cost was, on the whole, a small one when compared with the value of the results achieved(1).

#### (1) Preparatory Operations. Period 1 April to 5 June, 1944.

<u>Forces</u>	<u>Aircraft Despatched</u>	<u>Tons of bombs dropped</u>	<u>Aircraft lost in combat</u>	<u>Enemy aircraft destroyed in combat</u>
<u>A.E.A.F.</u>				
IXth Air Force	53,784	30,657	197	189
2nd T.A.F.	28,587	6,981	133	66
A.D.G.B.	18,639		46	111
R.A.F. Bomber Command	24,621	87,238	557	77
<u>VIIIth Air Force</u>				
VIIIth Bomber Command	37,804	69,857	763	724
VIIIth Fighter Command	31,820	647	291	1,488
Totals	195,255	195,380	1,987	2,655

Air Chief Marshal Leigh-Mallory's Despatch, p. 36.

German reconnaissance had been so ineffective that complete surprise appears to have been achieved when the fleets sailed. Enemy radar was so disorganised that they did not even receive early warning of the approach of surface and airborne forces. Until 1500 hours on the afternoon of D-Day the Allied sea, land, and air forces enjoyed complete immunity from air attack by the G.A.F., by which time the greatest danger period had passed. Even then, the enemy effort was on much too small a scale to have any appreciable effect.

The coastal batteries had been subjected to such heavy attacks that their personnel were overwhelmed when the final phases of the Joint Fire Plan were put into operation. The result was that their ineffectiveness at the critical period was out of all proportion to the physical damage that was done to the batteries. Most important of all of the results of three months battering was the breakdown of the French Railway System at the moment of crisis. This part of the Preparatory Bombing Programme was crowned with almost complete success. Railway communications not only collapsed but proved incapable of rehabilitation while the campaign lasted. As a result, the enemy had to take to the roads, often at a distance of a hundred miles or more from the battle, and thus offered targets eagerly accepted by our fighters and fighter-bombers. Finally, the destruction of all the Seine bridges between Paris and the sea *did much to* ~~not only~~ cut off Normandy from the main area of reinforcements and supplies, and also served to perpetuate the enemy's doubts as to whether the Normandy attack was only a prelude to the real invasion to follow in the Pas de Calais area.

## CHAPTER 5

THE JOINT FIRE PLANThe Graham Report

C.O.S.(43)770  
(o)  
7 Jan.44

The problem of how to make the best use of all the fire power from Allied Naval and Air Forces that would be available to assist the assault on the coast of north-west Europe had been discussed by the Joint Commanders ever since planning for "Round Up" had been in progress. The particular problem concerned with the provision of fire support when landing sea-borne forces on a heavily defended coast, was studied at Combined Operations H.Q. in the second half year of 1943 by an Inter-Service Committee headed by Air Vice-Marshal Ronald Graham, which submitted a report to the Chiefs of Staff.

*not as heavily defended, as was that of the Pas de Calais.*

This Report, while not wholly applicable to Overlord, (seeing that the Normandy coast was ~~not heavily defended~~) laid down general principles which were accepted by the U.S. and British Services and were approved by the Chiefs of Staff. The main principle, that the Army was responsible for stating the fire support requirements both as regards type and quantity, and the Navy and Air Force for agreeing to the method of meeting the Army's needs, came first. Recommendations were therefore made regarding the allocation of tasks amongst the Services on the bases of their known powers and limitations, and the Overlord planners were invited to make use of the Graham Report as a method of approach in building up a Joint Fire Plan for the Normandy landings.

It was very necessary that some firm doctrine on the subject of bombardment should be laid down as a guide in making the Assault arrangements, because of the extravagant claims that were being made for air bombardment after the overwhelming of Pantellaria and the comparative ease with which the first Allied landings were made on the coasts of Sicily, Salerno and Anzio. It was also believed that useful lessons might be learned from the American amphibian operations in the Pacific theatre. The inability of the coastal defenders in those areas to stand up to the Allied bombardment by sea and air had led to a widely held view that a mighty preparatory bombardment would bring about a similar collapse, even of the well-fortified Western Wall, without the necessity of any further elaborate invasion preparations. With the experience of Pantellaria in mind, many people were even hoping that an overwhelming air bombardment alone would so stupify and demoralise all the defence forces as to result in their capitulation. Informed opinion in the R.A.F. (including Air Chief Marshal Tedder amongst their number) became anxious lest such hopes might lead to unreasonable expectations and impossible demands upon the Air Forces.

The Graham Committee therefore, while being optimistic enough to assert that coastal batteries and other defences if not enclosed in casemates could be put out of action or neutralised by air and/or naval attack if the necessary scale of effort was available, stated that much would depend upon accurate intelligence about the location of batteries, improvement in bombing technique, and good spotting for naval gun fire.

Joint Fire Plan for Neptune

N.J.C./00/  
74/38, dated  
8 Apr.44

The conclusions of the Report were applied by the appropriate syndicate of the Joint Planners at St. Paul's School in their 'Study No.7', which formed the basis of the Joint Fire Plan issued on 8 April 1944 by the three Neptune

DS 94352/1(51)

Joint Commanders. The targets listed in the Joint Fire Plan were sub-divided into 7 schedules (Appendices A - G) on the basis of their timing and allocation, as follows:-

- Appendix A - Batteries for air attack prior to D-day.
- Appendix B - Cover Plan targets for air attack immediately prior to D-day.
- Appendix C - Targets for air attack on D minus one day.
- Appendix D - Batteries for attack by bombers prior to H hour.
- Appendix E - Targets for naval bombardment.
- Appendix F - Beach targets for daylight bombing during the Assault.
- Appendix G - Targets specially suitable for fighter bombers.

The Air Forces available for attacking these targets were Day and Night Heavy Bombers, Day Medium Bombers, Light Bombers, and Fighter types armed with bombs, rockets, cannon and machine-guns. Bombardment ships available for supporting the Assault ranged from 15" battleships and monitors, to cruisers, destroyers and special landing craft armed with banks of light guns or rockets. The Plan provided for pre D-Day harassing bombing attacks on coastal batteries - more especially those in open emplacements - usually carried out by Medium Bombers. It was careful to include arrangements for bombing a sufficient number of targets outside the Neptune area in accordance with the Cover Plan, as well as to take into account the possible necessity of attacking the Cover targets immediately prior to D-Day.

It was not expected that attacks by Medium Bombers would destroy batteries protected by casemates, but it was hoped that where casemates had not been completed, the work of establishing batteries would be seriously handicapped by the pre D-Day bombing. In the hours prior to the Assault the aim was somewhat different: there the bombing was meant to be complementary to the bombardment of the Navy which would follow as the ships took up their stations. It was calculated that the personnel manning the coastal batteries would take cover and remain in their shelters as long as the air attacks lasted. They would thus either be ignorant of what was happening or would be so shocked by the severity of the attacks that they would be incapable of effective work. It was also hoped that communications and control might be thoroughly disorganised by bombing. The first priority was given to the neutralisation of those coastal batteries whose range might enable them to interfere with the approach of our sea forces before the bombardment ships were in position to open fire, and consequently all the effort of the heavy Night Bombers and some of the effort of the Marauders equipped with Oboe was allocated to these tasks.

As regards beach defences, it was not considered that bombing could achieve their complete destruction, and consequently certain defended localities and aiming points were selected for attack by Heavy Day Bombers and some Medium Bombers in the ratio of two targets in support of the First U.S. Army to three for the Second British Army. Their attacks would be followed by further air attacks, carried out by Medium, Light and Fighter Bombers which would continue without interruption until the barrages from the landing craft and larger vessels had begun to drench the beaches.

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The detailed arrangements to fill out the Joint Fire Plan involved much calculation and negotiation between the Services, until all the times of the various parts of the operations could be adjusted to suit all requirements as well as provide for the possibility of postponement. So far as the Air Forces were concerned, air tasks were provisionally set out in Air Targets issued by the Neptune Joint Commanders on 23 May 1944. Under various schedules all the agreed targets for each phase of the operation, from before D-Day until the night of D plus one to D plus two were listed, and the type of aircraft allocated to the task was laid down.

#### Selection of D-Day and H-Hour

and under water/

D-Day had been fixed for 5 June, because on that date low water came soon after dawn and after a night with a full moon. It was essential to touch down in daylight because of the congestion of naval craft operating, and because of the maze of obstacles on the beaches between high and low water marks. It was desirable to land soon after low tide so that beach obstacles would have been exposed to view and so that any landing craft stranding on obstacles might be refloated on the rising tide. Precision bombing and observed gun fire in support of the Assault also required full daylight but ships should not be in full view of the coastal batteries for too long a period before the troops landed. A moonlight night before the Assault was considered desirable to facilitate pinpoint bombing and because an attempt was to be made to land gliders in Normandy. But the state of the tide was the dominant consideration and eventually it was arranged that with local variations depending on the topography of individual beaches, the touch down should take place about one hour after low tide.

With a D-Day on 5 June in mind, H-Hour i.e. the time fixed for the touch-down of the first landing-craft carrying infantry, was at first provisionally fixed at 0600 hours Double British Summer Time (04.00 hours G.M.T.) As already explained, owing to variations in local conditions there were individual H-Hours for each beach. The British timings were from 35 to 55 minutes later than those for the American operations. As the landings had to be postponed for 24 hours on account of bad weather, all the timings were later than those stated in the Joint Fire Plan. H-Hour for air support purposes on 6 June was 0630 hours for the American beaches and 0725 hours for the British beaches.

#### Timing the Bombardment Programme

In timing each item in the bombardment, the prime consideration was continuity. It was of the utmost importance that the enemy should not be allowed to come out of his shelters; the difficulty was to ensure this continuity during the period between darkness and daylight and between dawn and the touch-down. It was considered that naval spotting would be possible at 0530 hours, in which case the naval bombardment could commence at least half-an-hour before the touch-down and probably still earlier. As a direct result of the postponement it proved possible to begin firing about 40 minutes earlier.

It was believed possible that Heavy Night Bombers could remain over their targets up to civil twilight (0515 hours), provided Allied fighter superiority was maintained and their

withdrawal was covered by Fighters.<sup>(1)</sup> The maximum weight of bombing by Lancasters and Halifaxes was to be compressed into the latest possible period, except that Houlgate, Villerville,<sup>(2)</sup> Ouistreham and Pointe du Hoc batteries were to be attacked an hour earlier than the others, because that was the time when assault boats were being lowered and thus when these batteries were capable of doing the maximum damage. Salenelles/Merville and St. Martin batteries were also to be attacked earlier to fit in with the plan of our Airborne Forces.

Soon after the Heavy Night Bombers withdrew, the Heavy and Medium Day Bombers were to take up the bombardment. The Fortresses and Liberators were to drench Sword, Juno, Gold and Omaha beaches with bombs while the Marauders bombed Utah beach. It had been intended to begin this action at the earliest moment operationally practicable so that it could be concluded shortly before the touch-down on each beach. If D-Day fell on 5 June this meant commencing immediately after dawn in the American sector and in consequence the U.S. Air Forces had to plan for and train formations in the technique of taking off and assembling during the unfamiliar hours of darkness.

Postponement of D-Day to 6 June meant that the touch-down (depending mainly on the tides) would be about 40 minutes later in the day and thus allowed more time to the Day Bombers for take-off and pre-dawn assembly. On the other hand it added to the risk of the sea-borne assault forces which would be under observation and presumably under hostile fire for a longer period before the actual assault took place unless enemy batteries had been effectively neutralised. Every effort was therefore made to ensure that R.A.F. Night Bombers attacked as late as possible where this could be arranged so that the gap between these attacks and those by the day bombers should not enable the enemy to recover.

It was hoped that if the weather was favourable, the Heavy and Medium Day Bombers would be able to make precision attacks on selected targets in the Assault beach areas. These were mainly defended localities or strong-points, battery positions and a few H.Q. posts. It was expected that bomb-patterns falling on the beaches from close boxes of aircraft would create lanes in the beach obstacles, minefields, etc., through which the assault troops could quickly penetrate inland.

Regardless of the time they began bombing, all aircraft were ordered to cease attacks in the beach areas precisely five minutes before the set H-Hour. Aircraft arriving after that time were instructed to bomb alternative targets well clear of the assault beaches. It was recognised that these operations might well overlap those of other aircraft especially of the Medium, Light and Fighter Bombers attacking in the same general area: the same would also be true of the naval bombardment.

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- (1) At 15,000 feet civil twilight is 25 minutes earlier. Therefore aircraft flying at that height would be in daylight at 0515 hours.
- (2) Villerville was subsequently deleted from the list of 10 batteries to be attacked by the heavy Night Bombers of Bomber Command.

In the event of bad weather it was decided that the U.S. Fortresses and Liberators would resort to blind bombing and that VIIIth Air Force bombers might also have to bomb Utah beach instead of the Marauders. Safeguards would have to be adopted to prevent the bombing of friendly forces, chief of which was to ensure that bombing in the beach areas finished ten minutes rather than five minutes before H-Hour.

Most of the targets for the Heavy and Medium Day Bombers were Strongpoints or Defended Localities but great importance was also attached to the attempts at keeping enemy batteries quiescent. Eleven batteries all in the British sector of the front were on the list of targets for the Fortresses and Liberators and six others were allotted to the Marauders. The latter were regarded as being especially dangerous to the chances of the assault and three of them had already been attacked by R.A.F. Bomber Command before the Marauders arrived over the target. Three out of the six batteries were located in the U.S. sector and the other three in the British area. The former were to be attacked when the landing craft were making their final approach to the beaches i.e. between H minus 20 minutes and H minus five minutes (0610 - 0625 hours D.B.S.T.). The batteries defending the easterly beaches were to be attacked rather earlier so as to fill in the gap between Civil Twilight and the opening of the ships' bombardment.<sup>(1)</sup>

Such was the pre-arranged programme of the fire support to the Assault, in so far as the Air Forces were concerned. It had originally been intended that the operations of the Light Bombers, Fighter Bombers, and R.P. aircraft should begin at the same time as those of the U.S. Day Heavies, but with the postponement of D-Day and the readjustment of the timing of the missions of the Fortresses and Liberators, this plan was abandoned. In view of the short notice required for laying on operations by these types, Leigh-Mallory had wished to reserve them - more particularly the Fighter Bombers - for employment against enemy movement as soon as operations commenced on D-Day. As their time of turn round was very short and seeing that they could be kept under close control at all times, Leigh-Mallory regarded the fighter-bombers as the most flexible weapon in the hands of the Tactical Air Commander. He was persuaded by the Army, however, to use a proportion of this type of effort against strongpoints, defended localities and other beach targets during the period when troops were getting ashore and establishing the first beach heads.

These were the arrangements made for the Air Forces to carry out one of their main roles in the Joint Plan for the assault. Their success in discharging this, as well as any other roles as laid down in the Overall Air Plan will be considered in detail in the following Sections.

CHAPTER 6FUNCTIONS AND CONTROL OF AIR FORCES AND ALLOTMENT  
OF AIR TASKSForces available

As the Allies had decided at their major conferences of war strategy that Overlord was to be the supreme operation for 1944 and that nothing was to be undertaken elsewhere which would weaken effort in the north-west European theatre, all the resources of the R.A.F. based in the United Kingdom were placed at the disposal of General Eisenhower for employment in the first vital stage of the operation. All those forces specifically built up for the purpose of supporting Overlord and included in the Allied Expeditionary Air Force were augmented by the combined strength of the R.A.F. operational Commands which were instructed to support the operation for a limited period or else to provide certain forces to support it from time to time. Thus a large proportion of the strength of both Coastal and Bomber Commands was available for tasks in support of the assault and subsequent operations.<sup>(1)</sup>

Similarly, all the U.S. Air Forces in the European theatre were at the disposal of the Supreme Commander for some months. These were either organised in the IXth Air Force - the U.S.A.A.F. component of A.E.A.F. and therefore a tactical organisation - or in the VIIIth Air Force whose main function was strategic bombing.

Within their own operational limitations and within the limits defined by the Combined Chiefs of Staffs, the following Air Forces were available for tasks in connection with the invasion assault:-

- (1) The British elements of A.E.A.F.
- (2) U.S. elements of A.E.A.F.
- (3) R.A.F. Bomber Command.
- (4) U.S. VIII Air Force.
- (5) R.A.F. Coastal Command.

The total strength of all these forces available in Britain for "D" Day was in the region of 13,000 aircraft, of which about 10,300 were serviceable for operations on 1 June. Over a half of these were U.S. aircraft - about 7,000 - trained for day operations over a wide area and including a powerful force of the order of 2,500 heavy and medium bombers capable of attacking targets with great precision in the right conditions. Their fighters were also capable of protecting them no matter how deep their penetration over enemy territories.

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(1) But the re-organisation of the Metropolitan R.A.F. went much further than is indicated by this statement. It will be recalled that Army Co-operation Command was dissolved to make way for the creation of the 2nd Tactical Air Force, and that No.46 Group formed in Transport Command for Overlord operations was put under the operational control of A.E.A.F. Aircraft, equipment and manpower from Flying Training Command, Training Command and Maintenance Command were freely drawn upon to satisfy demands for Overlord.

The R.A.F. forces though rather fewer in total numbers than the U.S.A.A.F. possessed the greater fund of operational experience and the greater versatility. The R.A.F. included a large proportion of squadrons highly trained in night operations over Europe and its contiguous seas. The R.A.F. also had the advantage of including such numbers of high performance fighters as could guarantee local air superiority over the whole of the Assault Area, and in addition had a force of heavy bombers capable of dropping an incomparably large bomb load on a given area.

Operated as a combined air force according to the Overall Air Plan, American and British aircraft were able to dominate the air at all times of the day or night and in addition had sufficient forces left over to deal decisive blows in the struggle on the ground.<sup>(1)</sup> Coastal aircraft were also able to deal effectively with enemy under-water and surface craft attempting to intervene against Allied Cross-Channel operations. There was no lack of trained reserves or of equipment and great efforts had been made to ensure an easy flow of replacements. This was especially true of the U.S.A.A.F., but in the R.A.F., too, Overlord proved a great triumph for the administrative services. The best aircraft types for each role were represented in significant numbers with the result that the air offensive never had to stop by day or by night because of a lack of suitable aircraft.

The variety, balance and formidable nature of the Allied Air Forces based in Great Britain and available to support the Cross-Channel operation<sup>(2)</sup> is indicated by the following table:-

	U.S.A.A.F.	R.A.F. and Associates	Grand Total
Heavy Bombers - Day	<del>2,500</del> 1,970	-	<del>2,500</del> 1,970
" " - Night	-	<del>1,458</del> 1,470	<del>1,458</del> 1,470
Medium and Light Bombers - Day	700	<del>100</del> 100	<del>800</del> 800
Medium and Light Bombers - Night	-	<del>294</del> 130	<del>294</del> 130
Fighters and Fighter Bombers - Day	2,300	<del>2,400</del> 1,400	<del>4,700</del> 3,700
Fighters and Bomber Support - Night	-	<del>400</del> 490	<del>400</del> 490
Troop Carrier and Transport	<del>4,466</del> 900	460	<del>4,926</del> 1,360
Coastal	40	1,030	1,070
Reconnaissance	<del>230</del> 170	<del>300</del> 350	<del>530</del> 520
Air/Sea/Rescue	-	<del>80</del> 80	<del>80</del> 80
Total Aircraft	<del>6,940</del> 6,080	<del>6,228</del> 5,510	<del>13,168</del> 11,590
Gliders	1,619	972	2,591

The picture presented by this table needs some clarification before being accepted in its entirety. In the first place ten Day Fighter squadrons of A.D.G.B. were specifically

- (1) The reader is reminded that this situation was partly due to the inability of the G.A.F. to make use of their opportunities and exploit some of the disadvantages from which the Allies suffered.
- (2) See detailed statistics given at the end of this volume.

Overall Air Plan  
Appendix 'H'  
Para.3.

reserved in the Overall Air Plan for the defence of the United Kingdom although the other fifteen day fighter squadrons of that Command were for use at the discretion of Uxbridge.

Ibid para.21

Apart from the primary responsibility of the Royal Air Force to ensure the security of vital areas in England, the Southern part of the country was the main base for Overlord. Secondly, there was a similar, though less rigid reservation, regarding the nine night fighter squadrons of A.D.G.B.

The third clarification concerns the aircraft of R.A.F. Coastal Command. The vast bulk of Coastal Command forces had been re-disposed in No.19 Group for operation over the South-West Approaches and a smaller concentration had been made in No.16 Group to cover the Straits of Dover and the southern area of the North Sea. The relation of these dispositions to the invasion operation is obvious. Nevertheless, it must be realised that Coastal Command forces did not normally operate in the Assault Area, nor were their operations directed by the Air Commander-in-Chief.

A final word is necessary about the availability of the Strategic Air Forces. Another volume will show that, although these forces were placed under the Supreme Commander for Overlord, their availability was subject in practice to the concurrence of their commanders. There were occasions during the summer of 1944 when the support of the heavy bombers was needed for ground operations, but was not forthcoming, and the urgent needs of Overlord had to take second place to strategic operations such as the bombing of synthetic oil plants and the aircraft industry which had been planned by the Anglo-U.S. Air Staffs. While the support of Overlord in its early stages was all-important, it must be recognized that the attack of strategic targets, especially oil, exercised a great influence on future ground operations, quite apart from the damage inflicted on the German economy which was by the end of 1944 to be one of the principal causes of the German collapse. However, as far as the land battle was concerned, intervention of the heavy bombers was decisive when the Armies were able to take advantage of such a weight of fire power.

#### Enemy Forces Available

Xerox 47-50

Against this great concentration of air power the German air forces disposed in the west were condemned to a situation of chronic inferiority in total numbers accentuated by the fact that their first line strength was not backed up by adequate reserves of trained men and aircraft. Despite strenuous efforts in this respect, this is especially true with regard to fighter strength. The Allied Intelligence estimate of G.A.F. first line strength disposed in the west on 31 May 1944, was that 2,350 aircraft (out of the G.A.F. total of 5,250 aircraft) were disposed in France; Holland, North Germany, Denmark and Norway. The close support force immediately available for operations against Overlord was estimated at 900 aircraft, but this was not a well-balanced defensive force because only 220 were single-engined fighters, while 500 of them were long range bombers. Reinforcements during the first five days could bring up the total aircraft of all types to 1,430, but even so there would

A.E.A.F./  
S.16047/  
Int., Encl.5A

TLM/F/S.34,  
Encl.5A,  
para.7.

only be about 450 single-engine fighters available. Further reinforcements of some 170 single-engine fighters could be withdrawn from inside Germany, but Allied Intelligence expected that the maximum size of the force that was likely to be built up against Overlord would total perhaps 1,600 aircraft.

Upon the basis of this estimate it was calculated that about 440 bomber aircraft could operate against the United Kingdom and Allied shipping immediately prior to the assault and that these could do a maximum of 250/300 sorties for one night or alternatively sustain for three or four nights a week an effort of 160/180 sorties. The bomber force might operate in daylight with fighter escort against the bridgehead area and shipping after the assault, but would probably only operate at night, at dusk and at first light before and after that vital period. After the assault, it was thought that the sustained effort would be of the order of 250 sorties per 24 hours, while the maximum effort during one 24 hour period could reach 400 sorties. Furthermore, owing to the lack of experience and training of the G.A.F. and to successful jamming of enemy navigational aids, it was thought that not more than 50 per cent of an attacking force would succeed in concentrating in the target areas. Finally, it was thought that the G.A.F. might carry out 1,100/1,250 sorties during the 24 hour period from dawn on D-Day to dawn on D plus one Day, with a corresponding rise after reinforcements had arrived, but Allied Intelligence officers were confident that such effort would soon be substantially reduced.

File A.E.A.F./  
S.16047/Int.,  
Encl.5A

German documents  
G.A.F. Strength  
Statistics,  
A.H.B.6.

The actual numbers of G.A.F. aircraft in operational units on the Western Front - i.e. in Luftflotte 3 which covered most of France, Belgium and Holland - on 31 May 1944, consisted of 1,339 total strength with a serviceability of 700. This had gone up to 1,530 with 934 aircraft serviceable by 10 June, when the next statistics of strength were compiled by Luftflotte 3.

Long range bombers numbered 488 (255 aircraft serviceable) and single-engined fighters 313 (152 serviceable) at the beginning of June. Not all of these were immediately available in operational units. Nearly 15 per cent of the bombers (81 aircraft) were held in reserve in the Ergänzungsgruppen (Operational Training Pools).

In spite of the existence of the Orders of Battle for Luftflotte 3 from which these figures have been extracted, there is much confusion over the actual state of the German Air Force in Western Europe at the time of the invasion. This is more especially true of the fighter strength in the area.

A.M.W.I.S.  
No.316 also  
(German document)  
A.H.B.6 Transl.  
No.VII/19,  
para.3.  
U.S.S.B.S.  
Overall Report,  
(European),  
30-Sept. 1945  
Page 22.

General Brauchitsch said that on D-Day they had only two Geschwaders (J.G.2 and J.G.26) with a combined strength of 80 fighter aircraft in Northern France but that on the next day they transferred 700 to 800 aircraft (but presumably not all fighters) from the Reich to airfields in the Paris area. Major General Junck, Commander of G.A.F. fighters in the invasion area (Jagdkorps II) is quoted as having declared that he had only 160 aircraft of which 80 were operational and that he received only 600 reinforcements during the ensuing month. General Galland said that there were about 350 fighters in J.G.2 and J.G.26 on D-Day and that fighter reinforcements took days to arrive.

A.D.I.(K) Report  
No. 373/1945,  
para. 394.

A study of the Normandy invasion prepared by the 8th Abteilung (Air Historical Branch) in August 1944, said that Luftflotte 3 was able to operate only on the following scale:-

Jagdkorps II	-	By day	121 aircraft
	-	" night	35 "
Fliegerkorps II			51 "
X			11 "
IX	-	" day	9 "
	-	" night	15 "
2nd Flieger-Division			53 "
Aufklaerungsgruppe 122 (Recce)			24 "
Total			319 "

German Documents  
A.H.B.6

The following table extracted from the Orders of Battle of Luftflotte 3 dated 31 May and 10 June shows the aircraft strength and serviceability of the G.A.F. in France, Belgium and Holland:-

Type	31 May		10 June	
	Strength	Serviceable	Strength	Serviceable
Reconnaissance	123	58	102	48
Single-Engine Fighters	313	152	430	266
Night Fighters	92	47	170	96
Twin-Engine Fighters	66	43	57	30
Ground Attack	40	36	16	9
Bombers	555	263	521	307
Transport	64	31	140	100
Others	86	70	94	78
Total aircraft	1,339	700	1,530	934

It is of interest to note in passing that the detailed Orders of Battle for 31 May show the combined strength of J.G.2 and J.G.26 as 173 aircraft of which 119 were serviceable. The figures given by the first two German generals are therefore not unreasonable when it is remembered that several enemy airfields were attacked between that date and 6 June. Reinforcements, on the other hand, as shown by the Orders of Battle, appear to have been much smaller than has been stated both by Germans and Allied intelligence reports. Seeing that the average acceptances of fighter aircraft by the Luftwaffe for each month from March to June 1944 amounted to over 1,700 single-engine fighters the mystery

U.S.S.B.S.  
Overall Report,  
(European)  
30 Sept. 1945,  
p.22.

German documents remains why the Western Front had only 152 serviceable fighters at a time when it is known that the O.K.W. expected an invasion. A.H.B.6 Transl. No.VII/67, p.7.

Control of Allied Air Forces and Co-ordination of Operations

The Combined Tactical Air Force of U.S./British elements, known as the Allied Expeditionary Air Force (A.E.A.F.) was commanded by Air Chief Marshal Sir Trafford Leigh-Mallory, with Major General Hoyt S. Vandenberg as his deputy and Air Vice-Marshal Wigglesworth as Senior Air Staff Officer.<sup>(1)</sup> Headquarters, A.E.A.F., was at Starmore side by side with H.Q. Air Defence Great Britain (A.D.G.B.). Advanced H.Q. A.E.A.F. the advanced operational echelon of Main H.Q., was at Hillingdon (Uxbridge), and Air Marshal Coningham, its Commander remained there during the assault phase of Overlord. As Air Marshal Coningham had the dual role of commanding advanced A.E.A.F. as well as 2nd T.A.F., the Chief of Operations and Plans Advanced A.E.A.F. acted for him in the former capacity when absent or occupied in the latter capacity. These locations were chosen because after long consideration it was thought preferable to make use of the existing network of communications and facilities at Fighter Command and No.11 Group, rather than to move to Portsmouth so as to be near to the Naval and Land Forces Commanders-in-Chief.

All U.S. elements in A.E.A.F. were grouped together in the IXth Air Force under the command of Major General Lewis Brereton, who thus controlled well over 3,000 aircraft. The R.A.F. elements remained as separate part of the Expeditionary Air Force, often under temporary and very complicated systems of control. No.85 Group, for instance, had been formed in A.D.G.B. and its night fighter squadrons remained under A.D.G.B. control during the assault. But its day fighters were nominally under T.A.F. control, though in practice they operated under A.D.G.B. Administratively, No.85 Group was directly under Headquarters, A.E.A.F. In spite of apparent complications, however, the great bulk of U.S. and British Tactical Air Forces operated in their limited area of operations as a single force under the control of the Commander, Advanced A.E.A.F.

The following subordinate formations were grouped together under the Allied Expeditionary Air Force Air Commander-in-Chief:-

(1) 2nd Tactical Air Force, R.A.F. (Air Marshal Coningham)

Nos.83 and 84 (Composite) Groups  
No.2 (Light Bomber) Group

(2) IXth Air Force, U.S.A.A.F. (Major General Brereton)

IX Fighter Command  
IX and XIX Tactical Air Commands  
IX Bomber Command  
IX Troop Carrier Command  
IX Air Defence Command  
IX Engineer Command  
IX Air Service Command

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(1) First Deputy Air C.-in-C. was Major General W.O. Butler who was succeeded by General Vandenberg in March 1944.

50(a)

- (3) Air Defence Great Britain (Air Marshal Hill)  
Nos.10, 11, 12 and 13 Groups
- (4) No.85 (Base Defence) Group, R.A.F.
- (5) Nos.38 and 46 Groups, R.A.F.

See Chapter 5

The A.E.A.F. Overall Air Plan for Overlord and the part played by the air forces in the Joint Fire Plan to support the assault on Normandy have already been discussed at some length. Brief reference has also been made to the arrangements whereby the operations of the Strategic Air Forces in support of Overlord were co-ordinated with those of the Tactical Air Forces.

TLM/136/9/2,  
Encl. 7,  
para.7

It will be recalled that a directive from the Combined Chiefs of Staffs assigned to the Supreme Commander in north-west Europe the responsibility of directing the operations of the Strategic Air Forces as from 17 April 1944. During the first month of such operations after that date the Deputy Supreme Commander personally exercised this power of direction in respect of heavy bomber missions to prepare for Overlord. From the first, however, the Commanding Generals of the U.S.A.A.F. disliked this arrangement and showed a general unwillingness to allow British Officers any control over their activities, with the result that their co-operation in the Overlord air plans was never wholehearted.

TLM/F/S.34,  
Encl.1

On 23 May, this arrangement came to an end when all air operations were for the short but vital period of the first assault, devoted to supporting the troops getting ashore and creating a lodgement area in Normandy. During this vital period all air operations were either directed from or co-ordinated at Headquarters, A.E.A.F. On 23 May, the principal Allied Air Commanders held their first Overlord Conference at Stanmore under the chairmanship of Air Chief Marshal Sir Trafford Leigh-Mallory, to decide on target priorities and allocation of effort as between U.S.St.A.F., Bomber Command and A.E.A.F. Four more meetings were held before D-Day, after which they were held every day at 11.00 hours all through the summer and early autumn.

PHASE:— The Assault  
 OPERATION 'OVERLORD'—OPERATIONAL CONTROL OF TACTICAL AIR FORCES

SECRET

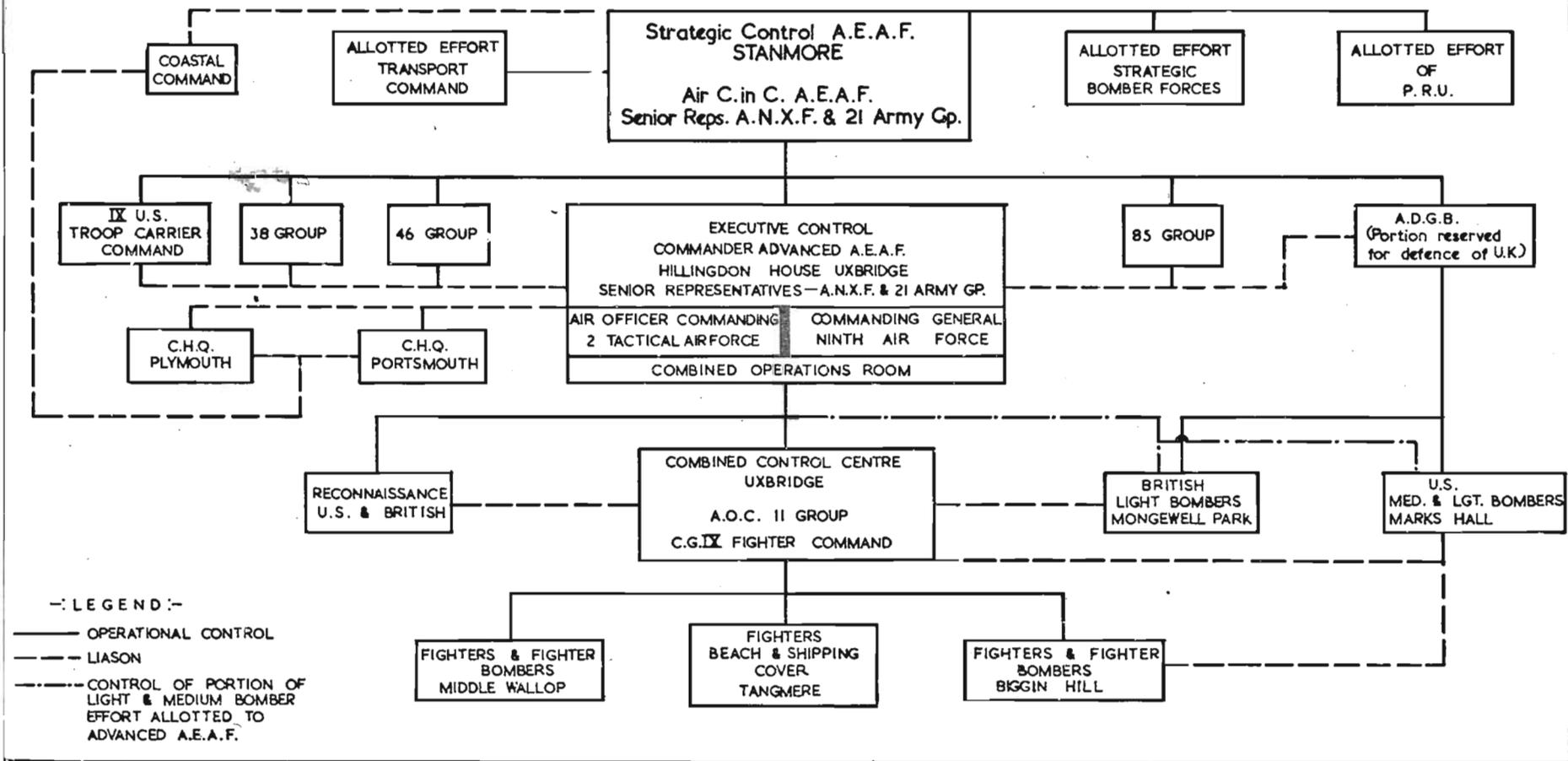


Diagram No.3.

The Allied Air Commanders Conferences<sup>(1)</sup> were generally attended by Air Chief Marshal Tedder, who was able to reveal something of the intentions of the Supreme Commander and also to indicate the part that the air forces were expected to play when this was outside the authority of the Air C-in-C. He also made decisions or secured them from General Eisenhower on matters in dispute among the Air Commanders.

The normal purpose of the conferences was, however, to present a day to day picture of the campaign to all responsible Air Commanders. Suitable liaison and senior staff officers from the Navy and Army attended to assist in doing this. The Air Commanders were thus provided with the latest information and were able to discuss the policy of the Air C-in-C. before final decisions were made about targets, priorities and the allocation of effort available. The following attended most of the conferences:-

Air Chief Marshal Sir Trafford Leigh-Mallory, Air C-in-C., A.E.A.F.  
 Air Chief Marshal Sir Arthur Tedder, Deputy Supreme Commander.  
 Air Chief Marshal Sir Arthur Harris, A.O.C-in-C., Bomber Command.  
 Air Chief Marshal Sir Sholto Douglas, A.O.C-in-C., Coastal Command.  
 Air Marshal Sir Arthur Coningham, Commander, Advanced A.E.A.F.  
 Air Marshal Sir Roderic Hill, A.O.C., A.D.G.B.  
 Air Vice Marshal H.E.F. Wigglesworth, S.A.S.O., A.E.A.F.  
 " " " J.M. Robby, D/C.O.S. (Air), S.H.A.E.F.  
 " " " R.D. Oxland, Liaison Officer, Bomber Command.  
 Air Commodore Kingston McCloughry, D/C. of Ops., A.E.A.F.  
 " " L.F. Fendred, C.I.O., A.E.A.F.  
 " " Hart, A.S.O.-in-C., A.E.A.F.  
 Lt. General Carl Spaatz, C. Gen., U.S.St.A.F.  
 " " J.H. Doolittle, C. Gen., VIIIth Air Force.  
 " " L.H. Brereton, C. Gen., IXth Air Force.  
 Maj. General H.S. Vandenberg, Deputy Air C-in-C., A.E.A.F.  
 " " W.E. Kepner, C. Gen., VIIIth Fighter Command.  
 Brig. General F.H. Smith, Chief of Ops., A.E.A.F.  
 " " O.A. Anderson, Chief of Ops., VIIIth Air Force.  
 " " F.L. Anderson, Chief of Ops., U.S.St.A.F.

Deputies, Senior Air Staff Officers, Visiting and Liaison Officers attended from time to time.

As this organisation was being set up, the S.H.A.E.F. Targets Committee was dissolved and an expanded A.E.A.F. Bombing Committee was set up with representatives of S.H.A.E.F., U.S.St.A.F., Air Ministry, VIIIth Air Force, Bomber Command and the Railway Research Service under the chairmanship of Air Commodore Kingston McCloughry.<sup>(2)</sup> The A.E.A.F. Bombing Committee studied targets and made recommendations as to how and by whom they should be attacked. Thus they centralised the work which had been done for the Neptune Joint Commanders, with that done for S.H.A.E.F., the Air Ministry and U.S.St.A.F. It will be recollected that the completed schedules of Air Targets were issued on 23 May, on behalf of the Neptune Joint Commanders. These included target programmes for all Allied Air Forces up to the assault. Necessary adjustments in priorities were recommended from day to day by the Bombing Committee after that date.

(1) Minutes of Allied Air Commanders Conferences will be found in Folder 34 of Air Chief Marshal Leigh Mallory's papers.

(2) This Committee never met. What happened, in fact, was that decisions were made at the Air Commanders Meetings, and translated into action by representatives of the various Commands.

Thus by arrangement with the Deputy Supreme Commander a unified, if not a united, direction of air effort was secured for a limited period. Targets were selected, priorities and effort allocated, and written clearance was given by Headquarters, A.E.A.F., in the case of all air operations directly concerned with Overlord.

#### Co-ordination of Tactical Air Operations

As regards the control of all the air forces placed temporarily under Advanced Headquarters, A.E.A.F., this was exercised through the Combined Operations Room at Hillingdon and the Combined Control Centre located adjacent to it in the Operations Room at Headquarters, No.11 Group, Uxbridge. Here it was possible to see a picture of all the air operations in the Neptune Area as one whole, and so long as the first phase of the operation lasted Air Marshal Coningham and General Brereton were able to employ the 2nd T.A.F. and the IXth Air Force as a single Tactical Air Force. In carrying out the main functions of such a Tactical Air Force, namely the provision of fighter cover and air support for the landing, the Commander, Advanced A.E.A.F. was able to make use of all the well established control facilities of No.11 Group augmented by suitable additions. Apart from technical installations additional to those of the static organisation, he was given an Anglo-American Operational Air Staff on 2nd T.A.F./IXth Air Force and on No.11 Group/IXth Fighter Command levels. An Army staff representing General Montgomery, and known as Twenty-One Army Group G (Air), was also established at Air Marshal Coningham's Headquarters, through which were to go all requests for direct air support. The Naval and Ground Forces taking part in the Assault were controlled from Combined Headquarters, Portsmouth, where both Admiral Ramsay and General Montgomery had their Headquarters. General Eisenhower was also nearby at Forward S.H.A.E.F., Southwick Park, Portsmouth, for this phase of the operations.

Until control centres and operations rooms could be set up on the Continent it was decided to control tactical aircraft from the United Kingdom. Air Force representatives, however, were established in Task Force and Assault Force flag-ships and fighter controllers were also established in Fighter Direction Tenders.

Air Staffs on flag-ships were responsible for keeping the Commanders of Tactical Air Forces informed of the intentions of Naval and Army Commanders and for giving the latter air advice. Their responsibilities to pilots airborne on patrol consisted of relaying any necessary calls for air support, received from Air Support Tentacles ashore and, where necessary, of re-briefing pilots. If required by the Ground Commander they were to request additional Tactical Reconnaissance and to make any other emergency arrangements found necessary during the battle. The air operations rooms on the flag-ships were primarily to provide information on the air situation, although they were manned by fighter controllers belonging to 2nd T.A.F. and IXth Air Force so that they could control aircraft if need be. They were provided with the necessary communications to enable them to receive from and send to the combined control centre, Uxbridge, their own Tactical Air Force Headquarters ashore, and Twenty-One Army Group G (Air) at Uxbridge. They were also provided with V.H.F. radio facilities for communication with Assault Force flag-ships, F.D.T's and Tactical Air Force squadrons on patrol.

#### Tasks of Tactical Air Forces

From the point of view of the Tactical Air Forces the main tasks to be carried out during the assault of the Normandy coastline fell into the following categories:-

- (1) Fighter Cover.
  - (2) Air Support.
  - (3) Air Reconnaissance and Spotting.
- (1) Fighter Cover

In order that responsibilities might be stated more precisely, the assault area was defined as a band of 20 miles width stretching across all five beaches and extending to five miles inland and fifteen miles over the anchorages. Swept channels for shipping led to each of the five beaches.

Fighter cover allocated to the shipping lanes consisted of four squadrons of Lightning fighters<sup>(1)</sup> operating on standing patrols of one and a half hours duration at heights varying from 3,000 feet to 5,000 feet lasting (so long as weather allowed) from 04.30 hours to 23.30 hours. Night cover for the shipping lanes was provided on request by No.85 Group. High and low cover were provided continuously for 24 hours over the Assault Area, weather permitting. R.A.F. day fighters patrolled each beach area at heights from 3,000 feet to 5,000 feet providing low cover. Two squadrons were allocated to each Assault Area and one to each of the flanks of the Allied front. The whole front was also patrolled by three High Cover U.S.A.A.F. Squadrons, each operating at a different level between 8,000 feet and 15,000 feet. One squadron was always approximately in a position five miles inland of Port-en-Bessin, i.e. on the borderline between the Eastern and Western areas, while one of the other squadrons was over the British area and the third squadron watched over the American area.

For the short hours of darkness twelve R.A.F. night fighters were on continuous patrol distributed over the whole battle area.

Three Landing Ships (Tanks) (L.S.T.) converted for the purpose were sent over with the assault forces to assist when directed by the Combined Control Centre, Uxbridge, in controlling aircraft operating as fighter cover. These ships were known as Fighter Direction Tenders (F.D.T.) and carried the facilities and personnel necessary for the Sector control of aircraft. No.13 F.D.T. was stationed in the shipping lane, No.216 F.D.T. in the Western area and No.217 F.D.T. in the Eastern area. The senior representative of C.C. Uxbridge, Air Commodore Bouchier, was in F.D.T. 217 and was responsible for switching fighters from one area to another when necessary for reinforcement purposes. Aircraft arriving on patrol reported to the appropriate F.D.T. on their V.H.F. Radio when five minutes flying time away. Similarly, those departing reported before leaving the patrol area. Thus the Air Force Controller in the tender had a clear picture of the fighter cover overhead and en route. As his Operations Room also plotted the positions of other aircraft being plotted by the static A.D.G.B. organisation, the F.D.T. was expected to be of great value in the event of heavy G.A.F. attacks materialising. There were, however, so many friendly aircraft operating in that area during the daylight hours that the normal functioning of Sector Control was practically impossible. In the circumstances, large scale enemy attacks did not take place, but the vectoring of Day Fighters was found impracticable and the F.D.Ts were mainly used for controlling Night Fighters and for Air/Sea Rescue operations.

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(1) As against five squadrons allocated in the Overall Air Plan.

(2) Direct Air Support

The normal machinery for providing immediate support to the front line troops did not work during the period of the Assault. Each British Army Headquarters normally worked with a Composite Group; the U.S. equivalent of the Composite Group was the Tactical Air Command which had recently developed from the Air Support Command. No.83 Group was attached to the Second British Army, No.84 Group to the First Canadian Army, and the U.S. IX Tactical Air Command to the First U.S. Army. These affiliations had been well cemented in numerous exercises and rehearsals in the Spring of 1944. At a later stage, as the lodgement area on the Continent expanded and the physical separation of forces became greater, the U.S. XIX and XXIX Tactical Air Commands were created to work with the new 3rd and 9th U.S. Armies.

But for the limited period of the Assault a purely temporary arrangement had to be made because immediate Air Support was not controlled at the normal British Army/R.A.F. Group and U.S. Army/U.S.A.A.F. Tactical Air Command level. During the stage of operations before air forces were established on the Continent and while vast numbers of both R.A.F. and U.S. aircraft were operating in a comparatively restricted area it was considered essential that the control of all tactical air operations should be centralised.<sup>(1)</sup> Consequently, all requests for air support to be furnished by tactical air forces had to be made to Air Marshal Coningham. Requests for pre-arranged air support went first to Twenty-one Army Group Main Headquarters at Portsmouth where they were all examined and co-ordinated before being submitted to Advanced A.E.A.F. Headquarters at Uxbridge.

The procedure for requesting immediate air support during the Assault Phase was somewhat less roundabout. Army Tentacles (U.S. equivalent Air Support Parties) equipped with mobile radio sets were landed with British Assault Brigades (U.S. Regimental Combat Teams); others accompanied Divisional and Corps Headquarters when they landed. The function of the Tentacles was to request immediate air support during the period that the aircraft were controlled entirely from Uxbridge. To enable their requests to be properly co-ordinated before being passed to Advanced A.E.A.F. a Twenty-one Army Group G (Air) staff was established at Uxbridge. This was the Army component of Air Support Control. It included both British and U.S. officers, with the addition of a small number of Intelligence staff. It was made responsible not only for passing on requests for support but also for providing information on ground operations to Advanced A.E.A.F. One of its chief duties was to co-ordinate the bomb lines and to keep all concerned regularly informed. Twenty-one Army Group G (Air) was necessarily in constant touch with its parent body at Portsmouth and passed on to Air Marshal Coningham all requests for pre-arranged air support which had been co-ordinated at Twenty-one Army Group Main Headquarters.

Regarding immediate air support, it had freedom of action within the limits prescribed by general directives from the C-in-C. Land Forces which outlined the Military Plan, and defined priorities for the application of the effort available for direct air support. Requests from the Tentacles for immediate air support were received direct by Twenty-one Army Group G (Air), were co-ordinated by them, and

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(1) The necessity for control not to be dissipated remained so long as there was any danger that the enemy might concentrate all his resources in one decisive attack at a single point.

were then quickly passed to Headquarters Advanced A.E.A.F. Once the mission had been laid on, the aircraft worked under the operational control of the Combined Control Centre. The system was designed for speed and, in practice only about two hours elapsed from the time when a request was made by the Tentacles on the far shore until the time when Fighter Bombers arrived on the scene of operations.

### (3) Air Reconnaissance and Air Spotting

See Chap.3 above

Just as the operations of Tactical Air Force fighters, bombers and intermediate types were under the centralised control of the Combined Control Centre, so the operation of all tactical reconnaissance aircraft came under the Combined Reconnaissance Centre at Uxbridge. The special arrangements for fighter reconnaissance laid down by the Overall Air Plan to serve for the period of the Assault, remained substantially unaltered during the final modifications of that Plan. The two Armies were allotted one Fighter Reconnaissance Squadron each up to noon on D-Day, while Air Marshal Coningham retained two Squadrons. After that hour each Army had two such squadrons each, while the Commander, Advanced A.E.A.F. kept one for meeting extra demands or for any strategical reconnaissance. Photo Reconnaissance Squadrons in A.E.A.F. remained under A.E.A.F. Headquarters control.

The commitment for air spotting had, however, expanded considerably from that originally envisaged. At the time that the Overall Air Plan was drawn up, the numbers of aircraft and pilots that would be needed to meet the full requirements for spotting in connection with the Naval bombardment had not been fully appreciated. It had been accepted by A.E.A.F. that the addition of one Spitfire Squadron to the four Fleet Air Arm Seafire Squadrons allotted to the task would be sufficient if helped for a few hours from dawn to noon on D-Day by three Fighter Reconnaissance Squadrons. This proved to be a miscalculation owing to the large number of vessels taking part in the bombardment.

The final arrangement as executed established a pool of 159 aircraft in the Air Spotting Pool at Lee-on-Solent Airfield, operating under the control of 2nd T.A.F. A representative<sup>(1)</sup> of 2nd T.A.F. was stationed for this purpose at Lee-on-Solent. The following squadrons and/or formations were included:-

- (a) No. 3 Naval Fighter Wing F.A.A. - Nos. 808, 885, 886 and 897 Squadrons Seafires.
- (b) Nos. 26 and 63 Squadrons R.A.F. Spitfires.
- (c) Nos. 2, 144 and 268 Squadrons R.A.F. Mustangs (until noon D-Day).
- (d) V.C.S. 7 U.S. Navy Squadron Spitfires.

The withdrawal of the Mustang Squadrons at noon on D-Day left 95 aircraft available for spotting duties in the Pool thereafter.

Although the aircraft, like all other Allied Fighter type aircraft on D-Day were under the control of Uxbridge, they operated on the request of Assault Force Commanders through A.N.C.X.F. Each spotting aircraft when airborne was allocated to one particular warship which was given its own call sign and a separate V.H.F. radio frequency for communication between ship and aircraft.

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(1) W/C R.J. Hardiman, D.F.C.

Transition from Preparatory Operations to Assault Programme

As the final preparations for D-Day were being made by the Allied forces, the German Air Force and the German Navy still showed little signs that the imminence of the invasion was appreciated by them. After an initial setback in their ~~(Seine)~~ battle with Coastal Command when they attempted to move from Norway, there also appeared to be no further deployment of U-boats. The Transportation Plan was showing gratifying results in the growing dislocation of the French railways over the North and East regions. Great care had been taken not to point to the Normandy area, but despite this most of the Seine bridges had been blocked, and air attacks on railway centres North of the Loire had made the cutting of the Loire bridges less urgent.

See Chap. 15

TLM/F/S.34  
Encl. 5A  
Para. 4.

Ibid  
para. 11

With D-Day provisionally fixed for the 5 June, the Air Plan called for 100% effort on 1 and 2 June restricted to 50% on the 3 and 4 June, so that the maximum force could be ready for the Assault. On the first two days 40% of the effort was ordered against 'cover' targets and if possible, one deep penetration operation was to be undertaken by the VIIIth Air Force to keep G.A.F. fighters in Germany.

Ibid  
Page. 5  
Para. 45

On the last two days before the Assault air operations were to depend upon whether the cover plan was still successful. There was a programme for 'surprise considered lost' and another for 'surprise considered not lost'. There was also an alternative programme to be substituted in the event of the postponement of D-Day. The main principle running through all preparatory air operations that until surprise was lost, two targets outside the Neptune area had to be attacked for every one attacked inside Normandy, was preserved throughout. During the last few days, however, the Deputy Supreme Commander was insistent that air attacks outside the Neptune area should positively indicate the Pas de Calais as the region in which the Allies were primarily interested.

See Chap. 4

TLM/F/S.34  
Encl. 5A

A difference of opinion over bombing policy was once again revealed over the question of high casualty targets at the Air Commander's Conference on the 31 May. Le Bourget railway centre on the Grande Ceinture system around Paris had been left until the remainder of the bombing programme had been completed because it could not be attacked without risking severe French civilian casualties. This was now assigned by the Air C.-in-C. to Bomber Command for priority attack, but the Deputy Supreme Commander asked for it to be deleted. Mr. Brant, the railway expert on the Bombing Committee, stated that a new aiming point had reduced the estimate of casualties from about 2,000 to 500. Experience had also shown that actual casualties had invariably been lower than the estimates. However, the Supreme Commander, who was present at the conference, supported Air Chief Marshal Tedder on the grounds that the Prime Minister, who had "stood by them like a brick" when the railway plan was being assailed on all sides, would be in a difficult position if many civilian casualties occurred at this stage. For the time being, therefore, this target was deleted.

DS 94352/1 (68)

At this period too, the Air C.-in-C. became involved in a controversy with the Army over the plan to drop the U.S. 101st and 82nd Airborne Divisions in the Ste Mere Eglise area of the Cotentin Peninsula. The original plan, which Leigh-Mallory had disliked from the first, was revised by the Ground Commanders at the end of May owing to the re-disposition of German forces in that area. The R.A.F. had consistently held the view that airborne operations should be jointly planned by the appropriate Armies and Air Forces concerned but in this case Leigh-Mallory was only consulted after the plan had been

(1) As a result of the success of this attack, La Chapelle, also in Paris, was bombed and was associated with the greatest loss of French civilians' lives of any air bombing of the Overlord programme. Unfortunately it transpired that it was a completely unimportant railway centre from the point of view of military movements.

TLM/S.150/1  
encls.44 to 48

completed. From an air point of view, the revised plan was even more full of hazards than the original one. Under pressure from Montgomery, Leigh-Mallory agreed to order the operation but he wrote to General Eisenhower that if the Utah landings depended upon the complete success of the U.S. air-borne operations then he feared that there was a grave risk of failure. He doubted whether 50% of the paratroop force would be effective as hoped for by the Army Commanders. He estimated that of the glider loads (landing at night) at the most 30% would be available for use and feared heavy losses of personnel.

Ibid  
Encl.49

TLM/MS.136/61  
Encl.1

Generals Eisenhower, Montgomery, Bradley, Browning and Gale, and Air Chief Marshal Tedder were all in favour of accepting the risks and the Supreme Commander conveyed this decision to the Air C.-in-C. in a letter dated 30 May. They must try to diminish the hazards and not discourage the troops. General Eisenhower repeated this at the Air Commander's Conference which he attended on the following day, calling for an end to all doubts and asking the Air C.-in-C. to send an encouraging message to all aircrews for their final briefing. This was done.

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B.C. Night  
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No. 621

In spite of the requirement for 100% effort on 1 June, operations on that day were on a very reduced scale owing to unsuitable weather. For some weeks the whole of Western Europe had experienced a period of settled fine weather that had ensured good bombing conditions. Although the weather remained fair for a few more days it was rarely as good as it had been in May and April. However, four coastal batteries in the Pas de Calais and two in Normandy were attacked during the day time on 1 June and Bomber Command attacked Saumur (Loire) railway junction (56 aircraft) and the Ferme d'Urville/Hague W.T. station (100 aircraft) at night. It was not known whether the attack on the last named was successful or not. The Saumur junction was badly damaged.

On 2 June conditions were better but the VIIIth Air Force had to use Pathfinder technique and did little visual bombing. In the circumstances A.E.A.F. and the VIIIth Air Force did well to fly about 3,300 sorties. Targets were mainly in the cover area and included 22 coastal batteries and other coastal defences, eleven radar sites, six airfields, five Crossbow sites and four bridges. After dark Bomber Command sent out 598 aircraft which attacked coastal and radar installations and railway centres also in the Pas de Calais.

TLM/F/S.17A  
Encl. 15,  
para. 2

On this day, in the morning and again in the evening, the Supreme Commander received the first warning that it might not be possible to launch Neptune on 5 June as planned. He had instituted a practice of hearing regular forecasts from his Chief Meteorological Officer, Group Captain Stagg, who, with the assistance of the heads of the Army and Navy Weather staffs, co-ordinated and reconciled the weather-predictions of the British Central Forecasting Office, (1) the Admiralty, Air H.Q., S.H.A.E.F. Main and the U.S. Central Office. (2) After 2 June, these statements were heard by General Eisenhower supported by his Commanders-in-Chief and Staff Officers at Southwick Hall, Portsmouth. (3)

- (1) Dunstable.
- (2) "Widewings", Bushy Park, Teddington.
- (3) Many accounts of these meetings have been put on record by those present. Those available in the Air Ministry include (A) Note by A.V.M. Robb, D/COS (Air) S.H.A.E.F. written on 5 June and to be found on File D/SAC/H.12. Enclosure 16A. (B) Form 540, June, 1944, A.V.M. Wigglesworth S.A.S.O., A.E.A.F. (C) Extract from Diary, Gp. Capt. Stagg, A.H.B. Records, II S/77.

On 3 June the Air Forces operated at approximately 50% of maximum effort as planned. A.E.A.F. continued to attack coastal radar installations (eleven sites), coastal batteries (five), bridges (five) and many railway targets (about 20), flying over 2,000 sorties about a half of which were on offensive operations. The Heavy Day Bombers again experienced difficulty in locating targets owing to the thick overcast. Over 560 Fortresses and Liberators with strong fighter escort, were dispatched to attack coastal batteries (13) and a radar site in the Pas de Calais area but had to bomb through the cloud on H2X instruments.

The attacks on coastal defences in this region was continued during the night by 134 aircraft of Bomber Command. Another small but powerful force (99 aircraft) dropped nearly 500 tons of bombs on the Urville/Hague W.T. station, near Cherbourg. The latter attack was memorable for the completeness with which the whole installation was permanently destroyed, the importance of which was not immediately appreciated as the Allies were not aware that this was the chief "Y" intelligence listening station in Normandy.

At 21.30 hours on this Saturday night Group Captain Stagg presented a picture of the weather prospects for the period Monday to Wednesday (5th - 7th June) that was definitely gloomy. For the first time the Supreme Commander had to consider the distinct prospect of the postponement of D-Day to some other period. Another meeting was called for 04.15 hours in the morning (Sunday 4th) which was the latest possible time to inform the Navy if some forces were to be prevented from sailing and others turned back and refuelled. At this meeting Group Captain Stagg said that the weather was becoming so unsettled that it was difficult to make any certain predictions for a long time ahead. But westerly winds of about 16 knots would set in over the Channel almost immediately with 10/10th cloud at 500 ft. in the U.K. and over the Assault Area. There was no prospect of improvement until Wednesday but on the other hand the position was finely balanced and a slight tip in either direction could make a great difference. Although it was still cloudless over Portsmouth, General Eisenhower decided to postpone D-Day by one day<sup>(1)</sup> and arranged to hold further meetings to hear later forecasts.

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IIS/77  
p. 8

In his summing up, General Eisenhower pointed out that operation Overlord was taking place with ground forces which, compared with the strength of the enemy, were not overwhelmingly powerful, and, in fact, the operation in its present form was only feasible because of our very great air superiority. 'If the air could not operate then it must be postponed.'

D/SAC/  
H12. Encl. 16A  
para. 7

By noon on Sunday 4 June a gale was blowing over the Channel and heavy clouds had justified the pessimism of the forecast. But during the evening the experts became aware of the prospect of a reasonably fair interval after the passage of a front on Sunday night. The interval might last from Monday morning until Tuesday morning.

At 2100 hours on 4 June, the Supreme Commander and his *and their Chiefs of Staff* Commander-in-Chief met again to consider the new situation. Group Captain Stagg said that there had been rapid and unexpected developments over the Atlantic. After the front passing at that moment, fair conditions with less than 5/10th broken cloud with base at 2,000 - 3,000 feet and reduced winds

Ibid  
p. 11

(1) The effect of the heavy cloud on bombing was given as the reason for postponement but in any case the high wind *seaborne* would have stopped the departure of the last forces from Southern England on Sunday afternoon. Low Cloud and high winds would also make airborne operations impossible.

D/SAC/  
H. 12.  
Encl. 16A,  
p. 3

would last until dawn on Tuesday at least. Several eager questions were fired at the Chief Meteorological Officer and a new feeling of hope soon made itself evident. Almost perfect visual bombing conditions for fighter-bombers were predicted but it appeared doubtful to Air Chief Marshalls Tedder and Leigh-Mallory whether medium and heavy bombers would have ideal conditions.

The word was given by General Eisenhower and preparations were immediately put in hand to enable the operation to take place at dawn on Tuesday if so ordered. A meeting at 0415 hours on 5 June was called so that a definite decision could be made.

At the conference in the early hours of Monday 5 June Group Captain Stagg re-affirmed the promise of a fair interval on Tuesday the 6th with the result that General Eisenhower took the momentous decision to accept the opportunity and launch the assault. Orders were immediately issued to all concerned. His message to the Combined Chiefs of Staff read '~~Exercise Hornpipe-Halcyon~~ Y plus 5 finally and definitely confirmed.'

Hornpipe-Halcyon Y (1)

Meanwhile, the plan to bomb French towns in order to delay enemy movement in Normandy caused considerable heart burning among the Air Commanders. Though no one liked the idea, the Supreme Commander approved the plan on 2 June on the ground of military necessity. This was done in spite of the opposition of the Deputy Supreme Commander. The latter doubted the efficacy of such bombing and deplored the French casualties it was bound to cause. His proposal that warning leaflets should be dropped was agreed though it subsequently transpired that Twenty-one Army Group were not in favour because they feared that this would jeopardise security.

TLM/F/S. 34,  
Encl. 6A  
para. 7

The Deputy Supreme Commander restated his views when this matter was under discussion at the Air Commanders' Conference on 3 June. On the basis of experience in Sicily he questioned the value of "knocking out" towns. Later he supported General Spaatz who said that the air plan, in concentrating on helping the Army, neglected the danger from the German Air Force. A rather acrimonious discussion followed.

Ibid  
para. 11

The Air C.-in-C. warmly defended his plan against all criticism saying that he had every confidence in our fighter cover and insisting that the supreme task of the air forces was to delay enemy re-inforcements. The air forces alone could prevent the enemy build-up from exceeding our own. He accepted all responsibility for the plan as it stood and if it was changed at that stage, he would resign.

Air C.-in-C.  
A.E.A.F.  
O.R.B.  
June, 1944  
p. 2

This he repeated to General Montgomery who telephoned him during the afternoon to inquire whether there was to be any modification to the plan. Though he had greatly resented Air Chief Marshal Tedder's criticism of his policy before the other Air Commanders he did not re-open the matter with the Supreme Commander.

As the plan was executed without further challenge, energetic steps were taken so that leaflets could be dropped and B.B.C. broadcasts issued, warning the citizens of French towns of impending attacks. As soon as the troops were safely ashore Leigh-Mallory also requested the VIIIth Air Force to

(1) Halcyon Y day was the 1st of June.

TLM/F/S.34,  
Encl. 9A  
para. 19

produce a plan for resuming attacks on G.A.F. airfields when General Spaatz again brought this question forward on 8 June and he gave this task a priority second only to that of delaying movement.

NJC/00/431/  
7, Schedule  
'C' Sect(s)  
A and C

TLM/F/S.34  
Encl. 5A

Contrary to first arrangements which called for only 50% of maximum effort on Sunday 4 June, owing to the postponement, extra operations were executed which resulted in over 3,000 sorties being flown mainly in connection with attacks on the 'Fortitude' area in the Pas de Calais. It has already been explained that General Eisenhower ordered the postponement of D-Day at 0415 hours on the morning of 4 June. As the notice was so short, the VIIIth Air Force proceeded with their attacks on seven Coastal Batteries in the Pas de Calais but seven attacks on Neptune batteries which were also on their D minus one programme, were cancelled. The alternative programme in the event of postponement was substituted. This consisted of more coastal batteries and defended localities in the Pas de Calais which were heavily attacked so as to call attention to that area. Thus while the VIIIth Air Force attacked fourteen such targets and a few airfields, A.E.A.F. also attacked six coastal batteries (four in the 'Fortitude' area), six Seine bridges, five radar sites and a few railway targets during the same day.

On the night of 4 June the offensive against coastal defences in the 'Cover Area' was continued by over 200 aircraft of Bomber Command while about 60 others attacked Neptune targets.

The weather had broken as forecast before noon on Sunday but operations on Sunday and Monday were carried out regardless of the conditions. Losses during the last two weeks were unexpectedly low and the speed of replacement had been unusually fast with the result that the strength of most units was well over establishment on 5 June. Accordingly, although it had been decided that on D minus one only 50% of effort should be dispatched on operations this amounted to over 3,500 sorties throughout the day.

The Fortresses, Liberators and Marauders made a great onslaught on seventeen coastal batteries, an important bridge, (1) and three Crossbow targets, all of which, with the exception of six batteries on the Normandy coast, were again in the Pas de Calais region. Clouds interfered with the accuracy of the bombing in this region but as the purpose of the operation was to call attention to Allied interest in the area, hitting the targets was not vital. The success of the attacks on the six Neptune batteries varied from nil to very good.

Fighter-bombers of the IXth Air Force attacked several railway targets and three out of the four bridges over the Seine between Paris (Conflans) and the sea that still remained passable. The result was that only one bridge (road) was left on D-Day. Thunderbolts also assisted Marauders in an attack on Wissant military H.Q. (Boulogne) and made a separate dive-bombing attack on Rennes Fighter Control H.Q. (2) Typhoon Fighter-bombers were even more active than the Thunderbolts. The task of destroying fifteen radar stations in the enemy coastal chain occupied all the morning. These were easy to find but well defended by light flak and valuable men and aircraft were lost. Targets for the second sorties

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(1) Abbeville bridge.

(2) This was also the target for Typhoons later in the day.

were five French chateaux listed as enemy H.Q. First attempts were abandoned but almost at the last possible moment in the evening, four of the chateaux concerned were located and successfully attacked, two with bombs and two with Rocket Projectiles.<sup>(1)</sup>

Overall  
Air Plan,  
Para. 48

The A.E.A.F. plan had aimed primarily at creating and maintaining 'an air situation whereby the G.A.F. is incapable of effective interference with Allied operation' but the need to protect the Fatherland from the attacks of the VIIIth Air Force and Bomber Command, combined with the deficiencies of the German fighter forces and the relative strength of Allied fighters had made the threat from the G.A.F. a minor factor by the beginning of June. General Spaatz and Air Chief Marshal Tedder did not believe that sufficient attention was being paid to this threat by the Air C.-in-C. but in retrospect, the latter's judgment appears to have been vindicated. Regular attacks continued to be made on such airfields as were found to be occupied by the G.A.F. but the Air C.-in-C. was not willing to divert much more effort to this task until several days later.

By the time final preparations for the Assault were over at last light on 5 June, something like 13,000 sorties had been flown in four days by the Allied Air Forces. It had not been found necessary to devote a large share of effort to defensive sorties because the enemy had been singularly inactive: nevertheless one of the features of this period of air operations was undoubtedly the complete success of the anti-reconnaissance precautions. A.D.G.B. and No. 85 Group had gone to great lengths in maintaining standing patrols far out in the Channel, backed up by sections at 'stand-by' on southern airfields to prevent German reconnaissance aircraft from obtaining pictures of our state of preparation. In the final stages this was vital. The credit for the complete surprise achieved by the Assault is usually shared by the Cover Plan and the bad weather but due regard must also be paid to the manner in which German attempts at reconnaissance were frustrated. *But were there any on 5-1*

Of all the offensive air operations the great bulk were directed against targets outside the Neptune area so as to prevent compromising security. The proportion observed was two attacks outside to every one inside the Neptune zone. Coastal batteries, strongpoints and defended localities in the Pas de Calais area were given the spotlight but, at the same time, much was done to soften up the coastal defences of Normandy. Effort against targets in the Pas de Calais was often unrewarded in the direct sense but was justified because damage to targets was always a secondary consideration. In addition to coastal defences, substantial tonnages of bombs were also dropped on Crossbow sites, radar installations, railway and road vulnerable points, airfields, bridges and a few military Headquarter posts. Quite apart from deception, these were all helpful to the Normandy operation though the targets themselves were in the Pas de Calais.

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(1) Chateaux attacked were located near Rennes, Rouen, Cherbourg and Le Havre respectively. The Rennes building, attacked by the Thunderbolts in the morning (presumably unsuccessfully) housed the operational H.Q. of O.C. Fighter (JAFUE) Brittany. The fifth chateaux near St. Lo and not found, housed part of the H.Q. of the German Army LXXXIV Corps.

The objects achieved by air action during the final days before the Assault were the following:-

- (1) Favourable air situation maintained.
- (2) Deception maintained.
- (3) Offensive against French railways maintained.
- (4) Isolation of battle area from the North completed.
- (5) Assault assisted by neutralising coastal installations.
- (6) Reconnaissance over Continent continued.
- (7) Enemy reconnaissance prevented.
- (8) 'V' weapon attacks on England delayed.

The first air operations in the Assault were flown as soon as the convoys began to weigh anchor but the Assault programme as laid down in the Fighter Plan (JAPEO) began at 1600 hours on D - 1 day. At that hour on the eve of D-day, Lightnings of the VIIIth Air Force began their task of providing continuous cover to the Task Force convoys, the leading shipping of which had reached the Main Shipping Lane about 20 miles south of the Isle of Wight. By last light on 5 June, 133 Lightning sorties had been flown by aircraft of the VIIIth and IXth Air Forces engaged on these duties, all happily without incident and without discovery by the enemy.

AIR OPERATIONS IN THE ASSAULTOperations on D-Day and D Plus One DayMajor Air Tasks in the Assault

A.E.A.F. Overall Air Plan, Part 2, para. 67. The tasks to be accomplished by Air Forces in support of the Assault were:-

- (a) Protecting the cross-channel movement against enemy air attack and assisting the Allied Naval Forces to protect shipping against enemy naval attacks.
- (b) Preparing the way for the Assault by neutralizing the coastal and beach defences.
- (c) Protecting the landing beaches from enemy air attack.
- (d) Reducing the enemy's ability to mount effective counter-attacks.
- (e) Supporting the Land Forces in their advance from the assault beach-head.
- (f) Providing air lift and protection for airborne operations.

Of all the above tasks chronological priority was accorded to operations to neutralise coastal defences and to prevent enemy movement into the beach-head so as to limit their ability to mount effective counter-attacks. The first of the important tasks was allotted to night heavy bombers of the R.A.F.; the second was shared by R.A.F. night flying aircraft and U.S. and British Airborne Forces.

It has been observed that the bombing offensive against road and rail communications, bridges and coastal batteries had made considerable progress before the date of the invasion, but because of the requirements of the Cover Plan it was not feasible to attempt the complete elimination of such targets in the Neptune area until surprise was considered lost. Deception measures were apparently so effective that it was not deemed advisable to undertake an all-out attack on the remaining targets until the last possible moment. Consequently, the few targets whose immunity still constituted a potential threat to the success of the expedition had to be dealt with only a few hours before the first landing craft were due to ground on the beaches.

Night Operations by R.A.F. Heavy Bombers

The most important of these objectives were certain heavy calibre and long range coastal batteries capable of interfering with the lowering operation of the Assault Boats and of preventing movement along certain strategic roads, bridges and causeways leading to and from the beaches. Ten of the most dangerous of the coastal batteries were selected for attack by R.A.F. Bomber Command in the hours of darkness before the Assault, in the hopes that they could be disorganised or even put out of action to some extent. Five of these batteries were situated in the Western (U.S.) Assault Area and five in the Eastern (British) Area. With other coastal batteries they were engaged by the Naval Bombardment Force as soon as it was light enough for air spotting to begin, but it was feared that if unmolested, they might open fire before that time against the assault shipping well within their range off the coast.

NJC/00/431/7,  
Schedule H,  
Section A.

The main object of the night bombing was to send the gun crews into their shelters but it was hoped that the large numbers of relatively small bombs might disorganise the batteries by damaging buildings, communications, dumps and ancillary installations. Personnel might also suffer from temporary shock as a result of such heavy and concentrated bombing.

It had been planned that the night attacks should finish as near to dawn as possible so that the interval of time between night bombing attacks and day bombardment should be very short. This would prevent the enemy from recovering from the night attacks before the day bombardment began. As this late timing of the night bombing entailed the withdrawal of Lancasters and Halifaxes in partial daylight, fighter cover was provided by VIIIth Air Force Fighters which were patrolling the Cotentin Peninsula and the seas west of it in support of the Airborne Operations.

See Chaps. 8,  
9 and 10.

Exceptional circumstances caused three modifications to this timing. Two batteries in the U.S. sector and one in the British sector were bombed soon after midnight rather than five hours later so as to fit in with the Airborne plan. Apart from this the night bombing was followed very quickly by the opening of the day bombardment.

Altogether 1,136 Lancasters, Halifaxes and Mosquitoes were airborne and an average of about 100 aircraft attacked each of the ten selected batteries. Over 5,260 tons of bombs were dropped on target indicators by 1,056 heavy bombers. There was little opposition from flak and although there were several combats with night fighters, losses amounted to only six aircraft.

2,240  
1015  
and 42  
Mosquitoes.

No bombs heavier than the 1,000 lb. types were used so that extensive damage to protected guns was not expected, but it does seem from all reports that few of these batteries were able to open effective fire during the assault and indeed for some hours afterwards. It is concluded therefore that Bomber Command successfully accomplished the first major air task in the Assault.

#### Airborne Operations

The second of the major operations on the night of the 5th/6th of June was the transporting and dropping of the main elements of three Airborne Divisions behind the coastal defences adjacent to the landing beaches. The objectives allotted to the Airborne troops lay on either flank of the main front and the role of these Divisions constituted, in the opinion of the C.-in-C. Land Forces, a vital feature in the Neptune plan.

#### American Airborne Operations

The military plan involved the landing of a seaborne division on beaches to the southeast of the Cotentin Peninsula immediately north of the Carentan estuary, a landing which was to prepare the way for an early advance on Cherbourg. But inland of the beaches lay a flooded area crossed by causeways which could easily be defended by the enemy if he was given any warning. Furthermore, the strategic centre of the country between these beaches and the other Allied beaches was the town of Carentan whose natural defences had been improved by flooding the river valleys in this low-lying area.

It was essential to capture the flood control point as a first step to the capture of Carentan if the linking up of all the beach-heads was not to be unduly delayed. In addition,

TLM/MS 150/1  
Encl. 58.

several bridges over the rivers in the area had to be captured or destroyed to prevent the enemy moving in re-inforcements. Consequently two American Airborne Divisions were dropped on rising land behind the selected Cotentin beach (Utah beach) for the following purposes:-

- (1) to seize the flood control lock and the crossings of the River Douve at the base of the Cotentin Peninsula;
- (2) to seize the Western exits of the causeways running to Utah beach;
- (3) to seize a battery near St. Martin de Varreville;
- (4) to hold off enemy troops moving into the threatened area.

About 920 Dakotas of the IXth Troop Carrier Command and 100 Waco Gliders took part in the first phase of operations when the 101st and 82nd Divisions were taken to the Ste. Mere Eglise district, just north of Carentan. Dropping of paratroops began at 0020 hours and continued for three hours. About 100 gliders were also landed. There was little opposition from enemy fighters and flak but even the small amount of the latter caused partly trained pilots to take evasive action. This combined with a high wind and some cloud caused a scattered drop with very heavy losses of troops. Losses of aircraft and gliders were unexpectedly light, *largely because the ~~many~~ pilots did not adhere to the planned route.*

Ibid

See Chapter

Only about a sixth of the divisional strength was available for operations at the rallying points at H-Hour but by one means or another nearly all the objectives were gained. The success was partly due to remarkable enterprise displayed by the troops largely assisted by the uncertainty and disorganisation caused to enemy defences over so wide an area. The causeways, coastal battery and flood control lock were all seized, some of the vital bridges, but not all, were destroyed and the strong enemy forces in the area were held off from the Utah beaches.

#### British Airborne Operations

No. 38 Group  
Op. Order  
No. 500.

The 6th Airborne Division was employed to protect the left flank of the British front by seizing the high ground between the Rivers Orne and Dives and holding it against all attacks. To do so, Airborne troops captured intact the Benouville bridges over the Orne River and Caen Canal, captured and put out of action the Merville-Salenelles battery, and destroyed a number of bridges over the River Dives to delay the arrival of enemy troops.

No. 38 Group  
Neptune  
Report.

Beginning at 0020 hours with the dropping of Pathfinder paratroops, operations were carried out in three phases, the main drop taking place half-an-hour after the Pathfinders had jumped. Altogether, about 360 aircraft and 96 gliders from Nos. 38 and 46 Groups took part in the operations; seven aircraft and 22 gliders were lost.

The drop was scattered due to a number of causes, chief among which were the high wind and unsuccessful navigation. It was calculated that 57 out of 74 gliders successfully released, landed on or near their correct landing zones but many of them were badly smashed. Valuable troops and equipment were lost in consequence and surviving commanders had to face great difficulties. All the objectives were gained but only after some notable feats of arms especially in the capture of the Merville battery and of the Benouville bridges.

In general, the Airborne Forces were able to make the following important contributions to the success of the invasion:-

- (1) The vital ground on the flanks and behind the beaches was secured and held while the beaches themselves were being assaulted.~~from the air.~~
- (2) Two coastal batteries believed dangerous were rendered harmless.
- (3) The movement of enemy re-inforcements was made much more difficult.
- (4) The invasion area was widened and thus the confusion of the Germans was greatly increased and their concentration became correspondingly difficult.

#### Other Night Operations before the Assault

Several minor operations also took place during the six hours of darkness before the seaborne assault which had objects and results of an importance out of all proportion to the effort involved. Amongst these were the deception measures undertaken by the specially equipped squadrons of No.100 Bomber Support Group (Bomber Command).

Bomber Cmd.  
Op. Order  
No.188,  
June 1944.

Led by some of the most experienced officers in Bomber Command, squadrons co-operated with the Navy in two operations designed to convince the enemy that a large scale landing was being attempted in the Pas de Calais area. One of these, directed against Boulogne, drew the attentions of E-boats, enemy night fighters, searchlights and guns. Another operation, connected with the one already mentioned, gave the impression that a large bomber force, protected by fighters, was in the same area, and this also evoked considerable enemy re-action especially on the part of the night fighter organisation. Another operation gave the impression that an Allied convoy was approaching Cap d'Antifer (near Havre).

Ibid,  
Operation  
Glimmer.  
Ibid,  
Operation  
A.B.C.  
Ibid,  
Operation  
Taxable.

Two squadrons were fitted with equipment which jammed the full frequency range of the enemy radar warning system for over five hours. Behind this screen, bombing and airborne operations could take place without the enemy being able to appreciate their significance.

Ibid,  
Operation  
Mandrel.

Diversionsary airborne operations were also executed to assist the genuine ones. One of these tried to hoodwink the enemy into believing that an airborne operation was being carried out north of Rouen by dropping dummies accompanied by noise making machines and a few real paratroops. Two other operations assisted the American Airborne operations by simulating a troop carrier force on a parallel course to the real one with a diversionsary dropping zone far to the southwest. The latter drew much attention from the enemy and two Stirlings of the small force were lost.

Bomber Cmd.  
O.R.B.,  
June 1944,  
Appendix OL/25.

Extensive night operations were also carried out by all the aircraft available in Nos. 2 and 100 Groups, and Nos. 10, 11, 12 and 85 Groups to harass enemy airfields and transportation. Night fighters and intruders were also used to assist the troop carriers and the heavy night bombers by attacking flak and searchlights in the areas over which troop carrying aircraft were to fly. Night fighters patrolled around the whole of the designated Assault Area to keep out the German Air Force and large numbers of Mosquitoes were dispatched to France, Belgium and Holland to attack airfields. Road and railway centres over a wide circle were patrolled in search of movement and night reconnaissance went on continually.

Few enemy aircraft were found over the Assault Area that night and although the heavy bombers reported several combats and a few losses none of the vulnerable troop carrying formations was attacked. The shipping convoys were also fortunately quite immune from air attack throughout the night and when dawn broke were also able to begin discharging without interference from the G.A.F. This is to be regarded as the first major victory achieved by the Air Forces in the campaign after the convoys actually sailed.

The second victory was won more slowly and credit for winning it must be shared with the Naval Forces. This was the battle against the U-boats which, by cutting their life-line, could conceivably have strangled the invasion troops after they had secured a lodgement area. Coastal Command anti-U-boat patrols in the Western Approaches were planned to prevent submarines getting through into the Channel. They began as soon as the convoys sailed and were brought up to full strength on the night 5/6 June. First results were very favourable but the struggle was a long one before Coastal Command and the Naval Forces scored their most notable victory.

#### Day Operations before H-hour

The smoke and dust from the night bombing attacks had barely cleared away before other great forces of Allied bombers and fighters were over the anchorages and beaches on the first of the daylight missions. The bombardment of the one American and three British beaches between the mouths of the Vire and Orne rivers was carried out by the Fortresses and Liberators of the U.S. VIIIth Air Force. The bombing of the American beach on the Cotentin Peninsula was done by the Marauders of the U.S. IXth Air Force. Both bombardments were completed 10 minutes before the scheduled H-hour in each area.

Some of the four-engined heavy bombers had to begin taking off at 0200 hours so as to make it possible for the 1,361 aircraft despatched to form up into 225 flights of six aircraft each. These pre-dawn assemblies were successfully accomplished in spite of the presence of more cloud than had been expected. Led by H2x Pathfinders, 1,038 aircraft drenched the beach defences with small bombs (250-500 lb.) while 47 out of the force of 155 assigned, attempted to cut the bridges at Caen.

Cloudy conditions forced the use of through overcast technique and this, combined with precautions to make certain that our assault troops approaching the shore were not bombed, resulted in most of the bombs falling inland of the beach defences. However, all the bombs were dropped correctly in the allotted period and none of the great load - 1,760 tons - fell on our own troops.

Unlike the other four beaches attacked by the heavy bombers, the defences of the Utah beach in the American sector were well hit by the air bombardment of the Marauder aircraft of the IXth Air Force. Owing to clouds the 18 boxes of aircraft bombed from unusual heights between 3,000 to 7,000 ft. but achieved marked success. About 270 aircraft were engaged on this operation between 0605 hours and 0624 hours. H-hour in the American sector was 0630 hours. Marauders were also allotted three batteries on the British front and three on the U.S. front for attack as early after first light as possible. Attacks on the former were nullified by weather and Pathfinder troubles so that only about a dozen aircraft dropped their bombs (0517-0550 hours). Only one aircraft bombed Benerville battery which had to be silenced by naval gunfire after proving to be a thorn in the flesh of the bombarding fleet for some hours.

Pointe du Hoc, Montfarville and Maisy I, all very important batteries, were attacked visually, and the two latter were apparently hit.

Marauder attacks began only two minutes after the night bombers had left the Ouistreham I battery but this was the shortest interval between the conclusion of the night bombing and the opening of the day bombardment. It is of interest to note that the Bombardment Ships reached their stations at between 0500 and 0515 hours and opened fire shortly afterwards. To do so they had first to be covered by smoke screens to protect them from the fire of the heavy batteries of Le Havre and Cherbourg. These smoke screens were laid by the Boston squadrons of No. 2 Group.

Before the Naval bombardment began, aircraft had to be in position to perform the further service of spotting the fall of shot. Four squadrons of Fleet Air Arm Spitfires, two of A.D.G.B. Spitfire V squadrons and fifteen U.S. Navy Spitfires were assisted during the morning by three Mustang squadrons from 2nd T.A.F. These all operated from Lee-on-Solent under 2nd T.A.F. control as an Air Spotting Pool and the enormous total of 435 sorties were flown by 159 aircraft on D-Day. About a half of these operated successfully. There was no lack of targets during the initial assault and for the remainder of the day when the bombarding ships were busy on counter-battery action, but there were technical difficulties in establishing good communications and the weather was very trying. Seven of our aircraft were shot down on D-Day and six on D plus one day but thereafter losses were very rare.

#### Tactical Support to Assault Troops

In order to assist the Assault Troops getting established ashore, fighter-bombers were given pre-arranged targets to attack at H-hour. Before carrying out these attacks, certain squadrons were instructed to call up the Headquarters Ship at each beach in case there were more urgent targets for them. Twelve squadrons of Typhoons attacked strong points, defended localities or batteries on or near beaches and H.Q. buildings in the British area at H-hour. At Sword beach the assault boats arrived exactly on time, immediately following the Typhoon attacks, and penetrated inland before the defences had recovered. At Gold beach the Typhoons failed to knock out their target on one flank (Le Hamel) and progress was rather slow at first. The Canadians were late in arriving at Juno beach and the defences had come to life again after the initial bombardment. In spite of heavy fire, the troops struggled ashore, centres of resistance were by-passed and the Canadians soon captured their immediate objectives.

In the American Sector similar arrangements had been made for one fighter-bomber squadron from the IXth Air Force to call up the H.Q. Ship at each beach before attacking its pre-arranged targets. Other Thunderbolt squadrons attacked two coastal batteries and seven bridges at about the same time as the opening of the Naval bombardment (i.e. about 40 minutes before H-hour).

On Omaha beach the assault did not go according to plan for a number of reasons. Firstly the air bombardment appears to have had little effect beyond alerting the defenders. Secondly, the defences of this sector proved unexpectedly strong and difficult to penetrate. Naval bombardment did not open up lines through the obstacles and the men whose task it was to clear pathways up the beaches had to work under great difficulties and under heavy fire. Seas were rough on this beach and many boats as well as amphibian tanks sank off shore.

The exhausted troops who landed, found themselves confronted by three battalions of a reserve division which had recently strengthened the Omaha beach area. One battalion was, by chance, carrying out an exercise that night. Its presence was suspected by Allied Intelligence but it was too late to pass on the information to the assault troops who were embarking. Despite these disadvantages the Americans succeeded in retrieving the situation.

Utah beach saw the most complete success of all, due perhaps to the accuracy of the air attack by the Oboc Marauders and to the seizure of the hinterland by the two airborne divisions. Both American assaults began at 0630 hours.

During the remainder of the day 2nd T.A.F. and IXth Air Force fighter-bombers continued their close support of the Assault troops, sometimes in response to requests over the air support tentacles, sometimes on armed reconnaissances in search of targets of opportunity. On the whole, the Army was unable to offer many worthwhile targets and armed reconnaissance missions were in the majority. Very little was seen of the German Air Force during the first half of D-Day.

#### Fighter Cover Over the Shipping Lanes and the Assault Area

Comprehensive plans had been made by Air Vice-Marshal Saunders and his staff at the Combined Control Centre, Uxbridge, to meet any possible threat from the G.A.F. Six Groups of Lightnings (P.38) from the U.S. VIIIth and IXth Air Forces were given responsibility from D-Day minus one onwards for the protection of the shipping lanes between the United Kingdom and the anchorages on the Normandy coast. Patrols were to be flown at four squadron strength from 1600 hours on D minus one Day and thereafter from 0430 hours each morning to 2300 hours at night until the situation justified a reduction in this scale of effort. Protection of the shipping lanes at night was provided by night fighter aircraft from A.D.G.B. and No.85 Group, operating under the control of the Combined Control Centre.

Anchorage and beaches from five miles inland to 15 miles out to sea were to be protected by a strong fighter umbrella consisting of a low cover, provided by Spitfires, and a higher cover (between 9,000 and 15,000 feet) provided by Thunderbolts (P.47). The low cover consisted of six squadrons of Spitfires divided into two wings covering the eastern and western areas of the anchorages and beaches. The High Cover consisted of three squadrons of Thunderbolts covering the whole area. A total of 51 squadrons was required to meet the full commitment. In addition, six fighter squadrons out of a general reserve of 30 squadrons were always maintained at readiness to be thrown into any battle that might develop. In the event, however, the expected air battle never developed, and in time the Air Commander-in-Chief was able to reduce the scale of effort devoted to purely defensive tasks. Protection at night was to be provided by a fighter screen operating well to the south of; and in the flanks of the Assault area.

### Fighter and Fighter-Bomber Operations Outside the Assault Area

The battle area itself was screened from the rest of France at the hours of peak activity during the day by groups of fighters flying area patrols under arrangements made by the U.S. VIIIth Fighter Command. To a lesser extent the assault area was also protected by squadrons from A.D.G.B. operating in Brittany and Pas de Calais. Major General Kepner's Mustangs and Lightnings, because of their greater range and endurance, were better able to carry out long distance fighter operations than were A.E.A.F. fighters and this was more convenient because there was no necessity for the VIIIth Fighter Command to be brought under the direct control of A.E.A.F. Consequently it was agreed with Generals Spaatz and Doolittle that the functions of the VIIIth Air Force fighters should be to provide indirect support to air operations by operating outside the battle area and to attack enemy ground movements towards that area. Additionally they undertook the major commitment of escorting cross-channel shipping.

TLM/S. 136/51  
Encl.1

From before 0500 hours until nearly 1000 hours, when other Commands were at their busiest, General Kepner's fighters surrounded the whole of Normandy, flying along fixed patrol lines at several different heights and concentrating on the task of preventing the enemy air attacks on the Air Forces supporting the assault. A second period of activity came in the early afternoon and a third coincided with important heavy day bomber and airborne operations in the evening. At the conclusion of patrols, fighters went down and attacked any military movements or other suitable targets. The importance of these operations can be better appreciated when it is realised that they required nearly 2,000 sorties on D-Day. Similar operations undertaken by A.D.G.B. Groups were directed mainly against airfields and movements and against coastal shipping.

### Operations to Delay Enemy Movement on the Ground

As the Supreme Commander had placed so much emphasis on the importance of the air operations to the initial assault, the heavy clouds of the morning gave much cause for anxiety at Air Headquarters, Stannore. One of the gravest disadvantages of the bad weather was that Staffs at Commands themselves did not know exactly what had happened in their own operations, with the result that H.Q. A.E.A.F. was also in the dark. For the most part, reports were very reassuring, but they strayed perhaps too much in the direction of optimism when nothing was known for certain. For example, misled by nothing but jubilant reports from the Troop Carrier Wings, Leigh-Mallory wrote to the Supreme Commander on D plus one Day expressing relief when events had proved his fears of heavy losses to the American Airborne Divisions quite unfounded. Losses of aircraft had, in fact, been very light, but after the lapse of some weeks it became appreciated that losses of paratroops had been quite as heavy as predicted by the Air C.-in-C. The wonder is that, weak as they were, the paratroops succeeded in performing most of their tasks.

The unsuitable weather nullified, to a large extent, the advantage enjoyed by the Allies of overwhelming air superiority. This was because the heavy day bombers could not operate effectively in such conditions. As soon as the Fortresses and

70(a)

Liberators were under way on their first mission, over 500 other Fortresses and Liberators were ready for the second mission of D-Day. This was to bomb eight key centres in Normandy to block the roads. Dense overcast caused nearly all of this force to return to base without bombing, and the same weather conditions rendered comparatively abortive two further missions undertaken by the VIIIth Air Force with the same objects.

The weather had an adverse effect upon Allied air reconnaissance. Tactical Reconnaissance (Tac/R) aircraft operated at a high rate of effort but only at a reduced level of efficiency because of cloud conditions. The two Photographic Reconnaissance (P/R) squadrons in 2nd T.A.F., however, only flew half a dozen sorties on what they had expected to be their busiest day of the whole campaign.(1) In fact it

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(1) It might be added here, however, that the Spitfire and Mosquito P/R squadrons of No.34 Wing (under H.Q. A.E.A.F.) did slightly better, flying 17 and 6 sorties respectively.

appears, by statements made by Staff Officers at Advanced A.E.A.F. and H.Q. 2nd T.A.F., that the most valuable information was received, not from normal P/R and Tac/R sorties but from armed reconnaissance flown by formations of eight to twelve Typhoons or Mustangs.

These were begun after the failure of the second mission of the Day Heavy Bombers to block movement through Caen and other Normandy route centres. Deep concern was expressed by the Twenty-one Army Group representatives at Stanmore (Brig. Richardson) and Uxbridge (Brig. Oxborrow) over the movement of enemy armour from Dreux through Argentan to Caen and from Laval through Domfront to Thury Harcourt. For the time being the Loire crossings were ignored and efforts were concentrated on attacking such route centres as St.Lo, Vire, Coutances, Conde, Argentan, Lisieux, Caen, Thury Harcourt and Pontaubault, through which enemy armour, reinforcements and supplies would have to pass.

But even before noon on D-Day it was realised that the weather was making it impossible to carry out all carefully laid plans to stop enemy movement by demolishing towns to block main roads. Accordingly the Commander, Advanced A.E.A.F., ordered all roads in these areas to be covered by patrols of Typhoons armed with rockets or bombs. A smaller number of Thunderbolts and Mustangs carried out similar armed reconnaissances and a wider circle was also covered by VIIIth Air Force fighters on similar errands. This did not stop enemy movement but apart from the severe damage done to formations such as the Panzer Lehr Division on the march, and to other road convoys, it had the effect of dispersing movement on the main roads or of sending it on to side roads. A very large proportion of enemy movement was forced to take place by night and this added to the delay. As the delay of enemy reinforcements was the main objective of the Air C.-in-C.'s plan, he thus achieved a partial success in spite of the weather.

APWIU, IXth Air Force, 63/1945, paras.13 to 15.

German Document 7th Army Log, A.H.B.6, VII/70, p.6.

His success was only partial because the enemy quickly appreciated that the bad weather had done much to help them to overcome the handicap of air inferiority. An order from the Supreme Command of the Armed Forces on the evening of D Day said that, bad weather must be utilised to the full for bringing up reserves, and few armies have ever made better use of bad weather than did the German Seventh Army during the next week or two.

Nothing much had been seen of the G.A.F. until ~~the middle of the day~~ *About 1500 hours* and the Allied Air Commanders were greatly puzzled by its non-appearance. If the enemy were to put up over a thousand sorties against the Neptune forces then something big and dramatic had to happen in the latter part of the day but so far as effort in the vital area (beaches, anchorages and convoy routes) was concerned, the Luftwaffe hardly appeared before nightfall. The Typhoons helped to a partial solution of the mystery. As they penetrated inland behind Caen they contacted enemy fighters on a few occasions and lost some aircraft in combat. Enemy fighters were apparently being used to escort road convoys well behind the battle and only offered to fight if they were in superior numbers or if they caught Allied aircraft at a disadvantage.

See Chap. 6, p.5.

With the exception of the air plan for delaying enemy reinforcements, all the rest of the air plans went like clockwork. It was in an atmosphere of congratulation and hope that the Chief of the Air Staff and later, His Majesty the King accompanied by the Prime Minister and General Smuts spent some time with the Air C.-in-C. in his Battle Room at Stanmore. The distinguished visitors stayed long enough to inspect the

flags, symbols, and counters, displaying the latest information about the progress of the assault and left satisfied that all was going well.

The effect of the bad weather was that some of the squadrons were not required to put up such an intensive scale of effort as had been planned for them, whereas others like the Typhoon, Thunderbolt and Mustang fighter-bombers had to work even harder than had been expected so long as conditions were unsuitable for the operation of the Heavy Day Bombers. The sum total of sorties flown by all the aircraft in the Allied Air Forces from midnight on 5/6 June to midnight on 6/7 June amounted to 14,674. Never before in the history of air warfare had so many aircraft taken to the air in one day. Of these, about 60% (9,018 sorties) were flown by U.S. A.A.F. aircraft and 40% (5,656 sorties) by the R.A.F. Over 12% of the whole were night sorties and 30% of the whole were flown in connection with the Joint Fire plan to assist the Assault.<sup>(1)</sup>

#### Operations during the Night after the Assault

On the evening of D Day, conferences were held at Stanmore and Uxbridge to select targets for the night and the following day. Targets for Bomber Command had already been allocated but in view of the uncertainty about the results of the attacks by the VIIIth Air Force it was decided to employ the Heavy Night Bombers on further attempts to block the routes through the chief towns of Normandy. This was done and 977 Lancasters and Halifaxes attacked nine route centres<sup>(2)</sup> during the night. Severe damage was done in several cases but not sufficient to cause more than temporary blockages.

A.E.A.F. Int/Ops  
Summary No. 136,  
pp. 13 and 14.

Bomber Command  
O.R.S. Night Raid  
Report No. 626,  
p. 3

Although blockages were only temporary obstacles in that the enemy soon cleared them or found a way around, the 3,100 tons (3,472 U.S. tons) of bombs must have created some difficult traffic problems at St. Lo, Conde, Argentan, Acherès, Lisieux, Vire and Coutances. At Caen the town centre was burning and four road bridges were blocked by craters when photographed on D plus one day.

Nearly 200 aircraft of No. 2 Group supplemented the operations of Bomber Command by carrying out armed reconnaissances in search of movement. They dropped flares to light up the roads, railways and towns, using about 700 bombs on convoys, bridges, cross-roads and similar targets.

In spite of this activity by over 1,300 R.A.F. aircraft, the enemy succeeded in moving up considerable forces and supplies by the morning of D plus one day. Enemy movement was difficult and dangerous, as was admitted by such officers as General Bayerlein of the Panzer Lehr Division, but it was carried out under cover of darkness, bad weather and elaborate camouflage arrangements. Fortunately, it was much slower than it might have been, thanks to the success which had attended the preparatory air operations.

A.P.W.I.U. 373/2  
IXth Air Force,  
63/1945.

(1) See Statistics at end of this Chapter.

*delete underline* (2) Caen (126), Coutances (132), Argentan (126), Conde (115), St. Lo (110), Vire (109), Chateaudun (105), Lisieux (101) and Acherès (53). (Figures from Bomber Command O.R.S. Night Raid Report No. 626, dated 25 September 1944.)

### Night Air Defence of the Assault Forces

The greatest puzzle to allied staffs after Neptune had been in progress for over twelve hours was the continued absence of the G.A.F. Air Chief Marshal Leigh-Mallory had been very confident that the defence arrangements were adequate to cope with the effort which the Germans could muster and was more ready than the other Air Commanders to regard this as only a minor threat. As a measure of prudence, offensive operations were regularly undertaken against the chief airfields within fighter range of the assault area and very generous arrangements were made for the air defence of the Assault Forces.

JAFEO  
Appendices C - E.

Since about 15.00 hours small formations of German aircraft had appeared over the beach-heads and minor low level attacks of the tip-and-run type had been made. No G.A.F. records have so far been found<sup>(1)</sup> to indicate their daily scale of effort in Normandy, but certainly it was only a small proportion of that thought possible during the first 24 hours. The Air Defence Plan had provided for three Fighter Direction Tenders and two Ground Control Interception (G.C.I.) installations to be ready for operations by dusk on D-Day. The ships were to control Fighters patrolling over the anchorages and the shipping lanes, while the G.C.I.s were to be in charge of aircraft inland of the anchorages. The latter were primarily intended for the control of Night Fighters. No U.S. night air defence organisation was ready for operations during the first months of Neptune.

The Fighter Direction Tenders were in position on D-Day as arranged, and worked reasonably well when it is remembered that hundreds of aircraft were sometimes in the area. The G.C.I. for the British Sector was set up near Arromanches on D-Day, but in the chaos on Omaha beach, most of the equipment of the other G.C.I. was lost and complete replacements did not arrive until 11 June.

Under the control of this new organisation, together with the shore stations, constant patrols were maintained on the night of June 6/7, and thereafter by No. 85 Group, while A.D.G.B. provided special Night Fighter protection for Portsmouth and the other Overlord bases. Mosquitoes were also sent out on intruding missions.

A.D.G.B. Fort-  
nightly Review,  
1-16 June, 1944

After all the estimates of the G.A.F. menace to the Assault Forces, the small attacks that did take place were a distinct anti-climax. On the night of the 6/7 June, when over 1,160 Heavy Bombers and nearly 300 Fighter and Light Bomber types of the R.A.F. were on operations, it was believed that only about 175 long range bombers were despatched by the enemy against the beaches and shipping. About 40 of these succeeded in locating the target area and A.D.G.B. (with No. 85 Group) claimed to have shot down twelve aircraft.<sup>(2)</sup> Considering the bad weather, the low level at which enemy aircraft

(1) Summer, 1948

(2) These figures have not been confirmed by German records but the German Seventh Army Log notes (at 0740 hours, 7 June) that a total of 22 aircraft of Fliegerkorps II had attacked shipping during the night. These were short range bombers.

but only 4

were operating, and that such large forces of our own aircraft were operating in the same area, this figure was very encouraging. Torpedoes, dirigible bombs and mines were dropped by enemy aircraft and at least three ships were hit, one of which was an L.S.T. which sank.

#### Operations on D plus one Day

Weather, much as forecast by Group Captain Stagg, prevailed on the second full day of operations. There was much low cloud and occasional rain, but conditions were generally operational for Fighter types, if unsuitable for high flying Heavy Bombers.

Once again, the outstanding feature of the day's operations was the absence of any challenge from the enemy air forces. There were small hit-and-run raids on the beaches and on shipping, which did occasional damage, but for the second day the Fighter Cover had no difficulty in carrying out its responsibilities. The Allied Air Forces, on the other hand, had one of their most active days in the campaign, despatching a total of nearly 12,000 sorties, of which over 4,000 were by the IXth Air Force. (1)

2nd T.A.F. had the busiest day in all its history, putting up about 2,400 sorties. As on D-day, the chief commitments of the Tactical Air Forces were to provide:-

- (i) Assault Area Cover and Escort.
- (ii) Reconnaissance of all types.
- (iii) Tactical support to the Assault Forces.

but after D-Day, with the troops firmly established ashore, the Air Commander-in-Chief believed that the supreme task of all the Air Forces at the disposal of the Supreme Commander was to hinder and delay enemy movement. A subsidiary task was the continuance of the deception plan which threatened the Pas de Calais. Fundamental to all Allied planning was the maintenance of the favourable air situation, as this was essential to our freedom of action.

In furtherance of these general objects, it will be seen that the bulk of all air operations planned at Main and Advanced H.Qs., A.E.A.F. had the following effects:-

- (i) The freezing of all road and rail movements close to the fighting zone.
- (ii) The disruption of all movement from the rest of the Continent into Normandy.
- (iii) Maintenance of the threat to the Pas de Calais.
- (iv) The denial to the enemy of the use of all airfields within fighter range of Caen - Carentan.

The first of these effects was never produced in entirety owing to the bad weather which limited the use of the Fortresses and Liberators on D-Day and immediately afterwards. Bridges, important cross-roads, narrow and congested streets, cuttings, tunnels and embankments on railways and other choke points, were carefully chosen on routes leading to the battle zone.

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(1) In the 24 hours ending midnight 7 June.

German document  
7th Army Log,  
A.H.B. 6  
Transl. VII/70,  
Entry  
7 June 1944.

T.L.M./F/S.34.  
Encl. 8A,  
para. 18.

T.L.M./F/S.34,  
Encl. 9A,  
para.10.

Air C.in C.  
A.E.A.F., O.R.B.,  
June 1944,  
p. 4.

Advanced A.E.A.F.  
O.R.B. June 1944  
p.14.

A.E.A.F./S.8721  
Force G, Air  
Staff Report,  
paras. 2B and 12.  
~~A.E.A.F./S.8721/  
Force G, Air  
Staff report  
paras. 2B and 12~~

Successful attacks on these points could inflict long delays on the enemy. In addition, very large numbers of fighters and fighter Bombers were sent out on armed reconnaissance to report on, and attack with bombs, rockets, cannon and guns, all kinds of military traffic seen moving towards the battle area. Attacks on railway centres in Normandy were continued with the intention of forcing the enemy to detrain at a long distance (over 100 miles) from the battle area so that he would be compelled to travel the last stage of the journey by road. Records of the German Seventh Army show how successful these operations soon became.

Close support in the battle against gun positions, strong points and similar targets was not neglected but though calls on D plus one day subsequently became more numerous than they had been on D day they never absorbed a very high proportion of the effort available except for a short time on Omaha beach. There a critical situation had developed on D day<sup>(1)</sup> and D plus one day owing to the partial failure of the assault forces to clear the beaches and penetrate inland. During the crisis General Brereton had laid on four Groups for close support at the rate of three squadrons per hour concentrating on enemy troops and positions opposing the advance of the Americans in the beachhead. Air Marshal Coningham said that although it was expensive, it was possibly the turning point at Omaha beach.

On D plus one day the most urgent requirement of the assault forces was the holding back of enemy reserves from the beach-head to shield the landing and organization of our own troops and equipment. Only when it was certain that the enemy's immediate reserves had succeeded in getting through, did the Air Commander-in-Chief propose to employ the heavy bombers against targets further afield. On 7 June, therefore, Fortresses and Liberators were first used against six principal road centres in the forward areas. Eight railway targets near important Loire crossings were attacked later in the day during a temporary improvement in the weather. An airfield in Brittany was also heavily bombed but three key targets on the Grande Ceinture<sup>(2)</sup> railway around Paris were left for attack by Bomber Command after dark. Over a thousand heavy bombers and nearly 1,600 fighters of the Eighth Air Force operated.

Resources of the 2nd T.A.F. and the Ninth Air Force available for offensive tasks were used, mainly for the same general purposes, i.e. to prevent the movement of hostile troops and supplies into the fighting line or within the forward area. At the same time a proportion of the available effort was always retained for attacks on gun positions, strong points, vehicle or troop concentrations, dumps and headquarters as required by Twenty-one Army Group.

Headquarters<sup>(3)</sup> Ships of which much had been hoped as links with the Air Alert/Air Support squadrons, were rather disappointing owing to a lack of information about the progress of the battle on the part of Army Staffs. This situation

(1) The German 352nd Division reported at 1535 hours that the invaders had been thrown back into the sea except around Colleville-sur-mer. (Seventh Army Log, page 5).

(2) These were high casualty targets in populous areas.

(3) H.M.S. Bulolo; H.Q. Ship, Force G was hit by a bomb on D plus one day and two R.A.F. fighter controllers were killed.

gradually improved as the air support organisation ashore took over completely and became more accustomed to the work, but as on D day Tactical Air Force Squadrons were always briefed to attack alternative targets before taking off on air support calls.

Advanced A.E.A.F.  
O.R.B., June  
1944, p.10.

The general lack of information on D-Day also handicapped the co-ordination of strategic and tactical bomber effort by the Air C. in C. and the Commander Advanced A.E.A.F. It was arranged that all attacks by medium and fighter-bombers in the Tactical Area should in future be laid on by Commander, Advanced A.E.A.F. who could, if necessary, ask the Air C. in C. for additional help from the heavy bombers. This avoided the chance of the medium bombers being forced to take on targets outside the tactical area because those inside had been allotted to heavy bombers. Improved means of passing on information from Stanmore to Uxbridge were also devised.

German document  
7th Army Log,  
pp.8,9 and 10.

The enemy ground movement that gave General Montgomery the greatest anxiety was that converging on the Caen neighbourhood. The 21st Panzer Division was moving from Falaise to Caen, the 12th S.S. Panzer Division from Dreux and Evreux and the Panzer Lehr Division from Alencon to Domfront and Thury Harcourt. In view of the doubt about the success of the Eighth Air Force attempts to create choke points, the maximum number of Typhoons were sent out against movements along the roads in three areas with the bulk of the effort allocated to the quadrilateral, Caen, Mezidon, Falaise and Villers Bocage. Less important areas were from Evreux to Rouen south west of the Seine and the roads in the axis Argentan - Dreux.

German Document  
A.H.B.6,  
Transl. No.  
VII/70, p.10.

The fighter-bombers in the latter area saw a great deal of movement and in consequence were strongly reinforced. Activity varied at different times of the day with the uncertain weather but over 752 sorties (over 700 on armed reconnaissance) had been put up by Typhoons and Mustangs<sup>(1)</sup> by nightfall. Sweeping claims were made by pilots concerning the number of enemy vehicles, locomotives and rolling stock destroyed but though movement was often delayed it was not stopped. Furthermore it seems clear by the names of the areas in which most movement was reported that enemy forces of all kinds were closing in on the beach-head. This is confirmed by the telephone log of the German Seventh Army. By mid-day on 7 June, the 12th S.S. Panzer Division was attacking North-West of Caen and elements of the Panzer Lehr (Training) Division were up to Thury Harcourt. The 21st Panzer Division had been in action against the British 3rd Division and Airborne Troops astride the Orne North of Caen since the previous day.

Advanced A.E.A.F.  
O.R.B. June  
1944, p.12.  
Omaha Beach-head,  
p.119.

Movement in the U.S. sector gave rise to less anxiety than that towards Caen except that the fate of the Omaha beach-head was uncertain.<sup>(2)</sup> In response to a request by the Vth Corps the Ninth Air Force flew 35 missions of squadron strength on 7 June in the zone from Bayeux west along the Aure valley with one squadron always over the target area. Enemy gun positions were priority targets on these missions but were difficult to

(1) These had been relieved of their commitments to protect Coastal Command Anti-U-Boat patrols as the latter were not molested by enemy fighters.

(2) An account of U.S. military operations in this area may be read in 'Omaha Beach-head,' an official narrative by the Historical Division, U.S. War Department. (Copy in A.H.B. Records: Index No. II SI/6.

locate. Road and rail targets as well as enemy concentration areas in the Foret de Cerisy received most of the weight of attacks by 467 aircraft. The line of search extended generally from Vire on either side as far as Granville and Argentan.

German document  
A.H.B.6  
Translation  
VII/70, p.10.

Movement from Brittany was known to be particularly active but was often hard to find as divisions were moving piecemeal. The Air Commander in Chief asked the IXth Air Force to pay great attention to movement centred around Rennes.

#### Enemy Reaction in the Air and on the Ground

##### Operations on the first two days

Information about the German Air Force was that torpedo and long range bombers were reinforcing Kerlin Bastard, Rennes and Vannes, the great airfields of Brittany. The VIIIth Air Force began its post D-Day offensive against the German Air Force by attacking Kerlin Bastard at the request of Coastal Command which feared the attacks of Ju.88s on its Anti-U-Boat patrols in the South West Approaches. Enemy ground attack aircraft appeared to be based on the airfields around Evreux and Laval.<sup>(1)</sup>

TIM/F/S. 34,  
Encl. 9A,  
para.13.

Small formations of enemy aircraft were frequently seen by the 2nd T.A.F. fighter-bombers on armed reconnaissance but these were almost invariably deep inside France. This was corroborated by VIIIth Fighter Command pilots operating ~~in~~ in adjacent areas but further inland. The latter reported sighting about 150 enemy fighters covering road movements west of Paris. But there was still no sign that the enemy was prepared to make a serious effort to fight it out in the air before the Allies became firmly established on the ground. The Allied estimate of G.A.F. effort on 6 June was about 100 sorties during the day (nearly all in the second half of the day) and about 175 bomber sorties during the night. No estimate was made of fighter or of transport activities though it was known that considerable movement of Ju.52s took place.

On 7 June there were about 70 bomber and fighter-bomber sorties and perhaps 250 S.E. fighter sorties during the daytime with a night-time effort on about the same scale as on the night before.

A.D.I.(K) Report  
No. 373/1945,  
para. 394.

General Galland's<sup>(2)</sup> Interrogation Report states that plans for countering the expected invasion called for the immediate transfer of all Fighter Geschwader except four from the Reich to the West to come under the operational control of Jagdkorps II (Junck). Some reinforcements had certainly

(1) An observation made in a G.A.F. Air Historical Branch report (A.H.B.6 Translation No.VII/32, page 3) states ' at the beginning of the invasion, III/S.G.4 transferred two Staffeln from St. Quentin - Clastres and one Staffeln from S. France to Laval in Brittany. Although the Gruppe had already suffered losses from enemy fighters during transit, it was able on the same day to carry out three operations with between 4 - 8 aircraft at a time.

(2) Adolf Galland, one of Germany's greatest Fighter pilots, was General Der Jagdflieger in charge of all matters pertaining to the Fighter Arm from December, 1941 to February 1945. His knowledge of these matters was unique.

Ibid, para. 396

arrived by 7 June but enemy fighter strength was still far less than had been expected by the Allies. The explanation offered by Galland for this gives the credit to the Allied Cover Plan for the first delay of 24 hours before any German fighters were moved because he says that Rundstedt, the C. in C. West, expecting a heavier landing in the Pas de Calais, refused to give the order for the transfer. The fighters were, according to Galland, transferred by order of the Luftwaffe itself.

Ibid  
paras. 397-399.

See Chap. 12

But immediately the transfer began, the scheme ran into difficulties. The Allied bombing offensive had made most of the carefully provisioned airfields untenable and the enforced use of ill-provided landing grounds soon resulted in a sharp fall in efficiency. The main ground strength came by rail and, due to air attacks, arrived days or even weeks late. Allied fighters, attacking the flanks of the long flight route, also took a heavy toll of air formations on the move. Galland said that 'advance parties of each unit came by Ju.52.' Mosquitoes from A.D.G.B. and No.85 Group Squadrons claimed to have shot down several of these on the night of 6/7 June and subsequently.

Normandy to  
the Baltic,  
pp. 64-69.

Bitter fighting took place West of Caen where a severe check was suffered by the Canadians. German counter-attacks led by elements of the 12th S.S. Panzer and 21st Panzer Divisions were unco-ordinated, owing to the lack of definite orders from higher authority and to the lack of communications, but in very savage local engagements the Canadians in the neighbourhood of Authie and Villons lost a good deal of ground. The British immediately North of Caen were stopped a few miles from the city and made no further headway against hardening opposition.

9/15 / Less resistance was encountered in the Bayeux area, although enemy troops here were also stronger than had been expected. In spite of delays in landing supplies and follow-up formations due to the rough seas, Bayeux was entered on 7 June by the 50th Division and was mopped up on the following day. Commandos also captured Port-en-Bessin on the 7th and soon afterwards contact was established with American troops from Omaha Beach. A thrust was made by the British towards Villers Bocage after the 7th Armoured Division had been landed but these troops had no sooner entered Tilly sur Seules than they were ejected by the German Panzer Lehr and 12th S.S. Panzer Divisions. During the next fortnight there were many fluctuations but few great changes along the front line in the British area.

Something has already been said about the difficulties experienced by the Americans in establishing a foothold in the Omaha beach-head. A great effort was made to restore the situation and as the Germans were less energetic about reinforcing this sector the U.S. troops were able to capture Isigny and cross the Vire on 9 June before the defences of Carentan and enemy reinforcements brought them to a standstill. However, with three divisions in the Omaha beach area and three in the Utah area<sup>(1)</sup> the Germans were heavily outnumbered, and on 10 June the link with Utah beach and the Airborne Troops was affected thus joining up the whole lodgement area. On 12 June Carentan was captured and the Allies were ready to develop the lodgement area into a suitable base for a large scale incursion into Europe.

(1) Counting the two U.S. Airborne Divisions.

The Increase of Enemy Air Activity

The 8th of June saw a considerable increase in enemy air activity as had been expected though it never reached the scale that had been anticipated nor was the G.A.F. employed in a bold and aggressive manner. The fact that Long Range Bombers did not re-appear in the Assault Area during daylight showed that Allied fighter cover had already won a victory of the greatest importance. Two hospital ships were mined but both were safely towed back to Portsmouth. Fighters and fighter-bombers were not capable of doing as much damage as could be done by the larger aircraft, however.

TLM/F/S. 34  
Encl. 11A

Attacks by small formations of F.W. 190's and Me.410's were much more frequent and succeeded in sinking an American destroyer and one Landing Ship by dive-bombing but enemy aircraft were generally driven off with serious loss to themselves. The Low Cover Spitfires were more lucky than the Thunderbolts higher up and had several engagements in which it was estimated that 50% of enemy aircraft engaged were damaged with 20% destroyed. Allied losses were very small. Unfortunately, the weather was worse in England than it was in France with the result that cover had to be withdrawn at intervals and it sometimes happened that the enemy did some damage during these periods. A bombing attack on Sword beach, for example, blew up petrol and ammunition dumps. The worst period was at dusk. Repetitions of this were guarded against subsequently by sending over some of our Night Fighters before nightfall. They shot down three enemy aircraft at dusk on 10 June but that was never the complete answer to the high performance fighter-bombers.

German fighters confined themselves, for the most part, to operations in the rear areas where they were fully occupied escorting army movement. Dreux, St. Andre de L'Eure, Le Mans, Flers, Romilly and Laval seem to have been the airfields most in use and the most active areas for flying were those between Paris - Rouen - Caen - Laval. Most of the enemy air activity over the beach-head was in the Eastern (British) Assault Area in the early morning and late evening.

Ibid  
para. 5.

Ibid Encl. 12A  
para. 15.

Ibid  
Encl. 10A  
para. 9.

Advanced A.E.A.F.  
O.R.B.  
June 1944,  
p. 22.

One unwelcome but not unexpected feature was to show itself early in the campaign as soon as bad weather and enemy attacks had affected the nerves of the A.A. gunners ashore and afloat. This was concerned with the difficulty of recognising which aircraft were friendly and which were hostile when cloudy conditions prevailed. General Montgomery was worried when R.A.F. fighters had to be withdrawn from over the beaches. Admiral Vian, on the other hand, complained bitterly if friendly aircraft appeared over our ships despite the agreements reached at inter-service conferences that no A.A. gunner in H.M. Ships and merchant men should be allowed to fire at aircraft unless he was fully trained and qualified to recognise all types of aircraft. Unfortunately there were far too many incidents being reported of Allied aircraft being shot down by our own ships; pilots were continually complaining of ships guns shooting at them. On 10 June three Spitfires (not the first) were shot down into the sea by Allied A.A. and the arrival of the dawn patrol on the 11th was greeted by a heavy barrage.

For some weeks this tendency was to cause much ill feeling because despite great efforts the problem was never entirely solved. It was at times made more difficult by reports of German aircraft with Allied markings or the use of captured Allied aircraft by the Germans. The Air C.-in-C. deprecated these reports because their acceptance justified the A.A. gunners and in fact no proof has ever been found that the enemy made a habit of these practices. The fact was that aircraft often had to fly low in bad weather, in combat or when damaged. On the other hand, the greatest hazard to shipping was from low flying enemy aircraft which could not be quickly recognised and

which sometimes appeared when friendly aircraft were also in the vicinity.

There was some correspondence between A.N.C.X.F.(1) and the Air C.-in-C. before flying regulations were made more stringent and pilots were impressed that they must give all ships a wide berth. The rules for the engagement of aircraft by A.A. guns were tightened up so that there should be less irresponsible shooting. Royal Observer Corps personnel were put on some ships to assist in the speedy identification of aircraft. In the course of time these measures all helped to ease the position although some of the first R.O.C. observers had the mortification of standing by helpless while obviously friendly aircraft were being shot down by uncontrolled gunfire.

In view of the lack of reaction by the enemy and the paucity of good ground targets for all the aircraft available, and as the bad weather had forced pilots to fly low thus incurring much damage from flak, the Tactical Air Force commanders both thought it prudent to reduce the scale of effort from what it had been on the first two days of intensive operations. As it happened, weather deteriorated in the afternoon on the 8th and thus both Tactical Air Forces put in little more than half of a full day's operations. There were hardly any operations at all on 9 June.

Adv. A.E.A.F.,  
O.R.B.  
p.15

#### Establishment of the first Landing Strips on the Continent

Despite the weather which was retarding the landing programme and despite the stubborn opposition of the German ground forces holding the Caen area, work went forward to prepare for basing fighters and fighter bombers on the beach-head.

One echelon of H.Q. No.83 Group(2) was established by A/Cdre Boyle first near Graye-sur-Mer, and then at Banville so as to be convenient for the H.Q. of the Second British Army. A/V/M Broadhurst arrived on 9 June.

The first Emergency Landing Strip (E.L.S.) in the British Sector had been levelled at Asnelles and a Spitfire made an emergency landing there at about 1300 hours on 8 June. A more elaborate Refuelling and Rearming Strip (R.R.S.) was constructed at St. Croix-sur-Mer in the British area and three Emergency Landing Strips were established by the Americans at St. Laurent, Pouppeville and Beuzeville though none of these was ready for operating aircraft until 10 June.

Neptune  
Overall Air Plan,  
Appendix F,  
Annex III

Five airstrips were mentioned by No.83 Group(3) on 9 June viz: B.1 (Asnelles E.L.S.), B.2 (Bazenville R.R.S.), B.3 (St. Croix R.R.S.), B.5 (Camilly A.L.G.) and B.6 (Coulombs A.L.G.). According to the Overall Air Plan, B.2 and B.3 were to have been ready on D plus three and B.4, B.5 and B.6 on D plus eight.

- (1) Admiral Ramsay, the Allied Naval Commander Expeditionary Force.
- (2) The writer of No.83 Group O.R.B. remarked that Wg. Cdr. Holmes, Chief Signals Officer, was the first from No.83 Group to set foot on the soil of France but he did not expect to find 3' 6" of water on top of it.
- (3) From 'Daily Return of Moves of Units to the Continent' (Gp. Capt. D. G. Morris, H.Q. A.E.A.F.) A.H.B. Records. The first Location Statement issued by the R.A.F. in France after D-Day was issued by A/Cdre Montgomery, of Main H.Q., No.83 Group on the 10 of June. A copy of this will be found with the above 'Returns'.

By the afternoon of 9 June 3,537 men and 815 vehicles had been landed for the R.A.F. in the beach-head.<sup>(1)</sup> The British airfields were, of course, being constructed by the Royal Engineers. Landings of R.A.F. personnel and vehicles from D-Day up to D plus three were as follows:

D-Day	456 vehicles	1,818 men
7 June	594 "	2,615
8 "	750 "	3,232
9 "	815 "	3,537

Most of these men and vehicles were with 15083 G.C.1. or at the Landing Grounds or still at the Assembly Areas not far from the Beach exits.

At this period the Air Forces were first beginning to realise that there was a distinct prospect of Allied plans failing in one vital direction. That was in the rapid development of the lodgement area towards the South-east. Phase lines which had been drawn for planning purposes had indicated that a strong and determined push would be made in the Caen area mainly for the purpose of capturing terrain in the region of Falaise and Lisieux that would be favourable for the rapid construction of airfields. This object had been stressed in all the expositions of the Overlord plan before D-Day. Only in this direction was there much land suitable for this purpose.

After a few days of operations it gradually became clear that the situation around Caen was developing to our disadvantage. Strong elements of three armoured divisions faced the British and Canadian troops giving blow for blow and yielding no ground. The Operations Records Officer at H.Q., 2nd T.A.F. noted on 10 June that "A.L.G. B.2 which was practically completed could not be occupied owing to the limited advances made by the 2nd Army". Similar difficulties were cited many times during the succeeding weeks. The enemy soon showed that while he could be pushed back in some sectors of the line he remained highly sensitive in the neighbourhood of Caen. Rommel himself said at the time that the line must be held at Caen; it was far more dangerous if the Allies pushed towards Paris than if they drove towards Brittany. It was reported on the morning of 8 June that an Allied operation order to the VIIth American Corps had been recovered from the water by the Germans and that this had listed the Allied troops available and had given the primary objectives as Cherbourg and Bayeux. In spite of this Rommel agreed with the G.O.C. Seventh Army that their main operations should be in the Caen area though he insisted that the capture of Cherbourg must be prevented by all means short of transferring large forces to the Cotentin. On 12 June the Chief of Staff of the German Seventh Army asked Army Group B for air cover with focal point at Caen and added that air action over the Cotentin 'is not necessary'.

General Montgomery was reminded that the Air Forces were relying on the early capture of the terrain beyond Caen but after a few days he appeared to be accepting the situation with something like complacency.<sup>(2)</sup> The reaction of the Air Commanders to his attitude expressed by Air Chief Marshals Tedder and Leigh-Mallory and by Air Marshal Coningham on occasions between 14 and 24 June, will be discussed at a later stage. The main fact of immediate importance to the Air Forces was that no progress was made on the ground in the Caen area until late in July with the result that the whole Royal Air Force build-up had to be drastically revised.

2nd T.A.F.  
O.R.B.  
June, 1944  
p.26

German document  
A.H.B.6  
Transl.  
No.VII/70  
p.26

Ibid  
p.12

Ibid  
p.13

Ibid  
p.15

TLM/F/S.34  
Encl.17A  
para.13

(1) From 'Daily Returns of Moves.....' above.

(2) See also this Narrative, Vol I, Chap 4.

The Allied Plan to Isolate the BattlefieldLines of Interdiction and the Transportation Plan

TLM/MS  
136/15/7A,  
Encl. 1

On 7 June, SHAEF G-2 (Intelligence) Division circulated a paper (1) suggesting that the best manner of preventing enemy movement was the destruction of some 90 bridges along three 'lines of interdiction'. These were:-

- (1) The Seine - Eure - Loire line;
  - (2) The line of Etaples - Peronne - Fimes - Nogent - Auxerre - Annecy;
  - (3) The line of the Meuse - thence across the Belfort Gap.
- Though based on a number of unsound assumptions, especially with regard to the A.E.A.F. Railway Plan, the paper had a profound influence on Air Force doctrine and practice with regard to the use of air power against enemy transport. The Air C.-in-C. continued to follow a flexible policy in which attacks on railway centres, junctions, bridges, trains and even open lines all played a part in disrupting movement, but the policy of interdiction found many supporters, particularly among the Americans. However the situation immediately after D Day was such that there was an obvious advantage in attempting to create the first line of interdiction so as to isolate the Normandy area from the remainder of Occupied Europe.

*Do not indent  
this para*

At his evening Staff Conference on 7 June the Air C.-in-C. had decided that as it was no longer practicable to use the strategic bombers to hold up movement in Normandy, two major tasks remained for the Air Forces. These were:-

- (1) To seal off the North-West region from the rest of France by blocking the crossings of the Loire in addition to those of the Seine, and then closing the Nantes - Orleans Gap;
- (2) To hold off from the battlefield, the German divisions in Brittany.

A.E.A.F. Air  
C.-in-C. O.R.B.,  
June, 1944,  
pp.5 and 6

The Seine bridges were already cut but those of the Loire were being used by the 17th S.S. Panzer Grenadier Division, and more important, the vital routes through Paris and the 'Gap' to Orleans were still open. The advantages of using the overwhelming air power of the Allies to isolate the battlefield were therefore obvious to all.

While the Strategic Air Forces were employed by the Air C.-in-C. to prevent reinforcing Divisions reaching Normandy, the Tactical Air Forces under the control of the Commander, Advanced A.E.A.F. were used near the front line. On the night of 7/8 June R.A.F. Bomber Command attacked the main junctions on the south-westerly section of the Grande Ceinture Railway around Paris. About 1,000 tons of bombs were dropped by 550 Heavy Bombers on Versailles, Juvisy, Massy-Palaiseau and Acheres railway centres with devastating effect. Great care was taken to avoid needless casualties and excellent concentration was secured on the targets. Unfortunately, this together

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- (1) A copy of the paper may be found on File TLM/MS.136/15/7A. It was entitled, "Use of Air Power against Enemy Military Transport and Supplies" and included appendices giving details of the 'lines of interdiction' suggested. Further 'handbooks' were issued from time to time by G-2.

with the moonlight, helped the enemy flak and night fighters to shoot down 28 heavy bombers in this area.

As it was the policy of A.E.A.F. to employ the Heavy Bombers against tactical targets where these were suitable or in the event of an emergency developing, a proportion of the Heavy Night Bombers were required to attack an area in the Forest of Cerisy a few miles behind the Omaha beach. A heavy attack was requested by the Army on areas around a cross-roads in the middle of the forest where tanks and motor transport were being parked and probably fuel and ammunition being dumped. As this attack was carried out at short notice and the target was not altogether suitable for heavy bombers<sup>(1)</sup> it was not perhaps surprising that the 800 tons of bombs were thought to have fallen some miles away from the objective.

It might be added that Medium and Fighter-Bombers of the IXth Air Force also made several attempts to bomb these targets in the forest on 7 June but not much is known of the results.

At the same time as the R.A.F. Night Heavies were operating, Light Bombers and Intruders of the R.A.F. were also making great efforts to interrupt movement towards the battle, the majority of them operating inside the Seine - Loire area. All the main routes towards the beach head were patrolled and illuminated but the greatest attention was paid to Caen, Mezidon, Domfront, Flers, Villedieu and Argentan. It was soon known to Allied intelligence - and this has since been confirmed by German records - that the Panzer Lehr, the 17th S.S. Panzer Grenadier, the 12th S.S. Panzer and a number of infantry divisions were already on the move to the front at this time. All the records speak of many air attacks, much destruction and long delays.

German Document  
A.H.B.6  
Transl. No.VII/  
70, pp.11 to 16

From these records it can clearly be seen that although the bad weather saved the German Seventh Army from the full effects of the Allied air attacks, units nevertheless arrived at the front piecemeal and exhausted but owing to the exigencies of the situation had to be committed to the battle immediately. Losses were continuous from the time they began their moves: troops forever complained of the effects of the air attacks, of shortages of fuel and ammunition. Communications were continually failing so that commanders were out of touch with their troops. Time schedules could not be kept and as exhausted men arrived at the front they often found a situation quite different from that existing when dispositions had been ordered. The result was that the enemy was unable to concentrate as speedily as had been expected and thus despite the setbacks due to the unprecedented spell of rough weather which retarded the landings at a critical period the Allied Air Forces were able to redress the balance by imposing crushing difficulties on the enemy.

German records also abound with complaints from the ground forces that they never saw their own air forces in action near the front line. The usual answer advanced by G.A.F. officers was that their airfields were unusable or that they were fully committed attacking the beaches and shipping or escorting convoys along roads and railways in the rear areas.

The truth was that the G.A.F. from the first found their position in the air untenable during the daylight hours. But during the night of the 7/8 June they became more active than they had been since Overlord began, both defensively against

(1) The cross-roads was not easy to identify and in any case the dumps and parks were dispersed.

A.D.G.B.  
Fortnightly  
Review

the Heavy Bombers in the Paris area and offensively against shipping and the beaches. About a dozen Intruders operated in East Anglia and shot down three Liberators for the loss of three of their own aircraft. Several aircraft appear to have flown reconnaissance missions around the coast. It was estimated that some 175 Long Range Bombers took off to attack our invasion forces but they had little success. By far the most dangerous activity was the laying of mines in the Seine Bay because the low-flying aircraft were difficult to intercept and the new type of German mine gave much trouble. In fact, it was soon found that mines caused more shipping losses than any other weapon. At the same time it was the most difficult to counter.

*form of attack*

Weather was still bad at the commencement of the third day of operations and deteriorated to such an extent during the day (8 June) that there were occasions when air cover had to be withdrawn.

The outstanding operations during the day were therefore those in the morning when the VIIIth Air Force attacked railway bridges over the Loire, railway centres at Orleans and Etampes and a number of railways joining Brittany to the rest of France. These were undertaken to hold up the movement of the 17th S.S. Panzer Grenadier Division from South of the Loire and that of the 77th, 265th, 275th and 3rd Parachute Divisions which were all being concentrated for movement from Brittany to Normandy. Over 1,100 Heavy Bombers and 1,500 Fighters took part in the operations which were rewarded by some successes but bad weather prevented the adequate following up of the initial advantage thus gained.

While the Strategic Air Forces were being used by the Air C.-in-C. to prevent reinforcing Divisions reaching Normandy, the Tactical Air Forces under the control of the Commander, Advanced A.E.A.F. were used near the battle front largely to stop movement also. However, one operation of note which was an exception to this general rule was an attack on targets in Caen by the Marauders. This was only undertaken on the pressing insistence of the Army and was intended to assist the Second British Army. Air Marshal Coningham and General Brereton disliked this task and protested strongly before accepting it. Apparently the operation was highly successful and was the subject of congratulations from General Dempsey to the air-crews concerned.

Adv. A.E.A.F.  
O.R.B., June,  
1944, pp. 14,  
15 and 16

The remainder of the Tactical Bombers and Fighter-Bombers were used as on the two previous days patrolling roads and railways on armed reconnaissance, attacking bridges, road centres, convoys, troop concentrations and similar transportation targets. Generally but not invariably the 2nd T.A.F. concentrated on areas in front of the British Army and the IXth Air Force on areas in front of the U.S. Army. When calls came from the Army for immediate direct support these were sometimes fulfilled by whichever aircraft could operate most easily. For example, three formations of Typhoons were dispatched in the early morning in response to calls from the U.S. troops in the Isigny area and some time later two more formations of Typhoons went to the same area in response to another request for help. Operations in response to such calls from both Armies for direct support were still, however, only a small proportion<sup>(1)</sup> of the whole. The advantage that the enemy had been able to take of low cloud conditions is well

2nd T.A.F.  
O.R.B., June,  
1944, Appendix  
97, Serials 25  
and 26

(1) About a sixth. 2nd T.A.F. despatched about 500 aircraft on Armed Reconnaissance and Support Calls of which Support Calls accounted for 80.

Adv. A.E.A.F.  
O.R.B. June,  
1944. p. 14

illustrated by the fact that fighter-bombers were attacking such detrainning points as Valognes on the 8/9 June.

Two major modifications to the Allied policy for the employment of aircraft dated from the mornings of 8 and 9 June. The first concerned the U.S. Heavy Bombers while the second concerned the T.A.F.s. Both were a direct consequence of the weather.

Adv. A.E.A.F.  
O.R.B.  
June, 1944  
p. 16

After succeeding in the initial landing the Army had failed to provide the Air Force Commanders with sufficient good tactical targets for all the bombers available. Dissatisfaction with this failure, with the non-appearance of German Fighters and with the principle of using Strategic Bombers for attacking transportation targets to assist the Army rather than against the G.A.F., caused the American Air Generals to criticise the Air Commander in Chief's policy at the Stanmore Conference on 8 June and to recommend in its place the resumption of the offensive against airfields. They felt that a resurgence of German air power might take place at any time and it was known that considerable re-inforcement was in progress. But Air Chief Marshal Leigh-Mallory was more impressed by the danger of a counter-attack on the ground than in the air and gave as first priority to the Strategic Bombers the sealing off of the ring formed by the Loire, the Orleans Gap and the Seine. General Spaatz did not believe that his bombers were suitable for this purpose but Air Marshal Coningham agreed with the Air C.-in-C. that long distance movement could best be stopped by the heavy bombers. As to the G.A.F., his pilots were praying for aircraft to attack. General Doolittle said he was convinced that their prayers would soon be answered. Air Chief Marshal Tedder ruled that a proportion of the effort of the heavies should be assigned to each task and accordingly the Air C.-in-C., asked General Doolittle to produce a plan for the systematic attack of occupied airfields.<sup>(1)</sup> Pending the appearance of a plan, four airfields were allocated to the VIIIth Air Force for early attack.

TLM/F/S. 34  
Encl. 9A  
para. 99

Ibid  
p. 9

Ibid  
Encl. 10A  
p. 5

On the following day Air Chief Marshal Tedder made an even clearer statement on the conduct of future air operations:

- (i) It was important to prevent troops moving from Belgium.
- (ii) Cover objectives in the Fortitude area were still profitable targets.
- (iii) Offensive operations against the G.A.F. should always have a high priority.

In spite of the desire of the Air C.-in-C. to use the VIIIth Air Force against transportation targets before any other objectives, therefore, he was compelled to give way, and largely in consequence of this and of the bad weather, the isolation of the battlefield could not be made complete.

The bad weather did not prevent Bomber Command from continuing the campaign against rail communications into Normandy from Brittany and the South West during the night 8/9 June. Important railway junctions at Fougères, Alençon, Rennes, Mayenne and Pontaubault and a tunnel at Saumur were attacked by 502 bombers (515 sorties) which dropped about 1,780 (long) tons of bombs. Goods and passenger stations were destroyed, through lines were cut in many places and numerous direct hits were scored on buildings and equipment. Less important attacks of a similar nature on unloading stations and roads at Vire, Villedieu, Flers, Montsecret, Mezidon, Poligny, Argentan, St. Lo, Falaise, Lessay and

Bomber Command  
Night Raid  
Report No. 628

DS 94352/1(97)  
Sub-112

(1) In the meantime German reinforcements such as the 1st and 2nd SS Panzer, the 2nd ~~SS~~ Panzer Divisions and the 84th Infantry Division, were hastening to the battlefield.

La Haye Du Puits were carried out during the same night by 140 Mitchells, Bostons and Mosquitos of No.2 Group.

But the weather on 9 June was so bad that air operations were impossible and the enemy were given a splendid opportunity of making their moves without interference. There seems no doubt that they made good use of the respite. However, the Air Commander-in-Chief said that the major elements of German reserves from outside North West France had not yet moved and it was therefore of supreme importance to interrupt communications across the Seine and Loire and through the Paris-Orleans gap. The Seine bridges were cut and the Ceinture railway badly damaged, and though Orleans had been hit, Etampes and many of the Loire bridges were still open. It was essential that they should be cut soon.

Inside the tactical area he proposed to cut all ten railways along a line north of Rennes and Le Mans. At the same time he congratulated the VIIIth Fighter Command on the job they had done up to then strafing roads covering all the zone south of the battle area.

The weather gradually improved during the evening so that after nightfall it was good enough to permit Bomber Command to send on operations a powerful force of nearly 600 aircraft, 480 of which attacked Overlord targets. Over one hundred bombers failed to block Etampes Railway Station, but the forces sent against airfields at Le Mans, Flers, Laval and Rennes did extensive damage. No.2 Group only operated on a very small scale with Mosquitos on armed reconnaissance over roads, railways and military targets in Normandy. The Mitchells and Bostons were held for day operations on 10 June.

Thanks to better weather the day bombing campaign was resumed on the morning of 10 June with great energy, although visual bombing by the heavy day bombers was still impossible. The directions of enemy movement noted by the Air Commander-in-Chief were eastward through Pontaubault, westward through Dreux and northward through Mayenne, and all this was receiving attention from the two Tactical Air Forces and the VIII Fighter Command. Air Chief Marshal Leigh-Mallory asked the VIII Air Force heavy bombers to attack the Loire bridges and selected airfields, while their fighters cut the railways running north of Rennes and Le Mans. Bomber Command were asked to follow up those attacks by bombing the rail centres at Orleans, Achères, Versailles and Dreux.

The Tactical Air Forces from dawn onwards commenced a varied programme of attacks in support of the ground forces. Many calls were received for direct support and, with the improved weather, reconnaissance aircraft were more active than they had been since "D" Day. The most important operations in the morning were those carried out by nearly 900 Fortresses and Liberators which were sent out to attack eleven airfields in Brittany and in the neighbourhood of Paris, and nine defenced localities or gun sites in the Pas de Calais. No attacks on the Loire bridges were undertaken. Except in the cases of one or two airfields operations were mainly unsuccessful. Over 1,000 bombers were available for a second mission, but none was undertaken. In the course of the day 1,700 sorties were flown by VIII Air Force Fighters, mainly in operations directed against 31 railway junctions, yards, sidings, etc., nineteen bridges, fourteen tracks, seven trains, five tunnels and seven road convoys amongst other targets south and west of the battle. Unfortunately there had been

March  
Sept 10/1944  
or 2/23

Etampes/

Bomber Command  
Night Raid  
Report No.629

a clash between friendly aircraft<sup>(1)</sup> in this zone due to the fact that both the VIII Fighter Command and the Tactical Air Forces had been assigned the task of cutting railways north of Rennes - Le Mans. A line of demarcation was fixed to remedy this.

The great bulk of the Tactical Air Forces divided their effort between attempts to cut off the battlefield and attacks on gun positions, troop and vehicle concentrations, dumps and similar targets in support of the Army. Regular missions were flown by small formations on armed reconnaissance over the roads and railways behind the German lines and a steady flow of requests came in from the Army for special attacks to be carried out in support of their ground operations. All this had become a regular routine and though each mission had its own problems and involved its own special planning there is not much that can be said about these operations as a whole. Unfortunately it was not often possible to learn whether they had been successful or indeed to evaluate them at all.

One outstanding operation of this nature was carried out by Mitchells and Typhoons of 2nd T.A.F. which had an important bearing on the battle from that time onwards. Reference has already been made to the slow progress made by the ground forces in the Caen area owing to the bad weather, the delayed build-up over the beaches and the strong reaction by German armour in that sector. On 10 June, the enemy had substantial elements of three armoured divisions<sup>(2)</sup> in the line around Caen in addition to strong infantry, artillery and A.A. forces. It was known that a counter-attack was being prepared by enemy armour and as they held positions well to the North of Caen there was some danger that they might be able to reach the sea and thus divide our Beachhead.<sup>(3)</sup>

Canadian  
Interrog. Rpts.,  
Vol. III,  
pp.96 & 97

2 T.A.F.  
O.R.B.  
10 June, 1944  
Appendix 97  
entry 1030 hrs.

The 2nd T.A.F. was therefore requested to attack the headquarters of the Panzer Gruppe West, and those of the 1st S.S. Panzer Corps so as to disorganise the preparations for such a thrust. Two attacks were made by Typhoon Squadrons on what was thought to be the latter H.Q. but without any results. 10/6

B.A.U.  
Report  
No.24

The attack on the H.Q. of the Panzer Group West was a resounding success and resulted in the death of the Chief of Staff, General Von Dawans, and several of his officers. The G.O.C., von Schweppenburg, was away at the time.

T.A.F.  
Daily Log,  
Serials  
6143, 6147  
German document  
A.H.B.6,  
Transl.  
No.VII/70,  
p.18

Three waves of Typhoons (40 aircraft) attacked the H.Q. situated at Chateau La Caine (T.9152) flying low to discharge their rockets. While the second wave was operating (about 2120 hours) 61 Mitchells bombed with 500 lb bombs from 12,000 ft. The Chateau itself was not badly damaged but the orchard in which the H.Q. vehicles were parked was saturated with direct hits and everything nearby was destroyed. The H.Q. was put out of action and did not become operational again until 28 June. Command of that sector was taken over temporarily by the H.Q. of the 1st S.S. Panzer Corps (Gen. Dietrich).

- (1) This led to reports by the VIII Air Force that enemy aircraft were using Allied markings whereas the aircraft seen belonged to the Royal Air Force.
- (2) 21 Panzer, Panzer Lehr and 12 S.S. Panzer (Hitler Youth) Divisions.
- (3) It may be remembered that the enemy strongpoint at Douvres was still holding out on 10 June.

While there was an occasional set piece such as this, most of the operations by the IXth Air Force and the 2nd T.A.F. during the next few days were undertaken to carry out the wide variety of tasks necessary to assist the Army. Defensive operations were still considerable although enemy effort against cross-channel shipping was so slight that arrangements were made on 11 June to release three Groups of Lightnings from these unpopular duties. Two of these Groups were released to the VIIIth Air Force and one to the IXth Air Force. In releasing the Lightnings to the VIIIth Air Force Air Chief Marshal Leigh-Mallory expressed a wish that they would be employed on offensive tasks against enemy movement - a task on which VIIIth Air Force fighters were already doing such valuable work.

Night attacks on shipping and on the beaches though never large in scale, were giving our defence a great deal of trouble at this time but on the night of 11 June a second G.C.1. became operational (in the American Area) and Night Fighters had some successes. Low-flying aircraft laying mines off the beaches remained the most difficult problem.

The Medium Bombers of the IXth Air Force were employed mainly on interdiction missions. Over 2,500 sorties were flown by Marauders in the first four days of operations and 3,500 sorties in the next six days. The bombers of No.2 Group were still employed principally at night but sometimes did a second sortie during the day or, alternatively, operated during the day when weather had prevented operations the previous night. They continued to be used principally as a force to harass movement and attack such fleeting targets as stations detaining troops.

The tasks of the fighter-bombers were also unchanged. They carried out armed reconnaissance behind the entire front or attacked enemy concentrations, strongpoints, etc., directly opposing ground forces, together with bridges, road junctions and similar points where small bombs could be used effectively.

During the period from 10 to 17 June the Strategic Air Forces were employed mainly on the three types of missions<sup>(1)</sup> suggested by Air Chief Marshal Tedder on 9 June, but while the night bombers were employed mainly on isolating the battlefield the day bombers devoted most of their effort towards the subjugation of the German Air Force. Both Bomber Command and the VIIIth Air Force began also to follow the Deputy Supreme Commander's suggestion that the time would soon be ripe for an offensive against German oil.

On the night of 10/11 June, Bomber Command sent out 432 Heavy Bombers to attack enemy communications through Paris and Orleans. Railway complexes at Acheres, Versailles (Matelots), Dreux and Orleans were each attacked by a force of about 100 aircraft carrying a total load of about 1,500 (long) tons of bombs. All these routes were blocked as a result and heavy damage was done.

This was not followed up by the VIIIth Air Force in the daytime on 11 June. About 1040 Fortresses and Liberators were sent out but weather was such that only 640 aircraft were able to bomb their targets. These consisted of airfields, bridges and beach defences in the Pas de Calais undertaken, of course, to discourage the enemy from removing troops to Normandy.

(1) i.e. the delay of enemy movement especially from Belgium, attacks on the Pas de Calais and the offensive against the German Air Force.

TLM/F/S.34,  
Encl. 10A,  
p.5

Bomber Command  
Night Raid Rept.  
No.630

B.C. Night  
Raid Repts  
Nos 361-  
362

On the night of 11/12 June Bomber Command continued with their programme of attacks on railways by bombing targets at Massy - Palaiseau (Paris), Evreux, Tours and Nantes with about 362 aircraft. On the following night a much heavier programme was undertaken when about 553 aircraft operated against railway targets at Amiens, Arras and Cambrai<sup>(1)</sup> in the North and Poitiers in the South.<sup>(2)</sup> Powerful forces also bombed a synthetic oil plant at Gelsenkirchen (294 aircraft) and the road bridges of Caen (418 aircraft) in support of the Second British Army.

#### Conclusion

At this stage there occurs a natural pause in the story of the campaign though there was, of course, no cessation in the fighting. The landing had been achieved and the beachhead for the opening of the Second Front had been successfully secured.

For the next month interest centres mainly on two developments, viz. the struggle to take Caen and the seizure of the Cotentin Peninsula with its major port, Cherbourg. The main features of the air war during that period were perhaps to be found in the close integration of air operations with those on land and at sea. Outstanding amongst them were the use of large forces of bombers in support of major land operations, the continued success in the anti U-Boat and anti-Surface Vessel warfare, the increasingly effective use of fighter-bombers in a tactical role and the dour battle against mine-laying aircraft operating by night. Less spectacular but of fundamental importance, were the great efforts made to give continuous fighter cover to our own forces while all enemy targets were subjected to every known kind of air attack. Although all of these features of the air war had already developed before the campaign was many days old nothing that was entirely novel had appeared. The only way in which this campaign was different from all others before it was that it was so much bigger.

It was soon clear that the Assault had succeeded in its initial object which was to pierce the coastal defences and seize a beachhead with forces strong enough to hold and develop it. At the end of the first week of fighting the five beachheads had been firmly linked in a continuous coastal strip over 50 miles wide and ranging in depth from eight to twelve miles. Over 326,000 men, 54,000 vehicles and 104,000 tons of stores had been landed. Only 4,000 men and 1,000 vehicles of these belonged to the R.A.F.<sup>(3)</sup> but the main landings of Nos. 83 and 85 Groups had to wait until landing strips being constructed by the Royal Engineers were nearing completion.

On sea and particularly in the Channel, the Royal Navy and Coastal Command had decisively won the first round in the fight to keep open the supply lines between the base in England and the beachhead. The eclipse of the U-Boat and the

Daily Return  
of Moves to  
Continent,  
H.Q. A.E.A.F.

- 
- (1) To delay the move of the 1st S.S. Panzer Division from Antwerp.
  - (2) To hinder the 2nd S.S. Panzer Division on the move from Toulouse.
  - (3) Comparable figures for the U.S.A.A.F. are not known. R.A.F. landings were speeded up in the second week of Overlord with the result that 13,000 men and 3,200 vehicles had been landed by 20 June.

successful frustration of operations by enemy light surface craft were both notable victories though the battle could still be lost at a later stage. But up to D plus six there were only 64 shipping losses due to enemy action and 34 due to weather, the great majority of the vessels concerned being minor craft.

In the air, the months of assiduous planning, preparation and training bore their fruits when the Allied Air Forces experienced little difficulty in retaining its complete ascendancy over the G.A.F. It was clear from the outset that not only was the Luftwaffe unable to offer any serious challenge even over Occupied Europe, but that Allied aircraft were free to intervene with decisive effect in the battles on the ground. While our own forces were provided with generous air cover at all times *when weather permitted* the movement of enemy reserves and supplies became a matter of extreme hazard owing to the constant air attacks which inflicted heavy losses of men and materials.

During the first vital days of the campaign the weather saved the German forces from the full intensity of air attacks. The Allies had planned to make a score of towns around the beachhead area impassable to traffic by heavy attacks carried out mainly by Fortresses and Liberators. Medium and Light Bombers were to destroy bridges, railway and road targets while Fighter-Bombers were to carry out armed reconnaissances up and down the roads and railways so as to interdict all movement. Unfortunately this plan could not be executed in its entirety because the necessary bombing weather did not materialise. But the thoroughness of the preparatory bombing of the railways combined with the intensive efforts made by the Tactical Air Forces and the night bombing by R.A.F. Bomber Command went far enough to delay the arrival of German troops and supplies so that even during the first week of operations the Germans were suffering severely from the Allied use of their overwhelming air power. Their complaints about the effects of Allied air attacks upon supplies of fuel, ammunition and transport facilities generally, leave no doubts on this score.

*Sometimes* The policy of the Air Commander in Chief was to combine attrition operations which, though *slow* in taking effect were more lasting, with operations such as bridge and line-cutting which had immediate, but only temporary, results. The consequence of this policy and of the weather, which prevented its complete fulfillment, was that while the movement of enemy reserves to the threatened area was by no means prevented, it certainly was greatly obstructed. The enemy had planned to prevent any landings or at least to defeat them on the beaches. *quite a surprise* The surprise, the large scale and the use of the combined bombardment resources of all the Services, enabled the Allies to frustrate that hope. The next enemy plan was to counter-attack at a very early stage so as to drive the invaders into the sea before they had had time to consolidate. This plan also failed partly because of the factors already mentioned but also because the enemy was already experiencing the difficulties in movement which were increasingly being imposed upon him by the employment of Allied air power.

The speedy build-up of the Allies was in sharp contrast to that of the enemy. German re-inforcements arrived so slowly that Rommel found it necessary to put them all into the line to prevent an Allied break-through. Sharp actions were fought and strong local counter-attacks were made especially in the area of Caen but this fighting was done by the best armoured formations which normally would have been concentrated until a sufficient reserve had accumulated to mount a major-counter attack. The 21st Panzer, the 12th S.S. Hitler Youth

Panzer, the Panzer Lehr - an elite Division - and the 17th S.S. Panzer Grenadier Divisions arrived at the front piecemeal over the first few days of the Assault period. As formations dribbled forward harassed by air attacks and later, by naval and land artillery fire, they were flung into the line in a vain effort to keep the Allies pinned down near the beaches. Orders were issued by the Supreme Command of the German Armed Forces (O.K.W.) that the invaders were to be driven into the sea but forces were arriving so slowly that Rommel was never able to accumulate a striking force large enough to carry out those orders.

If on the other hand Rommel had attempted to use his armour as a mobile striking force there would have been so many gaps in the line that the Allies could have surged through and quickly established a large bridgehead with ample room for manoeuvre. In the circumstances, his decision to contain the beachhead in as small an area as possible was a gamble on the chances that his own build-up would soon outstrip that of the Allies and enable him to counter-attack with decisive effect. Thus, in the restrictions that it exercised upon enemy movement and the freedom that it conferred upon our own, the dominant influence of Allied air power upon strategy at this stage of the battle is plainly manifest.

*This agrees broadly with policy of  
constant pressure.*

PART TWO

CHAPTER 8  
BRITISH AIRBORNE OPERATIONS

CHAPTER 9  
AMERICAN AIRBORNE OPERATIONS

CHAPTER 10  
ASSAULT TASKS OF R.A.F. BOMBER COMMAND

CHAPTER 11  
OPERATIONS OF THE 2ND T.A.F. IN NEPTUNE

CHAPTER 12  
A.D.G.B. OPERATIONS IN THE ASSAULT

CHAPTER 13  
OPERATIONS BY THE U.S. IXth AIR FORCE IN  
SUPPORT OF THE LANDINGS IN NORMANDY

CHAPTER 14  
OPERATIONS BY THE U.S. VIIIth AIR FORCE  
IN SUPPORT OF NEPTUNE

CHAPTER 15  
COASTAL COMMAND OPERATIONS IN SUPPORT  
OF NEPTUNE

BRITISH AIRBORNE OPERATIONS IN NEPTUNEAllied Forces Available

The Airborne troops allocated for employment in the Assault upon Normandy consisted of the 6th British and 82nd and 101st U.S. Airborne Divisions. The British 1st Airborne Division, refitting after operations in Italy, was standing by to take part in subsequent operations, and two U.S. Parachute Regiments were also available if required. The 6th Airborne Division (Major-General R.N. Gale) consisted of the 3rd and 5th Parachute Brigades and the 6th Airlanding Brigade.

Air lift was provided for the American Divisions by the Dakotas of the IXth Troop Carrier Command (Brigadier-General Williams) and for the British Division by No. 38 Group (Air Vice-Marshal L. N. Hollinghurst) and No. 46 Group (Air Commodore A. L. Fiddament). A IXth Troop Carrier Command, No. 38 Group Combined Command Post had been set up at Eastcote convenient to Uxbridge and Stanmore, and from this Command Post Air Vice-Marshal Hollinghurst and Brigadier-General Williams co-ordinated their aircraft movements and exercised their operational commands. However, as the operations undertaken by the American and British Airborne Forces in the Assault Phase of Overlord were entirely unconnected with each other and, in essentials, were planned and executed independently of each other, they will be treated separately in this account.<sup>(1)</sup>

Night Fighter Cover to Airborne Forces

See Chap. 12  
Night Intruder  
Operations.

JAPEO,  
Appendix 'E'

Intruder and Night Fighter aircraft from Mosquito squadrons of A.D.G.B. No. 85 Group and No. 100 (Bomber Support) Group carried out a varied programme of offensive operations on the night of 5 - 6 June designed mainly to protect the Heavy Bombers but also partly to protect the troop carrier aircraft. Under the direction of the A.D.G.B. Intruder Controller, attacks were carried out on most of the German Air Force airfields from which fighter aircraft might be expected to operate. The offensive covered a wide area in North-West Europe and 75 aircraft took part.

An additional eight aircraft furnished direct support to the Airborne Forces by attacking searchlight and flak posts along the routes to be used by the troop carrier aircraft in the Cotentin and Caen areas. Flying low over these areas, the Mosquitoes induced the searchlights and guns to reveal their positions and then attacked them with bombs and cannon fire. Their reports seem to show that this was less dangerous than it might have been because the defences were neither very active nor very densely distributed in those areas.

British Airborne Operations - Operation TongaGeneral outline

The general aim of the Military Plan was to use the 6th Airborne Division to protect the left flank of the assault landings. High ground east of the River Orne overlooked the area between the Sword and Juno beaches and the city of Caen, and if that high ground remained in the hands of the enemy, it would enable him to bring observed artillery fire to bear upon the British Assault Forces. In particular, a powerful battery near the villages of Merville and Salenelles (Ref. T. 155776) was a most serious menace to the British seaborne forces more especially to those due to land on Sword (Ouistreham) Beach.

(1) For a detailed account of the planning of the airborne operations, see this Narrative, Vol. I, Chap 5.

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The Airborne Forces were therefore employed to deny to the enemy the use of this ground and also to prevent him from bringing in reinforcements across the corridor between the Dives and the Orne.

To succeed in achieving these aims it was necessary to:-

No. 38 Group  
Operation  
Order No. 500  
para. 5.

- (a) capture intact the bridges east of Benouville over the Canal de Caen and the River Orne;
- (b) secure and hold the high ground North of the Ranville area;
- (c) capture a battery north of Ouistreham near the Caen Canal (Ref. T. 107765);
- (d) secure a Landing Zone in the Ranville - Breville area (Code Letter 'N') for Gliders;
- (e) capture and destroy the Merville/Salenelles battery;
- (f) demolish the bridges over the various areas of the River Dives at Varaville, Robehomme, Bures and Trearn;
- (g) block roads entering the area from the south and east.

British Forces Available (1)

The total aircraft available in Nos. 38 and 46 Groups consisted of fifteen squadrons with 362 Unit Equipment-aircraft and 61 Reserves. Aircraft strength on 1 June, 1944 was 517 aircraft in the squadrons of which 406 were ready for operations. The Order of Battle was as follows:-

Group	Station	Squadron	Aircraft	Gliders
38	Brize Norton	296	22 + 4 Albemarles	50 Horsas
	" "	297	" " "	" "
	Harwell	295	" " "	" "
	" "	570	" " "	" "
"	Keevil	196	22 + 4 Stirlings	" "
	" "	299	" " "	" "
	Fairford	190	" " "	" "
	" "	620	" " "	" "
"	Tarrant Rushton	298	18 + 2 Halifaxes	(70 Hamilcars
	" "	614	" " "	(50 Horsas
46	Broadwell	512	30 + 0 Dakotas	40 Horsas
	" "	575	" " "	" "
	Down Ampney	48	" " "	" "
	" "	271	" " "	" "
	Blakehill Farm	233	" " "	" "
"	Reserves		25 "	
	Reserves			400
38 & 46	Total Resources		362 + 61 aircraft	1120 Gliders

This is a composite table made up from information contained

- (1) No. 38 Group Operation Order No. 500 Appendix 'A'
- (2) " " " " " Annexure 1-Appendix 'E'

The tasks enumerated in (a), (b), (c) and (d) above were entrusted to troops of No. 5 Paratroop Brigade, and those listed in (e), (f) and (g) were allocated to No. 3 Paratroop Brigade. The aircraft involved were 218 Stirlings, Halifaxes and Albemarle of No. 38 Group and 142 Dakotas of No. 46 Group. The whole of this air operation was known by the code name Tonga.

Operation Tonga was to be carried out between midnight and dawn, and all the main objectives had, if possible to be secured before the Assault Forces reached the beaches. It was especially important to neutralise the Merville battery before daylight. Three main Dropping and Landing Zones were selected - one within reach of the Merville battery and Varaville bridge (Code Letter 'V'), one in the Sannerville-Cuerverville area near the road connecting Troarn with Colombelles (Code Letter 'K'), and a third large Zone (Code Letter 'N') between the villages of Ranville and Breville. Two small Landing Zones between the Canal de Caen and the River Orne beside the road connecting Benouville and Renville (Code Letters 'X' and 'Y') were also chosen.

See Map No.10

Using Dropping/Landing Zones convenient to the objectives stated above, airborne troops were to attack before the enemy was able to appreciate the true situation. Pathfinders were to drop personnel who had to set up ground navigation aids to ensure that Main Bodies landed in the correct Zones. Other aircraft were to carry Advance Parties. It was thought essential to seize the vital Benouville-Ranville bridges as a first step, and it was also decided to set out for the Dives bridges as early as possible so that their demolition could be completed before the enemy could prevent this move.

With regard to the Benouville-Ranville bridges over the Caen Canal and the Orne River, three gliders were assigned to land at 0020 hours near each bridge on Landing Zones 'X' and 'Y', and at the same time a Backing-Up party of 47 Paratroops was to drop on Dropping Zone 'N' near the village of Ranville. Demolition Parties assigned to the Dives bridges in the Troarn-Bures area were to drop on Dropping Zone 'K', and those responsible for the Varaville and Robehomme bridges were to drop on Dropping Zone 'V'. All the Main Bodies were to commence jumping at 0050 hours.

The capture and neutralisation of the Merville battery was recognised as the most difficult undertaking because of the formidable nature of its defences and the impossibility of transporting much heavy equipment for attacking it. The plan of attack upon the battery provided for Pathfinders and other aircraft arriving at 0020 hours to drop Advance Parties who would mark the Dropping Zone, prepare for the Main Body and reconnoitre the battery. Ten minutes later, a heavy bombing attack on the battery position by 100 Lancasters of Bomber Command was to commence and was timed to end at 0040 hours. While the bombing was at its height eleven Gliders, carrying a small number of vehicles, demolition charges and other heavy equipment, were to land as near as possible to the rendezvous (DZ/LZ 'V'). Ten minutes after the Lancaster attack, the Main Body of the 3rd Parachute Brigade (about 1,300 men) was to begin dropping. After allowing time for them to concentrate on the rendezvous, the Main Body would move off to cover the 2,400 yards to the battery. At 0430 hours, when the attack by the Main Body on the battery was about to begin, star shells were to be fired by the ground attackers to light up the target, and 3 Gliders filled with volunteers were to pancake inside the battery defences and seek to repeat the episode of the men in the Trojan Horse. By this means, it was hoped to prevent the battery going into action against the Airborne Forces.

The Flight Plan for Tonga sent the aircraft off in three streams, the second stream being the Main Body. The first stream were all No. 38 Group aircraft. Its Pathfinder Albemarles, two to each of the three Main Dropping Zones, carried men and equipment to provide navigation aids (visual and radar) for the Main Bodies to follow. 27 Albemarles and Halifaxes, with six Horsa Gliders, carried the Coup-de-Main Party for the Benouville bridges and personnel, transport, guns and other equipment to assist the main landings.

The second stream consisted of 110 Stirlings and Albemarles of No. 38 Group with six Horsa Gliders and 146 Dakotas of No. 46 Group towing thirteen Horsas. The third stream was confined to 71 Albemarle Tug and Glider combinations of No. 38 Group. Altogether, 360 aircraft and 96 Gliders took part in Operation Tonga.

The streams left England in the direction of Le Havre, crossed the coast over Worthing, Littlehampton and Bognor Regis but turned South-West in mid-Channel so as to pass outside Le Havre flak area. They crossed the French coast midway between the Estuary of the Orne and that of the Dives.

#### Phase I - The Benouville bridges and the Ranville Dropping Zone ('N')

The first stream of Pathfinders and Advance Parachute Parties and the Coup-de-Main Party was timed so that aircraft arrived over their targets at morning civil twilight minus five hours, i.e. at 0020 hours Double British Summer Time. Two Pathfinders and fourteen Advance Parachute aircraft went to Dropping Zone 'V' (near Varaville), two Pathfinders and five Advance Parachute aircraft made for Dropping Zone 'N' (Ranville area) and two Pathfinders and two other aircraft dropped their loads over Dropping Zone 'K' (West of Sannerville). Six Halifax-Horsa combinations were given the vital task of landing a Coup-de-Main Party of 170 troops without warning within a few yards of the two bridges mentioned in (a) so that they could capture them intact. Speed and unexpectedness were essential to this operation as it was believed that the bridges were mined and it was known that they were guarded by troops. Two Landing Zones of very restricted area were selected - one East of the swing bridge over the Canal de Caen (Landing Zone 'X'), the other West of the Orne bridge, a few hundred yards away from 'X' (Landing Zone 'Y'). Special arrester gear was fitted to the six Gliders to assist their landing.

The six Halifaxes released their Gliders on crossing the coast at a height of about 5,000 feet and continued to Caen, where five of them bombed a powder factory through the overcast. All three Gliders detailed to the Canal bridge landed astonishingly near the target without any opposition<sup>(1)</sup>. Two of the other three landed within easy reach of the bridge over the river, while the sixth came down near two bridges at Perriers-en-Ange about eight miles to the east.

The five Albemarles laden with Advance Party Troops were successful in finding the target area but a high wind scattered the drop. These paratroopers were intended to seize the Eastern (Ranville) end of the Orne bridge in support of the Glider-borne Troops. Forty six out of the 47 Troops were dropped, but at 0300 hours only about half of them had assembled

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(1) See photograph taken on D-Day of these Gliders near their objective at Figure 10 in 'Report on Neptune' by Headquarters No. 38 Group. This shows 3 Gliders within a few yards of the Canal de Caen.

at the end of the viaduct. Nevertheless, so complete was the surprise of the enemy and such was the speed of the Glider Troops, that both bridges were seized intact within a few minutes.

The Pathfinders sent to mark the dropping zones were not so uniformly successful. Dropping Zone 'N' (Ranville-Breville) was soon correctly marked by Eureka Beacons and Lights (operated by personnel) dropped at 0020 hours by the two Pathfinder Albemarles allotted to this Dropping Zone. Those seeking to find and mark the other two Zones were less fortunate.

#### The Sannerville-Cuverille Dropping Zone ('K')

Unfortunately, one of the Pathfinders detailed for the 'K' Dropping Zone dropped its load of men and navigation aids on 'N', and before the mistake had been discovered and rectified, the 'K' Beacon and Light signals had attracted thirteen sticks of the Main Body of Paratroops following, who had been intended for the 'K' Dropping Zone. The other 'K' Pathfinder Albemarle found the Dropping Zone, and signals were soon functioning as arranged. The two Albemarles carrying Advance Party Troops also found the 'K' area and successfully dropped their paratroops, though only one aircraft dropped its containers.

#### The Varaville Dropping Zone ('V')

This important Dropping Zone lay between Varaville and Merville only three miles from the sea and near the edge of featureless marshes. The crews of both Pathfinder Albemarles recognised the target but on being dropped, the equipment was either lost in the marshes or damaged. Some of it was retrieved but not before the Main Body had started dropping. Fourteen Albemarles carried a large Advance Party and much equipment. Three of them dropped only a part of their complement, one returned with all aboard, two others were late. The result was, that although the Advance Reconnaissance Party was able to start off to reconnoitre the battery, the Beacons and Lights were not set up to assist the dropping of the Main Body and the Landing of the eleven Gliders with the Special Assault Equipment. The simultaneous arrival of the R.A.F. Lancasters, many of which unloaded their bombs unpleasantly close to the waiting position taken up by the Advance Party, added to the confusion as it also did much to obscure the Landing Zone for the Main Party.

#### Phase II - Glider Support and main Parachute drops

##### Landing Zone 'V'

After an interval of less than half an hour the Gliders began to arrive (0045 hours). Eleven Tug and Glider combinations (seven Dakotas and four Albemarles with Horsa Gliders) set out with loads of Jeeps, Bangalore torpedoes, mortars, mine detectors, machine guns and equipment for the use of the Royal Engineers and the Paratroops of the 3rd Parachute Brigade who were to assault the battery. Three Gliders left their Tugs in cloud off the French coast, eight cast off correctly. Two Gliders landed on Landing Zone 'N' (Ranville) and two others near that Landing Zone not far from Breville village. The four others came down in a rough semi-circle at a distance of one and a half miles to the south-east of the intended Landing Zone. The Glider pilots afterwards reported that the dust and smoke from the Lancaster attack on the battery made it impossible to recognise Landing Zone 'V', and thus most of this equipment was not available for the assault by the 3rd Parachute Brigade on the battery.

No.38 Grp.  
Report  
para.77.

No.46 Grp.  
Unofficial  
History  
p.46.

Ibid  
p.46.

Landing Zone 'K'

5. Two out of the six Gliders with jeeps, Bridge Demolition Parties and other heavy equipment landed safely on time (0045 hours). Three landed on the Ranville Landing Zone 'N' because the mistake made by the Pathfinders had not been corrected by 0045 hours when these Gliders came down. One was lost. All the Tugs were Dakotas of No. 46 Group (No. 233 Squadron).

Dropping Zone 'N' - Drop of Main Body of the 5th Parachute Brigade

There was little difficulty in identifying the Ranville area when 123 out of the 129 aircraft which had set out from No. 38 Group (108 aircraft) and No. 46 Group (21 aircraft) arrived with 2,125 Paratroops - the Main Body of the 5th Parachute Brigade - at 0050 hours. Two thousand and twenty six (2,026) of the troops and 702 of the 755 Containers carried were dropped after pilots had already seen the flashes from the battle with the remnants of the German guard on the Benouville-Caen bridges. The tasks to be carried out by these troops were the reinforcing of the Glider-borne and Parachute Troops who had taken the bridges, and the seizing of the Ranville area to be held as a firm base against all counter attacks. The 21 Dakotas carried 360 men, whose task was to clear (of posts and other obstacles) and hold the 'N' Zone for the massed Glider landing to take place at 0320 hours and for a further one to take place at 2100 hours (Operation Mallard).

No. 46 Grp.  
Unofficial  
History  
p. 43.

On the whole this drop was good but a high wind scattered the sticks of Paratroops more widely than had been expected. Of the six aircraft that failed to arrive over France, five were Stirlings which were subsequently reported missing.

Dropping Zone 'K' - Drop of Main Body of the 3rd Parachute Brigade

The Air aspects of this part of the Operation were confined to 37 Dakotas from three Squadrons (Nos. 233, 271 and 575) of No. 46 Group who carried about one-third of the strength of the 3rd Parachute Brigade to the most southerly of the three chief Dropping Zones. Two aircraft of No. 233 Squadron were lost, but the other 35 aircraft had dropped 615 men and 151 Containers out of the 617 men and 163 Containers carried before 0100 hours. These men were to be dropped so that they could blow up two bridges at Bures and one at Troarn, and were subsequently to hold up enemy movement into the area from the South and the East. To do this they were to seize a commanding position in the neighbourhood of the Bois de Bures and Bois de Bavont.

Owing to the mistake made by the Pathfinder Albemarle referred to above through which the 'K' Beacon and Lights were set up on the 'N' Dropping Zone, thirteen sticks (1) of Paratroops and their accompanying Containers went down on the Ranville Dropping Zone before the error was rectified. It has already been noted that three out of the six Gliders for 'K' Zone had landed in the Ranville area and that only two of them had succeeded in landing their loads of personnel and demolition equipment in the correct place.

Apart from the early arrivals who went alone, the remainder i.e. 22 Dakotas, found the 'K' Zone marked only by the flashes of an Air/Sea Rescue Torch and released their troops and containers correctly. A wind of 10-20 m.p.h. and thick overcast

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(1) No. 38 Grp. Report on Neptune says, 'It is confirmed by 3 Para. Brigade that 13 sticks dropped on 'N' and 8 on 'K'.' Page 13, para. 77.

did not conduce to good concentration on the ground, but the Paratroops were able to retrieve the position and despite further setbacks duly blew up the bridges.

Dropping Zone 'V' - Drop of Main Body of the 3rd Parachute Brigade

A third of the personnel of the 3rd Parachute Brigade had been assigned to operations in the Troarn-Bures Area. The other two-thirds of them, detailed to take part in the assault on the Merville battery and to blow up the bridges near Varaville and Robehomme, were to drop from 71 Dakotas of No. 46 Group at 0050 hours. Nos. 271, 48 and 512 Dakota Squadrons supplied the 71 Paratroop aircraft as well as seven out of the eleven tugs for the gliders containing the heavy equipment for assaulting the battery.

It will be recollected that the plan to employ Pathfinder technique was a partial failure on this Zone, too, because while one stick either lost its equipment or recovered it in unserviceable condition, the other stick of troops dropped over half a mile away. The Main Body had arrived and commenced dropping before the Beacon and Lights were in operation. It was reported that 'only two green lights were exhibited on Dropping Zone 'V' when the Dakotas crossed the coast and in the prevailing conditions few crews saw them'.

No.46 Grp.  
Unofficial  
History  
p.45

It was at first thought that some of the navigators had mistaken the River Dives for the River Orne which was the pinpoint.<sup>(1)</sup> As an explanation of the scattered drop this is by no means clear. No. 46 Group Historian says that the lack of the expected ground signals, the pall of dust and smoke blown across the run-in and Dropping Zone, and some troublesome flak combined to produce the scattered landings. It does seem, however, that uncertain navigation, the lack of prominent landmarks and the prevalence of veering winds were also important factors in the failure of the Dakota Squadrons.

Ibid

Seventeen Dakotas got their men inside the 'V' Zone, fourteen more within a mile of the Zone and another eleven within 1½ miles. It will be remembered that none of the gliders succeeded in landing in the Zone. Nine sticks of paratroops landed on the banks of the Dives, two in the suburbs of Ouistreham, and five around Breville.

Ibid

Landing of three Gliders on Merville/Salenelles Battery

The story of the attack of the battery and the Dives bridges is an epic that should be read elsewhere. The struggle of the Paratroopers through marshes and across ditches, their advance on the battery without mortars, mine detectors, explosives, sappers or ambulance men and with only a fraction of their planned strength, makes one of the great stories of the war.

The attack was to culminate in a general assault, at the height of which three gliders were to land on top of the defences. At that hour - 0430 Double British Summer Time - there was 10/10ths cloud at 1,000 feet and from the first the gliders ran into difficulties. Three Albemarle of No. 297 Squadron took off successfully with their Horsa Gliders, but one glider parted from its Tug in cloud before leaving England. Another stalled and lost height over the Channel owing to the

(1) This was an opinion expressed by R.A.F. and Army Officers at the time and was reproduced in the "Official account of the British Airborne Divisions - By Air to Battle" p. 83.

Single  
quots

No. 38 Grp.  
Report on  
Neptune  
paras. 84  
and 85.

streaming of the Parachute Arrester Gear, and much damage was done to the glider before the gear was jettisoned. Neither glider pilots saw the battery, although tugs and gliders made four circuits before releasing at 0425 hours. The star shells were not fired so the glider pilots were dependent upon recognising the battery as they came down. Both succeeded in landing safely but not on the battery. One came down only 50 yards outside the perimeter of the battery defences, and the other less than half a mile away. By the time the glider parties were organised the battery had been silenced by the paratroopers. The whole body subsequently withdrew from the battery, after the guns had been disabled, to a position on high ground near the village of Salenelles where they were able to attend to their heavy casualties and rally the scattered sticks of paratroopers who continued to come in for two or three days.

The paratroop parties responsible for demolishing the bridges near Robeville and Varaville, although very badly scattered, succeeded in both of their tasks and then withdrew to the Bois de Bavent according to plan. There they were near other 3rd Parachute Brigade troops who had taken up positions in the Bois de Bures after blowing up the bridges at Troarn and Bures.

#### Phase III - Landing of Main Glider Force

No. 38 Grp.  
Report p.14  
para.86.

At about 0330 hours 68 Horsa and four Hamilcar Gliders, towed by aircraft of No. 38 Group, were to make a main landing on strips cleared and lighted for them on Landing Zone 'N'. These gliders carried Divisional Headquarters with Major-General Gale and certain heavy equipment including transport and an anti-tank battery. By the time of take-off weather was deteriorating; there was much low cloud and visibility was reduced. Four gliders cast off before leaving England, three more in cloud, while seven parted from their tugs either because of flak or tow-rope failure between the French coast and Ranville. In all, 25 gliders were hit by flak but most of them were not seriously affected. There were many crashes and collisions in landing cross wind, but passengers were generally unhurt. 48 Horsa and three Hamilcar Gliders landed within the limits of or near to Landing Zone 'N'

Ibid  
p.15  
para.59

From the air point of view the loss of 22 Gliders might be regarded as a serious matter, but from the military point of view the forces that made good their landing arrived at an opportune moment, and it is hard to see how such a force could have been placed in that position in any other way in the time available. No large counter attack had been launched before their landing, and when the first attack did materialise all the weapons which had arrived were needed to stem it<sup>(1)</sup>.

#### Summary of Operation Tonga

The following information will help in the attempt to estimate what success was achieved by the R.A.F. Groups in the Air aspects of the Operation. In the whole of Operation Tonga 264 Paratroop aircraft took off with 4,512 Paratroops and 1,315 Containers. Seven aircraft were lost and 4,310 troops and 1,214 Containers were actually dropped. 98 glider combinations took off and 74 gliders were successfully released although only 57 of them landed on or near their correct Landing Zones. 22 gliders were lost. There were two pilots to each glider; of the 196 glider pilots who took off 125 returned unharmed while the remainder were casualties, the

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(1) The first counter attacks were made at dawn and at 11 a.m. on 6 June by the 125th Panzer Grenadier Regiment. Both were repulsed, but losses to the 6th Airborne Division were heavy.

majority believed captured. Of the Troop Carrying gliders with 611 troops on board, the gliders carrying 493 troops were successfully released. 44 out of 59 jeeps, 55 out of 69 motor cycles, fifteen out of seventeen six-pounder guns and two out of four seventeen-pounder guns were successfully released. A bulldozer was successfully released over Dropping Zone 'N' but the experiment of dropping a tank was not successful(1).

#### Operation Mallard

From many points of view Operation Mallard may be regarded as a fourth phase in the main airborne operation although it took place at 2100 hours on the evening of D-Day. It consisted of two mass glider landings in reinforcement of those which had taken place the night before and it was directed abreast of the main life-line of the bridgehead; that is, on either side of the Benouville-Ranville bridges. The object of the operation was to place in the field the main fighting strength of the 6th Airborne Division which lay in the Air Landing Brigade. In addition, personnel and equipment of the Airborne Armoured Reconnaissance Regiment and No. 211 Light Battery R.A.F. were transported to the bridgehead.

Two Landing Zones were used in the Operation, Landing Zone 'N' in the Ranville Area and a new Landing Zone ('W') which lay between Ouistreham, the Canal de Caen and Benouville. 142 Gliders landed in the 'N' Zone and 104 in the 'W' Zone. During the daytime on 6 June radar beacons and ground markings had been set up and strips were cleared in these areas by Advance Parties.

There had been some misgivings about ordering a massed glider landing in daylight in an area where the enemy should have been able to operate large numbers of fighters and guns. Long streams of large, slow-moving aircraft, hampered by the necessity of towing gliders and of flying low preparatory to landing, would offer ideal targets for flak or fighters. An even greater menace, perhaps, lay in the guns of our own ships. It was decided, however, that the importance of bringing in the Air Landing Brigade was paramount and the daylight Operation offered the best chance of bringing in the gliders without dispersal and heavy losses through crash landings. It was also hoped that the protective fighter operations arranged by the Combined Operations Room(2) might hold off the enemy fighters.

Altogether, 258 glider-tug combinations were detailed for the operation, the tugs being drawn from fourteen out of the fifteen Squadrons in Nos. 38 and 46 Groups(3). Two hundred and fifty six tug-glider combinations took off and 246 were successful. Two hundred and twenty six Horsa Gliders carried men, jeeps and trailers and 30 Hamilcars were loaded with 77 m.m. guns and Armoured Units belonging to the Armoured Reconnaissance Regiment.

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(1) Much of the information contained in this section may be found in the two short accounts written by officers of No. 38 Grp. Headquarters and No. 46 Grp. Headquarters, namely:-

I. 'Report on the British Airborne Effort in Operation Neptune by 38 and 46 Groups R.A.F.' H.Q. No. 38 Group.  
 'An account of the Organising, Training and Operation of No. 46 Transport Support Group, Royal Air Force, during the invasion of Hitler's Europe', Headquarters No. 46 Group R.A.F.

(2) Described in a later Chapter under '2nd T.A.F. Operations'

(3) No. 233 Squadron did not participate in Mallard as it was committed for Rob Roy I the re-supply mission to take place at midnight 6/7 June.

Landing Zone 'N'

A total of 146 tug-glider combinations were despatched to this Landing Zone, 74 from No. 46 Group and 72 from No. 38 Group, or four Squadrons from each Group. No. 38 Group Halifaxes towed the 30 Hamilcar Gliders with their heavy equipment to this Landing Zone.

The weather was much better than it had been during the night operation and there was little need for the radar beacons and the prominent markings which had been put in position. The result was, that in spite of a few crashes this operation was a complete success. Two tow-ropes broke over England, one combination ditched in the Channel and was lost, and the fate of a fourth was unknown. One hundred and forty two gliders landed within the limits of the designated area in a period of 32 minutes, the last one touching down at 2123 hours. All the Hamilcars landed according to plan.

One unexpected feature that showed itself during this operation was the trouble caused by abandoned parachutes which were blowing across the Landing Zone. Some of these wound themselves around the tracks of our tanks immobilising eleven of them within five minutes.

Landing Zone 'W'

The Paratroops defending Benouville had been hard pressed during the day and consequently these re-inforcements were doubly welcome when they arrived from 2052 hours to 2120 hours.

This force was pre-loaded in 112 Horsa Gliders, of which 110 took-off towed by aircraft from six Squadrons of No. 38 Group. Reports available speak of 110 gliders duly landing on the 'W' Landing Zone, but these appear to be in error as two of these gliders force-landed in the U.K., another one far from the area (though in Normandy), while yet another was lost in the Channel.

Landing conditions were excellent but the arrangements did not seem to be well understood by the glider pilots as the majority of them landed with the wind. No. 38 Group reported some bunching with six combinations arriving abreast at one stage. Fortunately the weather was perfect with visibility 10-15 miles and wind speed 10-15 m.p.h. at 320°.

Such a high proportion of successful landings on both Zones was hardly expected and gave much cause for satisfaction. It had an important influence on later planning, in that it showed that given local command of the air, the absence of strong flak defences and suitable weather conditions, well-planned daylight air operations could be of decisive value.

Minor Airborne Operations (British)

Certain other Airborne Operations of a minor character but closely connected with the working of the comprehensive plan of invasion were flown by aircraft of No. 38 and No. 46 Groups on D-Day and on succeeding days. Those which took place some two or three days after the Assault are described here for the sake of convenience.

Re-Supply Missions - Rob-Roy I, II, III and IV

The first of the series of Supply Dropping Missions in support of the 6th Airborne Division took place at midnight on 6/7 June when 50 Dakotas took off with pre-packed stores which had been kept in close proximity to No. 46 Group air-fields. No. 233 Squadron, which had not taken part in

No. 38 Grp.  
Report  
p.16  
pp.99 and 100.

Operation Mallard, supplied 30 aircraft for Rob Roy I and ten each came from Down Ampney and Broadwell.

No. 46 Grp.  
Unofficial  
History  
p.48

From the moment when they arrived over the anchorages they were dogged by bad luck. It appears that the Eastern Naval Task Force had just been subjected to an enemy bombing attack when the Dakotas approached them flying in the Airborne corridor. The height at which the latter were flying (1,000 feet) their distinctive appearance and the slow speed of the heavily laden aircraft should have made recognition easy, but the Fleet opened up on them with serious consequences. 5 aircraft were lost and 14 others damaged.

The survivors had taken evasive action so that when they reached Dropping Zone 'N' (Ranville) they were no longer in a compact stream. Many of the supplies were dropped on the area occupied by the 3rd Division, and it is believed that some of them were retrieved and used by those troops before the Airborne Forces could claim them. The 6th Division received only 24½ tons out of 116 tons of food, ammunition radio equipment, bedding, medical stores and petrol which had been intended for them. The failure of the operation was attributed by No. 46 Group to the fact that it was carried out by night.

Three further missions were flown to re-supply the 6th Airborne Division, all by aircraft of No. 38 Group. At dawn on 8 June six Stirlings from Fairford (No. 190 Squadron) succeeded in dropping supplies on Dropping Zone 'N', the aircraft arriving over the target by 0537 hours (Code Name Rob Roy II).

At 2100 hours on the same day twelve Stirlings from Keevil were to have dropped further supplies on Dropping Zone 'N' in Rob Roy III. This operation was a comparative failure, for although the aircraft duly took off a dangerous weather situation suddenly developed and the aircraft had to be recalled by W/T. Five of them which did not receive the signal successfully completed the Mission but the others returned without crossing the Channel. All the aircraft landed safely.

On 10 June six Halifaxes from Tarrant Rushton and nine Stirlings from Keevil carried out a dawn Supply Dropping Operation on Dropping Zone 'W' (west of the Canal de Caen). The crews of all the aircraft reported that their loads had been accurately dropped at a few minutes after 0600 hours.

#### S.A.S. Operations in support of Neptune

In addition to its primary function of providing air lift for the British Airborne Divisions, No. 38 Group was also responsible for carrying small parties of Special Air Service (S.A.S.) Troops who were dropped in enemy-occupied territory in North-West Europe. S.A.S. Troops were a part of the Airborne Division with their own subordinate S.A.S. Headquarters located at Headquarters Airborne Troops, Moor Park.

For many months before and after D-Day parties of S.A.S. Troops were carried by Squadrons - normally No. 620 or No. 190 Squadron - of No. 38 Group. Only when aircraft were not required for normal Airborne Operations were they allocated to S.A.S. Operations. S.A.S. Troops wore British Army uniform and operated as parts of the regular forces. When operating in north-west Europe they came under the command of Twenty One Army Group. Sometimes they collaborated with Resistance Groups and less often they operated independently.

Co-operation between the Allied and the Resistance Groups

SHAFF (44) 25  
dated 23 Mar.  
1944.

SHAFF/17240/  
8/Ops(A)  
dated 24 May  
1944.

was effected through Special Force Headquarters<sup>(1)</sup> (Major-General Redman). It had its contacts with underground movements in each of the enemy-occupied territories. During the Spring of 1944 General Eisenhower issued an 'Operational Directive to Special Force Headquarters'<sup>(2)</sup> (whose operations in north west Europe were under the control of Twenty-one Army Group) governing the co-ordination of Resistance activities with Allied Military Operations in this theatre. Resistance was a strategic rather than a tactical weapon and, in consequence, its supervision was to be a matter for S.H.A.E.F. The G-3 (Ops) Division of S.H.A.E.F. headed by Major-General J. F. M. Whiteley and with Group Captain The Viscount Forbes as R.A.F. Staff Officer, undertook this supervision. One of its responsibilities was to approve the operations carried out by the squadrons of Bomber Command earmarked for employment on S.O.E. Operations arranged between S.F. H.Q. and Bomber Command. Two months later S.H.A.E.F. issued a Directive on Joint Operations of Resistance Force and S.A.S. Troops. Resistance being a strategic weapon was to remain in the hands of S.H.A.E.F., but where Resistance activities and S.A.S. Operations together could support tactical military operations then plans might be prepared by Twenty-one Army Group. Headquarters Airborne Troops would act for S.A.S. in preparing these plans while the S.F. H.Q. Detachment located with Headquarters Twenty-one Army Group would act for S.O.E. Whenever S.A.S. were working with the Resistance Groups all planning Directives and Operational Orders relating to such employment of S.A.S. Troops had to be issued by S.H.A.E.F. direct to Headquarters Airborne Troops. If they were to be used in a role that was purely tactical - i.e. independently of the Resistance Groups - all Directives and Orders came from Twenty-one Army Group, but even so, Headquarters Airborne Troops was forbidden to take action before S.H.A.E.F. had approved.

On occasions when S.A.S. operated independently, the usual procedure was for one or two Stirlings from a squadron in No. 38 Group to drop small parties and their equipment near objectives which had been selected for attack by Twenty-one Army Group. These might be railway tracks, bridges, tunnels, signalling equipment or possibly airfields. Some targets had been selected by Headquarters A.E.A.F., but railway sabotage was much the most important task. Normally, however, S.A.S. Troops were met by Reception Committees and collaborated with the local Resistance Groups, who were thus supplied with well-disciplined nuclei of regular troops, permanent organisations, trained specialists and, if necessary, subordinate leaders. The S.A.S. Troops began by organising secure bases from which they could operate and where sanctuary could be found when necessary.

S.A.S. Operations in support of Overlord aimed broadly at creating, in collaboration with the French Maquis, areas in which enemy communications could be attacked and through which movement could be obstructed. Assistance was also given at a later date to Maquis Groups who were attempting to assume control of certain regions in France.

In June and July 1944 the greatest S.A.S. effort was made in Brittany and South of the Loire. This S.A.S. activity was intended to contribute to the Overlord Military Plan whereby operations were to be developed to capture the Atlantic Ports and develop Brittany as a main base of operations immediately

File ARAF  
S.806 Encl.1.  
Appendix A.

(1) Formerly S.O.E/S.O.  
(2) Under reference - File S.H.A.E.F./17240/8/Ops(A).

after breaking out of the lodgement area. The S.A.S. areas in this part of France were known by the code names Dingson, Samwest and Bullbasket. The region of the Dingson Operations was that in South-East Brittany, West of the town of Redon. Samwest was in North-West Brittany in the area South of Guingamp. Bullbasket was South of the Loire inside the great bend of the river. An Operation in Brittany, subsidiary to Dingson and Samwest, was known by the code name of Cooney.

Other areas became important later in the campaign. The chief of these were in the Vosges Mountains, in the Ardennes, in the area between Lyons and Dijon, and in the area between Bullbasket and the Garonne. The task of dropping the S.A.S. Troops and supplies in Brittany and in the areas between the Loire and the Garonne was a commitment of No. 38 Group during June and July but its priority ranked after the commitment for providing air lift for normal Airborne Operations. It was not possible to give much assistance to the areas more distant from English bases until the nights became longer.

Apart from the above, one minor S.A.S. Operation was carried out in connection with Operation Titanic - the dummy parachute landings designed to assist the Neptune Airborne Operations. This minor S.A.S. Operation, known as Titanic IV, took place on the night of 5/6 June at the same time as the main Airborne Operation. Bomber Command aircraft taking part in Titanic dropped two parties of three S.A.S. men in the Marigny district, where they assisted the dummy parachute operation and then infiltrated back through Twenty-one Army Group lines into the beachhead.

#### No. 38 Group S.A.S. Operations - Operation Sunflower I

On the night 5/6 June, 35 S.A.S. Troops from the 4th French Parachute Battalion were dropped at about 0100 hours in the Dingson and Samwest areas of Brittany(1). The men were carried by a Stirling aircraft of No. 38 Group and were dropped in two sticks, one containing 18 troops in north-west Brittany to the south of Guingamp (area Samwest,) while the seventeen others were dropped in south-west Brittany west of Redon (area Dingson).

The air part of this Operation was apparently satisfactory and the tasks allotted to the S.A.S. troops were begun at once. The Dingson party were to contact the local Maquis and with their help were to form a secure base in south-east Brittany. Having done this, they were to assist S.A.S. troops who would subsequently be dropped to carry out other tasks connected with the Overlord Plan. The first of these was to offer a refuge to the Cooney parties who were to be dropped two nights later to begin cutting off Brest and Western Brittany from rail communication with the rest of France. The Samwest troops were to perform the same function as the Dingson party but in the area near Guingamp.

#### Operations Cooney and Sunflower II

On the night 7/8 June, 56 S.A.S. troops were carried by nine Albemarle drawn from the four squadrons of No. 38 Group and were dropped in parties of three on points extending in a band across Brittany from the north coast to the south. The aircraft experienced A.A. fire from the areas

File AEAF/  
S.806 Part I  
Encl.26.

No.38 Grp.  
Operation  
Order No. 504

(1) Details of Air Missions concerning S.A.S. Operations in Overlord may be found in No. 38 Grp. O.R.B. Details of S.A.S. Operations projected may be found in 'S.A.S. Troops Operation Instruction No. 1' issued to Commander, S.A.S. Troops on 28 May 1944 by Commander, Airborne Troops under reference H.Q. Air Troops/TS.2500/40/G(L).

around Redon, Pontivy, Vannes and St. Briec but none was lost. This was known as Operation Cooney and was concluded by 0230 hours. The troops were to cut railway lines at eighteen chosen points and were then to retire to the Dingson or Samwest bases.

On the same night two Stirlings from No. 620 Squadron were detailed to drop parties of S.A.S. troops and packages of supplies south of the Loire in the area Bullbasket. This was Operation Sunflower II. Another aircraft was detailed to drop parties on the other side of the Loire, but only the aircraft detailed for Bullbasket succeeded in its mission. Nine men and nine packages were successfully dropped at 0150 hours.

#### Sunflower III (Samwest and Dingson)

No. 620 Squadron supplied three aircraft to take 50 troops of the 4th French Parachute Battalion and their equipment to the Samwest area of Brittany on 9/10 June. They were all successfully dropped at 0202 hours.

Another 50 men of the 4th French Parachute Battalion (S.A.S.) were dropped in the Dingson area on the same night by two Stirlings of No. 299 Squadron and by one Stirling of No. 196 Squadron. The drop was completed by 0236 hours. All six aircraft on Sunflower III returned safely.

AMERICAN AIRBORNE OPERATIONS

Tasks allotted to U.S. Airborne Forces

It will be recollected that the final Military Plan involved the landing of an American Division (the 4th Infantry Division) on the south-eastern beaches of the Cotentin Peninsula between St. Martin de Varreville and the Carentan Estuary at 0725 hours Double British Summer Time. An immediate foothold in that area was considered essential because General Montgomery had required the early seizure of Cherbourg as the first major objective. The Utah beaches were to form a lodgement area from which U.S. Forces were to advance on Cherbourg as rapidly as possible.

One obstacle to the achievement of this aim was the existence of low lying flooded areas behind the coastal sand dunes in this region. The 4th Division could only reach the main routes to Cherbourg by passing over a number of elevated causeways which carried roads over the flooded areas and which could be effectively defended by the enemy.

Between the Utah beaches on the Cotentin Peninsula and the Omaha beaches on the Calvados coast lies the broad Carentan Estuary into which the waters of several rivers are discharged. By June, 1944, the enemy had flooded these river valleys as an additional defensive measure. The control point for the flood water was La Barquette Lock and Weir in the Groult Channel some two miles due North of Carentan. Crossings over the rivers draining into the west of the estuary are dominated by the town of Carentan, while those over the rivers further east are commanded by Isigny. The main roads from Paris and the south-east to Cherbourg run through Carentan.

Unless the river crossings North of Carentan were seized before surprise was lost, it might require protracted operations to capture Carentan and thus make possible a junction between the two flanks of the U.S. Assault Forces. It was therefore decided to employ U.S. Airborne Troops to seize the western exits of the causeways which would be needed by the 4th Division before the alarm had been given and the enemy had had time to appreciate the situation. Other American Airborne Forces were to capture Carentan and La Barquette Flood Control Lock and also to blow up such bridges as would be required to delay enemy counter attacks. All the above tasks were allotted to the 101st Airborne Division.

It had at first been intended to employ the 82nd Airborne Division in blocking the north-south and east-west routes through the Cotentin Peninsula which were dominated by St. Sauveur le Vicomte. On the last day of May, however, a revised Plan was sent out in which the 82nd Division were to be dropped in the general area of Ste Mere Eglise astride the Merderet River and the Cherbourg-Carentan railway and road, and therefore in close proximity to the 101st Division. New dispositions had been made by the enemy, and greatly increased strength in the St. Sauveur area, had made the old plan impracticable. The task of the 82nd Division remained that

of preventing the movement of enemy reserves to the north and east(1).

#### U.S. Forces Available

Air lift for the two U.S. Airborne Divisions detailed for the accomplishment of these tasks was provided by the C.47's and C.53's (Dakotas) of the IXth Troop Carrier Command (Commanding General, Brigadier-General Williams) which was one of the component commands of General Brereton's IXth Air Force. The IXth Troop Carrier Command consisted of three Wings - the 50th, 52nd and 53rd - or a total of fourteen Groups and 56 Squadrons. Each Wing was approximately the equivalent in aircraft strength of the two British Groups used for Airborne Operations. Headquarters IXth Troop Carrier Command was located at Grantham with an Advance Command Post (combined with No. 38 Group) at Eastcote. In addition, there was a Pathfinder Unit at North Witham airfield.

A.E.A.F.  
Statistical  
Summaries  
26 May 1944.

The 50th Wing consisted of four Groups based at Exeter, Upottery and Merrifield airfields in South-West England. During May 1944 the strength of the four Groups was given by the U.S. Statistical Control Section Headquarters A.E.A.F. as sixteen Squadrons or 256 Unit Equipment Dakotas. An unreferenced Troop Carrier Command Report(2) gives its strength as 294 aircraft on 8 June.

The 52nd Wing had 320 Unit Equipment aircraft in five Groups (20 Squadrons) based at Fulbeck, Barkston Heath, Saltby, North Witham, Folkingham, Cottesmore and Spanhoe airfields all in the Grantham area. For Operation Boston this Wing took over the operational control of one of the four Groups (442nd) of the 50th Wing. The above-quoted unreferenced Report states that the 52nd Wing had 315 aircraft on 8 June.

The 53rd Wing also had five Groups of 230 U.E. aircraft in 20 Squadrons based at airfields near those of Nos. 38 and 46 Groups. Its strength was 351 aircraft on 8 June. IXth Troop Carrier Command airfields in this area (Swindon-Newbury) were Aldermaston, Greenham Common, Welford, Membury and Ramsbury.

Ibid  
26 May 1944.

Numbers of reserve aircraft from time to time, though very considerable, are not easily ascertainable although the Statistical Control Section of Headquarters A.E.A.F. records the fact that Troop Carrier Command had 1,167 C.47 and/or C.53 aircraft on 1 May 1944, when there were nominally only 896 such aircraft in the squadrons.

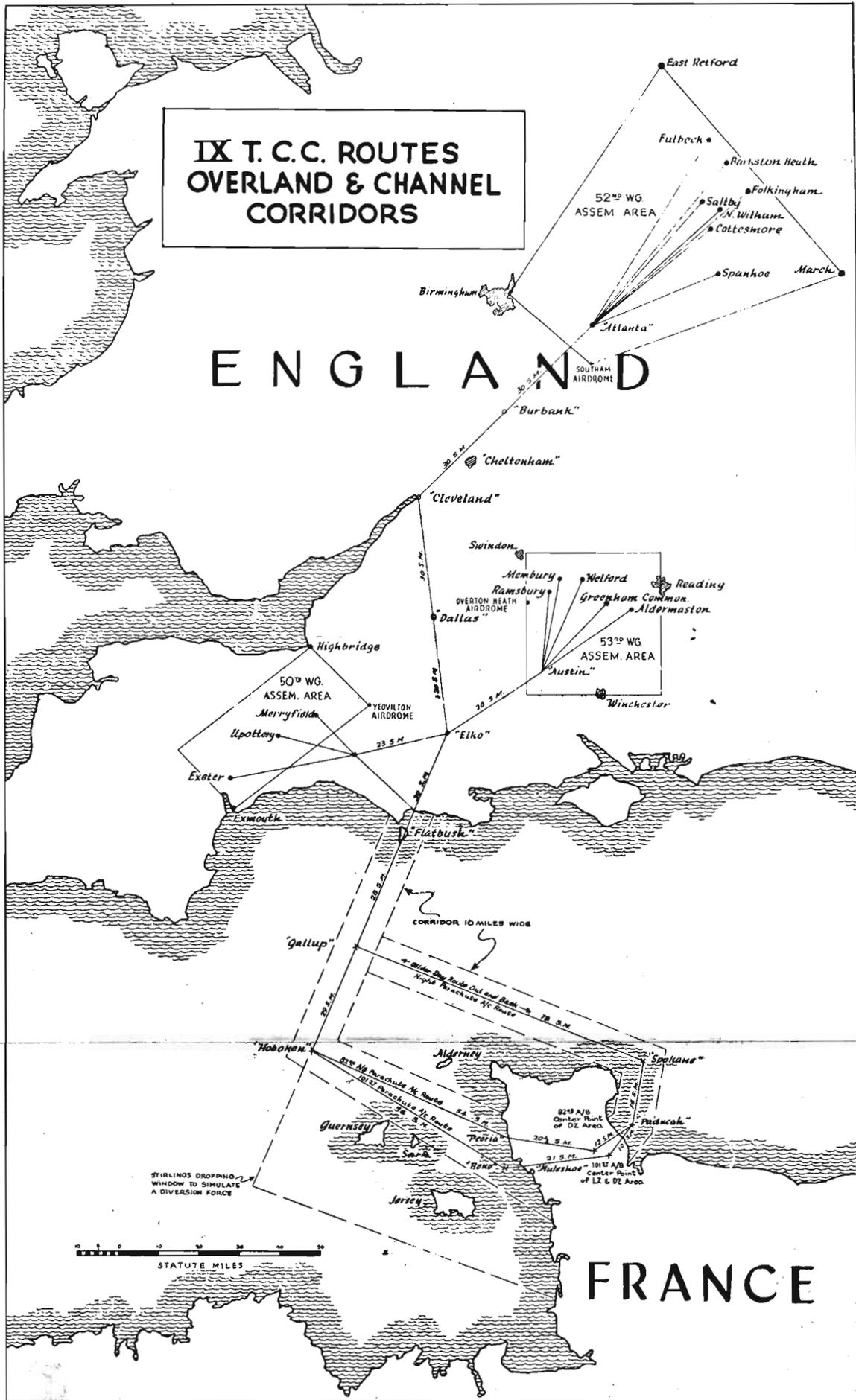
In accordance with the revised plan, one of the eastern group of Dropping Zones in the original plan (D.Z. 'B') was omitted as well as all the Zones in the St. Sauveur area. Six Dropping Zones 'A', 'C', 'D', 'N', 'O' and 'T' were selected, with two landing Zones 'E' and 'O', the latter co-extensive with Dropping Zone 'O' and the former substantially co-extensive with Dropping Zones 'C' and 'D'. Dropping Zone 'A' was directly east of Ste Mere Eglise. 'C', 'D' and

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(1) Plans for the American operations are set out in the IXth Air Force Plan for Overlord, Annex 12. The IXth Troop Carrier Command Plan and details of the Orders to the 50th, 52nd and 53rd Troop Carrier Wings for all the operations described in this section will be found in Field Order No. 1 issued by IXth Troop Carrier Command on 31 May 1944. Details of the serials giving numbers of aircraft, timings etc. may be found in the Air Movement Tables, Appendix A.

(2) This report is an unreferenced, undated "Summary of Troop Carrier Command Missions 6-7 June 1944" formerly in the possession of the S.A.S.O., Headquarters A.E.A.F.

**IX T. C. C. ROUTES  
OVERLAND & CHANNEL  
CORRIDORS**



'E' were all south east of Ste. Mere Eglise, from four to six miles away in the vicinity of the villages of Hiesville ('C') and Vierville ('D'). Due West, across the Cherbourg main road and railway and across the Merderet River, were Dropping Zones 'N' and 'T'. Further north, lay Dropping and Landing Zone 'O' between the road and railway immediately north-west of Ste. Mere Eglise. Ste. Mere Eglise was thus the focal point of all six Dropping Zones and two Landing Zones, none of which was more than six or seven miles away from it.

Memo  
Gen. Bradley  
to Gen.  
Montgomery  
26 May 1944.  
paras.6 and 7.

Under the revised plan there was little change in the allocation of tasks to the two Airborne Divisions. The 82nd Division was given the mission of protecting the west flank of the Utah front, advancing in the west to the River Douve in the neighbourhood of St. Sauveur le Vicomte and St. Colombe and thus freeing the 4th and 90th Divisions for their movement north-west towards Cherbourg. To carry out these tasks the 82nd Airborne Division was to be put down in their area of operation in one large parachute dropping operation (Boston)- and four Glider operations (with the distinctive American code names of Detroit, Elmira, Galveston and Hackensack). In the first phase, however, the tasks of 82nd Airborne Division were mainly defensive in character and the 101st Division was entrusted with all the vital offensive operations.

The 101st Division was responsible for:-

- (1) the capture of the landward exits from the Utah beaches;
- (2) the destruction of the Douve bridges on the Cherbourg road north of Carentan, the seizure of La Barquette Lock and the seizure of two wooden bridges east of La Barquette;
- (3) the protection of the south flank of the Utah Forces.

Subsequently the 101st Division was made responsible for taking the town of Carentan and for establishing a bridgehead to the south of it. To attain these objectives three operations were carried out, referred to under the code names of Albany, Chicago and Keokuk.

#### Night Operations, 5/6 June

##### Main Parachute Drops - Operation Albany

This was by far the largest single Airborne mission that had ever taken place in any theatre of war up to that time. Pathfinders went first to mark the Dropping Zones using the same procedure as the British Pathfinders. A standard operating procedure had been adopted by both Air Forces. Eleven Pathfinder aircraft from the IXth Troop Carrier Command Pathfinder School at North Witham began dropping Advance Parties to mark Dropping Zones 'A', 'C' and 'D' and Landing Zone 'E' at ~~ten minutes before midnight~~ on 5/6 June, three aircraft being allotted to each Zone.

T.T.C.C.  
Summary of  
Missions  
0016 hours

TLM/MS.150/1  
Encl.58,  
Para.3.

This part of the operation was done with reasonable success, except that one pathfinder aircraft was lost in the Channel. In his Report on the operation General Taylor<sup>(1)</sup> remarked 'None of the teams was dropped at the pre-designated point but in all cases teams came close enough to carry out their assignment at least in part.' Zone 'A' had lights

(1) Report by the Commanding General of the 101st Airborne Division on Airborne Operations in Operation Overlord, dated 19 July, 1945.

and radar beacons, 'C' had Eureka beacons but not a complete 'T' in lights. The marking of 'D' was hindered by the enemy, but 'E' was correctly marked. Oddly enough 'D' received the most accurate drop.

Paratrooping Dakotas of the 50th and 53rd Troop Carrier Wings took 6,600 Troops of the 101st Airborne Division and began dropping them at 0020 hours or half-an-hour after the Pathfinders had dropped the Advance Parties. After many weeks of practice the leaders of these Wings had taught their comparatively inexperienced crews the art of formation flying by night. Two crews per Group had been trained in Pathfinder navigation at the IXth Troop Carrier Command Pathfinder School, the remainder of the crews were to keep in formation as their knowledge of navigation was rather sketchy.

The 432 Dakotas in the Albany mission left the English coast at Portland Bill and passing between the Channel Islands crossed the west coast of the Cotentin Peninsula without mishap. Heavy clouds and then some A.A. fire caused the formations to lose cohesion and by the time they reached the Dropping Zones they were badly scattered. As a result, units were so seriously intermingled on the ground that it was difficult to organise effective forces even after daylight.

Crews of the Troop Carrier Command nearly all reported good and accurate drops, but it transpired when General Taylor of the 101st Division made his report that some paratroops were dropped away north of Montebourg and others far south of Carentan although concentrations of numbers (but of intermingled units) were secured north and south of Vierville and north-east of Ste. Mere Eglise and St. Martin de Varreville. Disregarding the strays, General Taylor reported that the drop of the three Regiments, a Battalion of Field Artillery and the Headquarters of the 101st Division could be enclosed in a rectangle 25 x 15 miles. Dropping began at 0016 hours and had finished by 0202 hours.

See Map No.11

The two northern causeways and the battery at St. Martin de Varreville were duly captured, though not as planned because the battalion which had rehearsed the operation came down on Dropping Zone 'C' instead of 'A' so that another battalion took over the task. The battery had been heavily bombed by the Air Forces and was abandoned when reached by the extemporised Assault Force.

Ibid  
para.4(c)

The other two causeways leading to the Utah beaches were also captured without much trouble, although the units that did so, operating from 'C' Zone (Hiesville) were somewhat mixed. The Divisional Headquarters were intended for Dropping Zone 'C' but were, in fact, scattered over an irregular rectangle of 16 x 8 miles.

Dropping on Dropping Zone 'D' was fairly good, although the Advance Party had been unable to set up their lights because of strong German opposition in the area. Two battalions of the regiment to be dropped on 'D' were responsible for seizing the lock at La Barquette and for blowing up the Douve main road bridges near Carentan. One battalion received only eighteen of its 45 aircraft loads in approximately the correct area, the remainder being spread far to the north and south. The other battalions were far luckier and received the best drop of any of the formations. They reached La Barquette Lock but were unable to reach the Douve main road bridges because of strong enemy opposition at St. Come du Mont, which occupies a commanding rise on the main road two and a half miles north of the Douve bridges and

Ibid  
para.4(b)

Ibid  
para.4(c)

about five miles from Carentan. One of the two Douve bridges was blown up by the Germans in their retreat on 8 June.

Ibid

The battalion which had to capture the wooden (eastern) bridges came down around St. Come. Heavily defended as St. Come was, only six officers and 45 men reached their objective by H-hour, but these were unable to blow up the bridges which were, however, successfully skip-bombed by request on 7 June.

Ibid,  
para.4(c)

Thus, in one way or another and under improvised leadership most of the results hoped for from the Airborne Operations of the 101st Division were accomplished. Losses of aircraft were negligible in spite of the fears entertained by the Air Commander-in-Chief who was conscious of the fact that inexperienced crews would be handling aircraft without armour or self-sealing tanks flying for two and a half hours at minimum speeds at about 500 feet in moonlight over well-defended enemy territory<sup>(1)</sup>. As it turned out, only twelve aircraft were lost<sup>(2)</sup>. But due to scattered dropping about 1,500 men of the 101st Airborne Division were killed or captured at the outset, and out of the 6,600 troops carried only 1,100 had arrived at or near their objectives by H-hour. About 2,500 had assembled at the end of twenty-four hours but sea-borne reinforcements had to be brought up on D plus two to relieve the critical shortage of manpower.

#### Operation Boston<sup>(3)</sup>

The Paratroopers of the 82nd Airborne Division were dropped over Dropping Zones 'N', 'O' and 'T' by 368 aircraft of the 52nd Troop Carrier Wing augmented by one Group from the 50th Wing. This operation took place some two and a half hours after the Operations by the 50th and 53rd Wings. As has already been pointed out, the tasks allotted to the 82nd Airborne Division were of a less spectacular nature than those of the 101st Division as they were mainly defensive in character. From the air point of view, Operations Albany and Boston were part of one great air Operation in which a thousand aircraft were over the target area during the hours from midnight until dawn.

The Dropping and Landing Zones were marked by nine Pathfinder aircraft as was the case in the other Zones, the Pathfinder aircraft being over their objectives at 0120 hours. The Pathfinder troops were dropped and in spite of many casualties, succeeded in setting up beacons on all the Dropping Zones before the main bodies arrived.

The route flown and the technique employed in getting this Division to its Combat Zones was also similar to that employed for the 101st Division. The main body began to jump at 0146 hours and ended by 0239 hours. Like the dropping of the 101st, that of the 82nd Division was scattered, largely for similar reasons. Cloud, flak and small arms fire all presented difficulties to 50th Wing aircrews, although reports of heavy

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(1) Including the Pathfinders and aircraft engaged in Albany and Boston there were 820 Dakotas concerned. An hour later 206 Dakotas with Gliders were over the area.

(2) On page 2 of his Report General Taylor wrote that only 46 aircraft of Troop Carrier Command were lost in all operations on D-Day and D plus one out of the 1656 sorties flown (2.8% losses).

(3) No report from the Divisional Commanding General was received by Air Ch. Mshl. Leigh-Mallory but the after-action Narrative of the 82nd Airborne Division has become available and is the basis of most of the information on the operations of the 82nd Airborne Division in this Chapter.

opposition from flak were not borne out by the loss of only eight aircraft (out of 368) from all causes. *This was largely because of the effective anti-flak measures taken by A.E.A.F.*

The 82nd Division was in one respect more unfortunate than the 101st Division. The original plan for Dropping Zones near St. Sauveur had been abandoned in favour of zones west of Ste. Mere Eglise because of the re-disposition of German Troops in the former area. Unfortunately, however, the 82nd Division dropped on to ground occupied in strength by the German 91st Division and other troops who were engaged in manoeuvres at that time.

The main body of the 50th Wing ran into fog which dispersed formations after they had crossed the coastline. Aircraft were still further scattered by the time they reached the Dropping Zones as they were forced to take evasive action against enemy flak and some night fighters.

The regiment which dropped on Dropping Zone 'O' was the most successful of the three, the whole regiment landing in eleven minutes starting from 0151 hours. Ste. Mere Eglise was entered at 04.00 hours. Twenty-two sticks landed on the Dropping Zone and 66 within two and a half miles which included 33 within 1000 yards. Twenty-one sticks were dropped over 4,000 yards from Ste. Mere Eglise, one stick was destroyed on the runway of DZ/LZ 'O', one returned to England, while three sticks dropped between Cherbourg and Quettehou.

Paratroops of the regiment due to drop 1000 yards north of Picauville jumped between 0200 and 0220 hours and were widely scattered south east of the Dropping Zone. Only six sticks dropped correctly. Of the remainder, 35 landed within a mile of it, 29 descended west of the Merderet, 40 were scattered east of the river and some even fell into the sea and waded ashore on to the defended beaches. Despite this, the high ground west of the Merderet was held and contact was made with the 507th Regiment at Chef du Pont. This regiment was to have dropped 1000 yards North West of Amfreville. The drops took place between 0132 and 0312 hours mainly south of the Dropping Zone though fairly close together. Four sticks landed correctly. An attempt was made to link up with the regiment in Dropping Zone 'O' at La Fiere bridge, but this was frustrated by the enemy.

By the end of D-Day the 82nd Airborne Division held Ste. Mere Eglise and the line of the River Merderet from the south of La Fiere to the east end of the bridge south west of Chef du Pont. One part of the mission had been accomplished, namely that of protecting the north-west flank of the VIIth Corps, but the bridges over the Douve had not been destroyed.

#### Night Glider Landings - Operation Chicago

It had been decided by the Air C.-in-C, A.E.A.F. that the first glider landings in support of the American paratroop drops should be carried out under cover of darkness rather than in daylight on the morning of D-Day. It was felt that the danger from enemy fighters and flak was infinitely greater than that from crash landings in the darkness. For this reason Waco (CG-4A) Gliders, being smaller and able to land in less space, were preferred to Horsas and numbers were limited to 52 gliders.

They were to be routed in the same way as the aircraft on Albany and Boston operations, i.e. between the Channel Islands and across the west coast of the Cotentin Peninsula.

From 0354 hours onwards on the morning of D-day 51 Waco Gliders towed by a Group of Dakotas of the 53rd Troop Carrier

Ibid  
para.5.

Ibid

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Carrier Missions  
p.1.

Wing were released in the vicinity of Landing Zone 'E' (Hiesville). IXth Troop Carrier Command stated that subsequent photos indicated a large percentage of the gliders intact on the Landing Zone, but in fact seven out of 51 landed on the marked Zone and 43 more came to rest within three miles of it luckily in areas controlled by U.S. paratroopers. Despite many crashes, serious casualties and damage to cargoes were remarkably light although Brigadier General Pratt was one of the five men killed. It should, perhaps, be added here that IXth Troop Carrier Command were unaccustomed to night Glider Operations. Their partial success made available to the hard-pressed 101st Division 146 men, many valuable weapons, and much equipment.

#### Operation Detroit

Another Group of Dakotas from the 53rd Troop Carrier Wing towed 52 Waco Gliders to Landing Zone 'O'. This serial carried supporting personnel, weapons and Divisional Staff for the 82nd Airborne Division. The mission was carried out between 0400 and 0500 hours on the morning of D-day. Like the aircraft carrying the paratroops, the gliders were scattered by fog and flak and many crashed in hedges and small fields. Only 22 landed on or near the Landing Zone, two landed on the coast line and three were reported missing in action. Much signals equipment was lost and only six of the AA/AT guns were available for use.

By the end of D-Day only 30% of the troops which had landed in the morning were under divisional control.

#### Glider Landings - Evening of D-Day

On the evening of D-Day further Glider Support Missions were flown out to the two Airborne Divisions in the U.S. Sector. The landings were planned for 2100 hours. Both outward and return flights could therefore take place in full daylight so as to allow the aircrews time to rest and their aircraft to be serviced after operations on the previous night.

These missions were routed to pass over the Western Task Force anchorages thence across the Utah beaches. Consequently, it was important from the point of view of their recognition that they should complete their missions in daylight. The Navy had unwillingly promised to withhold fire and the streams of aircraft-glider combinations were closely escorted by IXth Air Force Fighters.

#### Operation Keekuk

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Carrier  
Command  
Missions  
p.2.

This stream of 32 Dakota-Horsa combinations was sent out to take 165 men with medical and artillery Units, vehicles and signals equipment to the 101st Airborne Division. The Dakotas of the 53rd Troop Carrier Wing arrived at Landing Zone 'E' (which was marked with smoke and Eureka beacons) at 2053 hours. No flak was encountered.

TLM/MS  
150/1  
Enc.58  
para.6.

The report of the Commanding-General of the 101st Division states that many gliders crashed into trees or were lost through landing among the enemy. Three landed on the Landing Zone and eight reasonably near to it. Fortunately, equipment in the gliders that were recovered was not badly damaged though casualties among personnel were heavy.

#### Operation Elmira

Ibid  
p.2.

This was a large operation involving 176 aircraft of the 53rd Troop Carrier Wing towing 36 Horsas and 140 Wacos loaded

with engineer, medical, signals and artillery units for the 82nd Airborne Division (Landing Zone 'O'). From the point of view of the 53rd Wing, Operations Keokuk and Elmira were parts of the same air operation. In Operation Elmira the gliders began to land troops at about 2100 hours but the area around the landing zone was not clear of the enemy. Severe mortar and small arms fire caused heavy losses and long delays.

Operations - Morning of 7 June

Glider landings Galveston and Hackensack

Two Troop Carrier Wings - the 50th and the 53rd - towed 99 and 100 Gliders in two streams, the Galveston mission arriving over Landing Zone 'O' at 0700 hours on 7 June and the Hackensack mission arriving at 0855 hours.

Galveston was an operation to take infantry, artillery and engineer personnel and equipment to the support of the 82nd Airborne Division, while Hackensack carried a less specialist load. There were seventeen Horsas and 82 Wacos in the first stream, and 30 Horsas and 70 Wacos in the second. Neither the 50th Wing nor the 53rd Wing crews saw any enemy fighters or flak.

The gliders in the Hackensack mission were to have approached from the north-east and landed near the Ste. Mere Eglise - Blossville road on Landing Zone 'E', but since this Zone was under enemy fire the Force Commander decided to divert the gliders to Landing Zone 'O' which had been used in the early morning. Unfortunately his signal was not received and the landings were widely dispersed.

The first gliders began landing at 0700 hours about 2500 yards south east of Ste. Mere Eglise. There were many crash landings and casualties in personnel amounted to about 7.5 per cent. By 1015 hours however, all battalions had reported. Forty-six gliders landed correctly, the remainder being scattered north and north west of Ste. Mere Eglise. Six landed in enemy territory.

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p.7.

Re-supply missions Memphis and Freeport

Supply dropping missions had been arranged, the first to be automatic but all others to be called for if required, for each of the Airborne Divisions. That for the 101st Airborne Division was known as Memphis and that for the 82nd Airborne Division as Freeport. The arrangement appears to have been understood by the 82nd Division but not by the 101st Division who were under the impression that all re-supplies had to be requested. One hundred and eighteen Dakotas of the 50th Troop Carrier Wing arrived over Dropping Zone 'E' at 0635 hours on the morning of 7 June, carrying supplies for the 101st Division (operation Memphis). This was an automatic re-supply mission. The supplies were dropped, but as they were not expected most of them were lost. Four Dakotas failed to return from this operation.

General  
Taylor's  
Report

Freeport was a much larger operation, involving 206 aircraft of the 52nd Troop Carrier Wing. A sudden deterioration of the weather over the Midlands led to disaster. 53 aircraft became separated from the main body and most of them made emergency landings in England. The IXth Troop Carrier Command estimated that 140 aircraft dropped supplies on the Dropping Zone about one Mile north-east of Ste. Mere Eglise (for the 82nd Airborne Division). Thirteen aircraft were lost, one in England and twelve elsewhere.

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The report by the 82nd Airborne Division however states

A.H.B.II SI/14,  
p.9.

that 148 Dakotas dropped 155 tons of ammunition, food and medical supplies at 0620 hours but as the drop pattern was poor, bundles were scattered so that many of them fell into enemy hands. The rest were collected under fire and after considerable delays.

In conclusion, the size of the IXth Troop Carrier Command airborne operations may be judged by the fact that in the forty-eight hours under review 1,656 sorties were made by powered aircraft. Of these, 822 were on paratroop dropping missions, 510 towing gliders and 324 on supply dropping. One thousand two hundred and thirty six aircraft (1,028 powered and 208 gliders) were engaged in airborne operations in the twenty-four hours of D-Day and 722 aircraft (523 powered and 199 gliders) on D plus one, making a grand total of 1,950 sorties by IXth Troop Carrier Command aircraft and gliders. Only 46 powered aircraft (2.8%) were lost but of course most of the gliders could never be **retrieved**.

ASSAULT TASKS OF R.A.F. BOMBER COMMAND

Role of Bomber Command - Night of D Minus One/D-Day

It had been recognised from the outset that the fulfilment of the first essential task of getting the troops ashore would depend very largely upon the success of the Joint Fire Plan. For this reason, as has been explained, the maximum effort of the Navy, Air Force and Army was to be concentrated upon drenching the defences of this stretch of coast in a continuous rain of fire from the time the Assault Forces came within range until the time when they had arrived at their objectives.

In drawing up this Plan the Neptune Joint Commanders had given first priority to the neutralisation of such batteries as might interfere with the approach of the Naval Forces. These batteries were amongst those to be engaged by the guns of the Naval bombardment vessels as soon as the latter had taken up their stations or from the time when it was light enough for the enemy to plot his fall of shot visually, whichever was the later. It had been arranged, however, that if possible Naval fire should be withheld until it was light enough for Naval-Air spotting, and though this was expected to begin about (40) forty minutes before sunrise it would depend entirely upon the weather.

It had been calculated that over 40 coastal batteries were capable of interfering with the operation at some stage or another, but of these less than a dozen were regarded as targets of first priority because they might interfere with the approach of the Naval Forces. Ten coastal batteries were selected after consideration of their relative situations, ranges, calibres and general importance and were assigned<sup>(1)</sup> to R.A.F. Bomber Command which was thus to share with the Airborne Forces the honour of striking the first blow in the Assault.

This was to absorb nearly but not quite all the effort of Bomber Command. As its part in the Assault operations Bomber Command had accepted the following tasks:-

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- (1) Operation Flashlamp - main effort by Heavy Bomber Force against ten coastal batteries.
- (2) Operation Taxable - convoy simulation (by means of Window) in support of Naval diversion Taxable.
- (3) Operation Glimmer - similar action in support of Naval diversion Glimmer.
- (4) Operation Mandrel - a radio barrage to screen aircraft of No. 38 Group and U.S. IXth T.C.C. carrying Airborne Troops.
- (5) Operation A.B.C. - operation to jam enemy fighter control.

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(1) All targets allocated to Air Forces in Neptune were listed in 'Air Targets' reference NJC/00/431/7 dated 23 May. Coastal batteries selected for attack by Bomber Command may be found in Schedule H, Section A. Since 8 April when the Bomber Command targets were selected, Morsalines, Benerville and Villerville batteries had been deleted from the schedule and Longues, Malsy I and Mont Fleury had been substituted.

(6) Titanic I, III and IV - simulation of three Airborne Assaults to provide diversionary cover for the real Airborne Assaults(1).

(7) Bomber Support and Intruder Operations.

Forces available

The total aircraft strength of the established front line squadrons(2) as returned in the Order of Battle of Bomber Command for 1 June, 1944 was 1786 aircraft of which 1681 were operational. In addition to the normal Heavy Bomber squadrons these numbers included 42 aircraft (all operational) in the two Special Duty squadrons at Tempsford(3) and 78 aircraft of No. 100 Bomber Support Group which became fully operational when Overlord commenced. The great bulk of the aircraft were four-engined Heavy Bombers of which there were 61½ squadrons (1416 aircraft) operational and 2½ squadrons (27 aircraft) non-operational on that date. The Lancaster was the predominant type in the Command with 39½ squadrons out of an establishment of 41 squadrons but there were also 22 squadrons of Halifax aircraft, six squadrons of Mosquito Light Bombers and seven of Mosquito Bomber Support types as well as a few squadrons equipped with Stirlings and miscellaneous aircraft

The following table summarises the information which may be studied in detail in the Order of Battle appended at the end of the volume:

Types of Aircraft	Operational Squadrons			Non-Operational Squadrons		
	No.	I.E. & I.R.	a/c in Units	No.	I.E. & I.R.	a/c in Units
HEAVY BOMBERS Lancaster	38½	672 + 168	852	1	16 + 4	4
Halifax	21½	400 + 98	521	½	16 + 4	4
Stirling	1½	38 + 8	43	1	16 + 4	19
HEAVY BOMBERS Total	61½	1096 + 274	1416	2½	48 + 12	27
LIGHT BOMBERS Mosquito	6	112 + 22	122	-	-	-
SPECIAL DUTY Mixed	2	36 + 5	42	-	-	-
BOMBER SUPPORT Mosquito	4	64 + 8	68	3	48 + 6	58
Others	1½	27 + 5	33	1½	22 + 5	20
BOMBER SUPPORT Total	5½	91 + 13	101	4½	70 + 11	78

(1) Full details of the forces, bombloads and technique to be employed in all these operations were set out in Bomber Command Operation Order No.188 issued on 2 June 1944 under reference B.C./S 30717/7/Ops. A copy may be found at Appendix No. OL/20 to the Overlord Supplement of the Bomber Command O.R.B.

(2) The Initial Establishment (I.E.) totals of aircraft omitting Special Duty Squadrons as returned in the Form 'G' were as follows:-

Date	I.E.	Strength	Operationally fit
1 June	<del>1472</del> 1262 ✓	<del>1472</del> 1241 ✓	<del>1194</del> 1193 ✓
6 June	<del>1308</del> 1302 ✓	1486 1262 1458	1946 1376
14 June	1324	1297	1350

(3) Nos. 138 and 161 Squadrons were equipped with Halifax (24) Lysander (11) and Hudson (7) aircraft.

(1) Main Bomber Effort - Operation Flashlamp

Five batteries dominating the seaward approaches to the British beaches and five others commanding the approaches to the American Sector were selected for heavy bombing attacks by the maximum operable strength available. In effect, this meant that each battery would be the target for about 500 tons of bombs dropped from about 100 aircraft.

In timing the attacks the main consideration was that they should take place as late in the night as possible so that they could be followed without a pause by the remainder of the bombardment programme to commence after sunrise. Normal arrangements were made to provide protection to the Bombers during the hours of darkness. As a large proportion of them would be withdrawing during the first hour of daylight, fighter cover was provided after 0450 hours by aircraft of the U.S. VIIIth Fighter Command which were also committed to cover the dawn operations of the VIIIth Air Force Fortresses and Liberators.

Two batteries in the U.S. Sector and one in the British Sector were attacked early in the night so as to fit in with the plans of the Airborne Divisions. These were St. Martin de Varreville and Crisbecq-Fontenay, both situated near Utah beach, and Merville-Salenelles across the Orne from Ouistreham(1). Houlgate, La Pernelle II and Maisy I were the next to be attacked as their situations and ranges would enable them to open fire at the stage when the assault boats were being lowered. Longues and Mont Fleury came next, closely followed by St. Pierre-Pointe du Hoc. The bombing of Ouistreham finished at 0515 hours, i.e. five minutes before Civil Twilight. Thus the operations spread over about six hours, although the majority of the bombers were over their targets after 0330 hours. As the tides in the British Sector were later than those in the U.S. Sector and for other reasons connected with rocks and artificial obstacles on the beaches, H hour was later in the former, and in consequence, attacks on coastal batteries in the British Sector were timed to take place later than those on batteries in the U.S. Sector.

Altogether 1,136 Lancasters, Halifaxes and Mosquitoes from Nos. 1, 3, 4, 5, 6 and 8 Groups took part in this Operation, of which 1,056 aircraft actually attacked. No. 8 Pathfinder Group used Obes to mark the targets and the Heavy Bomber Force bombed on target indicators. In most cases the 1,000 lb type of bomb was used, and altogether 5,267 tons(2) were dropped. The following Table summarises information regarding the numbers of aircraft attacking each battery and indicates the times of each attack:-

(1) Grid references to all the batteries mentioned here are given in the Table on the following page.

(2) Or 5,900 U.S. (short) tons.

Targets	Grid Ref:	Sorties	Aircraft Attacking	Time over target	Tons Bombs
Crisbecq/ Fontenay	O.368044	101	94	2331-2341	534
St. Martin de Varreville	T.405980	100	99	2343-0001	547
Merville	U.155776	109	88	0025-0039	340
Maisy I	T.533918	116	112	0314-0339	532
La Pernelle II	O.372198	131	115	0331-0444	600
Houlgate	U.256809	116	113	0345-0359	417
Longues	T.797871	99	96	0414-0428	538
Mt. Fleury	T.918861	124	113	0429-0449	542
St. Pierre du Mont/ Pointe du Hoe	T.586937	124	114	0446-0503	637
Ouistreham I	U.117797	116	114	0502-0515	580
Totals		1,136	1,058		5,267

Conditions were generally favourable for the operation, in that there was little opposition from flak while that from fighters was ineffective. Weather was good at first, deteriorating somewhat before the last attacks were made. Patches of dense cloud obscured Mt. Fleury, Maisy I, Merville, Crisbecq, St. Martin and Longues to such an extent that strike photographs of these attacks were of little value. No day reconnaissance reports were issued for these attacks, and as the sites were bombed by Medium and Fighter Bombers in addition to being bombarded by Naval guns, no certain estimate can be given of the results of the night attacks.

The attack on the Merville battery missed altogether, the bombs falling uncomfortably close to the position taken up by the 6th Airborne Division advance party when reconnoitring the situation before the troops assaulted the battery defences. The position of the St. Martin de Varreville battery on the Cotentin Peninsula was successfully bombed, but the U.S. Airborne Troops who captured the site later in the morning reported that the guns had obviously been moved some days earlier, probably as a result of previous bombing attacks. 64 aircraft of Bomber Command had dropped 356 tons of bombs (mainly of the 1000 lb type) in a well-concentrated attack on the night of 28/29 May.

The St. Pierre (Pointe du Hoe) battery was considered the most dangerous of all and, in consequence, had been attacked several times during the preparatory bombing programme even up to D minus one day. In the attack being considered here, 637 tons of bombs were dropped, the largest tonnage dropped on any target that night. Bomber Command reported that several sticks of 1,000 lb bombs were seen to fall on the aiming point in the attack ending just before morning Civil Twilight. After the attack, it was also bombed in the assault programme carried out by the IXth Air Force Marauders but the aircraft were slightly late on target and the results of their bombing could not be seen because of low cloud. No other battery received so much attention. It was the object of a special attack on D-Day by U.S. Rangers who discovered that the guns had been moved to a new position about a thousand yards to the south and had thus escaped damage. In their new positions they

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Western Task  
Force, Annex  
B.1.

were incapable of firing on Omaha beach but were sited to fire on the sea and on the East Cotentin. Open positions, trenches, communications and perimeter defences had been completely smashed by the Air and Naval bombardments when the Rangers arrived, but despite many hits little damage had been done to casemates or underground shelters.

Ibid  
p.20.

Maisy I was attacked by 52 aircraft on the previous night (4/5 June) as well as by the 112 aircraft on the night of the 5/6 and by eighteen IXth Air Force Marauders at H. hour. Altogether some 830 tons of bombs of the 1,000 lb. M.C. type were aimed at it. It was silent for the critical period of the Assault but resumed activity thereafter and was bombarded by U.S. warships until 10 June, two days before it was overrun by ground troops. One gun was discovered knocked from its emplacement, but the U.S. Naval Task Force Commander was unable to say whether it was the result of Air or of Naval action.

Ibid

La Pernelle was also silenced for a short period by nearly 600 tons of bombs aimed at it during the night but at a later stage it was able to open fire, rather more effectively than most of the other batteries. It remained in operation until it was captured in the American advance northwards, when it was discovered that No. 3 casemate was completely demolished by Naval gun fire. The other casemates (this was a 6-gun battery) were undamaged by the 1,000 lb bombs which made up most of the bomb-load of the R.A.F. Lancasters.

The attack on Houlgate ended well over an hour before morning twilight. In this case most of the bombs were of the 500 lb G.P. type, and though they appear to have assisted in the temporary silencing of the battery they could not have caused any vital structural damage. The battery remained in enemy hands until August and was one of the most active in the area during the first fortnight of operations. The Naval bombardment on 19 June caused it to cease fire.

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p.2(g)

Longues coastal battery was the target of 538 tons of bombs of assorted types. British Army investigators reported some days afterwards that buildings and earthworks had been destroyed by bombing.

Ibid  
p.2(h)

Mt. Fleury also received considerable damage to buildings and storage accommodation but none to casemates as the result of its bombing by Halifaxes which dropped 540 tons of 1,000 lb M.C. bombs, and the same report subsequently stated that only one casemate out of the four contained a gun and when investigated this had been found to have fired all its ammunition. Both Longues and Mont Fleury were also bombed by the VIIIth Air Force before H-hour but in the conditions prevailing it is not thought that the targets were hit.

Ibid  
p.2(i)

German document.  
7th Army  
Log, A.H.B.VII/  
70  
p.2.

Ouistreham I was the last battery attacked. The Lancaster bombers had only just completed their task at morning Civil Twilight. The 570 tons of 1,000 lb M.C. bombs did very little damage to casemates, but the Service buildings attached to the battery were completely destroyed. The German 7th Army Log reported partial damage to this battery from air attack. There were only two guns in the battery and both were undamaged when examined by Allied investigators. This battery and the other battery at Ouistreham were attacked by Medium Bombers soon after the Lancasters had moved away from the area, but IXth Air Force reports stated that the attacks were mainly abortive.

The conclusion from all the evidence available(1) seems to be that the results of the heavy night bomber attacks were broadly in line with what had been expected by informed opinion. Physical damage to guns and casemates does not appear to have been very extensive even when hits were registered near the guns. This was foreseen when 1,000 lb and 500 lb bombs were selected. But damage to buildings and to all other installations caused disorganisation sufficient in most cases to last for some days and in all cases for long enough to enable further damage to be done by other attackers before repairs could be effected.

To this must be added the undoubted temporary effects of a concentrated raid of Heavy Bombers during which from 400 tons to 600 tons of high explosive came down in a short period on a limited area. Prisoners of war and a captured German report agree that personnel suffered so badly from shock that while most of them were disinclined to come out of their shelters many were incapable of efficient work even when they did man the batteries.

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No.272/1944.

#### Radio Counter Measures

A subsidiary role of Bomber Command aircraft during the hours of darkness immediately preceding the Assault was the operation of 111 aircraft employed in carrying out various air operations involved in the Radio Counter Measures (R.C.M.) Plan for the Assault. The component parts of the R.C.M. Plan were inherently inter-dependent and had been constantly kept under review by the R.C.M. Committee at S.H.A.E.F. to ensure that they conformed to the S.H.A.E.F. Cover Plan (Fortitude). For the sake of clarity each air operation will be described separately. The R.C.M. Plan was aimed at suggesting on the one hand that Allied invasion operations were directed against the Pas de Calais area while it also attempted to blind the enemy to the fact that major forces were already on their way to Normandy. Two of these operations were carried out jointly by the Royal Navy and the Royal Air Force, namely Taxable and Glimmer.

#### (2) Operation Taxable

This was a Naval-Air diversionary operation designed to produce on the enemy radar the effect of the approach of a large convoy moving towards the beaches north and south of Cap D'Antifer(2). The Naval Force consisted of three lines of ships on a front of fourteen miles and with a depth of thirteen miles advancing at seven knots. Balloons and other equipment produced 'big ship' echoes on the enemy radar and a simulated landing was begun at the conclusion of the operation half-an-hour before dawn.

Naval Orders,  
Dover Command,  
Section 3.

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(1) Combined Operations H.Q. and Twenty-one Army Group sent Observer parties to examine the ground after the assault in order to assess the actual damage done to the coastal defences by the different weapons employed in the bombardment before the assault. Their reports together with other evidence have been considered by the 'Fire Support of Seaborne Landings sub-committee' set up at C.O.H.Q. by the Joint Technical Warfare Committee and the conclusions were printed for the War Cabinet under secret reference T.W.C. (45) 10 dated 10 May, 1945. Other useful studies are 'Report No. 292, Army Operational Research Group' and 'Report No. 10, Bomber Analysis Unit, SHAEF (Air)'. All these papers may be found at A.H.B. Records.

(2) Immediately North of Le Havre.

The supporting Air operation was carried out by sixteen aircraft of No. 617 Squadron (Lancaster - Wing Commander G. L. Cheshire D.S.O., D.F.C.) who had been training for this task since 7 May. The aircraft were employed to make the convoy appear a large one. They flew in two lines, four aircraft abreast, forming a box twelve miles wide and eight miles deep over the Naval Convoy area. A series of 30 elongated orbits were made with the major axis of the orbits perpendicular to the coast, each orbit being 0.82 miles nearer the coast. Very accurate tracking was required and this was done by working with the Southern G-Chain.

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p.6.

From the starting point to the finish the convoy moved 24 miles, beginning at 0030 hours and ending at 0407 hours (Nautical Twilight). In this way the enemy was kept in doubt as to what was happening as long as it was dark enough to cloak the deception. The Air operation was well done, and reports from the Ventnor Type 16 radar were to the effect that the Window dropping exactly simulated a large convoy. There was, however, little enemy reaction.

### (3) Operation Glimmer

This operation was a Naval-Air feint against the beaches on either side of Boulogne in which No. 218 Squadron (Wing Commander R. M. Fenwick-Wilson A.F.C.) assisted by creating the impression that a large convoy was approaching at seven knots. The Air operation concerned only six aircraft, three of them for  $2\frac{3}{4}$  hours and three for  $1\frac{3}{4}$  hours. The method of producing echoes on the enemy radar was exactly the same as that in the Operation Taxable.

See next page,  
Operation A.B.C.

This feint scored an important success. Searchlights and guns opened up on the convoy, A.B.C. aircraft put up to jam enemy night fighter radio control transmissions were mistaken for cover over the convoy, and the bulk of the enemy night fighter aircraft was put up against the A.B.C. patrol, with the result that there were several encounters leading to combats, with one enemy night fighter destroyed. One of our own aircraft (from No. 101 Squadron) was lost. E-boats were also sent against the Naval convoy.

### (4) Operation Mandrel

Bomber Cmd.  
Operation Order  
No.188, para.46.

No. 199 (Stirling) Squadron (Wing Commander N. A. N. Bray, D.F.C.) and No. 803 (Fortress) Squadron U.S.A.A.F. were fitted with radio equipment designed to jam the enemy radar during the period of our Airborne operations. It could also be, and in fact was, used to mask the movements of the main force of heavy bombers and of the aircraft engaged in other operations.

Starting before midnight on the night of D minus one/D-Day, eight pairs of Stirling aircraft and four Fortresses operating singly orbited at 1800 feet around twelve different points in the Channel transmitting signals which completely jammed the full frequency range of the enemy Early Warning System. Stations 1 to 5 covered the British Sector and 6 to 12 the U.S. Sector. Aircraft proceeding to the former stations flew out and home over Littlehampton, and to the latter by Portland Bill.

The jamming barrage not only reduced the range of the enemy Early Warning System but also formed a screen behind which the Bomber Command and Troop Carrying aircraft could operate 'unseen' by enemy radar. Altogether, the 20 aircraft remained in position for  $5\frac{1}{4}$  hours. It was found that enemy coastal radar activity on the night of 5/6 June was much less than usual, due no doubt to the physical attacks made on radar

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stations already described in Chapter 4. Nevertheless, the Mandrel screen put up by Nos. 199 and 803 Squadrons was considered to be effective in jamming those stations which were active, and the experience gained was put to good use in subsequent Bomber Support operations.

(5) Operation A.B.C.

In this operation 24 aircraft of No. 101 Squadron (Lancasters - Wing Commander R. J. Alexander) and five aircraft of No. 214 Squadron (Fortresses - Wing Commander D. J. McGlinn) provided patrols over a large area between Beachy Head and Paris and midway between Boulogne and the River Seine (and thus between the Taxable and Glimmer areas). The primary object of these patrols was to jam the enemy night fighter control system in the region between Normandy and the direction in which the enemy could move fighters into the Assault area. A secondary object was to give the impression that the A.B.C. aircraft were top cover for a landing on the Boulogne beaches.

Ibid., paras  
34 to 37

These squadrons had been engaged in the work of jamming enemy night fighter Radio Telephone communications for some time - No. 101 Squadron since October 1943 and No. 214 Squadron since April 1944. Altogether, 82 jamming transmitters were working in the 29 aircraft which spent 4½ hours on patrol at heights of from 24,000 feet to 27,000 feet. The enemy was apparently misled far enough to plot the A.B.C. patrols as 'the spearhead of the Bomber Force in the neighbourhood of Paris'. The two squadrons had seven combats and claimed one destroyed and two probably destroyed for the loss of one Lancaster.

(6) Operations Titanic I, III and IV

Brief allusion has already been made in Chapter 8 (dealing with Airborne Operations in the Assault) to the diversionary Airborne operations. Titanic I was carried out by fifteen aircraft of No. 3 Group (Nos. 138, 149 and 161 Squadrons) which first discharged large quantities of Window with the intention of deceiving the enemy Freya, See Takt and Wurzburg installations for coastal watching, and then dropped dummy paratroops and noise simulators in the Yvetot region. This was intended to persuade the enemy that an Airborne operation was taking place North of Rouen.

Ibid  
para.48  
German Document.  
7th Army Log,  
entries 6 June,  
1944.

Titanic III (three aircraft) and Titanic IV (sixteen aircraft) required another nineteen aircraft of No. 3 Group (Nos. 90, 138 and 149 Squadrons) and took place near Maltot and Marigny respectively. Window, dummy paratroops, noise simulators, and, in the Marigny region only, a few S.A.S. Troops were dropped. Some attention was paid by the enemy to this diversion and two Stirlings engaged on Titanic III were lost. Our own radar reported that the Titanic aircraft gave an excellent representation of a large force of low flying aircraft and it is believed that this operation did delay the reaction of the enemy ground forces to the genuine Airborne operations. This general impression is confirmed by a study of the conflicting and confusing reports logged at the H.Q. of the German Seventh Army during the first 24 hours of the operation.

(7) Bomber Support and Intruder Operations

Effort of No. 100 (Bomber Support) Group not already committed to the R.C.M. Plan was employed on operations designed to screen the assault forces generally, and Bomber Command and Allied troop carrying aircraft in particular, from interference by the G.A.F. To carry out this intention 27 aircraft from

No. 11 Group  
O.R.B.  
June 1944,  
Appendix  
E.ii.

Mosquito squadrons were despatched to the Low Countries in order to provide a night fighter screen against enemy aircraft moving towards Normandy from Northern Germany or from airfields in the Low Countries. Other aircraft flew on patrol lines which enclosed the Channel Islands, the Cotentin Peninsula, Normandy and the mouth of the Seine in a rough semi-circle.

Bomber Cmd.  
O.R.B.  
June 1944  
Appendix OL/33  
para.13.

Nos. 141 and 169 Squadrons of No. 100 Group under the control of their own Group provided the outer perimeter patrols in which Mosquitoes flew back and fore between the Moselle Valley and the Dutch and Belgian coasts<sup>(1)</sup>. They operated between 2330 hours and 0430 hours flying at 15000 feet. A few aircraft of No. 239 Squadron<sup>(2)</sup> swept the central area of Belgium in an effort to intercept enemy night fighters passing through. 25 out of the 27 Mosquitoes of No. 100 Group which were despatched took part in these patrols but had little to report.

Responsibility for the night air defence of the Assault Area rested on A.D.G.B. The IXth Air Force, had no night fighters operational at this time and the 2nd T.A.F. did not possess any night fighter squadrons. As A.D.G.B. remained responsible for the protection of Great Britain, this addition to its commitments when the Assault was launched was bound to strain its night fighter resources. This strain was reduced to the minimum by making use of certain night fighters available from No. 85 (Base) Group and from No. 100 (Bomber Support) Group and by centralising the control of all night fighter aircraft under A.D.G.B. for the time being.

A plan for the employment of night fighter and intruder aircraft in and around the battle area was drawn up at the Combined Control Centre<sup>(3)</sup>. This aspect of the Air operations in the Assault Phase is fully dealt with in the appropriate part of this narrative<sup>(4)</sup>. The Plan was based on the expectation that the most practical manner of using the night fighter force on the night of 5/6 June would be to employ aircraft on patrols outside the lodgement area rather than on patrols over the beaches and anchorages. It was considered that as there would be so many friendly aircraft operating in the battle area it would be far easier to catch enemy aircraft outside it rather than inside.

JAPEO  
Paras.15-21

The role of No. 100 (Bomber Support) Group aircraft in this Plan was to patrol along lines commencing over the Channel near the Channel Islands and passing over Vire, Argentan, Bernay, Pavilly and then over the Channel again. Eleven A.I. night fighter Mosquitoes of No. 85 Squadron (No. 100 Group), and five aircraft from No. 85 (Base) Group shared these patrols. Although they were flown continuously from 2345 hours on 5 June until 0405 hours on the morning of D-Day, no enemy aircraft were encountered.

Intruder aircraft of No. 515 Squadron (ten) and No. 157

(1) A copy of the instructions issued on 3 June by No. 100 Group for Operations on D-1/D-Day may be found at Bomber Command O.R.B. June 1944, Appendix OL/33.

(2) Equipped with "Serrate", a type of Airborne Interception radar equipment.

(3) A 'Joint Air Plan and Executive Order' for Operation Neptune (short title JAPEO) was issued jointly by No. 11 Group and IXth fighter Command from Uxbridge on 25 May 1944 under reference 11G/TS/500/125/SASO. A copy of this Plan may be found at Appendix E to No. 11 Group O.R.B. for June 1944.

(4) In chapter 12 'A.D.G.B. Operations during Neptune.'

Squadron (four) operated under the Intruder Controller of A.D.G.B. in conjunction with over 50 other Intruder aircraft. The object of these sorties was to interfere with the operation of enemy night fighters. Some aircraft carried bombs which were dropped on enemy airfields observed to be active. Most of these sorties were flown over the Pas de Calais and the Low Countries. One Me. 110 was shot down and two Mosquitoes of No. 100 Group were lost.

Before concluding this section it should be mentioned that certain ground strafing attacks were made by night fighters of A.D.G.B. squadrons (Nos. 418 and 605 Squadrons) on searchlight and light flak positions in the Cotentin situated near the American and British Airborne Dropping and Landing Zones. These attacks were timed to coincide with Bomber Command attacks on Crisbecq, St. Martin and Merville coastal batteries so that they would support both the Airborne Operations and those of the Night Heavy Bombers.

#### Summary

The following table shows the proportion of effort allotted to the different operations undertaken by Bomber Command and No. 100 (Bomber Support) Group on the night of 5/6 June in connection with Operation Neptune:-

Mission	Sorties	Effective sorties	Missing
Coastal Batteries	1136	1058	6
Osnabruck	31	31	-
Diversions	111	108	3
Bomber Support	27	25	-
Intruders	25	23	2
S.A.S. operations	5	-	-
Grand Total	1335	1245	11

Only six out of the 1136 aircraft of the Heavy Bomber Force and eleven out of the total of 1335 aircraft of Bomber Command that were out during the night were missing the next day. Of the Heavy Bombers, three of the aircraft attacking the Pointe du Hoc (St. Pierre) coastal battery and two of those sent against Mt. Fleury were lost, and one was lost from the force despatched to Longues. German night fighters were reported active from 2340 hours until 0130 hours and again after 0415 hours, but all the Heavy Bombers were lost in the second period when there was a considerable measure of daylight at 12000 feet<sup>(1)</sup>.

There was, it will be remembered, a full moon and visibility above and below cloud was usually excellent. Only one of the bombers (the one lost from the Mt. Fleury force) was known to have been brought down by flak. As for the enemy night fighters, all the combats and known attacks on R.A.F. bombers (totalling 23) took place in the Western or U.S. Sector.

It is thought that the main reason for the low scale of losses was the fact that no land penetration over a heavily defended area was necessary. The timing of the successive waves of bombers was also very skilfully done. Another reason must have been the confusion of the enemy in face of the wide-spread and varied nature of the air operations during the night.

(1) At sea level, Civil Twilight came at 0516 hours but an aircraft at 12,000 feet would then be flying in broad daylight..

There was a bombing attack on Osnabruck by 31 Mosquitoes of No. 8 Group, two Naval-Air diversionary operations and three diversionary Airborne operations. There were also widespread intruder operations and, as described in another chapter, the real Airborne operations on the Cotentin Peninsula and between the Rivers Orne and Dives.

#### Operations Subsequent to the Assault

Once Overlord had started practically the entire weight of Bomber Command's operations was employed in direct support of the Liberation Forces in the beach-head. Most of the heavy attacks were against the enemy's transportation system, troop concentrations and prepared positions, gun sites and supply sites(1).

General  
Eisenhower's  
Report  
para.237 et  
seq.

From the moment the battle had been joined S.H.A.E.F. policy had been to use the Air Forces under its control on operations calculated to deny to the enemy the freedom of movement on the ground that was necessary if his troops were to mount successful counter attacks. Furthermore, in addition to the maximum delay that could be imposed, it was hoped to inflict the heaviest possible casualties on the flow of reinforcements and supplies to the enemy's armies.

The wisdom of this policy was often questioned by the Commanders of the U.S. Strategic Air Forces and had been doubted by the C. in C. Bomber Command for months before and after this period. But once Overlord had begun, Air Chief Marshal Harris accepted the policy without open dissent, though he often felt that his Heavy Bomber Force was not being employed on operations for which it had been created and not always being used to the best advantage.

During the eight nights from 5/6 to 12/13 of June Bomber Command despatched 6,350 aircraft which dropped 20,670 tons of bombs. On three of the nights over 1,000 aircraft operated and on three other nights the number of aircraft operating was about 600. Neptune targets were so much the most important of all objectives that nearly 19,000 tons of bombs were dropped on them (in the period by 5,215 aircraft).

by 5,215 aircraft in /  
the period

Nevertheless Bomber Command by no means gave up its own offensive against Germany and forces of Mosquitoes dropped about 50 tons of bombs on each of six nights on German targets. Berlin was attacked three times on this scale while on the last night of the period under review nearly 1,500 tons of bombs were dropped on Gelsenkirchen.

The heaviest individual attack, and indeed, the heaviest air attack of any kind in the war up to that time was that on the Coastal Batteries already referred to in the first part of this chapter (operation Flashlamp). Of the Bomber Command operations after the troops began to land, the attacks against movement by road and rail were the chief. During the next week, nearly 12,000 tons of bombs were dropped in order to block the principal routes - railways, for the most part - leading to the Neptune area. About 3,350 heavy bomber sorties were devoted to this task.

cap

As soon as the landings had begun, the Air C. in C. put into execution the plan for delaying enemy military movement. The first attacks were designed to prevent the concentration of enemy troops already in Normandy against the beaches but the bad weather during the first 48 hours of operations largely nullified these efforts.

(1) See Bomber Command File:- BC/S.30717/6 in A.H.B. Records.

As the unfavourable weather persisted it was realised by A.E.A.F. that the air plan to prevent enemy movement by the use of all available air forces could not succeed in its entirety but there was no other good plan to replace it. Fortunately, the preparatory operation against the railways had largely crippled the French railway system so that during the periods of good weather after the landings it was possible for the Allied air forces to impose a degree of delay which many authorities have since agreed was decisive. By day and by night whenever the weather served, every type of bomber smashed railway facilities, town centres, bridges, crossings etc., while the fighter types patrolled the main traffic routes and attacked all movement. It is within this picture that the operations of Bomber Command against the French railways and road centres must be studied. However, after the first week of operations it was obvious that the enemy had made full use of the periods of bad weather and by the end of that time many of his preliminary dispositions to meet the invasion had been accomplished.

After the night of 12/13 June there occurs one of those natural pauses in operations which makes it convenient to end the account of the Command's operations which concerned the actual assault and follow-up. There was too, a change in character which though at first gradual soon became radical.

As the troops became more firmly established ashore, other classes of targets claimed the attention of the Heavy Night Bombers so that the emphasis began to be spread over a greater variety of operations. Troop concentrations, fuel and ammunition dumps were frequently attacked as well as railway targets during the next few weeks. Furthermore an important departure was made when on the evening of 14 June, occurred the first of the great daylight attacks by the Night Bombers which proved that they could be, in conditions where they were able to operate without much interference, as effective as the Heavy Day Bombers.

Another sign of the recognition that Bomber Command could now afford to divert effort to other targets was the decision to take up in earnest the strategic war against the German war-making capacity. The targets chosen were those in the enemy oil industry and both Bomber Command and the VIIIth Air Force were permitted at this stage to resume the offensive against oil.

Perhaps the greatest change was one which was imposed on the Allies by the enemy: this was the necessity to re-commence attacks on Crossbow installations. Bomber Command had shared with the other Air Forces the task of neutralising these sites ever since December, 1943 but for some weeks had given up the task partly because most of the known sites had been put out of action and partly because other more urgent operations connected with Neptune had a higher priority.

On the night of 12/13 June, however, the first flying bombs were launched against Southern England. These attacks were discussed by the Allied Air Commanders on the following morning and it was decided that attacks on the sites would be the best action. The attacks were also discussed by the War Cabinet and as a result the U.S. VIIIth Air Force was asked to resume attacks on Crossbow dumps, launching and supply sites and a start was made on two sites on 14 June.

TLM/F/S, 34,  
Encl. 14 A,  
para. 16.

WM(44)77th,  
Conclusions,  
13/ June/44.

Bomber Command CRB  
OL Supplement  
p. 13.

After a pause lasting two nights flying bombs were again launched against the London area from the Pas de Calais on the night of 15/16 June and in consequence the Allied heavy bombers were ordered to initiate a series of punishing counter-attacks by day and night.

The Air C, in C, did not welcome the distraction of effort

File BC/S.30717/  
6, Encl. 32 A

File A.E.A.F./  
TS. 13165/Air.

away from Overlord but it is difficult to see how this diversion could have been avoided. As the menace grew so the demand for counter-action became more insistent with the result that when H.Q. A.E.A.F. sent a formal directive on bomber operations to Bomber Command on 29 June, Crossbow attacks were accorded first priority.

Night bombing to delay the movement of enemy reserves(1)

N.J.C./00/431/7,  
dated 23/May/44.

File BC/S.30717/  
6, Encl. 1A.

Reference to the Neptune bombing plan (Air Targets) will show that alternative targets for the night of 6/7 June had been prepared by the Joint Bombing Committee so as to be available for the decision of the Air C. in C. at 1500 hours on D-Day. The object of these proposed attacks was to delay the night movement of enemy reserves and, for this purpose, movement by road was assessed as having the highest priority when the time came for putting the plan into execution.

Hist. Record  
A.E.A.F. p.5.

During the afternoon of D-Day, after the VIIIth Air Force had returned from operations without any certainty that Caen had been blocked and, as there was no improvement in the weather, it was realised that this vital communications centre would have to be allocated to Bomber Command for a night attack unless, by 2200 hours, British troops were too close for bombing to be safe. The failure of the Fortresses and Liberators to create choke points in Caen and in the centres of the other principal towns of Normandy left this urgent task to Bomber Command. Although this was far more difficult to effect by night, the task was undertaken by the heavy night bombers on the night of 6/7 June.

Out of the 1,065 Heavy Night Bombers despatched to attack Caen, seven other route centres in Normandy(2) and the railway complex at Acheres, 977 aircraft attacked with 3,112 tons of bombs (3,472 short tons). No enemy fighters intercepted and only twelve bombers were lost.

The heaviest attack, at Coutances (470 tons), fell on the town centre and, in addition, damaged the road and rail bridges to the south. An attack by the U.S. VIIIth Air Force on D Day was, no doubt, responsible for some of the damage seen on the reconnaissance photographs after the attack on Caen. The dockside was badly hit, the locks destroyed and the centre of the town was in flames when the photographs were taken on the morning after the raid. The 440 tons of bombs had blocked four bridges and the roads to Falaise and Bayeux. Main streets in the town centre of Lisieux and the railway line to Mezidon received a substantial number of direct hits. The same conditions were shown by the photographs of St. Lo, Argentan, Vire and Conde, but nothing was known of the results of the attack on Chateaudun.

Bomber Cmd.  
Night Raid  
Report, No.626

At Acheres thick cloud prevented the Master Bomber from identifying the aiming point and the attack was called off after about half the force had bombed from below cloud. Nevertheless, considerable damage was shown by reconnaissance.

Operations by 32 Mosquitos which bombed Ludwigshafen, nineteen aircraft laying mines, 26 aircraft on S.A.S./S.O.E. operations and by eighteen Mosquitos on Bomber Support brought the total of Bomber Command aircraft out during the night of 6/7 June to the large total of 1,160.

(1) Detailed information on Neptune operations and targets from (D/D) plus one onwards may be found in the Bomber Command File BC/S.30717/6 in A.H.B. Records.

(2) Lisieux, Conde-sur-Noireau, Coutances, Chateaudun, Vire, Argentan, St. Lo.

On the second day of the invasion operations the weather was rather worse than it had been on D-Day, with the result that it became more than doubtful whether it was worth while trying to adhere to the plan for blocking all enemy traffic to the battlefield by attacking the ring of towns around. However, on the morning of 7 June the VIIIth Air Force attacked Argentan, Falaise, L'Aigle, Conde, Flers and Lisieux, all important centres on routes leading to the beachhead, but on their evening missions railway targets in the Loire area were bombed by the Fortresses and Liberators instead of Juvisy, Massy - Palaiseau and Versailles, as originally suggested by A.E.A.F. It was not known for certain whether the Normandy route centres had been effectively hit by the Day Heavies, but by evening that day it was too late to hope for any more results from such attacks, as most of the enemy mobile reserves had been moved. Air Chief Marshal Leigh-Mallory now thought that the heavy bombers could best be employed in attempting to cut the Loire bridges and in closing the gap between Paris and Orleans to all railway traffic. Accordingly the VIIIth Air Force were requested to commence the programme of attacks on the Loire railway crossings and Bomber Command was requested to execute its alternative bad weather plan by attacking the junctions on the Grande Ceinture Railway around Paris.

Hist. Record  
A.E.A.F. p.5.

B.C/S.30717/6,  
Encl.2A and 3A.

These attacks were duly made by Bomber Command on the night of 7/8 June with considerable success in improved weather. At Juvisy, over 240 tons of bombs cut every track and wrecked the river bridge and a flyover. Roads and tracks were pitted with craters and rolling stock suffered severe damage at Massy-Palaiseau, while similar, if rather less damage, was done at the railway centres of Versailles and Acheres.

Bomber Cmd.  
Night Raid  
Report No.627.

A separate force of heavy bombers was sent to attack a large supply point and refuelling centre located at a cross-road in the Foret de Cerisy. This attack was undertaken on short notice on the very urgent request of the U.S. First Army which, at that time, was operating under great disadvantages in the Omaha beach-head. Bomber Command were told that this depot was active early after darkness supplying enemy forces attacking the Americans at Omaha and Utah beach-heads. A pathfinder error caused bombing to be concentrated on two areas, one of which was the correct target and the other about six miles away. Subsequent reconnaissance showed that the weight of the attack fell around the junction of the main St. Lo and Bayeux road with other roads running north-west and south-east, which was the target given, but there is no definite evidence that the attack succeeded in its object.

On 8 June the Fortresses and Liberators continued with the programme of attacks on the Loire crossings and on railway targets in Brittany and in the Paris-Orleans gap so as to complete the isolation of Normandy from the rest of France. Inside this ring, the Tactical Air Forces and the VIIIth Air Force fighter-bombers did their utmost to prohibit all movement. The Strategic Bombers were also employed against airfields to keep the German Air Force in subjection.

On the relative merits of the latter policy as against the programme of attacks on transportation, the U.S. Commanding Generals disagreed with the Air C.-in-C. and Air Marshal Coningham at the Air Commanders conference held that morning. The U.S. Generals could not agree that such targets were suitable for Heavy Day Bombers nor did they agree that much good would be done by these attacks. Air Chief Marshal Harris, who was present during the discussion, did not take sides, and offered no objection when his Lancasters and Halifaxes were asked to attack railway targets at key positions on routes to the battle area. These were the four railway junctions at Fougères, Mayenne, Alençon and Rennes, all to the north of the

TLM/F/S.34,  
Encl. 9A.

BC/S.30717/6,  
Encl.6A.

DS 94352/1(144)

Loire, and the tunnel at Saumur. A small force was also required to create a choke-point at Pontaubault where traffic from Brittany crossed the estuary of the River Selune by the shortest route from Brittany into Normandy. All the attacks were intended to interrupt movement from the south and west of the battle area and were thus complementary to those undertaken by the Day Bomber forces.

Weather during the night of 8/9 June was very bad and was gradually becoming more difficult; nevertheless, Bomber Command operated a total of 585 aircraft, of which 515 bombers were sent to attack the targets allotted by A.E.A.F. The tunnel at Saumur was attacked with satisfactory results by a special force of 31 Lancasters. Altogether, about 1,780 tons of bombs were dropped on these targets, the heaviest attack being at Fougeres (420 tons) and the lightest(1) at Pontaubault (200 tons).

Bomber Cmd.  
Night Raid  
Report No. 628

Ibid

Day reconnaissance showed that all the attacks had been well executed except perhaps at Pontaubault, which had been often attacked by all the Allied Air Forces and where the results of this particular attack were not known. There were several aircraft losses from crashes due to the bad weather but only two as a result of enemy action. This was ascribed by the Operational Research Section of Bomber Command to the distance of these targets from Paris on which German air strength was centred and in which area there had been considerable enemy air activity all day.

within the limitations imposed by the destructive effects of previous bombardments of the railways.

TLM/F/S. 34,  
Encl. 10A,  
para. 12.

On 9 June weather all over north-west Europe was uniformly bad with 10/10ths cloud usually well below a thousand feet. Only two or three dozen sorties were made by the Allied Air Forces during the whole day. This had serious consequences on the progress of the battle in that the Germans were able to use all kinds of transport with almost complete immunity. Major elements of the divisions ordered to the battle from the areas outside the Seine-Loire ring had not yet moved and Air Chief Marshal Leigh-Mallory was anxious that all the Loire bridges should be cut and that the Paris-Orleans gap should be closed before it was too late. Apart from this, he agreed that some attention should be paid to enemy airfields when this subject was mooted at the morning Conference on 9 June.

Ibid,  
para. 14.

Etampes  
aircraft

Bomber Cmd.  
Night Raid  
Report No. 629

Etampes

Bomber Command's task for the night of 9/10 June, presuming they would be able to operate, was therefore to attack the important railway centre of Etampes in the Paris-Orleans gap, and five airfields in Brittany and Normandy. A considerable improvement in the weather enabled five forces each about 100 strong, to attack Etampes and four of the airfields, viz. Le Mans, Laval, Flers and Rennes, but unfortunately the all-important railway junction was not hit. On the airfields at Flers, Le Mans and Rennes(2) the scenes were of complete devastation when photographed by day but the attack on Laval airfield was less successful. Only eight bombers were lost, six of them from the only force which threatened Paris, viz. that going to Etampes. The Command despatched 598 sorties during the night, of which the 518 bombers attacking Neptune targets dropped 1,860 tons. In addition, Berlin was attacked by 36 Mosquitoes and a further 44 aircraft were engaged in mine-laying, bomber support, special operations and Meteorological flights.

(1) Except for Saumur, where the special Lancasters dropped 130 tons.

(2) Some of the damage seen on the reconnaissance photo of Rennes airfield is to be attributed to the raid by the VIIIth Air Force on 8 June.

As the partial improvement in the weather was maintained on the following day (10 June) the Air Forces attempted to make up for lost time. The fighter-bombers, for example, concentrated on the bridges at Pontaubault and the lines from Brittany and the South West. Fortresses and Liberators attacked Vannes, Gael, Nantes and several other airfields in the Paris area known to be active, dropping about 1,000 tons of bombs. After the attacks by Bomber Command and this <sup>operation</sup> by the VIIIth Air Force, it is gratifying to read in the German Seventh Army Log that air formations of Fliegerkorps II could not get off the ground because time bombs blocked the airfields on which the aircraft were concentrated.

German document,  
A.H.B.6  
Transl. No.  
VII/70

However, the Air Commander-in-Chief was more concerned with enemy movement on the ground than with the G.A.F. build up, and consequently requested the Day Strategic Bombers to attack Loire bridges in addition to airfields, while Night Heavies were asked to attack railway centres at Orleans, Acheres, Versailles-Matelots and Dreux. It was particularly wished to delay the movement of the 1st S.S. Adolf Hitler Panzer Division which was believed to be entraining for Normandy from its base near Antwerp.

TLM/F/S.34,  
Encl. 11A  
para. 12.

Hist. Record  
A.E.A.F.,  
June 1944,  
Appendix J/16.

On the night of 10/11 June, over 400 out of 432 bombers(1) despatched by Bomber Command attacked the four above railway targets in clear weather with 1,533 tons of bombs. At Orleans, the junction was severely damaged, the locomotive shed was gutted and further destruction was caused to the military depot, sidings and main tracks. At Versailles and Acheres more damage at various points caused blockages that would take some time to clear, and at Droux, although the main attack fell on the eastern end of the railway centre, the goods sidings were blotted out and all through lines were cut.

Bomber Cmd.  
Night Raid  
Report No.

Very large numbers of enemy fighters rose to defend the three targets in the Paris area, with the result that eighteen bombers were lost, nearly all to fighters. An error by the enemy fighter control which directed night fighters to the wrong bomber return route saved many R.A.F. aircraft after the moon had risen.

However, nine of  
the enemy fighters  
were claimed  
as destroyed  
or damaged

Once again on 11 June the Germans made good use of the weather to move troops when the Allies were unable to use their overwhelming air strength to prevent it. Round about noon, information arrived at Headquarters A.E.A.F. that 30 trains were moving between Tergnier and Paris, probably carrying the 1st S.S. Adolf Hitler Panzer Division from Antwerp, but by that time weather had deteriorated so much that bombers could not operate and Advanced Headquarters A.E.A.F. was even considering withdrawing fighter cover from the beaches. It was decided, therefore, that Bomber Command should attack the railway centres of Evreux and Massy/Palaiseau during the night if weather permitted. The Night Heavy Bombers were also requested to attack railway centres at Nantes and Tours to block military traffic across the Loire.

Hist. Record  
A.E.A.F.,  
June 1944  
Appendix

About 1,200 tons of bombs were dropped by 286 out of 329 aircraft despatched against these targets on the night of 11/12 of June(2). The heaviest tonnage - about 560 tons - fell on

(1) Berlin was attacked by 32 Mosquitoes on the night of 10/11 June. The total number of aircraft belonging to Bomber Command out on operations was 533.

(2) Bomber operations against Berlin, mine-laying, bomber support, and Met. Recce, accounted for 77 other aircraft so that the Command operated a grand total of 406 aircraft on the night of 11/12 June.

Bomber Cmd.  
Night Raid  
Report No. 631

Evreux, where the eastern end of the yards was badly hit. Roads and all tracks were cut. At Massy/Palaiseau the attack was well concentrated on the tracks, but the bridges were not hit. Both of the Loire railway centres were heavily damaged.

Part of the strength of Bomber Command was held in reserve for a possible attack on the road junctions in the southern exits of Caen at about 04.00 hours on the morning of 12 June. This was to be done with the idea of blocking German movement out of the city when the 51st Highland and the 7th Armoured Divisions made their outflanking attack as a part of the second Army Plan to capture Caen. At a late hour this operation was postponed for 24 hours.

On the morning of 12 June the Air C.-in-C. decided on an important change in the methods adopted in the air offensive against enemy railway movement. In the first place, as the north of France was the chief source of reserves to be drawn upon by the enemy, there seemed to be a clear advantage in reinforcing the line of broken bridges on the Seine by cutting as many bridges as possible on the Somme, Aisne and Oise. Railway centres in that area would also be attacked. This was the best substitute for bombing communications targets through Paris. When this decision was being discussed by the Bombing Committee at Stanmore, Air Vice Marshal Oxland(1) considered that Bomber Command should only be called upon for heavy effort when there was definite confirmation of enemy movement, but the Air C.-in-C. stated that such positive information was meagre and always came from the Army too late to enable such movement to be stopped by air action. In future, therefore, arrangements were made for A.E.A.F. to lay on its own reconnaissance so that results could be known more quickly.

Hist. Record  
A.E.A.F.,  
June 1944,  
p.11 and  
Appendix J.21

The Neptune targets allotted to Bomber Command for the night of 12/13 June were, therefore, the railway centres at Amiens (two), Arras, Cambrai and Poitiers, together with the two bridges to the South of the city of Caen, which were to be attacked to assist the Army's pincer movement.

During the discussion on 8 June at the Air Commanders' Conference between the Air C.-in-C. and the Commander, Advanced A.E.A.F., on the one hand and the Commanding Generals' U.S.S.T.A.F. and VIIIth Air Force on the other, regarding the relative merits of attacking movement on the G.A.F., the Deputy Supreme Commander had stated that a proportion of the air effort available was to be allotted to airfields and the remainder to assistance in the land battle, the proportions of each to depend on the requirements at the time. He followed this up by adding that he was convinced that the Germans were now short of oil and that as German fighters were moving to France, it would be a good time to begin thinking of going for oil targets inside Germany.

The fruits of this suggestion were, therefore, that on the night of 12/13 June a substantial force was also sent to bomb a synthetic oil plant at Gelsenkirchen. General Doolittle also proposed to use part of his bomber force to resume the offensive against oil targets on the morning of 13 June, but bad weather and the opening of the Flying Bomb Campaign on the night of 12/13 June deferred this for a few days.

Lancasters and Halifaxes nearly a thousand strong were out before nightfall so as to be over the Channel at nautical twilight and back on their return journey before the rising of the

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(1) Bomber Command Liaison Officer on the Bombing Committee at Headquarters, A.E.A.F.

full moon. It was realised that with three of the targets in the Amiens, Arras, Cambrai area and another in the Ruhr basin, there would be serious danger from enemy night-fighters. It was hoped to minimise the danger by finishing all operations early in the night.

Bomber Cmd.  
Overlord  
Supplement,  
Appendix I. 137

The bombers met with stiff resistance all round their targets at Amiens and Cambrai losing nine aircraft from the force detailed to attack the latter and eight from the forces attacking the two railway centres at Amiens. The 294 bombers sent to Gelsenkirchen also encountered many fighters and lost seventeen aircraft so that out of the 992 heavy bombers despatched on the night's operations, 40 were lost. Reports showed a large number of combats with night-fighters, eighteen of which were claimed to have been destroyed by the bombers.

Bomber Cmd.  
Night Raid  
Report No. 632,  
p.3.

The bombing attacks in the bright moonlight appear to have been a great success. Longeau and St. Roth junctions at Amiens were both blocked and reconnaissance showed all lines out of action at Cambrai and Arras. At Gelsenkirchen, nearly 1,500 tons of bombs affected nearly all of the important elements of the plant. Only the Poitiers and Caen forces were virtually unmolested and with clear weather over Poitiers very accurate bombing was possible causing severe damage to the whole railway centre. At Caen, the reconnaissance photographs showed ~~the~~ the railway bridge down in the river and both road bridges unusable.

The sequel to the bombing of Caen was not altogether satisfactory from an Allied point of view. The movement to encircle the city by the 51st Highland Division attacking from the East and the 7th Armoured Division from Villers Bocage broke down and, after heavy fighting, something like a stalemate ensued. Our build-up in the lodgement area was falling behind schedule on account of rough seas and this so restricted the offensive on the ground that an all out effort could not be risked to capture Caen.

During the heavy fighting that continued intermittently in that area during the next twelve weeks there is much of interest both concerning operations on the ground and those in the air but by the end of the first week such operations had definitely passed beyond the phase of any which ought properly to be associated with the initial assault.

NEPTUNE : Bomber Command Operations, 5/6 to 12/13 June, 1944<sup>(1)</sup>

June	NEPTUNE Targets	No. of A/C despatched	Tons of Bombs	OTHER Operations	No. of A/C despatched	Tons of Bombs	Grand Total	
							A/C	Tons of Bombs
5/ 6	Ter Coastal Batteries	1136	5267	Diversions: Osnabruck etc.	199	46	1335	5313
6/ 7	Rd. and Rly. Centres	1065	3112	Subsidiary ops.	95	50	1160	3162
7/ 8	Ry. Centres (Paris Area) Foret de Cerisy	337 212	1141 796	Subsidiary ops.	128	50	677	1987
8/ 9	Ry. Junctions (Battle Area)	515	1780	Subsidiary ops.	70	-	585	1780
9/10	Ry. Centre (Orleans) Airfields (France)	117 401	422 1338	Subsidiary (Berlin etc.)	80	57	598	1817
10/11	Ry. Centres (Paris/Orleans)	432	1583	Subsidiary (Berlin etc.)	99	53	533	1586
11/12	Ry. Centres (Paris/Loire)	329	1197	Subsidiary (Berlin etc.)	77	53	406	1250
12/13	Ry. Centres (Paris/Loire) Caen Bridges	553 118	1890 401	Gelsenkirchen etc.	321	1484	1062	3775
8 Nights	Total NEPTUNE Targets	5215	18877	Total OTHER ops.	1069	1793	5356	20670

(1) See Map No. 12 with Appendices at end of this volume.

## CHAPTER 11

## OPERATIONS OF THE 2ND T.A.F. IN NEPTUNE

Forces Available and Policy for their Employment

All these units were under the operational control of the Combined Control Centre, Uxbridge.

The forces under the control of the 2nd T.A.F. during the assault phase of Overlord were Nos. 83 and 84 (Composite) Groups, No. 2 (Light Bomber) Group and an Air Spotting Pool consisting of Fleet Air Arm, R.A.F. and U.S. Navy personnel. Certain day fighter squadrons of A.D.G.B. and No. 85 Group operated in the Tactical Area during the initial phases of Overlord, and for the time being came under the operational control of 2nd T.A.F. Such operations will be mentioned briefly in this section, but will be dealt with more fully in the respective sections dealing with all the other operations of A.D.G.B. and No. 85 Group aircraft.

No. 83 Group (Purbrook Heath)

A.E.A.F. Overall Air Plan Appendix "D" Annex III

This Group had three Fighter Wings with twelve Spitfire IX(LF), ten Typhoon and three Mustang III squadrons, and one Reconnaissance Wing with three Mustang I TAC/R Squadrons and a Spitfire IX P/R Squadron. Its established strength was 464 plus 58 aircraft of which 400 plus 50 aircraft were fighter and fighter-bomber types.

No. 84 Group (Goodwood Park)

Ibid

Like No. 83 Group, this Group consisted of three wings of Fighter types and one of Reconnaissance aircraft. There were fifteen Squadrons of Spitfire IX (LF), eight Squadrons of Typhoons and three of Mustangs III in the Fighter Wings and two TAC/R Mustang Squadrons and one P/R Spitfire Squadron in the Reconnaissance Wing. Total strength was the same as that of No. 83 Group but there was an establishment of 416 plus 52 Fighter types with 48 plus six Reconnaissance aircraft.

No. 2 Group (Mongewell Park)

Ibid

This Group was organised in four Wings with a total of twelve Light Bomber Squadrons, of which six Squadrons were equipped with Mosquito VI, four Squadrons with Mitchell II and two Squadrons with Bostons IIIA. It also had a Reconnaissance Wing of three Squadrons equipped with Spitfire IX, Mosquitoes and Wellington XIII, but in the first phase of Overlord this operated independently of the Group under the direct control of H.Q. A.E.A.F. The established strength of the Group was 192 plus 24 Light Bombers and 48 plus 6 Reconnaissance aircraft.

Air Spotting Pool (Lee-on-Solent)

operated under the direct control of H.Q. A.E.A.F. independent of the Group.

The pool of aircraft employed on spotting duties with the bombardment ships was based at Lee-on-Solent and ~~was operated under the control of 2nd T.A.F.~~ There were four F.A.A. Squadrons equipped with Seafires (40 plus 20), two R.A.F. Squadrons with Spitfires V (LF)(LR) (36 plus 6) and one U.S. Navy Squadron with Spitfires V (LF)(LR) (10 plus 5).

It should also be noted in passing that up to noon on D-Day, three TAC/R Mustang Squadrons, Nos. 2 and 268 Squadrons from No. 84 Group and No. 414 Squadron from No. 83 Group, were lent to the Air Spotting Pool and were then released to Headquarters 2nd T.A.F.

Policy for the employment of aircraft

In the initial phase of Overlord, the Air Commander in Chief had decided that in view of the restricted area of

A.E.A.F.  
Overall  
Air Plan  
Appendix "C"

operations, it was essential that the direction of all tactical air operations should be centralised. Consequently he appointed Air Marshal Sir Arthur Coningham to the command of an advanced operational headquarters of the Allied Expeditionary Air Force, known as Advanced A.E.A.F. A Combined Operations Room was set up at Hillingdon staffed by representatives of the IXth Air Force, and the 2nd T.A.F. Senior representatives of Twenty-One Army Group were also attached to pass on requests for air support and information regarding the intentions of General Montgomery and the existing situation on the ground. General Brereton, Commanding General of the IXth Air Force was present in the Combined Operations Room with Air Marshal Coningham during the whole of this phase. The result of this arrangement was that the IXth Air Force, 2nd T.A.F. and the other Allied Air Forces allocated for employment in the Tactical Area,<sup>(1)</sup> were operated as one tactical air force.

Apart from this overall direction, the control of defensive air operations was separated from that of offensive air operations. For the latter a proportion of the resources of A.D.G.B. and No. 85 Group (day fighters) was put under control of 2nd T.A.F. while the balance remained under A.D.G.B. for the defence of home bases. Similarly the control of air reconnaissance in the Tactical Area was put in the hands of specialists working with the Army at the Combined Reconnaissance Centre, Uxbridge. Reconnaissance Squadrons of 2nd T.A.F. which joined the Air Spotting Pool were given their executive orders by a separate organisation working at Lee-on-Solent under the direction of a representative of 2nd T.A.F. As a result of these arrangements, H.Q., 2nd T.A.F. did not exercise direct operational control over all its fighter and reconnaissance aircraft during the period under review. A second result was that 2nd T.A.F. aircraft were not restricted to operations in the Eastern or British Assault Area but were employed wherever they were required.

It had always been understood that the primary duty of the Air Forces was to ensure the greatest possible immunity from air attack for our assault forces. Emphasis had often been placed on the value of Operation Pointblank in this respect because by attacking the G.A.F. and in particular, by concentrating on the attrition of German fighter strength, this operation did much to attain the air situation essential before an invasion force could be launched. Fighter sweeps over France had aimed at the same object.

Air Ch. Mshl.  
Leigh-Mallory's  
Dispatch  
para. 31

The attrition of enemy fighter strength had proceeded so far by the beginning of June, 1944, that Air Chief Marshal Leigh-Mallory was confident that the G.A.F. would constitute no serious threat. But there remained the serious possibility that the Germans might abstain from re-action to Allied attacks over a long period in the effort to conserve their air strength. Indeed this appeared to be their policy in the Spring of 1944 and it was thought that only when the expected invasion had begun would they risk all their carefully husbanded air power in an all-out onslaught.

This offensive might have taken place before the expeditionary force had left Southern England. Alternatively, the enemy might have preferred to wait until our forces had embarked and sailed. Or he might have determined to wait

(1) Defined by the Air C.-in-C. at the Air Commander's Conference on 3 June, 1944, as the area north of Granville-Vire-Falaise-Evreux to the Seine.

until the Allies had started landing operations and were thus irretrievably committed to the enterprise. In the latter case there was the distinct probability that a great air battle would be fought over the beaches, a battle which, being fought a hundred miles away from the nearest English airfields, could hardly fail to be on terms more advantageous to the enemy than to ourselves.

A.E.A.F.  
Overall  
Air Plan  
Appendix H

The Air C.-in-C. had to consider all these possibilities. His fighter resources had to be allotted in such a way as to cover them all. He was responsible for the defence of the United Kingdom generally, and in particular, of the bases of the Expeditionary Forces. His fighters had to protect all forces moving to their Concentration and Assembly Areas prior to sailing, as well as to protect those passing through the swept channels, disembarking at the beaches, and operating ashore in the lodgement area. The further away from England they were, the more difficult was the problem of protecting them from air attack.

A.E.A.F.  
Overall  
Air Plan  
Appendix K

Consequently, in spite of his conviction that the G.A.F. would not take the risk of offering battle except perhaps on the most advantageous terms to themselves, the Air C.-in-C. considered it prudent to allot for defensive duties fighter forces sufficiently strong to ensure mastery in all circumstances.

File A.E.A.F.  
S.16047/Int.  
E.5A dated  
31 May, 1944

The Overall Air Plan estimated that the G.A.F. would have 850 aircraft immediately available for use in close support against an invasion in Normandy but by D-Day this estimate had been revised upwards to 900 aircraft. Re-inforcements would add 530 aircraft in five days and later addition might bring up the total force to 1600 aircraft. The maximum scale of effort against the landings might thus be expected to reach from 1100-1250 sorties on D-Day with a maximum of 1600-1750 sorties for one 24 hour period after all possible re-inforcements (about 700 aircraft) had arrived. The latter peak would probably coincide with the major land counter-attack.

See this  
Volume,  
Chap.6

This was the accepted Intelligence estimate. But the general impression gained from a perusal of files and documents used by the Air Staff at H.Q., A.E.A.F., is that the nearer D-Day approached, the more sceptical most of these officers became that the G.A.F. would offer battle on this scale.

Sir  
Air Marshal Coningham delegated the duty of planning the details of operations and of issuing the necessary executive orders for all Allied fighter forces allocated for employment in Overlord to Air Vice Marshal Hugh Saunders, Air Officer Commanding, No. 11 Group, jointly with Brigadier-General E. R. Quesada, Commanding General, IXth Fighter Command, who both worked through the Combined Control Centre (late No. 11 Group Operations Room), Uxbridge. The fighter, fighter-bomber and night-fighter aircraft of 2nd T.A.F. thus collaborated with similar aircraft of the U.S. VIIIth and IXth Air Forces, No. 85 Group, A.D.G.B. and No. 100 Group, in a plan known as the 'No. 11 Group and IXth Fighter Command Joint Air Plan and Executive Order' (short title JAFEO).<sup>(1)</sup> Based on the assumption that so far as the different Allied Air Forces were concerned, all air operations in Western Europe were part of one air battle, the JAFEO plan laid down the tasks of all Allied fighter type squadrons taking part in Operation Neptune.

(1) Issued under reference No. 11 Group File T.S.500/126/S.A.S.O. on 25 May, 1944.

All fighter tasks were grouped under two main heads:-

- (i) The defence of bases in the U.K., the protection of coastal convoys, warships and shipping and troop concentrations in the Assembly Areas.
- (ii) The protection and support to the Assault, Assault Forces and shipping at all times, and all Ancillary operations related thereto.

These tasks were shared amongst and allocated to the various formations in the Allied Air Forces by the Combined Control Centre according to the suitability of their aircraft and equipment for the different operations required.

Most of the fighter squadrons of 2nd T.A.F. were used defensively in such strength as to form an effective air umbrella over the beachhead, the anchorages and Allied shipping. The Bomber and rocket Typhoons were allocated to the air support role in the British Sector either for attacks on pre-arranged targets or for immediate (opportunity or impromptu) support to the British Group of Armies. Targets for them were selected by Advanced A.E.A.F. in consultation with the Representative of Twenty-one Army Group, and their executive orders went from 2nd T.A.F. Air Staff through the Combined Control Centre. When Air Alert aircraft reached the Assault Area they came under the control of the H.Q. Ship in that Area.

See part 2  
of this  
Chapter below

The policy for the employment and control of the medium and light bombers was rather more complicated. IXth Air Force bombers were employed by day over the whole of the Tactical Area without distinction between British and American fronts. No. 2 Group aircraft were similarly employed by night. It had been the intention of the Air C.-in-C. to retain in his own hands the operational control of the medium bombers and to allocate a proportion of the total effort to the control of Advanced A.E.A.F. from day to day. His reason for this was that he wished to retain the personal direction of those air operations which were intended to prevent the movement of enemy reserves and re-inforcements into the battle area. For this reason he also retained control over No. 34 (Strategic Reconnaissance) Wing. He insisted that he must retain the authority to use the whole weight of the bomber force in an area which might not necessarily be the tactical battle area and in consequence could not yield control of the medium bombers.

TLM/136/9/2  
E.17 dated  
17 May, 1944

Air Marshal Coningham protested that he could not plan future operations if he was only allocated forces on a day to day basis and gained the support of Air Chief Marshal Tedder and the Supreme Commander. The Air C.-in-C. did not entirely give way on this point but he did not in fact carry out his original intention of selecting targets for the medium bombers during the first week of the operation.

#### Role of the 2nd T.A.F.

The main tasks to be carried out by squadrons of the 2nd Tactical Air Force during the first phase of the landings were the provision of the following:-

- (1) Air cover in the battle area except over the Cotentin Peninsula.
- (2) Tactical support for British assault troops.
- (3) Smoke cover on the extreme east and west flanks.

- (4) Tactical reconnaissance for General Montgomery's H.Q.
- (5) Spotting for Naval gunfire.

The first and second commitments were shared with the U.S. IXth Air Force, the fourth with the U.S. 67th Tac. Recce Group and the fifth with British and U.S. Naval aircraft. As all tasks connected with air cover were controlled from Uxbridge, this left to H.Q. 2nd T.A.F. the responsibility for directing air support operations, i.e. commitments in 2, 3, 4 and 5 above.

(1) Assault Area Cover by day

JAFEO  
Appendix C

The task of protecting the Assault Forces while they were afloat and after they had landed was shared between 2nd T.A.F., A.D.G.B., No. 85 Group, No. 100 Group and the U.S. VIIIth and IXth Fighter Commands. Daylight Cover in the main shipping lane was provided by P.38 aircraft of VIIIth and IXth Fighter Commands. Cover over the whole area during darkness was the responsibility of A.D.G.B. assisted by night fighters of No. 85 Group, but fighter cover in the daytime over the Assault Area(1) was the joint responsibility of the 2nd T.A.F. and the IXth Air Force.

The scale on which this cover was provided from Morning Civil Twilight minus 30 minutes (about 0430 hours D.B.S.T.) until Night Civil Twilight plus 30 minutes (about 2330 hours D.B.S.T.) on D-Day was very substantial. Six squadrons of Spitfires IX were on standing patrol as Low Cover and three squadrons of Thunderbolts (P.47) were over the area as High Cover all day without a break. Altogether 36 R.A.F. squadrons (12 wings)(2) and 15 U.S. squadrons (5 Groups) were allotted to Assault Area Cover.

In arranging patrols it was recognised that British aircraft would be able to remain over the area for only 50 minutes as compared with the 60 minutes that U.S. fighters could remain on patrol. To do this all Spitfires were fitted with jettison tanks which were only discarded when pilots engaged in combat.

Forces allotted to Assault Area Cover

The formations of 2nd T.A.F. which were employed in providing Low Cover over the Beachhead and over Allied shipping in the Baie de Seine by day were as follows:-

JAFEO  
p.10  
para.33

<u>No. 83 Group</u>			
<u>Wing (Airfield)</u>	<u>Squadrons</u>	<u>Aircraft Type</u>	<u>Location</u>
125	132 453 602	Spitfire IX	Ford
126 (R.C.A.F.)	401 411 412	"	Tangmere
127 "	403 316 443	"	"
144 "	441 442 443	"	Ford

- (1) The Assault Area, it will be remembered, consisted of 15 miles to seaward and 5 miles to landward of the Beaches from the Cotentin Peninsula to Le Havre.
- (2) Each patrol consisted of an independent wing of three squadrons; such a wing was re-named Airfield and Wings (or Sectors) in the composite Group consisted of three such airfields (nine squadrons).

## No. 84 Group

Wing (Airfield)	Squadrons	Aircraft Type	Location
131 (Pol)	302 308 317	Spitfire IX	Chailey
132 (Nor)	331 332 66	"	Bognor
134 (Gs.)	310 312 313	"	Appledram
135	222 349 485	"	Selsey
145 (Fr.)	329 340 341	"	Merston

The 2nd T.A.F. was also responsible for the operation of nine squadrons of A.D.G.B. which were allocated to the same tasks, viz.

Wing (Airfield)	Squadrons	Aircraft Type
Horne	130 303 402	Spitfire V
Deanland	64 234 611	"
Friston	501 350 (Belg.)	"
Shoreham	345 (Fr.)	"

Pool of Readiness Squadrons

JAFEO  
Appendix F

In order to guarantee as far as was possible that this programme ran to time and was not disorganised by enemy attacks, a reserve of squadrons large enough to ensure that six squadrons at a time could be retained at readiness as a Striking Force to be thrown into battle if necessary or to be used to re-inforce any area where aircraft were compelled for any reason to break patrol. So far as the R.A.F. was concerned this Reserve of Readiness Squadrons consisted of 15 squadrons earmarked from 2nd T.A.F., A.D.G.B., and No. 85 Group. Some of them were to be used, if required, on escort duties, and in fact Nos. 122 and 133 Wings (Mustangs) were used as close escort to Coastal Command strikes and to cover arrival and withdrawal of British airborne troops at 2100 hours on D-Day.

The two Mustang Wings came from 2nd T.A.F., two other wings came from No. 11 Group, A.D.G.B. and one came from No. 85 Group. There were also, it should be added, five American groups of fighters (15 squadrons) in the Pool of Readiness Squadrons.

Pool of Readiness - R.A.F. Squadrons(1)

Group	Wing	Squadrons	Aircraft Types	Location
83	122	19 65 122	Mustang III	Funtington ALG
84	133 (Pol)	129 306 315	" "	Coolham ALG
85	150	3 56 486	(Tempest V (3 & 486) (Spitfire IX (LF) (56)	Newchurch ALG
11	Detling	80 229 274	Spitfire IX F	Detling
11	Lympne	33 74 127	(Spitfire IX F (33) ( IX HF (74 & 127)	Lympne

Low Cover Patrols

The normal manner of flying the Low Cover patrols was for one Wing (3 Squadrons) to proceed to each Assault Area. Each Wing leader would detail one squadron to fly well over to the outside flank of this Assault Area, while the other two squadrons patrolled over the beaches and the shipping. Disposed in this way there were four squadrons of Low Cover aircraft over the central regions of the beach-head with one squadron on each flank. Low Cover patrols normally flew

(1) The above table has been compiled from JAFEO Appendix F and from the A.E.A.F. Order of Battle dated 2 June, 1944.

at heights from 3,000 feet to 5,000 feet, or below cloud if this was necessary. R.A.F. squadrons provided Low Cover over all the beaches while U.S. Thunderbolts provided all High Cover patrols at from 8,000 feet to 15,000 feet.

2nd T.A.F.  
Daily Log  
6 June, 1944

Little need be said of the patrols themselves because although on D-Day 1226 sorties were flown by 2nd T.A.F. and 278 sorties by A.D.G.B. most of them were completely and unexpectedly uneventful. Whatever the reason, the enemy appears to have been so unprepared that during the first twelve hours of the operation the only reports of air opposition came from crews of the night bombers of Bomber Command and of the Marauders of the IXth Air Force.

The first sight of enemy aircraft by pilots on Beach-head Cover was a fleeting glimpse of two F.W. 190's at about 1500 hours. Those aircraft were probably on reconnaissance. About half an hour later a formation of fifteen J.U. 88's was encountered by No. 135 Wing over Gold beach. The Spitfires claimed to have shot down four enemy aircraft and to have damaged three others in a running fight as far south as Caen.

The German Chief of Staff of Jagdkorps II at the time wrote<sup>(1)</sup> that -

'Our own day fighter forces, which were particularly weak at the beginning, were at first employed exclusively on low-level attacks on landing-craft, and landing points, and as fighter cover for the fighter bomber formations of Fliegerkorps II which were attacking the same objectives. The success of these operations, however, was only negligible. Often the enemy's superior fighter defence intercepted our own formations before they could reach the invasion front, and after the latter had run out of ammunition and fuel they were forced to return without having carried out their actual mission. Out of the first 12 fighter bomber attacks carried out by all service-able aircraft of Jagdkorps II and Fliegerkorps II, only in two attacks did our aircraft penetrate over the front line. During the other sorties, the bombs had to be released over our own territory so that our aircraft could take up fighter combat.'

German document  
A.H.B.6  
Translation  
No. VII/19  
para.11

#### Escort to aircraft of other Commands

As the 2nd T.A.F. was responsible for providing close escort to aircraft of other R.A.F. Commands on operations across the Channel to the Assault Area, two Mustang Wings, Nos. 122 and 133 (Polish) Wings, from the Pool of Readiness Squadrons were earmarked for this task. The remaining Squadrons in the Pool, belonged to Nos. 11 and 85 Groups.

No. 133 (Polish) Wing was lent by No. 84 Group to A.D.G.B. to be operated by No. 12 Group in the task of escorting Coastal Command aircraft dispatched on Anti-U-Boat Patrols over the North Sea. The Wing moved to Coltishall on the morning of D-Day but as no U-Boats were reported in the area where escorts were needed by Coastal Command aircraft, the Wing was not called upon to operate.

JAFEO  
Appendix F  
Note 1

2nd T.A.F.  
Daily Log  
Serial 5767

Six Mustangs of No. 122 Squadron (No. 122 Wing) escorted Coastal Command Beaufighters on an unremunerative anti-E-Boat strike to a position about 20 miles away from Cap de la Heve (0635-0831 hours).

(1) 'German Fighter Effort during the initial stages of the Invasion of North West Europe.' Written on 18 Nov., 1944 by Oberst Mettig of the German Air Historical Branch, Chief of Staff of Jagdkorps II from 25 March to 25 June, 1944.

Ibid  
Serial  
5818

On the evening of D-Day, both Wings were employed as escorts to the aircraft and gliders taking the 6th Airborne Division to glider landing grounds near the River Orne. Three enemy fighters were sighted and were being engaged by No. 122 Wing when the Mustangs were attacked by Spitfires. Accordingly, the Wing was unable to claim more than damage to one F.W. 190 but No. 133 Wing claimed one F.W. 190 destroyed.

Ibid  
Serial  
5819

A total of 90 sorties were flown by the six Mustang Squadrons on escort and convoy protection duties on D-Day. Thirteen Spitfires also took part in the task of escorting Stirlings and Gliders for the 6th Airborne Division between 2015 hours and 2215 hours (operation Mallard).

Ibid  
Serial  
5959

## (2) Air Support Operations in the Assault

The 12 Light Bomber Squadrons of No. 2 Group and the 18 Typhoon Squadrons of the Composite Groups were the main offensive force in the hands of H.Q. 2nd T.A.F. The Typhoons were employed on day operations and the Mosquitoes and Mitchells on night operations. The two Boston Squadrons were reserved on D-Day for smoke laying tasks at the request of the C.-in-C. Twenty-one Army Group or of the Allied Naval Commander.

### Light Bomber Operations - Night of 5/6 June, 1944

During the first phase of Overlord, the aircraft of No. 2 Group were assigned the role of patrolling the main roads and railways into the battle area to make harassing attacks on any movement seen thereon. They were also to bomb certain pre-arranged targets such as road and railway crossings, bridges and junctions.

NJC/00/431/7  
23 May, 1944  
Schedule D.D.

Centred on Caen, the five major routes for patrol by the Mosquitoes and Mitchells were:-

1. Avranches - Coutances - Lessay
2. Fougères - Vire - St. Lo
3. Domfront - Flers - Caen
4. Argentan - Falaise - Caen
5. Evreux - Lisieux - Caen

Aircrews finding no movement on these roads were instructed to bomb Coutances, St. Lo., Caen or Lisieux.

No. 2 Group  
O.R.B.6  
6 June, 1944

On the night before the landings, aircraft of No. 2 Group flew 150 sorties, of which 141 were in connection with the stoppage of movement and the creation of road and rail cuts, while nine sorties were flown by No. 34 Wing on night photography missions.

2nd T.A.F.  
Daily Log  
Serials 5758  
to 5760

Three Squadrons of Mitchells, each with two Pathfinder Mosquitoes, set out to bomb road and railway targets. Conditions were so bad that several aircraft could not find the target indicators. Six aircraft bombed a road and rail target south of Thury-Harcourt (T.9444), nine aircraft bombed another such target between Argentan and Falaise (U.2125), but the remaining Squadron failed to find another road-rail target near Mezidon (U.2462) owing to 10/10ths cloud.

Ibid  
Serials  
5757 and 5761

From 2200 hours until 0556 hours the Mosquito Squadrons flew offensive patrols up and down the roads as listed in 1 to 5 above attacking targets of opportunity, road and railway junctions and bridges. A special patrol of 4 Mosquitoes searched the Caen-Carentan road in the early hours of the night (2215-0115 hrs.), and dropped eight 500 lb. bombs. Altogether 360 bombs of this calibre were dropped by 90 Mosquitoes of No. 2 Group.

(2) Tactical Support for Assault Troops by Fighter/Bombers

Of the eighteen Typhoon squadrons of Nos. 83 and 84 Groups, eleven were armed with Rocket Projectiles (R/P) and seven were armed for bombing. The role of these aircraft was that of providing pre-arranged and immediate support to the Second Army in the way described in Chapter 6.

Tasks were pre-arranged for the first sorties of twelve out of the eighteen squadrons. Three squadrons<sup>(1)</sup> were to be employed on air alert duties to be available at call during the first wave of the assault. One Squadron was allotted to each of the three British Assault Forces to come under the control of the H.Q. ship in charge of each Assault Force.<sup>(2)</sup> A similar arrangement was made between the IXth Air Force and the First U.S. Army. The Air Alert Typhoon squadrons were briefed to make dive-bombing attacks on strong points near Le Hamel and La Riviere ("Gold" Beach), Courseulles ("Juno" Beach) and Hermanville ("Sword" Beach) respectively but were instructed to call up the H.Q. ships on arriving at the assault area in case the Assault Force Commanders required them to take on more urgent targets. Nine other Typhoon squadrons were also required to attack military H.Q.'s, batteries, defended localities and strongpoints.

Ramrod  
973A, B,  
C and D.

2nd T.A.F. ORB,  
6 June, 1944  
Page 15

2nd T.A.F.  
Daily Log  
Serials  
5777 to 5779  
Ibid, Serials  
5772 to 5776

Ibid  
Serial 5780

Normandy to the  
Baltic  
p.59

Nos. 438, 439 and 440 Squadrons were off the ground before 0700 hours so as to arrive near H-Hour at their respective beaches in the role of air alert squadrons. In the absence of any new instructions from H.Q. ships they dive-bombed their pre-arranged targets at approximately 0725 hours. Then followed other pre-arranged attacks by forty R/P Typhoons and eight Fighter-Bomber Typhoons on four gun sites. Two hits were also secured in a low-level bombing attack by eight Typhoons on Chateau Le Parc near St. Leger, a few miles S.E. of Bayeux. This was at 0745 hours. Dust, smoke and unfavourable cloud conditions prevented successful attacks in some cases but where the primary target was obscured a suitable alternative was substituted. In response to a request from Twenty-one Army Group early in the morning eleven Typhoons were sent out at 0830 hours to make an attack on the H.Q. of the German 84 Corps situated at Chateau La Meauffe near St. Lo. Seven Typhoons had returned the previous evening after an unsuccessful attempt to locate the target. The morning attack was completely successful.

At Sword beach the Assault went exactly according to plan, the landing craft touching down at the correct time (0725 hours) immediately after the air bombardment. The troops were able to penetrate inland before the defence could be organised although considerable fire was being experienced on this beach by 1000 hours when the follow-up Brigade came ashore. Heavy opposition from a formidable defended area at Douvres La Deliverande caused much delay and with the intervention of the 21st Panzer Division, the British 3rd Division was unable to make the planned progress to Caen.<sup>(3)</sup>

On the Gold sector the two leading brigades were to pass between Le Hamel and La Riviere and secure Bayeux with the high

- (1) Nine out of the eighteen Typhoon Squadrons were allotted to the Air Alert role, three squadrons operating at a time.
- (2) Force 'J' under H.M.S. Hilary, Force 'S' under H.M.S. Largs and Force 'G' under H.M.S. Bulolo. See JAFEO, Appendix G, para.3.
- (3) The above references are to Field Marshal Montgomery's book 'Normandy to the Baltic'.

Ibid  
p.57

Ibid  
p.58

ground on the Caen road centred on Chateau Le Parc near St. Leger. The assault boats grounded at about 0730 hours but came under fire from Le Hamel and remained pinned on the beaches until troops on their left had eliminated the negligible resistance at La Riviere where the air and sea bombardment had had greater effect. Thereafter the troops pressed forward about five miles and soon reached the Seulles river between St. Leger and Bayeux.

On Juno Beach, the two leading Canadian Brigades were some twenty minutes behind their scheduled H-Hour which was 0735 hours, and those strong-points which had survived the air bombardment of VIII Air Force and 2nd T.A.F. aircraft and the bombardment from the sea had come to life again and offered stiff resistance until they were by-passed. However, before nightfall the Canadians were well established on the general line of advance.

It had been expected at H.Q. Advanced A.E.A.F. that the enemy would have correctly appreciated the situation during the course of the morning and that in consequence there would have been considerable enemy movement on the main roads leading into the area. The Tactical Reconnaissance (Tac/R) aircraft sent out from 0505 hours onwards however, found few evidences of movement on a large scale and thus were unable to provide targets for the Typhoon squadrons being held for this purpose. In fact it became clear that an unexpected measure of tactical surprise had been achieved both with regard to the area and the timing of the landings. Resistance was on the whole weaker than had been calculated with the result that the Army made no calls for immediate support.

H.Q. 2nd T.A.F.  
ORB. June, 1944  
p.16

2nd T.A.F.  
Daily Log  
Serial 5796

Before noon a request was received from the Navy for an attack to be made on a radar coastwatcher station at Le Havre which was being used by the enemy to assist his coastal guns firing on our shipping. This attack was successfully carried out at 1238 hours by four Typhoons using R/P and cannon. The Army asked for an attack to be made on a defended locality in the S.W. suburbs of Cabourg, towards which elements of the 6th Airborne Division were advancing on the ground. This attack was made at 1600 hours by eleven Typhoons which fired eighty-eight Rocket Projectiles at the target.

Late in the morning when it was apparent that there would be an insufficient number of targets to give full employment to the Typhoons, the representative of Twenty-one Army Group at Uxbridge was consulted and it was decided to send out Typhoon formations on armed reconnaissances over the areas south of the line Bayeux - Caen - Lisieux. This was done forthwith and armed reconnaissances by formations - usually eight aircraft in each - continued to patrol the roads south-east and south-west of Caen until last light. Their primary purpose was, of course, to prevent the movement of re-inforcements into the battle but the squadrons were always briefed with information about worth-while targets which might be attacked and pilots on these missions were given a wide latitude with regard to targets of opportunity.

It was not until these operations deep inland behind the beaches had begun that anything was seen of the G.A.F. Each of the first two squadrons sent out on armed recce met enemy fighters south of Caen. No. 164 Squadron sighted a single F.W. 190, forced it to land, and then destroyed it on the ground. One section of the Squadron was attacked by four F.W. 190's but the engagement was broken off without any results. Six M.E. 109's were seen but not engaged. No. 183 Squadron made several ground attacks on vehicles and were then unexpectedly bounced by twelve M.E. 109's out of cloud.

Ibid  
Serial 5783

DS 94352/1(160)

Three Typhoons paid the price. Both squadrons were back at base by 1500 hours after being airborne for one and a half hours.

After a pause in the early afternoon, aircraft which had operated in the morning were airborne again on their second sorties. Though movement was disappointingly thin there was some activity in the area south of Caen, and the Typhoon formations attacked tanks and other armoured vehicles, all kinds of motor transport, railway tracks, locomotives and rolling stock, gun positions and personnel. Though the moral effect of such air attacks, especially of those by the Typhoons armed with R/P, was probably out of all proportion to the material damage they caused, it is considered that by interrupting and restricting the movement of convoys on the roads they played an important part in delaying the enemy's reaction to the landings. Hardly any of the squadrons on these missions saw any signs of enemy aircraft.(1)

Operations during the morning had required 103 Typhoon sorties, while 297 sorties were flown during the remainder of the day. Eight Typhoons were lost.

(3) Smoke Cover on the extreme east and west flanks

2nd T.A.F.  
Daily Log  
Serial 5762

The first aircraft of the 2nd T.A.F. to become airborne on D-Day were Bostons of No. 88 Squadron which, taking off at 0415 hours and operating singly, laid a smoke screen to shield the Eastern Naval Task Force from the heavy batteries of Le Havre. Operations began at dawn and fifteen aircraft completed the task out of the nineteen which were despatched. Owing to heavy flak from Torpedo Boat Destroyers and E-Boats off the French coast the Bostons had to make two runs.

TLM/M.S. 136/71,  
Encl.5

A second smoke-laying task was undertaken to shield the Western Naval Task Force from the batteries of the St. Vaast area (Cap Barfleur). No. 342 Boston Squadron performed this task, twelve aircraft operating in pairs at ten minute intervals from 0600 hours onwards.

2nd T.A.F.  
Daily Log  
Serial 5763

Two Boston aircraft were lost at sea and the last aircraft completed its task to land at 0843 hours.

(4) Reconnaissance by aircraft of 2nd T.A.F. in the Assault

Each of the two Composite Groups in 2nd T.A.F. included a Reconnaissance Wing. No. 34 Wing was retained by the Air C.-in-C. under his own control during the first phase of Overlord to provide strategic reconnaissance on transportation and other strategic targets for the operational planners of H.Q., A.E.A.F. No. 35 Wing (No. 84 Group) and No. 39 Wing (No. 83 Group) had a total of five Tac/R. Mustang squadrons and two P/R Spitfire squadrons. During the first phase of Overlord, all Tac/R and P/R squadrons were under the control of the Combined Reconnaissance Centre, Uxbridge, as described in Chapter 6 above.

For the period of the initial bombardment only, two Mustang Squadrons from No. 84 Group (Nos. 2 and 268 squadrons) and one from No. 83 Group (No. 414 squadron), were lent to the Navy for spotting duties and operated from Lee-on-Solent.

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(1) One formation of five aircraft and two formations of four aircraft were sighted.

Tactical Reconnaissance and Photo Reconnaissance

As regards the contribution of the remaining two Tac/R and two P/R squadrons to the success of the assault operations it will be recalled that the work performed by reconnaissance aircraft was essentially individual in character and consequently it would not be practicable to give details of separate sorties. Instead, reference will be made to the types of mission flown and to the scale of effort achieved.

From 0505 hours onwards they kept a general watch on road and rail movement and on shipping; they flew over rivers to observe barge movement, bridging and ferry sites; they made detailed searches of specific areas at the request of Twenty-one Army Group to detect possible concentrations for counter-attacks. They also carried out intelligence missions in search of gun-sites, dumps, supply centres, etc., and for purposes of bomb damage assessment.

Until they were re-inforced by the other Mustang Squadrons late in the afternoon, the two Tac/R squadrons of No. 39 Wing (viz. Nos. 168 and 430 Squadrons) were employed at a high rate of effort flying a total of 63 sorties during the day, most of them in the morning and afternoon. The other three Mustang squadrons (Nos. 2, 268 and 414 squadrons) flew a total of 20 sorties in the late evening after each squadron had already done 28 sorties spotting for the Navy in the morning.

Owing to the amount of low cloud the two P/R squadrons had a disappointing day, No. 4 squadron flying only one unsuccessful sortie and No. 400 squadron only three sorties. The P/R aircraft of No. 34 Wing were rather more active than those of the other two wings, the Spitfires (No. 16 squadron) flying 17 sorties, and the Mosquitoes (No. 140 Squadron), flying 6 sorties.

Altogether the three Wings flew a total of 194 sorties, during the day, of which 87 were on Tac/R mission, 23 on P/R and 84 on Naval Spotting.

(5) Spotting for Naval gunfire

There were about 160 Spitfire and Mustang type aircraft in the Air Spotting Pool at Lee-on-Solent from dawn on D-Day until early afternoon, when the three Mustang Tac/R Squadrons belonging to the Composite Groups were withdrawn. This left approximately 95 aircraft available for the remainder of D-Day and for the days following. (1)

Squadrons taking part in air spotting on the morning of the Assault were as follows:-

- (a) No. 3 Naval Fighter Wing Fleet Air Arm (Nos. 808, 885, 886 and 887 Squadrons F.A.A. Seafires).
- (b) Nos. 26 and 63 squadrons R.A.F. Spitfires V (L.R.)
- (c) Nos. 2, 268 and 414 squadrons R.A.F. Mustang 1a
- (d) Seventeen U.S. Naval Aviators with Spitfire V (L.R.) 15 aircraft.

(1) A 'Report on Air Spotting for Naval Bombardment in Neptune' written by the 2nd T.A.F. Representative in charge at Lee-on-Solent (Wg. Cdr. R. J. Hardiman, D.F.C., is available in A.H.B. It is not indexed (April, 1949). 2nd T.A.F. operational Instruction No. 1/1944 also gives valuable information on this subject and is also available.

Most of the naval gunfire was directed in the first instance at coastal batteries in order to neutralise them during the assault operations. Specific warships were assigned to batteries according to considerations of calibre and range, and at first all spotting missions were pre-arranged. Requests for air spotting on an impromptu basis formed a large percentage of the total missions later in operation Overlord, but on the first day there was no lack of targets.

2nd T.A.F.  
Daily Log  
Serial 5834

A total of 435 aircraft sorties on 218 missions were flown on D-Day, 101 missions being in the U.S. area and 117 in the British area. Of these 84 sorties were flown by Mustangs of 2nd T.A.F. Seven of our aircraft were shot down.

#### Adjustments to Forces

H.Q. 2nd T.A.F.  
(Air Staff)  
ORB, 6 June, 1944  
p.17

Ibid

The first adjustments were made to the Tac/R forces at the disposal of 2nd T.A.F. After mid-day, three Mustang squadrons were returned to their normal duties after assisting in air spotting for the Naval bombardment. During the evening, as weather conditions made further calls for smoke very unlikely, the two Boston squadrons were released from their commitment to be employed by No. 2 Group in the night offensive. This was decided at a conference between 2nd T.A.F. and the Representative of Twenty-one Army Group on the evening of D-Day. At the same time they decided that as reconnaissance appeared to show that the enemy was concentrating forces in the Caen area, night operations by No. 2 Group aircraft should cover the areas south, south-east to east and south-west to west of Caen, with the greatest effort directed to the south.

#### Night Operations, 6/7 June

Hist. record  
Air C.-in-C.  
A.E.A.F.  
6 June, 1944

By the evening it was beginning to become apparent that air plans for the delay of enemy movement into the battle area could not be fully executed. The unfavourable weather which had been our ally in achieving surprise now proved a serious handicap, in that it rendered impossible any effective bombing by U.S. heavy bombers throughout D-Day. At 0930 hours, cloud over north France was generally about 6/10th at 2,000 feet and did not improve. This was unsuitable for high level bombing as practised by Liberators and Fortresses.

NJC/00/431/7  
Air Targets  
Schedule J

Caen had been bombed by 36 heavy bombers of the U.S. VIIIth Air Force at 0900 hours and again by 180 heavy bombers on H2X at about 1200 hours but there was no certainty that the streets had been blocked. In these circumstances Air Marshal Coningham suggested to the Air Commander-in-Chief that the VIIIth Air Force heavy bombers should not carry out their attack on town centres scheduled to take place at 1800 hours and Air Chief Marshal Leigh-Mallory agreed. In consequence the choke points on roads leading towards the beachhead area could not be created by air bombing on D-Day and the bulk of the targets selected for the VIIIth Air Force had to be re-allocated.

The Army became deeply concerned about the growing concentration of enemy armour in the Caen area. Movement along the route from Laval through Domfront and Thury-Harcourt could not be stopped without choke-points being created at town centres by heavy day bombers, but it could at least be slowed down and impeded by T.A.F. aircraft.

Adv. A.E.A.F.  
ORB, p.7

This was the situation that prompted the decision to employ all the available effort of No. 2 Group during the night following D-Day on operations harassing and delaying enemy movement south, south-east, and to a lesser extent, east and west of Caen. Altogether, 196 aircraft were despatched by

the Group on night operations, a remarkable feat when it is realised that none of the Bostons and only six of the Reconnaissance aircraft operated.

2nd T.A.F.  
Daily Log  
6/7 June, 1944  
Serial 5848

The six Mosquito squadrons flew 129 anti-movement patrols covering practically the whole area of Normandy but paying closest attention to roads South of Caen. The routes patrolled were the following:-

- (1) Bayeux - Carentan - Granville - Avranches - Bayeux.
- (2) Caen - Lisieux - Brienne - Evreux - Dreux - Alencon - Caen.
- (3) Caen - Argentan - Domfront - Fougères - Pontorson - Bayeux - Caen.

No. 2 Group  
Ops. Summary  
No. 126/44

Three squadrons patrolled area (3), two squadrons area (2), and one squadron patrolled area (1). A few sorties were abortive but 122 aircraft attacked moving traffic or pre-arranged targets with 486 bombs (500 lb. M.C.). One very large convoy was seen and attacked mid-way between Fougères and Mortain. Four missions were flown by the Mitchell squadrons and 49 out of the 60 aircraft despatched dropped 196 bombs (1,000 lb.) on the town centres of Falaise and Villers-Bocage, on the bridge at Dives-sur-Mer and on a narrow defile at Thury-Harcourt. Results were not observed but General Bayerlein,<sup>(1)</sup> Commander of the Panzer Lehr Division complained that damage to Thury-Harcourt and Falaise (attacked by the Mitchells) and to Argentan (attacked by Mosquitoes), caused much delay to his northward advance to meet the Allies. He estimated that his losses through Allied air attacks on the late afternoon, night and following day (6 and 7 June) amounted to about one-tenth of his original 1,000 half-tracks, prime movers and self-propelled guns. Losses in tanks he estimated at about 5 out of 140.

T.A.F. Daily Log  
6/7 June, 1944  
Serial 5846

A.P.W.I.U.  
(IX Air Force)  
63/1945  
paras. 13 to 15

#### Operations on D Plus One Day

##### Assault Area Cover and Escort

Once again the whole invasion area was covered by an air umbrella provided, so far as Low Cover was concerned, exclusively by 2nd T.A.F. Spitfires. The scale of effort was almost identical with that put up on the first day (1229 sorties on 7 June as compared with 1226 on the 6th) and the continued failure of the enemy to interfere effectively shows how successfully the Air Plan was developing. Some attacks on the Beaches and on Allied shipping were initiated by small formations of F.W. 190 fighter-bombers or J.U. 88's escorted by M.E. 109's but little damage was done. About 60 enemy aircraft were sighted by the Spitfires in the course of the day and it was claimed that twelve of them, nearly all J.U. 88's, were shot down in the area North of Caen.

2nd T.A.F.  
Daily Log  
Serials 5859  
and 5861

The greatest blow was struck by Spitfires of No. 126 Wing on Low Cover Patrol in the British Area. About twelve J.U. 88 Torpedo Bombers and an He.177 employing radio controlled bombs were caught between Caen and the beaches and eight were

- (1) Prisoner of War Interrogation Report issued by the IXth Air Force dated 29 May, 1945. General-Lieutenant Fritz Bayerlein was the Commander of the elite Panzer Lehr Division at the time of the Normandy campaign. The Report emphasised the effects of air action by U.S. aircraft but many of the attacks referred to by General Bayerlein were either shared with or carried out by the R.A.F.

No. 11 Group  
ORB, June, 1944  
Appendix H

immediately shot down (Allied claims) while a ninth was probably destroyed (1000 hours). A formation of sixteen F.W. 190 began a dive-bombing attack in the sector north of Caen at 1330 hours but was interrupted by No. 134 Wing and forced to retire.

Armed Reconnaissance and Support Calls

2nd T.A.F. ORB  
June, 1944  
p.20

Early in the morning on D plus one day, Air Vice Marshal Groom (S.A.S.O., 2nd T.A.F.) and Brigadier Oxborrow (Twenty-one Army Group Representative) discussed the movement of the 21st Panzer Division from the region of Argentan towards Falaise and Caen, and that of the 12th S.S. Panzer Division from Dreux and Evreux. The Air Commander-in-Chief had arranged for Fortresses and Liberators of the VIIIth Air Force to resume their attempts to block all main routes to the battle area by creating choke-points in town centres but in view of the continuing low cloud it seemed likely that A.E.A.F. aircraft might have to undertake this commitment.

Until further information was available regarding the attacks that had been made by U.S. bombers and their degree of success, it was provisionally decided to intensify armed reconnaissances by 2nd T.A.F. fighter-bombers in order to harass enemy movement towards the beach-head. At the same time, IXth Air Force fighter-bombers carried out similar operations in the Western Assault Area and VIIIth Air Force fighter types in areas inland of the Tactical Area.

Ibid

As the effort required for these operations to the east and south-east of Caen was so large, the A.O.C. No. 11 Group agreed to release the six Mustang Squadrons in the Pool of Readiness Squadrons (Nos. 122 and 133 Wings/Airfield H.Qs) to assist in this role.

2nd T.A.F. (1)  
S.A.S.O's Log  
7 June, 1944  
Serial 9

The task given to the Typhoon and Mustang Squadrons was to stop all enemy movement by road and rail, particularly road movement. If no vehicles were seen then bridges were to be attacked, but squadrons were to keep clear of towns being attacked by the U.S. Air Forces. Likely hiding places for tanks and M.T. were to be attacked as last resort targets. Effort was allocated to three zones according to tactical importance and concentration of targets, and to the distance of these areas from T.A.F. bases.

A. The ten Typhoon Squadrons of No. 83 Group were assigned to the quadrilateral from Caen to Mezidon Railway junction thence to Falaise and to the road fork South of Villers-Bocage.

B. The remaining eight Typhoon Squadrons (No. 84 Group) were directed to patrol the area east of the above within the limits of Pont L'Eveque, Pont Audemer, Grand Couronne (S.W. of Rouen), Louviers, Evreux and Lisieux.

C. The six Mustang III Squadrons with their greater range were ordered to patrol routes further south of the Area (B) i.e. in the neighbourhood of Argentan, Bueil, Dreux and Sees.

Unfortunately, it was found that in order to give the Typhoons sufficient range for these patrols, they had to be reduced to four rockets or one bomb so as to carry a drop tank with extra fuel. No squadrons were reserved to 'Air Alert' duties but certain squadrons proceeding to Area (A) were

(1) 2nd T.A.F. S.A.S.O's Log may be found at Appendix 97 to the ORB for 2nd T.A.F. June, 1944.

instructed to call up H.Q. Ships which could then divert them to any target of sufficient urgency.

Air C.-in-C.  
A.E.A.F.  
Hist. Record  
7 June, 1944

At dawn on 7 June, cloud was generally 10/10ths at 1,500 feet to 3,000 feet but Typhoons and Mustangs were airborne at first light, and so were several T.A.F. Reconnaissance aircraft. It was soon discovered that while there was plenty of activity in Area (A) and (C) little was to be found along the axis Evreux to Lisieux. The 12th S.S. Panzer Division appeared to be moving from Dreux to Argentan and side roads in area (C) were carrying much traffic. Reconnaissance aircraft and fighter-bombers returning from first missions reported particularly extensive tank and M.T. movements in the Montagne-Verneuil - L'Aigle district.

2nd T.A.F.  
Daily Log  
7 June, 1944

Accordingly, in spite of deteriorating weather conditions, seven of the eight Typhoon squadrons were switched from the Evreux - Lisieux area to the road system further south to assist the Mustangs. Flight after flight of Typhoons and Mustangs returned from this as well as the Caen area with reports of enemy reserves rapidly moving up, although generally in small formations well-spaced and well camouflaged. Sweeping claims were made for vehicles destroyed or stopped, railway track and rolling stock attacked, personnel shot up and even tanks left in flames.

2nd T.A.F.  
Daily Log  
7 June, 1944  
Serial 5871

Two missions were diverted by H.Q. Ships during the morning. The first was at about 1100 hours when eight Typhoons were requested to sweep the roads between Villers-Bocage and Caen and did severe damage to a convoy of trucks and half-track vehicles. An hour later, four Typhoons were diverted to attack enemy tanks south west of Bayeux and, when they returned to base, claimed to have destroyed four of them. At this time, British forces had entered the town of Bayeux, but the enemy still held the railway station.

Ibid  
Serial 5857

No. 83 Group  
ORB  
7 June, 1944

A very high level of intensive effort was maintained during the early morning until clouds in this area came down to 1,000 feet, and gave squadrons some respite. In addition, ground staffs took the opportunity to fit aircraft with drop-tanks so that longer patrols became possible during the afternoon and evening. During the afternoon, as weather improved, armed reconnaissance missions recommenced on the same intensive scale especially in the Caen area and over the roads in the Breteuil - Argentan - Bernay triangle, and, later in the evening, in the Caumont area, near the battlefield.

2nd T.A.F.  
S.A.S.O's  
Log  
7 June, 1944  
Serial 21

A.P.W.I.U. (13th  
Air Force)  
63/1945  
Paras. 13 and 14

Reference has already been made earlier in the chapter to General Bayerlein's remarks about the severity of Allied air attacks. He said that at 0500 hours on 7 June, the Panzer Lehr Division was moving northwards in five columns on a front from Alencon to Domfront. The first air attack came at 0530 hours near Falaise. 'All through the morning it was bad, but about noon the attacks became incessant and terrible'. His memory was more accurate regarding the effects of these attacks than it was about their exact time. While attacks on road junctions at Argentan, Falaise, Thury-Harcourt, and Conde did not delay his tanks they did slow up the speed of the lighter vehicles and supply columns. The main road from Vire to Beny Bocage he described as 'Uabo Rennstrecke' or fighter/bomber racecourse.

Ibid  
para. 14

Air support was also given by Typhoons to the assault on Pont-en-Bessin which was carried out by the British 61st Brigade at 1600 hours. One flight of eight R/P Typhoons (No. 245 squadron) attacked a troublesome gun site at T.7687 while fifteen other aircraft (Nos. 182 and 247 Squadrons) made rocket attacks on strong-points covering the town. It was not long before the position was captured by the ground

Ibid  
Serial 20

troops who thereupon proceeded to make contact with American troops from Omaha Beach and thus completed the linking-up of the beach-head.

2nd T.A.F.  
Daily Log  
7 June, 1944

One unfortunate result of the low cloud base was that aircraft were forced to operate at dangerously low levels with consequent heavy damage by flak. Seventeen air support aircraft (eleven Typhoons and 6 Mustangs) were lost, and very large numbers were damaged to a greater or lesser extent. The G.A.F. continued to puzzle Allied Commanders by their failure to offer a determined challenge in circumstances more than ever favourable to them. Combats with small formations of fighters were still not frequent although there were far more sightings than on the previous day. Most of those seen were enemy fighters escorting armoured convoys in the rear areas. Typhoons and Mustangs claimed sixteen enemy aircraft destroyed.

By the end of the day, the Typhoon and Mustang Squadrons had put up 752 fighter-bomber (and R/P) sorties, of which over 700 had been armed reconnaissances aimed at the interdiction of movement into the battle area. The Typhoons flew 493 sorties and the Mustangs 259. But despite all the effort it was plain that enemy movement could not be stopped so long as he was prepared to accept heavy losses and so long as the weather was unfavourable to air operations.

2nd T.A.F.  
Daily Log  
Serials 5923 to  
5926 and  
Serials 5939  
to 5941

Reconnaissance by the three High Level P/R Squadrons and by the five Tac/R and Low Level P/R Squadrons of Nos. 34, 35 and 39 Wings had been proceeding all day although conditions were not very suitable for the former which flew only 14 sorties. The Tac/R squadrons flew 104 sorties, most of which were in search of enemy armour and general lines of movement. The search was extended well to the east of the River Seine and a good flow of information was maintained. As a result, the conclusion was reached that thanks largely to the weather, the enemy had succeeded in completing his preliminary moves into the battle area but that this had been much slower because of air action. Heavy execution had been done especially in the case of unarmoured vehicles but on the whole it was believed that the Germans had made good use of camouflage and cover as well as of the network of secondary roads to move troops and armour into battle. The use by the Germans of single-engined fighters to escort convoys moving up from the rear was a noticeable development during the day.

As on the day before, continuous spotting for Naval gun-fire was provided by aircraft from the Air Spotting Pool which flew a total of 245 sorties. Five of these were lost and two ME. 109's were claimed destroyed.

#### Night Operations - 7/8 June, 1944

The Army intimated to 2nd T.A.F. that the 17th Panzer Grenadier Division which was entering the American Zone was expected to be detraining at stations between Villedieu and Folligny (near Granville) during the night. No. 2 Group thus had to attempt to interrupt this operation as well as to interfere with further movements of the 21st Panzer and 12th S.S. Panzer Divisions.

The main routes being used by German Divisions moving up, were defined to No. 2 Group and instructions were issued that patrols were to be flown along them in the following order or priority:-

(a) Argentan - Caen

(b) Domfront - Flers - Caen and Mortain - Vire - Caen.

(c) Avranches - Coutances and Avranches - Caen

(d) Lisieux - Caen.

Both movement and specific targets were attacked during the short night, although the amount of movement observed fell short of what had been expected. Anti-personnel bombs (480 x 20 lbs.) were dropped by ten out of the twelve Bostons sent to Folligny Railway Station while thirteen out of seventeen Mitchells despatched to Villedieu Station dropped 52 bombs of 1,000 lb. Flers was bombed by seventeen Mitchells and Montsecret (west of Falaise) was bombed by twelve out of the eighteen Mitchells despatched. Mezidon was bombed by 28 out of the 42 aircraft (fifteen Mosquitoes, fourteen Mitchells and thirteen Bostons) airborne for this purpose and Vire was bombed (72 x 1,000 lb.) by eighteen Mitchells. Fifty Mosquitoes patrolled the region south and east of Caen in search of road or rail movement, and fifty-three others patrolled in the Avranches-Domfront-Carentan region without finding many satisfactory targets.

The total number of No. 2 Group aircraft on these missions was 233 made up of 123 Mosquitoes, 85 Mitchells and 25 Bostons. Three Mitchells and two Mosquitoes were lost. Only three aircraft (No. 34 Wing) carried out night reconnaissance missions owing to the unsuitable weather conditions.

In connection with the night operations of No. 2 Group and the day operations of the Tactical Air Forces it is interesting to examine the comments of General Bayerlein. The Panzer Lehr Division planned to assemble in the area Aunay - Thury-Harcourt (south west of Caen) so as to attack on 8 June. During the movement of the night before, Naval gunfire on the crossroads at Villers Bocage caused difficulties, but there were actually fewer losses from air attack<sup>(1)</sup> because previous losses had taught the men to respect march discipline, because of moving only at night, and because of better camouflage discipline (every armoured vehicle was covered with tree branches and made to hug the edges of woods or hedges....) ..... All through the night there were continual flares dropped tending to halt any movement that was in progress.

A.P.W.I.U.  
(IXth Air Force)  
63/1945  
373.2  
paras. 16 to 18

#### Day Operations - 8 June

Adv. A.E.A.F.  
ORB,  
8 June, 1944  
p.68

Weather was again very unfavourable on 8 June and the forecast for the next 48 hours was even more unpromising. This prospect together with the small scale of the opposition and the difficulty in finding suitable good targets, induced Air Marshal Coningham to decide upon a reduction in the rate of effort for the time being. This decision with his reasons for it, he communicated to Brigadier Oxborrow, the representative of the Twenty-first Army Group at Uxbridge.

#### Air Cover and Escort

Owing to unsuitable weather and to the decision to reduce effort, the number of sorties flown on protective missions was reduced by about 10% i.e. to 1,096 from dawn until dusk on 8 June. This was more than adequate to deal with the increasing enemy activity and although the latter was making use of F.W. 190 fighter-bombers, sometimes escorted by M.E. 109 fighters, he was still unable to affect the rate of Allied build-up across the beaches.

Small enemy formations or individual aircraft were often sighted by Spitfires and some of these were engaged over the

2nd T.A.F.  
Daily Log  
8 June  
Serial 5965

Ibid  
Serial 5976

Ibid  
Serial 6050

Ibid

Assault Area. Sightings of aircraft in squadron strength or over were still few. Eighteen F.W. 190 fighter-bombers approaching Sword Beach were attacked by Spitfires of No. 135 Wing early in the morning (before 0700 hours) and two were claimed shot down for the loss of one Spitfire. At noon, No. 134 Wing intercepted twelve F.W. 190 aircraft which had been bombing Sword Beach and claimed three enemy aircraft shot down with five damaged.

In the evening between 2000 hours and 2100 hours, about twenty F.W. 190 fighter-bombers with an escort of twelve M.E. 109's were encountered in the same area by two Spitfire Squadrons which claimed seven damaged without loss. Another Spitfire squadron saw a formation of F.W. 190's near Ouistreham at approximately the same time. From seventy to eighty aircraft were actually seen by Spitfire squadrons during the day, nearly all of which were in the Caen - Sword area.

#### Armed Reconnaissance and Support Calls

A total of 493 sorties were flown by Typhoons and Mustangs on missions of this character, made up of 266 sorties by Typhoons and 147 sorties by Mustangs on armed reconnaissance with 80 Typhoon sorties flown in response to Army calls for air support. This was a considerable reduction as compared with the effort put forth during the first two days of Neptune. It was due, as has been explained, to unfavourable weather, heavy battle damage and to the employment of smaller formations.

The Typhoons assigned to armed reconnaissance were concentrated on the triangle of roads enclosed by the lines Caen - Lisieux - Falaise, while the longer range Mustangs were given the Alencon - Vire area. Conflicting reports came in to 2nd T.A.F. H.Q. during the day regarding the areas in which the enemy was preparing to counter-attack. Suggested areas were between Bayeux and Caen, north of Caen and west of Caen. Reports from Mustang pilots at 1615 hours showed no activity in the area Alencon - Argentan - Vire, whereas the Typhoon pilots reported continuous and well protected movement of all types into Caen.

2nd T.A.F.  
SASO's Log  
8 June, 1944  
Serials  
27 to 34

Ibid  
Serial 35

At Air Marshal Coningham's meeting (2230 hours) it was stated that enemy movement was practically complete with 21st Panzer, 12th S.S. and Panzer Lehr Divisions all in the line opposite the Second British Army. The indications all pointed, in fact, to the prospect of a major counter-attack developing from the direction of Caen.

2nd T.A.F.  
Daily Log  
8 June, 1944  
Serial 6007

Ibid Serial 6011

Ibid  
Serials  
6012 and 6031

With the appearance of a more definite front line and with the arrival of Army Air Support Units at the Beach-head, came a great increase in the number of calls for aircraft to assist operations on the ground. The first call from Twenty-first Army Group on 8 June was one for air support to the U.S. Vth Corps which was to advance from Omaha beach-head to Isigny and Carentan to link up with the Utah forces (U.S. VIIth Corps). In response to this call, a bombing attack was made with complete success on the village of La Cambe and on enemy armour in the vicinity, by eight Typhoons of No. 193 Squadron and eight of No. 197 Squadron (0800 hours). Continuing their advance westwards, the U.S. Vth Corps asked for further support in an attack on Isigny and Nos. 257 and 266 Squadrons (16 aircraft) bombed this position at 0945 hours.

Just before noon, attacks were called for on German tanks concentrating for a counter-attack near Tilly. Eighteen Typhoons from Nos. 174 and 439 Squadrons searched the area but no tanks were seen although some enemy M.T. was attacked. In the middle of the afternoon, eight Typhoons of No. 247 Squadron

Ibid  
Serials  
6032 and 6033

and the same number of aircraft from No. 245 Squadron went to Varaville (between Caen and Cabourg) at the request of the 6th Airborne Division to attack a concentration of enemy infantry and fifty tanks. No armour was seen but some enemy M.T. was attacked with rockets.

Two hours later, fourteen Typhoons were sent to deal with a concentration of armour in the northern outskirts of Caen. The aircraft (Nos. 438 and 439 Squadrons) bombed a few tanks seen on a road in the area but made no claims.

As the staffs of 2nd T.A.F. and Twenty-one Army Group gained experience in working together they were able to discern faults in the Air Support organisation and take measure to rectify them. An example of this process at work took place on 8 June, and concerned the promulgation of the bomblines behind which (i.e. the Allied side of which) friendly aircraft were prohibited from making attacks<sup>(1)</sup> unless requested by the Army to do so. The announcement and subsequent adjustment of the bomb-line on the British front was the responsibility of General Montgomery's representative (Brig. Oxborrow) at Uxbridge in consultation with 2nd T.A.F. But it soon appeared from the number of calls for impromptu support giving targets well on the wrong side of the bomblines that the Army were too optimistic regarding their advance. The result was that they published a bomblines which gave the enemy front line immunity from air attack. 2nd T.A.F. accordingly took the matter up with the Chief-of-Staff, Twenty-one Army Group and in due course this was rectified.

2nd T.A.F.  
ORB June, 1944  
p. 23

No. 83 Group  
ORB 7 and  
8 June, 1944

Two events of special interest occurred during the day. H.Q. No. 83 Group under Air Commodore Boyle was established on the Continent in a field near Banville (T.9483) after spending a few hours at Graye-sur-Mer the day before. Air Vice Marshal Broadhurst arrived on 9 June.

The other event was the opening of the first Emergency Landing Strip on the British Front at Asnelles (T.8875). A Spitfire of No. 144 Wing made an emergency landing there at about 1300 hours.

#### Summary

So ended the first three days of operations by aircraft of the 2nd T.A.F. in the campaign for the liberation of north-west Europe. By the end of the first day, many of the fighter and fighter-bomber squadrons had completed three sorties and although there was much low cloud only about 5% of T.A.F.'s 2,091 sorties were abortive because of the weather.

Adv. A.E.A.F.  
ORB 6 June 1944  
p. 5

On D-Day the Tactical Air Forces' programme was completed to schedule, but, from the first, there was a noticeable lack of information at the Combined Operations Room, about the operations of the U.S. VIIIth Air Force and about the real extent of the success being achieved by the ground troops. At the Morning Conference on D-Day held by Air Marshal Coringham, Twenty-one Army Group's Representative (Brig. Oxborrow) could give little help. He had received little information on which to base requests for air support. Much depended upon how many and with what results, town centres had been bombed by the VIIIth Air Force Heavy Bombers in the plan to create blocks and choke points. The prevalence of so much low cloud prevented the VIIIth Air Force carrying out their part in this plan during the first part of the day and there was delay in informing A.E.A.F. (and the Combined Operation Room) of its postponement.

(1) The Bomblines was defined in NJC/00/74/41 of 3 April, 1944 as 'the anticipated front line of our own troops two hours hence'.

H.Q. 2nd T.A.F.  
(Air Staff) ORB  
6 June, 1944  
pp. 15 and 16

The Army was most concerned about the movement of armour northwards on the route from Dreux through Argentan to Caen and along the road from Laval to Domfront and Thury-Harcourt. Arrangements were therefore made for Typhoons to fly on continuous armed reconnaissances up and down these roads from the afternoon until nightfall. These squadrons attacked a great variety of vehicular traffic but it could not be claimed that they stopped the movement of German Divisions by their attacks. Their value was that they forced the enemy to restrict himself to slow and carefully dispersed movement, to movement by night and to the use of secondary roads. The resultant delays prevented immediate and speedy reaction to the Allied landings. At all events, with the exception of the ground around Caen and certain powerful strong points, a large proportion of the objectives set for the first day were successfully carried by the Assault Task Forces and the Airborne Troops.

In the event of surprise, it had been expected that the strong assault forces would have been able to penetrate the crust of the coastal defences and establish a firm foothold on the first day. Thus although it had not been expected that the Coastal Batteries would prove so ineffective the Allies had counted on taking objectives more than five miles inland. But it had not even been calculated that the enemy would have failed to make any effective air counter to the invasion. It is now known that the G.A.F. had weakened its forces in the west in order to strengthen the defences of the homeland. Furthermore the pre-D-Day attacks on Radar Stations and the carefully worked out Cover Plan had completely blinded the enemy to the size, direction and purpose of the Allied landings. The enemy continued to act on the assumption that the real blow would be made against the Pas de Calais and regarded the Normandy operation as a feint. The possibility of other landings had still not been ruled out by the German High Command many days and even weeks later. Prompt reinforcements were therefore not sent from the Pas de Calais into Normandy. Of great importance was the Supreme Commander's decision to risk the crossing in such unfavourable weather. This was one of the chief reasons for the tactical surprise which the Allies achieved.

Thus the outstanding feature of the assault operation from the point of view of the Air Forces was not so much its success or its size but the complete lack of opposition. It was something like 12 hours before any day-flying German aircraft were seen and even then they only appeared in small numbers and did not press home their attacks upon the beaches and anchorages. The possibilities were great but their achievements were small.

As for the great air battle on the model of those over Dieppe and Dunkirk, it simply did not materialise. Thirty-six squadrons of Spitfires and fifteen squadrons of Thunderbolts were employed on Assault Area Cover. Twelve squadrons of Lightnings and other fighter squadrons from A.D.G.B. were used to protect shipping from enemy air attack. Thirty squadrons of fighters were held in reserve to be used as a striking force if the enemy offered battle. Other large forces went out against enemy airfields and acted as a screen over French territory beyond the Assault Area. Never before had such powerful forces of fighters been assembled together in one small area.

The result was that the Allies dominated the air and the enemy was rarely able to interfere effectively with Allied operations in the battle zone. It was soon appreciated that the enemy was incapable of resisting on the scale at first expected and before long adjustments were made in the effort devoted to air defence.

The end of the second day of operations may possibly be regarded as the termination of the initial phase of the Assault.<sup>(1)</sup> Up to that time the Air Forces had concentrated upon exerting the maximum effort regardless of reserves of men and machines and without much regard for the scale of air opposition. Nothing was held back. On the morning of the third day of operations, Air Marshal Coningham informed General Montgomery's representative that he would not be able to do this in future.

ADV. A.E.A.F.  
ORB 8 June, 1944  
p.68

After two days of intensive operations, he thought it prudent to take steps to conserve the effort of the Tactical Air Force so as to restore serviceability in the squadrons. He pointed out to the Representative of Twenty-one Army Group at Hillingdon that on the first two days of operations both the 2nd T.A.F. and the LX Air Force had thrown in everything they possessed. His policy from that point onwards would be to reduce the scale of air effort until more reliable information of the enemy's intentions was available and until suitable targets directly affecting those intentions could be selected.

Ibid. p. 69

In general, more information about enemy forces had been received from armed reconnaissance and bomber aircraft than from the Tac/R Squadrons. But armed reconnaissance on the previous day had not produced results (in the destruction of enemy vehicles) proportionate to the effort expended and the damage sustained. Arrangements were accordingly made for armed reconnaissance missions to be made by smaller formations of aircraft, but that the remaining aircraft should be on call in case worth-while targets were discovered.

Weather conditions had been a contributory factor in the appearance of a disconcerting feature appearing out of the operations of the first two days. The prevalence of low cloud after the tardy appearance of the G.A.F. had enabled the latter to carry out a series of hit-and-run raids on the beaches and the anchorages. These had been very frequent during the day and the night of 7 June and continued on the 8th. The results of their activity were not considerable if measured in losses of men and material but continual alerts played havoc with the nerves of the A.A. gunners.

During the first days (and nights) of the operation there was a growing tendency, unchecked by responsible commanders, for A.A. personnel on shore and on ships, to open fire on aircraft irrespective of whether they were friendly or hostile. In the prevailing conditions there must have been difficulties in recognition, but the existing Rules for Engagement of Aircraft by A.A. Guns took into account these difficulties. There is also no doubt that aircraft frequently transgressed by flying in prohibited areas. But in bad weather and in combat, aircrews could not reasonably be expected to observe prohibited areas.

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(1) It was the termination of the initial phase in the sense that maximum air effort, in the absence of a crisis, was not prolonged beyond the second day. The first phase (Neptune) of Operation Overlord was not complete in any other sense until a lodgement area had been secured that was large enough to serve as a base for the development of further operations. At the very least this would include the time taken to build the Mulberries and to capture Cherbourg, and to develop a sufficient number of air strips on which to base substantial air forces.

ADV. A.E.A.F.  
ORB June, 1944  
Appendix 47

This state of affairs was particularly hard on pilots of the Low Cover Spitfires who often had to fly very low to remain under the cloud base and who were followed by A.A. fire wherever they went. A number of aircraft were damaged and some lost as a result of this. On some occasions, Low Cover had to be withdrawn. Continuous protests were made at all levels but it was many weeks before the matter was rectified. Energetic action was taken on the spot on the morning of 8 June when a bad case was observed by the Air Representative on board H.M.S. Hilary. (1)

Despite minor setbacks there was much cause for satisfaction in the situation as it existed after three days and three nights of operations. By that time it was clear that the Navy had succeeded in its first task of ferrying the Assault Task Forces across the Channel and the Army had broken through the first crust of coastal defences to secure a foothold on the Continent. The Air Forces, for their part, had had little difficulty in holding off the German Air Force while they assisted the Army and Navy in offensive and defensive tasks. The role of the 2nd T.A.F. in providing continuous Low Cover over the Assault Area and in operating offensively in support of the British Army during the daytime and in ranging over the whole Tactical Area by night had been vital to the success of the undertaking.

During the 48 hours beginning with the night before the Assault, the 2nd T.A.F. put up 4,386 aircraft sorties of which about 40% were on offensive operations and the remainder on defensive operations. In the next 24 hours(2) the number of sorties was 2,005 but although the greatest single commitment remained that of providing assault area cover, the proportion of sorties on offensive operation had risen to become about 50% of the whole.

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(1) Gp Capt. Cleland.

(2) Viz. from last light 7/8 June to last light 8 June.

A.D.G.B. OPERATIONS IN THE ASSAULTRole of Air Defence of Great Britain

As its name indicated, this Command was primarily concerned with responsibility for the air defence of Britain with such forces of the former Fighter Command as had been allocated to it for this purpose. This commitment remained permanent even at times when it might have been assumed that the enemy was no longer in any position to launch air attacks on the United Kingdom. In January, 1944, when the task of writing the air plans for Overlord was commenced, the chances of an all-out offensive by the German Air Force had already become remote, although it was considered that occasional heavy attacks might still be made. There was, in addition, always the threat of severe damage being done in Southern England if the potentialities of the secret weapons known to be in preparation ever materialised.

A.D.G.B.  
Overlord Plan,  
Para.3.

J.I.C.(44)  
215(a)  
25. May, 44.  
Annex C, Para.11.

File A.E.A.F./  
S.16047/Int.,  
May dated  
31. May. 44.  
Encl.5A

omit

Current appreciations did not anticipate that we had much to fear from orthodox attacks by the G.A.F. The A.D.G.B. Overlord Plan visualised the possibility of minor daytime attacks against coastal areas in the south up to D-Day with a shift to the beaches and anchorages as soon as the expedition was launched. Night attacks on the scale of about 50 Long Range Bomber sorties on two or three nights in a week with up to 150 Long Range Bomber sorties per night for very short periods were considered possible in the same area. Less than a week before D-Day the Chief Intelligence Officer, A.E.A.F. estimated that 120 to 140 Long Range Bomber sorties could be sustained by the enemy against the U.K. for three or four nights a week with a maximum of 200 to 240 such sorties on one night. This effort was likely to be directed, he considered, against ports, concentration areas or important concentrations of shipping along the South Coast if the G.A.F. attacked before D-Day but that 'the high rate of loss incurred in recent operations against this country may act as a deterrent to the launching of an attack on the maximum scale immediately prior to Overlord'. After D-Day it was considered that the main enemy bombing effort would be directed against the beachhead and shipping rather than against U.K. targets. Attacks on the latter would be unlikely to exceed 50 to 70 sorties per night.

Calculations regarding the Diver(1) threat were still more uncertain as they depended so much upon the success of our attempts to neutralise the launching sites and interrupt V weapon supplies. But as each site was considered capable of launching two missiles per hour even a small number of operational sites might be capable of doing serious damage.

Two plans were prepared by Air Marshal Roderic Hill, the first to meet any threat from orthodox air attacks (entitled the A.D.G.B. Overlord Plan(2)), the second to include measures to be taken in the event of attacks by German flying bombs (known as the Overlord/Diver Plan(3)). So far as fighter aircraft were concerned, the disposition of squadrons and the arrangements for their operational control were the same in both plans except for minor details. As regards the disposition of A.A. Guns, Searchlights and Balloons, the use of Diver weapons would necessitate a complete re-deployment. The reader is reminded that A.D.G.B. was a legatee of Fighter

(1) Diver - code name for Flying Bomb offensive.  
(2) Issued on 7/Feb/44 under ref. A.D.G.B./M.S.36,661/Ops 56.  
(3) Issued on 4/Mar/44 under the same ref. as (2) and originally known as the 'A.D.G.B. Provisional Concurrent Air Defence Plan for operations Overlord and Diver'.

A.D.G.B. Overlord  
Plan, para.4.

Command, and inherited its vast static organisation built up to control fighter squadrons together with a multitude of other defences against air attack. It was responsible for the operational control of A.A. Guns, Searchlights and Smoke Screens, all run by the Army, and of Balloons, operated by the R.A.F. Long experience had bred a confidence that fighters and A.A. would be able to deal effectively with any orthodox air attacks.

#### Responsibilities for Neptune

Ibid para.1.

The mounting and launching of the invasion operation from Southern England did however create problems of defence to solve in which A.D.G.B. had to take special measures. It was clear that any serious interference with the invasion preparations could have dislocated essential parts of the general plan and thus do the country a serious injury. Consequently Air Marshal Hill's plan was guided by the principle that air defence resources were to be so disposed as to afford the maximum protection to Overlord bases even when this meant demoting other parts of the country of its air defences.

Overall Air Plan  
Part III,  
Section I.

The A.E.A.F. Overall Air Plan defined the special responsibility of A.D.G.B. for Overlord as the day and night air defence (in conjunction with A.A. Command) of concentration and marshalling areas, airfields, embarkation ports and the contiguous coastal waterways. By night A.D.G.B. was additionally responsible for the protection of all the battle area including the beaches, the shipping routes and the embarkation ports. It was responsible for Air/Sea Rescue in the Channel, for the protection of Coastal Command aircraft engaged on certain U-Boat patrols and shipping strikes, for the operation of Intruder aircraft over the Continent and for providing cover to those night bombing and airborne operations which formed a part of the general plan of the Assault. It was additionally responsible for discouraging enemy air activity and coastwise shipping in the Brittany and Pas de Calais areas.

Until H.Q. No. 85 Group was established in Normandy, the operational control of its aircraft remained under A.O.C. No. 11 Group A.D.G.B. The latter was responsible to 2nd T.A.F. for air operations in the Tactical Area and to A.D.G.B. for home defence and for offensive operations other than those in Normandy. In practice all fighter resources were used as far as possible on tasks for which they were best suited with the result that Day Squadrons of No. 85 Group as well as the Night Fighter Squadrons continued to be identified with A.D.G.B. during the initial phase of Overlord.

#### Re-organisation of A.D.G.B. for Overlord

This is perhaps not the place to describe in detail the reorganisation of A.D.G.B. that was effected during the spring of 1944 to prepare for Overlord. Full information regarding this may be found in the specialist A.H.B. narrative devoted to the history of the Command. It is desirable however to summarise the changes made to meet the direct needs of Overlord and which had been completed by the end of May, 1944.

In accordance with the policy of concentration in the southern parts of the country some Fighter Groups had been rolled up and the north-west was virtually stripped of its air defences. Groups still controlling aircraft in A.D.G.B. were Nos. 11, 10, 12 and 13 but the two latter had night-fighter and fighter reconnaissance squadrons operating in a day fighter role assisting the few day fighter squadrons.

Some changes had also been made in the boundaries and roles of Fighter Sectors. In No. 11 Group, Biggin Hill and Tangmere Sectors controlled all the day fighter squadrons though



North Weald and Wallop Sectors still retained night fighter and air/sea rescue duties. No. 11 Group had taken over the responsibility for the Middle Wallop Sector from No. 10 Group, and while the Sector Operations Room and its control facilities were handed over to the U.S. IXth Air Force for Neptune purposes, an alternative Sector Operations Room (Nether Wallop) was used by the R.A.F.

The greatest change, however, was that arrangement whereby the 2nd T.A.F. had taken over the operational control of No. 11 Group so that its H.Q. Operations Room at Uxbridge had become the Combined Control Centre for all fighters operating in the Tactical Area and its static control facilities were employed in the Assault. As such its primary responsibility was to plan and issue the executive orders (in conjunction with the U.S. IXth Fighter Command) for fighter operations connected with Neptune but the Group Controller was also charged with the responsibility of maintaining states in squadrons sufficient to meet any air attacks on No. 11 Group area in the U.K.

#### Availability and Disposition of Forces.

At the commencement of June, 1944, the following Fighter squadrons were operationally available in A.D.G.B.:-

	Type	No. of Squadrons	Aircraft U.E.	Strength in Squadrons	Operational
A.M. War Room Monthly Summaries.	Hurricane F/R	1	16 + 2	37	34
		+1 Flt	4 + 2		
	Spitfire F. F/R	24 2	416 + 52	590	487
A.E.A.F. Strength and Serviceability Tables.	Typhoon R/P	2	32 + 4	63	52
	Mustang F.	1	16 + 2	18	6
	Beaufighter N.F.	2	32 + 4	39	29
	Mosquito N.F.	7	112 + 14	152	123
	Intr.	2	32 + 4	39	32
	Others F.	-	- -	2	1
		41 + 1 Flt	660 + 84	940	<del>764</del> 764

This force was made up of the following types:-

(a) Day Flying

Fighters	25 Squadrons
Fighter Reconnaissance	3 Squadrons
Ground Attack	2 Squadrons
	<u>30</u>

(b) Night Flying

Fighters	9 Squadrons
Intruders	2 Squadrons
	<u>11</u>

Grand Total 41 All Types

Overall Air Plan,  
Appendix 'H',  
Para. 3.

It was hoped that most of this force could be made available for Neptune but during the first stage of the operation ten squadrons of Day Fighters were specifically reserved for the defence of the U.K. under the operational control of A.D.G.B. Fifteen squadrons of Day Fighters, two squadrons of R/P Typhoons and two Fighter/Reconnaissance squadrons were put under the operational control of 2nd T.A.F. for use in Overlord. All the seventeen Night Fighter Squadrons of No. 85 Group (six) and A.D.G.B. (eleven) were placed under the operational control of A.D.G.B. until No. 85 Group moved to the Continent.

No.3 Squadron  
R.A.A.F.  
November  
Appendices

This air battle greatly strengthened the morale of the New Zealanders and No.70 Division who went on to make the gains already mentioned and both sent congratulations to the Squadrons. The A.O.C., Western Desert also signalled to No.3 Squadron: "Congratulations on the Squadron's splendid fight which has contributed so much to our present overwhelming air superiority . . . . The Squadron has been selected for re-equipment with the first Kittyhawks".

A.H.B. 6/7/4  
M.E. W.O.S.  
No.7

During the following two days (26th and 27th November) the fighter scale of effort returned to its former high level of nearly 200 sorties per day. In particular, fighter sweeps were carried out from dawn to dusk over the battle in the general Sidi Rezegh area, but combats were few.

#### Low-flying Fighter Attacks (25th - 27th November)

During the three critical days 25th to 27th November the main offensive effort of the R.A.F., both fighters and bombers, was directed towards (a) checking the enemy's marauding columns and (b) helping our forces further west to advance in the Sidi Rezegh and El Duda areas.

No.3 Squadron  
R.A.A.F.  
O.R.B.

The concentrated attacks of the bomber squadrons were again supplemented by the wide-spread strafing operations of the fighters. On occasion, these fighter attacks were delivered on the basis of observations made in reconnaissances carried out by aircraft of the squadrons concerned. Thus on the morning of the 25th, 12 Tomahawks of No.3 Squadron, R.A.A.F. followed up reconnaissance sorties which located one of Rommel's marauding columns south of Sidi Omar with a strafing attack. This mission clearly indicated the dangerous nature of these low flying attacks against armoured vehicles and protected transport vehicles. Of the Tomahawks engaged, one aircraft returned early with five holes in the main planes, one crash-landed after the oiling system had been shattered (although the pilot was saved), one aircraft was shot down and the pilot taken prisoner<sup>(1)</sup> and one aircraft was shot down and the pilot killed.

A.H.B. 6/7/4

On the 27th, when the trend of enemy movement was towards the battle at Sidi Rezegh, the fighter squadrons, in addition to carrying out constant sweeps over the area, were credited with the destruction of well over 20 vehicles on the Acroma - El Adem road. Along the roads west of El Adem, also, several of the fighter squadrons carried out "Rhubarb"<sup>(2)</sup> attacks in pairs of aircraft with considerable success.

No.80 Squadron  
O.R.B.

The record of No.80 Squadron was particularly impressive during the three days under consideration. Sixty-nine effective sorties were flown, including 46 on fighter-bomber

/attacks,

- 
- (1) The pilot in question was a prisoner for only two hours, however, as New Zealanders with Bren Guns stopped the enemy car in which he was being conveyed and the pilot seized the opportunity of jumping out (No.3 Squadron ORB November 25th).  
(2) Code-name for roving ground attack missions.

Availability and Disposition of Forces in No. 85 Group

At the commencement of June, 1944, No. 85 Group consisted of the following squadrons:-

	Type	No. of Squadrons	Aircraft strength		
			U.E.	In Squadrons	Operational
A.E.A.F. Strength and Service-ability Tables.	Spitfire F.	4	64 + 8	77	56
	Tempest F.	2	32 + 4	35	24
	Mosquito N.F.	6	96 + 12	116	92
	Others F.	-	- -	4	2
		12	192 + 24	232	174

The A.O.C. No. 85 Group was given six Day Fighter and six Night Fighter squadrons so that he could organise the defence of the overseas base and lines of communication. In this way, the Air Officer Commanding 2nd T.A.F. need not be distracted by defensive problems in his rear but could devote his whole attention to forward operations with the Army.

No. 85 Group  
Overlord Plan,  
para.14.

The Air Officer Commanding No. 85 Group was not to assume the responsibility of defending the overseas base until the Assault stages of Overlord were completed and the Allied armies had moved forward. Meanwhile, the existing arrangement whereby No. 85 Group aircraft remained under the operational control of Air Officer Commanding No. 11 Group continued undisturbed, with the latter responsible to A.D.G.B. for Night operations, to 2nd T.A.F. for day operations and to H.Q., A.E.A.F. for administration. In practice, units of No. 85 Group continued to regard themselves as belonging to A.D.G.B. especially in view of their operational role which was essentially defensive.

A.E.A.F. Order  
of Battle  
No. 85 Group.  
2.Jun.44.

Three of the Day Fighter squadrons were organised in one Wing (No. 150) consisting of two Tempest squadrons (Nos 3 and 486 R.N.Z.A.F.), and a Spitfire IX squadron (No. 56) about to re-equip with Tempest aircraft. No. 150 Wing was employed in escorting convoys through the Straits of Dover, on shipping reconnaissances and on shipping strikes and was conveniently based at Newchurch A.L.G. (near Romney).

The other three squadrons belonged to three different Wings and as they were employed on the important task of preventing enemy high-flying reconnaissance over southern England they were disposed in a wide semi-circle around London. No. 322 (Dutch) Squadron was based at Hartford Bridge (nr. Farnborough), No. 91 Squadron at West Malling (nr. Biggin Hill) and No. 124 Squadron at Bradwell Bay (Essex coast).

A.E.A.F. Overall  
Air Plan, Part 2,  
para.29.

The Night Fighter squadrons of No. 85 Group were also deployed in No. 11 Group. As their endurance was considerable, there was no pressing reason why they should be stationed near the south coast, as was the case with the Day Fighters. The only exception was No. 604 Squadron. This squadron's role was to protect shipping against low level attacks and was accordingly based near the coast at Hurn (Bournemouth) to be convenient to the assembly and departure area for Cross-Channel convoys.

Night Fighter and Intruder Operations immediately before the Assault

The general scheme of operations leading up to the Assault assigned roles to be played by Mosquito Night Fighter and Intruder aircraft of Nos. 85 and 100 Groups and by Mosquito

JAPEO,  
Appendix E.

Light Bombers of No. 2 Group in addition to those by Night Fighter and Intruders of A.D.G.B. Groups. No. 2 Group Mosquitoes attacked enemy movement in the Tactical Area with flares and bombs. No. 100 Group furnished an outer screen of patrols along lines from the Moselle Valley to the Dutch and Belgian coasts with the intention of intercepting enemy fighters seeking to move from North German airfields towards the battle area. Other aircraft of No. 100 Group flew patrols along lines closely enclosing the Tactical Area itself in co-operation with the Tactical Air Forces.

Ibid.

The task of A.D.G.B. in this scheme was to lend its well tried static organisation to be used for the operational control of all Night Fighter and Intruder type aircraft actually operating en route to and in the Tactical Area. Thus it was responsible for the temporary control of the six Night Fighter squadrons of No. 85 Group and of the 25 Mosquitoes loaned by No. 100 Group which undertook the fighter tasks in the Tactical Area, in addition to the control of its own squadrons.

#### Night Fighter Operations

Ibid.

The A.D.G.B. Night Fighter squadrons were employed primarily in the defence of the U.K. and its surrounding waters within the coverage<sup>(1)</sup> of the G.C.I. and other Static Radar Control stations. This included the protection of shipping along the first stage of the Main Shipping Route to the Assault Area after which the responsibility was taken over by squadrons of No. 85 Group. The A.D.G.B. Intruder Squadrons and a small number of aircraft from the Night Fighter squadrons of Nos. 10 and 12 Groups were, as usual, employed offensively.

The total effort of the nine A.D.G.B. Night Fighter squadrons was only 70 sorties during the whole night of D minus one to D-day though the maximum number of aircraft in all the squadrons was brought to readiness. No enemy aircraft crossed the Channel and in consequence an unexpectedly small number of night fighters were called upon to operate. Night fighter defensive patrols amounted to 59 uneventful sorties and eleven aircraft from these squadrons went on offensive operations. The remaining aircraft were held in reserve on the ground against the possibility of an attack developing against the assault task forces or their bases.

See Chap. 10,  
above.

Soon after 0100 hours on the morning of 6 June, about eighteen enemy aircraft were observed to be active in the Beauvais-Amiens area and a few Mosquitoes were scrambled by No. 11 Group as a precautionary measure. It transpired that these were enemy fighters which had been put up in response to our bomber, airborne and diversionary operations. It will be recollected that the latter were directed mainly against the Pas de Calais and the regions North of the Seine estuary where the enemy was known to be most sensitive. The enemy also re-acted to some extent against Bomber Command aircraft attacking coastal batteries in Calvados and the Cotentin.

J.A.P.E.O.  
Appendix E.

The main role of the Night Fighter squadrons of No. 85 Group in the Assault plan was the air defence of all forces afloat (and later, ashore) beyond the G.C.I. coverage of home stations. The remaining one-third of the effort available i.e., effort remaining after this commitment had been covered, was devoted to assisting with offensive tasks.

It was considered impracticable and unwise to attempt to

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(1) Approximately 40 miles from the coastline.

defend the Assault Forces by means of Night Fighter patrols operating immediately overhead for two good reasons. In the first place it would have been almost impossible to provide sufficient facilities for the forward control of large numbers of Night Fighter aircraft at such an early stage of the operation. Time was required to set up the elaborate equipment required. And secondly it was realised that there would be such vast numbers and so many different types of Allied aircraft over and around the Assault Area that it would be much better to attempt to intercept enemy aircraft outside the whirlpool. For these reasons Night Fighters patrolled on the flanks and ahead of the Assault Task Forces.

Ibid,  
Paras.5 and 27.

Two 'Night Fighter Pools' were set up on the night of 5 - 6 June, one north of Havre and the other east of Barflleur, where aircraft patrolled on a 'Cab-rank' until called upon by the Radar Control stations. Each Pool required eighteen single aircraft patrols between 2320 hours on the 5th up to 0430 hours on the 6th and both were maintained entirely by No. 85 Group.

Ibid,  
Annex A.

Ibid, Appendix E  
paras.15-21

Inland of the Assault Area a series of patrol lines ran from Jersey through Lessay, Vire, Argentan, Bornay, Pavilly and thence to the Channel. Aircraft of No. 85 Group assisted No. 100 Group Mosquitoes to maintain these patrols in the proportion of five Mosquitoes of No. 85 Group to eleven of No. 100 Group.

Ibid, para.34.

Like A.D.G.B., No. 85 Group squadrons were at a high state of serviceability and readiness but a large scale of effort was not called for by the situation. The six Night Fighter squadrons put up 60 sorties of which 39 were defensive patrols. The convoys were unmolested and although a number of enemy aircraft made attacks on Bomber Command Lancasters and Halifaxes operating against Coastal Batteries before the Assault, none of these were encountered by the free-lance Mosquitoes or the standing patrols from the Pools.

#### Night Intruder Operations

See Chaps.8,  
9 and 10.

The two A.D.G.B. Intruder Squadrons (Nos. 418 and 605) and eleven suitably equipped aircraft from A.D.G.B. Night Fighter squadron augmented by fourteen Intruders from No. 100 Group and 21 from No. 85 Group all carried out a programme of offensive operations under the orders of the Intruder Controller, A.D.G.B. The objects of this programme were varied but for the most part operations were planned to support the British and American Airborne assaults and the R.A.F. Bomber Command attacks in the same areas. Most of the operations were directed against German Air Force airfields using the normal Intruder technique. Very few enemy aircraft were seen and only two - an Me. 410 south east of Evreux and an Me. 110 in Holland - were claimed destroyed by A.D.G.B. aircrews. Several airfields, such as Morlaix, Lannion, Rennes, Kerlin Bastard, Vannes, St Andre, Laon, Verlo and Florennes, were visited, and those seen to be active were bombed by the Intruders, which also bombed such targets as trains, railway junctions, road convoys and bridges. Considering the scope of the Allied operations, the scale of the enemy reaction as well as its location, gave every hope that complete success would be achieved by the initial assault.

Eight Intruders were sent on a special and highly dangerous ground attack mission designed to support the airborne and heavy bomber operations in the Ste. Mère Église and Ranville areas. Their task was to fly low over the Dropping and Landing Zones and thus induce the light flak and searchlights to disclose their positions and then to attack these defences with bombs and guns. In fact few searchlights exposed their beams but many light flak positions were bombed and strafed, apparently with some success.

The total Intruder and Night Fighter effort devoted by A.D.G.B. and Nos. 85 and 100 Groups to these tasks was 83 sorties of which 47 sorties were by aircraft of A.D.G.B. and 21 by aircraft of No. 85 Group. Two A.D.G.B. Mosquitoes taking part in the Intruder programme were lost, while our forces claimed one M.E. 110 and one M.E. 410 destroyed with a J.U. 88 probably destroyed.

#### D-Day Operations by A.D.G.B. and No. 85 Group

##### Low Cover in the Assault Area

See Chapter 11

Day Fighters of A.D.G.B. destined to give Low Cover to the Naval Task Forces in the Bay of the Seine, were the first day flying R.A.F. aircraft to be airborne on D-Day. In describing how fighter cover was provided for the sea and ground forces in the Assault Area from 0430 to 2330 hours on D-Day it was stated that 2nd T.A.F. Day Fighters were assisted by squadrons loaned by A.D.G.B. all under the control of a single Combined Control Centre. This was necessary in view of the fact that Nos. 83 and 84 Groups had insufficient resources to provide a scale of six squadrons on continuous Low Cover patrol from first to last light. It might be added that although the fighter resources of 2nd T.A.F. and A.D.G.B. had to be pooled to provide six squadrons for Low Cover no such assistance was necessary to assist the IXth Air Force to provide three squadrons for High Cover.

J.A.P.E.O.  
Appendix 'D'  
pages 3-5.

The normal manner of carrying out the Low Cover patrols was for two wings (of three squadrons each) to proceed to the British and American Assault Areas and then break into squadrons which would patrol in loose fours under the appropriate Fighter Direction Tender. One squadron would provide cover on the extreme flank and the others would patrol over the beaches.

This plan was followed by all except the first patrol which was flown by three separate squadrons from Horne (130), Deanland (611) and Friston (501) all Spitfire V (LF) (LR) squadrons of A.D.G.B. At 0342 hours D.B.S.T. on 6 June No. 130 Squadron took off on the first of many uneventful beachhead patrols. At that early hour it was too dark for dayfighter aircraft to operate effectively as wings and in consequence the first Low Cover patrol consisted of three separate squadrons rather than six. In any case the Naval Task Forces had not completed their fanning out movement from the exit of the Main Shipping Route to their Lowering Positions so that the area to be covered was considerably less than it became after 0730 hours when the landings were being made on the beaches.

The first patrol was in position at 0430 hours and was relieved at 0520 hours by six more Spitfire V squadrons from A.D.G.B. After they had done 50 minutes duty, they gave way to Spitfire IX (LF) (LR) aircraft of 2nd T.A.F. but at intervals during the day they took their turn until 2250-2330 hours when Nos. 130, 611 and 501 Squadrons who began the day, and Nos. 64, 402 and 350 Squadrons, also of A.D.G.B. flew the last patrol to land at base after midnight.

Chap. 11.

On D-Day, 363 such sorties were flown by A.D.G.B. Spitfires on loan to 2nd T.A.F. without any incident worthy of note. The remarks made about Assault Area Cover in the chapter on the assault operations of the 2nd T.A.F. apply also to the operations of A.D.G.B. aircraft. Some squadrons did three sorties, others four; hardly an enemy aircraft was seen until late in the afternoon and even then there were no attacks on the scale that was expected. A.D.G.B. Low Cover patrols met no opposition.

Convoy Protection and Defensive Patrols

Next in importance to Low Cover patrols over the beach-head was the provision by A.D.G.B. aircraft of protection for convoys on their way from ports on the east and west coasts to the Main Shipping Route in the Channel. This commitment involved 180 sorties on 6 June, but it should be borne in mind that some of the Neptune convoys had been at sea for several days and that fighter cover on a large scale had been provided over the whole period. On 5 June, for example A.D.G.B., with some slight assistance from No. 85 Group, had put up about 270 sorties to protect convoys. On 4 June, this figure was 250 sorties.

Twenty-eight uneventful defensive patrols were flown by Spitfires, Hurricanes and Seafires under A.D.G.B. and 43 defensive sorties were also flown by the Anti-reconnaissance squadrons of No. 85 Group.

Offensive Patrols and Shipping Strikes

Though the main responsibility of A.D.G.B. was a defensive one, it had one important offensive task. No. 10 Group was allocated seven Spitfire Day Fighter Squadrons, and a flight of Hurricanes so that it should have sufficient resources for its defensive commitments and still leave a margin which could be used for two vital Overlord tasks. Its first task was that of neutralising the important group of airfields in Brittany chief of which were Kerlin-Bastard, Gael and Vannes. Unless effectively dealt with, these airfields could be used with decisive results by the enemy.

A.D.G.B. Op.  
Instr. No. 10A/44

See Chapter 15  
Coastal Command  
Operations in  
Neptune.

The other task was a commitment undertaken by A.D.G.B. on behalf of Coastal Command. This entailed the setting up of a 'Channel Stop' organisation in the Straits of Dover and across the English Channel between Cornwall and Brittany(1). It was designed to prevent shipping passing into the Channel and thus would stop warships and supply vessels from assisting the enemy. The major responsibility for doing this rested upon the Navy and Coastal Command but the responsibility for attacking enemy shipping in the sea area Manston-Ostend-Dieppe-Beachy Head was delegated to A.D.G.B. in consultation with Vice-Admiral Dover and C. in C. Coastal Command. Two Typhoon squadrons of A.D.G.B. were conveniently stationed, No. 137 Squadron at Manston and No. 263 Squadron at Harrowbeer, to operate as a 'Channel Stop' striking force in conjunction with Coastal Command Beaufighter squadrons at these bases, all under the control of the Combined Control Centre. Other squadrons of Nos. 10 and 12 Groups went out on shipping reconnaissance when required and fighter escorts for Coastal Command strikes were also arranged by Nos. 10 and 12 Groups, A.D.G.B.(2)

Beginning soon after dawn and at regular intervals during the day until last light, offensive fighter patrols consisting of eight Spitfires were sent from the Portreath and Exeter Sector to Vannes, Gael and Kerlin-Bastard. Fifty-six such sorties were flown on 6 June. Until the evening they met with little opposition and usually finished by making attacks on trains, road traffic and similar targets in the absence of G.A.F. activity on the airfields. In the evening, two ~~Spitfire~~ Spitfires were shot down by flak and one enemy aircraft was claimed destroyed.

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- (1) This was the primary responsibility of Coastal Command. See A.D.G.B. Op. Instruction 10A/44. Ref. A.D.G.B./T.S.31903 dated 29 May 44.
  - (2) For further information regarding reconnaissance from Dieppe to the Hook of Holland by S.E. Fighters backed up by 'Strike' Beaufighters see File A.E.A.F./T.S.22310 E.35A.

The story regarding enemy shipping in the area is similarly uneventful. Reconnaissance flights were frequently made by Spitfires and Mustangs over both entrances to the Channel (26 sorties) and soon after dawn two sweeps were made by the Typhoon squadrons, one north east of Cap Gris Nez and the other west of Ushant. Nothing was seen. Late in the evening a small vessel of 400 tons at Granville was attacked by eight R/P Typhoons of No. 263 Squadron escorted by eight Spitfires, and left in a crippled condition, but this was all that the 'Channel Stop' had to show for its first day's work (20 Typhoon sorties). The same was true of the few unimportant anti-surface-vessel strikes flown by Coastal Command during the day. The enemy was taken by surprise and no adequate measures were taken by German Naval Forces to attack our convoys. The threat which the enemy might have mounted against the flanks of the invasion during its early stages did not materialise and the anti-shipping measures, like those taken against U-boats and against the G.A.F., proved more than sufficient to meet the situation as it actually developed.

#### Escort to Airborne Troops

See Chap. 8.

On the evening of D-Day, the British Airborne Troops who had established themselves the night before in the area between the Rivers Orne and Dives, were re-inforced by the 6th Air-landing Brigade. The Airlanding Brigade was carried in tug-and-glider combinations arriving in the Landing Zones at about 2100 hours (Operation Mallard). Seven A.D.G.B., Day Fighter squadrons (74 sorties) assisted other Day Fighter squadrons drawn from Nos. 83, 84 and 85 Groups (97 sorties) in providing fighter cover to the operation. As this task involved flying in the battle area the fighter operations were planned and controlled at the Combined Control Centre.

The bulk of the fighters (134) were employed as a close escort to the low-flying (1,200-1,500 ft) tug and glider combinations. Spitfires of A.D.G.B. (61 aircraft) and Nos. 83 (37 aircraft) and 85 Groups (12 aircraft) shared this task with 24 Mustangs of No. 84 Group. Above them, patrolling at 6,000 ft, were thirteen A.D.G.B. Spitfires over the Centre of the main formation, with one 2nd T.A.F. Mustang Squadron over the Van and another over the Rear.

The accounts given of Operation Mallard all speak of tug and glider losses due to flak - often our own - but no mention has been made of enemy fighter attacks. By this time in the evening, several enemy aircraft had put in an appearance over the Beach-head though not in the numbers anticipated. No attacks had been pressed home. The escort to Mallard encountered no real opposition and only the Mustangs sighted enemy aircraft. The Van patrol saw and claimed to have destroyed a F.W. 190 while the Rear patrol were engaging three more F.W. 190's when they were forced to break off because Spitfires attacked the Mustangs.

Apart from trouble due to flak, Mallard was a great success. The escorting aircraft sustained no losses and had all landed by 2225 hours.

#### D-Day Operations by No. 85 Group

The role of the Day Fighter squadrons of No. 85 Group on D-Day being mainly a defensive one was not spectacular. On the other hand, most of the Allied Commanders have acknowledged that the successful completion of its chief task, that of preventing enemy high flying reconnaissance aircraft from penetrating inland in southern and south-eastern England, was a vital factor both in the initial surprise and in the subsequent development of the Cover Plan.

Out of the 105 sorties flown by day fighters, 43 were flown by Spitfires on standing patrols or as scrambles to intercept possible enemy photographic reconnaissance aircraft. Standing patrols went up at regular intervals from Bradwell Bay, West Malling and Hartford Bridge to cover the country from the Solent to the Isle of Thanet and thence across the Thames Estuary. Even now the only feasible explanation for the absence of German reconnaissance during the early part of D-Day is that complete surprise was achieved by Neptune. On the evening of 5 June, two enemy reconnaissance aircraft from Normandy passed over the Channel but did not approach the English Coast. They were thus too early to have observed the fleets out at sea. On the morning of D-Day, an enemy aircraft flying at wave-top height appeared in the Beachy Head/Dungeness area at about 0930 hours and the pilot could hardly fail to have seen a good deal of shipping. This did not assist the enemy but rather confused the issue because he was already nervous about the Pas de Calais area.

The Tempests and Spitfires of No.150 Wing had rather more employment in escorting and reconnaissance tasks. Nine sorties were sent out on shipping reconnaissances along the Dutch, Belgian and French coasts and two aircraft escorted an uneventful Coastal Command strike by Beaufighters. These patrols were flown in accordance with arrangements previously made with Coastal Command and the Navy and not because of any active operations by the enemy. In fact, German light surface craft along this coast, like the G.A.F. were curiously slow to take advantage of the opportunities presented them to attack convoys from the Thames Estuary to the main Cross-Channel route and as a result No.85 Group aircraft on these operations did not see action(1). Six sorties were flown on weather reconnaissance, 23 sorties on convoy escort and twelve Spitfires went out in the evening to assist A.D.G.B. and 2nd T.A.F. aircraft which were escorting the gliders used in Operation Mallard. A Tempest squadron was sent on an offensive sweep over the Pas de Calais but met with no opposition.

#### Operations by Air/Sea Rescue Squadrons

The operations carried out by the four composite Air/Sea Rescue (A/S.R.) squadrons of A.D.G.B. should not be studied apart from the operations of the High Speed Launch (H.S.L.) rescue crews and the ground and shore organisation with which they are associated.(2) At the beginning of June 1944, the existing Air/Sea Rescue organisation in the south of England included squadrons belonging to A.D.G.B. and Coastal Command all working in close co-operation with R.A.F. marine crews and the Royal Navy. By this time the organisation was well versed in its special technique and had been concentrated on the Channel area in preparation for Overlord. The four Air/Sea Rescue squadrons in A.D.G.B. were based on the south coast, Nos.275, 277 and 278 Squadrons in No.11 Group and No.276 Squadron in No.10 Group.

File C.C./T.S.  
15322/ops. G  
Encl. dated  
13 May 1944.

See Chap.8.

A.D.G.B. Order  
of Battle above.

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- (1) The only recorded attack on these rather vulnerable convoys on D-Day occurred in the case of a single JU.88 which was being chased by a Spitfire escorting a convoy off Dover and which jettisoned a bomb, hitting a ship (0900 hours).
  - (2) A.H.B. Monograph, Air/Sea Rescue, Chapter 6 (A.P.3232).

J.A.P.E.O.  
Appendix 'H'

An Air/Sea Rescue Staff Officer was established at the Combined Control Centre to co-ordinate all distress calls (Maydays) so as to ensure that each search would cover as many ditchings as possible. Two H.S.L's were also attached to each fighter direction tender to cover the French side of the Channel more effectively. All six of these launches carried Very High Frequency radio sets so that they could work with the A/S.R. aircraft.

By midnight on 5/6 June, the surface craft had taken up their positions out to sea and before dawn the first A/S.R. Spitfires were on patrol. The whole Assault Area was systematically covered as the long processions of combat aircraft passed to and fro on their operational missions.

It is not possible to say with accuracy how many aircraft force landed or crashed into the sea during these operations, since many of the missing aircraft were certainly lost over land. It is quite certain, however, that few airmen lost their lives in the sea in circumstances where they might have been rescued. With the considerable density of shipping in the area and of aircraft passing over it, few if any aircraft ditched without being seen and their crews being rescued.

The A.D.G.B. Air/Sea Rescue squadrons flew 76 sorties, many of them on unrewarded searches or patrols. Most of these (63 sorties) were by Spitfires. Sixty aircrew and 44 soldiers and sailors were picked up by the Air/Sea Rescue organisation on D-Day. (1)

#### Operations - Night of 6/7 June, 1944

The Combined Control Centre plan (JAPEO) had calculated that three fighter direction tenders (F.D.T.) and two Ground Control Interception (G.C.I.) Stations would be in operation in their appointed places by dusk on D-Day. One F.D.T. was to be out in the main shipping route, another off the American beaches and the 'co-ordinating' F.D.T. off the British beaches. A G.C.I. Station was to have been sited near Bayeux and another near Isigny to take over the control of No.85 Group Night Fighters.

The F.D.T.'s were in position on time and No.15083 G.C.I. was duly landed with the assault and set up near Arronanches. No.15082 G.C.I. destined for the U.S. Sector, however, met with disaster in the Baie de la Seine and in consequence the plan for the control of night fighters immediately after the assault did not fall out exactly as arranged. With the Assault Forces safely ashore on D-Day and the consequent extension of the area that had to be defended, came a sharper division between the functions of No.85 Group and the parent A.D.G.B. Command than had been possible before the Expeditionary Forces had left the country. For the first time, the aircraft of No.85 Group were able to specialise on their primary role of defending the Normandy bases and the invasion shipping while those of A.D.G.B. continued to discharge their existing responsibilities.

The tasks to be performed by No.85 Group Night Fighter squadrons were as follows:-

- (a) Maintaining a schedule of patrols over the Assault Area ensuring at least twelve aircraft in position at all times during the hours of darkness. This required 36 Mosquitoes.
- (b) Maintaining two similar patrols to protect the main shipping route against low flying attacks. This required eight aircraft.

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(1) A.H.B. Monograph, Air/Sea Rescue, page 96 (A.P.3232).

## (C) Supplying six aircraft for Intruder Operations.

Arrangements for the third of the above tasks continued to be carried out by the Chief Intruder Controller, A.D.G.B. while operations covering the second task, carried out by No. 604 Squadron which had special equipment and trained personnel, were carried out under the control of low 'seeing' Coastal Radar stations as on the previous night.

See Map No. 13

Aircraft for the chief commitment of maintaining continuous standing patrols over the shipping and beaches in the Bay of the Seine flew from their bases in England to one of the two Night Fighter Pools on the French side of the Channel where they waited until allocated to a F.D.T. or to No. 15083 G.C.I. station. Allocation was done by the Co-ordinating F.D.T. (No. 217) which also arranged for surplus aircraft to fly on free lance patrol along the Night Fighter Patrol Lines covering entrance into the Assault Area from the rest of France. Mosquitoes flying from the more easterly airfields in England went to Pool No. 1 (north of Havre) and those from westerly bases to Pool No. 2 (north-east of Barfleur).

When the Night Fighters came to readiness in the evening of D-day, there was a feeling that as the enemy had had a whole day to sum up the situation, the arrival of darkness might well be the signal for the long delayed air counter-offensive. The enemy would never have more opportunities. There were plenty of attractive targets, shipping in the anchorages, in the swept channels, in coastwise convoys and in harbour; there were troops and equipment on the beaches; there were invasion targets of all kinds in the U.K. As the air defences of the beach-head, the anchorages and shipping could hardly have been as well organised as those of the shore based installations in England it was generally expected that the G.A.F. would attack the former rather than the latter.

In spite of the failure of one of the G.C.I. stations, and of indifferent weather for night fighter operations, the night was a busy one. A.D.G.B. aircraft flew 91 sorties and No. 85 Group flew 54 making a total of 145 sorties during the six hours of darkness. About a quarter of these were on various offensive missions and the remainder were defensive patrols. Two-thirds of the A.D.G.B. effort was expended on defensive patrols most of which were in No. 11 Group Area (53 out of 65 aircraft) and therefore were confined mainly to the south of England. In the circumstances, as the enemy did not send aircraft across the Channel, all the defensive patrols over the U.K. were uneventful.

Operations over the Baie de Seine were of greater interest. Although the G.A.F. did not operate in great strength yet a varied and determined attack was made by about 70 aircraft carrying mines, torpedoes and bombs directed against the beaches and shipping. At least one Landing Ship (Tanks) was sunk by an aerial torpedo attack and a Mine Sweeper and a Hospital Ship were mined.

Early in the night, a considerable movement of enemy night fighters was observed in the general area of Holland, Belgium and Northern France but this had died down before a second phase of activity developed, this time in connection with a series of long range bomber attacks upon the beach-head area. J.U. 88's carrying torpedoes and He. 177's with dirigible bombs are known to have taken part but plotting was rather confused partly because of the inherent difficulties of the situation - large numbers of our own bombers were operating in this part of France - and partly because the organisation had not had sufficient time to become properly established. A major difficulty was also the low levels at which the enemy were operating.

It is difficult to check Allied claims because German records, if they exist, are still not available, but twelve enemy aircraft were claimed by A.D.G.B. and No. 85 Group. No. 456 Squadron put up eight Mosquitoes to deal with enemy aircraft operating over the shipping North East of Cherbourg and claimed to have shot down four Heinkel 177 aircraft. These were carrying dirigible bombs.

The Intruder squadrons had their greatest success against Junkers 52 aircraft which were being employed in bringing up supplies under cover of darkness. No. 418 Squadron claimed four of these and No. 29 Squadron one. Two and possibly three Ju. 88's were also destroyed and several other aircraft severely damaged, according to A.E.A.F. and squadron records.

A.D.G.B.  
Fortnightly  
Review.  
1-16 June, 1944.

It was estimated that about 175 enemy long range bombers were airborne during the night although only about 40 of them succeeded in locating and attacking the target area. Our own effort consisted of about 31 offensive and 114 defensive patrols, nearly all the offensive patrols being flown by the A.D.G.B. Intruder Squadrons (No. 418 Squadron 15 sorties; No. ~~85~~ Squadron 10 sorties). Only one Mosquito was lost.

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#### Day Operations - 7 June

In very difficult conditions of much low cloud and occasional rain, the first aircraft left A.D.G.B. bases at first light on their second day of operations in support of the Forces of Liberation. The increasing scope of enemy night attacks and the knowledge that the G.A.F. had had time to move up their first re-inforcements led to the belief that the main air battle, if not the main land onslaught, could hardly be delayed much longer. There was no question therefore of reducing the effort devoted to covering the beachhead which A.D.G.B. was providing to assist 2nd T.A.F.

All that happened in the air over the beachhead was, however, in the nature of an anti-climax. Two minor attacks by formations of Ju. 88's in the morning and a third at lunchtime by F.W. 190 fighter-bombers, were all that the Assault Area Cover had to meet. 2nd T.A.F. forces overwhelmed the first and drove off the others without much trouble<sup>(1)</sup>. All the 290 sorties flown by aircraft of A.D.G.B. to augment the resources of 2nd T.A.F. employed on this commitment were completely uneventful except that one Squadron saw and engaged three Me. 109's without success.

So far as defensive patrols on the English side of the Channel were concerned, slightly more effort was employed than in the previous 24 hours but the increase was more than accounted for by the extra night (and early morning) activity. During the hours of daylight there was a little reconnaissance activity by the enemy over the Straits but not sufficient to require any strengthening of our anti-reconnaissance patrols, and there was a complete absence of any other form of threat during the daytime. Air Intelligence calculated that the enemy flew about 320 sorties during the day, 250 of which were flown by single engine fighters 50 single-engine fighter-bombers and 20 twin-engine bombers (Ju. 88). The two latter categories were directed mainly against the lodgement area while the fighters were operated as escorts to armoured and other transport convoys to the rear of the battle area. No threat developed against United Kingdom bases.

A.D.G.B. Groups (including No. 85 Group) flew 184 sorties on defensive patrols about a half of which were in the No. 11 Group area. Only 70 of these were flown by the Day Fighters, the bulk of them by No. 85 Group. The only enemy aircraft

(1) See Chapter 11 for Assault Area Cover - operations by 2nd T.A.F. Squadrons on 7 June.

known to have crossed our coast was a Me. 109 which was reported over Margate at a height of from 3,000 to 4,000 feet without having been plotted. This aircraft was not intercepted but its pilot was heard to report that he had shot down a Spitfire off Berck (near Boulogne) at 1753 hours. After this excitement there were several Tempest patrols in the Dungeness-Beachy Head and Straits of Dover areas but no more enemy aircraft appeared.

Much more important from the point of view of the air effort involved, were the offensive and anti-shipping operations undertaken by A.D.G.B. squadrons. The objects of these operations remained constant after the lodgement had been effected on the Continent depending for its maintenance as it did upon its immunity from sea and air attacks. A.D.G.B. squadrons were employed, in collaboration with Coastal Command and the Allied Navies, to hold the ring against interference by the G.A.F. and the German Navy.

No. 10 Group Spitfire squadrons were employed primarily to prevent the enemy making use of the airfields of Brittany. A secondary role of the Spitfires was to operate against transportation installations, vehicles, troops or any targets of opportunity. They were also used for reconnaissance, especially shipping reconnaissance.

The Tempests and Spitfire IX's of No. 85 Group were employed in similar fashion in the Pas de Calais and Seine estuary areas. Both No. 85 Group and No. 12 Group undertook anti-shipping duties, the former in the area from Ostend to Dieppe (in conjunction with No. 11 Group) and No. 12 Group along the Belgian and Dutch coastline around the mouths of the Rhine. Normally these operations, both reconnaissances and strikes, were undertaken in close co-operation with Coastal Command.

Fifteen fighter sweeps of the Rodeo and Rubarb type<sup>(1)</sup> directed against the G.A.F. and its airfields and against transportation targets such as locomotives, trains and rolling stock, motor transport and movement, bridges, railway crossings and tracks, were made by forces of A.D.G.B. in the course of the day. Ten of these were made by aircraft of No. 10 Group, four by the Lympne and Detling Wings of No. 11 Group, and one by Spitfires of No. 85 Group.

Rubarb 272, 273  
and 274.  
Rodeos 158, 161,  
162, 165 and 163

In Brittany, the vital airfields of Vannes, Gael and Kerlin Bastard were visited from time to time during the day. Less important ones were also inspected. The first aircraft on these operations took off at 0523 hours. Operating in formations of eight or four aircraft, the Spitfires claimed a formidable total of destruction to locomotives, trains, trucks, cars, lorries etc., but saw practically nothing of the German Air Force.

Fighter Sweep  
A17, A48, A55,  
A57 and A62.

The other five sweeps were all in the Rouen, Evreux, Bernay and Caen areas and were intended mainly to hinder enemy movement on the ground. Despite the fact that there was much activity in this area especially at the time these sweeps took place - in the evening - they had very little to report. The G.A.F. did not appear to be willing to risk combat.

Anti-shipping reconnaissance and strikes accounted for 56 sorties by Nos. 10, 11, 12 and 85 Groups. Most of this work

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(1) Full information about Rodeo and Rubarb operations may be found in the appendices to Group O.R.B.'s of A.D.G.B.

was done by the Typhoons (No. 263 Squadron) of No. 10 Group and escorting Spitfires.

Roadstead 126. A dawn reconnaissance by Spitfires discovered several small vessels at St. Malo and St. Peter Port on the morning of 7 June, with the result that two anti-shipping operations were arranged. Eight Typhoons with a similar escort of Spitfires were sent to St. Malo and dive-bombed a merchant vessel of about 1,500 tons but only claimed a number of near misses. Shipping at St. Peter Port was attacked by another formation of eight Typhoons escorted by eight Spitfires but bad weather prevented good observation. It was believed that ships by the quay and North Mole were hit.

Roadstead 128. About midday two Spitfire pilots flew over these harbours on a shipping reconnaissance but the weather was still too bad to enable them to see the results of these attacks. They did, however, see about 20 small ships at Granville. Another reconnaissance by eight Typhoons and eight Spitfires to the Brest area at midday found nothing. A further mission was sent to Sark on information from No. 11 Group but as nothing was to be seen there, the eight Typhoons and their Spitfire escort proceeded to St. Malo and bombed two small ships of about 1,000 tons. Concluding at 1800 hours, this was the last anti-shipping operation of the day by No. 10 Group.

Roadstead 129. Ten Typhoons of No. 11 Group were airborne at 0526 hours to attack enemy shipping reported near Dieppe but unsuitable weather conditions forced them to return and land in 20 minutes time. No. 85 Group did no shipping reconnaissances or strikes during the day but No. 12 Group, operating at the request of No. 16 Group, Coastal Command, did three Jim Crow missions to the Hook of Holland and Terschelling. The first, a dawn patrol of four Spitfires, reported six Motor Torpedo Boats (M.T.B.'s) off Terschelling. A similar patrol in the afternoon reported eight merchant vessels and a possible warship in convoy near Den Helder and this convoy was again seen in the same area at 2112-2250 hours. No enemy vessels suitable as targets for No. 137 Squadron (Typhoons) were seen and no enemy naval forces were discovered attempting to enter the battle area.

Although there was nothing spectacular about it, considerable effort continued to be expended by A.D.G.B. on routine convoy protection and other patrols of a defensive and precautionary nature, Air/Sea Rescue work, Naval spotting etc. But with the safe arrival of the airborne forces and of the great assault fleets came a fall in the demand for escorting aircraft and thus on the second day of Neptune more effort could be devoted to offensive operations. In consequence though the number of sorties for the night of 6/7 June and the day following was rather lower (1190 sorties) than for the 24 hours of D-Day the decline was less than might have been expected.

The following tables summarise the effort of A.D.G.B. and No. 85 Group during the first 24 hours of Overlord:-

Night Operational Sorties - D-minus one to D Day

	A.D.G.B.	No. 85 Group	Total
Defensive Patrols and Scrambles	59	39	98
Intruder and Offensive Operations.	47	21	68
	106	60	166

## D Day Operational Sorties

	A.D.G.B.	No. 85 Group	Total
Low Cover Patrols	363	-	363
Convoy Patrols	180	23	203
Spotting Patrols	152	-	152
Airborne Escort	74	12	86
Air/Sea Rescue	76	-	76
Defensive Patrols	28	43	71
Offensive Sweeps	56	10	66
Shipping Recce and Strikes	46	11	57
Weather Recce	-	6	6
	975	105	1080

## Night Operations, 7/8 June

Once again Night Fighter and Intruder effort was considerable, A.D.G.B. putting up 105 sorties and No. 85 Group 57 sorties. About three-quarters of these were for defensive patrols over 50 of which were in the Cherbourg and Baie de la Seine area. The two Intruder squadrons flew 30 sorties which must be regarded as a high rate of effort. A.D.G.B. claimed to have destroyed twelve enemy aircraft during the night's operations and two of our aircraft, both Intruders, were lost.

A.D.G.B.  
Fortnightly  
Review  
1-16 June, 1944.

A.E.A.F. Int-Ops  
Summary No.  
136, Section B.  
Para.3.

The enemy operated against the beachhead in the same fashion and in approximately the same strength as on the night before, i.e. with about 175 Long Range Bombers and they were again singularly ineffective considering their numbers. It was estimated that about 130 enemy aircraft operated over and around the Cherbourg Peninsula between 0100 hours and 0147 hours. Fighter-bombers were also airborne over the beachhead but there is no reliable information as to their numbers. By no means all these bombers located targets but a larger proportion did so than the night before. Many bombs and mines were dropped and appreciable damage was done, especially to landing craft. Enemy night fighters were active, mainly in the Paris area where R.A.F. Heavy Bombers were carrying out a programme of attacks.

There was some enemy activity over this country for the first time for several days, but this was limited to about a dozen aircraft. Three of these were plotted, probably on reconnaissance, over the Thames Estuary and Orfordness around midnight but none of them was intercepted. The other aircraft came in as Intruders and succeeded in shooting down three Liberators of the U.S. VIIIth Air Force in Norfolk and Suffolk. To counter this threat 28 Night Fighters were scrambled by Nos. 11 and 12 Groups and claims were made that three enemy aircraft were destroyed, a Me. 410 and a Ju. 88 off Harwich by No. 219 Squadron and an unidentified enemy aircraft off Happisburgh by No. 25 Squadron.

With the improved working of No. 24 Sector the first Echelon and G.C.1. of which were set up near Arromanches on D-Day, the defence of the beachhead was less difficult in spite of low raids and identification troubles. Over the beachhead itself and over the sea lanes and anchorages several more successes were claimed at the expense of enemy raiders. No. 456 Squadron's claim to have shot down three He. 177's and that of No. 604 Squadron to have destroyed a Me. 410 were all accepted.

The Intruders, repeating the tactics of the previous night

also claimed many victories over enemy aircraft. They systematically patrolled airfields in Northern France, Belgium and Holland, attacking when flare paths were lit up or when aircraft were seen. Thus enemy night fighter, bomber and training activity was greatly restricted. The value of these Intruder operations as support to our own Night Bomber aircraft was of course a primary consideration when sorties were planned for each night. No. 29 Squadron Intruders claimed to have destroyed three and damaged another three aircraft at Dreux, St. Andre, Coulommiers, and Bretigny but lost one Mosquito.

No. 11 Group  
O.R.B. June 1944.  
Appendix H

On missions where no enemy aircraft or signs of flying activity were seen, trains, bridges and similar targets were attacked. In the course of the night 40 Intruder Missions were flown, sixteen of which were by No. 605 Squadron and fourteen by No. 418 Squadron. No. 29 Squadron despatched four Intruders and Nos. 25, 151 and 307 Squadrons two aircraft each.

#### Day Operations - 8 June

Weather during the day began by being fair in Southern England, but rain and much low cloud spread in from the west during the afternoon. Visibility was good during the fair period but after mid-day it became poor and thus conditions severely restricted operations except for short intervals. Weather was completely non-operational in many areas during the evening. Unfortunately, the weather over France was rather better than it was over here and this favoured the operations of the G.A.F.

#### Operations in Assault Area

There was no enemy air activity over Britain during daylight but over the battle area there was much more activity than had been met so far. Most of this was well inland in the areas Laval, Le Mans, Flers, Romilly, Argentan, Dreux, Rouen and Paris. It was, in fact, predominantly defensive in character. Despite this there were a few attempts at hindering Allied military operations by dive-bombing and strafing.

There were no attacks by Long Range Bombers on Allied forces in the beachhead. This was attributed to the crushing defeat of the small force of Long Range Bombers used for this purpose the day before. After that failure this dangerous task was given to fighter bombers usually in very small formations and often escorted by fighters. The largest formation seen by A.D.G.B. pilots on 8 June was one of about eighteen Me. 109s seen by Nos 130 and 402 Squadrons between 0500 and 0600 hours.

Although the enemy did not employ large forces and did not risk his Long Range Bombers by day, it was now quite evident from the amount of activity that his strength in north west France had been augmented<sup>(1)</sup>: however the access of strength was not fully felt because the enemy hesitated to offer battle except in the most favourable circumstances or where his air forces were covering movements of ground forces to which he attached great importance. About 550 sorties are thought to have been flown by the enemy during the daylight, 400 of which were by single-engine fighters and the remainder by fighter-bombers and other short range bombers. The evidence of this activity came mainly from 'Y' sources because only a small

German document  
A.H.B.6.  
111/32.  
Pt.2.  
A.D.G.B.  
Fortnightly  
Review  
1-16 June 1944.

(1) For confirmation of this from German sources see a "Report on Air Operations over the Invasion Front in June, 1944 written on 27/Aug/44 by the German Air Historical Branch. (A.H.B. Translation VII/32).

proportion of the German Fighters were committed in the area where they were almost certain to meet Allied fighters in strength. Instead of being used offensively, the bulk of the German fighters were used to protect the movement and assembly of armour and of reinforcements and supplies generally. The low level attacks made on Allied forward positions especially in the Caen area, never reached serious proportions, while the number of fighters used to escort other German aircraft was never very large at this period.

No. 11 Group.  
O.R.B. June 44.

Apart from the sighting of eighteen Me. 109's over the Western Assault Area, there were two reports of A.D.G.B. forces sighting and engaging G.A.F. formations on 8 June. At about 0600 hours, six Me. 109s were seen and engaged by No. 501 Squadron at Cabourg while the Spitfires were on Low Cover Patrol and as a result the latter claimed to have shot down one Me. 109, probably destroyed another and damaged a third. During the lunch-hour the two Tempest Squadrons of No. 85 Group made a sweep over the Argentan - Bernay area and met five Me. 109s near Rouen. A Tempest was damaged and had to make a forced landing but three Me.s were claimed by the Tempests.

O.R.Bs of  
Nos. 3 and 486  
Squadrons  
June 44.

#### Operations in Brittany

Like the squadrons under the Combined Control Centre, those under No. 10 Group were also very active while the better weather lasted though the onset of the unfavourable front late in the day also caused operations to be suspended from West Country bases.

Rodeo 165

Rodeo 166

Continuing the policy of preventing the G.A.F. making full use of airfields convenient to Normandy and at the same time of 'interdicting' movement by road and rail, further offensive sweeps (Rodeos) were carried out by aircraft of No. 10 Group. Four sweeps by formations of eight Spitfires flew over the Brittany area between the hours of 0525 and 1340. Targets attacked included locomotives, railway waggons, lorries and a radio station. A further Rodeo was begun at 1430 hours when seven Spitfires on the first sweep over Brittany attacked a motor transport convoy which included two tanks near Pontivy. On the return of this formation, bad weather caused further operations to be cancelled. Nothing had been seen of the German Air Force despite the fact that Morlaix, Kerlin Bastard, Vannes and other important airfields had been swept.

#### Anti-Shipping operations

A considerable number of shipping reconnaissance and strike missions were flown by A.D.G.B. squadrons during the morning and early afternoon. To economise in air effort, most of these tasks were carried out by section of only two or four aircraft.

No. 10 Group despatched four missions to the coastal waters and small ports of Brittany, two missions being at dawn and two at noon. As a result of the latter, seven Typhoons of No. 263 Squadron were sent on a strike to St. Malo and damaged a merchant vessel of about 1,000 tons.

No. 11 Group  
O.R.B.

No. 11 Group sent Typhoons of No. 137 Squadron on five missions to search the coastline from Boulogne to Dieppe between 0700 hours and 1100 hours after having received reports of enemy light surface craft out in the Channel. The second mission spotted E/R boats off Le Treport at about 0800 hours and claimed to have damaged two of them. A further section of Typhoons which went out immediately afterwards claimed to have damaged one E/R boat near Dieppe. Aircraft searching the area later saw nothing and it was concluded that the enemy had retired to port.

No. 12 Group Mustangs (four aircraft of No. 316 Squadron) flew one Jim Crow operation and reported seeing several small craft in the Den Helder - Terschelling area as well as four unidentified German aircraft. No. 85 Group also sent out nine sorties on shipping reconnaissance in the Channel without significant results.

#### Other Operations

The remainder of the operational sorties flown by A.D.G.B. aircraft consisted almost entirely of routine patrols such as convoy protection, Air/Sea Rescue and defensive missions which do not call for much comment. Defensive patrols, in particular those flown by No. 85 Group to frustrate enemy reconnaissance, remained at a very high level of effort considering the absence of any threat. This was due to the fact that it was essential, for the purposes of the Cover Plan, that the German High Command should continue to believe that we were contemplating further operations in the Pas de Calais area. A.D.G.B. was therefore to give the impression that the Allies were especially sensitive about reconnaissance in south-east England and accordingly maintained what might be regarded as unnecessary fighter strength in the area. It might be added, too, that Intelligence had shown that the Diver threat might materialise at any moment and thus a constant watch had to be maintained.

#### Summary

The number of sorties flown by aircraft of A.D.G.B. (and No. 85 Group) on each of the first three days (24 hour periods) of Overlord are shown in the table below:-

Operational Sorties by A.D.G.B. (and No. 85 Group) during the first three days of the Assault  
(from Last Light on 5 June to Last Light on 8 June.)

Missions	D-Day	7 June	8 June
(1) Beachhead Low Cover	363	290	257
(2) Defensive Patrols	169	184	219
(3) Offensive Patrols	134	280	209
(4) Convoy Patrols	203	146	84
(5) A/S.R. Patrols	76	90	52
(6) Naval Spotting	152	118	96
(7) Shipping Recce and Shipping Strikes	57	56	47
(8) Escort to other Aircraft	86	24	61
(9) Weather Recce	6	2	-
Total all Missions	1246	1190	1025

The table is intended to indicate the proportion of effort that was devoted by the Command to the various tasks it undertook. It should be noticed that day and night operations are included in the totals. At the time of the year when Neptune was launched (i.e. June) the days were so long and the operation of Double British Summer Time was such that very few night

sorties could be concluded before midnight. In addition to this, since the night flying aircraft, airborne on the night of 5/6 June, were in a real sense taking part in the Assault, night sorties flown on that night have been regarded as D-Day sorties. The same principle has been adopted with regard to operations on the succeeding days: all sorties flown during the night and the early hours of the morning have been added to those flown during the rest of the day in calculating the aggregate of sorties for one 24 hour period.

When D-Day operations commenced, A.D.G.B. and No. 85 Group had 975 aircraft serviceable and during the first 24 hours of Overlord i.e. from last light on 5 June to last light on 6 June 1246 operational sorties were flown. There was hardly a moment after the Assault Task Forces had put out from port, that aircraft of A.D.G.B. were not airborne and although most of its effort was expended on defensive and escort duties, yet there was an immense variety, in the kind of operations undertaken.

It had been expected that all pilots and aircraft might be required to do three or even four sorties on the first day though this could not be maintained for long. As it happened, such effort was not called for and the only squadrons operating at that rate even on the first day were the two Spitfire Fighter/Reconnaissance Squadrons which between them did 152 sorties on spotting for the Bombardment ships on D-Day.

The general impression remaining at H.Q. A.D.G.B. after the first few days of operations was that Neptune had gone uncommonly well. No one had dared to hope that the resistance of the enemy would have been so ineffective or that his surprise would have been so complete. In fact it was still believed that the Germans were deliberately waiting for a favourable opportunity to counter-attack and that when that opportunity came, they would act with their customary vigour. Stiff fighting in the air was expected to begin at any time. The policy at A.D.G.B. as at the Combined Control Centre was therefore to make no new dispositions until it was safe to do so and although there was some surprise at the light cost with which our success had been won, there was a general tendency on the part of responsible officers to wait before premature self-congratulation.

## CHAPTER 13

U.S. IXTH AIR FORCE OPERATIONS IN SUPPORT OF THE LANDINGS  
IN NORMANDYOrganisation and Forces Available

The IXth Air Force had been set up by the Americans as a self-contained and mobile tactical air force capable of going through the north west European campaign as the U.S. component of the Allied Expeditionary Air Force and co-operating as an equal partner with the U.S. Army Corps. During the first stages of the campaign when the American and British Armies were under the command of General Montgomery at that time Commander in Chief Land Forces, the U.S. and British Tactical Air Forces also operated under one command, viz, that of Air Marshal Coningham who had been appointed Commander, Advanced A.E.A.F.

At a later stage, after the Allies had broken out of the lodgement area, the diverging ground forces separated into regional Army Groups responsible directly to the Supreme Commander. The unified command of the Tactical Air Forces was accordingly dissolved and each T.A.F. co-operated with its own national Armies, *but remaining, of course, under the command of the Air C-in-C, A.E.A.F.*

On D-Day the IXth Air Force consisted of eight functional Commands and one independent Group with the main H.Q. at Sunninghill Park and an Advanced H.Q. at Uxbridge. It had a strength of about 172,000 men and 2,769 serviceable aircraft on 1 June, 1944. This may be compared with the 230,000 men and 2,549 serviceable aircraft on the strength of all the R.A.F. elements in A.E.A.F. on D-Day (viz 2nd T.A.F., A.D.G.B., and Nos. 38, 46 and 85 Groups). Or it may be compared with the 1,160 serviceable aircraft in 2nd T.A.F. on the 1 June, 1944.

Its subordinate Commands were as follows:-

1. IX Fighter Command (Maj. Gen. Quesada).
2. IX Tactical Air Command (Maj. Gen. Quesada).
3. XIX Tactical Air Command (Maj. Gen. Weyland).
4. IX Bomber Command (Maj. Gen. Anderson).
5. IX Troop Carrier Command (Maj. Gen. Miller).
6. IX Air Force Service Command (Brig. Gen. Wood).
7. IX Air Defence Command (Brig. Gen. Richardson).
8. IX Engineer Command (Brig. Gen. Newman).
9. 10th Photo Reconnaissance Group.

The IXth Fighter Command the largest Command in the IXth Air Force, was originally planned to have two Air Support Divisions each to work with one U.S. Army and thus each Division would be closely comparable with a Composite Group in the R.A.F. 2nd Tactical Air Force. However these Divisions came into existence as Air Support Commands and were later redesignated the IXth and XIXth Tactical Air Commands. The IXth Fighter Command was responsible for the operations and training of both Tactical Air Commands so long as the latter remained in England, but, after D-Day, they were built up from the strength of the IXth Fighter Command which was gradually

Statistical  
Summary of IXth  
Air Force Opera-  
tions. P. 3,  
para. 6.  
Ibid, P. 8.

dissolved as units moved to the Continent. Major-General Quesada commanded both the IXth Fighter Command and the IXth Tactical Air Command until the former was disbanded.

On D-Day, and so long as units remained in the United Kingdom, there were eighteen fighter groups in the IXth Fighter Command.<sup>(1)</sup> Three Wings with a total of eleven Fighter Groups were under the IXth T.A.C. and two Wings with the remaining seven Fighter Groups were in the XIXth T.A.C.

A.E.A.F. Ops. 7,  
Aircraft  
Strength and  
Serviceability  
Tables,  
31 May 44.

On 1 June there were 1,285 Fighter aircraft in the IXth Fighter Command of which 1,024 were serviceable. As will be explained below Reconnaissance Groups were associated with the IXth Fighter Command and their aircraft numbered 142 with 112 of them serviceable on 1 June. By D-Day and immediately following, further squadrons became operational, so that the daily average number of Fighter and Reconnaissance aircraft in the month of June was 1,793 with 1,290 aircraft serviceable.

There were three fighter types in use though Thunderbolts predominated. Thirteen Fighter Groups were equipped with P-47's (Thunderbolts), three Groups with P-38's (Lightnings) and two with P-51's (Mustangs). The 10th Photo Group, Rcn. had four squadrons of special unarmed Lightnings (F-5) for day operations and one Squadron of Boston Havocs (A-20) for night work while the 67th Tac/R Group used Mustangs (F-6).

Reconnaissance was thus provided by two Groups both of which were associated with the IXth Fighter Command. Tactical Reconnaissance was the responsibility of the 67th Tac/R Group which was in the IXth T.A.C. The 10th Photo Group, Rcn., was controlled during the Assault phase by the IXth Air Force itself through Advanced H.Q., Uxbridge. In this way it came under the command of the IXth Fighter Command (Combined Control Centre, Uxbridge) although much of its work until the move to the Continent was concerned with bomb damage assessment for the IXth Bomber Command. On the dissolution of the IXth Fighter Command the 10th P/R. Group was assigned to the XIXth T.A.C. and two P/R squadrons were assigned to the 67th Tac/R Group in exchange for two Tac/R Squadrons so that there were two P/R and two Tac/R Squadrons in each Group.

Ibid.

Stat. Summary.  
of IXth Air  
Force Ops.  
P. 8.

The eleven Groups of the IXth Bomber Command had a strength of 709 Medium and Light Bombers on 1 June of which number 542 were serviceable. The Medium Bomber was the Marauder (B-26) and the Light Bomber the Boston (A-20) but Marauders outnumbered Bostons to the extent of 516 to 193. During the month of June, the IXth Bomber Command was considerably strengthened so that the average monthly strength was 1,100 aircraft with an average serviceability of 690 aircraft.

Like the R.A.F. Groups established for the same purpose (Nos. 38 and 46 Groups), the IXth Troop Carrier Command was retained under the direct control of the H.Q., A.E.A.F. for Airborne operations and thus did not come under Air Marshal Coningham's command. Its operations are related in another section of this narrative (Chapter 9).

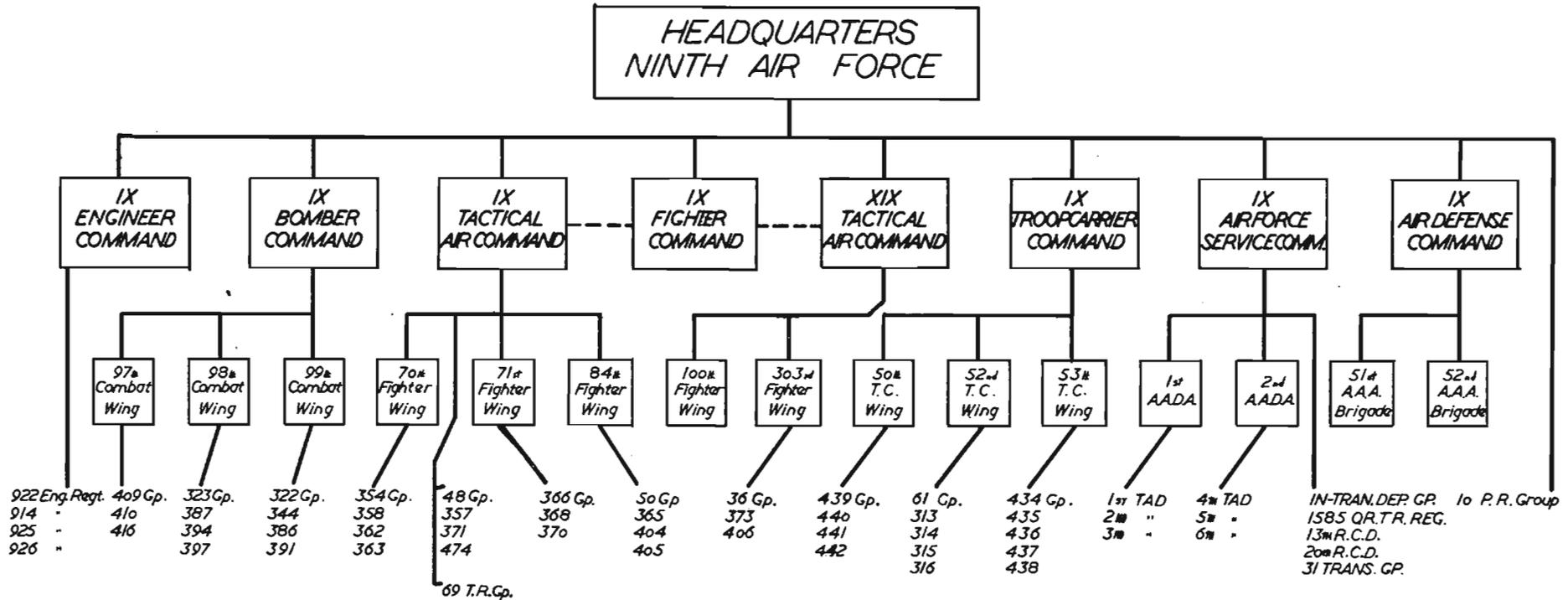
The other Commands in the IXth Air Force while making their distinctive and valuable contributions to the success

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(1) U.S. Fighter Groups were established at a strength of three Squadrons each of 32 aircraft and thus there were 96 aircraft in a Fighter Group.

# ORGANISATION OF THE U.S. NINTH AIR FORCE

9 JUNE 1944



AHB.I. DIA. 101

Diagram No. 14

of the operation as a whole did so by assisting the operational Commands to perform their roles.

The following table shows the strength<sup>(1)</sup> and state of serviceability of all aircraft in the IXth Air Force at 2000 hours on the 31 of May, 1944.

Aircraft Name and Type			No. in IXth A.F.	No. Serviceable
P - 38	Lightning	Fighter	211	138
P - 47	Thunderbolt	Fighter	942	765
P - 51	Mustang	Fighter	132	121
	Total	Fighters	1,285	1,024
P - 51	Mustang	Photo Recce	9	6
F - 5	Lightning	Photo Recce	36	24
F - 6	Mustang	Photo Recce	97	82
	Total	Photo Recce	142	112
P - 61/70	Black Widow	Night Fighter	4	4
A - 20	Havoc	Light Bomber	193	150
B - 26	Marauder	Medium Bomber	516	392
	Total	Bombers	709	542
C - 47/533	(Skytrain) (Skytrooper)	Troop Carrier	1,174	1,087
CG - 4A	Waco Horsa	Glider (U.S.) Glider (Brit)	1,257 345	1,118 301
	Total	Gliders	1,602	1,419

Total aircraft in IXth Air Force  
(not including Gliders) 3,314 2,769

Total in IXth Air Force (not  
including Troop Carrier Cmd) 2,140 1,682

#### Disposition of Forces

IXth Fighter  
Command. Order  
of Battle  
J.A.P.E.O.,  
Appendix "A".

Ibid.

The dispositions of the IXth Air Force were completed about two months before the Assault was launched. The IXth Bomber Command had eleven airfields centred on its H.Q. at Mark's Hall, Essex. The IXth Fighter Command and IXth T.A.C. had their H.Q. at Middle Wallop in Hampshire with the aircraft of the IXth T.A.C. on nine airfields and three Advanced Landing Grounds in that area and around Christchurch where they were near to Normandy. The XIXth T.A.C. aircraft which would follow those of the IXth T.A.C. in the move to the Continent, were located on six A.L.G.'s and one airfield in mid-Kent to the south-east of their Advanced H.Q. at Biggin Hill. The Reconnaissance Groups were based at Middle Wallop and Chalgrove (Oxford) while two Night Fighter Squadrons were forming at Charney Down (near Bath) and Scorton (Yorks). The section outlining the U.S. Airborne operations describes the disposition of the three Troop Carrier Wings in three groups of

(1) See also strength figures issued by U.S. Air Officer Admin. at H.Q., A.E.A.F. - annexed to Appendices of this Volume - which stated that 4,373 aircraft were available for the IXth Air Force on 1 June, 1944, as against the total of 3,312 aircraft in the above table issued by H.Q., IXth Air Force.

airfields near Exeter (three airfields) Swindon (five airfields) and Grantham (seven airfields) with Command H.Q. at Grantham.

#### Rôle of the IXth Air Force.

As the mission<sup>(1)</sup> of the IXth Air Force in the European Theatre of Operations was to plan and conduct joint operations in conjunction with the U.S. ground forces assigned to Overlord, its first responsibility before these ground forces went into action was to create the necessary air situation. This meant that the IXth Air Force had to share with the U.S. VIIIth Air Force and the R.A.F. in the task of gaining and maintaining air superiority in Western Europe. Second in priority was the interdiction of enemy movement in the battle area particularly in the region bounded to the North by the Seine and to the South by the Loire.

Only when these two phases of operations were well advanced would it commence upon 'third phase operations' viz those in which it participated directly in the battle on land in partnership with the surface forces.<sup>(2)</sup>

For some weeks before D-Day, the IXth Air Force had played an increasingly important part in the preparations for the Assault. With the U.S. VIIIth Air Force it had attacked the German aircraft industry and had forced the German Air Force to concentrate its strength inside Germany rather than in north west France. German fighter strength had also suffered when forced to offer battle during these operations. The IXth Air Force had also shared in the A.E.A.F. plan to deny to the G.A.F. the use of airfields and air installations within 130 miles of Caen. It had also played a notable part in the bombardment of enemy rail communications, bridges and coastal defences and in the thorough air reconnaissance that was essential before the cross-Channel assault.

A.E.A.F.  
Overall Air  
Plan,  
para. 55.

On D-Day its main tasks<sup>(3)</sup> were the provision of the following:-

1. High Cover in the Assault Area.
2. Low Cover for Cross-Channel Shipping.
3. Tactical Support for U.S. Assault Forces.
4. Tactical Reconnaissance.

The first of these tasks was performed in co-operation with Spitfires of the 2nd T.A.F. which provided Low Cover in the Assault Area, and the second task was shared with the U.S. VIIIth Fighter Command. The third task was shared to some extent with the VIIIth Air Force and the fourth with the R.A.F.

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- (1) The mission of the IXth Air Force was described in its Neptune Plan to assist the Allied Armies to secure a lodgement on the Continent in the first phase of the operation, and to support the Armies of the First U.S. Army Group in the development of that lodgement in the second phase. *The long range fighters of the IXth Air Force could also be called upon to assist Strategic bomber operations. (See Vol. I of this Narrative, Chap. 13).*
  - (2) U.S. doctrine on this subject is laid down in U.S. Army Field Manual 100-20. In accordance with the teachings in this Manual all such air operations are referred to by U.S. authorities as 1st, 2nd or 3rd Phase Operations.
  - (3) Details of the tasks assigned to the IXth Air Force in the Assault were set out in Advanced H.Q., IXth Air Force Operations Order No. 168A.

After D-Day the same tasks had to be continued with the addition that the role assigned to the IXth Air Force<sup>(1)</sup> before D-Day of paralysing enemy movement by the interdiction programme of air attacks was resumed and the programme greatly developed.

#### Pre - D-Day Operations

By the end of May the programme of preparatory air bombing was nearing completion as the weather during April and May had been unusually kind and it was expected that D-Day would fall on 5 June. In the main, the effort of the IXth Air Force had been devoted to attacks on railways, bridges, airfields and coastal defences particularly batteries. Smaller attacks had been made on dumps and other military installations, and on Crossbow targets while considerable effort had been expended on tactical and semi-strategic reconnaissance.

The programme assigned to it within the A.E.A.F. Overall Plan.

The change of weather which caused D-Day to be postponed to 6 June also restricted air operations at the beginning of June. Nevertheless about 4,000 aircraft were dispatched on operations by the IXth Air Force during the first five days of the month. The attention of the IXth Air Force was centred on putting the finishing touches to ~~its ambitious programme~~ especially the attacks on coastal batteries, railway transport facilities, and the Seine bridges. Right up to the last moment some effort continued to be devoted to attacks on Crossbow, military and G.A.F. targets and effort on reconnaissance though hampered and even abortive because of the weather, was intensified rather than diminished.

Every day from the 1st to the 5th inclusive substantial attacks were carried out by the Marauders, Bostons and Thunderbolts on coastal defences between Calais and Cherbourg. These attacks, like others in the Overall Air Plan, were designed to draw attention to the Pas de Calais area rather than to Normandy in accordance with the SHAEF ruling that two attacks were to be executed outside for every one inside the genuine invasion area. The actual damage done by bombing to objectives appears to have been small because the targets were often heavily protected and hard to find even if the weather had been good. But this has always been regarded as effort well spent because it not only held up the construction of unfinished casemates in batteries under construction<sup>(2)</sup> but also contributed greatly to the enemy's difficulty in forming a true appreciation of the Allied intentions and thus in making a rapid concentration of forces at the real danger point.

Invasion Activities, p. 11, para. 3.

The final effort against coastal batteries continued to be made by the medium bombers during the first five days of June. Altogether ten such batteries were subjected to bombing, some of them several times. Five were attacked by the IXth Bomber Command on 1 June and six more attacks were made on the following day when both the IXth and VIIIth Air Forces combined in a mighty onslaught on targets in the Pas de Calais area. Late in the evening on the same day, two ~~Overlord~~ <sup>in the Overlord area</sup> batteries were bombed by the Marauders. On the morning of 3 June there were four coastal batteries on the target list and on the next day another six. And finally several coastal batteries were

(1) This role was, of course, assigned to other Air Forces as well as to the IXth.

(2) The A.E.A.F. directive to the IXth Air Force (and 2nd T.A.F.) on 13 April listed 12 batteries for attack so that... "the harassing effects of our attacks shall prevent the completion by the enemy of the construction now going on on specified targets".

included when Marauders, Bostons and Thunderbolts attacked a bewildering variety of targets nearly all of which were in the Pas de Calais.

In the same way there was no definite conclusion to the war of attrition that had been waged so long and so successfully by the air forces against enemy rail communications. During the last week of May when it had become necessary to begin the final phase of preparatory bombing, the offensive against the railways necessarily slackened in intensity. But from 1 - 5 of June attacks on marshalling yards, junctions, cuttings, or crossovers, tunnels, stations, locomotives, rolling stock and indeed on all kinds of railway targets continued without interruption. The accent during this phase was on damage for its nuisance value even if its effect was not lasting. In the Region Nord there were numerous attacks by fighters and fighter/bombers on any movement or worthwhile installations that could be seen on 2, 3, 4 and 5 June. Targets attacked on the 2nd for example were mainly in the neighbourhood of Amiens, Creil, St Pol, Tergnier, Cambrai and Arras and these were representative of other days. Subsequent reports have left no doubt as to their effectiveness.

A task which the IXth Air Force had already made peculiarly its own before the Assault phase was that of establishing a 'line of interdiction' along the River Seine. The task of cutting the Seine railway bridges had begun in early May and road bridges had been added to the list of targets before the end of the month. Marauders and Thunderbolts were still engaged on this task when June began and great determination was shown in bringing it to a successful conclusion. Thirteen such attacks were carried out between the 2 and 4 June. Some of the bridges had required as many as five attacks to render them impassable. However, on 5 June all the rail bridges from Conflans to Rouen (inclusive) and all except one of the road bridges had been put out of action.

Invasion  
Activities  
p. 10.

Other targets supplementing the programmes of the R.A.F. and the VIIIth Air Force were assigned by Advanced A.E.A.F. to the IXth Air Force. An important military dump at Dcmfront was attacked on 2 June and repeated on the following day. A military H.Q. (Wissant) in the Pas de Calais and Jafue Brittany (Fighter) Control H.Q. at Rennes were attacked on D-minus one day<sup>(1)</sup>. A Crossbow target in the Pas de Calais was bombed by 40 Bostons on 2 June and the two important airfields of St Andre and Chartres were bombed on the 2nd and 3rd respectively.

In the same five days air reconnaissance was continued on a rising scale regardless of the weather, 195 aircraft being dispatched by the 10th Photo and the 67th Tac/R. Groups. Railways, road, airfields, bridges, beaches, airborne landing zones and drop zones were all covered by photographs. Bomb damage assessment, visual reports, weather reports were all sent in to the Combined Reconnaissance Centre at Uxbridge but it must be remembered that photographic reconnaissance missions were often abortive because of the weather. On the last day of operations before the Assault, 64 aircraft were sent out on reconnaissance missions. Over a half of these took off after 2100 hours in the evening to cover the area from Brittany to the Cotentin Peninsula inclusive and part of the Pas de Calais in addition. It is interesting to note that they discovered no special activity in the area threatened by the landings. In fact it seems clear that the enemy had no inkling that the Overlord convoys were at that very moment on their way.

A.E.A.F. Int/  
Ops. Summary  
1/32, Section,  
B, para. 2.

(1) It may be recollected that Typhoons of 2nd T.A.F. attacked military H.Q.'s in Normandy on the same day.

J.A.P.E.O.  
para. 20.  
and  
Appendix "C"

So far as the IXth Air Force was concerned the first task associated with the actual assault was a fighter task beginning at 2030 hours on the evening of D-minus one day. The 367th, 370th and 474th Groups (P-38's) of the IXth Fighter Command relieved four P-38 Groups of the VIIIth Fighter Command which, since 1600 hours, had been responsible for escorting the invasion convoys setting out on their journey to Normandy. By the time the IXth Air Force took over, the advanced elements of the fleet were well out to sea and when escort was withdrawn at 2330 hours the leading shipping had reached Latitude 49° 50' north.<sup>(1)</sup> Four squadrons were air-borne at a time, two on patrol over the advanced elements (Area William) and two squadrons to the rear (area Yoke). Patrols lasted for 1½ hours and 128 Lightnings of the IXth Air Force took part on D-minus one day.

#### D-Day Operations

##### Medium Bomber tasks in the Assault

It had been planned to use the whole force of Medium Bombers, i.e. eight Groups of Marauders equipped with Oboe, on two main tasks for which, as Oboe enabled them to bomb pin points with great precision, these aircraft were well fitted. The first task was to attack six of the most important batteries, three in the British and three in the U.S. sector. These were the following:-

<u>British Sector</u>	<u>U.S. Sector</u>
Quistreham I	Pointe du Hoe
Quistreham II	Maisy I
Benerville	Montfarville

Those in the British Sector were to be bombarded as soon after Civil Twilight (0515 hours Double British Summer Time) as possible but the batteries covering the U.S. beaches were to be bombarded at the same time as the beaches were 'drenched' by the Heavy and Medium Day Bombers i.e. at H minus 20 minutes to H minus five minutes (0610 hours to 0625).

The second task of the Oboe Marauders was to bomb seven defended localities in the Utah beach area prior to H hour in support of the assault by U.S. VII Corps. It was hoped that this beach bombardment would create lanes through the beach defences at the same time as it neutralised the enemy strong points in that area. All the aiming points along a frontage of about 6,000 yards were selected in the vicinity of the following places:-

St Martin de Varreville  
Les Dunes de Varreville  
La Madeline  
Beau Guillot

The timing of these attacks was similar to that of the VIIIth Air Force attacks on Omaha beach and to that of the Marauders attacking Coastal Batteries in the U.S. sector i.e. 0610 - 0625 hours D.B.S.T.

All these assigned operations were carried out though not all with complete success. The attacks on the batteries in the British Sector soon after Civil Twilight (between 0517 and 0550 hours) were largely a failure owing to weather and Pathfinder difficulties. Benerville was attacked by only one out

(1) Approximately; i.e. they had begun to enter the Bay of the Seine.

of the eighteen aircraft dispatched and the two batteries at Ouistreham by only eleven out of the 36 aircraft assigned. Though they were a little behind time at Pointe du Hoc, Montfarville and Maisy I (0625 - 0645 hours), boxes of eighteen aircraft successfully bombed the two latter targets, but results could not be seen at Pointe du Hoc.

Owing to low cloud, the Marauders had to fly unusually low<sup>(1)</sup> to bomb the seven defended localities covering Utah beach but 269 aircraft in eighteen boxes dropped 524 (short) tons of 250 lb. bombs. Unlike the attacks being made simultaneously by the Fortresses and Liberators on the other four beaches, those made by the Marauders on Utah beach were made visually with the result that a high percentage of successes was scored. About 16% of the bombs fell in the seven target areas so far as could be discovered by ground survey parties and the Operational Research Section of the IXth Air Force. Poor photographic conditions reduced the value of strike photographs. A map reproduced herewith shows the areas which were bombed in relation to the targets. The Ground Commander in the Utah area is reported to have stated that the bombing of pin point targets on the beaches was excellent but no physical damage to concrete emplacements was discovered that was directly attributable to bombing. Two Marauders were lost but those operating against Pointe du Hoc coastal battery claimed to have shot down a F.W. 190.

IX Air Force O.R.S. Report No. 50. Invasion Activities p. 50, para. 5. See Map No. 16. Invasion Activities p. 5.

In mid-afternoon, seven or eight hours after the first wave of Medium Bombers had landed at their bases, a second series of attacks was carried out by 225 Marauders and 130 Bostons. In these operations seven Groups of Marauders and three Groups of Bostons dropped 419 tons of bombs on four coastal batteries and six road junctions and four bridges in Normandy towns. Owing to variable cloud conditions aircraft dropped their bomb loads at heights from 2,700 ft. in some cases to 8,000 ft. in others, but results seem to have been mainly good. At Benerville 100 hits were said to have been seen in the target area and hits were also recorded near the gun positions at Houlgate, Trouville and Gatteville batteries. Targets in Caen and Falaise appeared to be unharmed after attack but hits were apparently scored at Valognes, Argentan, Ecouche and Carentan.

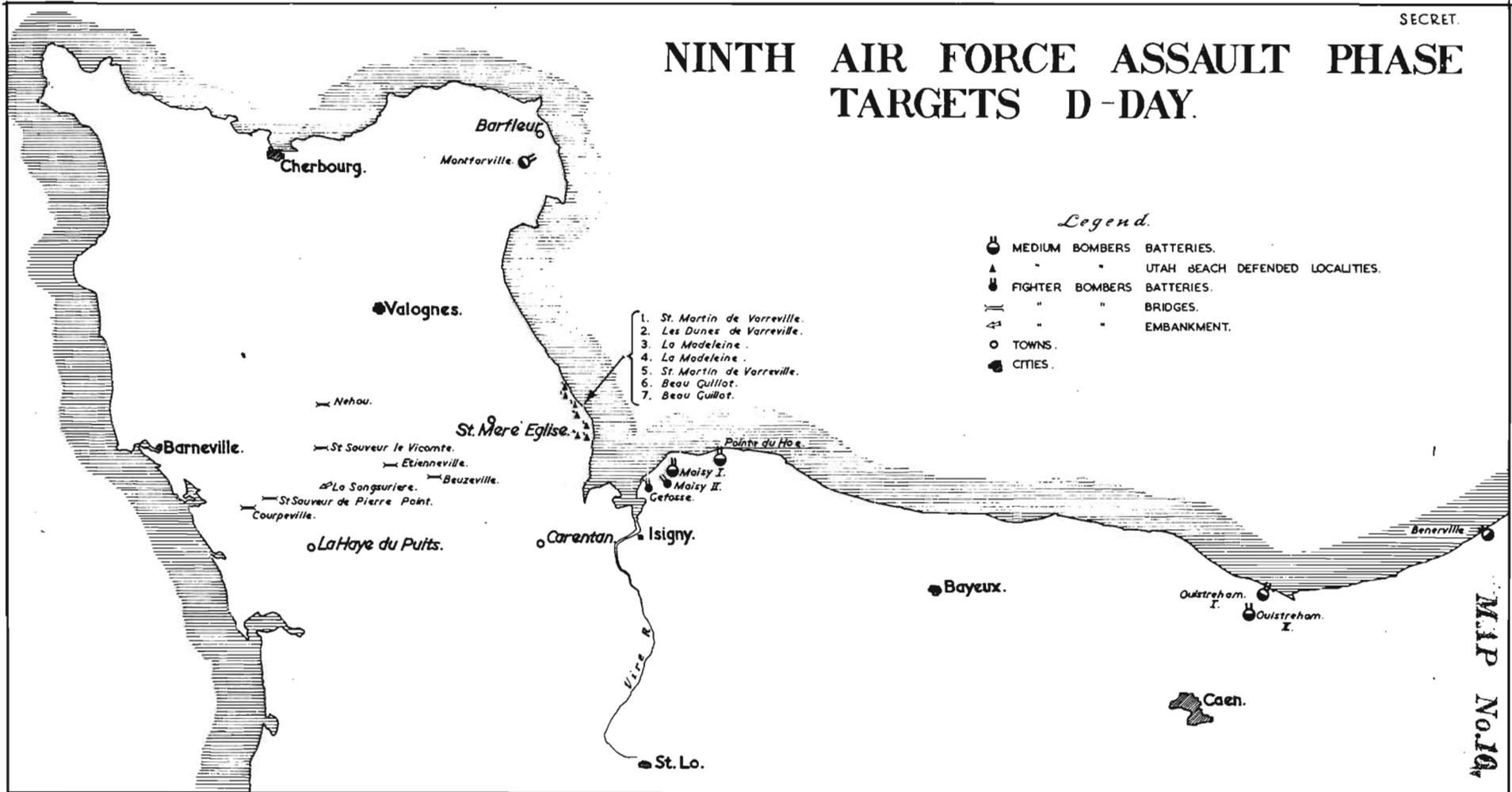
A.E.A.F. Int/Ops. Summary No. 133. IX Air Force Invasion Activities p. 52.

A third phase of activity occurred in the evening at about 2100 hours, when two Groups of Marauders and three Groups of Bostons (59 and 76 aircraft respectively) bombed four marshalling yards north-east of the Seine, and an important road bridge inside Caen. Damage is known to have been done at Amiens but the Marauders detailed to cut the vital bridge in Caen failed once again.

Considering the fact that 1011 aircraft had been dispatched and about 1440 tons of bombs dropped in enemy-held territory, losses during D-Day were slight amounting as they did to only eleven medium and light bombers. On the other hand the Marauders made one unusual claim. It would seem that the F.W. 190 that they claimed to have shot down in the early morning was the first enemy aircraft claimed by the Allied Air Forces on D-Day. This, of course, ignores claims by night-flying aircraft operating on the night of 5/6 June before H-hour.

Ibid p. 52. A.E.A.F. Int/Ops. Summary No. 133.

# NINTH AIR FORCE ASSAULT PHASE TARGETS D-DAY.



MAP No. 10

Fighter and Fighter/Bomber Tasks in the Assault

The main responsibilities assigned mainly or in part to Fighter and Fighter/Bombers of the IX Fighter Command were the provision of the following:-

*under the A.E.A.F. plan*

- (1) Escort to Cross-Channel shipping
- (2) Assault Area High Cover
- (3) Air Support to U.S. Assault Forces
- (4) Reserve Striking Force
- (5) Miscellaneous Escort duties.

A.E.A.F.  
Overall  
Air Plan  
Appendix  
p. 1.

The original allocation of effort in the Overall Air Plan envisaged the use of more VIIIth Air Force Fighters under the Combined Control Centre than actually materialised so that the division of effort amongst the above tasks was substantially as follows:-

Summary of Ops.  
IX Air Force,  
Para. 7.

- |                          |  |
|--------------------------|--|
| (1) Shipping Cover       | Two Groups (P-38)                          |
| (2) High Cover           | Five Groups (P-47)                         |
| (3) Air Support          | Six Groups (5 of P-47's<br>One of P-38's)  |
| (4) Reserves and Escorts | Five Groups (3 of P-47's<br>Two of P-51's) |

From 0352 hours in the morning until 2340 hours at night the eighteen Groups of fighters and fighter-bombers dispatched a total of 2,139 aircraft on missions of the above nature. About a half of these were on Cover duties either by the Thunderbolts (809 sorties) who put up the first patrol (50th Group) over the Beachhead at 0430 hours or by the Lightnings (207 sorties) whose first two Squadrons took over from the VIIIth Fighter Command at 0600 hours.

Invasion  
Activities  
p. 51.

With only one exception all pilots on these Shipping and Beachhead Cover patrols reported a completely uneventful day. The exception was a report from Lightnings whose pilots had sighted three F.W.190's which escaped before they could be engaged. Thus the air plan which was designed to give our ~~our~~ ground forces the maximum immunity from enemy air attacks was completely vindicated. There was no great air battle *in chief* and although the Air Commander did not relax his precautions, he was able to use his reserves for escort and other miscellaneous duties which might have been impossible in less favourable circumstances.

The Air Support programme for the fighter-bombers included attacks on nine pre-arranged targets together with two squadrons on patrol at the call of the two H.Q. ships. Seven of the pre-arranged targets were bridges and a railway embankment situated to the South and West of the Dropping Zones which were being used by the 82nd and 101st Airborne Divisions at the base of the Cotentin Peninsula. The six bridges and the railway embankment carried routes into this area and the fighter-bombers were requested to cut these routes. The other two targets on the list were Maisy II and Gofosse Coastal Batteries covering both U.S. beaches and situated between them to the east of the Garentan estuary.

A.E.A.F.  
Int/Ops.  
Summary No.113

Invasion  
Activities  
p.52.

Attacks began at 0550 hours i.e. about 40 minutes before the touchdown and about the same time as the opening of the naval bombardment. Five of the objectives were reported to have been definitely hit and formations which failed to attack their primary targets all attacked similar ones. These attacks, generally at squadron strength, were carried out by 129 Thunderbolts which dropped nearly 83 tons of bombs. The following table<sup>(1)</sup> summarises the results:-

(1) See Map No. 16.

Targets	Description	Report
Maisy II	Coastal Battery	Good Results
Gefosse	" "	Excellent "
La Sangsurière	Rail embankment	Not attacked
Beuzerville	Bridge	Destroyed
Courpeville	"	Believed hit
St Sauveur de Pierre	"	Damaged
Pont	"	
St Sauveur le Vicomte	"	Not attacked
Etienville	"	Damaged
Nehou	"	Not attacked.

Summary of Ops.  
IXth Air Force,  
para. 7h(2)

There was no real pause in Fighter/bomber operations after the first missions of the day had been executed. The railway bridge at Oissel (near Rouen) cut on 30 May and now being repaired, was twice attacked by Thunderbolts before the South span collapsed into the Seine. Thirteen requests from the U.S. Army were received by the Combined Control Centre for air support and eight of these were approved.<sup>(1)</sup> The majority of the eleven missions flown by Fighter/bombers in response to these requests were operations against enemy gun positions in the neighbourhood of Carentan, Isigny, Maisy, Bayeux and Fontenay. Three missions were armed reconnaissances along the roads from Carentan to Constances, St. Lo and La Haye du Puits.

Requests from the U.S. Army for immediate air support were sent to the Combined Control Centre via Twenty-One Army Group and those approved were transmitted to the IXth Air Force unit concerned. After the experience of D-Day it was decided to send up 'air alert' squadrons at fixed intervals. These were to be at the disposal of the H.Q. Ships for use on armed reconnaissance or against targets of opportunity as required.

Invasion  
Activities  
p. 53.

While the Air Force was putting forth such an intensive scale of effort the Aviation Battalions of the Engineers were also very active. Landing with the first and subsequent waves of the Assault on D-Day they proceeded to their pre-selected airfield sites often before some of these areas had been cleared of the enemy and began their work of construction without delay. They worked with such speed that the first Emergency Landing Strip of 2,000 ft. was ready for crash landings by 21000 hours on D-Day.

Ibid  
p. 52

#### Summary

The rate of effort during the day amounted to about two sorties per fighter aircraft and nearly one and a half per medium and light bomber aircraft. This rate for the bombers averaged over five boxes per Group as against the highest average rate of four boxes per Group in one day up to that time.

The following table summarises the full effort of the Ninth Air Force on D-Day:-

(1) Three requests were refused because of weather and the lateness of the hour, one because of lack of aircraft while a fifth because the area was already covered by aircraft on armed reconnaissance. (Invasion Activities, p. 52 and Summary of Ops, IX Air Force).

Type	Mission	Dis- patched	Completed Mission	Tons of Bombs	Missing
Medium and Light Bomber	Visual Bombing	1,011	823	1,441.6	11
Fighter and Fighter/ Bomber	Beach and Shipping Cover	1,016	976	-	-
	Escort to Airborne and Bombers	546	529	-	-
	Dive/Bombers	577	560	386.2	9
Total Fighter Types		2,139	2,065	<del>1,827.8</del> 386.2	<del>20</del> 9
Reconnaissance	All Recce.	192	162		2
Grand Total (Omitting Troop Carrier)		3,342	3,050		22
Troop Carrier Gliders	Airborne	925	908		23
	"	104	104		-
Grand Total		4,371	4,062	1,827.8	45

#### Operations After D-Day

The maximum rate of effort in the existing weather continued to be exerted by the IXth Air Force on the second day of operations when 4,360 operational sorties were flown by powered aircraft. In addition there were 408 sorties by gliders. Thus in the two days, the U.S. tactical air force had put up over 9,100 sorties as compared with about 7,600 sorties by the R.A.F. elements <sup>which were also</sup> under the control of Air Chief Marshal Leigh-Mallory. (1) This rate of effort and the heavy battle damage due to the low flying that was enforced by the weather conditions, led General Brereton to intimate to the Commander, Advanced A.E.A.F. on the morning of 8 June that it was time to reduce the scale of effort and pay more attention to falling serviceability. The result was that on D plus two the effort of the IXth Air Force fell to about 2,400 sorties while 2nd T.A.F. and A.D.G.B. did about 3,100 sorties. Indeed, during the next four days in spite of the disparity between the numbers of men and aircraft available the 2nd T.A.F. flew almost as many sorties as the IXth Air Force (5,140 as compared with 5,950).

H.Q. Adv.  
A.E.A.F.,  
O.R.B.,  
June 44, p.15.

Ibid.

Air Marshal Coningham agreed entirely with a prudent limitation of the scale of effort for the additional reason that good targets were still not easy to find for all the types of aircraft available. Some requests for air action were found on examination to be unjustified. On D-Day the lack of information about the progress of the assault had handicapped the co-ordination of strategic and tactical bomber effort the responsibility for which, so far as the Assault Area was concerned, had been delegated by Leigh-Mallory to the Commander, Advanced A.E.A.F.

Viz: 2nd T.A.F., A.D.G.B., and Nos. 38, 46 and 85 Groups. But 2,164 of the U.S. sorties on the first two days were on airborne operations as compared with less than 700 by the R.A.F.

Adv. A.E.A.F.,  
O.R.B., June  
44, p. 10.

One of the first difficulties experienced on D-Day was the time-lag between the allocation of targets to the strategic bombers which was done at Stanmore early in the evening, and the receipt of this information at Uxbridge. This information had to be considered by Advanced A.E.A.F. before targets could be arranged for the fighter-bombers and medium bombers which would normally be airborne soon after dawn. To meet this situation Air Chief Marshal Leigh-Mallory agreed to a suggestion by Air Vice Marshal Trafford, Chief of Operations, Advanced A.E.A.F. that all targets in the Tactical area were to be allotted by Advanced H.Q., A.E.A.F., who could then ask for assistance from heavy bombers if medium and fighter-bombers could not fulfil all requirements. This was to ensure that all the close range targets were not allotted by Stanmore to the heavy bombers leaving nothing except long-range targets to the medium bombers.

A difficulty of a similar nature arose over the lack of exact boundaries between the areas in which the VIIIth Air Force fighters would be operating. There was frequently a duplication of effort and occasionally a clash between friendly fighters but this affected the IXth Air Force less than the 2nd T.A.F. because the U.S. pilots were able to recognise their own aircraft more quickly than British types.

For the most part the existence of a Tactical Area ensured that the IXth Air Force and the 2nd T.A.F. confined their operations within its limits while the strategic bombers and fighters operated outside. However, there were many occasions when the strategic bombers carried out specific operations in the Tactical Area and still more occasions when the tactical air forces operated outside.

These and others similar to them were some of the problems that arose during the earliest phase of the assault. Others quickly appeared and were dealt with as they arose. During the week after D-Day the operations of the IXth Air Force may conveniently be classified under the following heads:-

- (1) Fighter cover and escort.
- (2) Interdiction programme.
- (3) Attacks on gun positions, etc.
- (4) Attacks on troops and dumps.
- (5) Attacks on the G.A.F.
- (6) Troop carrier and transport missions.

This classification lists the different kinds of operations broadly according to the effort allocated to each. The necessity to maintain large forces of fighters as cover for our own forces was recognised even though the German Air Force proved incapable of offering a determined and sustained challenge. The existence of substantial German air forces however rendered it unsafe to withdraw a large measure of the fighter cover over the beaches and to shipping though the scale of effort devoted to this task was gradually reduced after the first few days. As on D-Day, Lightnings of the IXth Air Force provided cover to shipping in conjunction with Lightnings of the VIIIth Air Force, while IXth Air Force Thunderbolts provided High Cover over the Assault Area in conjunction with the Low Cover Spitfires of the 2nd T.A.F. Thunderbolts and Mustangs of the IXth Air Force also escorted a number of bomber and troop carrier missions. As Groups were released from these commitments they were allotted to the more popular offensive operations.

In the early stages of the operation defensive tasks occupied about three-fifths of the total fighters available

in the IXth Air Force. On 7 June 952 Thunderbolts provided continuous High Cover over the Assault Area. Shipping patrols required 371 Lightnings while escorts to troop carrier and bombing missions required 253 Thunderbolts and 140 Mustangs. Only 178 sorties were flown on reconnaissance nearly all by Mustangs and most of them (120 sorties) on Visual Reconnaissance.

The command of the air was hardly less secure on 7 June than it had been throughout D-Day and in consequence the main interest in the operations of the IXth Air Force was centred on the attempt to disrupt enemy movements on the ground. In this respect many U.S. tacticians including some in the IXth Air Force (e.g. Gen. Schlatter, Assistant Chief of Staff) and at S.H.A.E.F., and A.E.A.F., put the emphasis on the interdiction<sup>(1)</sup> rather on the delay of enemy reinforcements that had been advocated by Leigh-Mallory, Coningham, *Wigglesworth*, Kingston McCloughry, Zuckerman and others in R.A.F. circles. The policy of attacking all kinds of rail and road targets along carefully chosen routes and at selected points was contrasted with a rival policy of paralysing traffic by cutting all bridges along certain selected 'lines of interdiction'. Though there were endless arguments on these questions by staff officers the Commanders for the most part refused to be dogmatic. In consequence the policy pursued by the IXth Air Force was similar to that of the 2nd T.A.F. and the VIIIth Fighter Command which consisted of ordering attacks on all kinds of communications targets as well as other targets according to the needs of the moment. A study of the individual missions flown by the Marauders, Bostons, Thunderbolts and Lightnings during the week after D-Day shows that attacks intended to interrupt movement were carried out on railway yards, centres, bridges, sidings, lines, junctions, etc., trains and rolling stock, roads, built up areas, convoys and vehicles, and in fact on anything that might make movement difficult.

The medium bombers attacked railway marshalling yards and bridges for the most part. Of the fighter bomber effort by far the greater part was directed to line cutting inside the railway network radiating from Vire, Rennes, Laval, Le Mans, Chartres, Alencon, Laigle and Evreux. The air plan was to cut the bridges of the **Loire** after D-Day to complete the task begun when the Seine bridges were broken. This task was given to the VIIIth Air Force and R.A.F. Bomber Command. To complete the isolation of the battle area it was also necessary to destroy the principal bridges carrying railways through the Paris-Orleans gap. These were as follows:-

Mantes Gassicourt	Chartres (Oiseme)
Cherisy	Chartres (S.E.)
Nogent Le Roi	Cloyes
Maintenon	Beaugency

The execution of the plan to cut the Loire bridges and interrupt all traffic with the South of France is dealt with in the chapters on the operations of the VIIIth Air Force and R.A.F. Bomber Command after D-Day. Partly because of the weather and partly because of diversions of effort to other targets such as airfields, the Heavy Bombers were unable to execute their part of the plan until some two weeks had elapsed by which time considerable advance elements of the enemy reserve divisions based in Southern France had made their way to Normandy. Owing to the delay in cutting the Loire bridges, and to the fact that the enemy first drew reserves from Brittany and from the areas north of the Seine there was no special urgency to block the routes through the Paris-Orleans Gap and accordingly much of the effort of the IXth Air Force

was concentrated on disrupting railway movement inside the region enclosed by the Loire and Seine rivers.

This supplementary plan subdivided into a number of sections the whole of the complicated railway network communicating with the lodgement area from the battle front itself to the Loire river. These sections were allotted to the IXth Air Force and 2nd T.A.F. for systematic attack. Marshalling yards and bridges were the principal targets selected for the medium bombers under this plan while tracks and bridges were selected for the fighter-bombers. As soon as the assault had taken place and there was consequently no point in attempting further deception - except in a larger strategic sense - the execution of the tactical phase of the transportation plan was commenced forthwith.

IXth Air Force  
Invasion,  
Activities,  
pp. 57 and 58.

On 7 June the marshalling yards at Folligny were attacked by Marauders when two troop trains were standing there with the result that about 60 coaches and wagons were destroyed, heavy casualties were inflicted and severe damage was done to tracks. On the same day, fighter-bombers attacked the railway yards at Le Molay and others at Lisons (near Carentan) and caused great dislocation and destruction near the battle. Another attack at Valognes when troops were detraining shows how the enemy had made use of the bad weather to bring troops forward by rail. In the course of a fighter-bomber attack on a railway embankment near Alencon ten ammunition wagons were destroyed and about 200 ft of the track was rendered impassable.

Ibid  
p. 59.

Operations against railway detraining points and communications objectives further back had their counter-parts in attacks on road targets though the latter were generally much closer to the battle front.<sup>(1)</sup> The medium bombers in particular bombed road junctions and bridges near to the beaches, particularly in the first days of the operation. An average of five or six such targets were bombed by Medium bombers each day during the first week with the object of creating road blocks or choke points. The following typical examples show how near most of these were to the front:-

Valognes	Caen	Conde	Pont l'Abbe
Isigny	Contances	Aunay	St. Sauveur
Carentan	Vire		

See Chap. 9

A.E.A.F. Int/  
Ops Summary  
No. 135.

Ibid

Four bridges in the no-man's land around the Dropping and Landing Zones occupied by the Airborne troops were attacked at the request of the Army. These tasks were given to fighter-bombers. One of the wooden bridges east of La Barquette Lock near Carentan was successfully skip-bombed by Lightnings on 7 June when the 101st Airborne Division failed to seize and destroy it. Another bridge near St. Sauveur, north-west of Carentan, was bombed by Thunderbolts at the request of the 82nd Airborne Division who had also found it impossible to carry out their original assignment to seize and destroy it. In fact at least a dozen attacks on bridges were made by aircraft of the IXth Air Force on 7 June, most of them in close proximity to the battle.

Complementary to the plan to interrupt movement was the sending out of a constant stream of small formations of fighter-bombers on missions of armed reconnaissance. So long as the weather did not make it impossible a continuous watch was maintained over all the routes leading towards the battle and all movement seen was reported and, if possible, attacked. This

(1) It will be recalled that the heavy bombers were also given similar choke-points as targets in the earliest phase of Neptune.

German document  
A.H.B.6, Tranl.  
No. VII/70

A.P.W.I.U.  
63/1945

soon had the effect of forcing the enemy to move in less efficient isolated units, often by night. The IXth Air Force patrolled the routes opposite the U.S. forces and the effectiveness of its patrols can best be judged by a study of the Telephone Log of the German 7th Army. General Bayerlein also spoke with deep feeling on this subject when interrogated by IXth Air Force officers after his capture.

TLM/F/S.34,  
Encl. 9A  
para. 10.

It will be recalled that the assault on Omaha beach had met grave difficulties with the result that the troops who managed to get ashore on D-Day soon found themselves in a critical situation. To ease this situation General Brereton had assigned first priority to armed reconnaissance and air support calls for all IXth Air Force fighter-bombers on 7 June. Everything was to be done to assist the ground forces to improve the situation in the Omaha sector. Four Groups of Thunderbolts were earmarked for air support and this enabled three squadrons to be available at all times during the day for calls from the ground. This was three times the scale of effort normally allotted to one beach but Air Marshal Coningham told the other Air Commanders at the conference on 8 June, that though expensive, the results justified the effort. Throughout the day, these aircraft attacked individual strong-points, outposts, gun positions, troop concentrations, cross-roads, bridges, etc, at the request of the Army and slow but steady progress was made in the reduction of resistance and the build-up over the beaches.

A.E.A.F. Int/  
Ops. Summaries  
No.135 and 136

Examples of such attacks were three by fighter-bombers and one by medium bombers on a re-fuelling and re-arming depot in the Foret de Cerisy not far behind the beachhead<sup>(1)</sup>. Fighter-bombers attacked field batteries and the smaller gun positions<sup>(2)</sup> on 7 June while the medium bombers attacked the great battery at La Pernelle/Barfleur and another at Aigremont.

Altogether about 870 sorties were flown by the Medium Bombers and 960 by the fighter-bombers<sup>(3)</sup> on the second day of operations dropping about 1,000 and 600 (U.S.) tons respectively. This was by a long way their busiest day and there was a considerable fall in the rate of effort during the following week, a fall most marked in the case of the medium bombers which averaged only about 520 sorties per day with only 370 of them attacking.

On 8 June however, the fall in the rate of effort was greatest in the case of the fighter-bombers which put up less than 500 sorties or only about a half of the number on the day before. About 2,400 aircraft were dispatched, some 1,000 of them on fighter cover or escort duties, about 1,200 on bombing and other offensive missions and the remainder carrying out reconnaissance.

Adv. A.E.A.F.  
O.R.B., June  
'44 p. 17.

The contraction in the effort by fighters was explained by advanced H.Q., A.E.A.F. as being due to battle damage resulting from so much low flying. This was so serious that the IXth Air Force already found it necessary to exchange some of the fighter squadrons on bomber duties with those on cover duties and when the low cloud gradually became worse during the afternoon of the 8th the scale of effort was gradually reduced.

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- (1) This was also attacked on the night of 7/8 by the heavy bombers of R.A.F. Bomber Command.
  - (2) The A.E.A.F. Int/Ops Summaries mention batteries at Quineville, Fontenay and other positions indicated by their Grid references.
  - (3) On this day practically all the fighter-bombers dispatched attacked targets but about 250 medium bombers did not attack because of low cloud.

Ibid, p 15.

Towards the end of the day on 7 June, Advanced A.E.A.F. received a request from Twenty-first Army Group for a bombing attack on targets in Caen to be carried out by Marauders in support of an attack by the Second British Army. This was refused because the proposed targets were in close proximity to positions occupied by our own troops but under strong pressure from the Army it was reluctantly accepted.

The Commanding General vehemently objected to his bombers being asked to bomb so near to friendly ground forces but he was assured that this operation would not be regarded as a precedent for the future and the attack was allowed to proceed.

Ibid, p. 16

Two boxes of 36 Marauders each dropped an equal number of 500 lb and 250lb G.E bombs at 06.30 hours. The Brigadier G.S.(Ops.) Twenty-one Army Group telephoned Advanced A.E.A.F. to convey the official thanks of the Second British Army to the IXth Air Force saying that both the bombing and the timing were excellent. Despite this, the situation on the ground in front of Caen does not appear to have been materially affected.

The other medium bomber operations during the early part of the day consisted of attacks on the railway junctions of St. Lo and Pontaubault, the town centre of Valognes and a defended area in La Haye du Puits, a bridge at Periers and the important road bridge over the Seine at Vernon.<sup>(1)</sup>

Ibid, p. 18

No information was available from Army sources about possible targets for the second sorties of the medium bombers. General de Guingand told Air Vice-Marshal Trafford that the military situation was not sufficiently clear before 1700 hours to enable requests to be made for the employment of these aircraft on their second missions. In the circumstances, the weather had begun to close down before these requests were received and thus there was little chance of operations being successful.

A.E.A.F. Int/  
Ops. Summary  
No. 138,  
pp. 4 and 5.

A few Marauders bombed fuel and ammunition dumps in the Foret de Grimboisq (S.W. of Caen) and others bombed targets at Isigny to assist the advance of the troops from Omaha beach towards Carentan but of the 250 Medium Bombers dispatched at about 20.00 hours something like 220 aircraft were recalled due to the weather.

"Omaha Beachhead"  
p. 127.

Fighter-bombers as usual, attacked a wide variety of targets on the morning of the 8th but the low cloud in the early afternoon soon restricted these activities. Their objectives all in and around the battle, included eight bridges<sup>(2)</sup>, seven railway targets, four important coastal batteries, four town centres and an enemy H.Q. Effort was still concentrated on helping the ground and naval forces in the Omaha beachhead. The crisis in that area was definitely over and the troops made good progress on the ground after some very stiff fighting at Isigny and at Tour en Bessin at both of which, air support played a significant part. In the advance on Isigny, Thunderbolts attacked bridges in addition to the assistance given by the Marauders already mentioned. Typhoons also bombed tanks and guns in La Cambe where a strong position held up the American advance and apparently

- (1) This was the point on the Seine crossed by the Second British Army on 26-27 August.
- (2) A squadron of Thunderbolts attacked Oissel bridge near Rouen and once again rendered it unusable. This was the only bridge attacked that was not in the battle area.

2nd T.A.F.  
Daily Log,  
0930 hours,  
8 June '44.

friendly aircraft (unspecified) inflicted 20 casualties on American troops when the latter were passing through the village. Two squadrons of Typhoons also bombed the eastern outskirts of Isigny about one and a half hours later, following a request from the ground troops. This co-operation between the IXth Air Force and 2nd T.A.F. well illustrated the advantage of the centralisation of control.

The weather which only permitted operations on a very restricted scale during the second half of the day deteriorated so far that it was impossible to operate aircraft on 9 June. About a score of Mustangs flew weather and other reconnaissances without much success. No other aircraft of the IXth Air Force operated.

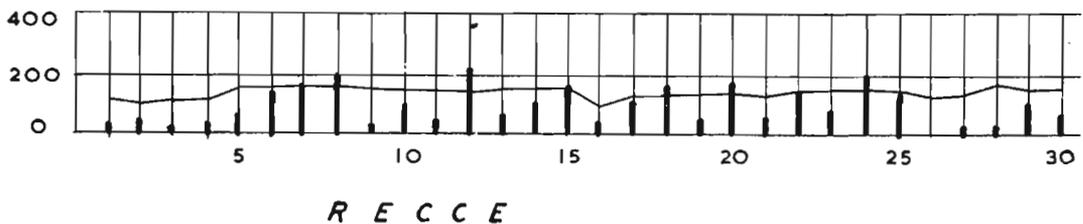
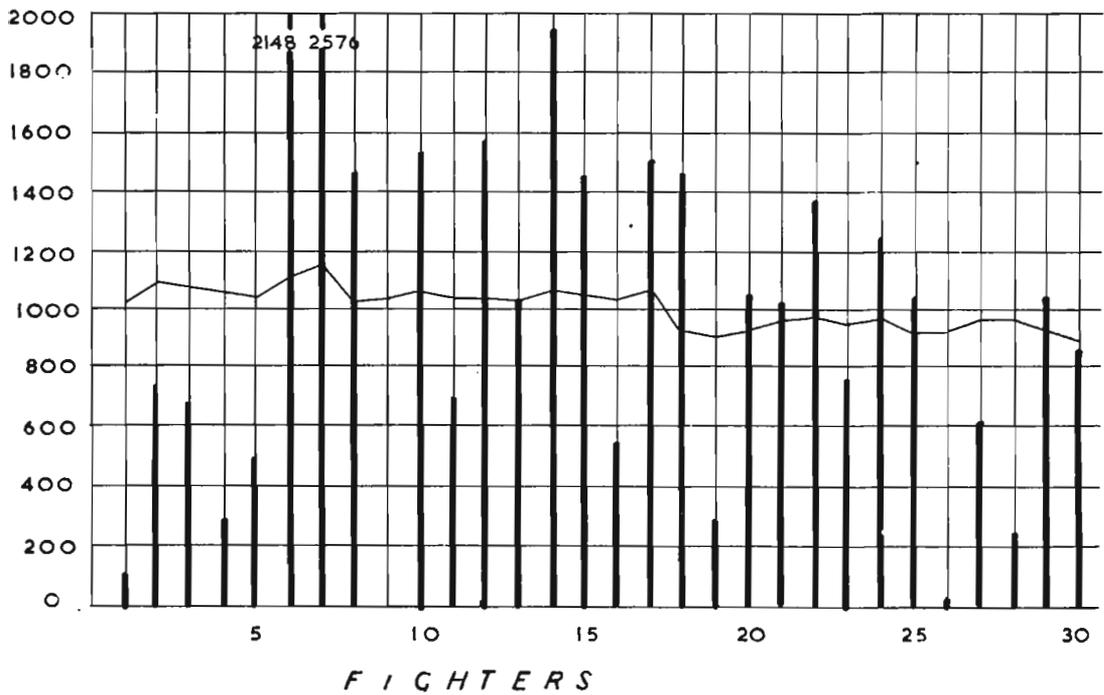
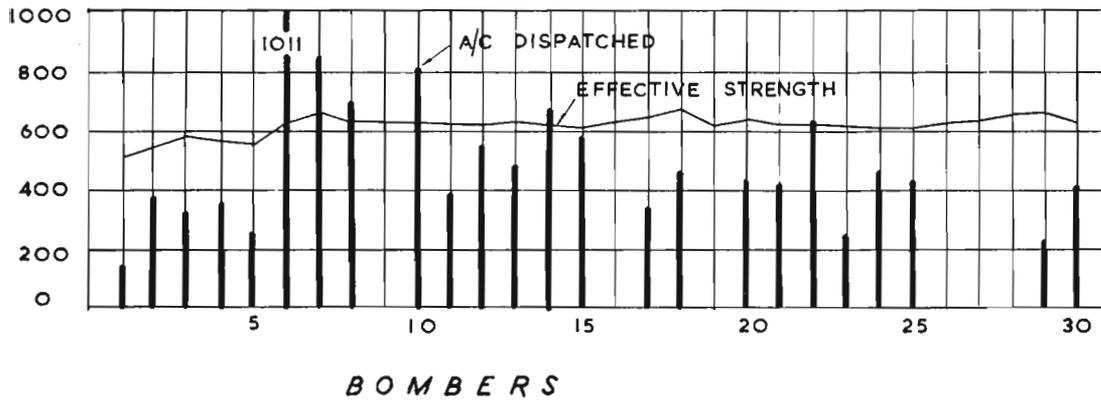
The interval of better weather promised by Group Captain Stagg when he gave his forecast to General Eisenhower was now at an end and about 36 hours of exceptionally bad flying conditions ensued over Western Europe. But the interval of good weather had been long enough to enable the assault to take place almost exactly as planned and by the afternoon of 8 June the initial tasks had been successfully accomplished. The Western Assault Task Force with which the IXth Air Force was associated had secured its two beachheads and, after a temporary set back on one of them, there was every prospect of complete success.

As the onset of bad weather brought a complete break in air operations - so far as the IXth Air Force was concerned - this is a suitable juncture to conclude the account of the contribution of the IXth Air Force to the initial assault. Over 11,500 aircraft had been dispatched by General Brereton's command in little more than 60 hours. About 10,400 of these had operated effectively in spite of the bad weather.

Even at this early stage in the campaign it may justifiably be argued that on at least two occasions, the intervention of the IXth Air Force had been a decisive influence. The first was at dawn on D-Day when the bombing of Utah beach was so effective that the landings were relatively unopposed. The second case followed the serious check on Omaha beach on 6 and 7 June. A great diversion of air effort to this area was ordered by the Air Commanders and these attacks, in the opinion of Air Marshal Coningham, were the turning point in the battle.

# NINTH AIR FORCE STRENGTH AND EFFORT

JUNE 1944



## CHAPTER 14

OPERATIONS BY THE U.S. VIIIth AIR FORCE IN SUPPORT OF NEPTUNEOrganisation of the VIIIth Air Force - Forces Available for Overlord

The VIIIth Air Force was organised into a number of functional commands known as Bomber, Fighter, Service and Composite Commands, the two former of which were operational, the third administrative and the last-named of which existed to undertake the training and backing-up functions. The VIIIth Bomber Command was divided into three Bombardment Divisions, which each had the virtual status of a Command. There was also an independent Reconnaissance Wing in the VIIIth Air Force.(1)

VIIIth U.S.A.A.F.  
Monthly Summary  
of Operations,  
May and June,  
pps. 24 to 28.  
VIIIth Air Force  
Overlord Report  
5/June/44.

The total strength of the Force in personnel amounted to 186,000 at the end of May, rising to 191,000 by the end of June, 1944. The combat strength in serviceable aircraft duly provided with crews(2) was 2788 at 2000 hours on the evening of 5 June, 1944, made up of 1851 Heavy (four-engined) Day Bombers and 937 Long Range Day Fighters.(3)

The three Bombardment Divisions were equipped with Fortresses (B-17) and Liberators (B-24), there being rather more of the former (947 effective on 5 June) than of the latter (813 effective on 5 June). A small number of Pathfinder aircraft employing either H2X or GH were also on the strength of each of the three Bombardment Divisions. The First Bombardment Division was equipped with Fortresses (524 on 5 June) and the Second Division with Liberators (598 on 5 June), but the Third Division was Fortresses and Liberators (423 and 215 respectively on 5 June). These forces were disposed in one main area and one subsidiary area south-east

- (1) Information regarding the daily operations of the VIIIth Air Force so far as Neptune was concerned may be found in a 'Special Report on VIIIth Air Force Tactical Operations in Support of Allied Landings in Normandy' covering the period 2 June to 17 June, 1944, inclusive, signed by Colonel Walter E. Todd, Deputy C. of S. Ops. Headquarters, VIIIth Air Force. It was dated 6 November, 1944, and was addressed to Washington. In this Narrative it will be referred to as the 'VIIIth Air Force Overlord Report' and, as it deals with each day's Bomber and Fighter activities separately, references will include specific dates. Primary sources of information upon which this Overlord Report (and this Narrative) was based were the following papers, copies of which may be seen in A.H.B. Records:-

- (1) Intops Summaries
- (2) Combat Damage Reports
- (3) Statistical Summaries of Operations
- (4) Monthly Summaries of Operations
- (5) Immediate Interpretation Reports
- (6) Interpretation Reports.

The above were all of VIIIth Air Force origin. Policy files etc. used in the compilation of this Chapter originated from H.Q., A.E.A.F. or S.H.A.E.F.

- (2) Serviceable aircraft provided with crews and defined as 'effective strength' in the U.S.A.A.F.
- (3) These operated as 42 Bomber Groups and 15 Fighter Groups.

See Map No.16  
entitled 'Pre-  
Dawn Assembly  
Plan'

and south-west of the Wash respectively. The most important group of 26 airfields in the heart of East Anglia housed the Second and Third Bombardment Divisions, while another twelve airfields, concentrated mainly between Huntingdon and Kettering accommodated the First Bombardment Division. Fighter Groups were based in the same area to facilitate the protection and escort of the bombers, which was their main role.

#### Role of the Heavy Day Bombers before D-Day

TIM/MS.136/15,  
Directive to  
U.S.S.T.A.F.  
etc. dated  
17/April/44.

Reference has frequently been made in this Narrative to the importance of the role of the Allied Strategic Bombing Forces in softening up the defences of Occupied Europe and particularly in reducing the power of the German Air Force. In these operations the U.S. VIIIth Air Force had played a leading part. Even after 17 April, 1944, when the Supreme Commander assumed control of the Strategic Bomber Forces in the European theatre so as to direct their operations in support of Overlord, their Point-blank role of asserting superiority over the G.A.F. retained precedence over all other Overlord requirements on the grounds that although Overlord was the supreme operation for 1944, air superiority was an essential pre-requisite to it. Their secondary objective was the disruption of the enemy railway system, already described in an earlier part of this Narrative.

Ibid.

As D-Day approached, the Heavy Bombers shared in the programme of attacks on military camps, dumps, transport parks and coastal defences of various types. Limitations imposed by the Cover Plan (Fortitude) prevented more than one attack being made in the Neptune area for every two outside.

NJC/00/431/7,  
dated 23/May/44,  
Schedules B and  
C.

These were the operations carried out by the VIIIth Air Force during the four days ending at last light on 5 June in accordance with the Joint Fire Plan<sup>(1)</sup> issued by the Neptune Joint Commanders. The Air Commander-in-Chief, A.E.A.F., asked the VIIIth Air Force to apply 40 per cent of its full effort on D minus three or D minus two to the Fortitude area and the remainder to targets deep in Germany. Consequently, in addition to operations against airfields, railway centres, military installations and coastal defences, one deep penetration attack intended to contain enemy fighters and other defences inside Germany was planned but not carried out because of bad weather.

NJC/00/431/7,  
Schedule D,  
Sections A and  
B.

TIM/S.136/50/1,  
Encl.6, dated  
1/June/44.

Two alternative bombing programmes had been drawn up by the Neptune Joint Committee for putting into execution according to the circumstances found to exist when D minus one arrived. The first programme listed targets in the Neptune area which would require 25 per cent of the effort of the VIIIth Air Force Heavy Bombers in the event of it being considered that the place of the assault was still not known to the enemy. The second programme required fifty per cent of the available effort to be used against a larger list of Neptune targets if surprise had been lost.

In the circumstances, Intelligence sources on D minus two still believed that surprise had not been lost and operations proceeded on that assumption, about one-third of the 650 bombers airborne attacking batteries in the assault area and the remainder attacking batteries and Crossbow installations in the Pas de Calais. During the last few days before D-Day

(1) The marginal reference given above refers to the Schedule of Air Targets prepared by the A.E.A.F. Bombing Committee which was an elaboration of the Air Sections of the Joint Fire Plan.

operations were planned to avoid absorbing more than 50 per cent of the effective strength in order to ensure that there was the adequate effort available to discharge the heavy demands expected by the VIIIth Air Force for D-Day and subsequently.

#### Role of the Heavy Bombers - D-Day

On D-Day the major role of the Fortresses and Liberators Joint Fire Plan, was to assist in the plan for giving fire support to the sea-borne landings. They were timed to begin their air bombardment as soon as practical after the bombing by the R.A.F. Night Bombers had finished and their main function was thus to keep the defenders in their shelters while the assault boats were making their approach. The Army would have liked this bombardment to last as long as possible, but as a safety measure it was agreed that the air bombing was to terminate ten minutes before the first boats grounded on each Beach.<sup>(1)</sup>

NJC/00/74/38,  
dated  
8/April/44.

It was further arranged that as the above role would only absorb the effort of about 1200 aircraft on the first sortie of the day, <sup>the 650</sup> surplus bombers and aircraft making second sorties were to fly on other missions later in the day in an attempt to create blocks and choke-points on the roads leading to the battle area. Thus it was hoped to hinder the movement of enemy reserves and reinforcements.

VIIIth Air Force  
Overlord Report,  
6/June/44

#### Role of the VIIIth Air Force Fighters

The Air C-in-C, A.E.A.F. and the more important members of his Staff met the Commanding Generals of the VIIIth Air Force, the VIIIth Fighter Command and the IXth Fighter Command on 22 May, 1944, in order to hear the views of the latter on the employment of U.S. fighters in Neptune and to give decisions on their roles. General Doolittle proposed to use his Fighters to provide air cover west of the Cherbourg Peninsula for the withdrawal of the bombers of the VIIIth and IXth Air Forces and Bomber Command at dawn on D-Day. He further suggested that they might provide cover for the Battlefield Area in a broad semi-circle south and east of the Battle. Air Chief Marshal Leigh-Mallory thought that these patrols would largely be a waste of effort and asked that U.S. Fighter Bombers should not be used too much for defensive missions, but rather <sup>to</sup> be used offensively.

TLM/S.136/51,  
Encl.1

Eventually a compromise was agreed upon at the meeting and confirmed by General Spaatz, Commanding General, U.S.S.T.A.F. on 2 June. The aircraft of the VIIIth Fighter Command were given the task of operating outside the Battle Area except for the cover to be given to the airborne operations. Apart from escort duties found necessary to protect U.S. Bombers, the Thunderbolts and Mustangs were to 'operate continuously as Fighters or Fighter Bombers on strafing and bombing operations south and east of the Battle Area'. The control of these Fighters remained with the Headquarters, VIIIth Fighter Command (Major General Kepner), although Operations Orders were co-ordinated with the Combined Control Centre.

Ibid. Encl.2.

Ibid.Encl.2,  
para.1(ii)  
and Encl.4.

The Lightnings were assigned to a special role within the Tactical Area and in consequence they came under the temporary control of the Combined Control Centre, A.E.A.F. As they were

(1) Each Beach had its own H-hour. It was at first arranged that the interval between the conclusion of the bombing and the touchdown should only be five minutes, but this period was extended to ten minutes when it was appreciated that the weather would be bad.

less effective as fighters above 15,000 feet and as they were the most easily recognisable of all aircraft, they were assigned the task of covering convoys in Mid-Channel. They took over at about 40 miles from the English coast and handed over responsibility to the Tactical Air Forces when the shipping reached the Assault Area (i.e. about fifteen miles from the Normandy coast). F.D.T.13 controlled the Lightnings on behalf of the Combined Control Centre.

#### Role of the VIIIth Air Force after D-Day

No attempt was made by the Air C-in-C. to define in exact terms the role that he was expecting the Heavy Day Bombers and Long Range Fighters to play in the operations that would follow the landings. Requests for air support were made by the Army and these were dealt with by the representative Bombing Committee at Stanmore which then made recommendations to Air Chief Marshal Leigh-Mallory. The latter then discussed them with the Allied Air Commanders at the daily conferences when targets were allocated to the various air forces.

TLM/136/50/1.  
Encl.3 para.6.

But a letter sent from A.E.A.F. to U.S.S.T.A.F. on 1 June indicated quite clearly one of the most important roles that the VIIIth Air Force was expected to play immediately after the landings. It stated '.....While, broadly speaking, it is normally bad practice to employ strategic air forces against road centre targets well within the tactical area, it is considered that attacks on certain salient centres in the vicinity of the battle area by your forces will prove complementary to the efforts of the Tactical Air Forces in delaying the arrival of enemy reinforcements. Thus, to render immediate aid to our ground forces in their initial attack the following towns .....as soon as is practicable after the assault sorties:-' A list of road centres was appended.

TLM/S.136/51  
Encl.1 para.4.

Before these support operations began, General Doolittle pointed out to the Air C-in-C, A.E.A.F. that the Heavy Day Bomber was not a tactical weapon and that a day's notice of impending operations would be required. In practice, the discussion and allocation of the next day's air operations at the Air Commanders daily conferences ensured that no sudden demands were made on the Strategic Air Forces.

When the assault was over, it was necessary for the VIIIth Air Force Bombers to begin the Twenty-one Army Group programme of attacks on road centres. In addition to these, they also attacked bridges, airfields, and defended localities during the first week of invasion operations. The role of the Fighters was to continue to support the Bombers; but they also operated offensively as Fighter Bombers against communications and German Air Force targets.

#### General Outline

Even a short sketch<sup>(1)</sup> of the day by day operations of the VIIIth Air Force in connection with Neptune must of necessity appear rather long by comparison with similar accounts of the operations of R.A.F. Commands. This is due to the size of the VIIIth Air Force and in view of this factor together with the variety and complexity of its operations, the space devoted to them here is not to be regarded as excessive. It is considered desirable, however, to precede the detailed account by a general outline which summarises the main contributions made by this powerful Air Force to the successful assault on Normandy.

(1) Readers will not be referred to authorities for statements made in this general outline as all these events are more fully described in the body of the Chapter.

Operations before D-Day

It has already been shown that for many months the Allied Air Forces had been attacking objectives in Occupied Europe selected by A.E.A.F. to prepare the way for the cross-channel assault. During these Preliminary and Preparatory stages as they were termed in Leigh-Mallory's Overall Air Plan, the VIIIth Air Force had played a notable part in operations against ~~the traffic capacity of the French railway system,~~ the coastal defences of north-west France and ~~against~~ German Air Force bases. Towards the end of this period, when the plan began to enter on its final or tactical phase, the VIIIth Air Force shifted the emphasis on to attacks which would have more immediate but less lasting influence upon the success of the assault. At this stage, for example, attacks were made on railway bridges, viaducts, cuttings, crossings and marshalling yards, although the tearing up of trackage and damage to rolling stock were left to the fighter bomber rather than assigned to the heavy bomber.

*and a small part in the attacks on railways.*

On 1 June 1944, this Air Force commenced its share of air operations for the assault as set out in the agreed schedules laid down in the Overall Air Plan and the Joint Fire Plan. Targets selected, and last minute alterations, were passed to the VIIIth Air Force by H.Q., A.E.A.F., acting on behalf of S.H.A.E.F. Main attention between 2 June and D-Day was concentrated on the following objectives:-

- (i) Coastal Defences
- (ii) Transportation facilities
- (iii) Airfields
- (iv) Crossbow sites

In the first place it should be realised that the vital importance of keeping the enemy in doubt as to the exact time and place of assault had always to be kept in mind. In the circumstances operations were undertaken just before D-Day mainly in the Pas de Calais area and in weather conditions which precluded hopes of doing substantial damage; nevertheless the attacks were executed because it was necessary to draw the attention of the enemy to the Pas de Calais area. It was hoped that the repeated attacks on objectives in this sector would convince the enemy that the invasion must logically take place across the Straits of Dover. Subsequent events amply justified the expenditure of all the effort that was directed to this area.

In addition to considerations of deception which limited the amount of effort that could be employed in softening up the Neptune area defences, was the fact that it was necessary to conserve aircraft if the maximum striking forces were to be built up for D-Day. On 1 June the effective strength of the VIIIth Air Forces was 1,654 bombers and 871 fighters. On D minus three day and D minus one day effort was restricted so as to leave at least 50% of effective strength in reserve. At the same time the flow of replacements was quickened and as losses in the four days of operations from 2 - 5 June amounted to only fourteen bombers the effective strength of the VIIIth Air Force at the commencement of operations on D-Day stood at the record level of 1,851 bombers and 937 fighters.

Early in the morning on 4 June the unfavourable weather forecast for the 5th led General Eisenhower to postpone D-Day for 24 hours. The VIIIth Air Force programme for D minus one day (surprise not being lost) consisted of seven coastal batteries in the Pas de Calais and a similar number in the Neptune area. Notice of the postponement being so short the

VIIIth Air Force proceeded with the attacks on the Pas de Calais batteries but cancelled the missions to Normandy. For the remainder of the day and for 5 June the 'alternative programme in the event of postponement' was substituted. This began on D-minus two day with further heavy attacks on batteries in the Pas de Calais together with airfields and railway targets near Paris.

On D-minus one day as surprise was still not considered lost, six objectives were attacked in the Neptune area and twelve in the Pas de Calais. Fourteen out of the eighteen targets were coastal defence batteries and of the six Neptune batteries attacked, three were in the British and ~~three~~ in the U.S. Sector. Weather on this day as on the other three days was very disappointing and on the whole there was little evidence of damage to be seen.

During the four days from 2 June to 5 June, 1944 the VIIIth Air Force dispatched 3,386 bombers and 2,458 fighters on Overlord operations. The tonnage of bombs dropped amounted to 9,387 (U.S. tons) about 7,000 tons of which were dropped with little discernible effect upon the coastal defences of the Pas de Calais area. About 1,100 tons were dropped on airfields and over 900 tons on railway targets mainly in the neighbourhood of Paris.

Before passing on to D-Day operations mention should be made of the small number of Reconnaissance (22 sorties), Weather (21 sorties) Leaflet dropping (9 sorties) and Special Operations (52 sorties on radio counter-measures or supply dropping to the F.F.I.) Missions which were carried out by VIIIth Air Force aircraft during these four days.

#### D-Day Operations

D-Day operations were carried out on a scale larger than any that had taken place on a single day up to that time, 4,647 aircraft having been dispatched by the Command on four missions and operations subsidiary to them between 0200 and 2000 hours.

The first mission was concerned with the assault bombardment in which the task of the heavy day bombers was to bomb the beach defences while the landing barges were making their final approach. The other three missions later in the day were all intended to delay the arrival of enemy troops in the area by bombing selected towns to form choke-points on the roads.

The first mission involved 1,361 bombers about 1,000 of which were to attack four assault beaches and the remainder to bomb military headquarters in Normandy and choke-points in Caen. To carry out this complicated series of operations required solving problems of pre-dawn take-off and assembly, accurate timing of arrival over target and of bombing in relation to separate zero hours on each beach, and, as it happened, of bombing through the overcast to hit the beaches while missing friendly troops in close proximity.

The effectiveness or otherwise of this bombing has remained a question which has never been finally answered but all the problems of take-off and assembly, routing and timing were solved satisfactorily in spite of the very unfavourable weather.

Times of take-off for the attacks on the beaches varied from 0200 hours to 0530 hours and times over target from

0620 hours on Omaha (U.S.) beach to 0725 hours over Sword (British) Beach. But as visual bombing proved impossible it was decided to 'drench' the beaches with bombs rather than aim at pin-points. Safety arrangements also imposed a delay in releasing bombs until aircraft were well past the shoreline and thus so far as can be determined most of the bombs appear to have dropped well inland of the beaches. Immediate assessment of damage was impracticable because the amount of cloud spoilt most strike photographs while later observations were inconclusive because of other operations which had taken place over the same ground.

There has been a tendency in many quarters to belittle the results of this first mission because such a large proportion of the bombs seem to have fallen behind the front-line defences. It has also been said that despite the moral effect claimed for the air bombardment, there are few known cases on record of bomb casualties among the enemy or even of prisoners suffering from obvious bomb-shock. Nevertheless it does seem likely that the disheartening effect upon the enemy and the encouragement to our own troops of such a tremendous show of air power was of immense moral significance during the first critical hours of the assault. The temporary effect on signals and communications facilities was also a significant factor. However, it was realised that the attacks on Headquarters in the British sector and on choke-points in Caen were complete failures because of the weather.

The second mission of the morning was also a complete fiasco for the same reason. Over 500 aircraft went out to attack the focal points of the main road system of Normandy although they were not equipped for finding small targets and for bombing through cloud and nearly all of them had to bring their bombs back. The third and fourth missions, also aimed at Caen and the principal road centres in Normandy were mainly unsuccessful in spite of the use of pathfinder technique.

By the end of the day, the Air C-in-C had realised that his plan to assist the landing operations by delaying the arrival of enemy reserves at the battle front was likely to be ineffective unless the weather improved. The air plan envisaged the full use of the heavy day bombers for holding up movement by destroying railway bridges, cross overs, junctions and other vulnerable points by precision bombing from a safe height. They were also to create choke-points in the congested parts of important route centres. Leigh-Mallory could, of course, employ night bombers or medium, light and fighter bombers on these tasks but such aircraft were less suitable for the purpose even when weather permitted them to operate.

He allocated nine of these choke-points to R.A.F. Bomber Command on the night of 6 - 7 June and over 1,000 bombers operated with results as good as could be expected. But there were a great number of routes leading towards the lodgement area and all of them could not be closed. It was learned, for instance - and the study of German documents has confirmed the information - that enemy movement was very active on all routes through Leval, Villedieu, Chateaudun, Amiens, Arras and Paris.

#### Operations after D-Day

During the succeeding days when the Allied Air Forces were straining every nerve to block the movement of enemy

troops and supplies, the bad weather persisted, thus making the task of finding and hitting the enemy still more difficult. Throughout these operations and despite the great handicap imposed by the weather the Allies enjoyed one great advantage, due in no small measure to the work of the VIIIth Air Force. This was the complete ascendancy that was secured over the German Air Force in an area which was, after all, one where it might have been expected that the reverse would have been the case.

For over a week the operations of the VIIIth Air Force bombers, and fighters were directed towards the attainment of two main objects, viz:-

- (i) The interdiction of all rail and road movement into the battle area.
- (ii) The neutralisation of all enemy airfields within fighter range of the beachhead.

Less important operations aimed at maintaining the threat of a second landing in the Pas De Calais area and at reducing the effectiveness of flying-bombs by attacking their supply depots.

In connection with the first main roles assigned to the heavy day bombers a series of attacks were instituted against the Loire railway bridges with the intention of delaying the movement of all divisions in the south of France which attempted to join the battle. Similarly, the most vulnerable points of the railway lines that would be used for moving troops out of Brittany were attacked by the heavy day bombers. As the Seine bridges had all been broken before D-Day the effect of the new attacks would be largely to isolate the battle area from the rest of Europe.

During this phase from D plus one to D plus eleven thirteen missions were executed and over 20,000 tons (U.S.) of bombs were dropped by 9,800 heavy bombers. Losses were only 41 aircraft and, considering the exceptional spell of bad weather, achievements were satisfactory.

An excellent day's work on the bridge plan was done on 8 June and several of the Loire bridges were blocked but non-operational weather on the 9th prevented this advantage from being followed up and consolidated. Not until a brilliant series of feats on 15 June resulting in the cutting of seven Loire bridges was much further damage done by the VIIIth Air Force. Fortunately, the long term plan had so reduced the efficiency of the French railways by this time that although the task of isolating the battle area could not be completed in time to prevent the enemy bringing very considerable forces up to the front, the movement of all enemy ground troops was gratifyingly slow.

More effort was expended and greater success was achieved in the war against the German Air Force in France, a series of operations much more to the liking of the U.S. Air Commanders than the attacks on enemy transportation. Operations against airfields had already formed an important element of the preparatory air operations. These were resumed on a modest scale on 7 and 8 June and on a large scale on 10 June. On this date about 1,000 tons of bombs were dropped on active enemy airfields within fighter range of the beaches in an effort to destroy their buildings and 'post-hole' their runways. Similar attacks were made every day for a week, i.e. up to the 17 June.

The Brittany group of airfields were evacuated after a few days but those around Evreux and Dreux and in the neighbourhood of Paris were defended by flak and sometimes by fighters. G.A.F. reinforcements made their presence felt about three days after D-Day but never succeeded in making a determined and sustained effort against the overwhelming Allied air power even in the 'back' areas. On the whole it must be concluded that the striking power and morale of the German Air Force had been broken before the liberation of Europe was properly under way.

With the limited enemy air re-action, VIIIth Air Force fighters could be used in an offensive role. Up to D-Day their duty was the subsidiary one of protecting the heavy day bombers and this they carried out by flying area patrols as a screen before and after the arrival of the bombers in their target area while others flew with the bomber formations as close escort. With the G.A.F. so impotent after D-Day it was discovered that escorts were rarely necessary especially as bomber operations were restricted to a limited area without deep penetration.

It was also found possible to allow a large proportion of the fighters detailed for area support to carry out bombing and strafing attacks at the conclusion of their patrols. The Air C-in-C. was thus able to ask the U.S. fighters to attack all types of enemy movement outside the Tactical Area, i.e. in the zones where the VIIIth Air Force aircraft were operating. The following target priorities were assigned to them:-

- (i) rail transport
- (ii) road transport
- (iii) ammunition dumps
- (iv) troop concentrations
- (v) airfields.

After a few days experience the VIIIth Fighter Command were doing such effective work that they may be said to have made an outstanding contribution to the slowing up of enemy movement during the first phase of the assault.

Less spectacular but of no less vital importance to the success of the operation as a whole was the contribution made by the Groups of Lightnings which undertook the task of protecting shipping in the Channel. At first four groups were committed to this but when it was seen that the enemy were unable to interfere with our convoys, this scale of efforts was gradually reduced until it ended on 15 June. During these eleven days (5 - 15 June inclusive), 2887 sorties were flown on this duty.

#### D-Day - Planning and Execution of Bomber Operations

##### First Mission, 0600 - 0830 hours

See Map No.19

The first task of the Fortresses and Liberators on D-Day was to assist in the initial assault on the four beaches lying between the estuaries of the Vire and the Dives by contributing to the bombardment of the coastal defences during the critical period when the first Assault Boats were making their final approach. The air bombardment by the VIIIth Air Force Heavy Day Bombers coincided in time with that by the Navy and Assault craft and with part of the bombing programmes of the Medium, Light and Fighter Bombers which comprised the united fire support to the landings.

Joint Fire Plan  
NJC/00/74/38  
dated  
8/April/44

See this  
Narrative  
Chapter 5

The timing of the air bombardment by the Heavy Day Bombers in common with that by the other bombarding forces, varied however from that tentatively laid down in the Joint Fire Plan because when the Neptune Joint Commanders issued that document the date of D-Day could not be irrevocably settled. For planning purposes, H-Hour had been fixed at 0600 hours with allowances to be made for adjustments dictated by local conditions at each beach.

In fact, the postponement of D-Day from 5 to 6 June, and certain differences of tides and local beach topography resulted in H-Hours varying from 0630 hours on the U.S. (Omaha) beach to 0800 hours on the Canadian (Juno) beach in the British Sector.

Bombing attacks by large numbers of Heavy Day Bombers directed against several pin-point targets and over an extended period in a carefully timed schedule beginning at the early hour planned involved much careful planning and considerable experiment before all the formidable problems could be solved.

To enable the operation to be carried out at the time and in the manner planned it was necessary for the Heavy Day Bombers to take off in darkness and complete their assembly and outward journey to arrive over the target soon after dawn.

See Map No.18

As their targets consisted of a large number of small and often indistinguishable points<sup>(2)</sup> on a frontage of about 36 miles, which it was hoped to saturate with bombs for about half-an-hour, solutions to the problems of selecting the most suitable formation of aircraft to employ and the earliest time practicable to begin visual bombing had also to be found. As a result of trials, it was decided to employ squadrons of six aircraft flying in formations of six squadrons led by one Pathfinder H2X aircraft for the attacks on the beach defences in the first mission on D-Day. To enable the flights to assemble and be marshalled so that they could arrive over the target in the proper sequence an elaborate 'Pre-Dawn Assembly Plan' had to be prepared and rehearsed. This required the use of the aircraft's navigation lights and radar equipment, of ground beacons, searchlights and other lights to assist take-off, flying in formation, assembly in the correct area and starting in the correct order.

TLM/S.136/15/7  
Encl.5. Annex,  
para.3.

Finally the preparation of an alternative bombing plan in the event of weather being unsuitable for visual bombing had not been overlooked. The technique of bombing through the overcast involved all six squadrons (36 aircraft) flying abreast and bombing on the release of the H2X Pathfinder which was in the lead. If conditions of visibility were bad at the height aircraft were flying, formations were liable to be less close than normally was the case and thus the bomb pattern would be more scattered.

As this alternative bad weather plan had to be adopted on the morning of D-Day, hopes that it would be possible to concentrate bombs on pinpoint targets had to be abandoned. In fact, all that was expected of the first bombing mission by the VIIIth Air Force was that it would subject the beaches to a general drenching over the required period.

(1) See Chapter on Joint Fire Plan, section entitled "Timing of the Bombardment Programme".

(2) Indistinguishable, that is, from aircraft flying at 15,000 feet to 20,000 feet.

The bad weather on the morning of D-Day also caused the VIIIth Air Force to insist on further precautions to avoid the risk of hitting our own men and of hindering their movement after the touchdown. These were:-

- (1) an increase of the interval to elapse between the cessation of bombing and the first touchdown (H-Hour) of from 5 mins. to 10 mins.
- (2) bomb release delays imposed on later waves of bombers.
- (3) use of instantaneous fuzes on bombs to avoid cratering.

From 0516 hours to 0529 hours, 225 squadrons (1,361 aircraft) of Fortresses and Liberators were taking off in relays to form up for the first mission. Some of these had the honour of being the first day-flying aircraft to go into action on D-Day, though of course, R.A.F. Bomber Command and No.2 Group aircraft and American and British Airborne Forces had begun operations during the night.

VIIIth A.F.  
Field Order  
No.727(1)  
Operation  
No.394

The bulk of the force on the first mission (198 squadrons - 1,206 aircraft) were allocated to attack the 45 beach targets in support of the landings. In the three beach areas of the British Sector, 123 squadrons were given 32 targets, while 75 squadrons were allowed for the thirteen targets in the U.S. sector. Most of the targets were described as Strongpoints (19) or Defended Localities or Posts (11), but there were also eleven Batteries, one Divisional, one Regimental and two Battalion headquarters listed, all in the British Sector.

Targets of VIIIth Bomber Command, 1st Mission, D-Day

Omaha Beach 2nd Bomb Division - 75 Squadrons of B.24s

<u>Target</u>	<u>Type</u>	<u>Time of Attack</u>
Pointe et Raz de la Percée	Defended Locality	0600-0625
Vierville	3 " "	" "
St. Laurent-sur-mer	4 " "	" "
Colleville " "	3 " "	" "
Port-en-Bessin	2 Strongpoints	0610-0625

Gold and West Juno Beaches. 1st Bomb Division. - 75 Squadrons of B.17s

Longues	Coastal Battery	0645-0735
Arromanches	2 Coastal Batteries	0655-0720
	1 Strongpoint	
Le Hamel	2 Strongpoints	0655-0715
Meuvinnes	Rocket Emplacement	" "
Ver-sur-Mer	1 Coastal Battery &	
	1 Strongpoint	0655-0720
Mont Flerry	1 Coastal Battery	0715-0725
La Rivière	2 Strongpoints	0655-0715
Courseulles	2 Strongpoints	0655-0720
Caen	Chokepoints C3 and C4	0806-0830

East Juno and Sword Beaches. 3rd Bomb Divisions - 59 Squadrons  
of B-17s and 16 Squadrons of B-24s.

<u>Target</u>	<u>Type</u>	<u>Time of Attack</u>
Beribres-sur-Mer	Strongpoint	0655-0720
St. Aubin " "	"	"
Periers-sur-le-Dan	Battery	"
Petit Enfer	Strongpoint	"
Lion-sur-Mer	"	"
Ouistreham	2 "	"
Merville-Franceville	2 "	0655-0725
Molineaux	Coastal Battery	0715-0735
Colleville-sur-Orne	" "	"
Ouistreham	" "	"
Tailleville	Battn. H.Q.	0655-0728
St. Julien	Div. H.Q.	0725-0728
Bieville	Reg. H.Q.	"
St. Aubin d'Arquenay	Battn. H.Q.	"
Caen	Chokepoints C1 and C2	0730-0820

Planning had proceeded up to a late stage on the assumption that 1,200 aircraft would be available for the first mission but some days of non-operational weather combined with low wastage rates put about 650 more aircraft at the disposal of operational units on D-Day. It was therefore decided, at the request of the Army, to send 27 squadrons of these surplus aircraft to attack four vital chokepoints in Caen soon after H-Hour, so that they operated as a part of the first mission. The remainder of the surplus bombers were sent out to attack other choke points on a second mission about an hour later.

VIIIth Air  
Force Report  
D-Day,  
Annex.1

The 'Pre-Dawn Flight Assembly Plan' was an unqualified success in the rather trying visibility conditions of the night before D-Day, only three squadrons failing to make contact with their H2X Leaders. If anything, bombers were a few minutes too early over their targets. Apart from switching two squadrons from the Ouistreham Coastal Battery to other targets because bombing through the overcast in this area would endanger many French lives, targets remained as assigned in the original plan.<sup>(1)</sup>

VIII A.F.  
Overlord  
Report,  
D-Day.

In all, 2,944 U.S. tons of bombs were dropped on the first mission, the 100 lb. and 500 lb. types predominating in the British area and the 120 lb. Fragmentation type being used in the American area. About 1,015 aircraft of the 1,206 despatched attacked primary or alternative targets on or near the beaches. Visibility over Caen was so bad that many crews could not locate their Pathfinder aircraft and largely because of this only 47 out of the 155 aircraft assigned to the creation of chokepoints actually released their bombs. None of the aircraft detailed to attack the four Headquarters were able to locate their targets, but a few bombed alternative targets.

An outstanding and unexpected feature of this first mission on D-Day was the complete absence of effective opposition from the G.A.F. and even from flak. A heavy scale of G.A.F.

(1) A fortunate circumstance as it was afterwards learned that the battery which was supposed to consist of six guns of 150 mm actually had only two 75 mm guns, one of which was fired. There was also a dummy 150 mm gun. The other guns had been removed, presumably as a result of pre-D-Day bombing. (B.A.U. Report, No.10)

fighter effort had not been feared but no fighters at all put in an appearance despite the fact that the last aircraft on this operation were still near Caen after 0800 hours. Flak was unexpectedly inactive and only one out of the 1,361 bombers airborne, was lost by enemy action.

#### Results of the Attacks

It has never been possible to make an exact appraisal of the results of the great effort put out by the VIIIth Air Force on their first D-Day mission. This was mainly because the thick overcast prevented the usual photographs showing bomb strikes. Evidence from later photo-cover, ground surveys, interviews with Assault troops and interrogations of prisoners all suffers from disadvantages. Other aircraft either just before or soon afterwards, bombed the same areas often with bombs of the same type. It should be remembered too, that the instantaneous fuze reduced the size of the crater made by bombs so that many holes were soon obscured. The surface of the ground was so disturbed by vehicles and by excavations after the troops had established themselves that its original state was soon unrecognisable. It was bombarded by the Navy and in some cases by the Army and in any case was fought over within the space of a few hours. And finally, uncleared enemy minefields behind the beaches made a close examination of much of the ground impossible even at the stage when the Allies had moved out of Normandy.

VIIIth A.F.  
Report D-Day,  
First Mission,  
p.6.

TWC(45) 10  
para.41

The VIIIth Air Force reported that 'on the whole the bombing runs were well executed and all attacks were well within the allotted periods'. In this way, casualties to our own troops were successfully avoided while at the same time our men were greatly encouraged by the sounds of friendly aircraft passing overhead and bombing behind the beaches. This moral effect was not necessarily connected with the effectiveness of the bombing. The only report of bombing short came from the Hamel area where three bombs were seen to fall in the sea causing no damage to invading forces.

VIII A.F.  
Report, D-Day  
p.9 and Annex  
on Effectiveness  
of Bombing

After examining evidence from various sources, the conclusions reached by the VIIIth Air Force were as follows:-

(1) The immediate beach areas showed only limited evidence of bombing damage as was to be expected in view of the extra precautionary measures taken to avoid short bomb falls when through the overcast bombing technique was used.....Areas behind the beachhead, ranging from 300-400 yards to three miles revealed extensive evidence of concentrated bombing patterns.

(2) The principal contribution made by this bombing effort was the demoralization of enemy troops and the disruption of signal and transport communications which hindered the deployment of immediate reserves.'

TWC(45)10  
dated 10/May/45  
para.39.

In fact all the evidence available goes to show that the great bulk of the 2,944 tons of bombs on the frontage of the four beaches almost certainly missed the beaches, choke points and Headquarters altogether. The primary purpose of the bombardment under the Joint Fire Support Plan was therefore unrealised. This has been stated in an authoritative way by the Joint Technical Warfare Committee appointed by the War Cabinet to study the 'Fire Support of Seaborne Landings' which said in its report on Neptune that drenching bombing which was intended to neutralise the beach defences was largely ineffective in its immediate aim. In a later paragraph the Report says that except on Utah beach (bombed by

Ibid.  
para.47

IXth Air Force) the results of the drenching and aimed fire on the beach defences were wholly due to the naval effort.

A.O.R.G.  
Report No.292  
p.2. para.5

On the other hand the Army Operation Research Group, (1) while agreeing that the D-Day bombs did not fall on the beaches, states that in the 'British Areas, Field Guns and Coastal Guns appear to have been very effectively neutralised by the pre D-Day (Air) bombardment and had little effect on the Assault'. While it is not contended that the Fortresses and Liberators hit their targets on the morning of D-Day, it is argued that all the neutralisation that was effected was not solely the result of naval effort but was partly due to air attacks before D-Day as well as on D-Day. It is, in fact, very difficult to separate the results of the air attacks made at different times and by different Air Forces.

Ibid.  
p.5. para. 2.

It was concluded by the Army Research Group that the (naval) beach drenching put 10% - 20% of all defending weapons out of action. 'A further 10% - 20% of weapons were not manned but whether this was due to shortage of personnel or to the moral effect of the bombardment is not known.' Whichever was the explanation it is the firm conviction of the Air Forces that the heavy air bombardment made no mean contribution to both.

TWC(45)10  
para.48

However, as the assault troops did not make a point of putting on permanent record the fact that they got ashore - and, in many cases, well inland - before defenders had properly recovered from their bomb (and shell) shock, the Technical Warfare Committee states that 'In no case is there any record by assaulting battalions of the defenders being stunned or demoralized to such an extent that the attackers were able to overcome the defences without much difficulty'.

A.O.R.G.  
Report No.292  
p.3. para.2.

The other claim made by the Air Forces was that the efficiency of guns was greatly affected by damage to control rooms, signals lines and installations, living and feeding quarters, stores and administrative facilities of all kinds. It is difficult at any time to substantiate such a claim but one very great service was rendered to the British Assault Forces, probably by the Fortresses. A fortunate bomb strike cut the firing cable which controlled the 20 banks of four rocket projectors trained on Juno beaches from about 3,000 yards inland. (2) As a consequence, these rockets were never fired and the British troops were saved from many casualties. Such rockets appear to have caused heavy losses on Omaha Beach.

#### Lessons for the Future

C.O.H.Q. Staff  
Study on Fire  
Support of  
Seaborne Land-  
ings (Produced  
1946)

This operation, in combination with the other parts of the Overall Plan, is considered to have important lessons in view of the fact that it is regarded as the best model available for possible assaults in the future. Some of the lessons have been embodied in what has become standard Combined Operations doctrine on the joint assault of a defended coastline.

So far as beach drenching from the air is concerned, the main lesson is that if this depends on the accuracy of visual bombing then due consideration must be given to the fact that

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- (1) Army Operational Research Group Report No.292 dated 14 August, 1945, prepared for War Office (S.A/A.C).
  - (2) Target No.6 for the 1st Bombardment Division was a rocket emplacement at Meuvaines on the Western Sector of Juno Beach Area. A force of nineteen Fortresses was despatched of which thirteen attacked with 476 bombs of 100 lb. H.E.

TWC(45)10  
para.54.

weather conditions may seriously reduce this accuracy and thereby expose our troops to the risk of being hit. In the event of bad weather the other possible courses of action were set out by the Joint Technical Warfare Committee's Report in the following terms:-

- (a) Adherence to the fine weather plan, the risk to the assaulting troops being accepted.
- (b) To aim the bombs further inland in which case the neutralising effect on the positions close to the beaches may be negligible.
- (c) To bring forward the time of the bombing. This may well be impracticable and it will in any case allow the neutralising effect to wear off.
- (d) To cancel the beach drenching by air and to use the bombers to attack other targets further from our own troops.
- (e) To assault without air support.

Ibid.  
para.55

The Technical Warfare Committee concluded that there was 'no doubt that air burst bombs with good downward fragmentation would very greatly improve the value of beach drenching bombing attacks'. At the time of Overlord we had no method of achieving this '.....but.....the Americans have now produced a V.T. fuse (T.51 and T.52) which appears entirely satisfactory.... The next best weapon for beach drenching is the 20 lb. or 23 lb. F.bomb clustered for economical stowage'.

Ibid.  
para.56.

These remarks can best be ended by quoting a final statement by the Committee which runs: 'In order to extend the effects of the bombardment after fire has been lifted, the use of simulated bombing runs by medium bombers merits consideration. If circumstances permit, such as a weakness of the A.A. opposition, the first aircraft over the target could return to make a dry run after all bombing has been completed. This might make a difference in the critical period during which fire support is normally at its minimum and the neutralisation of the defence is wearing off'.

The great interest in this statement lies in the fact that although the moral effect of bombing had been minimised owing to the fact that its presence was not reported by the assault troops, the Committee showed that they were nevertheless inclined to agree with the Air Forces that such an effect was likely and its production was well worth attempting.

#### Second Mission, 0900 - 0940 hours

After the attempt to drench the beaches and to create four road blocks in Caen, over 500 Liberators and Fortresses surplus to the requirements of that operation were sent on a second mission whose object was to delay the movement of enemy reserves towards the battle. Owing to the weather, this operation was almost entirely abortive.

Route centres in the chief Normandy towns had been under study by the Army and by the Stanmore Bombing Committee and those suitable as targets had been allotted to the Allied Air Forces for attack after the Assault. It was hoped to create in this way, choke-points in all the main route centres leading to the beach-head that could not be easily cleared.

NJC/00/431/7  
dated 23/May/44,  
Schedule J.

Those allotted to the VIIIth Air Force for attack on the morning of D-Day were as follows:-

VIIIth Air Force Report on D-Day.		<u>Force 1</u>	<u>3rd Bcmb Division</u>	
		Thury Harcourt	3 Chokepoints	0900-0910 hours
		Lisieux	3 "	"
		Falaise	3 "	"
		<u>Force 2</u>	<u>2nd Bomb Division</u>	
		Villers Bocage	3 Chokepoints	0900-0910 hours.
		St. Lo	4 "	"
		Coutances	4 "	"
		Foret de Cerisy	1 "	"
		<u>Force 3</u>	<u>1st Bcmb Division</u>	
		Caen	4 Chokepoints	0930-0940 hours.

Air C-in-C.,  
A.E.A.F., O.R.B.,  
Appendix J/2.

The idea that they would be required to bomb French towns without definite military installations was extremely distasteful to Generals Spaatz and Doolittle and they only accepted those targets under protest and after it had been agreed that they would be permitted to drop leaflets warning inhabitants of the principal towns of the imminent danger of bombing.

The leaflets were dropped as the first troops landed so as to be in good time for the bombing planned to take place after 0900 hours.

NJC/00/431/7  
dated 23/May/44,  
Schedule J.

Little need be said of the operation itself as the continued cloud made accurate bombing impossible and only one Pathfinder aircraft was available. The result was that nearly all the 528 aircraft which were despatched were unable to bomb. Argentan, which was on the list of targets allotted to the VIIIth Air Force, was bombed as an alternative target by three Groups of B-17s (37 aircraft) which were operating with the one available Pathfinder, but the results were not seen. As Argentan was also bombed by other aircraft before and after this attack, it is difficult to say what success attended the efforts of the Fortresses on this occasion. With the exception of two aircraft that were lost through collision, all other units returned to base with their bombs. Little flak was encountered and no enemy aircraft were seen.

#### Third Mission, 1330 hours

Adv. A.E.A.F.,  
O.R.B.,  
6/June/44,  
p.7.

As the hours of the morning passed without a break in the banks of clouds over the battle area, increasing concern was felt by the Allied Commanders over the difficulty of delaying enemy movement into the area by means of offensive air action. The failure at Caen gave the Army cause for particular anxiety and in consequence it was determined to make a further attempt to break the two Orne bridges near the centre of the city.<sup>(1)</sup>

VIIIth Air Force  
D-Day Report.

Six squadrons of Liberators each led by one Pathfinder equipped with GH (73 aircraft in all) were despatched, and 56 of them bombed on GH indications through cloud, dropping almost 156 (U.S.) tons of bombs. The few strike photographs not entirely obscured by cloud showed that the town was hit but it was subsequently learned that the two bridges were not damaged.

(1) These were known as Chokepoints C.3 and C.4 - Schedule J by 'Air Targets'.

Fourth Mission, 1935-2030 hours

By the end of the afternoon the anxiety at Headquarters, Twenty-one Army Group, regarding the chances of blocking the routes through Caen and the towns south and east of the Assault Area had reached an acute stage. The weather was the dominating factor and the forecasts were unpromising. However, it was planned to use the Heavy Day Bombers in a further attempt to stop movement through Caen. This operation was planned for the late evening of D-Day.

See Map No.20

The Commander, Advanced A.E.A.F. asked the Air C-in-C. if, having regard to the probable weather, this commitment might be assumed by the Medium Bombers of the IXth Air Force who could bomb from below cloud if found necessary. Air Chief Marshal Leigh-Mallory agreed with the suggestion.

Adv. A.E.A.F.,  
O.R.B.,  
6/June/44, .  
pages 7 & 8.

The fourth mission to be undertaken by the VIIIth Air Force bombers was therefore executed in the evening of D-Day and was directed against ten important route centres, but not Caen. Over a half of the bombers which had taken part in the dawn operation made second sorties on this mission. The targets consisted of the following choke-points which had not been successfully attacked:-

See map No.20.

Vire	}	B-24s of 2nd Bomb Division.
Pontaubault		
St. Lo		
Coutances		

Thury Harcourt	}	B-17s of 1st Bomb Division.
Conde-sur-Noireau		

Pont l'Eveque	}	B-17s )	of 3rd Bomb Division.
Argentan			
Falaise		B-24s )	
Lisieux			

Considerable difficulty was experienced in England before the bombers left because of the heavy clouds and several aircraft found themselves in the wrong Group. Very few abandoned the operation, but scores brought their bombs back to base. Others could not find their own primary targets and in consequence bombed alternatives which were the primary targets of other units. A summary of the results shows that 1,568 U.S. tons of high explosives were dropped by 553 out of the 736 bombers that were despatched on the mission.

VIIIth Air Force  
Report, D-Day.

Strike photographs where available and reconnaissance pictures taken later, showed that good results were obtained in Vire, Coutances and Conde-sur-Noirean, i.e. from the attacks made by about 120 of the aircraft on the mission. Photo-cover of Falaise, taken after a second attack on the next day also showed good results but it was impossible to tell which of the two attacks - or, indeed, whether raids by the Tactical Air Forces - had done the damage seen. The evidence goes to show that enemy movement was slowed down but, though impeded, it was by no means stopped.

Resistance from enemy A.A. and fighters was once again negligible, and no bombers were lost.

D-Day Operations by the U.S. VIIIth Fighter Command

In accordance with the agreement between the Air C-in-C, A.E.A.F. and the Commanding Generals of U.S.S.T.A.F. and the

TLM/S.136/51  
Encl.1.  
dated 22/May/44  
DS 94352/1(231)

VIIIth Air Force, the fighters of the VIIIth Fighter Command (Maj. Gen. Kepner) were given three main roles in Neptune viz:-

1. To provide indirect support in the area between Normandy and the rest of France, to Allied bombing and airborne operations.
2. To attack enemy ground movement towards the battle.
3. To protect Cross-Channel shipping.

VIIIth Air Force  
Overlord Report  
D-1 Day.

At 1800 hours on 5 June, 1944, there were 937 serviceable aircraft in the fifteen Fighter Groups which were included in the 65th, 66th and 67th Combat Wings of the VIIIth Fighter Command. Each Wing thus had five Groups: two Wings included Groups of all three types with which the Command was equipped, but the 67th Wing had Lightnings and Mustangs only. Of the fifteen Groups, seven were equipped with Mustangs (P-51), four with Lightning (P-38) and four with Thunderbolts (P-47).<sup>(1)</sup> In all, there were 33 squadrons made available for Overlord.

Plans to discharge the first two roles in paragraph one above were prepared by the VIIIth Fighter Command under whose control the Mustangs and Thunderbolts remained throughout the whole period. The planning and control of all air operations to protect Cross-Channel shipping was centralised under the Combined Control Centre. Thus eleven Groups of the VIIIth Air Force total fighter strength of fifteen Groups remained under the control of the VIIIth Fighter Command, to carry out defensive and offensive operations overland as agreed with A.E.A.F. Four Groups (the P.38s) passed to the temporary control of Uxbridge.

With the responsibility for protecting bombers and troop-carrying aircraft in mind, the VIIIth Fighter Command plans for D-Day provided for three peaks of fighter activity timed to coincide with the periods when the former aircraft were most active. Approximately two-thirds of the effort of the Mustangs and Thunderbolts was allotted to operations during these busy periods while the remaining sorties were spread out over the rest of D-Day.

The code name Full House was given to the plan covering the first and most active period of the day when the R.A.F. Night Bombers and U.S. and R.A.F. Troop carriers were returning from operations and when the U.S. Heavy and Medium Day Bombers were carrying out their first missions. This plan covered the period from Morning Civil Twilight minus 30 minutes (0425 hours) until about 1000 hours. A perimeter of fourteen patrol areas forming a semi-circular screen around the whole of the Tactical Area was patrolled by VIIIth Fighter Command squadrons stepped up at heights of 8,000 feet, 12,000 feet and 17,000 feet. Pilots were under orders to intercept enemy aircraft attempting to pass, but were to avoid entering the Battle Area themselves unless engaged in combat. They were not to leave their patrol lines to attack ground targets until after 1000 hours.

The plan for the second period of great activity from about 1100 hours to 1500 hours was known as Stud. It had as its prime object the prevention of enemy air or ground movement from outside a line running from the River Loire to Granville through Vire, Flers, Evreux, to Rouen towards the beach head. Plan Stud coincided in time with the Third Bombing Mission which was sent out to create choke-points inside the city of Caen.

(1) Note: In the U.S.A.A.F. there was sixteen aircraft in a Fighter Squadron and three Squadrons in a Fighter Group.

The manner in which Stud was carried out became the pattern for many subsequent operations. During the stated hours, fifteen areas were allotted to the 37 squadrons. The squadrons operated by splitting into two flights of eight aircraft so that while eight aircraft were making fighter-bomber attacks on targets of opportunity on the ground, the other eight furnished top cover. These patrols lasted an hour each with areas and restrictions on the fighters similar to those in Full House.

In the evening, between 1930 hours and 2200 hours, when the Heavy Day Bombers were attacking ten Normandy nodal points and the Airborne Forces were being reinforced, plan Royal Flush was executed by the VIIIth Fighter Command. Nine Groups<sup>(1)</sup> of P-47s and P-51s were deployed in offensive patrols outside the battle area to intercept enemy aircraft and to attack ground targets. Two further Groups of P-47s under long range Fighter Control (Type 16) operated in the regions around Rouen and Beauvais. Thunderbolts remained on patrol for two hours and Mustangs half an hour longer.

Details of the results of all these patrols are not available nor are most of them of sufficient importance for prolonged study. Nearly all missions included aspects of bomber support, offensive patrol, strafing and bombing, but there were few incidents and no large scale engagements and, apart from the weakness of enemy opposition, no great surprises.

Nearly 100 tons of 250 lb. and 500 lb. H.E. bombs were dropped by 547 Fighter-Bombers, the targets being extremely varied, but mainly rail and road bridges (17) marshalling yards (10) and other transportation targets. On the whole, less movement was seen than was expected.

Minutes Seventh  
Allied Air  
Commanders'  
Conference dated  
7/June/44  
para.8.

As regards enemy air opposition, it was to be expected that as these VIIIth Air Force fighters would be penetrating deeper than those of the Tactical Air Forces they would have met more and earlier German aircraft. This, however, was not so. No engagement occurred during the morning and claims later in the day were unusually modest. These amounted to 28 enemy aircraft destroyed and fourteen damaged for the loss of 25 VIIIth Fighter Command aircraft. Most of the claims were made by the 824 Fighters on Area Patrol, which claimed 19 - 0 - 12 enemy aircraft and lost 17. In one important clash with the German Air Force, the VIIIth Fighter Command intercepted 20 aircraft and claimed to have shot ~~down~~ down 15.

JAPEO  
Appendix C.

The Shipping Patrols flown under arrangements made by the Combined Control Centre worked smoothly and well. As there was no enemy interference with the Cross Channel crossing the patrols became a matter of routine within a very short time.

JAPEO  
Appendix C  
pp.4 to 6.

Reference to the map entitled 'Fighter Patrol Areas' Map No.19 will show that on D-Day the area of responsibility allotted to the Lightnings embraced the whole of the convoy route from off the Isle of Wight to the Assault Area.<sup>(2)</sup> But in fact they began to be responsible for the convoys on D minus one Day when four Groups from the VIIIth Fighter Command and three Groups from the IXth Fighter Command protected the Expeditionary Force from 1600 hours until 2330 hours, during

- 
- (1) On this occasion Groups were of two Squadrons or only 32 aircraft.  
(2) i.e. up to within about fifteen miles of the Normandy coast.

which time the shipping had reached 49° 50' North which is beyond Mid-Channel.

At 0430 hours on D-Day the four Groups of VIIIth Air Force Lightnings with two Groups from the IXth Air Force began their patrols under the control of Fighter Direction Tender No.13 (Wing Commander Griffiths) out in the Channel. Both flanks and the central convoy route were patrolled until 2330 hours. Patrols were at Squadron strength in Yoke, William, Victor, and X-Ray Areas and were split into Flights when required. Duration of patrols was 90 minutes. The VIIIth Fighter Command Lightnings flew 578 of these patrols on D-Day without loss.

#### Summary of D-Day Operations

The first day of Overlord was a day of records for the VIIIth Air Force. Never before had any Air Force under one Command dispatched so many aircraft in one day in a single theatre of war, and never before had such a large bomb tonnage been dropped by a Day Bomber force. Shown in tabular form the total D-Day effort by the VIIIth Air Force was as follows:-

Type	Dispatched	Attacked	Bombs (U.S. tons)
Bombers	2,698	1,729	4,777
Fighters	1,949	-	96.8
	4,647		4,873.8

This represented about two flights per serviceable Fighter. U.S. Fighter aircraft were, of course, airborne for much longer periods than R.A.F. Fighters. About a half of the Heavy Bombers did two operational flights.

Unfortunately, the weather which had enabled the Allies to spring so great a tactical surprise, severely limited the advantage which sprang from such a vast preponderance of air power. This point has already been emphasised in the parts of this Narrative dealing with the contribution of the R.A.F. to the Assault. But the VIIIth Air Force was affected much more adversely because its contribution depended so largely upon the effectiveness of the Heavy Bombers. As a striking force employing visual methods of precision bombing, the Fortresses and Liberators were a great potential asset. However, the effect of bad weather was such that they were forced to resort to Pathfinder technique and thus both their numbers and their effectiveness were drastically reduced.

In the nature of things there will always remain some doubt about the actual contribution of the first mission of the VIIIth Air Force to the success of the initial assault. The timing by the great force of 1200 bombers was admirable, though their bombs probably fell behind the beaches. But it does not seem possible that troops in the vicinity could remain unaffected by an air raid in which about 3,000 tons of small calibre bombs fell along a short stretch of the coast and nowhere far away from the beaches. In any case the experience gained in the planning and execution of this operation has taught some very important lessons for the future. It should be added that the small force of aircraft on the first mission detailed to block roads in Caen also failed in their object because it proved impossible to locate their pin-point targets.

With the second mission at about 0900 hours on D-Day began the execution of the Air Commander-in-Chief's tactical plan for the delay of enemy reserves. The targets of over

500 bombers on this operation were 25 choke-points in eight key centres in Normandy. In the absence of ~~either~~ good weather and a surfficiency of Pathfinders the operation was almost completely abortive. This was a great disappointment to the Army as well as to the Air C-in-C.

A small force of 73 aircraft was dispatched at noon to cut two bridges across the Orne inside Caen. Once again they were obliged to bomb on GH and were unsuccessful, although there was too much cloud for results to be known.

At 2000 hours in the evening a further attempt was made to delay enemy movement towards the battle by employing the VIIIth Air Force bombers to create choke-points at the principal route centres in the vicinity. Over 500 aircraft out of the 736 dispatched dropped their bombs, some on H2X and some through temporary breaks through the clouds. There is evidence to show that a few of these attacks were attended by good results, although not enough damage was done to impose the delays required.

The fighters, although of secondary importance in the VIIIth Air Force, did in fact succeed in doing all that was expected of them. They undertook the bulk of the work of protecting the Cross-Channel convoys during daylight, they patrolled the outside boundary of the Tactical Area and formed an obstacle to the intervention of the German Air Force and, as fighter-bombers, they attacked numerous transportation targets in the areas allotted to them.

#### Operations Subsequent to D-Day

At 1800 hours on D-Day and on every succeeding day the Air C-in-C. held a Staff Committee in his War Room to consider targets to be allocated at the Air Commanders' Conference on the following morning. So far as the general situation was concerned, enemy air reaction on D-Day had been negligible and neither our convoys nor the beaches had been attacked by the German Air Force. The only disturbing feature was that the weather had prevented the Air Commander-in-Chief from putting into execution the tactical phase of Twenty-first Army Group/A.E.A.F. Plan for delaying the movement of enemy reserves. Attacks on many of the road and rail centres which had been selected as the targets of the VIIIth Air Force had not been carried out or, when attempted, had been ineffective, and thus the carefully laid plans were in danger of being nullified. It was known that the enemy was completing his preliminary concentrations, especially in the Caen area, and that considerable road and rail movement was taking place.

It was decided that so long as these movements in the forward area were still in progress, attacks on the principal road centres in Normandy should retain their priority, and for this reason the same targets as before were allocated to the VIIIth Air Force. In addition to these, three key points on the Grande Ceinture railway system around Paris were also selected for attack by the Heavy Day Bombers. These were Juvisy, Versailles and Massy-Palaiseau, and the VIIIth Air Force had already bombed them in spite of a strong disinclination because of the French casualties that had to be incurred.

On the morning of 7 June, there were 1,972 Heavy Bombers ready for operations, but the weather was so bad that it was thought useless to operate more aircraft than could function with the 22 GH Pathfinder aircraft that were available. In any case, attacks on the Grande Ceinture railway centres were ruled out because of the increased risk of casualties in the

Air C-in-C,  
A.E.A.F.,  
O.R.B., p. 4.

See Chapter 4  
above.

absence of conditions suitable for precision bombing. At 1000 hours there was 9/10th cloud, with base of cloud varying from 1,500 feet to 3,000 feet in North-West France, so that Pathfinders technique was essential. The forecast promised an improvement in the weather during the evening with conditions possibly good enough for some visual bombing at 1900 hours.

Op. No.397

Int/Ops. Summary  
No.38

The first mission set out to attack seven of the Normandy route centres on the priority list. These route centres were still being used by enemy traffic, although most of them had already been subjected to attack by day or night bombers. Nine Groups (9 x 18 aircraft) of Fortresses from the First Bombardment Division went to Flers, Conde-sur-Noireau and Falaise, attacking at about 1200 hours. Four towns were assigned to the 24 Liberator squadrons of the Second Bombardment Division, which attacked Lisieux, L'Aigle and Argentan about two hours later. Alencon - fourth town on the list - was not bombed owing to faulty GI data supplied to the squadrons.

No enemy aircraft were encountered by either the Fortresses or the Liberators and, as ack-ack was unusually ineffective, no bombers were lost. Fighters provided a screen of area cover in routine fashion. 402 Fortresses and Liberators attacked, dropping 1,170 U.S. tons of H.E. bombs.

Inter. Report  
S.A.1971

Photo Reconnaissance showed fair to good results, but it must be borne in mind that the damage shown at Conde and Argentan could also have been due to raids by R.A.F. bombers on the night before, (i.e. night 6/7 June).

Air C-in-C.,  
A.E.A.F.,  
O.R.B.,  
Appendix J10  
para.18

While the bombers were airborne on their first mission, the Air Commanders' Conference was discussing operations for the following 24 hours. Railway bridges, junctions and crossings at Nantes (3), Tours (3), and Angers (2) were allocated to the VIIIth Air Force Heavy Bombers for attack as soon as the weather was suitable. Information was also received that about 10 Ju.88s had been moved from Bordeaux to Kerlin-Bastard as a part of a general reinforcement movement, which also included the movement of fighters to Laval and Evreux, and Long Range Bombers to airfields at Nantes, Chateaudun, Brussels, Cambrai and Tours. The C-in-C. Coastal Command, made a point of asking that Kerlin-Bastard airfield should be heavily attacked to assist his aircraft on their anti-U-boat campaign.

Ibid. para.9

Ibid. para.14.

With the prospect of more reasonable weather, a second mission was flown by 591 Fortresses and Liberators, which were over their targets from about 1900 to 1940 hours. Eight railway targets at Nantes, Tours and Angers were the objectives of 447 aircraft from the Third Bombardment Division, while Kerlin-Bastard was attacked by 134 out of the 144 Fortresses despatched by the First Bombardment Division to that vital airfield in Brittany.

Air C-in-C.,  
A.E.A.F.,  
O.R.B.,  
Appendix JII,  
p. 9.  
Interp. Repts.  
S.A.1970, 1972  
and 1973

Visual bombing was possible at Nantes with the result that 178 aircraft were able to attack. Subsequent reports indicated that both the east and west railway bridges at Nantes had been broken. There was too much cloud at Angers and Tours for the targets to be seen, and most of the aircraft were forced to attack secondary targets, which included marshalling yards at Laval, Chateaubriant, Niort and Vitre and a road bridge over the Loire at Montjean. One bridge at Tours was reported down and damage was also seen at Angers.

Interp. Rept.  
S.A. 1969.

Visibility over Kerlin-Bastard<sup>(1)</sup> was excellent when 134 of the Fortresses led by H2X Pathfinders dropped about 300 tons of bombs on the airfield. There was no fighter opposition to this attack, although about twenty enemy fighters were sighted near Lorient.

VIIIth Air Force  
Overlord Report  
Bomber Ops.  
7 June 1944,  
p. 3.

Although there was no fighter opposition in France and the flak was neither heavy nor well organised, these operations were not completed without loss. Two Ju.88's somehow managed to penetrate into East Anglia undetected and while over U.S. bases succeeded in shooting down four B-24's before making good their escape.

Int. Ops.  
Summary No. 38

The fighters of the VIIIth Fighter Command carried out area patrols at squadron strength in seven areas around the perimeter of the Tactical Area on lines very similar to those on D-Day. At the completion of one hour on patrol a large proportion of them went down and attacked targets of opportunity - generally rail and road transportation facilities - before returning to the U.K.

Such patrols were begun in the morning but were also arranged to co-incide with the operations of the bombers in the evening. A representative list of their targets included *railway centres* seventeen ~~marshalling yards~~, nine trains, five bridges, four tunnels, six stretches of permanent way, five road convoys, two airfields, and a lorry, while their claims included fifteen locomotives, 59 rail cars (waggons) 92 trucks (lorries), and 24 other rail and road vehicles.

The fighters reported much more opposition than the bombers, about 150 single-engined German fighters having been sighted during the day, several of the formations being in aggressive mood. Four U.S. fighters were lost but 31 enemy aircraft were claimed to have been destroyed.

The number of VIIIth Fighter Command aircraft despatched amounted to 1,595 which included operational flights by 568 Lightnings from the four Groups responsible for the protection of Cross-Channel shipping.

By the evening of D plus one, Air Chief Marshal Leigh-Mallory had come to the conclusion that there was no longer any justification for the employment of the strategic bomber forces in a vain attempt to hold up enemy movement in and around the immediate battle area. As he saw it, his two main tasks for the future would be:-

Air C-in-C.,  
A.E.A.F., O.R.B.,  
June 1944, p.5.

(1) to seal off the whole of the battle area from the rest of Occupied Europe by blocking the crossings of the Seine and Loire and by making the Paris-Orleans gap impassable.

(2) to exclude the two German divisions stationed in Brittany from the battle.

The Seine bridges had all been cut by D-Day but no systematic attacks had been made either on the Loire crossings or on the bridges carrying the main routes out of Brittany. Even at this stage after D-Day it was still not policy to throw the spotlight on the Loire area because it was realised that the Cover Plan remained a very real factor in tying the major German forces to the Pas de Calais. The longer the enemy

(1) It will be recalled that on 8 June, Kerlin-Bastard was visited by relays of fighters from No. 10 Group throughout the day.

remained in such a state of uncertainty the better for the Allies.

Ibid,  
p.6.

However the VIIIth Air Force was requested to attack on 8 June the railway centres of Orleans and Etampes, various railways in Brittany, railway bridges across the Loire and one airfield.

Op. No.400

*Etampes*  
Interp. Rept.  
S.A. 1975

Early on the morning of D plus two about 1,160 bombers were assembling in three main bodies and one small special force, to attack the targets selected. Most of them were over their targets at about 0830 hours. About 400 Fortresses of the 1st Bomb Division were assigned to attacks on railway bridges, marshalling yards, junctions and cross-overs at Orleans (2), Etampes, Morigny (Etampes) and La Frilliere bridge (Tours). This mission was highly successful at Orleans and La Frilliere where there was good visibility, but failed at Etampes and Morigny owing to cloudy conditions.

A comparable force of about 400 Liberators drawn from the 2nd Bomb Division was sent to attack the railway bridges and crossings at Angers, Rennes, Vicomte (River Rance near Dinan) and Pontaubault. Their targets also included the airfield at Le Mans and landing grounds at Flers and Laval. This force was less successful and only achieved good results at Angers and less satisfactory results at Le Mans airfield and Pontaubault bridge. Clouds obscured the other targets. A special force of fifteen Azon Liberators carrying radio-controlled bombs was despatched to attack railway bridges at Redon, Vannes and Porcaro (near Floermel) in Brittany but the impenetrable clouds prevented any sighting of the targets and they had to abandon the task after a second attempt in the afternoon.

The 3rd Bomb Division despatched 340 aircraft against Loire railway bridges and junctions at Nantes (3), Cinq Mars (2) and Tours. This force found good conditions for visual bombing and action photographs showed several accurate strikes.

Unfortunately the breaks in the clouds during the early morning were not maintained and in view of the fact that the weather was closing down again no second missions could be undertaken by the heavy bombers. (1)

VIIIth Air Force  
Overlord Report  
8 June 1944,  
Bomber Ops.  
p.5.

1,159 heavy bombers (2) had operated during the morning, 735 of them actually carrying out attacks with 2,012 U.S. tons of bombs. The majority of the formations encountered no enemy fighter opposition and very little flak. A Fortress Group was attacked near Mezidon by fifteen F.W.190's but the latter were driven off by R.A.F. Spitfires engaged on other operational missions. No mention of this incident has been discovered in 2nd T.A.F. or A.D.G.B. records.

Liberators passing over Jersey were attacked by twelve Me.109's and one bomber was lost while two enemy fighters were claimed shot down.

Intensive fighter operations were carried out on D plus two day even after the weather had deteriorated, 1,535 fighters having been airborne and 1,405 completing their sorties. Missions were very similar to those of the two previous days. Four Lightning Groups provided 371 shipping protection patrols over the Channel and 1,164 other fighters were despatched on

(1) With the exception of the second sortie by the Azon Liberators to Redon, Vannes and Porcaro mentioned above.

(2) Total number of Heavy Bombers despatched on 8 June was 1,174, i.e. 1,159 plus 15.

Int. Ops.  
Summary No. 39.

bomber support, strafing and fighter-bomber tasks. The latter claimed to have put out of action 27 locomotives and hundreds of railway wagons, road vehicles, etc., and numerous railway yards, junctions, bridges and stations shared the fighter-bombers' loads of 233 tons of bombs.

About 130 enemy aircraft were seen by the fighters but few contacts were made. The only notable engagement occurred over Illiers airfield (near Evreux) where enemy aircraft were caught taking off and seven were shot down. Altogether 46 enemy aircraft were claimed and 22 U.S. fighters were lost.

Air C.-in-C.,  
A.E.A.F. ORB.  
Appendix JII,  
p.8.

Policy for the future employment of the Heavy Day Bombers was discussed at the Air Commander's Conference before lunch on 8 June. The Air C-in-C's policy of employing them on the task of blocking enemy rail and road movement to assist the Army rather than on offensive operations against the German Air Force came in for some criticism from Generals Spaatz and Doolittle. The latter wished to attack those airfields near the Neptune area which had been re-inforced before the enemy was well organised. They thought that fighter-bombers would be better than heavy bombers for blocking railway movement. Air Marshal Coningham said that long distance movement could best be stopped by daylight action, but when he added that the G.A.F. was so far out of the picture that 2nd T.A.F. pilots were praying for enemy aircraft, General Doolittle observed that he was convinced that their prayers would soon be answered.

The Air C.-in-C. yielded to pressure enough to ask for a suggested airfield plan from the VIIIth Air Force but insisted that the first essential was to help the Army by hampering German troop movements. The Deputy Supreme Commander said that a proportion of the Heavy Bomber effort should be allotted to each task. Two other types of targets would also need their attention in the near future, viz. (1) 'Cover' targets in the Pas de Calais, and (2) Oil targets in Germany.

Ibid, last para.

In view of this discussion the VIIIth Air Force was provisionally allocated four airfield targets as follows: Flers, Le Mans, Laval and Rennes.

This decision and the bad weather for the remainder of the day and on the following day (9 June) were further setbacks to the plans of the Air C.-in-C. who was hoping that it would be possible to block the Loire crossings and the Paris-Orleans gap before any considerable enemy ground forces had been able to move. However, it was felt at H.Q., A.E.A.F. and Twenty-one Army Group that even a partial stoppage was better than none at all as this would help to canalise enemy movement along a few lines which could then be subjected to more intensive attacks by fighter-bombers.

LLberation of  
N.W. Europe,  
Vol. 1,  
Appendix VI/176.

This situation was discussed by General de Guingand and Air Chief Marshal Leigh Mallory when the former visited Stanmore on the afternoon of 8 June. General Montgomery's Chief of Staff approved the air plan and explained the importance attached to operations which would be developed towards Cherbourg. Discussions then turned on a subsidiary plan put forward by the Air C.-in-C. This was designed to cut ten main railways leading into the battle area from the south. Cuts would be made along a line north of Rennes-Laval-Le Mans-Chartres.

General de Guingand was not pessimistic about our prospects in the beach head but remarked that owing to rough weather our build-up was about 12 hours behind schedule. As the success of the operation depended upon the speed of our own build-up in proportion to the amount by which our air

Air C.-in-C.  
A.E.A.F. ORB.  
Appendix J/13  
para. 7.

forces could retard the enemy build-up, the Air C.-in-C. was very anxious that all available air effort should be ready to take advantage of any break in the weather over France. Meanwhile it was reported by Allied Intelligence that during the bad weather on 8 and 9 June when the Allied Air Forces were grounded, heavy German troop movements were taking place from Brittany in an Easterly direction and from South west France<sup>(1)</sup> northwards through La Fleche and Tours.

Only 36 sorties were flown by the VIIIth Air Force on 9 June. These were fighter tasks of a routine protective character. On the evening of that day it was reported that there were 2,023 Heavy Bombers and 871 Fighters available for operations on 10 June.

Ibid, paras.12  
and 14 and  
Appendix J/11  
para.19.

Operations undertaken by the VIIIth Air Force on D plus four were on the lines suggested by the Deputy Supreme Commander who had advocated sharing effort between attacks on Fortitude targets in the Pas de Calais, re-inforced enemy airfields and communications targets which would help the Army. Generals Anderson<sup>(2)</sup> and Doolittle had produced an airfield plan designed to attack all those airfields in enemy territory near the Assault area which were known to have become active. Their aim was to reduce the number of airfields that the German Air Force could use and thus compel them to concentrate aircraft on a few bases where they would be more vulnerable.

Op. No.403.

During the morning of 10 June, there was patchy cloud beginning at about 2,500 ft. up to 4,000 ft. over the target area when 873 bombers left on their first mission. Banks of persistent clouds at higher levels proved very troublesome. At various times spread over the whole morning and early afternoon attacks were to be made on the following targets:-

Airfields

Nantes	Conches
Vannes	Chateaudun
Gael	Orleans
Evreux	Dinard
Dreux	Morlaix

Kerlin Bastard

Defended Localities

Boulogne (2)	Equihen
Wimereux	Merlimont Plage
St. Gabriel	Touquet-Paris-Plage

Coastal Batteries

Hardelot	Berck
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VIIIth Air Force  
Overlord Report  
10 June 1941,  
para.3.

As the times as well as the locations of these attacks varied so considerably there were wide differences between the best and the worst weather conditions experienced. A force of 155 aircraft, for example, airborne to bomb the Breton airfields of Kerlin-Bastard, Dinard and Morlaix, encountered a bank of cloud too high to surmount and too dense to penetrate before they left this country and accordingly abandoned

(1) These belonged to the 17th S.S. Panzer Grenadier Division elements of which had already crossed the Loire at Saumur and Tours.

(2) General Anderson was Chief of Operations, VIIIth Air Force.

Interp. Repts.  
S.A.1976 to  
S.A.1979 incl.

the mission. Other formations were able to bomb visually while some had to use Pathfinder technique. A total of 589 aircraft dropped nearly 1,400 tons of bombs with fair to good results on the airfields but with inconclusive results on the coastal installations. Though there were over 1,100 bombers and crews available<sup>(1)</sup> no attempt seems to have been made to lay on a second mission to attack the Loire bridges about which the Air C.-in-C. and the Army were so anxious.

Int. Ops. Summary  
No.41.

Fighters supported the bombers, patrolled over shipping in the Channel and carried out widespread attacks on enemy communications. The bombers saw little of the G.A.F. but it was estimated that 150 enemy aircraft were sighted by VIIIth Air Force fighters. Small formations were general but two formations of about 40 enemy aircraft each were engaged in combat. In the first instance about 40 Me.109 fighter-bombers were intercepted by Mustangs and three were claimed destroyed. Another formation of about 40 Me.109's and F.W.190's caught a P-47 Group on its bomb run and although the Thunderbolt pilots claimed to have shot down five of the enemy, five of their own aircraft were lost. These were however, the only fighter losses of the day, while thirteen enemy aircraft were claimed. The targets attacked and strafed by VIIIth Air Force fighter bombers were 31 railway yards, sidings, etc., 19 bridges, 14 tracks, 7 trains, 5 tunnels, 7 convoys and a number of other miscellaneous targets.

Air C.-in-C.  
A.E.A.F., ORB.  
Appendix J/16  
para.4.

On the evening of 10 June confirmation was received at Stanmore that the 17th S.S. Panzer Grenadier Division which had been crossing the Loire on the 8th, was detraining at St. Sauveur-le-Vicomte and La Haye du Puits. Nevertheless as there were further elements of this as well as other complete divisions in the South of France the Air C.-in-C. was insistent that the Loire railway bridges should be made impassable. As these numbered 26 road bridges and six vital rail bridges this task would require considerable effort. He placed the cutting off of the Brittany Peninsula as second in priority, as it was learned that the German 3rd Parachute Division was on the move.

Accordingly a request was made to the VIIIth Air Force to:-

- (1) Cut the Loire Bridges at Blois and Tours
- (2) Proceed with the airfield plan
- (3) Use fighters to interrupt movement in the Brest Peninsula and in the Dreux area.

Op. No.405.

At dawn on Sunday 11 June, there were 1,043 of the 2,045 available bombers airborne on operations in seven separate forces. These were briefed to attack airfields in the Evreux, Paris, Normandy and Brittany areas, bridges in Brittany and over the Loire and three beach targets in the Pas de Calais area.

Interp. Repts.  
S.A.1981 to  
S.A.1989 and  
S.A.1991 to  
S.A.1995

Only in the cases of three targets out of the total of 23 was it found possible to bomb by visual methods owing to the amount of cloud that was prevalent. Over 400 bombers, many of them B-24's with no Pathfinder equipment, returned without bombing. About a half of the 75 tactical units (Groups or Squadrons) attacked primary targets as briefed, dropping about 1,200 tons of bombs. A total of 640 bombers attacked primary or secondary targets with 1,674 tons of high explosives.

(1) VIIIth Air Force statistics show 2,020 Bombers and 903 Fighters effective at 2000 hours on 9 June.

Elois and Pontaubault<sup>(1)</sup> bridges showed extensive damage on photos taken after the attacks and two airfields were also attacked with good results.

As a consequence of the weather, it was decided to despatch no more bomber missions on 11 June.

The VIIIth Fighter Command provided area cover during the bombing operations with ten Groups doing area patrols during the early morning. Seven of these Groups executed fighter-bomber attacks at the conclusion of their patrols. The failure of the enemy to attack Allied convoys in mid-Channel by day permitted the Combined Control Centre to release one of the four P-38 Groups from shipping protection commitments as from 11 June. This Group augmented the forces operating against enemy transportation and other targets in the interior of France. Two Mustang Groups undertook a separate task of covering bombing operations in the Paris area at 0930 hours.

Int. Ops.  
Summary No.42

In the afternoon ten Groups carried out offensive patrols around the perimeter of the Tactical Area attacking rail and road transportation and targets of opportunity generally. By the time the weather had deteriorated so seriously that it was non-operational for fighters, a total of 1,042 fighters had been despatched. Only 25 enemy aircraft were seen.

Air C.-in-C.  
A.E.A.F., ORB.  
Appendix J/18

It was in fact quite evident by this time that the enemy was showing his usual skill in making full use of the bad weather to bring up his troops during periods when the Allied Air Forces could do nothing to prevent him. It was reported that a division (believed then to have been the Adolf Hitler No.1 Panzer Division but subsequently found to be the 2nd Panzer Division) was entrained in 30 trains on the line Tergnier-Creil-Paris but although the VIIIth Fighter Command was asked to attack this route no such operations could be carried out. After a curious roundabout journey, the 2nd Panzer Division arrived in the battle area on 13 June.

Op. No.407

On D plus six there was a favourable weather forecast for the early morning but it was expected that cloud would build up to such an extent as to make Heavy Day Bomber operations impracticable from noon onwards. In order to take advantage of the good weather, 1,412 bombers were airborne early enough to allow them to be over their targets by about 0830 hours.

Air C.-in-C.  
A.E.A.F. ORB.  
Appendix J/20  
para.15

Two types of targets were assigned, six bridges in Brittany and sixteen active airfields situated between Lille and Paris. As was usual in the VIIIth Air Force the tactical unit employed on these operations consisted of a Group (Fortresses) or a Squadron (Liberators) of twelve aircraft and each airfield was to be attacked by six Groups (about 72 aircraft) and each bridge by three Squadrons (36 aircraft). It is of interest to note that many of the targets such as the airfields at Dreux, Evreux, St. Andre, Illiers and Conches, and the bridges at Vicomte, Pontaubault, Rennes, and Porcoro had been attacked before without decisive results. On the other hand reports had been received that five airfields on the Brest Peninsula had been evacuated as a result of Allied air attacks.

In most cases the operations on the morning of 12 June

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(1) It should be added here that R.A.F. Bomber Command attacked the railway centre in Pontaubault on the night of 8/9 June. The two rail bridges and the road bridge were also bombed by Thunderbolts on 10 and again on 11 and by Marauders on 11 June. Marauders and Thunderbolts both claimed good results (See A.E.A.F. Int/Ops Summary No.143 p.15).

were carried out successfully. About 1,278 aircraft out of the large force of 1,412 aircraft despatched bombed either primary or secondary targets with 3,295 U.S. tons of bombs. Only six units out of the 114 despatched found so much cloud that they were unable to find any target at all. About three-quarters of all the aircraft bombed their targets using visual technique in nearly all cases.

Int Ops.  
Summary No.43

Among the few targets not attacked were Forcaro and Vicomte railway bridges. The destruction of the latter which carried a main railway line across the mouth of the River Rance was regarded as one of the most vital tasks in delaying the movement of the German 3rd Parachute Division into the battle line. Fortunately, very good results were secured at Pontaubault bridge which lay between Vicomte and the battle. Attacks on the other bridges were disappointing.

The airfields were each attacked by an average of 72 heavy bombers and most satisfactory results were achieved in most cases. The chief exception was Rosieres airfield (near Amiens) although important airfields like Dreux and Illiers were considered to require further attention. One of these attacks in the Dreux-Evreux area was greatly hindered by ten to fifteen Me.109's which shot down one Liberator before they in their turn were caught by VIII Fighter Command Mustangs which claimed the destruction of three enemy fighters without loss to themselves.

This was the only occasion that enemy fighters offered any opposition to the U.S. bombers but it was noted with some concern that the flak defences of many airfields, particularly in the Amiens-Beauvais-Cambrai area had been greatly strengthened, with the result that many formations reported accurate and damaging anti-aircraft fire. Six Fortresses and two Liberators were lost mainly due to this cause while about 240 aircraft returned with damage.

The number of Fighters despatched by the VIIIth Fighter Command was 1,045 from an effective strength of 882 when operations for the day commenced. A further Group of P-38's was released from its shipping protection commitment leaving only two Groups still engaged in that duty. These two Groups despatched 192 aircraft which once again had nothing of note to report.

The other 853 Fighters sent out on missions of bombing support, strafing and fighter-bombing had one of their outstanding days.

First of all, a Thunderbolt Group sent at dawn to the area west of Paris in order to find night traffic which had not quite reached its destination, reported excellent results from attacks on a marshalling yard and on road transport. While continuing its search for targets it was engaged in combat with about 50 Me.109's and eight Thunderbolts were lost as against five enemy aircraft claimed to have been destroyed by U.S. fighters.

Two other actions took place about three hours later - the first when a Group of Mustangs rescued a formation of Liberators which were being attacked by about ten Me.109's. Eight Groups of Fighters patrolled in the areas which were being bombed by the Fortresses and Liberators and on the withdrawal of the latter, executed strafing attacks on targets of opportunity. One of these Groups engaged eight F.W.190's after the bombers had withdrawn and claimed one victim.

These operations took place in the area west of Paris and it was obvious that enemy fighters were present in strength at

the Dreux-Evreux group of airfields. During the afternoon the VIIIth Fighter Command staged a carefully prepared attempt to lure these fighters into an air battle which would be on terms apparently advantageous to the Germans.

The Group of P-47's which had lost eight aircraft in the morning arrived in the area at 1300 hours under ground control from England. The Thunderbolts sighted about 20 Me.109's and pursued them towards Paris where about 40 Me.109's joined in the battle. The tactics and behaviour of the enemy fighters convinced the U.S. pilots that the former were the same aircraft which had operated with such success against the Thunderbolts in the early morning.

In this engagement, however, no Thunderbolts were lost and nine Me.109's were claimed. A second Group of Thunderbolts took off 30 minutes after the first Group and kept in touch with them. They encountered twelve Me.109's that had just become airborne and then a further twelve. Seven Me.109's were destroyed (claimed) so that altogether it was claimed that this operation had enabled sixteen enemy fighters to be shot down.

Other missions executed by fighters during the evening were attacks on Loire and Sarthe bridges by two Groups of Lightnings and the close escort of IXth Air Force bombers by four wings of Mustangs to Paris and back. Four Lightnings were shot down by flak but no Mustangs were lost.

A development which the Army and the Air Commander-in-Chief found somewhat disconcerting was the announcement made at the morning Conference on 12 June by General Doolittle to the effect that he proposed to use a half of his available bomber force for an attack on oil targets in Germany to take place on the following day (13 June). This was presumably in response to the suggestion by the Deputy Supreme Commander on 8 June when he remarked that Cover Plan and Oil targets would need some attention though he did not suggest that it should be done immediately.

It was clear that both the C.-in-C. Twenty-one Army Group and the Air C.-in-C. would find such a diversion of effort from the task of holding up enemy movement most unwelcome, but the proposal was criticised on this occasion because General Doolittle not only proposed to employ the whole of his own fighter force (913 effective) but also asked for the loan of one Mustang Group from the IXth Air Force. At the time there was an acute shortage of firm targets from the Army and in consequence little could be said to General Doolittle to dissuade him from diverting effort from the battle.

At the same Conference the Commander, Advanced A.E.A.F. promulgated an extension of the Tactical Area to the line along the South bank of the Seine up to Vernon, thence through Dreux, Chartres, Le Mans, Laval and Rennes to St. Nazaire. The main purpose was to obviate the mutual interference between the VIIIth Fighter Command and the Tactical Air Forces in the same target area. The intention for the VIIIth Fighter Command was that it should concentrate its operations upon the region to the west, north and north-east of Paris.

The weather once again deteriorated before the end of the day with the result that the total number of aircraft despatched was no more than 2,457 made up of 1,412 bombers and 1,045 fighters. With the development of unfavourable weather over Germany the projected heavy bomber operations were abandoned on the morning of 13 June. While the main bodies of both the

Air C.-in-C.  
A.E.A.F. ORB  
Appendix J/20  
para.24.

Ibid  
Appendix J/21  
paras. 2 and 3.

Ibid Appendix  
J/20, para.20.

heavy bombers and the fighters were held on the ground<sup>(1)</sup> small formations operated on Overlord targets where the weather promised to be better.

Operation No.409.

Interp. Reports  
S.A.2016 to  
S.A.2018.

The first mission of the day was sent to attack the important airfields at Dreux, Evreux and St. Andre. A force of 135 Fortresses arrived over target at about 0820 hours and dropped nearly 300 (U.S.) tons of bombs without much opposition and, as there was good weather, results were splendid. No fighters were seen and only over Dreux was any flak experienced. Out of the 54 aircraft attacking that airfield, 35 sustained damage from flak but none was lost. Three Groups of P-51's providing area cover for this operation sighted a few fighters which avoided contact.

Operation No.410.

Interp. Reports  
S.A.2019 and  
S.A.2020.

Air C.-in-C.  
A.E.A.F. ORB.  
Appendix J/20  
final para.

No further bomber operations took place until 1900 hours in the evening when 260 bombers were dispatched to attack two airfields north of Paris and six railway bridges in Brittany. Reports were received to show that three of these attacks met with success but it must be admitted that the attacks on the bridges need never have taken place. At the Air Commander's Conference on the preceding day the Air C.-in-C. stated that it was 'evident' that the Brest Peninsula was now drained of enemy reinforcements and that North-Eastern France now constituted the main reservoir of German reserves'. It is difficult to see therefore why these attacks were made.

A possible explanation is that on the previous day, Me.109's had attacked a Liberator formation in the Rennes area. As the VIIIth Air Force were anxious to engage the G.A.F. on every occasion that the latter were willing to offer battle, bombers were again sent to this area with two Groups of fighters as close escort and with the further protection of four Groups as area patrols. If this was the object then it was not realised because no enemy aircraft appeared.

Ibid  
para.22  
Int. ops.  
Summary No.44

Other fighter operations were on a small scale partly because of the weather and partly because the VIIIth Fighter Command had announced a policy of conservation of effort to the maximum continuation effort. Two P-38 Groups flew 76 uneventful sorties on shipping protection over the Channel and 741 aircraft flew on missions of area support, bomber escort, strafing and bombing. Combats were few and on a small scale.

Operation  
No.412

W.M.(44) 77th,  
Conclusions,  
13 June 1944.

On 14 June the weather over Germany was again such as to preclude any large scale operations except in the extreme West. A scheme was consequently drawn up providing for seven heavy bomber forces to operate against a large number of targets in widely separate areas. One force was sent to bomb the oil refinery at Emmerich, another to attack two Crossbow supply sites in the Pas de Calais, four more forces against sixteen G.A.F. airfields in the Paris, Lille and Brussels areas, while a special force of Azon Liberators was directed against six railway bridges over or near the Somme<sup>(2)</sup> It will be noticed that for the first time since the commencement of the Overlord campaign, the VIIIth Air Force resumed their attacks against Crossbow sites. This resulted from the first use of flying bombs on the night of 12-13 June and a request originating from the War Cabinet that supply sites should be heavily attacked.

All the heavy bomber forces as above were airborne early

(1) There were 2016 bombers and 913 fighters available for operations.

(2) On the 'Shaef Second Line of Interdiction'.

Int. ops.  
Summary No.45

enough to enable them to cross the English coast by 0630 hours. Operating in support of them were twelve Groups and one Squadron of fighters so that over 2,000 bombers and fighters of the VIIIth Air Force may be said to have taken part in this series of operations. For the most part the mission was a success. A measure of success was the fact that 98 out of the 123 tactical units dispatched attacked their primary targets while only eleven units returned without bombing. About 3,200 (U.S.) tons of H.E. were dropped on all types of objective.

Though the operations were a success on the whole, the Azon Liberators failed yet again, the only bridge attacked being the one at Ham-sur-Somme and that with poor results. Very substantial damage was done to airfields and parked aircraft, the Distillation Uniband Lubrication Depot and refinery at Emmerich was obliterated and German fighters were induced to give combat when attacks were made on Le Bourget airfield. U.S. bombers operating in this area were protected by the patrols of five Fighter Groups. About 100 German fighters were seen in the neighbourhood and about 40 of them attempted to prevent the bombers attacking Le Bourget. According to the VIIIth Air Force Report on Overlord Tactical Operations this was the first specific attempt made by enemy fighters to intercept U.S. heavy bombers since D-Day.

As a result of these combats and some intense flak, fourteen bombers and four fighters were lost by the Americans who claimed to have shot down only six enemy aircraft. Few enemy aircraft were seen elsewhere and although reports from aircrew indicated more enemy air activity than on any other day since the Allied landings, only about 130 aircraft were actually sighted.

On 15 June the VIIIth and XVth Air Forces had planned to make the heaviest possible deep penetration attack in Germany. This operation was cancelled because the Deputy Supreme Commander refused to sanction the diversion of effort at a time when the ground situation in Normandy was not altogether satisfactory. The military plan to encircle Caen from the East and West had broken down and the enemy had revealed such power in his counter-attacks that the situation, especially in the central sector (Villers Bocage - Tilly) was regarded with some misgivings by Air Chief Marshal Tedder, Air Vice Marshal Broadhurst and, to a lesser extent, by Air Marshal Coningham. As this 'situation had the makings of a dangerous crisis' Air Chief Marshal Tedder said that all the air forces should be ready to deliver a heavy punch where it would best help the Army. In any case the Air C.-in-C. did not wish the VIIIth Air Force to operate over Germany because it might be required to assist the U.S. Army in their attack on Cherbourg.(1)

Air C.-in-C.,  
A.E.A.F., ORB,  
June 1944,  
p.13

TLM/F/S.34,  
Encl.15A,  
para.10.

Ibid. para.14

VIIIth Air Force  
Op. No.414.

Tactical missions bearing a very strong resemblance to those carried out on 14 June were accordingly undertaken on D plus nine. Targets included seven railway bridges over the Loire(2) and three in the Somme area, one Crossbow supply site

(1) These decisions were made at the Air Commander's Conference on 14 June. Subsequently, the Air C.-in-C. released the VIIIth Air Force from its tactical commitments but the release came too late to enable the original plan to be put into execution.

(2) Two days later it was decided not to attack road bridges over the Loire because of shortage of effort and the fact that road bridges were not being used for movement of troops across the Loire (see minutes of Air Commander's Conference, 17 June 1944, para.17).

VIIIth Air Force  
Overlord Report  
Bomber Ops.  
15 June 1944.

in the Pas de Calais, one marshalling yard, five airfields and the Misburg oil refinery near Hanover. All attacks were carried out as planned between 0632 hours and 0816 hours in the morning.

Air C.-in-C.  
A.E.A.F. ORB.  
Appendix J/26  
para.11.  
Interp. Report  
S.A.2045 to  
S.A.2062

A total of 1,338 bombers were dispatched and 1,225 of them attacked with 3,396 tons. The best results were obtained at Merignac (Bordeaux) airfield, Angouleme marshalling yard and the Loire railway bridges. All seven Loire bridges were out. The Azon force failed to hit any of the three bridges and the oil refinery was also missed on account of cloud banks. The latter reason also prevented the four airfields in the Paris area from being effectively attacked.

Int. Ops. Summary  
No.46.  
VIIIth Air Force  
Overlord Report  
Bomber Ops.  
15 June 1944.  
Page.5. Ibid.  
Page.6.

On this occasion it was decided<sup>(1)</sup> that all bomber forces should be protected by fighter escorts, thirteen Groups and one Squadron being thus employed (588 fighters). About 25 Me.109's 'some painted with the black and white stripes used to identify Allied aircraft' made three attacks west of Paris on a force of Liberators shooting one down and damaging another so severely that it subsequently crashed. However, this force claimed to have destroyed five enemy aircraft.

Int. Ops. Summary  
No.46.

Apart from escorting heavy bombers little of note was done by fighters on this day. Two P-38 Groups on Shipping Patrols dispatched 184 aircraft and one P-38 Group of 54 aircraft executed a precision bombing attack on the railway bridges at Etaples with inconclusive results.

On 16 June operations on a strictly limited scale were only possible in the afternoon over France but none were possible in Germany owing to multilayer cloud. Conditions over English bases were also bad. The bad weather was a serious matter not only because the various operations of the air offensive were being held up but also because it prevented offensive/defensive operations against flying-bombs. These attacks had been resumed on the night of 15/16 June after a lull of three days and they continued intermittently for several days.

The effect of their resumption was that pressure from political quarters was brought to bear on the Allied Air Forces to persuade them to divert effort from Overlord targets in order to obtain relief for Southern England from the flying bombs. As soon as the attacks started (i.e. on 12/13 June) enquiries were made by A.E.A.F. about targets and advance<sup>(2)</sup> information was received that the Air Ministry would recommend Crossbow targets in the following order of priority:-

1. Four supply sites (Domleger, Beauvoir, Ronescure and Santrecourt).
2. Twelve 'modified' sites ready to fire.
3. Eleven 'ski' sites
4. Ten 'modified' sites near completion.

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(1) The VIIIth Air Force Overlord Report states that escort was preferred to the usual area support because operations on this day were so wide-spread (Fighter Ops. 15 June 1944, para.2)

(2) See minute from A Cdre. C. B. N. Pelly, formerly of the Air Ministry Crossbow staff to Air Ch. Mshl. Leigh-Mallory in the latter's O.R.B. for June 1944, Appendix J/27.

Op. No.416.

Accordingly in spite of the weather, it was decided by the VIIIth Air Force Commanders to operate small forces to carry out the most urgent of their commitments in France during the afternoon and evening of 16 June. A force of 41 Liberators was sent to attack Illiers airfield at 1548 hours after the area had been patrolled for an hour by a Thunderbolt Group. This force was to have been escorted but did not meet its escort. Two-thirds of the force did not bomb owing to G.H. failure but twelve aircraft attacked with poor results.

Interp. Reports  
S.A.2065 to  
S.A.2068.

At about 1700 hours, 183 Liberators were over the four Crossbow sites and three of the latter were attacked through the overcast with G.H. equipment. Subsequent reconnaissance carried out after other attacks had taken place showed heavy damage to two sites and minor damage to the third. The further site was not attacked because of a G.H. breakdown.

Interp. Report  
S.A.2063, S.A.2064,  
S.A.2069 and  
S.A.2070.

A force of 146 Fortresses carried out the last operation of the day against three airfields N.E. of Paris at about 1830 hours. Although three other airfields and a railway junction were also attacked as opportunity targets only one airfield was damaged. Over 880 U.S. tons of bombs were dropped by 313 heavy bombers during the afternoon. There was no opposition except from flak over one airfield where a Fortress was lost.

Int. Ops. Summary  
No.47.

Fighter effort though not reduced by the weather conditions to the same extent as that of the bombers, was nevertheless on a reduced scale, 611 aircraft being dispatched out of the 949 ready for operations. Two types of mission were carried out, viz:- Bomber Support and Fighter Bombing, 419 aircraft being dispatched for the former purpose and 192 for the latter. There were no shipping patrols because on and after this date the last two Groups of Lightnings were released from that commitment.

VIIIth Air Force  
Overlord Report  
Fighter Ops.  
16 June 1944  
para.3a.

Nine Groups supported the bomber operations, five Groups of fighters on close escort and four on area patrols. The only combat occurred when one Group of Thunderbolts sighted sixteen Me.109's and shot down one of them while the remainder made good their escape.

Air C.-in-C,  
A.E.A.F. ORB  
Appendix J/26  
para.7.

Information was received that a number of trains were stationary between Angouleme and Poitiers and others between Arras and St. Pol. Two Mustang Groups were dispatched against the former and one Group of Lightnings with two Groups of Thunderbolts against the latter. The Mustangs dropped fuel tanks on about 100 railway coaches and wagons and four engines and then strafed them until they caught fire. The same tactics were employed in four separate attacks in the Angouleme - Poitiers area with much damage to equipment and heavy casualties to troops. The Thunderbolts operating in the Arras - St. Pol area also achieved considerable success, destroying many trains and vehicles. Owing to the weather, the Lightnings searching for trains in the same area were unable to find their targets and they unfortunately lost three aircraft to flak. No enemy aircraft were encountered.

Int. Ops. Summary  
No.47.

Op. No.418.

On 17 June the weather again confined the operations of the VIIIth Air Force to the Overlord area. In the circumstances the main limiting factor on the number of targets that could be attacked was the availability of G.H. equipped aircraft (22) rather than the number of effective bombers (2009) and fighters (926). The greatest possibility of cloud breaks was forecast for the middle of the day and accordingly the forces on the first mission against seven airfields between Laval and Paris and an eighth near Arras planned to be over their targets from 1200 to 1300 hours.

Many mistakes were made in the assembly of the forces and

Interp. Reports  
S.A.2071 to  
S.A.2076.

several Groups and Squadrons found themselves flying in strange company. However, 231 out of the 324 bombers attacked with nearly 600 tons of H.E., results, as was to have been expected, were not good. One airfield sustained appreciable damage and two others minor damage: the remainder appeared to have escaped untouched. Three Groups of fighters gave area support and eight Groups escorted the bombers to the eight targets. The only losses were two Fortresses both shot down when passing over the Dieppe Guns. There was no interference with the attacks and the only enemy aircraft seen were eleven sighted by fighters who claimed to have shot down two F.W.190's.

Ibid.

Later in the day (on the 17th) a second mission was carried out against the airfields at Tours Angers and Laval and two landing strips N.E. of Laval. Two equal forces of 156 Liberators, one escorted by two Groups of P-51's and on the other by three Groups of P-47's attacked at about 2030 hours. Nearly 700 tons of H.E. were dropped in good conditions of visibility by 273 aircraft attacking, mostly with great effect. Only one landing strip escaped very heavy damage.

Ibid.

Int. Ops.  
Summary. No.48.

The fighters carried out their task of escorting the bombers as a matter of routine as the G.A.F. did not attempt to defend their bases with fighters as well as flak. As an added precaution one Group of Mustangs was sent to patrol the Evreux area and another to the Chartres area but neither Groups encountered any opposition. Other fighters bombed bridges and transportation targets, strafed and shot up targets of opportunity. Over 1060 were airborne, the remainder on fighter/bomber missions.

COASTAL COMMAND OPERATIONS  
IN SUPPORT OF NEPTUNE

The presentation of the material included in this Section differs somewhat from that in other parts of this Narrative because, unlike other Commands which operated in support of the Assault, Coastal Command did not directly participate in the battle inside the Assault Area. Furthermore, the peaks of greatest activity so far as Coastal Command was concerned, though they were linked with the timing of D-Day, did not depend so entirely upon the demands and progress of the Assault Task Forces. There is, therefore, not the same point in recounting in detail all the air operations undertaken by Coastal Command during the first few days of the Assault Phase since all these operations so vital to its success were not a part of the general plan for the Assault, the subject of this Narrative.

The Coastal Command campaign in support of Neptune began nearly three weeks before D-Day in a battle against U-boats and was fought for several weeks without a pause. D-Day only brought an intensification of the struggle. Consequently it has been found most convenient to tell the whole story in one Chapter covering all Coastal Command operations in support of Overlord until the end of the summer when the evacuation of the Bay of Biscay and Channel Ports by enemy craft brought the first phase of the struggle to a close.

Responsibility for Neptune

TLM/MS.136/26,  
Encls.1 and 1A.

On 1 March, 1944, the C-in-C., Coastal Command (Air Chief Marshal Sir Sholto Douglas, K.C.B., M.C., D.F.C.) sent his appreciation of the role of his Command in operation Overlord to the Air C-in-C., A.E.A.F. Details of the exact commitments, of operational boundaries and of the co-operation with other Commands that became necessary, were settled during the following weeks. In short, it was agreed that the role of Coastal Command was to hold the ring for the Expeditionary Forces so that there should be no intervention by surface, or underwater, vessels of the German Navy.

C.C.File TS.114,  
Encl.67A, p.1.

Before this time it had been realised by both opponents that the U-boat had been beaten decisively in the Battle of the Atlantic and there had been a lull in activity lasting some months while the U-boats were withdrawn to port. The Allies were aware that improved types of submarines were being developed and brought into service, and that the fitting of the equipment known as Schnorkel, which enabled U-boats to ventilate ship and charge batteries without surfacing, was being pushed forward. The appreciation referred to above estimated that the enemy possessed over 420 U-boats which would enable about 200 to be maintained continuously on patrol. Three weeks before D-Day, however, Air Chief Marshal Sir Sholto Douglas, in speaking of the task of Coastal Command at the Presentation of the Plans to the King and the Prime Minister, stated that about 100 U-boats could be used against the Invasion on D-Day. These were equally divided between the Bay of Biscay and the Norwegian ports, and were backed up by another 100 craft in the Baltic. It was anticipated that the enemy would employ these U-boats in an all-out offensive against Overlord convoys, attempting to enter the English, Bristol and St. George's Channels, through the South West Approaches. Shallow water and minefields would protect the south east coast and the Straits of Dover.

The other great menace at sea was that from enemy light

Ibid, p.3.

surface craft, notably E-boats. There were about 60 E-boats based between Cherbourg and Boulogne, about 25 between Boulogne and Ostend, and about 30 between Ostend and IJmuiden. There were also about five destroyers and unknown numbers of R-boats and W-boats which could all inflict serious damage unless effective measures were taken to deal with them.

File ADGB/S.31903  
Encl. 1A.

File ADGB/S.31903,  
Encl. 38A.

Coastal Command had one other commitment which took on special significance with the launching of Neptune. Under a long standing agreement with Bomber Command and Fighter Command, dating back to 1942 and known as the Tripartite Pact, Coastal Command had undertaken the R.A.F. share of the responsibility for taking offensive air action against enemy war vessels or merchant ships within the range of shore-based aircraft. The only important exception to this role was that the responsibility for offensive action against small vessels within the Quadrilateral, Manston, Ostend, Dieppe, Beachy Head, was normally delegated to A.D.G.B. Apart from this, therefore, Coastal Command was responsible not only for air attacks on U-boats and light surface craft but also against merchant shipping.

In brief, the tasks of Coastal Command during the Assault on Normandy were three in number;

- (i) to prevent U-boats from breaking into the Channel and coastal waters around the South of England.
- (ii) to assist the Allied Navies in protecting the convoys against attacks by E-boats and other enemy light surface craft.
- (iii) to cut enemy coastal supply lines.

File CG/S.114,  
Encl. 52B.

The Commander in Chief's plan for carrying out these responsibilities was issued to the Groups concerned on 18 April, 1944, as a 'Directive on the Role of Coastal Command in Overlord'. The danger area in the new battle against the U-boat was the South West Approaches. To prevent U-boats from interfering with the invasion life line, Coastal Command aircraft were to fly patrols between the south of Ireland and the Cornish and Brest Peninsulas in such density that the whole sea area would be under observation day and night at least once every half-hour. Whenever a U-boat was sighted it was immediately reported and attacked. The object of the Coastal Command Plan was to destroy U-boats on the surface or, failing that, force them to operate continuously under water. The result of the latter would be to cut down the speed of the craft and lower the morale of the crew so that after the U-boat had eventually succeeded in penetrating as far as the main cross channel shipping route, it would be in no condition to make effective attacks. In addition, the further it penetrated into the channel the more restricted would be the zone in which it would have to be hunted for by the Navy and the more exhausted the crew and the batteries, would be.

The system of air patrols was known by Coastal Command as the Cork, because these patrols could be moved as one system deeper into the mouth of the Channel (Spout) or withdrawn further out as required. This placed the greatest responsibility on No. 19 Group. Arrangements were made with A.D.G.B. for fighter cover to be provided for patrols which had to fly near to the French coast. Finally Coastal Command made arrangements to provide Assault convoys sailing along the south coast of England with air cover by Fleet Air Arm Squadrons under the operational control of Coastal Command.

The danger from E-boats was greater in the vicinity of



Cherbourg and Le Havre. In general, it was hoped to meet this menace by laying on frequent patrols flown by flare dropping aircraft - as the E-boats usually operated by night - which could be backed up by strike Squadrons. It was also arranged to plot these surface craft by radar and to attack them with Albacore and Swordfish aircraft operating under G.C.I. control. Beaufighter sweeps were also to take place at dusk and dawn when E-boats might be expected to be leaving or returning to harbour.

Owing to the disposition of enemy forces the task of No. 19 Group (H.Q. Plymouth) was mainly that of holding off the U-boat threat. The task of No. 16 Group (H.Q. Chatham) was mainly that of countering the raids of light surface craft in the Channel and the southern areas of the North Sea. No. 18 Group (H.Q. Rosyth) and No. 15 Group (H.Q. Liverpool) were responsible for attacking U-boats which might try to pass through the Northern Transit Area from Norway and the Baltic towards the Bay of Biscay.

#### Forces Available and Their Disposition

On 5 June, 1944, Coastal Command had 51 Squadrons and three Flights and an aircraft strength of 888 aircraft in the Squadrons, of which 549 were serviceable. Added to these, and under the complete operational control of Coastal Command for this phase of operations, were twelve additional Squadrons from the Fleet Air Arm (8), the U.S. Navy (3), and the R.C.A.F. (1), with 129 serviceable aircraft out of a total of 167 on the Squadrons' strength at that date.

Fourteen Squadrons were assigned to meteorological reconnaissance, air/sea rescue, and photographic reconnaissance work, all of which fall outside the scope of this Chapter<sup>(1)</sup>. The great bulk of Coastal Command forces (thirty Squadrons) were employed in Anti-U-boat operations, these were Liberators, Sunderlands, Catalinas and Wellingtons for the most part, with smaller numbers of many other types. The light twin-engined types, mostly Beaufighters, were employed in the Anti-Shipping role (11½ Squadrons) or as General Reconnaissance Fighters (2 Squadrons). The Fleet Air Arm Avenger (5 Squadrons) and Swordfish aircraft (2 Squadrons) were used to give convoy cover in the Channel and the South West Approaches.

As the Admiralty had appreciated that the main U-boat threat would undoubtedly develop in the South West Approaches, the Coastal Command plan provided for twenty-one Anti/U. Squadrons to operate in that area. Nineteen of these Squadrons were based in No. 19 Group, which also had three Squadrons of Anti-Shipping and Night Reconnaissance aircraft, two Squadrons of General Reconnaissance Fighters and four Fleet Air Arm Squadrons to cover Assault convoys along the south west coast. Two Anti/U. Squadrons based in No. 15 Group were also to operate under No. 19 Group control. This great concentration of heavy four-engined aircraft on airfields in south west England created many accommodation, maintenance and other administrative problems, especially as airfields were often shared with Fighter Squadrons of No. 10 Group. These had all been solved before D-Day.

The main task of No. 16 Group was to protect the Channel and the Thames Estuary and as the risk here was greater from surface craft, this Group had seven Anti-Shipping Squadrons and three more for convoy cover duties. It was stipulated,

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(1) Specialist A.H.B. Monographs are available on the above subjects.

however, that should a U-boat threat develop, four Heavy Squadrons were to be transferred from No. 19 Group. To guard against U-boats breaking into the Atlantic from the Baltic and Norway, there was the equivalent of three Squadrons in No. 18 Group, two Squadrons in No. 15 Group and two Squadrons in Iceland.

#### Opening of the Battle - Operations in the North

No. 19 Group  
Report on  
Overlord(1)  
para. 18.

Despatch(2) by  
C-in-C. Coastal  
Cmd., para. 15.

In the three weeks of May, the most important of a series of landing rehearsals (Fabius) failed to provoke any determined reaction from the enemy although a few U-boats were sighted and attacked in the Bay of Biscay from 20 to 24 May. A large number of the Anti-U-boat Cork patrols were flown as a precautionary measure but the submarines turned back, the enemy having apparently decided to wait until the Allies were definitely committed to a major landing operation before sending his forces of U-boats into action. However, by the middle of the month he could hardly fail to have appreciated that such an operation would take place sometime in the summer, and in consequence U-boats in Norwegian Ports were ordered to proceed to the Bay of Biscay.

Ibid, paras.  
15 and 16.

On 16 May, exactly three weeks before D-Day, Coastal Command first detected this movement of U-boats in the Northern Transit Area. Squadrons of No. 18 Group, reinforced by Squadrons from No. 15 Group and Iceland, which were assembled in North Scotland and the Shetlands, at once went into action. A series of bitter engagements was fought with U-boats obstinately remaining on the surface for the sake of maximum speed. The task of the R.A.F. was difficult in that aircraft had to operate at great distances from their bases, but it was made easier by the long hours of daylight at that time of the year. Two V.Cs. were awarded to Captains of aircraft in recognition of outstanding valour, but many an aircraft was lost on the lonely Northern waters.

Up to 31 May, six U-boats were sunk out of twenty-two sighted. In June seven more were sunk. By the end of July when the movement was over, attacks had been made on 51 out of 75 U-boats sighted in this area; of these sixteen were sunk and twelve damaged. The vast majority of the vessels were turned back or sunk and it is believed that only four got through to France.

#### Operations in the South West Approaches

No. 19 Group  
Report on  
Overlord,  
para. 20.

On 5 June when almost all the Allied Task Forces were at sea, the submarines were still in their pens in the Biscay Ports. Their failure to deploy offensively gave every hope that the Allies had achieved surprise, at least so far as the place, time and date of the Assault were concerned. Coastal Command patrols in the Cork area had been flown for nineteen hours on D-Day before reports were received that the U-boats were putting to sea. Some U-boats took up defensive stations covering the French Ports while others proceeded at full speed on the surface towards the Channel. The first report was of five U-boats which sailed from Brest on 6 June. These were spotted at 1855 hours by four Beaufighters of No. 235 Squadron. During

(1) A copy of the Report by A.O.C. No. 19 Group (Air Vice-Mshl. Sir B. E. Baker, KBE, CB, DSO, MC, AFC) may be found on File 19G/BEB/Air. 30 d/d 14 Sept. 44.

(2) A copy of the Overlord Despatch may be found on Coastal Cmd. File MS. 114/C-in-C., Part 2, Encl. 169 dated 1 Nov. 44. Corrections to some of the figures were offered by the Admiralty on 22 July 46, letter at Encl. 179A.

CB.04385A,  
Report by ACNXF  
on Neptune,  
para.55.

the night of 6 - 7 June there were eleven sightings and six were attacked by Coastal Command aircraft. The following twenty-four hours seven were attacked out of ten sighted.

Coastal Cmd,  
Despatch,  
para.18.

In the first four days when the U-boats were frequently caught on the surface during the five or six hours of incomplete darkness 36 were sighted and 23 attacked, sixteen attacks by night. Six were destroyed, four were damaged and many more were forced to return to port because of the constant presence of air patrols.

CB.04385A,  
Appendix 18,  
para.6.

Equally as important, from the point of view of the safety of the Assault convoys, as the number of U-boats put out of action was the fact that this density of air patrols soon succeeded in forcing all U-boats to dive and to remain submerged even by night. After about 48 hours they began to abandon their first attempts to reach the main shipping lane by travelling on the surface and many of them tried to make the complete passage under water. Thereafter nearly all sightings were of the periscopes or Schnorkels of submerged vessels. The new tactics reduced losses but soon affected the morale of U-boat crews as well as the operational efficiency of the craft.

Coastal Cmd.  
Despatch,  
para.19.

Ibid, para.19.

In fact very few succeeded in getting through to Mid-Channel during the remainder of June and July and those that did get so far did comparatively little damage. In the last twenty days of June 47 U-boats were sighted by Coastal Command in the South West and 24 attacks were made by aircraft. Only one of these attacks sank a U-boat, although Coastal Command also shared in two other kills made in co-operation with the Navy. Four U-boats were also damaged by aircraft. No ships were torpedoed in the Spout area by U-boats from the Biscay ports.

Coastal Cmd.  
File MS.114/  
Part 2  
Encl. 179A

Signs were becoming apparent that another victory over the U-boat was in sight when in the whole month of July they had still not been able to interrupt the Allied cross-channel supply line. In fact the menace was becoming distinctly less during July only 23 U-boats were seen in the South West Approaches by No. 19 Group forces. Fifteen attacks were made with the result that two U-boats were sunk and one was damaged.

Coastal Cmd.  
Despatch,  
para.20.

As soon as the Allied land forces began to surge out of the initial lodgement area the U-boats gave up the attempt to run the Channel blockade. Only nine Allied ships were sunk by U-boats in this area from D-Day until the American break through to Avranches caused the enemy to begin a hurried evacuation of the French ports.

Coastal Cmd.  
Despatch  
para.22.

During this last stage Coastal Command patrols flew close to the exits of these ports and fought several battles with escaping U-boats. Six of the latter were sunk, three by aircraft and three more by aircraft and surface forces working together. The remnants made for Norway.

Ibid, para.23 and  
Coastal Cmd.  
File MS.114.  
Part 2,  
Encl. 179A

From the opening of the battle 27 U-boats were sunk by aircraft of Coastal Command. Another was so crippled that although it succeeded in making port it was paid off and took no further part in the war. Aircraft shared with the Navy in five other kills. They damaged 29 U-boats, two of which were shared with the Royal Navy.

The cost to the R.A.F. was 60 Coastal Command aircraft most of which were heavy four-engined types with large and valuable crews. Some of these were lost because of the hazards of operating in all weathers for long hours and at great distances out to sea, but 38 losses were due to enemy action.

Anti-Shipping Operations

It was anticipated that enemy destroyers and light surface craft would attempt to disrupt the passage of convoys to their assembly areas and to the lodgement area of Normandy, as soon as the landing operations were under way. To guard against this danger, Anti-Shipping Squadrons of Nos. 16 and 19 Groups collaborated with Naval forces and A.D.G.B. in operations against enemy surface vessels approaching either the eastern or western flanks of the Assault area.

TLM/MS.136/26,  
Encl.1.

In planning these operations a line of demarcation inside of which Coastal Command was not to operate had to be accepted by the Expeditionary Forces, the Admiralty and Coastal Command. Sir Sholto Douglas first suggested a line from Lowestoft to Ostend in the east, and one from Plymouth to St. Brieuc (Brittany) in the west. Sir T. Leigh-Mallory considered that this gave A.E.A.F. too large an area and eventually it was agreed that the limits should be a line from North Foreland to Calais and from Portland to Jersey.

As the enemy E. and R.-boats normally operated at night, plans were made to provide Coastal Command patrols at dusk and at dawn as well as during the night. Albacore and Swordfish Squadrons were trained to work at night under the control of G.C.I. stations of Nos. 10 and 11 Groups, in close co-operation with the appropriate Area Combined Headquarters. Night Reconnaissance was carried out by Wellingtons equipped with A.S.V. On the discovery of enemy surface craft, flares were dropped and naval forces and/or strike aircraft were assisted to the target. At dusk and dawn Beaufighter and Mosquito sweeps were laid on so as to catch enemy light surface craft on their way out or back to port.

During the preparations for Overlord Anti-Shipping operations by Coastal Command aircraft had been increasing in scale and importance. 148 sorties were flown on these missions in March 1944, 720 in April and 1,000 in May. These continued without interruption until D-Day.

Coastal Cmd.  
Review,  
June 1944,  
p.15.

The first specific move by enemy surface forces against the Allied landings led to a spectacular defeat, in which Coastal Command aircraft claimed an important share. Late in the evening on 6 June, three German destroyers, accompanied by minesweepers and other minor craft, were intercepted near Belle Ile by the Wick Strike Wing of Coastal Command. The destroyers were on their way from the Gironde to Brest and the Channel. Aircraft forming the Strike Wing were 31 Beaufighters - 14 from No. 404 Squadron, armed with rockets, and the remainder from No. 144 Squadron, armed with cannon, - escorted by eight Mosquito fighters of No. 248 Squadron. During the attack many hits were seen and one destroyer appeared to be on fire. One Beaufighter was lost but the Mosquito escort shot down a JU.188 on their return journey. Later that night, three Beaufighters of No. 404 Squadron sighted the destroyers again, one still smoking, and made another R/P. attack by moonlight.

Despite these attacks the ships reached Brest and remained there two days before leaving again on an easterly course during the night of 8/9 June. They had not gone far before they were met by the Royal Navy and in the subsequent engagement, one was sunk, one was driven ashore on the Ile de Batz and the third escaped to Brest. The chapter was closed by 24 Coastal Command Beaufighters of No. 144 and No. 404 Squadrons, which, on 9 June, holed the stranded destroyer with 60lb. rocket projectiles and scored several near misses with bombs so that the vessel became a total loss.

Not all the Anti-Shipping operations were as clean out and decisive as this. The E-boat, which proved a real menace in the Channel for the next two months, was an elusive opponent, capable of doing much damage when given any latitude. Results of the frequent engagements between aircraft and E-boats, almost invariably fought at night, were difficult to assess and the technique of intercepting them was still far from perfect. But the constant patrols and harassing attacks by Beaufighters, Albacores, Mosquitos, Avengers, Wellingtons and Swordfish, in conjunction with operations by the Navy gave the enemy no rest and made it very unsafe for his light forces to be at sea for many hours. Heavy attacks by Bomber Command on the harbours of Le Havre and Boulogne and the earlier capture of Cherbourg were also severe blows to the enemy light surface forces.

Anti-surface vessel operations entailed a heavy expenditure of effort. This amounted to about 130 operational sorties in the first 24 hours of Neptune, and about 160 in the next 24 hours. Anti-U-boat operations required about 60 sorties on the first day and about 90 sorties on the second. Throughout the whole month of June, 1987 Anti-Shipping sorties were flown by aircraft of Coastal Command. 400 of these aircraft delivered attacks on 191 targets, of which 132 targets were in the Channel.

The operations during the first week of Neptune were typical of those that took place over the whole period. As in the case of the U-boats, no engagements with E-boats took place until the night of 6/7 June when two formations were attacked, one by a Wellington and one by an Albacore. Intense flak prevented any results being observed. Nothing was seen of the E-boats after daylight on the 7th, but during the following night, several inconclusive combats took place on the flanks of the shipping route. During the following 48 hours, there were many reports that E-boats were attempting to harass our shipping but no contact was made with them by Coastal Command aircraft.

On 10 June, four Mosquitos of No. 248 Squadron reported sighting an armed Motor Launch near Ushant and attacked it with their cannon and guns. One Mosquito was shot down before two Tse-tse aircraft of the same Squadron arrived with their six-pounder armament. The vessel was soon hit many times and was abandoned by the crew when it began to sink.

During the night of the 10th a Beaufighter attacked four E-boats with cannon fire off Berck-sur-Mer. Several hits were scored but the amount of damage that was done could not be observed.

No outstanding event occurred in this form of warfare until 15 June. On that date enemy ships of 8,000 and 4,000 tons escorted by a swarm of R-boats and mine sweepers, were attacked off Schiermonnikoog by a strike force consisting of nineteen aircraft from the North Coates Wing and 23 from the Langham Wing, escorted by ten Mustangs from No. 316 Squadron, A.D.G.B. The use of such a large force of aircraft made it possible for all the escorts to be attacked while the Beaufighters were torpedoing each large vessel twice. Both vessels and one minesweeper were sunk without loss to the Strike Squadron and escorts. This operation, in fact, has subsequently been quoted by Coastal Command as a model for all others of this type, owing to the fact that its success was due to a happy combination of good planning, bold leadership and skilful execution. The provision of an unusually large Anti-Flak Force was often repeated for later strikes.

Coastal Cmd.  
Review,  
June 1944,  
p.15.

Ibid, Final  
para.

Coastal Cmd.  
Review,  
July 1944,  
p.1.

During July the offensive against enemy shipping became intense, 500 out of 1897 aircraft despatched making attacks. The largest number of attacks was made off the Belgian and Dutch coasts (268 attacks) but 167 attacks were made in the Channel, and 84 in the Bay of Biscay. Merchant ships and escort vessels were the chief targets although it was claimed that many E and R-boats were damaged severely.

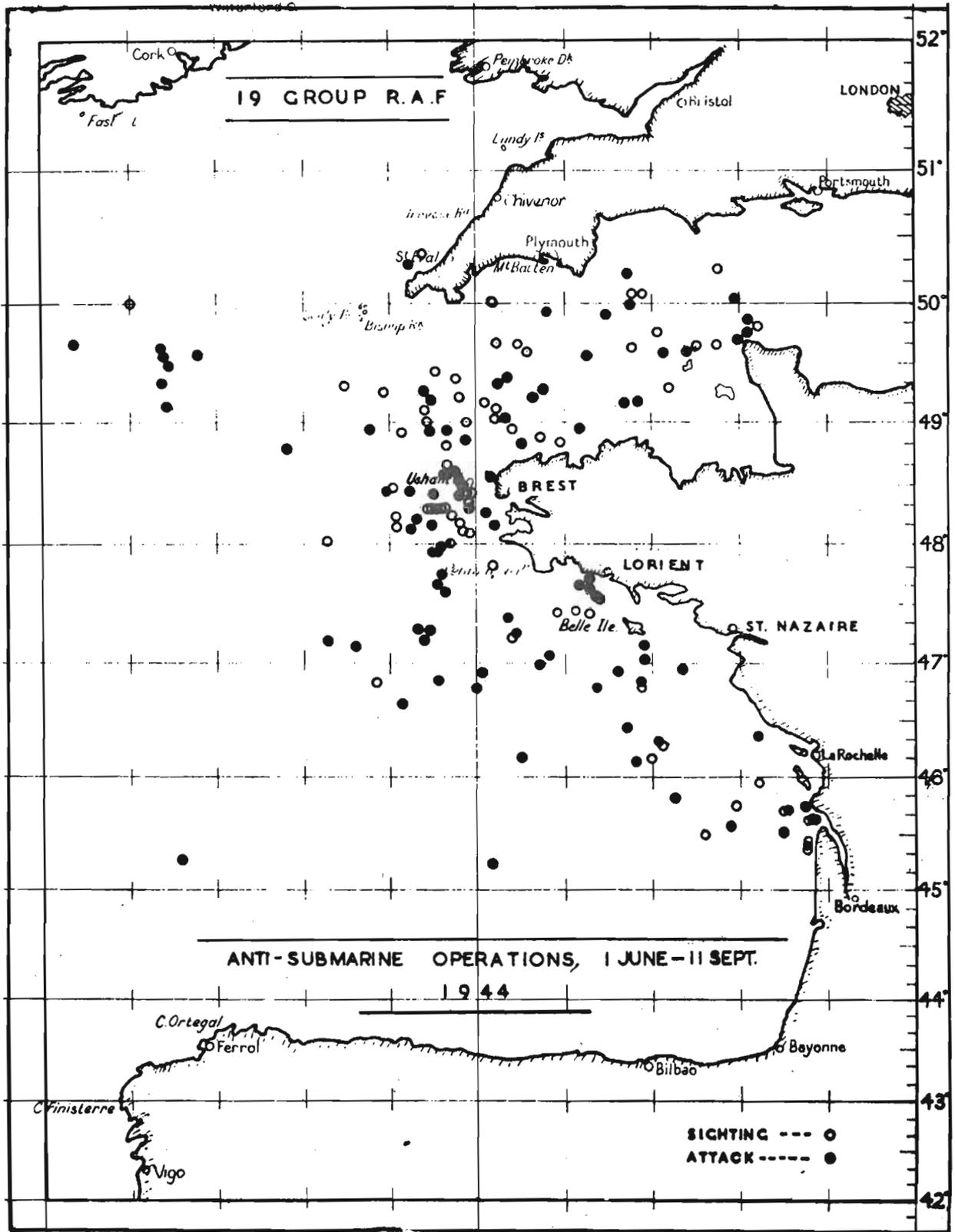
In August the offensive was maintained with success in the Channel and North Sea, but owing to the favourable turn of the land battle the chief area of interest was the Bay of Biscay, where the enemy was suddenly faced with a crisis. Unlike the U-boat there was no possibility of the surface vessel succeeding in breaking through to the North Sea. Emergency arrangements were made with the IXth Air Force and S.H.A.E.F. for the use of Vannes as an Advanced Base and this airfield was employed by the Strike Squadrons with great success. About 670 Coastal Command aircraft made attacks on a great variety of shipping, which included destroyers, sperrbrechers, minesweepers and smaller warships, as well as merchant vessels. One destroyer, one torpedo boat (Elbing class) and four other ships were claimed sunk by Coastal Command attacks before the collapse of German resistance in France brought operations in this area to a virtual close.

Coastal Cmd.  
Review, Sept. 1944  
para.VII.

Ibid, para.VIII.

During September the night patrols of the Beaufighters, Avengers and Wellingtons, moved from Calais eastwards so that after 7 September there were no attacks on shipping off the Belgian coast. The Allied Air Forces had attained such a complete ascendancy over the enemy by this time that they were able to carry out successful strikes even against shipping in well defended harbours close to important G.A.F. bases. Some of these operations involved large numbers of aircraft, the largest number being 70 Beaufighters concerned in an attack on shipping at Marsdiep.

Much of the September Anti-Shipping activity of Coastal Command was, however, concerned with shipping in Norwegian waters. Five Beaufighter Wing Strikes and four Mosquito strikes were made in those areas in September. The restricted number of targets and the greater distances resulted in fewer spectacular successes than in August, despite the maintenance of a considerable scale of effort.



STATISTICAL SUMMARY OF COASTAL COMMAND ANTI-U-BOAT  
OPERATIONS DURING NEPTUNE

Month Base and Type of Duty	Total Sorties	U-Boats Sighted	U-Boats Attacked
<u>May, 1944</u>			
U.K. Convoy Cover	20	1	-
Biscay Patrols	1,099	16	11
Northern Patrols	411	21	13
U.K. Total	1,530	38	24
Other Bases	969	3	1
Grand Total	2,499	41	25
<u>June, 1944</u>			
U.K. Convoy Cover	30	-	-
Channel Convoy Screen	721	-	-
Biscay Patrols	408	24	19
Channel and W. Approaches	2,197	72	40
Northern Patrols	783	25	16
U.K. Total	4,139	121	75
Other Bases	585	-	-
Grand Total	4,724	121	75
<u>July, 1944</u>			
U.K. Convoy Cover	24	-	-
Channel Convoy Screen	284	-	-
Biscay Patrols	583	11	8
Channel and W. Approaches	1,897	16	12
Northern Patrols	618	31	24
U.K. Total	3,406	58	44
Other Bases	458	2	1
Grand Total	3,864	60	45
<u>August, 1944</u>			
U.K. Convoy Cover	36	-	-
Channel Convoy Screen	43	-	-
Biscay Patrols	989	23	16
Channel and W. Approaches	1,265	8	3
Northern Patrols	630	7	5
U.K. Total	2,963	<del>36</del> 38	24
Other Bases	658	3	2
Grand Total	3,621	<del>41</del> 41	26

Month.	Base and Type of Duty	Total Sorties	U-Boats Sighted	U-Boats Attacked
<u>September, 1944</u>				
U.K.	Convoy Cover	51	1	-
	Channel Convoy Screen	16	-	-
	Biscay Patrols	105	1	-
	Channel and W. Approaches	572	1	-
	Northern Patrols	1,842	13	7
U.K.	Total	2,586	16	7
Other Bases		495	3	1
Grand Total		3,081	19	8

STATISTICAL SUMMARY OF COASTAL COMMAND ANTI-SHIPING

OPERATIONS DURING NEPTUNE

Month and Type of Ops. (Day or Night)	Number of Sorties			Number of Aircraft Attacking			
	Recce.	Strike	Total	Recce.	Strike	Total	
June	Day	910	271	1,181	80	141	221
	Night	762	44	806	172	3	175
	Total	1,672	315	1,987	252	144	396
July	Day	1,148	34	1,182	270	28	298
	Night	708	7	715	219	2	221
	Total	1,856	41	1,897	489	30	519
August	Day	961	59	1,020	388	42	430
	Night	715	2	717	228	2	230
	Total	1,676	61	1,737	616	44	660
September	Day	1,112	165	1,277	216	38	254
	Night	420	5	425	164	3	167
	Total	1,532	170	1,702	380	41	421

A P P E N D I C E S

## ALLIED AIR FORCES AVAILABLE FOR ASSAULT ON NORMANDY

APPENDIX I

Command (RAF) or Air Force (USAAF)	Number of Squadrons	Aircraft strength at 5.6.44		
		U.E.	In Squadrons	Service- able
2nd T.A.F. (A.E.A.F.)	80	1426	1562	1348
A.D.G.B. "	45+2flts	838	1038	809
No. 85 Group "	12	216	232	174
" 38 " "	10	248	347	313
" 46 " "	5	150	174	165
Total RAF in A.E.A.F.	152+2flts	2878	3353	2809
F.A.A. Fighters (attached A.E.A.F)	7	105	90	84
BOMBER COMMAND (including No. 100 Group and special Duty Squadrons)	82	1790	1786	1681
COASTAL COMMAND(1)	51+3flts	788	888	549
F.A.A., U.S.N. and R.C.A.F. attached to and operating under Coastal Cmd.	12	162	167	129
Total under R.A.F.	304+5flts	5723	6284	5252
U.S. IXth Air Force (A.E.A.F.)	162	3070	2776	2506
" VIIIth " "	212	3168	3557	2788
Total U.S.A.A.F.	374	6238	6333	5294
Total Allied Air Forces for Neptune	678+5flts	11,961	12,617	10,546

(1) Certain Squadrons of Coastal Command although making a vital contribution to Overlord did not operate in the Assault Area.

## 2nd T.A.F. (A.E.A.F.)

## APPENDIX I

Group, etc.	Number of Squadrons (a) and U.E. Aircraft (b)							Total (on 1.6.44)							
	F.		F/B & R/P		Med. & Lt. Bnr.		Tac/R		P/R		A.O.P.		Sqdns	U.E.	Service-able
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)			
83	15	270	10	180			3	54	1	18	5	80	34	602	509
84	18	324	8	144			2	36	1	18	2	32	31	554	456
2					12	216							12	216	172
34 Wing									3	54			3	54	23
<b>Total 2 T.A.F.</b>	<b>33</b>	<b>594</b>	<b>18</b>	<b>324</b>	<b>12</b>	<b>216</b>	<b>5</b>	<b>90</b>	<b>5</b>	<b>90</b>	<b>7</b>	<b>112</b>	<b>80</b>	<b>1,426</b>	<b>1,160</b>

Spitfire 27 Squadrons Mitchell 4 Squadrons  
 Typhoon 18 " Boston 2 "  
 Mustang 6 " Recce. Types 10 "  
 Mosquito 6 " Auster 7 "

Note (1) Air Spotting Pool of 4 Sqdns (60 U.E.) F.A.A. Seafires, 2 Sqdns A.D.G.B. F/R Spitfire (36 U.E.), and 15 U.S.N. Spitfires under 2nd T.A.F. for Assault (Not Included above).

(2) Strength in Squadrons (and Serviceable) higher on 5.6.44 (See Summary Table above).

## 2. A.D.G.B. and No. 85 Group (A.E.A.F.)

## A.D.G.B.

Group	Number of Squadrons (a) and U.E. Aircraft (b)							Total (on 1.6.44)					
	F		FB & RP		F/Recce		A/S Rescue		N.F & Intrud.		Sqdns.	U.E.	Service-able
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)			
10	7	126	1	18			1	20	3	54	12	218	
11	9	162	1	18			3	60	6	108	19	348	
12	2	36			½	9			2	36	4½	81	
13	1	18			½	9					1½	27	
85 (on loan)	6	108									6	108	
Spotting Pool (on loan)					2	36					2	36	
<b>Total A.D.G.B.</b>	<b>25</b>	<b>450</b>	<b>2</b>	<b>36</b>	<b>3</b>	<b>54</b>	<b>4</b>	<b>80</b>	<b>11</b>	<b>198</b>	<b>45</b>	<b>818</b>	<b>309</b>

Note (1) Add 2 flts on 20 A/C U.E. to above.

Spitfire 26 Squadrons Mosquito 9 Squadrons  
 Mustang 1 " Beaufighter 2 "  
 Typhoon 2 " A/S/R (Mixed A/C) 4 "  
 Hurricane 1 "

## APPENDIX I

No. 85 Group

Day Fighters	6 Sqdns	108 A/c U.E.	82 A/c Serviceable	1.6.44	116 A/c in Sqdns
Night "	6 "	108 " "	92 " "	" "	116 " " "
Total	12 "	216 " "	174 " "	" "	232 " " "

Mosquito 6 Sqdns Spitfire 4 Sqdns Tempest 2 Sqdns

3. U.S. IXth A.F. (A.E.A.F.)

Command	Number of Squadrons (a) and A/c U.E. (b)								Strength in Sqdns (a) Serviceable A/C(b) 1.6.44							
	F.		F/B		L/B		Med/B		Tac/R		P/R		Tp Carr		Total	
	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b
IX Tac. Air	24	600	9	225											33	825
XIX Tac. Air	12	300	9	225			4	72							25	597
IX Bomber					12	192	32	512							44	704
IX Troop Carrier											56	896	56	896		
10th Photo Group									4	48			4	48		
<b>IX Air Force</b>	<b>36</b>	<b>900</b>	<b>18</b>	<b>450</b>	<b>12</b>	<b>192</b>	<b>32</b>	<b>512</b>	<b>4</b>	<b>72</b>	<b>4</b>	<b>48</b>	<b>56</b>	<b>896</b>	<b>162</b>	<b>3,070</b>
															(a)	(a)
															2,776	2,506

4. R.A.F. TROOP CARRIER/TRANSPORT GROUPS (A.E.A.F.)

<u>No. 38 Group</u>	10 Sqdns	248 A/c U.E.	347 A/c in Sqdns	313 A/c serviceable	5.6.44
Albemarle	4 Sqdns	104 A/c U.E.	124 A/c in Sqdns	90 A/c serviceable	1.6.44
Stirling	4 "	104 " "	150 " " "	117 " " "	" "
Halifax	2 "	40 " "	73 " " "	61 " " "	" "
Gliders		520 U.E. plus 200 in reserve.			
<u>No. 46 Group</u>	5 Sqdns	150 A/c U.E.	170 in Sqdns	165 A/c serviceable	5.6.44
Dakota	5 "	150 " "	170 " " "	165 " " "	" "
" reserves		25 " "			
Gliders		200 U.E. plus 200 in reserve			

Note (1) No. 46 Group also had 70 Ansons and about 12 Sparrows for light transport duties not included above.

5. R.A.F. COASTAL COMMAND

Own operational strength 57 Sqdns and 3 Flts. 686 A/c I.E., 888 A/c in Sqdns, 549 A/c serviceable

	Beau.	Mos.	Well.	Lib.	Cat.	Sund.	P/R	Meb.	A/S/R.	Misc.	Total
Op. Sqdns	8	1½	6½	8	2½	7	4	5½ <sup>a</sup>	4½	3½ <sup>b</sup>	51 <sup>c</sup>
Strength I.E.	128	24	76	96	24	63	64	82	71	58	686
Av. op Strength (June 1944)	154	33	100	119	34	94	85	84	96	79	874
A/c in Sqdns											888
" Serviceable											549

(a) Plus 2 flts. (b) Plus 2 flts. (c) Plus 3 flts.

Note (1) Attached to and operating under Coastal Command:-

12 F.A.A., U.S.N. and R.C.A.F. sqdns, 162 A/c U.E. 186 averaged operational A/c (June '44).

6. R.A.F. BOMBER COMMAND

Type	No. of Sqns	A/c in Sqns	A/c in Sqns	Average bomb load in lbs.
Lancaster	39½	860	856	10,089
Halifax	22	510	525	7,656
Stirling	2½	60	62	9,208
Total Heavy Bmrs	64	1,430	1,443	
Mosquito	6	134	122	2,070
Total all Bmrs	70	1,564	1,565 <sup>(1)</sup>	
Special Duty	2	41	42	
No. 100 Group	10	185	179	
Grand Total	82	1,790	1,786	

(1) Average serviceability was 80% in May, 1944, and 83% in June.

7. U.S. VIIIth A.F.

Type	Groups	Squadrons	A/c U.E. on 1.6.44	Effective Strength D Day	Average bomb load (lbs)(D-Day) per A/c
B - 17 Fortress	22	88	1,056	947	4,000
B - 24 Liberator	19	76	912	813	4,000
Pathfinders			<del>91</del>	91	
Total Bombers	41	164	1,968	1,851	4,000
<del>Comms</del> Fighters	16	48	1,200	937	
Total a/c	57	212	3,168	2,788	

BOMBER COMMAND ORDER OF BATTLE

as at 1800 hours - 1st June, 1944

SUMMARY OF SQUADRONS

SQUADRONS ESTABLISHED				SQUADRONS OPERATIONAL ON TYPE			SQUADRONS NON-OPERATIONAL ON TYPE		
NO.	TOTAL I.E. + I.R.	TOTAL STRENGTH	TYPES OF AIRCRAFT	NO.	I.E. + I.R.	A/C. ON UNIT CHARGE	NO.	I.E. + I.R.	A/C. ON UNIT CHARGE
3	64 + 16	89(a)	Mosquito IX/XVI	3	64 + 16	89	-	-	-
3	48 + 6	33	Mosquito IV/XX	3	48 + 6	33	-	-	-
6	112 + 22	122	TOTAL LIGHT BOMBERS	6	112 + 22	122	-	-	-
-	-	23	Halifax II	1	16 + 4	19	-	-	4
20	384 + 96	478	Halifax III	19½	360 + 90	478	½	16 + 4	-
1	16 + 4	24	Halifax V	1	16 + 4	24	-	-	-
37	640 + 160	776	Lancaster I + III	35½	616 + 154	776	1	16 + 4	-
2	40 + 10	53	Lancaster II	2	40 + 10	53	-	-	-
-	-	3	Lancaster VI	-	-	3	-	-	-
2	32 + 8	24	Lancaster X	1	16 + 4	20	-	-	4
2	32 + 8	62	Stirling	1½	32 + 8	43	1	16 + 4	19
64	1144 + 286	1443	TOTAL HEAVY BOMBERS	61½	1096 + 274	1416	2½	48 + 12	27
70	1256 + 308	1565	TOTAL ALL CLASSES	67½	1208 + 296	1538	2½	48 + 12	27
2	36 + 5	42	S.D.(O) SQUADRONS	2	36 + 5	42			
1	21 + 4	23	(B.S) Halifax/Mosquito/Wellington	1	21 + 4	23	-	-	-
2	32 + 4	34	(B.S) Mosquito XIX	-	-	-	2	32 + 4	34
-	-	8	(B.S) Mosquito XVII	-	-	-	-	-	8
4	64 + 8	34	(B.S) Mosquito VI	1	16 + 2	18	1	16 + 2	16
1	16 + 2	50	(B.S) Mosquito II	3	48 + 6	50	-	-	-
1	16 + 2	10	(B.S) Fortress	½	6 + 1	10	½	6 + 1	-
1	16 + 4	20	(B.S) Stirling	-	-	-	½	16 + 4	20
10	161 + 24	179	TOTAL BOMBER SUPPORT	5½	91 + 13	101	4½	70 + 11	78

(a) Includes 1 Mk. VI Note The aircraft in Squadrons partly operational are included in the Opl. Total.

A.M.W.R.  
3.6.44

## APPENDIX 2B

## BOMBER COMMAND ORDER OF BATTLE

As at 1800 hours 1st June, 1944

Unit		Location	Aircraft		On Unit Charge	Remarks
Opl.	Non-Opl.		I.E. + I.R.	Type		
<u>No. 1 Group</u>		<u>BAWTRY</u>				
12		Wickenby	16 + 4	Lancaster I + III	21	
100		Grimsby	16 + 4	Lancaster I + III	20	
101		Ludford Magna	24 + 6	Lancaster I + III	27	
103		Elsham/Wolds	16 + 4	Lancaster I + III	20	
166		Kirlington	24 + 6	Lancaster I + III	29	
460(RAAF)		Binbrook	24 + 6	Lancaster I + III	32	
550		N. Killingholme	16 + 4	Lancaster I + III	20	
576		Elsham/Wolds	16 + 4	Lancaster I + III	20	
625		Kelstern	16 + 4	Lancaster I + III	18	
626		Wickenby	16 + 4	Lancaster I + III	22	
300(Pol)½	300(Pol)½	Faldingworth	16 + 4	Lancaster I + III	19	1 Flt. Opl.
<u>No. 3 Group</u>		<u>EXNING</u>				
90(½)	90(½)	Tuddenham	24 + 6	Lancaster I + III	11	Opl. 2 Flts.
				Stirling	22	Stirling
149		Methwold	16 + 4	Stirling	21	
	218	Woolfox Lodge	16 + 4	Stirling	19	
15		Mildenhall	16 + 4	Lancaster I + III	16	
75		Mepal	24 + 6	Lancaster I + III	26	
115		Witchford	24 + 6	Lancaster I + III	28	
514		Waterbeach	24 + 6	Lancaster II	24	
622		Mildenhall	16 + 4	Lancaster I + III	20	
138(S.D)		Tempsford	14 + 2	Stirling II (S.D)	-	Opl. on Halifax
				Halifax V	17	
161(S.D)		Tempsford	10 + 3	Lysander	11	
			6 + 0	Halifax V	7	
			6 + 0	Hudson III/IIIA	7	Including 2 MK.I.
<u>No. 4 Group</u>		<u>YORK</u>				
102		Pocklington	24 + 6	Halifax III	32	
10		Melbourne	24 + 6	Halifax III	31	
51		Snaith	24 + 6	Halifax III	29	
76		Holme	24 + 6	Halifax III	31	
78		Breighton	24 + 6	Halifax III	29	
158		Lissett	24 + 6	Halifax III	31	
466(RAAF)		Leconfield	16 + 4	Halifax III	19	To Driffield 4/6
578		Burn	24 + 6	Halifax III	31	
640		Leconfield	16 + 4	Halifax III	20	
77(½)	77(½)	Full Sutton	24 + 6	Halifax III	21	Opl. one flt. only
				Halifax II/V	3	One Flt. Elvington
346(F.F)		Elvington	16 + 4	Halifax V	23	Non-opl.
				Halifax II	1	To re-equip.
						Hal. III 10/6
<u>No. 5 Group</u>		<u>SWINDERBY</u>				
9		Bardney	16 + 4	Lancaster I + III	19	
44(Rhod)		Dunholme Lodge	16 + 4	Lancaster I + III	20	
49		Fiskerton	16 + 4	Lancaster I + III	22	
50		Skellingthorpe	16 + 4	Lancaster I + III	19	
57		East Kirby	16 + 4	Lancaster I + III	20	
61		Skellingthorpe	16 + 4	Lancaster I + III	18	
106		Metheringham	16 + 4	Lancaster I + III	18	
207		Spilsby	16 + 4	Lancaster I + III	20	
463(RAAF)		Waddington	16 + 4	Lancaster I + III	21	
467(RAAF)		Waddington	16 + 4	Lancaster I + III	20	
619		Dunholme Lodge	16 + 4	Lancaster I + III	20	
630		East Kirby	16 + 4	Lancaster I + III	20	
617		Woodhall Spa	16 + 4	Lancaster I + III	34	Special Tasks
				Mosquito VI		
83(P.F.F.)		Coningsby	16 + 4	Lancaster I + III	20	On loan from 8 Group
97(P.F.F.)		Coningsby	16 + 4	Lancaster I + III	20	
627(P.F.F.)		Woodhall Spa	16 + 2	Mosquito IV	11	

Unit		Aircraft			On Unit Charge	Remarks
Opl.	Non-Opl.	Location	I.E. + I.R.	Type		
<b>No. 66 Group R.C.A.F.</b>		<b>ALLERTON</b>				
420		Tholthorpe	16 + 4	Halifax III	20	
424		Skipton-on-Swale	16 + 4	Halifax III	20	
425		Tholthorpe	16 + 4	Halifax III	19	
427		Leeming	16 + 4	Halifax III	18	
429		Leeming	16 + 4	Halifax III	19	
432		East Moor	16 + 4	Halifax III	27	
433		Skipton-on-Swale	16 + 4	Halifax III	21	
426		Linton	16 + 4	Halifax III	19	
431		Croft	16 + 4	Halifax III	21	
434		Croft	16 + 4	Halifax III	20	
408		Linton	16 + 4	Lancaster II	29	
419		Middleton St	16 + 4	Lancaster X	20	
428		George Middleton St	16 + 4	Lancaster X	4	Opl. on Hal. II
		George		Halifax II	19	
<b>No. 8 Group (P.F.F.)</b>		<b>HUNTINGDON</b>				
7		Oaklington	16 + 4	Lancaster I + III	20	Includes 1 Mk. VI
35		Graveley	16 + 4	Lancaster I + III	20	
83				Lancaster I + III)		Detached to
97				Lancaster I + III)		5 Group (q.v.)
156		Upwood	16 + 4	Lancaster I + III	19	
405(RCAF)		Gransden Lodge	16 + 4	Lancaster I + III	20	Includes 2 Mk. VI
582		Little Staughton	16 + 4	Lancaster I + III	20	
635		Downham Market	16 + 4	Lancaster I + III	20	
105		Bourn	24 + 6	Mosquito IX/XVI	30	
109		Little Staughton	24 + 6	Mosquito IX/XVI	31	
				Mosquito IV	1	
139		Upwood	16 + 2	Mosquito IV/XX	10	
				Mosquito IX	4	
571		Oakington	16 + 4	Mosquito IX/XVI	19	
				Mosquito II		Detached to 5 Group
692		Graveley	16 + 2	Mosquito IV/XX	11	
				Mosquito XVI	4	
<b>No. 100 Group</b>		<b>BYLAUGH HALL</b>				
141(B.S)		West Raynham	16 + 2	Mosquito VI	16	Mk. II held
169(B.S)		Little Snoring	16 + 2	Mosquito VI	15	Mk. II held
239(B.S)		West Raynham	16 + 2	Mosquito II	17	1 Mk. VI
	85(B.S)	Swannington	16 + 2	Mosquito XIX	18	
				Mosquito XVII	8	
	157(B.S)	Swannington	16 + 2	Mosquito XIX	16	
				Mosquito II	3	
515(B.S)		Little Snoring	16 + 2	Mosquito VI	17	Intruder
		Little Snoring	16 + 2	Mosquito VI	16	Intruder
214(B.S)½	23	Oulton	16 + 2	Fortress	10	Opl. One flt. only
192(B.S)	214(½)	Foulsham	8 + 2	Halifax III	9	
			6 + 1	Wellington X	8	
			6 + 1	Mosquito IV	5	
			1 + 0	Anson	1	
	199	North Creake	16 + 4	Stirling	20	

2nd T.A.F. DISPOSITION OF OPERATIONAL UNITS ON D DAY  
5th EDITION

	123 Wing	( 198 R/P	Typh.	
	Thorney Is.	( 609 "	"	
	136 Wing	( 164 "	"	
	Thorney Is.	( 183 "	"	20 Sector H.Q. 84 Group
	146 Wing	193 Bomber	"	
	Needs Oar Pt.	197 "	"	
		257 "	"	
		266 "	"	
Middle Wallop Sector	143 Wing	438 "	"	
	Hurn	439 "	"	
		440 "	"	
	124	181 R/P	"	22 Sector H.Q. 83 Group
	Hurn	182 "	"	
		247 "	"	
	121	174 "	"	
	Holmesley Sth.	175 "	"	
		245 "	"	
11 Group Uxbridge	129 Wing	184 "	"	
	Westhampnett			
	144	(441 Fighter	Spit. IX LF	
		(442 "	"	
	Ford	(443 "	"	15 Sector H.Q. 83 Group
	125	( 132 "	"	
		( 602 "	"	
		( 453(RAAF)	"	
	122 Wing	( 19 "	Must. III	
	Funtington	( 65 "	"	17 Sector H.Q. 83 Group
	( 122 "	"		
126	( 401 "	Spit. IX LF		
	( 411 "	"		
	( 412 "	"		
Tangmere	(403 "	"		
127	(416 "	"		
	(421 "	"		
Tangmere Sector	131(P) Wing	( 302(P)"	"	
	Selsey	( 308(P)"	"	
		( 317(P)"	"	18(P) Sector H.Q. 84 Group
	133(P) Wing	( 306(P)"	Must. III	
	Coolham	( 315(P)"	"	
		( 129 "	"	
	135 Wing	( 222 "	Spit. IX LF	
	Challey	( 349(Belg)	"	.5 guns
		( 485(RNZAF)	"	
	132(Nor) Wing	331(Nor)	"	
Bognor	332(Nor)	"		
	66 "	"	19 Sector H.Q. 84 Group	
134(Cz) Wing	310(Cz)	"		
Appledram	312(Cz)	"		
	313(Cz)	"		
145 Wing	329(Fr)	"		
Herston	340(Fr)	"		
	341(Fr)	"		
H.Q. 2 TAF Uxbridge	35 (R) Wing	2 TAC/R	Must. II	
	Gatwick	268 "	" IA	
		4(PR)	Spit. PR XI	
	39(RCAF) (R) Wing	400(PR)	" "	
	Odiham	168 TAC/R	Must. I	
		414 "	"	
		430 "	"	
	34 (R) Wing	16 P/R	Spit. PR XI	
	Northolt (H.Q. 2 TAF)	69(NR)	Well. XIII	
		140 P/R	Mos. PR. IX/XVI	
No. 3 Naval Fighter Wing	808 Fleet	Scafire		
Lee-on-Solent	Sptr.	"		
	885 "	"		
	886 "	"		
	897 "	"		
Lee-on-Solent	26 "	Spit. V		
	63 "	"		

H.Q. 2 TAF Uxbridge	2 Group Mongewell Park	137 Wing	88 Bomber	Boston IIIA
		Hartford Bridge	226 "	Mitchell II
			342(Lorraine)	Boston IIIA
		138 Wing	107 "	Mosquito VI
		Lasham	305(P) "	"
			615 "	"
		139 Wing	98 "	Mitchell II
		Dunsfold	180 "	"
			320(Dutch)	"
		140 Wing	21 "	Mosquito VI
		Gravesend	464(RAAF)	"
			487(RNZAF)	"

NOTE 1. The undermentioned Units will be non-operational on 'D' Day and will either be at the following locations or in Transit through the Concentration Area:-

NOTE 2. No. 3 Naval Fighter Wing with its Squadrons, and 63 and 26 Squadron are under Admin. control of A.D.G.B.

NO. 83 GROUP

Main H.Q.	Fort Southwick.
483 G.C.C.	In the vicinity of Fort Southwick.
15 Sector, 144 and 125 Wings.	Ford.
17 (RCAF) Sector, 126 and 127 Wings	Tangmere.
22 (RCAF) Sector and 124 Wing	Hurn.
121 Wing	Holmesley South.

NO. 84 GROUP

Main H.Q.	Leatherhead.
484 G.C.C.	Goodwood.

A.D.G.B. SQUADRONS(UNDER THE OPERATIONAL CONTROL OF 2ND T.A.F.)

11 Group Uxbridge	Biggin Hill Sector	Lympne	33	Spit. IX F
			74	" IX HF
			127	" "
	Tangmere Sector	Detling	80,	Spit. IX F
			229	" "
			274	" "
	Tangmere Sector	Friston	350(Belg)	Spit. V LF LR
			501	" "
		Horne	130	Spit. V LF LR
	Tangmere Sector		303(P)	" "
		402(RCAF)	" "	
Deanland		64	Spit. V LF LR	
Tangmere Sector		234	" "	
		611	" "	
	Shoreham	345(Fr)	Spit. V LF LR	

NO. 85 GROUP SQUADRONSUNDER THE OPERATIONAL CONTROL OF 2ND T.A.F.~~UNDER THE OPERATIONAL CONTROL OF 2ND T.A.F.~~

11 Group Uxbridge	Biggin Hill Sector	Newchurch (ALG)	3	Tempest V
			56	Spit. IX LF
			486(RNZAF)	Tempest V
	Tangmere Sector	West Malling	91	Spit. XIV
		Hartford Bridge	322(Dutch)	Spit. XIV
	North Weald Sector	Bradwell Bay	124	Spit. VII

H.Q. 2 TAF  
Uxbridge2TAF/S.2029/ORG.  
25th May, 1944

Omit

APPENDIX 3

DISTRIBUTION - EXTERNAL

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D. Movements (Attention Air Commodore	
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K. D. G. COLLIER)	3
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G/C Scarrott DDE	5
H.Q.A.E.A.F. - S.A.S.O. (2)	6 - 7
A. A. (R.A.F.)	8
D/A. .A.	9
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Norfolk House - Air Commodore F. N. TRINDER	11
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## A.D.G.B. ORDER OF BATTLE - 6TH JUNE, 1944

Squadron	Sector	Airfield	Type of Aircraft
<u>No. 10 Group</u>			
68	Fairwood Common	Fairwood Common	Beaufighter VI
151	Portreath	Predannack	Mosquito XII/VIII
1	Portreath	Predannack	Spitfire IX(LF)
165	Portreath	Predannack	Spitfire IX(LF)
1449 Flt	Portreath	St Mary's	Hurricane IIB
276 (A/SR)	Portreath	Portreath ('A') and Bolt Head ('B')	Warwick, Walrus and Spitfire V
406	Exeter	Winkleigh	Beaufighter VI
131	Exeter	Culmhead	Spitfire VII
<del>161</del> 616	Exeter	Culmhead	Spitfire VII
126	Exeter	Culmhead	Spitfire IX (LF)
610	Exeter	Harrowbeer	Spitfire XIV
263	Exeter	Harrowbeer	Typhoon
41	Exeter	Bolt Head	Spitfire XII
<u>No. 11 Group</u>			
125 (Newf)	Nether Wallop	Hurn	Mosquito XVII
418 (RCAF)	Nether Wallop	Holmesley South	Mosquito VI (Int)
1320 Flt	Nether Wallop	Holmesley South	Typhoon (op. under 2nd TAF)
456	Tangmere	Ford	Mosquito XVII
501	Tangmere	Friston	Spitfire V (LF) (LR)
350 (Belg)	Tangmere	Friston	Spitfire V (LF) (LR)
345 (Ft)	Tangmere	Shoreham	Spitfire V (LF) (LR)
234	Tangmere	Deanland A.L.G.	Spitfire V (LF) (LR)
64	Tangmere	Deanland A.L.G.	Spitfire V (LF) (LR)
611	Tangmere	Deanland A.L.G.	Spitfire V (LF) (LR)
130	Tangmere	Horne A.L.G.	Spitfire V (LF) (LR)
303 (Pol.)	Tangmere	Horné A.L.G.	Spitfire V (LF) (LR)
402 (RCAF)	Tangmere	Horne A.L.G.	Spitfire V (LF) (LR)
96	Biggin Hill	West Malling	Mosquito XII/XIII
33	Biggin Hill	Lympne	Spitfire IX F

## APPENDIX 4

Squadron	Sector	Airfield	Type of Aircraft
<u>No. 11 Group (Contd.)</u>			
74	Biggin Hill	Lympne	Spitfire IX H.F.
127	Biggin Hill	Lympne	Spitfire IX H.F.
229	Biggin Hill	Detling	Spitfire IX H.F.
274	Biggin Hill	Detling	Spitfire IX F
80	Biggin Hill	Detling	Spitfire IX F
137	North Weald	Manston	Typhoon
605	North Weald	Manston	Mosquito VI (Int)
219	North Weald	Bradwell Bay	Mosquito XVII
278 (A/S.R)	North Weald	Bradwell Bay ('A') Martlesham ('B')	Warwick, Walrus and Spitfire V
277 (A/S.R)	Tangmere	Shoreham ('A') Hawkinge ('B')	Walrus and Spitfire
275 (A/S.R)	Nether Wallop	Warmwell	Walrus and Spitfire V
<u>No. 12 Group</u>			
25	Coltishall	Coltishall	Mosquito XVII
316 (Pol)	Coltishall	Coltishall	Mustang III
504	Digby	Digby and Coltishall	Spitfire V (LF) (LR)
307 (Pol)	Church Fenton	Church Fenton	Mosquito XII
F.I.U.	Digby	Wittering	Beaufighter/Mosquito
<u>No. 13 Group</u>			
309 (Pol)	Turnhouse	Drem and Hutton Cranswick (12 Group)	Hurricane IIc
118	Kirkwall	Skaeabrae	Spitfire V (LF) (LR)
<u>No. 85 Group (under A.D.G.B. for Ops. only)</u>			
488 (RNZAF)	Nether Wallop	Zeals	Mosquito XII/XIII
604	Nether Wallop	Hurn	Mosquito XII/XIII
409 (RCAF)	Biggin Hill	West Malling	Mosquito XII/XIII
29	Biggin Hill	West Malling	Mosquito XII/XIII
410 (RCAF)	North Weald	Hunsdon	Mosquito XII/XIII
264	Tangmere	Hartford Bridge	Mosquito XII/XIII
322 (Dutch)	Tangmere	Hartford Bridge	Spitfire XIV
91	Biggin Hill	West Malling	Spitfire XIV

Squadron	Sector	Airfield	Type of Aircraft
<u>No. 85 Group Contd.</u>			
56	Biggin Hill	Newchurch A.L.G.	Spitfire IX (LF)
3	Biggin Hill	Newchurch A.L.G.	Tempest V
486	Biggin Hill	Newchurch A.L.G.	Tempest V
124	North Weald	Bradwell Bay	Spitfire VII

Squadrons from other Commands operating from A.D.G.B. Airfields

235	C.C. Portreath	Portreath	Beaufighter
248	C.C. Portreath	Portreath	Mosquito
311	C.C. Portreath	Predannack	Liberator
179	C.C. Portreath	Predannack	Wellington
415 (RCAF)	C.C. Exeter and North Weald	Winkleigh and Manston	Albacore
838 (FAA)	C.C. Exeter	Harrowbeer	Swordfish
143	C.C. North Weald	Manston	Beaufighter
819 (FAA)	C.C. North Weald	Manston	Swordfish
848 (FAA)	C.C. North Weald	Manston	Avenger
854 (FAA)	C.C. Biggin Hill	Hawkinge	Avenger
855 (FAA)	C.C. Biggin Hill	Hawkinge	Avenger
899 (FAA)	Peterhead	Peterhead	Seafire
801 (FAA)	Kirkwall	Skeabrae	Seafire
880 (FAA)	Kirkwall	Skeabrae	Seafire
784 (FAA)	Turnhouse	Drem	Fulmer
887 (FAA)	Turnhouse	Ayr	Seafire
8994 (FAA)	Turnhouse	Ayr	Seafire
1770 (FAA)	Turnhouse	Ayr	Firefly
1840 (FAA)	Stormont	Ballyhalbert	Hellcat

AVAILABILITY OF AIRCRAFT FOR NINTH AIR FORCE  
(As of 1 June, 1944)

Type	Groups Authorised	Group U.E.	Air Force U.E.	Target Reserve	Air Force Total	Available for N.A.F.	Indicated Surplus
B-26	8	64	512	256	768	759	- 9
A-20	3	64	192	96	288	375	<del>+107</del> +87
P-38	3	75	225	114	339	276	- 63
P-47	13	75	975	494	1469	1248	-221
P-51	2	75	150	76	226	200	- 26
P-61	1	36	36	18	54	6	- 48
F-6 (P-51)	1	72	72	36	108	125	+ 17
F-5 (P-38)	1	64	64	24	88	58	- 30
C-47/53	14	64	896	126	1022	1326	+304
					4362	4373	

7 June 1944.

E. C. LANGMEAD, Col., G.S.C.  
A.O.A. (U.S.) A.E.A.F.

## APPENDIX 5(b)

## ORDER OF BATTLE - NINTH AIR FORCE

UNIT	LOCATION	ARMAMENT
(i) <u>10th Photo Group (Reconnaissance)</u>	CHALGROVE	
30th Squadron	CHALGROVE	F/5B
31st Squadron	"	F/5B
33rd Squadron	"	F/5B
34th Squadron	"	F/5B
423rd Squadron (Night Recce)	"	P 61/70
(ii) <u>HQ IX TACTICAL AIR COMMAND</u>	Tactical: UXBRIDGE Admin: Middle Wallop	
<u>67th Reconnaissance Group</u>	MIDDLE WALLOP	
12th Squadron	MIDDLE WALLOP	P 51B
15th Squadron	" "	P 51B
107th Squadron	" "	P 51B
109th Squadron	" "	P 51B
<u>71st FIGHTER WING</u>	ANDOVER	
<u>366th Group</u>	THRUXTON	
389th Squadron	THRUXTON	P 47
390th Squadron	"	P 47
391st Squadron	"	P 47
<u>368th Group</u>	CHILBOLTON	
395th Squadron	CHILBOLTON	P 47
396th Squadron	"	P 47
397th Squadron	"	P 47
<u>370th Group</u>	ANDOVER	
401st Squadron	ANDOVER	P 38
402nd Squadron	"	P 38
485th Squadron	"	P 38
<u>84th FIGHTER WING</u>	BEAULIEU	
<u>404th Group</u>	WINKTON	
506th Squadron	WINKTON	P 47
507th Squadron	"	P 47
508th Squadron	"	P 47
<u>50th Group</u>	LYMINGTON	
10th Squadron	LYMINGTON	P 47
31st Squadron	"	P 47
313th Squadron	"	P 47
<u>365th Group</u>	BEAULIEU	
386th Squadron	BEAULIEU	P 47
387th Squadron	"	P 47
388th Squadron	"	P 47
<u>405th Group</u>	CHRISTCHURCH	
509th Squadron	CHRISTCHURCH	P 47
510th Squadron	"	P 47
511th Squadron	"	P 47

UNIT	LOCATION	ARMAMENT
<u>70th FIGHTER WING</u>	IBSLEY	
<u>48th Group</u>	IBSLEY	
492nd Squadron	IBSLEY	P 47
493rd Squadron	"	P 47
494th Squadron	"	P 47
<u>371st Group</u>	BISTERNE	
404th Squadron	BISTERNE	P 47
405th Squadron	"	P 47
406th Squadron	"	P 47
<u>367th Group</u>	STONEY CROSS	
392nd Squadron	STONEY CROSS	P 38
393rd Squadron	" "	P 38
394th Squadron	" "	P 38
<u>474th Group</u>	WARMWELL	
428th Squadron	WARMWELL	P 38
429th Squadron	"	P 38
430th Squadron	"	P 38
(iii) <u>HQ XIX TACTICAL AIR COMMAND</u>	Tactical: BIGGIN HILL Admin: ALDERMASTON COURT	
<u>100th FIGHTER WING</u>	LASHENDEN	
<u>354th Group</u>		
353rd Squadron	LASHENDEN	P 51
355th Squadron	"	P 51
356th Squadron	"	P 51
<u>358th Group</u>	HIGH HALDEN	
365th Squadron	HIGH HALDEN	P 47
366th Squadron	" "	P 47
367th Squadron	" "	P 47
<u>362nd Group</u>	HEADCORN	
377th Squadron	HEADCORN	P 47
378th Squadron	"	P 47
379th Squadron	"	P 47
<u>363rd Group</u>	STAPLEHURST	
380th Squadron	STAPLEHURST	P 51
381st Squadron	"	P 51
382nd Squadron	"	P 51
<u>303rd FIGHTER WING</u>	ASHFORD	
<u>36th Group</u>	KINGSNORTH	
22nd Squadron	KINGSNORTH	P 47
23rd Squadron		P 47
53rd Squadron		P 47

## APPENDIX 5(b)

UNIT	LOCATION	ARMAMENT
<u>303rd FIGHTER WING (Contd.)</u>		
<u>373rd Group</u>	WOODCHURCH	
410th Squadron	WOODCHURCH	P 47
411th Squadron	"	P 47
412th Squadron	"	P 47
<u>406th Group</u>	ASHFORD	
512th Squadron	ASHFORD	P 47
513th Squadron	"	P 47
514th Squadron	"	P 47
<u>(v) NIGHT FIGHTER SQUADRONS</u>		
422nd Squadron	SCORTON	P 61/70
425th Squadron	COLEBY GRANGE	P 61/70
<u>(vi) HQ IX BOMBER COMMAND</u>		
1st Pathfinder Squadron	MARKS HALL	
98th BOMB WING (Medium)	ANDREWS FIELD	B 26
<u>397th Group</u>	RIVENHALL	
596th Squadron	RIVENHALL	B 26
597th Squadron	"	B 26
598th Squadron	"	B 26
599th Squadron	"	B 26
<u>387th Group</u>	CHIPPING ONGAR	
556th Squadron	CHIPPING ONGAR	B 26
557th Squadron	" "	B 26
558th Squadron	" "	B 26
559th Squadron	" "	B 26
<u>323rd Group</u>	EARLS COLNE	
453rd Squadron	EARLS COLNE	B 26
454th Squadron	" "	B 26
455th Squadron	" "	B 26
456th Squadron	" "	B 26
<u>394th Group</u>	BOREHAM	
584th Squadron	BOREHAM	B 26
585th Squadron	"	B 26
586th Squadron	"	B 26
587th Squadron	"	B 26
<u>99th BOMB WING (Medium)</u>		
<u>322nd Group</u>	GREAT DUNMOW	
	ANDREWS FIELD	
449th Squadron	ANDREWS FIELD	B 26
450th Squadron	" "	B 26
451st Squadron	" "	B 26
452nd Squadron	" "	B 26

UNIT	LOCATION	ARMAMENT
<u>99th BOMB WING (Medium) (Contd.)</u>		
<u>344th Group</u>		
	STANSTED MOUNTFITCHET	
494th Squadron	STANSTED MOUNTFITCHET	B 26
495th Squadron	" "	B 26
496th Squadron	" "	B 26
497th Squadron	" "	B 26
<u>386th Group</u>		
	GREAT DUNMOW	
552nd Squadron	GREAT DUNMOW	B 26
553rd Squadron	" "	B 26
554th Squadron	" "	B 26
555th Squadron	" "	B 26
<u>391st Group</u>		
	MATCHING	
372nd Squadron	MATCHING	B 26
373rd Squadron	"	B 26
374th Squadron	"	B 26
375th Squadron	"	B 26
<u>97th BOMB WING (Light)</u>		
<u>416th Group</u>		
	WETHERSFIELD	
668th Squadron	WETHERSFIELD	A 20 G
669th Squadron	"	A 20 G
670th Squadron	"	A 20 G
671st Squadron	"	A 20 G
<u>409th Group</u>		
	LITTLE WALDEN	
640th Squadron	LITTLE WALDEN	A 20 G
641st Squadron	" "	A 20 G
642nd Squadron	" "	A 20 G
643rd Squadron	" "	A 20 G
<u>410th Group</u>		
	GOSFIELD	
644th Squadron	GOSFIELD	A 20 G
645th Squadron	"	A 20 G
646th Squadron	"	A 20 G
647th Squadron	"	A 20 G
<u>HQ IX TROOP CARRIER COMMAND</u>		
	GRANTHAM LODGE	
<u>1st Pathfinder Group</u>		
	NORTH WITHAM	C 47/53
<u>50th TROOP CARRIER WING</u>		
<u>439th Group</u>		
	UPOTTERY	
91st Squadron	UPOTTERY	C 47/53
92nd Squadron	"	C 47/53
93rd Squadron	"	C 47/53
94th Squadron	"	C 47/53
<u>440th Group</u>		
	EXETER	
95th Squadron	EXETER	C 47/53
96th Squadron	"	C 47/53
97th Squadron	"	C 47/53
98th Squadron	"	C 47/53

## APPENDIX 5(b)

UNIT	LOCATION	ARMAMENT
<u>50th TROOP CARRIER WING (Contd.)</u>		
<u>441st Group</u>	MERRYFIELD	
99th Squadron	MERRYFIELD	C 47/53
100th Squadron	"	C 47/53
301st Squadron	"	C 47/53
302nd Squadron	"	C 47/53
<u>442nd Group</u>	WESTON ZOYLAND	
303rd Squadron	WESTON ZOYLAND	C 47/53
304th Squadron	"	C 47/53
305th Squadron	"	C 47/53
306th Squadron	"	C 47/53
<u>52nd TROOP CARRIER WING</u>		
<u>61st Group</u>	BARKSTON HEATH	
14th Squadron	BARKSTON HEATH	C 47/53
15th Squadron	" "	C 47/53
53rd Squadron	" "	C 47/53
59th Squadron	" "	C 47/53
<u>313th Group</u>	FOLKINGHAM	
29th Squadron	FOLKINGHAM	C 47/53
47th Squadron	"	C 47/53
48th Squadron	"	C 47/53
49th Squadron	"	C 47/53
<u>314th Group</u>	SALTBY	
61st Squadron	SALTBY	C 47/53
62nd Squadron	"	C 47/53
32nd Squadron	"	C 47/53
50th Squadron	"	C 47/53
<u>315th Group</u>	SPANHOE	
34th Squadron	SPANHOE	C 47/53
43rd Squadron	"	C 47/53
<u>316th Group</u>	COTTESMORE	
36th Squadron	COTTESMORE	C 47/53
37th Squadron	"	C 47/53
44th Squadron	"	C 47/53
45th Squadron	"	C 47/53
<u>53rd TROOP CARRIER WING</u>		
<u>434th Group</u>	ALDERMASTON	
71st Squadron	ALDERMASTON	C 47/53
72nd Squadron	"	C 47/53
73rd Squadron	"	C 47/53
74th Squadron	"	C 47/53
<u>435th Group</u>	WELFORD	
75th Squadron	WELFORD	C 47/53
76th Squadron	"	C 47/53
77th Squadron	"	C 47/53
78th Squadron	"	C 47/53

UNIT	LOCATION	ARMAMENT
<u>53rd TROOP CARRIER WING (Contd.)</u>		
<u>436th Group</u>	MEMBURY	
79th Squadron	MEMBURY	C 47/53
80th Squadron	"	C 47/53
81st Squadron	"	C 47/53
82nd Squadron	"	C 47/53
<u>437th Group</u>	RAMSBURY	
83rd Squadron	RAMSBURY	C 47/53
84th Squadron	"	C 47/53
85th Squadron	"	C 47/53
86th Squadron	"	C 47/53
<u>438th Group</u>	GREENHAM COMMON	
87th Squadron	GREENHAM COMMON	C 47/53
88th Squadron	" "	C 47/53
89th Squadron	" "	C 47/53
90th Squadron	" "	C 47/53

~~Details of the disposition of these Squadrons and their roles are set out in the following Order of Battle:-~~

COASTAL COMMAND ORDER OF BATTLE FOR OVERLORD  
6th JUNE, 1944

19 Group

<u>Squadron</u>	<u>Station</u>	<u>Type of Aircraft</u>	<u>Primary Task</u>
10	Mount Batten	Sunderland	A/U. Operations in S.W. Approaches
228	Pembroke Dock	Sunderland	" "
461	Pembroke Dock	Sunderland	" "
201	Pembroke Dock	Sunderland	" "
58	St. Davids	Halifax	" "
502	St. Davids	Halifax	" "
53	St. Eval	Liberator L.L.*	" "
224	St. Eval	Liberator L.L.	" "
547	St. Eval	Liberator	" "
206	St. Eval	Liberator	" "
103	USN Dunkeswell	Liberator	" "
105	USN Dunkeswell	Liberator	" "
110	USN Dunkeswell	Liberator	" "
311	Fredannack	Liberator	" "
179	Fredannack	Wellington L.L.	" "
407	Chivenor	Wellington L.L.	" "
172	Chivenor	Wellington L.L.	" "
304	Chivenor	Wellington L.L.	" "
612	Chivenor	Wellington L.L.	" "
404	Davidstow Moor	Beaufighter	Anti-Shipping
144	Davidstow Moor	Beaufighter	Anti-Shipping
282	Davistow Moor	Warwick	Air Sea Rescue
524(Flt)	Davidstow Moor	Wellington	Night recce. in co-operation with light Naval Forces.
248	Portreath	Mosquito	G.R. Fighter
235	Portreath	Beaufighter	G.R. Fighter
415(Flt)	Winkleigh/ Bolthead	Albacore	Anti-Shipping

\*NOTE: L.L. = Leigh Light.

APPENDIX 6

<u>Squadron</u>	<u>Station</u>	<u>Type of Aircraft</u>	<u>Primary Task</u>
849 FAA	Perranporth	Avenger	Cover to Coastal Convoys in South Western Approaches
850 FAA	Perranporth	Avenger	" "
816 FAA	Perranporth	Swordfish	" "
517	Brawdy	Halifax	Met. Flights
838 FAA	Harrowbeer	Swordfish	Cover to Coastal Convoys in South Western Approaches
<u>16 Group</u>			
143	Manston	Beaufighter	Anti-Shipping
236	North Coates	Beaufighter	Anti-Shipping
254	North Coates	Beaufighter	Anti-Shipping
455	Langham	Beaufighter	Anti-Shipping
489	Langham	Beaufighter	Anti-Shipping
279	Bircham Newton	Hudson	Air Sea Rescue
521	Bircham Newton	Ventura/ Gladiator	Met. Flights
415(Flt)	Docking	Wellington	Night Recce. in co-operation with Light Naval Force
280	Strubby	Warwick	Air Sea Rescue
415(Flt)	Manston	Albacore	Anti-Shipping
819 FAA	Manston	Swordfish	Anti-Shipping
848 FAA	Manston	Avenger	Cover to Coastal Convoys in English Channel
854 FAA	Hawkinge	Avenger	" "
855 FAA	Hawkinge	Avenger	" "
<u>15 Group</u>			
120	Ballykelly	Liberator L.L.	Atlantic Convoy Cover
59	Ballykelly	Liberator V.L.R.	" "
422	Castle Archdale	Sunderland	A/N operations in S.W. Approaches
423	Castle Archdale	Sunderland	" "

(The above two Sunderland Squadrons allocated for operations in 19 Group.)

APPENDIX 6

<u>Squadron</u>	<u>Station</u>	<u>Type of Aircraft</u>	<u>Primary Task</u>
518	Tiree	Halifax	Met. Flights
281	Tiree	Warwick	Air Sea Rescue
<u>18 Group</u>			
210	Sullom Voe	Catalina L.L.	A/U. Northern Transit Area and Fleet Reconnaissance
330	Sullom Voe	Sunderland	
519	Wick	Ventura/Spitfire	Met. Flights
333(Flt)	Leuchars	Mosquito	Anti-Shipping Reconnaissance
333(Flt)	Woodhaven	Catalina	Reconnaissance
<u>Iceland</u>			
86	Reykjavik	Liberator VLR	Atlantic Convoy Cover
162	Reykjavik	Canso	
<u>Gibraltar</u>			
202	Gibraltar	Catalina	A/U Patrols Straits of Gibraltar
500(Det)	Gibraltar	Ventura	
520	Gibraltar	Halifax/ Spitfire	Met. Flights
<u>Azores</u>			
220	Lagens	Fortress	Atlantic Convoy Cover
269	Lagens	Hudson/ Spitfire	Met. Flights and Air Sea Rescue