NINTH AIR FORCE
April to November 1944

UNCLASSIFIED

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FORWARD

This narrative was prepared by Lt. Col. Robert H. George, who served as historical officer of the Ninth Air Force from the fall of 1943 to the close of 1944 and who was subsequently reassigned to the AAF Historical Office. Based largely on materials forwarded from the theater by him and his associates of the Historical Section, Ninth Air Force, the narrative is the result of firsthand experience as well as careful research. Like other studies in the series, it is subject to revision as additional information becomes available.
NINTH AIR FORCE, APRIL TO NOVEMBER 1944

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Chapter I
THE NINTH AIR FORCE PLAN FOR INVASION OPERATIONS

When reconstituted in the ETO under the command of Maj. Gen. Lewis H. Brereton on 16 October 1943, the Ninth Air Force was designed to serve as the American Tactical Air Force which would cooperate with the ground forces in the Allied invasion of Europe. Its organization, its rapid build-up, its training, and many of its operations were all undertaken with this supreme purpose in view.¹

From the very moment of its reconstitution the Ninth Air Force took measures which, more fully developed in the period from December 1943 to April 1944, allowed it to play a major role in the work of producing the plan for its ultimate employment--"The Ninth Air Force Plan for Operation 'Neptune'--Tactical Air Plan."

Planning Procedures

Initiation of Planning Activities

On 3 November 1943 Headquarters, European Theater of Operations outlined the responsibilities of U. S. forces for continental operations planning. This made the Commanding General, First U. S. Army Group responsible for all plans, both operational and administrative, involving operations to or on the continent of Europe by U. S. Army forces, other than air, concentrated in the United Kingdom. The Commanding General, U. S. Army Air Forces in the United Kingdom was charged with
the necessary coordination of air plans with First U. S. Army Group. Since the Ninth Air Force had previously been designated as the air unit which would furnish tactical air effort in association with the ground forces involved, planning responsibility for its operations was passed on to its headquarters.

Earlier, on 16 October 1943, a Ninth Air Force Deputy Chief of Staff, Plans had been announced. To assist his office in the discharge of its functions, planning sections were thereafter set up in the several staff sections of headquarters.

Coordination with Other Headquarters

On 15 December 1943, concurrently with other Allied unilateral and higher headquarters, the Ninth Air Force established a planning staff in London. These planners who were ordered to London for duty were headed by officers whose previous service (April-August 1943) with Headquarters, GOSAC provided them with continental invasion planning experience. They were drawn from the special and staff sections of Ninth Air Force. Their presence in London assured close contact and full cooperation with the planners of 21st Army Group (British), First U. S. Army Group, First U. S. Army, Services of Supply, European Theater of Operations, Allied Naval Expeditionary Force, U. S. Naval Forces in Europe, Allied Expeditionary Air Force, and 2d Tactical Air Force RAF.

GOSAC Appreciation of Operation Overlord, 15 July 1943, which had been approved by the Combined Chiefs of Staff at the Quebec Conference in August 1943, served as the basic planning document for
all forces involved.

Planning Time Table

Upon receipt of directives to proceed with detailed planning, the following time table was established:

- **30 Jan. 44**: ANEF, 21st Army Group, and AAEF to prepare Initial Joint Plan
- **31 Jan. 44**: Initial Joint Plan to be issued
- **1 Feb. 44**: Planning on Army level to start on basis of Initial Joint Plan
- **15 Feb. 44**: Joint Plans and estimates on Army level to be submitted to Joint Commanders in Chief as required in Joint Planning Directive
- **15-29 Feb. 44**: Joint Commanders in Chief to review plans and estimates and order modifications, if necessary
- **29 Feb. 44**: Army Group to issue firm shipping and craft allotments, showing block priorities each day, and to issue Provisional Build-Up Table of Army Group units (other than those allotted to armies) and air force units (other than those forming part of composite groups). Operation and administration instructions to be issued at the same time, jointly with ANEF and AAEF where necessary. Final planning to start on corps and divisional level
- **1 Mar. 44**: Final Loading and Build-Up Priority Tables to be forwarded to War Office.

A delay in this schedule was caused by deviation from GOSSAC Plan as ordered by the Commander in Chief, 21st Army Group at the time of his appointment.

Planning Syndicates

Before even the Initial Joint Plan, the first item listed in the time table, could be accomplished, planning was required in much greater detail than the Initial Joint Plan would exhibit. To deal with this detail it was decided to form planning syndicates from which
staff studies would emerge. Upon such staff studies the Initial Joint Plan and operations and administrative instructions would be based.

Accordingly, the Ninth Air Force Planning Group furnished personnel to participate in the work of numerous syndicates whose activities were of interest to Ninth Air Force Headquarters. Meetings of the syndicates were frequent, averaging eight per day. As planning progressed, specialists from IX Engineer Command, IX Fighter Command, IX Bomber Command, IX Air Force Service Command, IX Air Defense Command, and IX Troop Carrier Command were often called to attend the meetings. Their presence served a two-fold purpose—first, it gave the planners first-hand information from those who would perform the missions; and second, it enabled the several commands of the Ninth Air Force to keep abreast of planning progress.

The subjects covered by the planning syndicates were numerous, including the following:

- Provisional Organization of Naval Forces
- Beach Appreciation (Western, i.e., U. S. Sector)
- Outline Mounting Plan (including Briefing)
- Maintenance Appreciation
- Weather
- Air Order of Battle (U. S.)
- Joint Fire Support Plan
- Security
- Airfields
- Employment of Airborne Troops
- Artillery Policy
- Anti Aircraft Artillery Policy
- Intercommunication
- Maps and Models
- Training and Rehearsals
- Plan for Strategic Delay of Enemy Reserves
- Overall Air Plan
- Army Group Build-Up Table
- Organization and Control of Build-Up
The papers produced by the Planning Syndicate constituted the technical framework for all plans, whether Army, Air Force, or Navy. This method of planning concurrently with higher headquarters possessed great advantages. In particular it led to the inclusion of those policies and principles peculiar to a tactical air force in the directives and plans of those headquarters. Without such concurrent planning, such policies and principles would have been either omitted from such documents entirely, or included only with extreme difficulty after the documents had been issued by superior headquarters.

Development of Signal Communications Annex

The further development of the Ninth Air Force Tactical Air Plan is well exemplified by the manner in which the Signal Communication annex was developed. As suggested above, an officer of Signal Communication Section was designated as Signal Communication Officer, Plans, and assigned to the Ninth Air Force Planning Group at the time when Signal planning was initiated on 17 December 1943. Much of his work was done at Headquarters 21st Army Group (British) in close collaboration with the 2d Tactical Air Force PAF.

When on 1 February 1944 the general outline of Operation NEPTUNE was laid down by the Initial Joint Plan issued by Headquarters 21st Army Group, work on the detailed Ninth Air Force Signal Plan was begun by a full-time Signal Plans staff. Eight officers comprised the Signal Planning Sub-section appointed on 1 February:
1 lieutenant colonel  Assistant communications officer, Plans
1 lieutenant colonel  Wire
1 major  Wire
1 captain  Signal security
1 captain  Radar
1 lst lieutenant  Radio
1 squadron leader  Radar and radio (RAF liaison)
1 captain  Wire (air formation signals liaison)

To assure coordination with other interested Ninth Air Force staff sections, Signal Plans Section maintained and distributed to them a detailed journal of its activities throughout the period 1 February-6 June 1944.

Further to provide necessary coordination the closest liaison was maintained with 2d Tactical Air Force RAF, with 21st Army Group, First U. S. Army Group, and First U. S. Army. Much of this coordination was effected through regularly established committees and boards on each of which the Ninth Air Force Signal Communication Section was represented. A list of such organizations, together with a brief indication of their (1) composition and (2) functions, follows:

Combined Signal Board, Supreme Allied Command
(1) Chief Signal officers of all services participating in Operation NEPTUNE
(2) Recommendations of policies, particularly those affecting both British and American services Allocation of radio frequencies and cable circuits

Joint Signal Board, 21st Army Group
(1) Signal officers representing all headquarters on the operational level of 21st Army Group, or immediately below
(2) Recommendations of policies involving the headquarters represented for the period prior to the arrival of Supreme Headquarters Allied Expeditionary Force on the continent Radio and radar siting, radio frequency, cable circuit allocations, and air-ground cooperation procedures.
Signal Coordination Board
(1) Signal officers representing all air force headquarters down to and including Ninth Air Force commands and RAF groups
(2) Coordination of all aspects of signal planning
   Interchange of units and equipment between the Ninth Air Force and the RAF when required

Land Line Committee, Allied Expeditionary Air Force
(1) Signal representatives of all headquarters under AEAF
(2) All problems of wire communications in the United Kingdom, both in preparation for the operation and during its course

Wire Committee, First U.S. Army Group
(1) Signal representatives of all headquarters in the American sector of the operation
(2) Coordination of planning for land line communications in the American sector on the continent

Mutual Interference Sub-committee, Combined Signal Board, Supreme Allied Command
(2) Study of all types of interference between radio and radar equipments planned
   Recommendations to minimize this interference

Radar and VHF Siting Sub-committee, Joint Signal Board, 21st Army Group
(2) Clearance of all sites on the continent to be used before the arrival there of Supreme Headquarters Allied Expeditionary Force

To further the development of the final Signal Plan an outline plan was early begun. In this, decisions arrived at in the course of planning were included for future reference on the use of signal units and the provisions for radio and wire communications, fighter control, radar, and security systems. Where applicable these outline plans were sent to interested commands of the Ninth Air Force to serve them as a guide in their detailed planning for the operation.

As planning progressed, several exercises were carried out to determine the feasibility of various parts of the plan. During these
exercises all communications—ship-to-shore, point-to-point, and ground-to-air—were thoroughly tested and the plan modified from time to time on the basis of results obtained. By no means incidentally, such exercises provided a dress rehearsal for the units scheduled to participate in the forthcoming operations.

By such means, and on the basis of materials thus provided, the outline plan itself grew, and from it was developed the final Signal Plan which was published on 20 April 1944 as Annex 5 to the Ninth Air Force Tactical Air Plan. Like other portions of that plan it was subsequently amended as required by late changes in the over-all plan and in the tactical plan itself. Even after 6 June 1944, a skeleton plan staff continued to deal with minor changes and to clarify parts of the plan as the time came for them to be carried into execution.

**Build-Up Priority Table**

Signal planning was of necessity both vital and complicated. But by far the most formidable task of the Ninth Air Force planners was the composition of the Troop List or Build-up Priority Table. So far as the assault lift was concerned this was prepared in conjunction with First U. S. Army, and in respect to the build-up after D plus 15, in collaboration with the First U. S. Army Group. This list showed by tides, by days, and by beaches the planned movements to the far shore of Ninth Air Force units and echelons of units from first tide on D-day through D plus 14. Thereafter units were merely assigned their Army List Index and Unit Serial numbers.
That this portion of the planning task should be formidable was occasioned by the fact that a tactical air force must not merely fight intensive air battles in the early stages of the operation from bases previously established, but must move its headquarters as the Army moved, and as soon as possible base its aircraft on airfields directly behind the Army's front lines. Not merely aircraft and their crews, but engineers, ground crews, spare parts, and servicing equipment must be placed in the proper place at the proper time and in the desired sequence. Furthermore, in contrast to the movement of nicely packaged ground force elements, the Ninth Air Force must move its units to the continent in "unpackaged" lots. The correct phasing of men and material to conform with the mission assigned and with the tonnage allocated was the all-important mission assigned to Ninth Air Force administrative representatives. These officers had the grave responsibility of selecting the bits and pieces which, when finally brought together on the far shore, would constitute a working ground organization for the Ninth Air Force.

Briefing and Records

As part of its planning work the staff of Plans Section briefed the Commanding General, Ninth Air Force each day and obtained from him outstanding policy decisions. A Planning Journal, reflecting in some detail the current problems confronted, was also maintained and distributed to the Commanding General; to the Deputy Chief of Staff, Operations; to the Assistant Chief of Staff, A-4; and to the Commanding General, IX Air Force Service Command.
In the planning phase of other annexes to the Ninth Air Force Tactical Air Plan, close cooperation with interested organizations was also maintained. IX Troop Carrier Command, for example, had liaison officers at AEF, Headquarters Ninth Air Force, and at Headquarters 82d U. S., 101st U. S., and 1st British Airborne Divisions; while liaison officers were present at its headquarters from AEF (Navigation RCO), 82d and 101st U. S. Airborne Divisions, Headquarters 21st Army Group Airborne Troops, and from the Royal Navy Fleet Air Arm. IX Fighter Command worked intimately with 11 Group RAF in developing "11 Group and IX Fighter Command Joint Air Plan and Executive Order," a document supplementary to IX Tactical Air Command's annex.

The Ninth Air Force Plans Section also maintained the commanding general's map room. Here graphic displays detailed the up-to-date development of the invasion plan, with emphasis on the role of the air forces. Targets were outlined and classified as to time and type of attack. The airfield program was similarly presented. Initial points of assault were shown, Army boundaries indicated, the predicted phase lines of the Army's advance delineated, and the disposition, composition, and strength of attacking and defending forces shown.

To care for the mass of highly classified material a Top Secret Control Section was set up in headquarters under the supervision of the Plans Section. It not merely watched over and registered materials, but was charged with the duplication of all plans in the large-sized reproduction establishment at its disposal. Not one document was
lost during the entire period of the plan's preparation.

By virtue of their participation in higher-level planning, the planning agencies of the Ninth Air Force and its subordinate commands became so familiar with antecedent higher directives that publication of the Ninth Air Force Tactical Air Plan was greatly facilitated.

**Publication**

On 26 April 1944 the Ninth Air Force Tactical Air Plan for Operation NEPTUNE was published, exactly 10 days after receipt of the formal ABAP directive. Inevitable modifications in the form of amendments were published between that date and D-day. Covering both sides of over 1,300 pages of legal size paper, and containing more than 100 maps and charts, it constituted the battle plan for the largest tactical air force ever to operate as a unit. The whole plan had been coordinated, composed, and checked by Ninth Air Force Plans Section.

**Analysis of the Tactical Air Plan and its Annexes**


Mission

The mission of the Ninth Air Force was described as "to assist the Allied Armies to secure a lodgment 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 lodgment in the second phase."

Aims and Commitments

The aims and commitments of the Ninth Air Force for the assault phase of the operation and in later phases through 18 June 1944 are given below. It is to be observed that in the various sections of the Tactical Air Plan reference is frequently made to tasks assigned in the preliminary phase (to approximately D-30), and in the preparatory phase (D-30 to D-1). Since the Plan only lists these assignments in general terms, and since they merely recapitulate the main objectives of the preparatory operations which will be narrated later, they will not be rehearsed here.

IX Tactical Air Command

IX Tactical Air Command was given operational control of XIX Tactical Air Command units until such time as the Third U. S. Army commenced offensive operations on the continent. At that time XIX Tactical Air Command was to revert to normal control and command. On the other hand IX Tactical Air Command was to operate under the direction of IX Fighter Command through the Combined Control Center (IX Fighter Command and 11 Group RAF) at Uxbridge until such time as
IX Tactical Air Command should be established on the far shore.

Its definite tasks and commitments follow. In connection with them it should be noted that many details and all figures are those which appear in the "II Group and IX Fighter Command Joint Air Plan and Executive Order," 26 May 1944, as amended 1 June 1944. The figures involve slight modifications of those given in the earlier Tactical Air Plan and its Annex No. 9.

<table>
<thead>
<tr>
<th>Description</th>
<th>Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>High cover over assault beach area (day)</td>
<td>5</td>
</tr>
<tr>
<td>Shipping cover (day)</td>
<td>2</td>
</tr>
<tr>
<td>Air cooperation (against pre-arranged targets)</td>
<td>6</td>
</tr>
<tr>
<td>Reserve (pool of readiness)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

All fighter-bomber groups were to be prepared to operate on a scale of four group sorties per day.

**High beach cover.** Low cover (3,000 to 5,000 feet or below clouds) over the assault beach area was a British commitment. High cover by American P-47's was to be flown at heights between 8,000 and 15,000 feet or below clouds of 10/10ths. They were to endeavor at all times to keep the low-cover patrols in visual contact. High cover was to be maintained at all times during the day by three squadrons which remained for one hour over the assault beach area. That area was defined as extending five miles inland from the beaches and 15 miles to seaward of them for each of the two squadrons assigned to cover the American and British beach areas respectively, and eight to 10 miles inland and five miles to seaward for the squadron assigned to high cover in the central area.
Shipping Route Cover. P-38's had been chosen to afford cover over the main shipping route and its flanks because the relative ease of their identification would afford a guarantee against friendly fire. Two Ninth Air Force groups together with four groups from VIII Fighter Command were assigned to this task. Patrols of four-squadron strength were to maintain continuous cover, beginning at 1600 hours on D minus 1, and to operate at heights of from 3,000 to 5,000 feet or below clouds. Each patrol was scheduled to be over the shipping area for 90 minutes. The routes followed by patrols proceeding to and from the beaches gave added protection to the main shipping route.

Air Alert Squadrons. On D-day, during the initial assault period, one squadron was to patrol each beach under the control of the appropriate headquarters ship. These squadrons were to attack defense targets which the main bombing operations had not neutralized, and which were seen from the air to be interfering with the actual landing of our forward troops. If no targets presented themselves by the end of the prescribed period of the patrol, predetermined targets were to be attacked.

Escort. IX Tactical Air Command was further to furnish close escort to IX Troop Carrier operations by day, and to make available one tactical reconnaissance group for use in conjunction with ground forces on the scale of three group sorties per day.

General Commitments. The combat assignments detailed above, plus such as might be directed on the part of the groups committed to air
cooperation and those ready to operate in the air at shortest notice from reserve were to be determined in accordance with the Joint Air Force’s tasks of (1) protecting the cross-Channel movement against air attack, (2) preparing the way for the assault by neutralizing coast and beach defenses, (3) protecting the beaches from air attack, (4) reducing the enemy’s ability to mount effective counter attacks, and (5) providing full air-ground cooperation in the advance of the ground forces from the assault beach head.

Assignment of Personnel. Other duties were assigned to units or personnel of IX Tactical Air Command. Its Air Representatives were to be detailed to the headquarters ships and the Controllers to fighter direction tenders. Its 70th Wing was to move early to the far shore there to operate a fighter control station for the First U. S. Army area and to supervise all Ninth Air Force units until the arrival of Advanced Headquarters IX Tactical Air Command. With it rested responsibility for the operation of refueling and rearmament strips and advanced landing grounds as they became available, for aircraft warning, and for the air defense of the American sector by day and by night. Night defense was to be afforded by operational units furnished by 85 Group RAF.

Association with First U. S. Army. Headquarters and Headquarters Squadron IX Tactical Air Command was to establish an advanced headquarters adjacent to Advanced Headquarters First U. S. Army on the far shore and to remain with it during subsequent moves. This was planned
to render more effective their air-ground cooperation. In similar fashion the air-ground coordination of XIX Tactical Air Command and the Third U. S. Army in the second phase of operations was to be fostered by the physical association of their headquarters on the continent. Such actions merely continued the liaison and the execution of necessary details incidental to joint operations established and maintained by the associated armies and tactical air commands while based in the United Kingdom.

IX Bomber Command

Types of Targets. In the assault and later phases of operations, IX Bomber Command was to operate its units from airfields in the United Kingdom. On D-day the bulk of its 11 groups was to be utilized in bombardment of beach defenses at the earliest time visibility permitted. The balance was to be employed to support fighter-bombers in attacks on coastal installations. Subsequent to D-day its forces were to be used in attacks against enemy concentration areas, reserve areas, communication centers, MT concentrations, command and control centers, and in battle-area air attacks when required.

Direction of Activities. The operations of IX Bomber Command units were to be directed in the following manner:

1. Targets to be attacked, and strengths and timing of attacks by operational orders from Advanced Headquarters Ninth Air Force to Headquarters IX Bomber Command

2. Routes to and from targets, bomb loads and fusing, and communications procedures by field orders from Headquarters IX Bomber Command to combat wings
3. Initial points, load, groups and boxes, and other necessary supplemental information by orders from combat wing headquarters to bombardment groups.

It was planned that Advanced Headquarters Ninth Air Force should precede IX Bomber Command units to the continent and there control all operations of that command.

IX Troop Carrier Command

IX Troop Carrier Command's plan envisaged the full employment of its large resources. These consisted of 14 troop carrier groups under three wings, and comprised 56 squadrons of C-47 and C-53 aircraft (totaling 1,032 aircraft and crews). In addition it had available 1,353 glider pilots (plus 445 co-pilots), 2,000 Waco gliders (CG-4A's), 360 Horse gliders (British), and 200 additional Horse gliders for a possible mission with the 1st British Airborne Division.

Assault and Later Phases. In the assault phase it was planned that IX Troop Carrier Command should lift parachute troops and glider-borne troops of the 82d and 101st U. S. Airborne Divisions from staging areas in England to drop and landing zones on the continent, there to assist the Allied armies in securing a bridgehead. In the assault and subsequent phases the command was to resupply the ground forces by air as required, to evacuate casualties, and to be prepared to lift one British airborne division to drop and landing zones behind enemy lines in the assault area. So long as the situation required, IX Troop Carrier Command was to function under the operational control of the Supreme Commander, Allied Expeditionary Forces.
10th Photo Reconnaissance Group

The 10th Photo Reconnaissance Group was assigned to perform day and night tactical and semi-strategic photo reconnaissance missions as ordered by Advanced Headquarters Ninth Air Force during the assault and later phases of the operation, and to execute bomb-damage-assessment photography for IX Bomber Command. Its operations were to be based on the United Kingdom during the assault phase and for some time thereafter. During the assault it was estimated that the group could execute three group sorties per day.

IX Engineer Command

Airfield Construction. IX Engineer Command commitments were both vital and varied. It was planned that its initial detachments should land with the assault waves on Omaha and Utah beaches on first tide of D-day. These and subsequent units were to provide parties for the reconnaissance of advanced landing grounds and personnel for the initial layout and construction of one emergency landing strip behind each beach. The schedule for the construction of other ground facilities in the period between D-day and D plus 14 was as follows:

<table>
<thead>
<tr>
<th>Type of field</th>
<th>Location</th>
<th>Construction to start</th>
<th>Field to be operational</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZLS</td>
<td>Northwest of Vierville sur Mer</td>
<td>D plus 1 p.m.</td>
<td>D plus 1 a.m.</td>
</tr>
<tr>
<td>+R+R</td>
<td>St. Pierre du Mont</td>
<td>D plus 3 p.m. (untracked)</td>
<td>D plus 4 p.m. (untracked)</td>
</tr>
<tr>
<td>+R+R</td>
<td>South of Grickeville</td>
<td>D plus 1 p.m.</td>
<td>D plus 3 p.m. (untracked)</td>
</tr>
</tbody>
</table>
Type of Field | Location         | Construction to start | Field to be operational |
-------------|------------------|------------------------|-------------------------|
**ALG**     | St. Pierre du Mont | D plus 8 a.m.          | D plus 10 a.m.          |
ALG         | Criqueville      | D plus 6 a.m.          | D plus 8 a.m.          |
**ALG**     | Cardonville      | D plus 4 a.m.          | D plus 8 a.m.          |
ALG         | Deux Jumeaux     | D plus 9 a.m.          | D plus 12 a.m.         |
ALG         | Hestry           | D plus 7 a.m.          | D plus 10 a.m.         |
Alternates: Foix, La Caux, Colleville.

Ranch Utah

IPS         | Ste, Hare Eglise | D plus 1 a.m.          | D plus 3 a.m.          |
ALG         | West of Azeville | D plus 6 a.m.          | D plus 8 a.m.          |
ALG         | North of Azeville| D plus 10 a.m.         | D plus 12 a.m.         |
ALG         | Carentan         | D plus 8 a.m.          | D plus 10 a.m.         |
Alternates: Picaulville, south of Valognes.

Such ground facilities were rated as essential to the Ninth Air Force in the performance of its tactical mission.

Other Commitments. The improvement and maintenance of roads to advanced landing grounds and other Ninth Air Force installations (exclusive of those in the communications zone), and the construction and repair of buildings for headquarters camps or sites as ordered figured as additional IX Engineer Command assignments. It was further to afford technical assistance in camouflage operations, to inspect camouflage security measures, and in special cases to execute camouflage projects. The enforcement of camouflage discipline was another responsibility of this command. It was also charged with the establishment of water points to serve Ninth Air Force units and with the

* St. Pierre du Mont and Criqueville were to be constructed initially as refueling and rearming strips to become operational as soon as a runway could be graded and compacted. The runways were then to be paved with square-mesh landing mat and the fields developed into complete advance landing grounds by D plus 8 a.m.
** Cardonville, Deux Jumeaux, and Beuzeville were to be developed as rapidly as possible to 6,000-foot paved runways suitable for the operation of fighter-bombers.
operation of the same until the arrival of service groups or teams of IX Air Force Service Command. It was likewise responsible for the supply of standard maps, the preparation of special maps and charts, and the reproduction of other work required by Ninth Air Force units. Engineer supply, however, was a responsibility of IX Air Force Service Command.

IX Air Defense Command

In the period covered by this report the IX Air Defense Command was to continue its earlier functions of supervising and allocating all antiaircraft units assigned or attached to the Ninth Air Force, and to supervise all airdrome defense activities within it. It was to make air-raid intelligence available to passive air defense control centers and to coordinate and perform such aircraft movement liaison functions as were made the responsibility of the Commanding General, Ninth Air Force. Later it was to be charged with the operation and control of night fighters in the American sector with the assistance of 85 Group RAF and was to relieve IX and XIX Tactical Air Commands, as they displaced forward, of responsibility for daylight interception of enemy air attacks and for air warning services.

"The general Air Defense Plan is to establish as rapidly as possible behind the advancing armies an adequate and effective coordinated air defense of vital installations. Initially the defense will consist of ground-controlled day and night fighters and of operationally-controlled antiaircraft units. The defense will
ultimately be supplemented by the establishment of fighter searchlight 
elves as required."

IX Air Force Service Command

Under the Ninth Air Force Tactical Air Plan, IX Air Force Service 
Command was responsible for direct supply and services to all Ninth 
Air Force units as that command was progressively built up on the 
continent.

Preparation for D-Day. Prior to the invasion, however, it was to 
store and prepare for shipment the supplies and equipment necessary 
for the operation of Ninth Air Force units across the Channel, con-
solidate and assure the procurement of their requirements for common 
supplies, and coordinate the procurement of their shortages in unit 
equipment and air force supplies.

It was to prestock airfields in the United Kingdom to assure 
that, in view of road congestion inevitable from approximately D minus 
15 to D plus 15, units should operate at full efficiency in air opera-
tions based on Britain and still be able to move to the continent 
with their full T/2. Ninety thousand gallons of aviation F0L were 
ordered prestocked on each ALG, and also a total of 20,000 tons of 
ammunition and bombs stocked for all fighter ALG's, together with 
30,000 tons of the same for fighter-bomber ALG's.

"Ten Day" pack-up kits were to be prepared for the use of air-
drome squadrons prior to the arrival of fighter squadrons on airfields 
in France, and Hereg cells for the storage of gasoline there were to
be issued to units prior to their departure from home stations.

Transportation, Equipment, and Personnel. As units moved to the marshalling areas IX Air Force Service Command was to furnish the necessary transportation to supplement their organic transportation. Always it had in charge the main reserve of equipment and of personnel, together with major repair facilities which were not to be transferred to the continent.

Responsibilities on the Continent. In the assault phase, IX Air Force Service Command was directed to furnish an air force beach party to identify, segregate, and store all air force technical supplies, except class III-A. Through liaison with the British it was to identify and dispose such supplies and equipment as might have been erroneously landed over British beaches. It was further to establish and operate air force beach dumps for air force classes II and IV-H, Engineer construction materials, and class V-A supplies, and to furnish the transportation necessary to move all air force supplies to airfield locations.

These functions were to be intensified and enlarged in subsequent phases of the operation. Among commitments of note for the period under review were the provision of equipment and supplies for combat units of the Ninth Air Force as they should arrive on the far shore. Tactical air depots were to be stripped of heavy repair machinery and moved to the continent as soon as deemed necessary. The Transportation Division of the command was made responsible for the operation of
routine air transportation, for supply by air of air force supplies from the United Kingdom to the continent, and for the early establishment (approximately D plus 4/D plus 5) of an Air Dispatch Letter Service between the new advanced landing grounds on the far shore and the United Kingdom.

Replacement aircraft were to be delivered to the continent from replacement pools at Chilbolton and Hembury, and field artillery liaison aircraft similarly delivered from a pool at Grove. Quartermaster Truck Regiment Headquarters and a vehicle park were to be established in Omaha beach area to provide supplementary transportation for units of the Ninth Air Force ashore.

IX Air Force Service Command planned to supervise the discharge of these significant functions through an advanced headquarters (including personnel from 2d Advanced Air Depot Area) whose first echelon was scheduled to land on D plus 2.

Signal Communications

The Signal Communications mission as set forth in Annex 5 to the Tactical Air Plan was expressed in general and simple terms: "... to plan and provide signal communications for the Ninth Air Force during the mounting of the Operation in the United Kingdom, the pre-assault phase, the assault phase and the subsequent build-up phase on the continent."

The details of the Signal Plan were, however, infinite, and the importance of signal communications for the success of air operations was so great that a summary of the major details of the Signal Plan are given here.

Mounting Phase. In the first, or mounting phase, when all Ninth Air Force units were in the United Kingdom, wire, radio, and messenger
Communications were to be provided between headquarters Ninth Air Force and its commands and units. Similar links were to be established between Headquarters Ninth Air Force, its subordinate commands, and the headquarters of higher formations and others associated with the Ninth Air Force in the impending operation. Furthermore, IX and XIX Tactical Air Commands, IX Bomber Command, and XIX Troop Carrier Command required signal communications, radio navigational aids, and aircraft warning to enable them to perform their Neptune missions while still based in the United Kingdom. These were to be provided, at times in cooperation with the RAF; e.g., a fighter control station (FCS) of IX Tactical Air Command was to augment the fighter direction facilities of Air Defense of Great Britain RAF, while Controllers and Signal personnel were to be provided the AIDB operations room and sector operations rooms which were to direct Ninth Air Force aircraft.

As Ninth Air Force units began their movements toward the far shore, communications between its headquarters and the concentration and marshalling areas involved were to be supplied.

Pre-assault Phase. In the second, or pre-assault phase, when certain headquarters and units of the Ninth Air Force were afloat, an increase of communications was required. They were to be established between designated command posts in the United Kingdom, Ninth Air Force Headquarters, and units afloat. Where necessary, radio air-to-ship communications between aircraft of the Ninth Air Force and designated ships were to be provided.
In this connection, communications were especially necessary between Ninth Air Force Headquarters at Uxbridge and flagships and fighter direction tenders in the Channel. Ninth Air Force representatives were to be present on board U.S.S. Augusta (Western Naval Force and First U. S. Army flagship), U.S.S. Ancon (Omaha assault force flagship, V U. S. Corps and 1st U. S. Division), U.S.S. Bayfield (Utah assault force flagship, VII U.S. Corps and 4th U. S. Division), and U.S.S. Henrico (relief to U.S.S. Ancon and U.S.S. Bayfield). There was a vital role in connection with air-ground cooperation, i.e., the offensive use of Ninth Air Force aircraft.

To enable them to discharge their functions effectively various sources of information were provided. (1) Air Command broadcast channel for the special use of the Allied Expeditionary Air Force at Uxbridge. In emergency, the flagship, headquarters ships, and fighter direction tenders might transmit on this frequency. (2) Ninth Air Force command channel from Uxbridge. This was later to be extended to Advanced Headquarters IX Tactical Air Command. (3) Three air support channels between Uxbridge, the ships, and the far shore. The Ninth Force flagship maintained a listening watch on all three channels. A transmitter was available at Rear Headquarters First U. S. Army, Plymouth, for the purpose of relay if the Air Support Parties could not work directly to Uxbridge, and if the headquarters ships were for some reason unable to relay. (4) Air Representatives and Controllers liaison between the Combined Control Center (IX Fighter Command and 11 Group RAF) at Uxbridge and those officers with the Western Naval
Task Force. It was later to be extended to the Fighter Control Center of IX Tactical Air Command when it was set up on the far shore.

(5) Three VHF channels for communications between headquarters ships and aircraft on offensive missions. The same channels were to be used by fighter direction tenders to direct fighter cover. Communications between headquarters ships and fighter direction tenders were also envisaged, together with communications with Air Support Parties ashore, broadcast reception channels, and Y-Intercept. Navy and Army communications were also to be available.

Assault Phase. In the third, or assault phase, when certain headquarters and units of the Ninth Air Force were established on the continent and others were afloat and in the United Kingdom, an additional increase of facilities was planned. Communications, as earlier established between the United Kingdom and ships, were to be extended to designated units on the far shore, and strengthened. Radio air-to-ground communications between Ninth Air Force units and designated units ashore were required as were aircraft warning and fighter control facilities. All were to be supplied.

Air Support Parties and Air Support Controls were to be provided with signal communications as were ground liaison officers at Ninth Air Force airfields. Wire communications were to be provided between Ninth Air Force units on the beachhead and between Headquarters First U. S. Army Group and Ninth Air Force. Wire communications between 85 Group RAF units in the American and British sectors, and between designated units of the Ninth Air Force and co-equal units.
of the 2d Tactical Air Force RAF, were to be established in agreement with First U. S. Army, Second British Army, and the 2d Tactical Air Force RAF. Signal radio communications were to be afforded between units of the Ninth Air Force on the far shore, and laterally between such units and designated units of the 2d Tactical Air Force RAF.

**Build-Up Phase.** In the fourth, or build-up phase on the continent facilities already existing were to be still further expanded so as to provide for the anticipated communications load between Headquarters Ninth Air Force and its commands, for internal traffic between Ninth Air Force units, and for lateral communications between the Ninth Air Force, 2d Tactical Air Force RAF, and their designated units. Further, in agreement with the headquarters concerned, signal radio and wire communications were to be established between Headquarters Ninth Air Force and the headquarters of higher formations on the continent and in the United Kingdom. Specifically, submarine cable communications were to be provided between Headquarters Ninth Air Force on the continent and designated headquarters in Britain over cables laid by others than the Ninth Air Force. It was anticipated that the first of these cables would be laid to a point on the beach near Bayeux by D plus 6.

**Messenger Service and ADFS.** Certain further points in the Signal Plan are worthy of mention. Messenger service was to be supplied between rear and advanced headquarters and commands of the Ninth Air Force. When some units were afloat this was to be supplemented by a similar service embracing the terminals of the Air Dispatch Letter Service and
the Naval Dispatch Boat Service. On the far shore IX Tactical Air Command was to maintain such a service to the above terminals, to its own units, and to Headquarters 2d Tactical Air Force RAF. On the continent also Headquarters IX Engineer Command and Advanced Headquarters IX Air Force Service Command were to establish a messenger service on a comparatively reduced scale. It was planned that an Air Dispatch Letter Service should be operational on D plus 3, involving three trips per day from Northolt and Whitchurch to Headquarters IX Tactical Air Command, and eventually to Advanced Headquarters Ninth Air Force, XIX Tactical Air Command, and IX Air Defense Command on the continent.

Other Commitments. The fact that the Eighth Air Force and 2d Tactical Air Force RAF were to share in the forthcoming air operations made it necessary to plan for the provision of air-to-ground and air-to-air communications between certain of their airborne and ground units and those of the Ninth Air Force.

Signal intelligence was provided for by special detachments. Mobile air reporting units and rear area reporting units of the IX and XIX Tactical Air Commands and IX Air Defense Command were furnished means of reporting air warning information to filter and fighter control centers, and were furnished with necessary multiple communications with ground observation posts, forward direction posts, and D/F units.

Since tactical reconnaissance aircraft might, in emergency, be
employed for artillery spotting at Army request, provision was included for the necessary ground-to-air communication.

To make tactical reconnaissance reports available to First U. S. Army formations with a minimum of delay, such reports were to be broadcast during the assault from the home base of reconnaissance groups for reception by Army units afloat or ashore. When reconnaissance units should begin to operate from ALO's in France a preliminary broadcast was to be made by Advanced Headquarters IX Tactical Air Command and followed by complete reports broadcast from home base in the United Kingdom.

That speed was regarded as an essential in the provision of signal communications is evidenced by two further items. First, three transportable air radio stations were to be activated and, from D-day on, placed at IX Troop Carrier Command stations in a state of readiness to be flown to the beachhead. Second, the Signal Plan included the provision that the Ninth Air Force should assist in the construction of the main-line wire network on the continent and in this connection pool available signal construction personnel with the zone of communications and/or field force signal construction personnel. The pooled personnel were to operate under the direction of the First U. S. Army Group's Joint Wire Group.

In the preceding paragraphs the Signal Plan has been greatly condensed. From the major details presented, however, it is evident that the Ninth Air Force was committed to provide a great complex of signal communications—no less would suffice a tactical air force of its size when engaged in an operation of such magnitude as NEPTUNE.
Chapter II
PREPARING FOR THE INVASION OF EUROPE

While the Ninth Air Force Tactical Air Plan was being carried through its later stages certain operations were begun directly related to that plan, and final actions were taken to enable the Ninth to accomplish its full mission at the time of the invasion itself. Conspicuous among the final actions were the tactical redeployment of Ninth Air Force units and the elaboration of a substantial mechanism to further air-ground cooperation. The operations were part of what General Eisenhower was later to describe as "the brilliant preparatory work of the air forces, a belief in which was a very cornerstone of the original invasion conception. . . ."

Operations Preparatory to the Invasion

These combat operations had been envisaged in the Tactical Air Plan itself, which provided that "during the preparatory phase the objectives of Allied Air Forces will be the reduction of the German Air Force, the destruction of strategic rail centers, selected enemy coastal defense, Crossbow and Naval installations and airfields in the Neptune area. Strategic and tactical reconnaissance will be intensified." The policy calling for such activities rested upon the sure foundation of Field Service Regulations 100-20.

Attacks on Airfields

Field Service Regulations 100-20 prescribe as first priority for
a tactical air force the gaining of "the necessary degree of air superiority," and further declare that "air superiority is best obtained by the attack on hostile air-drones, the destruction of enemy aircraft at rest, and by fighter action in the air." Throughout the period under review destruction of enemy aircraft by fighter action in the air was chiefly accomplished by Ninth Air Force planes' escorting the heavy bombers of the Eighth Air Force over Germany. Attacks on enemy airfields had been a constant feature of independent operations of the Ninth Air Force based in the United Kingdom. They were continued against such targets in Holland, Belgium, and northern France throughout April and May 1944 in the effort to secure and maintain air superiority.

April Missions

During April, when such targets rated as sixth priority for the Ninth Air Force, at least 29 enemy airfields, ranging from the coastal region as far south as Bourges, Orleans, and Perins, were subjected to a total of over 30 attacks. Of these, all except nine were delivered by fighter-bombers which bombed in over 20 cases, strafed in five others, and followed their bombing attacks by strafing in yet another five instances. Installations servicing the fields were the special objectives. Results were difficult to assess, but pilots' claims were generally "good." In only three instances were there claims of enemy aircraft destroyed on the ground: on 5 April two at Tricqueville and six on the two fields at Orleans and Chateaudun, and 11-plus at Trionville on 14 April.
In April medium bombers delivered a total of nine attacks on six different airfields, none of which had been assigned as primary targets for the missions. Three attacks were made on Chievres by 36, 14, and 18 planes respectively on 11, 12, and 13 April. In the two cases where results were observed, bursts occurred on the landing ground or among buildings. Coxyde/Furnes was also hit three times, on 8 April by 36 planes from two groups and on 10 and 12 April by 13 and 12 planes respectively. The bomb pattern of the 8 April attack blanketed one dispersal area and that of the assault of 10 April covered another. The 12 April attack produced no notable result.

The attacks on Cormeilles en Vexin (28 April) and Ostend/Middlekirn (12 April) were not significant; but bursts occurred among buildings in the 12 April attack on Courtrais/Wevelghem, while at Poix (20 April) a heavy concentration of bombs from 23 planes fell in a dispersal area.

May Missions

In the month of May 1944 enemy airfields were given a generally higher priority among Ninth Air Force targets than hitherto. Furthermore, attacks were stepped up in number and weight, and the total number of airfields attacked was increased. The airfield targets for this month lay within, or adjacent to, the eventual area of invasion operations, for it was desired to neutralize all airfields within 150 miles of the assault beaches, or within a strip of territory extending as far south of the French coast as the distance north from it to
Allied operational bases in the United Kingdom. If this desire were realized, the enemy would be under the same disadvantage as the Allies in operating in the invasion area.

From 1 May through 5 June airfields situated at no less than 35 places, from Brittany well into Holland, were subjected to attacks. At least 26 such fields were assaulted at least once by fighter-bombers which delivered a total of over 30 dive-bombing and 11 strafing attacks. Pilots' reports were more optimistic than in April and usually chronicled results as "excellent" or "good." The number of attacks by medium bombers increased to nearly 40, as fields at 20 different places were attacked at least once each.

In contrast to the April attacks by the mediums, all the attacks of this period had airfields assigned as their primary targets. Nine fields were subjected to particularly frequent or heavy attacks. Ervrez/Fauville was hit by one group on 3 May, by two on 20 May, and by two more on 22 May. Dispersal areas, hangars, and a fuel dump were well hit, while concentrations fell on the landing ground. Two groups hit Achiet on 24 May and the same number on 29 May. Again the dispersal area was hit. Damage was also done to the taxi track, and a fuel dump was blanketed by bursts. Beaumont le Roger was struck by one group on 11 and 23 May, by two groups on 22 May, and by three on 24 May. Dispersal areas were heavily struck, and direct hits scored on runways and the perimeter track.

Cornelles en Vexin was attacked by three groups on 11 and 20 May and by two on 22 May. Here the dispersal areas were struck and
considerable damage done to buildings. Furthermore, revetments were
blanketed and hits were scored on taxi strips and perimeter track.
Beauvais/Tille was bombed by one group on 13 May, and by two on 22
and 24 May. Dispersals and hangars were hit hard, craters blown in
ammunition and fuel areas, and bursts observed on runway and taxi
track. Beaumont sur Oise was attacked by one group on 11 and 24 May
and by two on 20 and 26 May. Once more damage appeared to be con-
centrated in dispersal areas, although the bombs of the attack on
20 May fell on the runways and perimeter track.

Dispersal areas were badly damaged at Abbeville/Druant in the
attacks by one group on 13 May, by two on 21 May, and by three on
24 May. Denain/Frouzy was hit by two groups on 20 May and by two
on 24 May. Two explosions resulted, buildings were destroyed, and
the perimeter track and landing ground damaged. Chartres was attacked
by four groups on 26 May and by three on 3 June, with heavy damage
done to shelters and buildings in a hangar area and the runway and
the landing ground well hit.

Damage done to runways, landing grounds, and taxi strips increased
in significance as the invasion date approached, for as D-day drew
nearer and nearer the enemy was given less and less time in which to
effect repairs. By such means the Ninth Air Force contributed to
the establishment of an unquestioned air supremacy for the Allied
forces when the invasion began.

**Attacks on Communications Targets**

Second priority among the missions assigned to a tactical air
force by Field Service Regulations 100-20 is "To prevent the movement of hostile troops and supplies into the theater of operations or within the theater." Accordingly communications targets figured prominently among those attacked by the Ninth Air Force long before D-day.

At the start they had to be selected with great care in order that complete security in respect to the invasion plans might be maintained. This necessary safeguard rendered the exact purpose of many actions obscure at the time that they transpired, but as time went on they slipped into their proper places in connection with the general plan preparatory to the invasion. With our present perspective we can see some three special programs for attacks on communications targets as parts of a single Ninth Air Force plan: first, attacks on railway centers, such as marshalling yards, servicing facilities, and locomotive works; second, attacks on rail and road bridges; third, growing out of the first two, a program of rail and road interdiction designed to complete the "isolation of the battlefield" by denying to the enemy food, ammunition, and reinforcements. Of these associated programs the first two were developed and carried into execution well before D-day. The third had to force to remain under wraps until 0 June 1944.

Railway Centers—Marshalling Yards

Railway centers had appeared as targets in bombardment directives since early February 1944 and had been subjected to frequent attacks by the Ninth Air Force. The AAF directive of 1 April 1944, however,
served to underline their importance. To these it accorded first priority among targets. Furthermore, the first paragraph of the directive contained the significant statement that "The Supreme Allied Commander has decided that the time has now come for the operations of the AAF to be directed more closely towards the preparation for 'Overlord'. . . ." Again, by directive of 1 May 1944, AAF stated that "In order that the greatest possible destruction may be accomplished on the transportation system affecting the future invasion, it is desired that every opportunity for attacking these vital rail centers be utilized." The connection between this program and the planned invasion was obviously immediate, as from 1 April 1944. Accordingly this report will concentrate its attention upon attacks on such targets delivered between 1 April and 6 June 1944, although in some instances earlier actions must be cited.

Attacks 1 March–6 June 1944. In the period between 1 March and D-day 36 marshalling yards were attacked 139 times. The concentration of attacks was as follows:

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   1 marshalling yard attacked 11 times
   1    "    "        "  8    "
   4    " yards      "  7    "
   6    "        "        "  6    "
   5    "        "        "  5    "
   4    "        "        "  4    "
   3    "        "        "  3    "
   2    "        "        "  2    "
   1    "        "        "  1 time
```

Selection of Targets and Methods of Attack. The targets lay in Belgium and in northern France, and they were assigned in blocks to
the end that closely integrated portions of the rail systems in those regions might be knocked out as nearly at the same time as possible, thus producing a maximum effect upon their operation. Major attacks were of necessity delivered by IX Bomber Command aircraft, but the fighter-bombers had their assigned role as well. They not only followed up the mediums' assaults by "tickling" attacks, designed to impede the work of repair, but also delivered independent assaults and further supplemented the work of the mediums by bombing or strafing after they had completed their work of escort to the Harauders. If each mission against such targets were counted as an attack, the total for the months of April and May alone would exceed that given above for the period from 1 March through 6 June 1944. The total of more than 200 missions in April and May was about equally divided between the mediums and the fighter-bombers.

The intensity of the attacks, notably after the appearance of the directive of 1 May 1944, is suggested by the fact that 26 such missions were flown on 1 May, 13 on 3 May, 17 on 10 May, 12 on 11 May, and 11 on 29 May 1944. Thereafter the number decreased markedly because of the accent then placed on the program which had rail and road bridges as its targets.

Results Attained. The results attained were of a very high order, the larger proportion of the attacks warranting the classifications "good" to "excellent." It would be fruitless if not impossible to attempt a consolidation of all reports on such actions. Their general
effect is, however, well portrayed in the reports of damage done by attacks on characteristic targets.

Creil was the railway center most frequently attacked, being hit no less than 11 times between 7 March and 22 May 1944. The first two attacks on 7 and 17 March destroyed 60 freight cars, damaged 180 more, cut every track at least once, and damaged the engine shed by blast. On 29 March three direct hits were made on the engine workshop; two were scored on a standing train and the through lines cut in eight places. Three days later two locomotive sheds were destroyed and heavy damage inflicted on rolling stock. The attack of 20 April resulted in only insignificant damage, but a week later 10 hits blocked all lines. On 10 May the locomotive depot was reported 70 per cent destroyed and the roundhouse completely demolished, with storage and reception sidings all cut. Attacks of 20 and 24 May put the marshalling yard 60 per cent out of action, destroyed at least 50 freight cars, and further damaged the rails.

At Bethune, which was attacked on eight occasions in the period 29 April to 29 May inclusive, the damage was reported to be equally severe. Thirty freight cars were destroyed and 70 damaged by the attack of 29 April. On the following day essential buildings were destroyed or damaged. The attack of 29 April partially destroyed the locomotive shed and repair shop and inflicted additional damage to buildings, while that of 27 April cratered the sidings, although with little damage to rolling stock. Buildings and facilities were further damaged on 8 May and the main lines to Rouen and to Évreux cut in
five and three places respectively.

Similar reports, based on strike attack or reconnaissance photographs, were the rule following missions flown against targets at such critical points as Arras, Namur, and Ypres; Aulnoye, Hazieres, and Aerschot; Hons, Mantes-Gassicourt, and Busigny. Throughout there was a need for extremely accurate bombing since the rail centers often lay in proximity to built-up areas. This fact caused priorities to be assigned targets of this class which were based on the expected number of civilian casualties. Constant attention given to the improvement of bombing accuracy throughout this period undoubtedly helped to keep the number of gross errors low. The development in May of the practice by the mediums of bombing by flights of six on converging lines of attack played a definite role in assisting improvement which was the more to be desired since "in a short while gross errors would mean death for allied soldiers, rather than death for civilians."

It is certain that in many cases repairs to through lines could be effected in a short period of time after an attack on a railway center had been delivered, and that the enemy's skill in employing alternative facilities to those destroyed was great. Nevertheless, the total expenditure of effort for purposes of repair in which he was forced to engage was appreciable, the inconveniences to which he was subjected were distressing to him, and the absolute loss of rolling stock, and particularly of locomotives, one which he could
ill afford. Allied air attacks on railway centers were held to have caused the capacity of the railways of the northern half of France, which had previously exceeded by far the enemy's military and economic needs, to fall by D-day below the level with which he had sustained his garrison troops in the preceding period. Together with closely related programs, this of the Ninth Air Force against railway centers assisted in carrying out the mission against communications assigned to it by Field Service Regulations.

**Bridges**

**Rail Bridges.** Closely related to the air attacks on railway centers was a definite program of attacks on rail, and eventually road bridges. This had its inception on 7 May 1944, when, on the initiative of Advanced Headquarters Ninth Air Force, AAF agreed that rail bridges on the Seine and the Loire might be attacked. For the sake of security an equal number over each of the rivers were to be assaulted. Fighter-bombers were to concentrate on two bridges in each area and mediums on one in each, and both were to continue their efforts until the designated targets were destroyed.

That same day fighter-bombers attacked the Seine bridges at Mantes-Cassicourt, Cissel, Orival, and Vernon. At Vernon eight aircraft completely destroyed the bridge with 16 x 1,000-pound GP bombs in a zero-level attack. On 8 May fighter-bombers sent against a Seine bridge destroyed three of the 11 spans of the railway viaduct at Hirson. Another mission subjected Mantes-Cassicourt to a second
assault. The mediums began their attack on Seine bridges on 8 May with the bridge at Gissel as their targets, and repeated the action on the two following days. Hit on 9 May, the Gissel bridge was classed as unserviceable on the 10th.

Meuse bridges were first assaulted on 9 May when dive bombers severed the bridge at Loozieren and mediums severed that at Hamur with an excellent pattern. Illus and Sedan were also dive-bombed on this day, while Inhun was attacked on 9 and 10 May.

The program was more narrowly defined by an AAF directive dated 10 May 1944. This listed four Meuse bridges as fifth priority targets for the Ninth Air Force and prescribed that no attacks of any kind should be made on Seine bridges until further notice. These restrictions were maintained until 26 May. Under them the bridges at Liege were attacked by fighter-bombers and mediums on 12 May, and those at Heerenthal and Hasselt by fighter-bombers on 12 and 13 May. Decisive results were not obtained except in the case of Heerenthal, where pilots reported the bridge "probably destroyed."

By directive dated 26 May 1944, AAF opened for attack seven bridges over the Seine between Paris and Rouen, and added to the target list four road bridges over the same river. On 26 May rail bridges were given "first priority over all other targets with the Seine bridges at the top of the priority." This did not preclude attacks against bridges over the Meuse. The three bridges at Liege were heavily attacked by mediums on 25, 28, and 29 May, and all were reported severed. Hasselt bridge was attacked by fighter-bombers,
once on 25 May and twice on 28 May, and reported destroyed. However, interest and attention centered upon the Seine rail and road bridges between 24 May and D-day, since these constituted vital targets in the general program designed to isolate the battle area in Normandy.

Rail bridges at 10 points, and road bridges at 14 others over the Seine appeared on the target lists for the period involved. Of the rail bridges, that at Vernon had been destroyed by dive bombing on 7 May. Those at seven other places were rendered impassable by 4 June. The fifth in a series of dive-bombing attacks accounted for the last of the Conflans bridges. Le Havre was broken as the culmination of four dive bombings, and the bridge at Rouen destroyed as the result of five such assaults.

Mediums destroyed bridges at four other points. At Le Mesnil Ande an attack by two groups produced the desired effect. At Nante-Gassicourt two attacks, by two and five groups respectively, denied the enemy the use of the East and South bridges. Qssel bridge succumbed to the attack of a single group of mediums, while that at Orival was reported destroyed after two such attacks, the first by two groups and the second by one group. Bridges at St. Germain and at Neizens L'fette alone remained standing. Both lay close to Paris and were heavily defended by flak. The first was dive-bombed once without result. The second was twice attacked by mediums, once by four and once by two groups, but damage was limited to the approaches. By D-day all rail bridges over the Seine from Conflans to Rouen (inclusive) had been rendered impassable by Ninth Air Force attacks.
Rolling Stock

Strafing attacks on rolling stock by fighter-bombers supplemented the attacks on rail centers and bridges by the destruction of locomotives and other rolling stock on enemy-controlled lines. The most notable of such attacks occurred on 31 May 1944—a day whose results caused it to be given the appropriate title of "Chattanooga Day." No less than 13 group missions were launched against rolling stock in France north of the river Loire. Weather prevented attacks from being delivered by two groups, but a total of over 500 aircraft found and strafed the type of target assigned. Pilots' claims for the day's operations were 46 locomotives destroyed, 11 probably destroyed, 21 damaged, with 30 trains damaged in varying degrees. Nine of our planes were lost in these operations. Five days later, on 23 May, three groups strafed rolling stock—two in the Rhineland and one in northern France. A total of 97 aircraft delivered attacks. Five were lost, but the pilots claimed 51 locomotives destroyed and 16 damaged, in addition to damage done to other rolling stock. At least seven missions of 2, 3, and 4 June, directed against railway targets, indulged in bombing and strafing attacks on trains. Although pilots reported generally good results their claims of rolling stock destroyed were small.

The above attacks on rail and road bridges, together with those upon rolling stock, constitute an essential prelude to the more formal and more fully developed Interdiction Program of June and the months immediately following. The objectives were the same, the over-all purpose was identical, and the reduction of enemy facilities
and, more particularly, the destruction of the Seine bridges were the premises upon which the later program was built.

**Attacks on Coastal Batteries**

Although individual enemy batteries designed to defend the coast of northern France had occasionally served as targets for the Ninth Air Force prior to 13 April 1944, it was not until then that a definite program against them was inaugurated. An AAF directive dated 13 April 1944 prescribed that the Ninth Air Force and the 2d Tactical Air Force RAF should concentrate the necessary bombardment effort on 12 listed batteries "to the end that the harassing effect of our attacks shall prevent the completion by the enemy of the construction now going on on specified targets." The targets were divided into two groups of six each. In each group two were batteries under construction, and the remainder were completed installations. Nearly all of the targets under construction lay within the invasion area. The others extended as far east as Dunkirk in the Pas de Calais. For security reasons it was stipulated that two attacks should be made upon completed batteries for each one on a battery under construction. These principles were in their essence maintained in later directives which added new targets to those first provided.

Medium bombers of IX Bomber Command monopolized the attacks on these targets. Between 13 and 30 April they bombed gun positions at 24 places in missions of at least one-group strength. Targets in two places were twice bombed. In May gun positions in 24 places were
bombed by the medium. Single attacks were delivered against the installations at six places, two at 12 others, three at three points, and four at two more; while Stapley was six times attacked. Only one attack was in more than group strength. In the first five days of June similar targets in 10 localities were attacked at least once each.

The effects of this program are exceedingly difficult to assess. By scattering the attacks beyond the invasion area security in respect to invasion plans may have been strengthened. The targets were small and of a nature which required direct hits to effect demolition. Even an excellent bomb pattern might fail to produce such hits. Since the framers of the directive of 13 April were aware of these facts it is to be assumed that they used the phrase "harassing effect" rather than the word "destruction" advisedly. Pilots' reports of damage inflicted varied greatly, and photographic evidence added but few significant details. Nevertheless, the effect of such a sustained program upon the enemy's mind and morale may well have been considerable.

Reconnaissance Activities—Visual and Photographic

Throughout the period from 15 May through 5 June the reconnaissance groups of the Ninth Air Force were exceedingly active in discharging functions closely related to current operations, and likewise in gathering information relevant to operations associated with the forthcoming invasion. They also had a definite role assigned in connection with the deception or cover plan then in effect.
Tactical Reconnaissance planned eight missions daily in the area north of the Seine River in connection with the deception plan.

Pilots were instructed to report troop movements, concentrations of troops, and activity on railroad yards and airfields. They were also to report suitable fighter-bomber targets by 23. The routes and times of entering France were varied each day, with the bulk of the reconnaissance laid north of the Seine River to a depth of 100 miles from the coast.

Between 23 February and 29 March 1944 the Tactical Reconnaissance Group flew 83 missions to obtain Morton oblique of 160 miles of the French coast line and of two in-shore strips, each 120 miles long. This usually involved flying at 3,500 feet and at a straight flight line for four minutes. In spite of the size of the task and the dangers involved, 9,500 prints were turned in. No planes were lost.

Low-level oblique were obtained of proposed landing and drop zones in the invasion area for study by IX Troop Carrier Command and the airborne divisions. For deception purposes each mission of this type executed in the invasion area was matched by two others, executed in exactly the same manner, in the region of the Pas de Calais.

It should be noted that when weather or cloud base precluded photography on the part of high-altitude photo reconnaissance units accompanying the medium bombers, and when prompt report of visual observation was required, pilots' visual observations were relayed by R/T to the sector controller, who forwarded them to the reconnaissance center at advanced headquarters. Such information could be furnished within one-half hour from the time of bombing. When possible, bomb-damage assessment photographs were made at the same time.
A total of 400 tactical reconnaissance sorties were flown by the Ninth Air Force during this period, in addition to the special task of flying 140 weather reconnaissance sorties.

During the same period from 15 May through 6 June, photographic reconnaissance was employed to the maximum to provide the photo coverage required by armies and air forces. This work was closely coordinated with British agencies and equitably divided between the RAF and the American facilities available.

The Ninth Air Force Photographic Group completed the following 5 tasks within this period:

1. Mosaics of the area within a 12-mile radius of the Liège bridges for IX Bomber Command study of the flak defenses in the area prior to bombing operations.

2. Coverage of all occupied airfields and airfields previously occupied by the German Air Force in northern France.

3. Run-in, nose-slicing strips for IX Troop Carrier Command's use in briefing and to assist pilots in making proper landfalls.


5. Medium-scale coverage of all main roads in the invasion area every four days from 23 May to D-day.

6. Medium-scale coverage of all bridges over the Seine River as far inland as Paris.

7. Medium-scale coverage of all bridges over the Loire River from Nantes to Orleans.

8. Special large-scale coverage of landing and drop zones on D minus 1 to enable IX Troop Carrier Command and the airborne divisions to study obstacles which were reported to be under construction in these areas.
Eleven extraordinary sorties flown to obtain low-level obliques of underwater beach defenses. These sorties were flown at zero altitude plus sufficient elevation to clear the obstacles on the beaches. Nose-dicing and side-dicing cameras were used, and the flight path usually maintained midway between high-water and low-water line. These photographs were invaluable in that they provided the details of construction of the obstacles themselves. They also disclosed the taller mines and high explosive shells fastened to the severe types of obstacles. Their information assisted the navy in dealing with the mass of underwater obstacles which the enemy had constructed as a defensive measure.

Supplementary Actions of Fighters and Bombers

Supplementing the work of Tactical Reconnaissance and Photo Reconnaissance in connection with operations in progress in this same period were the reports of returning Ninth Air Force pilots of the medium and fighter-bombers. Acting on the principle that such reports might well constitute a most substantial source of information, all pilots had been specially trained to observe and to report their observations. A conspicuous case where such an action paid dividends had occurred on 23 April 1944. Fighter-bomber pilots returning from a mission over Kamae marshalling yard reported the largest concentration of rolling stock there which they had ever seen. The information was received at Advanced Headquarters Ninth Air Force at 1400. By 1944 hours a group of fighter-bombers and four groups of mediums had bombed the target with resulting heavy damage to choke points, sidings, and rolling stock. Such a case is obviously exceptional, but the sum total of information brought in by combat pilots was both great and useful. Training in accurate observation and in the establishment of good reporting procedure was bearing good fruit. It was to prove its value in the course of later operations.
Tactical Redeployment Preparatory to the Invasion

A notable feature of the Ninth Air Force's life in the early months of 1944 was the gradual movement of its combat units and their ancillary formations to new tactical locations. Such changes were planned so that units might be more effectively concentrated than hitherto and placed at points which would facilitate their tactical operations in connection with the invasion. By the end of April nearly all such changes had been effected and units were located on the last fields they were to occupy in the United Kingdom.

The new locations involved in this tactical deployment of combat units placed IX Fighter Command on 11 airfields in Essex. IX Tactical Air Command occupied 11 stations in Hampshire and one in Dorset, extending south from Andover to the Channel coast. Of these, three were classified as advanced landing grounds. IX Tactical Air Command was located at seven fields in proximity to the Channel coast in Kent. All save one of these were ALC's.

IX Troop Carrier Command was placed at three main centers. The coast northward embraced seven inland airfields, five in Lincolnshire and one each in the adjacent counties of Rutland and Northampton. Four inland fields in Berkshire and one in Wiltshire comprised the second group. The third was composed of two fields in Devonshire and one in Somerset in proximity to the Channel coast.

Reconnaissance units were placed at Chalgrove in Oxfordshire and at Middle Wallop, Hampshire. The night fighter squadrons were
placed at Charny Down in Wiltshire and at Scopton, Yorkshire.

Headquarters Ninth Air Force and its advanced headquarters were fixed at Sunninghill Park, Berkshire, and at Uxbridge, Buckinghamshire respectively. Headquarters IX Fighter Command was at Middle Wallop, Hampshire, and its advanced headquarters at Uxbridge. Headquarters IX Tactical Air Command was also at Middle Wallop. Headquarters XIX Tactical Air Command was located at Aldermaston Court, Berkshire, and its advanced headquarters at Biggin Hill, Kent. IX Bomber Command Headquarters remained at Marks Hall, Essex. Headquarters of IX Air Force Service Command was located at Sunninghill Park, that of IX Engineer Command at Bray Court, Berkshire, and that of IX Air Defense Command at St. John's Wood, London. IX Troop Carrier Headquarters remained at Grantham, Lincolnshire, but its advanced headquarters was fixed at Eastcote, Middlesex.

The movements incident to this tactical redeployment of the Ninth Air Force afforded an excellent opportunity to give the units involved in the movements experience which it was believed would be of value to them as they made changes of station to, or on, the continent. Mobility exercises, therefore, coincided with the movements made. In addition, groups not scheduled for an immediate change of station were directed to carry out such exercises by leap-frogging between airfields, or by a movement from the station occupied out into the adjacent countryside and back again. Wherever possible the necessary transportation was provided to allow these exercises to be carried out in a manner identical with that of a genuine operation. Where
transportation was not available it was necessary to simulate the
existence of transportation; e.g., to stake out a space on the ground
equal to the area of a truck body, and to stack equipment therein.
In all cases the mobility exercises involved the movement of all
available personnel and materiel, and their reestablishment in readi-
ness for operations. All measures which would be observed in a move-
ment within an active theater of operations were observed in the course
of these exercises. 6

Provision of Facilities for Air-Ground Cooperation

The success of the operations of a tactical air force depends in
large measure upon the degree of cooperation which exists between it
and the Army units with which it is associated. To achieve such success
a variety of measures was taken by the Ninth Air Force.

Conferences

Beginning in December 1943, a series of conferences was held at
Ninth Air Force Headquarters, Sunninghill Park. Here high-ranking
ground commanders, together with the ground liaison officers who were
to operate with Ninth Air Force units, were given full information as
to the resources and capabilities of air power. Such conferences were
addressed by the Commanding General, Ninth Air Force, by the Command-
ing Generals, IX Bomber Command, IX Fighter Command, and IX Troop
Carrier Command, and by other specially chosen officers.
Ground Liaison Officers

It was designed that the ground liaison officers, composed of Army personnel, should assist air force units in developing a full picture of the ground situation, that they should help in the briefing of air crews preparatory to their taking off on missions, and that they should pass on information obtained after missions had been flown to the proper ground headquarters. They were assigned to headquarters and wings of IX Bomber Command, to headquarters, wings, and groups of the IX and XXI Tactical Air Command, and to the tactical and photographic reconnaissance groups. They functioned in close association with air force S-2's and S-3's.

To supplement the information obtained at the conferences at Summinghill Park, the ground liaison officers attended a special Command Post Exercise at IX Tactical Air Command designed to demonstrate significant points in the doctrine of air-ground cooperation. They further attended a two-week course at the EAF School of Army Cooperation at Old Sarum.

Air Support Parties

Air Support Parties, composed of air force personnel, were assigned to Army corps, divisions, and regimental combat teams. Their function was to assist the proper Army authorities in formulating requests for air strikes, in which connection their knowledge of the capabilities of air power would be of special value. Each party was provided with mobile ground-to-ground and ground-to-air communications.
to enable it to send requests for air strikes promptly, and to direct aircraft that were searching for their targets. IX Tactical Air Command furnished the personnel for 15 Air Support Parties.

**Cooperation with Units Afloat**

To further the cause of air-ground cooperation Ninth Air Force Air Representatives were assigned to the flagships of the Western Naval Task Force and Controllers to three fighter direction tenders. The U.S.S. Augusta was the Western Naval Task Force flagship and for a time carried the Commanding General, First U. S. Army and key members of his staff. The U.S.S. Ancon was the Assault Force Omaha flagship and headquarters ship for V U. S. Corps and 1st U. S. Division. The U.S.S. Eppes was the flagship for Assault Force Utah and headquarters ship for VII U. S. Corps and the 4th U. S. Division. U.S.S. Henrico was relief ship for U.S.S. Ancon and U.S.S. Eppes. One fighter direction tender was located off the American beaches, another off the British beaches, and the third in the shipping lane.

**Controllers and Air Representatives**

The role of the Controllers in the fighter direction tenders was to assist in the operation of Ninth Air Force aircraft in the essentially defensive operations of shipping and beach cover. The role of the Air Representatives on board the flagships was to assist in the provision of offensive air-ground cooperation by the Ninth Air Force. They were to keep the Commanding General, Ninth Air Force
informed of the operation's progress at his Uxbridge headquarters. They were to give air advice to the Commanding General, First U. S. Army, to the Naval Commander, Western Task Force, and to the commanding generals of corps and divisions. They were further to examine calls for air coordination passed back to the United Kingdom by the Air Support Parties ashore and to confirm or veto these calls in consultation with the ground force and naval commanders. They were further to originate requests for air-ground cooperation, pass weather information, and give direct to the Commanding General, Eighth Air Force information as to the bomb line. The Air Representatives on the assault force flagships were to reroute, or relink if necessary, the fighters or bombers which arrived in response to these calls or in accordance with a set program. They were to request additional reconnaissance if such were required by corps or division commanders, to relink reconnaissance aircraft if necessary, and to receive radio-telephone reports from these aircraft whenever such reports were made direct. Such devices gave added guarantee that air-ground coordination would be effective.

Coordination Facilities at Uxbridge

By 21st Army Group memorandum, subject Direct Air Support, dated 23 April, it was stated that "The successful application of direct air support depends on two broad principles: (a) That the support afforded conforms with the military plan. (b) That the air support applied achieves the greatest effect. The Army Group Commander will, therefore,
make his intentions known to the Air Force Commander and the latter will apply the air effort in the best way to further the Army plan."

To give effect to the above policy various organizations were established in close working proximity to one another at Hillington House, Uxbridge, in the period prior to D-day.

Advanced Headquarters Allied Expeditionary Air Force

Advanced Headquarters AFAF was one such organization. It provided the Ninth Air Force and 2d Tactical Air Force RAF with target directives. It resolved any questions which might arise and served to assist in determining the employment of the United States Strategic Air Force in cases where its use appeared necessary.

Advanced Headquarters Ninth Air Force and 2d Tactical Air Force RAF

Advanced Headquarters Ninth Air Force was established at Hillington House in early February 1944 as essentially an operational headquarters. Its operational personnel shared the same operations room with equivalent personnel of 2d Tactical Air Force and developed their actions in cooperation with the latter.

Combined Control Center (Fighter)

In similar fashion Advanced Headquarters IX Fighter Command, in operational control of IX and XXIX Tactical Air Commands, took up its residence at Uxbridge by the side of 11 Group RAF in what was known as the Combined Control Center (Fighter).
21st Army Group Combined Control Center

The 21st Army Group Combined Control Center also appeared on the
scene to give the needed representation to the ground forces. It was
headed by a general staff officer (air) of 21st Army Group. Its per-
sonnel, derived from 21st Army Group and from the First U. S. Army,
were distributed among three subordinate groups or cells.

Reconnaissance Center. The first of these cells was the reconnaissance
center. This handled all requests for reconnaissance which were not
cared for by reconnaissance units directly assigned to armies. It
had the further responsibility of planning reconnaissance missions in
advance and of planning missions on its own initiative, if in its
judgment such missions were necessitated by the developing situation.
It furthermore received reports of all reconnaissance missions. These
it forwarded to the information cell which, in turn, transmitted them
to the operations cell and to the operations room for their informa-
tion and possible action. Direct control of American reconnaissance
was maintained by the senior U. S. officer in the reconnaissance
center.

Operations Cell. The second cell of the 21st Army Group Combined
Control Center was denominated the operations cell. This unit received
all requests for air participation originating with U. S. Air Support
Forties (or British visual control posts) which, as noted above, were
assigned to ground troops. These requests conveyed the wishes of
ground commanders in respect to such missions. In the assault phase they embarked from the headquarters ships. As the army units involved moved ashore the requests came from their command posts. Such requests might also come directly from the ground commanders.

The operations cell might reject such requests, or it might pass them on to the appropriate operations room for acceptance or refusal. Refusals on the part of operations room authorities would normally be only on grounds of air necessity. This cell might also develop requests for air-ground cooperation on its own initiative and on the basis of its knowledge of the ground situation. It was kept fully informed on the details of this subject by way of reports received directly or through information cell, ground units in the field, or reconnaissance. A situation map portrayed this information graphically.

Operations cell had two other functions. It assisted in the development of the missions planned in advance for any given day. On the basis of information received from the ground it set the bomb line, altered the same as need arose, and gave prompt information on the subject to operations room and to the ground and air units concerned.

Information Cell. The third element of the 31st Army Group Combined Control Center was the information cell. To it all intelligence concerning the ground situation was reported by the ground units involved. As has been noted above, it also received reports of air reconnaissance, to which sources of information were added the reports of observations made by other air missions. This cell maintained a situation map on
which the changing positions of friendly and enemy troops were constantly displayed, together with the reported results of reconnaissance. It likewise maintained and circulated to interested units an "Information In Log" in which all items of intelligence received by it were entered.

Once it was determined that an air participation mission should be flown, operations orders were sent, usually by telephone, to the proper air S-3. The same information was likewise given to the ground liaison officer attached to the air formation involved, in order that he might inform the ground commander and personally assist the S-3 in briefing the crews on appropriate details of the ground situation. He was kept currently informed on this subject so that he might properly discharge this briefing function. If a request was refused, the ground commander who originated it was so informed.

Final Instructions to Ground Liaison Officers

Further to inform the ground liaison officers with respect to details of the invasion plan with which they needed to become familiar, a special conference was held for their benefit at Hillington on 2 June 1944. There officers of the 21st Army Group Combined Control Center indulged in a full exposition of the plan, repeated earlier statements in respect to the procedures employed in laying on air-ground cooperation missions, and provided each ground liaison officer with a carefully developed set of instructions for his reference in the immediate future. The fact was stressed that while the greater part of air-ground cooperation missions would be prearranged, missions
in response to demands arising from unforeseen situations, though smaller in proportion, were exceedingly important.

Later Developments

This plan and organization for the control of air strikes was maintained without substantial modification throughout the period 6 to 18 June. However, as operational bases were established on the far shore in immediate proximity to First U. S. Army, the activities of the 21st Army Group Combined Control Center were progressively limited. A definite stage in this development, so far as U. S. air power was concerned, was reached on the night of 17-18 June 1944. Then, in accordance with an order from Advanced Headquarters IX Tactical Air Command on the far shore, operational control of air-ground coordination missions was assumed by that headquarters. In effect this meant that the control of the fighter-bombers passed to that command. Preplanned air participation missions were still arranged and ordered by Advanced Headquarters Ninth Air Force at Hillington House, and other missions were ordered there in cases where the local resources of IX Tactical Air Command did not permit it to care for them.

Of necessity an elaborate communications net was maintained for the use of 21st Army Group Combined Control Center which gave them direct communications with both ground and air units.
Chapter III

OPERATIONS 6 TO 30 JUNE 1944

D-Day Operations

The invasion plans of the Ninth Air Force had been fully elaborated on paper in "Ninth Air Force Plan for Operation Neptune"—Tactical Air Plan," issued on 25 April 1944. On D-day, 6 June 1944, the first of these plans was translated into action as the actual invasion of Europe began. All of the Ninth's vast resources had been committed by the plan. All were now employed to the fullest possible extent—troop carriers, medium bombers, and fighter-bombers alike.

IX Troop Carrier Command

Field Order No. 1

IX Troop Carrier Command Field Order No. 1, 31 May 1944, as amended 4 June 1944, determined the role of that organization in the assault phase of Operation NEPTUNE. The assigned mission of Brig. Gen. Paul L. Williams' forces was to "transport and re-supply parachute and glider elements of the 82nd Airborne Division and the 101st Airborne Division." This was to be accomplished in three phases. The first, to be accomplished in the early hours of D-day, involved the delivery of parachute and glider infantry of the two airborne divisions on a total of six drop or landing zones in close proximity to Ste. Hére Eglise, where they were to be used to assist the inland progress of the assault troops landed on Utah beach. The second, involving the
support of the two divisions with glider-borne headquarters, medical, signal, and engineer detachments, together with field artillery, anti-aircraft artillery, and infantry units, was to be accomplished late on D-day and in the early hours of D plus 1 at two landing zones, one of which had not been previously employed. The third, to be carried out early on D plus 1, involved parachute resupply of the airborne divisions at two drop zones earlier employed.

Take-Off, Course, and Formations

In the closing hours of D minus 1, C-47's and C-53's of IX Troop Carrier Command began to take off, some serving as tags for C-47's. No less than 15 airfields, distributed in three major areas from Lincolnshire to Devon, were employed in the operation, which was directed from the Combined British American Operations Room and Command Post at Eastcote, in proximity to Advanced Headquarters Ninth Air Force and Headquarters Allied Expeditionary Air Force.

Aircraft proceeded to three wing assembly areas and thence to the command departure point on the coast. From that point the air trains proceeded along a command channel 10 miles wide, passing between the islands of Guernsey and Alderney to a turning point off the west coast of the Cherbourg peninsula. The course was planned to avoid the heavy antiaircraft fire of the Channel Islands and northern portion of the Cherbourg peninsula. Three naval craft, provided with visual and radar beacons and carrying signal personnel of IX Troop Carrier Command, marked the course and turning point.
Aircraft carrying paratroops proceeded in nine-ship column Vee of Vees, while glider tug and their tow were formed in pairs of pairs echeloned to the right. The former observed a speed of 140 m.p.h., the latter a speed of 150 m.p.h. on route; and both were to return to 150 m.p.h. To avoid excessive casualties paratroop drop speed was fixed at not over 110 m.p.h.

Pathfinders

Six pathfinder serials of three planes each were directed to proceed to six drop and landing zones. Their navigators were the most experienced members of the IX Troop Carrier Command Pathfinder School, where their crews had also been trained. This school had provided intensive training in the use of all navigational aids since its establishment on 1 March 1944, and its members had participated in frequent wing and command exercises. The pathfinders' mission was to drop at least one of three airborne pathfinder teams on each of the six drop zones assigned, the teams to mark the zone with lighted tee and radar beacons one-half hour before the arrival of the main body. The pathfinders were also to drop at least one of the airborne pathfinder teams to mark a special glider landing zone.

All 19 pathfinder aircraft which made landfall completed their missions, and all drops were made at approximately the correct times, although some difficulties were encountered at the turn and immediately after landfall. All planes were equipped with Gee, with Rebecca (to receive Eureka beacons), and with SBE-717-G radar, so that in case one or more of the devices failed the mission could still be
carried out. All of the equipment worked satisfactorily with the exception of the SCR-117-0 reception of signals from Epsa beacons. SCR-117-0 was used to determine the exact landfall on passing the British coast, to fix course exactly midway between Alderney and Guernsey islands, and as a check to Gee in reaching the drop zones and on returning to base. Rebeccas received Eureka signals at all check points and at three drop zones. At no time was Gee unreadable. In two cases, the actual drops were made by its use alone, while in three others Gee was supplemented with good visual checks. In the remaining two instances the pathfinder teams were dropped on visual identification of the target. In one instance three teams were dropped within 300 yards of the center of the assigned drop zone.

**Diversion**

A force of RAF Stirlings flew a diversionary mission in connection with the first phase of troop carrier operations. They paralleled the course of the main column and continued beyond the turning point towards the enemy coast, dropping window to simulate a second troop carrier force going to a different area in ordnals of approximately 40 aircraft each. Enemy paratroops and noise-makers were also dropped in the course of this diversion.

**Escort**

Escort was provided by night fighters of 11 Group RAF which provided covering for the column, while RAF intruders assisted in providing cover and attacked enemy guns and searchlights. No enemy aircraft were
encountered in this or any subsequent phase of the operations.

Progress of the Operation

First Phase. Over 900 C-47's and C-53's of IX Troop Carrier Command, together with more than 100 C-46-II gliders, participated in the first phase of the operation in 23 serials. Thanks to intensive training in night flying, all formations were effected without air accident. Transport navigation problems were usually solved in a satisfactory manner. Two crews per group had been specially trained in the Pathfinder School to lead their groups within visual distance of the drop-zone area established by the airborne Pathfinder units. All formations reached the targets at approximately the time designated without receiving any gunfire from Allied ships. Navigational aids functioned satisfactorily with the exception of the lighted tees on three drop zones. There, however, the Durex beacon worked well. Heavy cloud formations obscured vision and rendered the special run-in maps of little value. The aircraft reached the drop zone between 0015 and 0400 hours on D-day.

Surprise was possible only in the case of the leading aircraft; all subsequent serials were under practically continuous ground and antiaircraft fire in crossing the peninsula and on landing. While receiving such fire the transport serials were usually unable to maintain close formation with the result that airborne units were scattered and intermingled on landing. Nevertheless results differed from the plan in detail rather than in mass, and the ground observer's report
indicates that the units of the 101st Airborne Division were dropped without major loss and that only one unit of the 82d Airborne Division was badly dropped. The same observer remarked that the successful conclusion of the glider phase of the mission was "little short of a miracle," since the landing fields were small and often obstructed by heavy posts. Parachute and glider landings alike had to be made in the midst of a strongly organized defensive position. This fact was emphasized in the case of the 82d Airborne Division, which landed squarely on the French 91st Infantry Division and other defense troops engaged in maneuvers and occupying their assigned defense positions.

Second Phase. Over 400 C-47's and C-53's towing as many C-47's and Norm gliders participated in the support missions (nine serials) on the afternoon of D-Day and on the morning of D plus 1. They were escorted by fighter groups of IX Fighter Command which gave close cover.

The results were much the same as those recorded for previous missions. C-47's had been employed for the night glider landings since it was felt that their size would keep night losses to a minimum. Two hundred and twenty Corsairs were assigned to this phase, their pay loads of 6,900 pounds making them particularly valuable for the transport of heavy equipment. Small landing fields again occasioned many crash landings, the high landing speed of the Corsair placing them at a special disadvantage. Again formations were considerably scattered by ground fire. Some of the landings were made in the midst of the battle which was raging in the St. Marcеля area. Under
these circumstances considerable heavy equipment was lost, there being little opportunity to secure that which was safely landed; but casualties were reported as "amazingly light." The aircraft arrived over their targets between 2055 and 2250 on D-day and between 0700 and 0855 on D plus 1.

**Third Phase.** The work of IX Troop Carrier Command in the assault on Utah beach was concluded by phase three of its operation. Paralleling some of the support missions above described, more than 320 C-47's and 0-53's were dispatched to resupply the 82nd and 101st Airborne Divisions on the morning of D plus 1. Ground conditions and enemy reactions were adverse to the successful accomplishment of resupply. In addition, this phase was carried out as preplanned and not on orders framed in accordance with the actual ground situation. These facts in combination caused many bundles of the same drop to fall in enemy territory, while the location and distribution of others by the ground troops constituted a difficult problem.

**Accomplishments**

The difficulties attendant upon an operation of this magnitude were serious and many. Planning had anticipated many. Others had been reduced to a minimum by the navigational and other technical training afforded by the IX Troop Carrier Command Pathfinder School. Furthermore, no less than 30 wing and three command exercises had been conducted by IX Troop Carrier Command between 15 March and 27 May.
to give its air crews operational experience. Airborne troops participated in all of these exercises which culminated on 12 May 1944 in Exercise Eagle—a full-scale and realistic rehearsal of invasion operations. The results of such planning and training were gathered in the course of the troop carrier operations of D minus 1 to D plus 1. These operations were a success. The following tables constitute a record of their size, cost, and accomplishment.

### IX Troop Carrier Command: Operational Summary

#### Aircraft

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
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</thead>
<tbody>
<tr>
<td>Dispatched</td>
<td>1,682</td>
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<tr>
<td>Sorties</td>
<td>1,603</td>
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<tr>
<td>Completing mission</td>
<td>1,331</td>
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<tr>
<td>Aborted</td>
<td>76</td>
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<tr>
<td>Landed and destroyed</td>
<td>41</td>
</tr>
<tr>
<td>Damaged</td>
<td>449</td>
</tr>
<tr>
<td>Troops dropped on objective</td>
<td>13,215</td>
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<tr>
<td>Artillery weapons dropped</td>
<td>223</td>
</tr>
<tr>
<td>Pounds of combat equipment and supplies dropped</td>
<td>1,641,448</td>
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<td>Flying time (hours)</td>
<td>7,932</td>
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#### Gliders

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<tr>
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<tr>
<td>Sorties</td>
<td>512</td>
</tr>
<tr>
<td>Released at LZ</td>
<td>503</td>
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<tr>
<td>Not released at LZ (lost)</td>
<td>9</td>
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<tr>
<td>Troops landed on objective</td>
<td>4,047</td>
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<tr>
<td>Troops not landed on objective</td>
<td>43</td>
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<tr>
<td>Artillery weapons landed</td>
<td>110</td>
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<tr>
<td>Jumps landed</td>
<td>231</td>
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<tr>
<td>Pounds of combat equipment and supplies landed</td>
<td>412,477</td>
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<tr>
<td>Flying time (hours)</td>
<td>1,118</td>
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</table>

#### Percentages

- Aircraft abortive: 4.6%
- Aircraft destroyed and missing: 2.3%
- Aircraft damaged: 27.9%
- Gliders not released at LZ (lost): 1.3%

#### Troops dropped or landed

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<th>Type</th>
<th>Quantity</th>
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<td>Aircraft</td>
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<td>Gliders</td>
<td>4,027</td>
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<td>Total</td>
<td>17,242</td>
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Fuels of freight dropped or landed

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<tr>
<td>1,641,449</td>
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<td>2,053,925</td>
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Analysis of combat equipment dropped or landed

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<th>Aircraft</th>
<th>Gliders</th>
<th>Total</th>
</tr>
</thead>
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<tr>
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<td>231</td>
</tr>
<tr>
<td>Number of artillery weapons or mortars</td>
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<tr>
<td>Gallons of gasoline</td>
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<td>Pounds of mines and explosives</td>
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<td>10,355</td>
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<td>Pounds of ammunition</td>
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<td>203,052</td>
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<td>Pounds of rations</td>
<td>81,701</td>
<td>5,672</td>
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<tr>
<td>Pounds of other combat equipment</td>
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</tbody>
</table>

Bomber and Fighter Commands

Operations Order No. 163A

The assault phase operations of IX Bomber Command and IX Fighter Command for D-Day were determined by Advanced Headquarters Ninth Air Force Operations Order No. 163A (no date). Its essential provisions, based upon the Joint Fire Plan of 8 April as subsequently revised and amended, were as follows:

IX Bomber Command, under the command of Brig. Gen. Samuel Z. Anderson, was to attack three coastal batteries in the 21st Army Group area, one near Bénouville and two in the vicinity of Caestre.

Eighty aircraft were to bomb each target at as near civil twilight as possible.

Three other coastal batteries at Pointe du Hoc, just west of Omaha Beach, at Nez-à-Nez I on the eastern shore of the Vire estuary, and at Montferraille, south of Bénouville on the northeast tip of the Cherbourg peninsula were to be attacked by 18 medium each between 5-hour min. 20 and 5-hour min. five minutes. All these batteries...
were capable of interfering with the landings on Utah beach.

In addition the medium were to bomb seven defended localities in the Utah beach area in the vicinity of Les Dunes de Varreville, St. Martin de Varreville, La Madeleine, and Beau Gaillet. Three were to be attacked by 33 and the remainder by 54 aircraft each. The attacks were to be delivered between H-hour minus 20 and H-hour minus five minutes. The medium-bomber effort was concentrated in this area to eliminate, so far as possible, air traffic problems.

The strength of groups during the assault missions was fixed at the maximum of 24 aircraft. Medium formations were to have no direct fighter support, but were to be under area cover.

IX Fighter Command was in operational control of all IX and XIX Tactical Air Command units, and was under the command of Maj. Gen. Howard F. Quezada. Five groups were assigned to beach high cover, two (supplemented by four from VIII Fighter Command) to cover cover. Five other groups constituted a striking force, and six were held for support (air-ground cooperation). Two fighter-bomber squadrons, designated from the striking force, were assigned to fly one air alert mission each, in support of the U.S. V and VII Corps, as directed by the Combined (Fighter) Control Center in direct coordination with the commanders of those corps.

In addition the fighter-bomber were to attack two coastal batteries in squadron strength. These were Laisy II and Géfosse, both on the eastern shore of the Vire estuary and both capable of delivering fire on Utah beach. The attacks were to be made between H-hour and H-hour plus 10.
With the purpose of blocking movement into the Utah area, fighter-bombers were assigned six bridges and a rail embankment in the
central area southwest of St. Hilaire-Georges and in proximity to St.
Sauveur-le-Vicomte. The embankment lies at La Sangourière, the bridges
at Boucerville, Thoumerville, Courbeville, St. Sauveur de Pierre Font,
St. Sauveur le Vicomte, and Sabou.

Intelligence Appreciation of Assault Phase Targets

The nature of these targets is exhibited by Intelligence Section's
"Appreciation of Scheduled Targets for 6 June 1944," which follows.

IX TACTICAL COMMAND

COUTANCES

Dinant (Contourville)

Casemates under construction for four 170 mm. guns with range of
32,000 yards. Previously attacked 12, 13, 20 and 21 May by IX Fighter
Command, resulting in damage to all four casemates. One of the four
guns was possibly destroyed and another may be out of action. The
remaining two guns may be able to fire but probably from adjacent
sites and not from the incomplete emplacements.

Weak to moderate heavy fire is anticipated.

Laize I

Four emplacements for 155 mm. howitzers consisting of open circular
pits 35 ft in diameter with concrete platforms. Attacked 23 May by IX B.G.
by blind bombing methods, causing no damage. Casemates are under
construction in the vicinity.

Weak heavy fire may be encountered.

Laize du Bac

Emplacements with six 155 mm. guns. Also casemate under construc-
tion. Attacks by IX Fighter Command on 16 April, 20 May and 4 June
have damaged all but No. 5 and No. 6 position.

Weak heavy fire may be encountered.
Bonville

Six gun 155 mm. battery with 2 casemates under construction. Attacks of 23 April and 12, 19 and 20 May effected only minor damage. Nebel heavy flak may be encountered.

Castricum I

Six 155 mm. guns with 4 casemates under construction. Attacks of 27 April and 4 May severely damaged No. 1 and No. 2 casemates. Need to moderate heavy flak in anticipated.

Castricum II

Six 155 mm. guns with 4 casemates under construction. No damage from prior attack. Need to moderate heavy flak is anticipated.

ANTICIPATED LOCALITIES IN UTAH BEACH AREA

Les Eunes de Bonville

Infantry position on coast. Two pillboxes, five shelters, possibly one anti-tank gun. Protected by anti-tank ditch and wire on landward side.

Madelaine

Infantry position on coast. Two pillboxes, three shelters, possibly two 105 mm. guns. Protected by wire on landward side.

St. Martin de Barreville

Infantry position on coast. Four pillboxes, one shelter, three anti-tank guns, one light gun, probably 75 mm. protected by wire on landward side.

St. Martin de Barreville

Infantry position on coast. Three pillboxes, six shelters. Protected by wire on landward side.

La Madeleine

Small infantry position slightly inland, surrounded by wire.

Paru Guillet

Small infantry position inland from coast. Probably platoon headquarters.
From Guillet:

Infantry position on coast in front of dyke. Two pillboxes. No heavy fire is anticipated at any of these beach targets. Light flak and small arm fire will be encountered if low flight is necessary.

IN SIGHT COLLAP:

GUN BATTERY:

Grande Fontenay:

A new four-gun battery explored in a row of trees lining a road. On 22 May 1944 no minor defenses or wire had yet been installed. It is believed to be a field battery. Heavy flak may be encountered.

Stain II a:

Probable 75 m. field guns in rough open earthen emplacements 20-25 feet in diameter sited in an open field. Range of guns about 18,000 yards. Heavy flak may be encountered.

LEANVILLE--Road Bridge:

Single span through lattice girder bridge with masonry abutments. Span is 30 feet long over Douve River.

Bienville--Road Bridge:

Three bridges in succession over Douve River and two branch streets. (1) Brick arch, single span, 55 ft; (2) Lattice steel lattice girder, 2 spans, 30 ft; masonry arch single span, 45 ft.

Castresville--Railroad Bridge:

Single track railroad bridge on Carentan-La Haye du Fauze-Carteret line.

St. Sauveur le Visseau--Railroad Bridge:

Single track railroad bridge.

St. Sauveur le Mesnil--Road Bridge:

Reinforced concrete, two span bridge 100 feet long, over Donne River.
Nakou—Road Bridge

Monastery arch, 2 span bridge, 70 feet long, over Douce River.

Conquest—Remain on main road on west side of Cherbourg peninsula.

Light flank only is anticipated at any of these bridge targets.

Note:

Of the gun batteries listed above as targets, the following have portions of both Utah and Omaha beaches within range:

Utah I - Utah II - Colleville - Pointe du Hoc.

The Barfleur Battery can reach Utah beach.

IX Bomber Command Operations in the Assault Phase

All of the assignments to IX Bomber Command for the assault phase were carried out. Zero hour had been fixed at 0630. Accordingly the first aircraft involved took off at 0643, the last at 0630 on 6 June. Under these circumstances it was well that much effort had been expended in training flying personnel in formations just before dawn.

Weather and Pathfinder difficulties reduced the attack on the targets in the 1st Army Group area. Only one aircraft was over Senerville and 11 were over the two batteries at Ouistreham. The attacks took place between 0517 and 0850, with 1,000- and 2,000-pound bombs being used.

The attack on the batteries at Pointe du Hoc, Montferralville, and Utah I took place between 0625 and 0646. The results in the first instance were unobserved; in the other two the targets were well covered by the bursts of 1,000- and 2,000-pound bombs dropped visually by single boxes accompanied by Pathfinder aircraft.
Owing to weather conditions the visual attacks on the seven defended localities in the Utah beach area were made at unusual levels between 3,500 and 7,000 feet. They were delivered by 18 boxes, distributed as planned, and took place between 0625 and 0624. To avoid heavy cratering, 250-pound bombs were employed. Calculations based upon experimental bombing at Elmaceter on 11 and 23 Mar had determined this selection. A total of 269 aircraft dropped 523.63 tons of 250-pound bombs.

Assessment of the results of these bombing attacks is extremely difficult. Poor photographic conditions prevailed which limited the results to be obtained from strike photographer. Later examination on the ground yielded rather unsatisfactory conclusions since the small craters were obscured by the effects of naval gunfire, by later fighting, and by still later cleaning-up operations. Operational research section, however, calculated on the basis of 28 located bomb-falls in the Utah beach area that 10 per cent of the bombs fell in the target areas of the seven defended localities, 43 per cent within 500 feet of the target areas, 66 per cent on land, and 34 per cent between high tide and water line. It should be remembered that in an attack by two boxes of 18 aircraft each on such targets the chances of a machine gun's being put out of action are .054. The chance of a direct hit on a pillbox is less than 2 per cent. It is to be observed, however, that reports from the ground commander in the Utah area stated that the pin-point bombing of the beach targets was excellent, and that he later transmitted a commendation to IX Bomber
Command. In particular the light resistance encountered by a unit of the 101st Airborne Division in occupying a battery west of St. Martin de Varreville was declared by a ground observer to be "due to the excellent air force bombing."

In attacks against coastal batteries, usually housed in heavy concrete emplacements, hits were reported in the vicinity of the guns, but no physical damage attributable to the bombing was discovered at a later date. It is noteworthy that in all bombing of such targets the effect of other than direct hits may have disrupted controls and communications and demoralized personnel, thus effectively neutralizing the gun position at a critical period.

IX Fighter Command Operations in the Assault Phase

Fighter-bombers of the IX and XIX Tactical Air Commands, functioning under the operational control of IX Fighter Command, provided the required convoy and high beach cover throughout the day. They also supported the daylight operations of IX Troop Carrier Command by providing escorts and by carrying out area sweeps. These operations were amazingly uneventful, the only report recording the presence of enemy planes being from aircraft engaged in convoy cover. These reported sighting and downing of two F-19's. In fact no claims were made by fighter-bombers in the course of the whole day's operations—the only claims for the Ninth Air Force on D-Day being two enemy aircraft destroyed by medium and three destroyed or damaged by reconnaissance aircraft.
Such a record, notably in respect to shipping lane and beach cover, is tribute to the efficient execution of the plans for the provision of such cover by the three air forces participating. It also reflects the success of preliminary operations against the German Air Force which resulted in the destruction of its aircraft in the air and on the ground, and in the destruction of and damage to its ground installations and production facilities. To this success the Ninth Air Force had made its contribution, although major credit belongs to the Eighth Air Force and the RAF. The net result of preliminary operations and the efficient execution of D-day plans was that Allied air supremacy over the vital shipping lane and the equally vital beach area was complete.

In addition to their provision of cover and escort, the fighter-bombers of the Ninth Air Force performed a considerable variety of other missions on D-day. Of the nine special targets assigned to them in the assault phase, five were definitely hit. In the remaining cases reports do not exactly specify the target bombed, but indicate that an equivalent target was attacked. The attacks, usually in squadron strength, were delivered between 0550 and 0633.

The coastal batteries of Mersy II and Gefosse were hit with results reported "good" and "excellent." The attacks were by 13 and 15 aircraft, dropping 37 and 20.5 tons respectively.

Bridges at St. Sèveur du Fier, Buneville, and Courpaville were boomed as assigned. The others in the same area were also hit.
while military installations at Carentan were attacked. Results were reported generally as “fair.” A total of 159 planes shared in these assaults on communications and dropped 82.75 tons of bombs.

Other Operations of IX Bomber Command

IX Bomber Command continued its activities throughout the day, dispatching a total of 1,011 aircraft, of which 833 made attacks. This averaged five plus tons per group. The best rate of performance hit-and-run achieved had been an average of four tons per day. For the first time, more aircraft were dispatched than there were crews available. Hence many crews flew on two missions.

Coastal batteries again served as objectives for the medium. In the British area 100 craters were produced in the target area at Dinanville, and hits were scored near the emplacements of the batteries at Hougue and Carentan. At Gatterville, on the northwest tip of the Cherbourg peninsula, equally good results were reported. Two targets attacked in each instance.

Road junctions and highway bridges were attacked at Caen and Falaise in the British area by a total of 83 aircraft dropping 164.55 tons with hit-in-flight results. In the U. S. area, similar targets in proximity to the battle area were hit at Villedieu, Argenten, Escuche, and Carentan. A total of 130 aircraft dropped 165.5 tons on these targets, inflicting appreciable damage.

The medium also attacked four marshalling yards east of the Seine in afternoon missions. Twenty-five B-25's dropped 49.5 tons
on Amiens with damage to rolling stock and buildings. A-20's bombed Leperre, Le Corps Saint, Aumayr, and Serqueux. The results of the A-20 attacks by 32, 7, and 23 aircraft are not known.

Other Operations of IX Fighter Command

After flying their assigned missions in the first assault phase the fighter-bombers continued active. In pursuit of the interception program the bridge at Issel, under repair by the enemy, was twice attacked. In the first bombing by 31 aircraft 30.5 tons were dropped, while 38 tons were dropped by 47 aircraft in the second. The bridge remained standing, in spite of six direct hits after the first attack, but it was claimed that the northern half of the south span was in the river after the second.

Eleven missions were flown by fighter-bombers in response to eight Army requests submitted to headquarters by the Combined Control Center. Three of those missions were aerial reconnoissance along the roads leading from Contamine to Ciron, St. Lo, and La Haie du Fait. Railway targets and a highway bridge were bombed. A motor transport column was requested attacked. It was not found by the aircraft dispatched, which however strafed a train at Airel. Similarly the request that another motor transport column northeast of St. Lo be attacked led to no action against the primary target, but targets of opportunity were hit. An urgent request for dive-bombing gun emplacements north of Iciyar resulted in claims of hits in the target area. Other batteries shelling the beaches from the vicinity
of Garentan were attacked, and 13 direct hits were claimed on six gun placements, with three other like targets claimed destroyed. Scattered targets, including six gun positions, were hit between Leigny and Bayeux. The reported site of a heavy gun near Fontenary was bombed with suppression recall results. Batteries at Leigny which were firing on Utah Beach were also hit by dive bombers. The call for an artillery adjustment mission was canceled.

Thus out of a total of 13 requests for air-ground cooperation submitted at advanced headquarters, eight were accepted and acted upon. One was refused on the ground that no aircraft were available. Weather and the lateness of the hour led to no action in three instances. While in another case the request was held up, pending a report on a mission which was in the air at the time it was submitted.

It should be noted that the experience of D-day led to a slight but significant change in the plan for fighter direction. It was found that there was need for a number of squadrons to be available on short notice for missions against targets of opportunity and for armed reconnaissance at the direction of the Senior Air Representative for Force "O" on board U.S.S. Ancon. The procedure of laying on such missions through Advanced Headquarters ARV and the Combined Control Center had proved slow. Accordingly, at fixed intervals squadrons were made available to the Senior Air Representative for use against targets of opportunity and for armed reconnaissance behind the enemy's lines. Such targets were reported to the Senior Air Representative by the Air Support Party on shore or determined by reconnaissance crews.
reports were intercepted by the Anson. Since U.S.S. Baird occasionally experienced difficulty in communicating with fighters but could usually contact the Anson, whose facilities were good, the Senior Air Representative for Force "U" occasionally made use of the Anson's facilities in laying on missions in support of that force.

**Ninth Air Force Total Attack on D-Day**

The full effort of the Ninth Air Force on D-Day appears in the following summary:²

<table>
<thead>
<tr>
<th>Medium Bombers</th>
<th>Missed</th>
<th>Attacked</th>
<th>Lost on</th>
<th>Missing in</th>
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</thead>
<tbody>
<tr>
<td>Medium-altitude visual bombing</td>
<td>1,035</td>
<td>817</td>
<td>1,455,605</td>
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<tr>
<td>Pathfinders</td>
<td>6</td>
<td>6</td>
<td>6.00</td>
<td>-</td>
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<tr>
<td><strong>Total</strong></td>
<td>1,041</td>
<td>823</td>
<td>1,455,605</td>
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**Lighter-Bombers**

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<th>Lighter-Bombers</th>
<th>Missed</th>
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<th>Lost on</th>
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<td>Assault area cover</td>
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<tr>
<td>Troop carrier escort</td>
<td>314</td>
<td>397</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dive bombing escort</td>
<td>33</td>
<td>32</td>
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<td>-</td>
</tr>
<tr>
<td>Dive bombing</td>
<td>577</td>
<td>569</td>
<td>336.16</td>
<td>9</td>
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<tr>
<td><strong>Total</strong></td>
<td>2,189</td>
<td>2,066</td>
<td>336.16</td>
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**Troop Carrier**

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<tr>
<td>Glider tugs</td>
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<td>103</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Troop carriers</td>
<td>531</td>
<td>625</td>
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<td>-</td>
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<tr>
<td>Gliders</td>
<td>104</td>
<td>104</td>
<td>-</td>
<td>104</td>
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<tr>
<td><strong>Total</strong></td>
<td>1,029</td>
<td>1,012</td>
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<td>127</td>
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**Reconnaissance**

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<th>Lost on</th>
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<tr>
<td>Photo reconnaissance</td>
<td>60</td>
<td>52</td>
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<td>3</td>
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<tr>
<td>Visual reconnaissance</td>
<td>39</td>
<td>67</td>
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<td>Weather reconnaissance</td>
<td>14</td>
<td>14</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Artillery liaison</td>
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<td>-</td>
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<tr>
<td>Photo reconnaissance escort</td>
<td>7</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>192</td>
<td>162</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

**Grand Total** | 4,371 | 4,082 | 1,827,765 | 149 |
Road Bridges. Ninth Air Force attacks on road bridges over the Seine produced equally good results. Those nearest Paris at St. Germain and laisons Lefitte were not attacked. The bridge at Bennecourt was attacked twice by fighter-bombers and once by mediums. A medium attack led to the destruction of one span and the remainder were destroyed by the last dive-bombing mission of 3 June. Courcelles was first attacked by mediums which caused one span to sag. Two attacks by fighter-bombers and another by two groups of mediums led to the destruction of three spans as reported 3 June. A single dive bombing broke the bridge at Conflans, while two similar attacks on 30 May rendered that at Eibocuf impossible. Single missions by mediums in two-group strength broke two spans of the road bridges at Lantes-Gassicourt and Vernon, and demolished eight and nine spans respectively of the bridges at Meulan and Poissy.

Half of the road bridge at Pont de l'Arche was destroyed by dive bombing, while a like mission against Engiport caused the structure there to sag. Two road bridges at Rouen were the objectives of three fighter-bomber missions and of two medium attacks. Since these bridges had been given first priority on 27 May the mediums attacked with three groups on 30 May and with four on 31 May. By the latter date the East bridge had been rendered impassable. The West bridge suffered a similar fate as the result of dive bombings on 2, 3, and 4 June. Although dive-bombed twice on 30 May the structure at St. Pierre du Vauvray was reported standing. It was the only listed target of this type which remained intact between Conflans and Rouen (inclusive) when D-day came. 4
Air-Ground Cooperation

Request Missions

As VII Corps extended its original Omaha beachheads in the period 7 to 19 June, the Ninth Air Force frequently accompanied joint action on Omaha beaches. Joint action was never more evident than on D plus 1. Late on 6 June the commanding general of VII Corps requested "continuous fighter-bomber support to search out and attack enemy artillery firing on [Omaha] beaches."

In response IX Fighter Command directed that beginning at 0000 on 7 June and continuing until 2200, one of its squadrons should always be over targets in the Anzio River-Fayence-Arci area. The squadron, furnished by 306th, 366th, and 388th Fighter Groups, was to remain in the area for 30 minutes, or to the limit of their endurance, and to give gun positions target priority "as they have taken heavy toll on beach Caen." Pursuant to these orders, five low-strength missions were flown in the designated area on 7 June. 487 planes attacking targets of opportunity with 1,000-pound GP bombs and frag clusters.

Highway and rail targets (including rail and rolling stock), together with those furnished by enemy concentrations and stores in the forest of Garly and Dallary, were those most frequently singled out for attack in the course of these missions. However, five gun positions, including one of 50-caliber gun camouflaged under straw stacks, were discovered and blanked with unknown results. Fighter-bombers also attacked six bridges in the Caen area on 7 June and another on the 8th. They reported that guns were torn in three of the bridges.
bombed on the 7th. On the following day, trucks were cut which forced the rerouting of traffic. On 10 June medium heavy concentrations in the Forest of Corcy with unknown results. Reported enemy headquarters were also attacked. The medium hit the building at Litty (7 June), but hit those at St. Martin de Breder and Jumars (10 June), while fighter-bombers partially destroyed a headquarters chateau southwest of Montreuil (7 June). The signal communications repeater station at St. Lo was so well hit on 13 June that the enemy abandoned its use.

Meanwhile VII Corps was expanding its Utah beachhead, and as it moved north against Montebourg and went through St. Sauveur le Vicomte to the coast at Bernerville, air-ground cooperation was even more in evidence than in the Caen area. Medium strikes at five military installations in the Caen-Bergerac region between 7 and 14 June, but the heavy concrete structure which constituted their targets at such points as Le Bernouville and Montfarville were not materially damaged even by 2,000-pound GP bombs.

Fighter-bombers silenced a battery at Litty on 7 June and between that date and the 17th attacked some 15 gun positions in the northern Cotentin area with special emphasis on those in the Barfleur and Montebourg areas. Clear evidence is lacking of results obtained with the exception of the attack on Guineville (7 June) and Cristovez (10 June). In both of these cases ground forces reported excellent results. On 10 June fighter-bomber groups flew four request missions, one against strong points north of Montebourg, the others with some nine bridges in the Bricquebec-Le Pote du Poitoux area as their targets. All were
associated with the northward and westward advance of VII Corps. The
strong points were hit with results reported good, and ground ob-
servers confirmed the destruction of two bridges, with possible
damage to mills in their vicinity. 7

Troop concentrations reported in the area from St. Lo to Barfleur
and St. Sauveur le Vicomte were attacked by fighter-bombers on five
occasions between 10 and 18 June with unknown results.

Highway Bridges and Road Blocks

Highway targets appear frequently in the operational records of
7 to 16 June. Nearly all of the objectives lay north of the line
Coustercer-St. Lo-Flamur sur Odon and in such proximity to the battle
lines as to cause missions against them to fall into the category of
joint air-ground operations. Fighter-bombers attacked them on
occasion, either as specified targets or as those selected by the
leaders of area missions. Incident to such attacks the incomplete
reports for this period specify fighter-bomber claims of over 1,000
17 and 14 tanks destroyed. But the mediums, which flew nearly 40
missions against highway targets in the nine days 7 to 16 June, played
the more conspicuous role.

It was the intent of the mediums to disrupt enemy movements by
the destruction of bridges and the establishment of road blocks.
13 Bomber Command demolished the highway bridge at Caenon (8 June),
destroyed another at St. Sauveur le Vicomte (10 June), and claimed to
have destroyed two more at Conde sur Colombe (15 June). 8 These
attacked at Valognes (10 June), at Argentan (14, 16 June), and at
Leoncy (16 June) appear to have remained intact although buildings
in the area were demolished. The results of the bombing of Caen
bridge (8 June) were the same, although the commanding general, Maj
Army Group commanded the attack then delivered.

To produce substantial road blocks the Germans as a rule attacked
highly junctions within towns in the expectation that rubble from
destroyed buildings would obstruct them. Such blocks were created in
rear districts: excellent examples are Irigny, attacked by two groups
on 6 June, Valognes, bombed by single groups on 8, 10, and 12 June,
Periers, hit by a single group on 8 June, and
attacked by one group on the 16th and by another on the 18th, and
St. Sauveur le Vicomte, which experienced attack by one and one-half
groups on 10 June and by a single group on the 13th. In all cases
highway obstacles were created by debris from demolished buildings.

However, later ground investigation indicated that the road net in the
area labeled was generally such as to permit the detour of road blocks,
although at some possible inconvenience to enemy movements.

Interdiction Program to Isolate the Battlefield

After D-Day the Ninth Air Force was more than ever mindful of the
requirement that a tactical air force should prevent the movement of
hostile troops and supplies into the theater of operations or within
the theater. In the course of actions preparatory to the invasion it
had participated in attacks on enemy rail centers and in the month
prior to the assault it had succeeded in destroying the rail bridges over the Seine from Conflans to Rouen. Had the enemy been in unrestricted control of the rail system of northern France he would have been able to surmount the Allied rate of building in the logistic arm.

Once invasion took place.

With the invasion under way it was no longer necessary to observe secrecy in attacking vital rail points, and the "cover" plan had no longer to be sustained. With an enlarged and more obvious plan for rail interdiction than before, the Ninth Air Force dropped a considerable proportion of its resources to this program which was designed to isolate the rail field and deny to the enemy the use of communications leading into it and existing within it. The program was built upon earlier accomplishments and was very closely related to the heavy attacks on rail bridges over the Seine.

The Plan

The destruction of the rail bridges over the Seine denied access to the battle area from the east. It was desirable that access to it from the south be restricted by the destruction of rail bridges over the Loire from Orleans to the south. This task was assigned to and executed by other British and American air forces. Other assignments to the Ninth, together with the distance at which the target lay from its bases, precluded its general participation in this feature of the rail interdiction program.
A gap, variously described as the Ruissel-Gleaves or the Seine-Loire gap, existed between the two rivers. It too must be closed to rail traffic if the program were to be fully developed in the manner now greatly to be desired. In the region of the gap were some eight bridges of critical importance since they controlled all lines leading into the battle area. They were Ruissel-Brionoye, Cherisy, Royart-le-Not, Saintenon, Chartres (Oisne), Chartres (Southeast), Olyer, and Bazy. In the list of such bridges as first compiled, that at Royart appeared in place of the two at Saintenon and Royart-le-Not. The substitution of these two for Royart was made because the structures at Royart could be so easily repaired. Eventually secondary points were to be attached to supplement the blocking of the gap, prominent among these being Bouchy, Epone, Montereal, and St. Syray bare. This was the more necessary since it early became evident that only if all rail lines through lines were blocked could the maximum effect of the program be realized.

It was decided, however, not merely to destroy bridges over the Seine and the Loire and within the gap, but also to deny the enemy the use of communications within the area between these and the sea. Within that area, controlling movement to the battle line, lay a number of 'ladders' of communication running generally north and south. The movement of this ladder was that of Amance-Chartres-Manteau; the east-west that of Erquy-Chartres-Neyron. For the purpose of determining actions against these lines of communication
Each balloon was divided into a northern and a southern section. In all there were six northern sections and twelve southern as follows:

**Northern Sections**
1. Nantes-Boc.  
2. Vitre-Beaupreux-St. Hilaire  
3. La Chapelle-aux-Bois-Rominten  
4. Le Bois Colombiers-Longueville-Arthaud  
5. Morteau-Leungle  
6. Comb la Fontaine-Roues-Le Loupe-Ternueil

**Southern Sections**
1. Flersel-Buxa  
2. Meuse-Argonne  
3. Chateauroux-Vitte  
4. Grez-Leval  
5. Goues-Lacur  
6. Sable-Caille le Cailhau  
7. La Caille-Caille le Cailhau  
8. La Caille-Latte Colombiers  
9. La Caille-Flines  
10. Belle-Vallon la Rotrou  
11. Courcelles-la Rotrou  
12. Courcelles-Cour  

The program was elaborate because the rail network was intricate. Rail centers, bridges, rail lines, and rolling stock all constituted appropriate targets.  

In carrying out this general program of rail interdiction in the period 6 to 18 June 1944 the Ninth Air Force made full use of both its major weapons. The nature and results of the army medium and fighter-bomber missions, which earned are best deployed in summary form.

**Attacks on Marshalling Yards**

Lt. Col. General attacked more than 20 different marshalling
yards or sidings between 7 and 13 June, no less than 10 being burned on the first day of the period. A few of these targets, such as Taloignes and Le Hay du Fuits, were regarded as the battle area of the time; all were listed as rail lines in the interdiction zone. Reported results vary greatly. On 7 June fair results were reported at Sceaux and Le Hay du Fuits and possible damage at Eragny; but most of the traffic was cut at Cleries and at Magny-le-Hongre, through traffic was blocked at Vire and Avranches, while at Taloignes one line was damaged. The next day all lines were cut when the yard at St. Lo was destroyed.

10 Drogny (12 June) concentrations fell in the target area but the through lines remained open. Two attacks (6, 13 June) struck Laval, the first probably blocking through traffic, the second destroying 13 locomotives and 50 cars, together with mails and buildings.11 La Haye du Fuits was also hit twice (7, 10 June) and severe damage inflicted to the marshalling yard.12 Zellin, hit by medium on 7 June and by fighter-bomber on 12 and 16 June, was later found to have had all tracks effectively broken by over 50 cuts. The mediums' bombing had also caught two troop trains in the yards, en route from Namur to Conflans. Both were destroyed with credibly reported casualties of 250 killed and 650 wounded.13 Ground investigation also reported maiming effects of damage produced by medium attacks on 10 and 13 June in one- and two-group strength respectively, and by dive bombing on the 16th and 18th. It is of interest to observe that the last medium attack was delivered by the fighter-bombers which escorted the B-24's. Together they put the yard out of action. The passenger station was
75 per cent demolished, and 50 per cent damage was inflicted on the
freight station and shops. The turn-table was destroyed, and 13
locomotives out of 25, together with 150 out of 400 cars, damaged
or destroyed. Nearly all of the medium attacks had been delivered
by single groups. On occasion, as at Flers (7 June), La Haye du
Puits (7, 13 June), Henin (14 June), and Courbe sur Maine (15
June), some bomb concentrations struck business and residential areas
with dire results.

In the same period fighter-bombers attacked marshalling yards on
more than 15 occasions. Targets included Le Hold (7 June), Airel (7 June),
Linnes (7, 8 June), St. Saviour le Vicomte (11 June), La Haye du
Puits (15 June), and Stettenat (16 June) lay within the battle zone.
Dolligny (13, 14 June) and Grandville (14 June) were proximate to it.
Fontuyon (7 June), Alençon (13 June), Chateaudun (14 June), Benners
(14, 16 June), Laye (15 June), and Ougeres (15 June) were
further removed, but still within the interdiction area. Pilot's
reports are not particularly inferring, but in two cases among those
mentioned above ground observers recorded the effects of dive-bombing
and strafing missions. At Linnes (7, 8 June) the attacks stopped all
rail traffic and destroyed the empty coaches of the Cherbourg-Taric
express. At St. Saviour le Vicomte (11 June) all tracks and through
lines were cut, an ammunition train destroyed, and heavy damage done
to rolling stock.

The net results of these attacks on marshalling yards are difficult
to assess. Notable damage was inflicted on rails, but traffic on
Broken down by type of aircraft the same figures present the following records:

<table>
<thead>
<tr>
<th>Type</th>
<th>A/D</th>
<th>Flights</th>
<th>Attacked</th>
<th>Destroyed</th>
<th>Hit on Target</th>
<th>Missing in Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium-altitude visual bombing</td>
<td>P-40</td>
<td>723</td>
<td>511</td>
<td>1,178,605</td>
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<td>Pathfinder</td>
<td>B-25</td>
<td>6</td>
<td>6</td>
<td>6,631</td>
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<tr>
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<tr>
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<td>P-38</td>
<td>237</td>
<td>233</td>
<td></td>
<td></td>
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<tr>
<td>Troop carrier escort</td>
<td>P-38</td>
<td>137</td>
<td>137</td>
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<tr>
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<td>P-38</td>
<td>24</td>
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<td>23,50</td>
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<tr>
<td>Assault area escort</td>
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<tr>
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<td>331</td>
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<tr>
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<td>457</td>
<td>307,16</td>
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<td>47</td>
<td>45,39</td>
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<td>P-47</td>
<td>32</td>
<td>32</td>
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<td></td>
<td></td>
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<tr>
<td>Troop carrier escort</td>
<td>P-51</td>
<td>97</td>
<td>89</td>
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</tr>
<tr>
<td>Visual reconnaissance</td>
<td>P-51</td>
<td>89</td>
<td>87</td>
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<tr>
<td>Photo reconnaissance</td>
<td>P-51</td>
<td>22</td>
<td>19</td>
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</tr>
<tr>
<td>Weather reconnaissance</td>
<td>P-51</td>
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<td>Artillery liaison</td>
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<tr>
<td>Glider tug</td>
<td>C-47/53</td>
<td>104</td>
<td>103</td>
<td>10</td>
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<tr>
<td>Troop carrier</td>
<td>C-47/53</td>
<td>321</td>
<td>996</td>
<td>21</td>
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<td></td>
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<tr>
<td>Troop carrier</td>
<td>C-47/53</td>
<td>104</td>
<td>104</td>
<td>104</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total:**

|                      |     | 4,371 | 4,052 | 1,826,755 | 149          |

**The Period 2 to 18 June 1944**

On D-day American forces went ashore at Omaha and Utah beaches.

Between that time and 18 June the original beachheads were in general improved and consolidated; while, in particular, American ground forces pushed through to the west coast of the Cotentin peninsula in the vicinity of Laormville. Thus these actions were completed a lodgement area on the continent had been secured, and one part of the Ninth Air Force invasion mission had been accomplished.
battle area by forcing the use of long road detours, and aggravated
the maintenance problem for armor and motor vehicles which had to take
to the roads. In addition, the destruction of bridges created tempo-
rary blocks behind which traffic piled up, thus affording admirable
targets for fighter-bombers.

Rail Cutting and Rolling Stock:

Two groups of medium bombers were assigned the mission of cutting
rails on the line St. Lôubin-L'Igle-Herlevault on 17 June, and their
bomb patterns were reported to have fallen across the tracks. Aside
from that one action, fighter-bombers had a monopoly of such attacks.
The records of the period 7 to 18 June indicate that they flew at
least 15 group missions and 15 squadron-strength missions with rail
cutting as their primary specified task. In addition, leaders of armed
reconnaissance frequently included rails and rolling stock among the
targets selected for attack in the course of their area missions. As
a result even the incomplete list of claims for this period includes
specific claims of at least 58 cuts effected and some 62 locomotives
and 620 cars destroyed. The results reported for some individual
missions are of interest. A train was claimed destroyed between
Granville and Vire on 7 June, and on the same day 10 ammunition cars
spaced at intervals on the line north of Alençon were attacked. Photo-
graphs showed that at least two exploded, cutting the rails for a
distance of 200 feet. One mission on 10 June left a 50-car train in
flames at Arranches and damaged others at Villerslu.

By such actions
the enemy has allowed only restricted use of the elaborate rail network west of the Seine and north of the Loire which had such conspicuous centers as Tine, Amiens, Le Mans, Rootet le Béron, Chartres, Mantes, Le Mans, and Erquy. The attacks ranged over much of this area from Tine and Erquy in the north to Châteaudun, Canteau, and Falaise, and Chartres in the south; and from Le Mans in the west to the Loire area in the east.

Each rail cutting, which supplemented the attacks on bridges, intensified all the results produced by bridge breaking. It aggravated the enemy's problems of repair and, through multiple cuts on many lines, rendered rail movement hazardous if not impossible.

Early Commentary

In mid-June 1944, Allied commanders could merely estimate the over-all results of the interdiction program. The enemy, however, knew the intensity as is shown by evidence derived from the "War Diary" of the 7th German Army, as early as 2 plus 1 its entries begin to record the difficulties arising from our incessant attacks on transportation targets. Totals under the date of 11 June indicate that at that time only two in evidence: "Railway transportation is impossible because the trains are observed and attacked in short order." "Troop movement and all supply traffic by rail to the army and within the army sector must be considered as completely cut off." Entry after entry fills the picture of an exceedingly vicious circle, the relationship of these parts the enemy was at pains to explain. Damage to
railway service the conversion of the entire supply and transportation system to motor transport." This led to "a severe strain on motor- and handling space which is only available to the army in very limited quantity." Such strain was increased by the "constant attack of American air forces at the front and in rear areas which has led to delays and unavoidable losses in vehicles." Not merely was the movement of personnel affected and the calculation of the time needed for any movement by then rendered hopelessly incorrect, but lack of rail transport caused some units to wear out their machines in moving to the battle zone, while once they were committed to action their ability was restricted "due to the lack of fuel and the unreliability of the ammunition supply". At a much later date Field Marshal von Rundstedt was to declare that the condition of the heavily bombed French roads and rail lines around Dijon—particularly those in the rear area—prevented him from bringing up troops to counterattack.

Atrocities on French Supplies

In an effort to accentuate the enemy's shortage of fuel and ammunition, dumps containing such supplies were attacked by "fiuons" and fighter-bombers of the American Air Force from 7 to 18 June. These tank targets housed by审判 days in the Pas-de-Calais area at Boulogne itself (15, 16 June), in the Front d'Ardenne (15, 16, 18 June), and in the Front d'Aviation (15 June). All three were also subjected to fighter-bomber attack (15 June). Similarly, the French forces also attacked other areas in the Front de Franche (3 June), at Le Havre (15 June), and at
Dol de la Sauvet (16 June), and others farther removed at Le Long (17 June) and Conches (18 June). Nighter-bombers attacked dumps in the Cherbourg area (13, 15 June) and one near Mira (15 June). With the targets well located in forest areas it is not to be expected that immediate reports of results would be very enlightening, although fires and explosions followed one of the three initial attacks on the Fort d'Amélie (15 June), and nighter-bombers reported a tremendous explosion in a dump southeast of Cherbourg (16 June). Some further evidence is furnished by ground observers' reports, but since these record the cumulative effect of the attacks in this and later periods their consideration is postponed.

Special Notes

A tactical air force is nothing if not versatile. While concentrating their attention on such obviously high priorities as air-ground cooperation, the interdiction program, and attacks on enemy stores, the aircraft of the Ninth on occasion performed special missions in this period. They strafed the power house at Mira (16 June) and dive-bombed radar installations at Cap Frehel and Pointe du Grouin (15 June) and one near St. Pierre Eglin (16 June). B-17s attacked three pilotless aircraft-launching sites (16 June) on CAP, while fighter-bombers, returning to their bases in England, destroyed three "flying boats" in the air on the same day.

The Period 12 to 22 June 1944

The Ground Situation

From the time when American troops reached the west coast of the
Cotentin peninsula (13 June) until the Cherbourg peninsula was fully in their hands (1 July), operations of the Ninth Air Force maintained the essential characteristics which they had displayed in the earlier period of the Battle of Normandy. Prominent among these was air-ground cooperation which was exhibited on a notable scale in the course of the movement against Cherbourg (22 to 30 June) and elsewhere to a lesser degree. Attacks on communications targets related to the interdiction program were almost continuous. Fuel dumps were subjected to further attacks, and on occasion enemy airfields were the targets chosen. All of these activities were related to the second feature of the Ninth Air Force invasion mission as defined in the Tactical Air Plan—"to support the advance of the First U. S. Army Group in the development of the lodgment on the continent. . . ."

In respect to air-ground cooperation it should be observed that two developments assumed notable proportions in the period 19 to 30 June 1944: first, the provision of new instruments for the direction and control of fighter-bombers of the Ninth Air Force, and second, the movement of fighter-bomber units to permanent bases on the continent which had been constructed by IX Engineer Command.

Air-ground cooperation

From 6 to 17 June direction of air-ground cooperation missions had been in the hands of Headquarters Ninth Air Force at Uxbridge which functioned in close association with the Combined Control Center of First Army Group. Such direction was limited only by the control provided by the Senior Air Representative on board U. S. Army from 6 to
10 June and by 70th Fighter Wing from 10 June forward. On 10 June, however, under General Order No. 103, Headquarters Ninth Air Force, IX ETO was charged with operational control of all fighter-bombers arriving on the continent. IX ETO was in a position to assume this responsibility since its first mobile operations echelon had arrived at Au Gey on the 9th and established IX ETO Headquarters there the following day in close proximity to Headquarters First U. S. Air (FUSA). On 10 June the newly established headquarters began to exercise operational control through 70th Fighter Wing, which had been set up at Criqueville 9 to 11 June. A further and more significant step in the provision of continental controls was taken at midnight 17-18 June when Headquarters IX ETO, in conjunction with FUSA, assumed responsibility for designating bomb lines and for operating the Air Support Net. It was to submit these requests which it could not meet with its own resources to Headquarters Ninth Air Force at Uskridge. This action meant that as far as fighter-bombers were concerned, effective direction of Ninth Air Force air-ground cooperation was placed in the hands of IX ETO. It was to remain there until operational functions were redistributed after Headquarters Ninth Air Force itself became operational on the continent. Symbolic of their common interest and joint participation in current air-ground operations was the presence in IX Tactical Air Command's operations tent of C-3 Air and F-5 Air of FUSA and the intimate association of IX Tactical Air Command's A-2 and FUSA's G-2 sections.
Combat Units on Continental Euros

The movement of fighter-bomber units to permanent bases on the continent depended on the ability of IX Engineer Command to construct new airfields or to restore enemy fields to operational use. In turn, IX Engineer Command's ability to provide such bases depended upon the ability of the ground forces to capture the intended sites. In general the construction schedule drawn up prior to D-Day was not fulfilled due to the simple fact that few of the airfield sites were in our possession at the time originally estimated. The achievement of the engineers in the month of June was nevertheless notable, as is indicated by the following table.

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Used as</th>
<th>Constr. Started</th>
<th>Constr. Completed</th>
<th>Permanent Construction</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Pompervillen</td>
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<td>6</td>
<td>6</td>
<td></td>
<td>15</td>
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<tr>
<td>1</td>
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<td>20</td>
<td>20, 366</td>
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<td>2</td>
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<tr>
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<td>Garenville</td>
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<tr>
<td>4</td>
<td>Deux Jumeaux</td>
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<tr>
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<td>Chappelie</td>
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<td>16</td>
<td>-</td>
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<td>Le Roisy</td>
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<tr>
<td>12</td>
<td>Montpon</td>
<td></td>
<td>27</td>
<td>-</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

The initial engineer detachments were speedily followed by others and reinforced by Ninth Air Force Quartermaster truck companies, and although the work was somewhat heavier than expected, the rate of construction of advanced landing grounds was greater than that which had

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been anticipated. On occasion, as at Fougouville, St. Laurant, and
Carentan, enemy ground opposition was encountered. Air attacks
likewise experienced, although slit trenches prevented casualties from
bombing and strafing. The greatest obstacle was dust arising from the
silty and excessively dry soil. This impeded the construction work
of the engineers and was later to cause maintenance problems to the air
units in spite of the use of either Russian under square steel-road
mattes.

In spite of all obstacles IX Engineer Command began construction
in June of 13 airfields which were to be used as permanent bases by
fighter-bombers. Even prior to the completion of full operational
facilities on them, many fields were used for crash landings, supply
and evacuation, administrative traffic, and, most notably, for resupply
by fighter-bomber units operating from English bases. By the
end of the ninth nine airfields were reported operational as ETO's.
As early as 13 June air units based on Britain began their operational
use, and on 19 June the first operational use was made of an airfield
(Gardonville) by fighter-bombers permanently based there. By the end
of the month, as shown by the above table, no less than seven fighter-
bomber groups were operating from newly built airfields on the continent.
The efficiency of the fighter-bombers was greatly enhanced by their
ability to use continental fields for refueling and, more particularly,
for permanent bases. Furthermore IX Tactical Air Command had a con-
stantly increasing number of aircraft immediately available for its
use in air-ground cooperation.

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The story of such action in the operations against Cherbourg is of such significance that it must be recorded first place in the operational narrative of this period and must be presented in full detail. The narrative of other actions of the same type in the latter part of June may be postponed for later and less summary treatment.

The Cherbourg Decision, 22 to 27 June 1944

The Plan for the Initial Operation

The plan for air-ground cooperation in the projected attack which led Cherbourg as its final objective began to take form in a morning conference at VII Corps Headquarters on 21 June 1944. Generals Breckinridge (Ninth Air Force), Quaile (IX TAF), and Collins (VII Corps) were present.

The attack, with the 9th and the 70th Division participating, was to be launched on 22 June and had the high ground overlooking the city and the port as its immediate objective. General Collins indicated that he could count it as late as 1800 to 1700 if early weather conditions were not propitious for the air assault. It was held that the enemy was disorganized and it was believed that a heavy air attack immediately preceding the ground attack would greatly facilitate the advance of the VII Corps by reducing the strength of enemy batteries and strongpoints along the lines of advance. Generals Breckinridge and Quaile were ready to employ all available Ninth Air Force bombers and fighter-bomber in the delivery of the air attack.
Circumstances demanded that the air plan be rushed through its later stages. Further conferences with Generals Bradley, Greer, and Vandenberg, Air Marshal Coningham, and Air Vice Marshal Brooke followed in swift succession on the continent and in Britain. In the final stages no USA representatives were present. The completed plan, flown to the continent in the early morning hours of 23 June, called for a very closely coordinated attack on that same day.

The area included within the coordinates 0-157131, 0-167163, 0-169163, 0-91131, 0-90353, 0-063213, 0-033213, and 0-154381 was marked out for the general air attack, with certain localities within it assigned priorities. The north and southeast boundaries of the attack area were to be marked by white smoke laid down by artillery. Before H minus 30, U.S. artillery was to engage in counterbattery fire upon enemy field positions. Between H minus 30 and H minus 71, four squadrons of rocket-firing typhoons from 21st Tactical Air Force were to strafe the northern half of the attack area, giving particular attention to field positions. Six squadrons of 21st Tactical Air Force Mustangs were to follow and ground-strafe the attack area from H minus 70 to H minus 31. N bombs were to be dropped by 21st Tactical Air Force units.

Ninth Air Force fighter-bombers were to come into action at H minus 01. From that hour until H minus 5 minutes, 12 groups were to attack from west to east at five-minute intervals. P-51's and P-39's were to carry two 500-pound and P-47's three 500-pound GP bombs. They were to bomb and strafe military installations, troops, and transport
in the attack area and give special attention to six pin-pointed localities.

At E-hour, fixed at 1100, the ground forces were to begin their assault as Ninth Air Force medium bombers began delivering a series of attacks designed to force an aerial barrage moving northward in anticipation of the ground forces. All 11 groups of IX Fighter Command were to participate and to bomb 11 different pin-pointed localities. Three of these coincided with localities singled out for special attention by fighter-bombers. Ten groups were to carry 20 x 100-pound frags, seven were to be loaded with eight 500-pound and two with six 330-pound GP bombs. Nine targets were, according to the final order, to be bombed visually, the balance on BT. The attacks were to be delivered at intervals ranging from two and one-half to 10 minutes.

Taken as a whole, the plan involved the first large-scale and closely coordinated air-ground attack since D-day.

**Air Strikers, 23 June**

**Fighters.** The air strikes proceeded as planned. The attack by 2d, 3d, 1st Air Force aircraft covered the period between 1000 and 1300 hours. Between 1200 and 1305 some 637 Ninth Air Force fighter-bombers were over the target area. They strafed ground targets and, employing dive-, glide-, and skip-bombing techniques, dropped a total of 229.5 tons of bombs. Only one group sighted enemy aircraft—which, however, refused encounter. Twenty-four fighter-bombers were lost in attacks.
which carried them down to 200 feet. At Osterville the marshalling yard and adjacent tracks were heavily hit; a single 80-foot section, estimated to require 300 yards of earth for filling, completely destroyed 300 feet of rail line. 226 Precise results of other attacks are impossible to assess. Some direct hits were made on gun or machine gun emplacements, seven of which were claimed to have been neutralized. A few ships were hit and exploded. In addition a radio station, two fleet tugs, and 30 buildings were claimed destroyed. It should be borne in mind, on the one hand, that General Collins thoroughly understood that no great material damage could be expected, and on the other that the demoralizing effect upon troops, already demoralized to some degree, was very great. Prisoner of war statements, even when taken with reservation, indicate that low-level fighter-bomber attacks produced a psychological effect far greater than the actual destruction or casualties caused, and one which on occasion made it impossible for officers to hold their formations together. Such psychological shock, however, can only be advantageously affected if they attack immediately after the fighter-bombers have delivered their assault. Some confusion was caused in locating the target area with exploding shells which are difficult to distinguish from other bursts, friendly or enemy. Their efficiency was further reduced by the effect of smoke produced by the first air attacks. Three instances occurred of attacks by small numbers of friendly aircraft upon our own troops, with little damage reported.
Attacks by medium bombers upon 11 defended localities were
delivered between 1100 and 1545. Approximately 700 planes were dis-
patched, 12 carrying bombs. Of those that attacked, dropping a
total of over 620 tons of bomb. Available evidence suggests that
the material damage to the designated targets was small. Four
localities were well hit; and in those cases where precise off aim
could be determined, gun positions, barracks, tank targets, and the
defense systems were found to have suffered. In one instance (O-Illldc)
later ground investigation disclosed that heavy damage was done to guns,
to the fire control center, and to personnel. There was no evidence
of damage to the targets in the remaining seven group attacks. In
four instances results were negative or undetermined. In three cases
the balls fell off the targets but damaged roads, buildings, and gun
emplacements in other areas.

Only a small portion of the area attacked for air attack was
occupied by friendly troops up to 0000 on 23 June. However, this
included valuable high ground in the vicinity of Cherrey. This was
an area to which both medium and fighter-bombers had devoted special
attention on the 22d, and it was to serve as the base for further penetra-
tion of enemy positions south of Cherbourg on the following day.
Not until 23 June was the air-attack area largely overrun.

Nevertheless, division commanders and the corps commander con-
cluded themselves as well satisfied with air-ground cooperation on 22 June. Headquarters Third Air Force told that the operation was justified, although inclined to believe that the attack upon
selected pin-point targets by Japanese bombers sighted and that preceded the air strikes by fighter-bombers. These attacks immediately in front of friendly troops would concentrate their fire and make uninterrupted advance.

These operations of 23 June had not been without cost to the Ninth Air Force, as is shown by the following table:

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<tbody>
<tr>
<td>Bomber</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>8</td>
<td>87</td>
</tr>
<tr>
<td>Fighter</td>
<td>23</td>
<td>5</td>
<td>3</td>
<td>8</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>9</td>
<td>8</td>
<td>8</td>
<td>94</td>
<td>123</td>
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Operations, 23 to 25 June

During the balance of the action which led to the reduction of Cherbourg and the occupation of the peninsula, the Ninth Air Force continued its air strikes in cooperation with the ground forces. On 23 June two groups of fighter-bombers attacked strong points in the battle area, with results reported as good and excellent. The following day saw a larger-scale effort. Four groups of aircraft were assigned four targets consisting of gun batteries and strong points in the immediate vicinity of the port. Along the Van Port du Havre. They attacked with 2,000-pound GP bombs, and in all cases the bulk of their loads fell within the target areas in a fashion which warranted assessment of destruction or damage to gunners or gun positions in these instances. Ground force officers cited these attacks as particularly good examples of air-ground cooperation resulting in quick movement by the infantry with comparatively little trouble. On the
same day fighter-bombers delivered attacks against seven other strong points. All were successful, that by two squadrons on La Jure as 
Comadc 6-16656 offering a remarkable example of air-ground cooperation since 13 direct hits on the emplaced position assisted the in-
fantry in occupying their objective. Another attack on a strong point 
out of Cherbourg was later found to have been exceedingly well hit. 
It had contained seven guns of various types and calibers. A 75-
millimeter field gun had been destroyed and two 92-millimeter 3.2 guns 
had been damaged, although a hit 75 feet from an 80-millimeter gun 
produced no damage. On 25 June three squadrons of fighter-bombers attacked similar 
targets west and southwest of the city in a manner which won the 
approval of ground force officers. Again on 27 June two squadrons of 
fighter-bombers attacked batteries to the west of Cherbourg and in the 
Cap de la Hague region. Their claims of two batteries destroyed and 
two damaged were later verified. On 29 June three fighter-bomber 
squadrons gave their attention to batteries near Cap de la Hague, while 
another bombarded Fort Central on the Cherbourg Breakwater. This fort 
had held out against heavy artillery fire, but immediately after the 
air attack it ran up the white flag. The bombs had done little 
physical damage to the fort's massive granite construction, but 
prisoners were unanimous in their statement that dive bombing rather 
than the fire of 185's caused their surrender. On this same day (29 
June) three groups of medium bombers heavily defended positions in
the Cap de la Hague region. No hits were registered on those at Le Bell or Martinville and Biggarville. At Jakertville and La Pe the heavy guns were themselves undamaged, but their operation was largely neutralized by direct hits on emplacements, traversing rings, and tracks leading to the ammunition storage area. Explosions were caused by the bombs falling on La Pe.

Organized resistance within Cherbourg itself ceased on 27 June, and the peninsula was fully in our possession by 1 July. Air-ground cooperation by the Ninth Air Force, whether on a large scale, as on 29 June, or on a small scale, as in the attacks of 23 to 29 June, had assisted in producing this result. 25

Other Air-Ground Cooperation Activities

With the exception of the actions against Cherbourg (23 to 29 June) air-ground cooperation appeared on a limited scale between 19 and 29 June. On the 29th, however, three fighter-bomber missions were flown against enemy gun positions in the vicinity of Barfleur, Cherbourg, and Le Ferolle. In only one case are results certain. More ground observers found that while the gun positions at Fénouville were not hit, the concrete buildings housing personnel had been destroyed. 26 Gun positions in the St. Lo area were also attacked by fighter-bombers on the 29th, 30th, and 31st, while on the 23d similar targets at Alderny and at Granville were dive-bombed. On 25 June a tank and motor park south of Caranton was struck. Such missions are, however, to be rated as incidental. At the end of the month, as ground forces
began to move south against limited objectives, there was a rather
greater concentration of effort. In this connection six request
missions were directed against enemy positions in the Tilleulieu, La
Haye du Fauve, and Lecony areas on 29 July, followed by another on the
29th. Pilots reported hits or the neutralisation of the targets in
all cases. In the case of one attack of the 29th, which had two gun
positions assigned as targets, the ground forces reported that the
dive-bombing attack had kept the enemy's observation posts from operat-
ing. As Ninth Air Force planes approached, the enemy dashed into
fox holes and remained there while they were in the vicinity, while
heavy gunfire opened after the dive-bombing. Such results of air
action enabled our troops to take positions south of St. Taurin in
Tonneville without too much interference. This testimony by ground
units of peculiar value since scattered or torn on the hilltop targets were
the only material evidence available to supplement the fliers' claims.27
Attacks on highvalue targets on 30 June were related to the ground
forces' thrust against Cham. Medium attacked rail junctions at Cham-
B-cert and Conde-sur-Beaure with the group each, but with indefinite
results. Dive bombers claimed good results on railroad lines near Ecan
and Juvigny. Hits were scored by the medium which attacked the
coastal battery at Foulgate (29 June) and a reputed headquarters at
Arcon (22 June), but none resulted from a fighter-bomber attack on
another headquarters (29 June).
through lines was in most instances interrupted for only a short space of time. Nor can it be claimed that injury done to rolling stock reduced the number of locomotives and cars below the army's essential requirements.

**Attacks on Bridges.**

In the development of interdiction in this period, three Seine bridges in close proximity to Paris, together with six bridges or embankments in the Paris-Orleans gap, were subjected to a total of 12 attacks by IX Bomber Command. Only at Chartres (15 June), where traffic was blocked, was any considerable success achieved by the group attacks. Within the interdiction zone the medium- and six similar targets in the course of nine attacks. At Lessey, attacked by one group on the 7th and by two on the 8th, the embankment was damaged. A first attack on Pontcarré (6 June) only damaged the embankment, but on the 11th a span was brought down. The center span of the Seine bridge fell under the attack of 10 June, and two spans of a similar structure at Ivry were demolished on the 18th. The most significant of the fighter-bomber attacks on bridges associated with the interdiction program were those directed against the Seine bridge at Orléans which was reported destroyed by attacks on 7 and 8 June. They delivered many attacks on minor bridges in the course of their missions and claimed the destruction of at least 10.

The air attack on bridges imposed a maximum of delay on the movement of German forces and supplies, increased the fuel shortage in the
Interdiction Program

Marching Yards

IX Bomber Command devoted much of its attention to the interdiction program as did fighter-bomber under the control of IX Tactical Air Command and IX Fighter Command. Marching yards were frequent targets. On four different days, the mediums bombed a total of six separate targets. At Hazebrouck (24 June), Lillebonne (18, 25 June), and Douay (27 June) there was no evidence of any considerable damage done. Both concentrations fell in the yards at Tinant-Ecury (23 June) and Leuven (26 June), but in each case damage was done also to business and residential areas. The bombing of the yard at St. Quentin (23 June) hit all east and west tracks.

Fighter-bombers were assigned to, or themselves selected, 20 different marshalling yard targets between 19 and 30 July. They ranged over a wide area from Granville to Lille, and from Orleans to Evreux and St. Quentin, and the attacks on them varied greatly in strength and results. Outstanding results occurred in some instances. The hits at Chantilly (20 June) produced a large explosion and flame. The attacks at Evreux (29 June), Lille (21 June), and Caen (25, 26 June). Four trains of eight cars each were claimed destroyed at Sceaux (23 June), cars exploded and were left burning at Soissons (27 June), and a total of 50 cars were claimed destroyed in the four yards of Clermont, Leuven, Compiegne, and St. Quentin (21 June). Pilots reported heavy damage at Evreux (23 June) which was confirmed by later ground investigation. However, the ground
observers also discovered that the Germans had a large repair crew available, and by using alternative sidings and switches, restored through traffic in a day's time. 26

Rail Cutting and Rolling Stock

The cutting of rail lines and the destruction of rolling stock were continued in this period. On a single occasion (30 June) one group of mediums was assigned to cut rails between Del and Remes and another, those between St. Hilaire and Vitro. The results of their attacks, made on short runs out of clouds, were indefinite. Inevitably the bulk of these tanks was assumed by the fighter-bombers which attacked rails and rolling stock with an almost monotonous regularity in the course of area sweeps or on missions where such targets were specifically assigned. Reports of these many missions often fail to detail their claims, but those which are specified afford a picture of the approximate results of these operations. Eighty-nine rail cuts were claimed. In addition, excluding all indefinite reports and all claims of rolling stock probably destroyed or merely damaged, fighter-bomber pilots reported a minimum of over 50 locomotives and more than 900 cars destroyed. Incident to these same operations against railway targets pilots submitted claims of more than 250 M2 and some 15 tanks destroyed.

Where unusual targets were found, the results of individual missions were striking. A direct hit on an ammunition train (21 June) blew up four others of about 25 cars each on the line Paris-Chartres-Nogent. A train loaded with tanks was strafed and damaged (33 June); an attack directed against tanks on trains near Nantes
Gestapo's (21 June) achieved notable success. In locomotive, cars, and tracks were hit by direct attacks and the firing of the ten cars which formed part of the train completed the work of destruction. In the same area and on the same day a locomotive and 50 bull cars carrying 10 tons each were struck and exploded. Two \n
A stationary line of freight cars was found near La Ferte St. Aubin (22 June). 100 tons were burned as a result of strafing. Some cars burst into flame after 100 had been strafed between Repoil and Vitry (23 June), while another mission (27 June), which claimed the destruction of four locomotives and 70 cars, left the roundhouses at Chateaugiron in flames. Two tunnels were direct Rebels on 25 June and pilots reported the destruction of both. A second observer, however, later found that in one case (E-6262) the bombs missed the target, while in the other (E-1953) the objective was achieved. A hit on top of the tunnel near its eastern entrance caused a cave-in, while other hits over the tunnel produced cracks in the masonry arches which resulted in leaks and a general weakening of the structure. \n
Bridges

Key bridges over the Seine or in the region of the Paris-Orleans

were targeted for both military and fighter-bombers in the

second half of June. Those which had not been broken earlier required

action. Those which had been effectively hit earlier were being

required by German General engineers and demanded further attention.

The sodium attacked fires, each in group strength. Two ends of a
Antiaircraft defenses of marshalling yards and bridges, notably of those over the Seine, had been increased throughout the month and account for the heavier losses and battle damage experienced in attacks on such targets.²⁶

The over-all results of interdiction were in line with those earlier noted, but since the program was to be continued intensively throughout July, their full consideration is deferred until the end of that month.

**TANK SUPPLIES**

IX TANKER COMMAND struck at seven different fuel dumps in the period 19 to 29 June. An attack by three groups on ammunition stores in the Forêt de Sanches (25 June) resulted in large-scale explosions, subsequently confirmed.²⁷ The Forêt d'Amance was bombed on the 20th and 25th by two and three groups respectively. Pursuit of these followed one attack (25 June), but the majority of the bombs dropped on the 22nd fell in the target area. The dump in the Forêt de Conches was likewise attacked three times (23, 24, 29 June) and that at Magnac le Vieux twice (23, 24 June), single groups attacking in each case. BRUS, the Forêt d'Amance, and Conde sur Vire were the objectives of one mission each on 21, 23, and 29 June respectively. Reasonably effective bombing of the target area was reported in most of these cases. Fighter-bombers attacked similar targets on two occasions. No results were observed in the attack on St. Sever (13 June), and no explosions followed the direct hit scored on Chabrières (25 June).
Eurin Airfields

On 21, 23, and 25 June fighter-bombers were directed against one or more enemy airfields. The attack on St. Andre de l’Isre (23 June) produced no substantial results. At Chartres (21 June) dispersal areas suffered damage, while a total of four planes were destroyed on three fields near Breteil (25 June). Hits were scored on the runway at Creil and an explosion produced (25 June), while concentrated hits on the hangars at Peronne were followed by a large explosion.
Chapter IV
OPERATIONS IN JULY 1944

Air-Ground Cooperation

Relationship to Ground Operations

Throughout the month of July the Ninth Air Force continued its active cooperation with the ground forces. Fighter-bombers still maintained their patrol over the assault areas and furnished escort to IX Bomber Command, but air-ground cooperation was one of their two major activities. IX Tactical Air Command, with its headquarters and many of its groups on the continent, devoted the bulk of the aircraft under its operational control to missions closely coordinated with the ground effort of FUSA. Only on infrequent occasions did it share in the interdiction program. On the other hand, the headquarters of IX Fighter Command continued at Uxbridge, and the aircraft under its control coordinated their efforts with that of the Allied ground forces only in exceptional cases. Interdiction engrossed the attention of IX Fighter Command and called for the employment of nearly all of its available strength. The same was true of IX Bomber Command. Nevertheless, a complete picture of air-ground cooperation on the part of the Ninth Air Force demands a consideration of the work of all three of the commands above mentioned.

The narrative of such operations can well be divided into three parts. The first embraces the period 1 to 24 July when the ground
forces were regrouping, reorganizing, and seeking positions from Caen to the west of the Cotentin which would favor their major assault. The second involves the dramatic contribution of air power to the break-through west of St. Lo on 25 July. The third must concern itself with air's share in the full exploitation of that initial victory during the rush south to Avranches and beyond.

The Period 1 to 24 July

IX Tactical Air Command

In the period 1 to 24 July, as throughout the month, IX TAC made its most substantial contribution by way of air strikes coordinated with ground effort. Characteristic of its many air-ground cooperation targets in these days were enemy strong points, troop concentrations, headquarters, and command and observation posts. Three strong points east of La Haye du Puits were attacked on 2 July with good results, a violent explosion resulting in one. Explosions likewise occurred when three positions occupied by dug-in tanks, MG's, or artillery in the St. Lo-Periers area were subjected to as many fighter-bomber attacks on 23 July. On 6, 8, and 23 July targets furnished by troop concentrations were well hit southwest of Carentan, near Beny Bocage, and close to Periers. An attack on a reputed headquarters at St. Germain sur Ay demolished a building on 2 July. A church tower, used as an observation post southwest of Carentan, was destroyed by the second of two attacks the following day, while buildings housing command posts in the Periers area were smashed by dive bombings on the 5th and 9th.
Although related to the interdiction program, attacks by IX TAC on bridges in the Vire valley, south of enemy positions at St. Lo, are properly classified as air-ground cooperation missions. Eight such attacks were delivered in squadron strength on 16 July. Two bridges were destroyed or rendered unserviceable, while direct hits were scored on two others. On the following day 17 bridges over the Vire and the Sienne were listed for attack. Two were made unserviceable and others damaged in varying degree. On the eve of the great assault (24 July) two other bridges in the same area were attacked with inconclusive results.

An interesting commentary on the air strikes of IX TAC is afforded by the letter of commendation written on 20 July by Maj. Gen. Charles H. Corlett, Commanding General, XIX Corps. On the 16th IX TAC had flown four missions at the specific request of XIX Corps and on the 17th six more. General Corlett expressed his thanks for the cooperation thus afforded his troops in the fight for St. Lo. He declared that air strikes arrived on time and on the target and added that they had broken up an enemy counterattack on the afternoon of 17 July. In conclusion he stated that "The presence of our aircraft over the front line troops has had an immesurable effect upon their morale. When our aircraft are over the front line the use of close in artillery and mortars by the enemy stops." ¹

IX Fighter Command flew air-ground cooperation missions on only five different days from 1 to 24 July. On four days such missions were coordinated with the ground force movements west of Carentan. On the
3d five missions, ranging in strength from group to squadron, were flown against gun positions and defended localities in the Lessay-Periers area. Bombs fell in all the target areas, but the results were unobserved. The next day troop concentrations were bombed with unobserved results in the Lessay, La Haye du Puits, and St. Saviour le Vicomte areas. Weather prevented most of the aircraft assigned to bomb gun positions in the bottleneck along the Carentan-Periers road from executing their missions on 10 July. The attacks were repeated on the 11th when gun positions southeast of Lessay and at Creances were reported neutralized and an ammunition dump destroyed. On that same day squadrons of 366th Fighter-Bomber Group, operating in the rain with a 1,000-foot ceiling, struck at tanks close to friendly lines in the vicinity of St. Lo. Three consecutive missions spoiled an enemy counterattack. Two groups were assigned targets in the St. Lo area on 24 July, but weather forced the recall of three. The balance bombed the target area with results unobserved.

IX Bomber Command

In this same period IX Bomber Command frequently coordinated missions with FUSA and British 21st Army Group. As American troops moved down the Cotentin peninsula they were expected to reach points on the coast near Lessay by the evening of 4 July. In conjunction with this effort a group of mediums attacked each of the defended localities at La Moriniere and La Barberie with unknown results. Later, as a preliminary to projected ground operations, two groups were given three
enemy positions for attack in the St. Lo area on 15 July. As was frequent in this period, the attacks could not be carried through. Rescheduled the following day, the targets were attacked by two full groups. Some 25 craters were produced in one position, but little damage was done to the others.

IX Bomber Command laid on several missions from 5 to 8 July, all designed to assist 21st Army Group in its advance into Caen and beyond. A first attack (5 July) by a single group on two Caen bridges did not achieve their destruction, but both were rendered unserviceable by a repeat mission on the ensuing day. No less than seven groups were dispatched on 7 July against enemy troop concentrations in woods near Ussy, but only one group and part of another could attack. Fires followed their bombing, but other results were indefinite. On the following day, as the British developed their full-scale attack in the Caen area, five targets (strong points or bridges) were set up for attack by mediums. The results of the bombings by two full groups and parts of two others were not ascertained.

Further coordination with the British was evident on 18 July when 21st Army Group sought to consolidate its positions between Caen and Falaise. In cooperation all 11 groups of IX Bomber Command attacked a total of five gun positions in the Demouville-Giberville area, eight B-25 groups using 260-pound frags and three A-20 groups dropping 500-pound GP's. Again, results were indefinite or unobserved.
Weather, generally adverse from 1 to 24 July, rendered many of IX Bomber Command's air strikes abortive or caused them to be made with less strength than planned. It likewise made its contribution to the difficulties in determining the results of attacks delivered.

Evaluation of Air-Ground Cooperation

The commentary of the "War Diary of the 7th German Army" on the air activities chronicled above is brief but full of interest. It asserts on 1 July that "The enemy is conducting a thorough air reconnaissance both day and night, before and during the attacks. His artillery fire is directed by numerous artillery observation planes. Troop concentrations, movements and supply traffic are being bombed and strafed and, with some measure of losses, badly disrupted." With reference to our attacks being pressed in the La Haye du Puits area on the 4th it observes that "the enemy air force has made any movement by us impossible." On 7 July, while insisting that the fighting of the 84th Corps was "a considerable defensive achievement," it makes a remarkable admission: "the situation here must be viewed as particularly critical for the enemy artillery fire and the continual air attacks against our troops are causing heavy losses in men and materiel, and sooner or later the time will come when the steady decrease in manpower will make our positions untenable. So far our own fighter planes and antiaircraft artillery have not been able to ease the pressure." The next day the statement of 1 July is repeated, almost verbatim. Admission is made on the 15th that during the previous week air attacks had been unusually strong, with heavy casualties resulting
from fighter-bomber actions. Finally, on the 17th, following two
days of IX TAC missions against bridges in the Vire valley, the
German record states, "the destruction of all Vire bridges west and
south of St. Lo threatens to cut off the 352d Inf. Div. and to make
it impossible to move the heavy weapons in time." A withdrawal was
therefore planned and executed that same night. Such observations
constitute an excellent gauge of the efficacy of Ninth Air Force air-
ground cooperation in the first 24 days of July 1944. 3

Further evidence as to the effective role of air power in the
invasion of Europe is found in letters of Allied commanders. Sir
Bernard L. Montgomery, General Commander in Chief of the Allied Armies
in France, declared, 4

We soldiers know very well that if the Allied air forces had not
been able to dominate the Luftwaffe, then the armies could have
achieved little. You did dominate the Luftwaffe, and you continue
to do so, and we know that this state of affairs will continue
to the end—of that we are certain. We know that much of your
effort is best applied far afield; but we also know that in our
hour of need you are always very ready to apply the whole might
of your power to help us in the tactical battle in Normandy.

To this Sir Trafford Leigh-Mallory, Air Commander in Chief of the
Allied Expeditionary Air Force, added,

I would like to take this opportunity of expressing my thanks to
the Ninth Air Force for the enthusiasm and efficiency with which
they have carried out the immemorial tasks assigned to them both
during the preparatory phase and since the battle has started.
They have already made a tremendous contribution to the winning
of the battle of Normandy. . . ."

Operation COBRA, 25 July

The focal point in the story of air-ground cooperation in July is
found in Operation COBA—the closely coordinated air-ground effort, designed to break through the enemy's positions west of St. Lo—which was delivered on 25 July 1944. It had been planned originally for 21 July, but weather on that and the two following days had caused its postponement. On the 24th the Eighth Air Force inaugurated the air phase of the attack, but weather closed in and prevented further operations. On 25 July, however, the air strikes were executed essentially as planned, and the ground forces began their advance.

E-hour had been set at 1100. Between 0938 and 0957 eight groups of Ninth Air Force fighter-bombers delivered a first bombing and strafing attack from low level against an area some 7,000 yards long and 250 yards wide, just south of the St. Lo-Periers road. The aircraft flew to their initial point over site A-10, checked with the Controller there, and then flew directly to St. Lo, where they made an approximate 90 degree right turn to their target. The target area had been divided into an eastern and a western area, the dividing line as well as the extremities being marked with red smoke. The first of the assaulting groups attacked the eastern area, the second the western, and so on in alternation at three-minute intervals.

Over 1,500 Eighth Air Force heavy bombers delivered an attack between 1000 and 1100 upon a large area destined for ground assault.

At 1100 seven groups of Ninth Air Force fighter-bombers resumed their low-level assaults upon the area marked out for their attack and continued them until 1118.
All 11 groups of IX Bomber Command's mediums then joined the assault. Three groups of Bostons concentrated their attacks upon the St. Gilles area, while eight Marauder groups bombed pin-pointed and area targets in the vicinity of St. Lo, Hebecrevon, La Chapelle en Jager, and Montreuil. The planes bombed between the hours of 1132 and 1223.

Area cover was provided by VIII Fighter Command, while P-51's of the Ninth Air Force flew deep defensive sweeps in support of the air operations.

All available Ninth Air Force fighter-bombers had participated in the two attacks upon the area just south of the St. Lo-Ferriers road. The weight of their effort is indicated by the following figures:

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<th>Sorties</th>
<th>Tons (GP)</th>
<th>Tons (Frag)</th>
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<td>333</td>
<td>72.25</td>
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<td>216</td>
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</tr>
<tr>
<td>U.K.-based a/c</td>
<td>559</td>
<td>143.5</td>
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</tr>
</tbody>
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Nine groups carried 500-pound GP bombs, three carried 260-pound frags, and two more a combination of 500-pound GP and frags. One P-38 group carried two belly tanks of Napalm on each of its attacking planes.

With the exception of one bomb which was hung up, all bombs were dropped in the target area. There were no losses and no encounters with enemy aircraft.

Ninth Air Force mediums had likewise exerted their full strength. Approximately 580 aircraft attacked. The Bostons delivered 137 tons of 500-pound GP's on their St. Gilles targets while over 4,000 x 260-pound frags were dropped from the Marauders. Again no exact estimate
of results is possible although a large proportion of the bombs were reported to have fallen on the targets. One bomber was lost to flak. Unfortunately 42 B-25's dropped short on the 30th Infantry Division, causing casualties and delaying its advance.

Fighter-bombers under the operational control of IX TAC delivered further air strikes in cooperation with the ground forces after sharing in the assault phase of the 25 July operations. Between 1135 and 2104, 13 armed reconnaissance missions of squadron strength or less were flown over the battle area to attack a great variety of targets selected by their leaders. Other squadron-strength missions were directed against specified targets. These struck communications centers, observation posts, and enemy headquarters and troop concentrations. Direct hits were made on important buildings, one church tower used for observation was destroyed and another damaged, tanks in a wood near Coutances were hit, while the dive bombing of roads in St. Gilles produced two large explosions. Before the day's end fighter-bombers had destroyed a bridge east of Gavray and, in evening missions, planted delayed action bombs (fused at 1 to 12 hours) on cross roads in the vicinity of Coutances to render night traffic hazardous to the enemy.

The Effect of Air Assaults by the Ninth Air Force

The immediately visible result of the combined air offensive of 25 July was the appearance of a pall of smoke over the entire area. This was reported to be about 8/10ths, rising up to 2,000 feet and
funnelling out towards the north and beyond Carentan. Its northward
collection tended to obscure target areas. As viewed from the air the
effect of bombing upon the general area appeared devastating. More
specific evidence was later derived from the interrogation of prisoners
of war. These declared that communications were shattered with result-
ing confusion and that the heavy air bombardment caused troops ex-
posed to it to be badly shaken, at least for a time. Both inexperi-
enced and experienced troops appear to have suffered equally from
shock, the younger among them being the quickest to recover. On the
other hand casualties were reported to have been very light in propor-
tion to the scale of effort. Dispersion, or even withdrawal, together
with the slit trench or fox hole, prevented casualties except on
occasions of a relatively few direct hits. Some materiel was de-
stroyed or damaged by hits or fragments, but much heavy equipment was
withdrawn in the intervals between successive air attacks. Apparently
the enemy's avenues of retreat were not closed by the early assaults.

The "War Diary of the 7th German Army" exhibits further evidence
regarding the air action on 25 July. Its observations, made on a
high command level, are not entirely in accord with the evidence of
prisoners of war. They insisted on the 25th that a break-through had
been prevented, but stated that

our troops suffered heavy losses in the JLR and in the artillery
positions. These casualties were caused mainly by the tremendous
commitment of the enemy's air forces and the artillery barrages
which lasted for hours... In the over-all picture the enemy
was repulsed on all fronts and he succeeded in penetrating only
where our troops were hampered in the defense or completely
eliminated by concentration of artillery or pattern bombing.
On the 26th a break-through was admitted and air's share in it indicated.

The enemy's unimpeded and concentrated employment of the air force proved, in the clear weather, a powerful check on our own defense and on the concentration of our reserves. The various penetrations effected by the enemy, which could not be checked for the time being because of our lack of reserves, created a serious break-through on this part of the front.

Some additional evidence as to the results of the air attack is derived from U. S. Army sources. On the 4th Division front the enemy's communications were so disrupted that he was forced to resort to runners exclusively, a fact which contributed to the disorganization of the defense. Only small-arm fire was there encountered. Advancing U. S. armor was delayed in its progress until engineers could fill craters in the roads produced by 500-pound GP bombs without instantaneous fuzing. Three regiments of the 9th Division attacked immediately after the aerial bombardment, gained appreciable ground, and ultimately won their objectives. The 47th Regiment, however, had been disorganized by short bombing and its attack was delayed for one to one and one-half hours. In the interval SS and paratroops organized the most serious resistance which the division encountered. The 30th Division had been hit by short bombing both on the 24th and 25th. It suffered from resulting disorganization and from artillery fire coming from positions to the southeast of our troops, which gave trouble for the first 12 hours of the attack. It appears that after the partial attack on 24 July the enemy had removed heavy machine guns and almost all his artillery as far back as Marigny. Enemy infantry, however, offered little resistance.
On the basis of such evidence it is difficult to assess the exact extent of air power's contribution to the success of the operation which its bombardment initiated on 25 July. Nevertheless, there is ground for the confident assertion that the air strikes of the Eighth and Ninth Air Forces on 25 July were the critical factor in enabling the infantry to breach enemy positions west of St. Lo on the 25th and 26th and to open the way for armor to swing into action.

The Period 26 to 31 July

The break-through west of St. Lo was negotiated on 25 July. In the six days from 26 to 31 July the assault front was extended westward and armored columns spear-headed a rapid advance to the south through Marigny, St. Gilles and Canisy, Lessay and Periers. By the 28th they had penetrated Coutances and reached points near Erbal, Gavray, Percy, and Tessy sur Vire. Resistance continued strongest on the right flank of the advance in the areas about Villedieu, Percy, and Tessy, but progress continued in the coastal area. By the 31st, Granville had been taken, and the advance south had passed through Avrances to Pontaubault and Ducey.

IX Tactical Air Command

As armor and infantry thus exploited the break-through the Ninth Air Force was given its first considerable opportunity to coordinate its efforts with those of the ground forces in warfare involving rapid movement. As had long since been planned, IX TAC, under the command of Maj. Gen. Elwood R. Quesada and functioning in the closest
collaboration with FUSA, remained fully responsible for the provision and direction of fighter-bombers participating in air-ground cooperation missions. The tremendous scale of its effort from 25 through 31 July is shown by the following table.7

<table>
<thead>
<tr>
<th>Date</th>
<th>Sorties</th>
<th>Tons of Bombs</th>
<th>E/A Claims (Air)</th>
<th>Lost</th>
<th>Total Lost</th>
<th>Total Damaged</th>
<th>Reese Sorties</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>1,546</td>
<td>451.5</td>
<td>7-0-7</td>
<td>1</td>
<td>4</td>
<td>24</td>
<td>79</td>
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<tr>
<td>26</td>
<td>1,561</td>
<td>507</td>
<td>17-1-6</td>
<td>2</td>
<td>16</td>
<td>43</td>
<td>122</td>
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<tr>
<td>27</td>
<td>1,451</td>
<td>544</td>
<td>11-0-5</td>
<td>0</td>
<td>17</td>
<td>43</td>
<td>104</td>
</tr>
<tr>
<td>28</td>
<td>1,230</td>
<td>187.6</td>
<td>12-3-1</td>
<td>2</td>
<td>10</td>
<td>18</td>
<td>98</td>
</tr>
<tr>
<td>29</td>
<td>1,038</td>
<td>235.8</td>
<td>0-0-0</td>
<td>0</td>
<td>8</td>
<td>17</td>
<td>29</td>
</tr>
<tr>
<td>30</td>
<td>1,320</td>
<td>294</td>
<td>15-7-6</td>
<td>2</td>
<td>14</td>
<td>67</td>
<td>84</td>
</tr>
<tr>
<td>31</td>
<td>1,019</td>
<td>241.25</td>
<td>5-0-3</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>141</td>
</tr>
<tr>
<td></td>
<td>9,188</td>
<td>2,381.15</td>
<td>67-11-27</td>
<td>10</td>
<td>78</td>
<td>218</td>
<td>655</td>
</tr>
<tr>
<td></td>
<td>Reese</td>
<td>656</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sorties</td>
<td>9,840</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Armored Column Cover. The most characteristic and significant type of mission flown in this period was that described in the records as "Armored Column Cover." Such missions began on 26 July, as armor began its swift movement in three columns which soon fanned out to drive against Coutances, Granville, and Villelelu. Constant cover was provided by relays of four fighter-bombers armed with bombs or rockets and flying half-hour shifts over the head of a given column. Air-ground communication between flight leaders and tank commanders was effected by VHF radio, IX Air Force Service Command having installed air force type SCR-522 sets in the armored vehicles for the use of the column commanders. On occasion pilots accompanied the ground commander to advise him concerning the capabilities of air. If the armored column required cooperation it could call for air action and
specify its nature. In addition the flight leader was in a position to convey useful intelligence to the column commander and could attack profitable targets of his own selection, after coordination with ground control.

On 26 July four plane flights flew more than 70 of these armored column cover missions; on the following day 100 such missions were flown by IX TAC units. The other days of the period saw like actions on a varying scale.

Reports of air action of this type for 26 and 27 July give useful examples of the work accomplished in the course of the drive from St. Lo to Arranches and beyond. On the 26th individual flights included in their reports such items as: 15 rockets fired, 2 tanks destroyed, 1 probably destroyed, 1 tank destroyed by strafing; 14 rockets fired at tanks, 2 destroyed, 2 damaged; 2 tanks destroyed by rockets, 2 by strafing; 3 bombs on 2 Mark VI tanks, left burning; 7 bombs on 4 tanks, no hits; 6 bombs on Tiger tanks, 1 destroyed, 1 probably destroyed; 2 Tigers holding up our advance, dive-bombed with poor results, then strafed and destroyed. Bombs were likewise reported dropped on gun positions, AA installations, road junctions, and a hedgerow on a road northeast of Coutances. The records for the 27th exhibit evidence equivalent to that afforded by the actions of the previous day and add other types of targets: command post southwest of St. Lo left in flames; 8 bombs on convoy south of Danay, 4 tanks, 2 MT, 1 staff car destroyed, 8 trucks damaged, entire convoy dispersed; 8 bombs on
strong point near Quibehou, church and 4 buildings destroyed, town
strafed, full of troops and guns; 3 bombs on target marked by white
smoke; 8 bombs on convoy of 30-plus southwest of Coutances, 1 tank
and 7 MT destroyed, 7 tanks and 8 MT damaged.

Targets like those attacked on 26 and 27 July appear in the
records of the succeeding days' actions by armored column cover,
notable additions being horse-drawn artillery and vehicles. One
mission on the 26th claimed to have killed all horses drawing five guns
and to have hit the guns and killed six horses drawing MT, while another
strafed 40-plus horse-drawn vehicles, killing 90 horses. A mission on
30 July struck a three-fourths-mile column of horse-drawn artillery
and men on the Villedieu-Granville road. Its claims were 65 horses
killed, 30 artillery pieces destroyed, and many troops killed and
wounded. Taken together, results of the sort indicated by the above
selections from mission reports demonstrate the fact that armored
column cover assisted the armor to advance by removing opposition, and
suggest that by clogging traffic on roads it provided profitable tar-
gets for later armored attack.

Only on occasion is detailed evidence available of cooperation
between tanks and their covering planes; hence the following episodes
which occurred within this period should be cited. A single Sherman
was surrounded by 13 German tanks. It was saved from threatened de-
struction by the covering flight which was directed to its assistance
and dispersed the enemy. "Is the road ahead safe for us to proceed?"
was the question radioed by a tank commander to a flight leader. The
answer came, "Stand by and we'll find out." In their ensuing search the four P-47's spotted four enemy tanks down the road which they attacked and put out of action. Returning to the friendly column the flight leader radioed, "All clear, proceed at will." When radio was jammed the bombardment of a railroad station by the tanks served as a signal for a dive-bombing attack on the same objective on the part of the accompanying planes. Tracer bullets from tanks served to indicate targets to the P-47's in another case. In response to a column commanders' request aircraft swept the road ahead with fire. They radioed, "Go ahead," but recalled that direction immediately. "There's one we missed. Tank at right side of road next building up 200 yds. ahead of you." The camouflaged tank was dive-bombed. On another occasion a Tiger tank was discovered hidden among trees. Strafing set it on fire and its crew were seen leaving the tank and surrendering to the armored column.

Armed Reconnaissance in the Battle Area. Armed reconnaissance within the battle area was another characteristic type of mission flown by IX TAC from 26 through 30 July. On the 26th, 16 such missions were flown, eight aircraft participating in each. The 27th saw 11 missions of squadron strength and seven of eight aircraft each; five were undertaken by squadrons and five more by eight aircraft each on the following day, while six of squadron strength were flown on the 29th and a single one, again of squadron strength, on 30 July. Their individual and gross results were of a substantial order, none more so than those of the
10 missions flown by 405th Fighter Group between 1510 and 2140 on 28 July.

The 405th Group had been assigned to fly armed reconnaissance all day, but weather did not allow its planes to take off before the afternoon. They then proceeded to Villedieu, where they found few targets. However, as they widened the area of their search they discovered a mass of traffic moving south on the roads in the vicinity of Brehal, Gavray, and Percy. In places transport was moving bumper to bumper. From the very start the damage inflicted upon these enemy targets was enormous. In the case of one long column the head and tail were first attacked so that the whole was soon immobilized, allowing its elements to be systematically blasted. One pilot and his wingman asserted that they had set fire to 35 l TF in one long pass before they lost count. The first squadron to attack radioed the news to the Controller with the result that the group rotated its squadrons in the area throughout the afternoon, returning planes being rearmed and refuelled and taking off again. For more than six hours these attacks on transportation targets continued with a total of approximately 100 aircraft participating. In the midst of the melee a general radioed from a tank, "Go to it! Get one for me!" The pilots' claims would appear fantastic had the assault not been sustained in such strength for so long a time, and had the targets not been of such extraordinary a nature. As it was, pilots asserted that they had seen over 400 l TF in flames plus 12 tanks and sundry other vehicles. A ground check, effected after much debris had been cleared from the
roads, tended to substantiate the reports. The effect of this successful action upon the group was exhilarating. As one returning pilot declared, "I have been to two church socials and a county fair, but I never saw anything like this before."  

**Summary of Activities.** Armored column cover and armed reconnaissance missions on any given day were usually planned in advance by IX TAC and FUSA. Other significant air-ground cooperation missions in the period were the result of action taken on requests from ground units for air strikes, which if successful would assist their advance. Such requests usually emanated from Army corps and called for attacks on targets on their immediate front. Enemy artillery positions, command and observation posts, strong points and supply dumps were characteristic of the targets thus designated for attack. It is interesting to observe that the ground forces canceled a number of such strikes. They had been scheduled promptly after receipt of the requests, but the swift advance on the ground placed troops too near the targets to permit the delivery of the attacks at the times scheduled.

Other air-ground cooperation missions during the drive to Avranches need only to be mentioned. The practice of dropping delayed action bombs on road junctions in an effort to hamper enemy movement by night, begun on the evening of 25 July, was repeated on the 27th and 28th. While related to the general interdiction program the 10 attacks on bridges within the battle area on 30 July were determined by IX TAC and FUSA, which fact warrants their inclusion in the long
list of air-ground cooperation missions. Five other attacks, made the same day against targets in proximity to the battle area and by order of Headquarters Ninth Air Force fall into another category, as do the armed reconnaissance missions beyond the zone of battle—e.g., those of 27 and 23 July and IX TAC's 16 strikes against fuel dumps on 31 July. In spite of such requirements and the occasional call to furnish escort to IX Bomber Command, IX TAC concentrated by far the greater part of its effort on air-ground cooperation missions from 25 to 31 July. Some of the results of such actions appear in its total ground target claims for the period.¹⁴

<table>
<thead>
<tr>
<th>Target Type</th>
<th>Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanks</td>
<td>384</td>
</tr>
<tr>
<td>Motor transport</td>
<td>2,397</td>
</tr>
<tr>
<td>Railroad and highway bridges</td>
<td>33</td>
</tr>
<tr>
<td>Railroad lines cut</td>
<td>46</td>
</tr>
<tr>
<td>Railroad cars</td>
<td>194</td>
</tr>
<tr>
<td>Locomotives</td>
<td>14</td>
</tr>
<tr>
<td>Road junctions damaged</td>
<td>85</td>
</tr>
<tr>
<td>Horse-drawn vehicles</td>
<td>125</td>
</tr>
<tr>
<td>Troop concentrations successfully attacked</td>
<td>36</td>
</tr>
<tr>
<td>Gun emplacements successfully attacked</td>
<td>71</td>
</tr>
<tr>
<td>Artillery</td>
<td>71</td>
</tr>
<tr>
<td>Military-occupied buildings</td>
<td>45</td>
</tr>
<tr>
<td>Dumps</td>
<td>12</td>
</tr>
</tbody>
</table>

On two occasions after 26 July, mediums of IX Bomber Command cooperated directly with the ground forces at the latter's request. Following the break-through at St. Lo three areas near Harigny were marked out for attack by two groups each on 26 July. Weather was again bad and only one group was able to carry out its attack, claiming heavy damage to a single installation. On 30 July British armor was reported to have been aided in its advance through enemy positions near Caumont by the bombing of three areas by IX Bomber Command mediums.
Two groups assigned to one area carried through their attacks. In the seven-group mission against a second area 195 bombed out of 253 dispatched. Later in the day in a six-group attack upon a third area, 243 aircraft were dispatched, of which number 199 bombed. Weather was adverse, and pathfinders led all attacks. The exact nature of the damage done to the targets is unknown.

Planning Air-Ground Cooperation. Such extensive air-ground cooperation as has been described above required the closest possible coordination of the ground and air elements involved. To assist in providing such coordination it was desirable that the intimate association earlier developed between IX TAC and FUSA be maintained and perfected. Some air strikes, chiefly beyond the battle zone, might still be determined at Ninth Air Force Headquarters, but the planning of the bulk of such missions was IX TAC's responsibility. To discharge that responsibility in this period its headquarters were established in close proximity to those of FUSA, first at An Gia and later at Les Ormesux. There the close cooperation between air and ground reached its highest point in the joint conference held at 1930 hours daily, the purpose of which was to plan tactical air operations for the following day. Weather submitted its forecast; air and ground intelligence reported the results of the day's air and ground operations. A-2 then presented information from a variety of sources pertinent to current operations, and suggested targets for preplanned missions on the next day. G-3 (Air) then described the Army plan for
operations and presented requests for preplanned air missions, filtered from the requests submitted by Army corps. On the basis of the information provided, the air operations officer then proceeded to allot available air elements to various tasks—i.e., to air-ground cooperation, bomber escort, and targets deep in enemy territory—holding, as a rule, a small force as a reserve to meet unforeseen developments. Following this allocation of forces, specific missions were assigned to them, such assignments constituting a firm plan and the basis for the issuance of operational orders for the ensuing day. Such collective planning was essential to successful air-ground cooperation. It was reinforced by the continued activity of Air Support Parties with ground troops which assisted in formulating requests and in directing aircraft to their targets, and by ground liaison officers with air units who provided them with special ground intelligence, assisted in the briefing of pilots, and arranged for the marking of targets and the positions of friendly troops. The various elements involved in the provision of air-ground cooperation were so well integrated that in the extreme case of requests for missions to be flown "S[oon] A[ir] P[ossible]," only 60 to 80 minutes normally elapsed from the time the request was initiated until the aircraft were over the target. When such requests for immediate action were anticipated, this time could be reduced by having crews alerted on the runway with their commander in the briefing room to receive the targets. Such teamwork ripened into a habit with IX TAC and FUSA. It ripened the more rapidly because of their joint participation in the fast moving
and critical air-ground operations from 25 to 31 July 1944.\textsuperscript{15}

**The Interdiction Program**

**IX Bomber Command**

The Ninth Air Force steadfastly maintained its support of the interdiction program throughout July 1944 and, as previously, employed both its mediums and its fighter-bombers in the effort. IX Bomber Command continued its attacks on rail bridges, flying missions against such targets on 18 days. In all cases the attacks were delivered by single groups.

**Seine Bridges**

The enemy had been active in repairing or replacing Seine bridges which had been destroyed in May and June, and the progress of his work caused five to be attacked by the mediums in July. That at Courcelles was cut by a bombing on 26 July, and the center span of the new bridge at Le Havre was destroyed on the 31st.\textsuperscript{16} Three attacks on Montreuil-Gassicourt resulted in damage to rails and approaches only. No damage was produced by the bombing of Conflans, St. Honorine and Cissel. It should be added here that the repaired highway bridge at Rouen was destroyed by a bombing on 18 July.

**Loire Bridges**

Loire bridges, still intact or repaired after earlier bombings by other air forces, were now attacked. Missions against them involved operational flights of some 750 miles from the Essex bases of
bridge at Chartres in the river after an attack on 21 June. The following day the northern viaduct at Chartres was completely severed by the northern demolition of three planes. Attacks on Chartres (25 June) and Bourges (26 June) failed to do more than damage the latter's approaches, while no results were observed at Clisiel (22 June).

Fighter-bombers claimed hits in the course of all six missions flown against major bridges (21, 23, 25 June). A second attack on one at Montauban resulted in the claim of its destruction by glide bombing (21 June), and two supporting columns of one at Chartres were reported destroyed on the same day. Fighter-bombers on one mission included in their report claims of nine 28-ton auxiliary bridges destroyed. That at Collauro, in the Chézy area, was reported blown in five places. Ground observers substantiated the claim that the bridge at Bueil had been demolished. Its span had earlier been destroyed by a heavy-bomber attack, but had been repaired with steel trestles. Direct hits destroyed those on the approach road and by rail cuts in the vicinity.31

The interdiction program had been steadily maintained throughout the month of June 1944. The scale of the effort and the minimum cost, which impressively results were obtained is exhibited by the following table:

<table>
<thead>
<tr>
<th>Category</th>
<th>Aircraft</th>
<th>Motorized Vehicles</th>
<th>Railroad</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marshalling yard</td>
<td>3,567</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Bridges</td>
<td>2,923</td>
<td>6</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Rail cutting</td>
<td>3,000</td>
<td>1</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
IX Bomber Command, but the bridges' value to the enemy in bringing his divisions from the south into the battle zone required that they be flown. Such extra-range missions forced many planes to refuel on continental airfields before returning home, or to accept the risk of flying to their base on the minimum supply which remained. Other aircraft were compelled to land on the continent because of flak damage. Nevertheless, the attacks went on. Between 7 and 31 July seven Loire bridges, from Nantes on the west to Tours on the east, were bombed in the course of 16 assaults.

The first four attacks on Nantes produced only incidental damage, but the fifth (31 July) destroyed the center of the bridge. Only one bombing (19 July) was required to destroy five spans of the structure at La Poissonniere. Two attacks on Les Ponts du Ce were inconclusive, but the second of two at Saumur (13 July) dropped the center section of the bridge into the water. The single assault on the Cinq Mars bridges destroyed the middle span of the East, and damaged the West bridge. Tours la Riche was four times bombed, three attacks (7, 9, and 31 July) producing substantial damage by destroying spans. The enemy's repair activities account for the repeated attacks and serve as a useful indication of the interdiction program's value. So strenuous were his efforts to keep this valuable bridge open that after one attack he repaired two broken spans in the extraordinarily short space of six days. Finally, the bridge at La Frilliere was cut in four places in a single attack (31 July). During the month six out of the seven selected bridge targets were put out of action, at least temporarily, by IX Bomber Command.
The Paris-Orleans Gap

Thirteen medium-bomber missions had as their objectives like targets in the Paris-Orleans gap, where six bridges and a viaduct were bombed. Damage to tracks or approaches resulted from single attacks at St. Remy sur Avre, Cherisy, and Epernon. The last of three attacks on Nogent le Roi (19 July) rendered the bridge there unserviceable. Bombing of a bridge at Chartres on 25 July placed it in the same category, but another attack on the 31st produced no definite results. A first bombing of the vital structure at Gloyes destroyed half of it (6 July), and a return visit (25 July) completed the job. Probable severe damage was reported following the first assault on the Maintenon viaduct (6 July); but none was recorded after that on 25 July. In consequence of July attacks three bridges in the gap had been put out of action.

Bridges within the Interdiction Zone

In July, as in the earlier phase of the interdiction program, attacks on the rim of the interdiction zone (Seine and Loire river bridges and those in the Paris-Orleans gap), were supplemented by bombings of bridges within the zone itself, the total of 27 such attacks by IX Bomber Command involving 16 different targets scattered over a wide area. Results were rather less conclusive than those produced by the interdiction program bombings treated above. In eight cases the targets were destroyed or rendered unserviceable. The last of three attacks on St. Hilaire du Harcourt destroyed the bridge spanning a road (19 July), and the third of four bombings at Ambrières (24 July)
resulted in a cut of 500 yards. At Boissel la Lande, Mirville, Souilly, and Sergy one attack rendered the bridges unserviceable. Although reported completely destroyed by the bombing on 16 July, Leigle was again struck with inconclusive results a week later, while the reconstructed span at Laval was destroyed on the 24th. 17 Damage to rails or approaches was the most that could be reported as the result of attacks on the remaining eight of these bridge targets, although one was bombed twice and another three times. It is to be observed, however, that such damage could be extremely significant. In one instance (Grosley sur Eisle, 23 July) ground observers later reported that damage to approaches blocked traffic as effectively as the destruction of the bridge would have done.18

Thus a total of at least 19 bridges of special importance to the interdiction program had been effectively broken or blocked by IX Bomber Command's actions in July 1944. A total of 35 such targets had been subjected to 64 attacks of group strength, 56 delivered by B-26's and 9 by A-20's. In 27 attacks pathfinders had been employed, in 23 instances for bombing targets inside the periphery of the interdiction zone. Available evidence indicates that in all attacks GP bombs were used, the B-26's dropping 1,000-pound GP's in 35 of their assaults, 2,000-pound GP's in 17 other instances, and 500-pound GP's in two more. They dropped some 260-pound frags with their 2,000-pound GP's in one case, and 1,100-pound GP's with 1,000-pound GP's in another. A-20's used 500-pound GP's in all their attacks, while
pathfinders employed a variety of GP's ranging from 300 to 2,000 pounds. The B-26's were responsible for the destruction of 16 bridges, the A-20's for that of the remaining three.

Attacks on Rail Lines and Embankments

On 6 July an earlier experiment was repeated in the use of IX Bomber Command aircraft for a series of attacks against rail lines. Six sections of lines within the interdiction zone were assigned to as many groups. On each section six pin-pointed targets, chiefly minor railway bridges, were marked out for attack. Five-hundred-pound GP bombs were to be carried, and two, six, or eight, as specified in the field order, were to be dropped on individual targets. The experiment was unsuccessful. Cuts were reported in rail lines at seven points, the most effective being in the vicinity of the Alençon bridge, a secondary target where six bombs cut all lines. There was no reported damage to the bridges which figured so prominently in the target lists. The experiment in bombing of scattered targets by portions of B-26 and A-20 formations was not repeated.

On the other hand, the interdiction program was effectively reinforced by attacks delivered by the mediums upon railway embankments in July. Such targets were assigned to single groups and successful results were reported following each of the nine attacks delivered from 11 to 31 July. The embankment at Fourth was bombed four times and those at Cheulnes, Evreux, La Croisille, Argentan, and Forges once
each. The blocks thus established were substantial, although the attacks on Fourth at three-, eight-, and six-day intervals suggest that they were effective only for brief periods.

**Fighter-Bomber Attacks upon Rail Targets**

The interdiction program had been conceived and developed on a grand scale. As previously noted, its success depended not merely upon breaking down the bridges within the interdiction zone and on its periphery, but also upon cutting the lines and destroying rolling stock within the zone. Fighter-bombers were the weapons chosen to cut the rails and blast locomotives and railway cars, their actions in July as in the preceding months being directed by Ninth Air Force Headquarters at Uxbridge. Missions flown against such objectives were seldom aimed at specified targets. Almost without exception they were described either as "armed reconnaissance" of given areas or as "rail cutting" along assigned sections of railway lines. It is to be observed that no useful distinction can be drawn between the "Armed Recce. Alencon, Chartres, Cloyes, Le Mans," and "Rail Cutting La Hutte Colomhieres-Le Mans." The mission leaders were in both cases free to determine the precise objectives of their bombing and strafing attacks. In each case the chosen targets were certain to include bridges, rails, or rolling stock, alone, or more usually, in combination.

**IX Tactical Air Command**

Aircraft under the operational control of IX TAC were used to support the interdiction program only on rare occasions in July, since they were so heavily committed to the work of air-ground cooperation.
But on 16 July they cut tracks and destroyed rolling stock west of Angers. On the 16th, in the course of missions against five specified bridge targets, they hit the bridge at Cherisy, damaged that at La Loupe, and destroyed the one at Andaevillers. Again on 30 July Ninth Air Force Headquarters directed that IX Tactical Air Command attack bridges named in orders. All targets were hit; that at Nantes and one of the two at Tours were claimed destroyed.

IX Fighter Command

In marked contrast to those under IX TAC, the aircraft under IX FG's operational control concentrated their energies upon interdiction. The plans for such actions were developed by the headquarters of IX FG and Ninth Air Force whose joint action was facilitated by the location of both at Uxbridge. IX FG reported over 150 interdiction missions on a total of 24 days in July. Twenty appeared in the record of 4 July and 15 and 12 in those of the 6th and the 20th respectively. The average number for the 24 days of activity was 6.3. Almost without exception a group was assigned to each mission, although the attacks were delivered by squadrons.

The area subjected to most intensive and most frequent attack lay between the Seine, the Paris-Orleans gap, and the Loire on the one hand, and the battle zone on the other. It is of interest to observe, however, that as July wore on, attacks reached beyond these boundaries on the east and on the south. As early as the 6th, missions were directed to areas south of the Loire in an effort to discover and
destroy enemy reinforcements moving north. Areas as far east of Paris as Chalons appear in the assignments for the 12th, while interdiction was extended to Chievray, southeast of the capital, by the 16th. On the 19th, areas in western Belgium appeared for the first time in the July interdiction program in connection with an effort to destroy supply trains.

Bridges, which constituted the usual targets for IX Bomber Command's interdiction activities, were but infrequently attacked by IX FG's fighter-bombers. Such attacks as were made were reported successful. A Seine bridge at Nantes-Geispicourt was claimed destroyed by a bombing on 4 July, and Nogent le Roi was cut by one on the 14th. In both of these cases the structures were marked for special attack. A pontoon bridge near Louviers was destroyed on 8 July in the course of a mission directed against such targets over the Seine, while in area missions bridges at Segre (12 July), at Chateauneuf (13 July), and near Montfort (16 July) were singled out and broken by attack. A bridge at Chartres was reported destroyed on the 29th.

The detailed results of fighter-bomber attacks delivered against rail lines and rolling stock at high speed and low level can better be estimated than precisely defined. A good idea of their character and extent may, however, be gained from an examination of the records of days of marked interdiction activity and outstanding individual missions.

Leaving out of consideration such vague reports as "bombs on tracks," "train strafed," and "marshalling yard hit," the claims for
the days of unusual activity were 19

<table>
<thead>
<tr>
<th>Date</th>
<th>Rail Cuts</th>
<th>Locomotives</th>
<th>Cars</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 July (20 missions)</td>
<td>30</td>
<td>5</td>
<td>113</td>
</tr>
<tr>
<td>6 July (15 missions)</td>
<td>28</td>
<td>13</td>
<td>61</td>
</tr>
<tr>
<td>20 July (12 missions)</td>
<td>35</td>
<td>11</td>
<td>69</td>
</tr>
</tbody>
</table>

High scores of 103, 75, and 70 cars destroyed figure among the claims reported by individual missions on 23, 4, and 14 July respectively. Among the results of a mission on 23 July was a claim of 43 rail cuts, while another on 8 July included 33 in its listings, in addition to an ammunition train which exploded under attack near Tours. A single mission on the 13th claimed 25 tanks and armored cars on a siding in the Nogent-Lamars area, in addition to 1 locomotive, 34 cars, and 3 rail cuts. Trains loaded with equipment were caught in western Belgium (20 July) and claims of 7 locomotives and 26 cars reported by the group attacking. Fuel tanks containing Napalm hit a steel train on 23 July, while rockets were employed in a mission which reported the destruction of 51 cars on the 17th. More typical records read "14 hits on railway Le Hanse-Coulesniides" (4 July); "2 cuts, 2 locomotives, 24 cars (16 July)"; "3 cuts, 3 locomotives, 10 cars" (20 July); and "3 cuts, 1 locomotive, 24 cars" (30 July). In no case did a mission which reached its assigned area fail to inflict some damage. Because of the varied, and at times vague, reporting of missions of this type during the month it would be profitless to attempt to present the totals of the various claims for the period. It is evident, however, that they were impressive.
Two further items in respect to the interdiction program require mention. First, while some claims appear of motor transport destroyed in the course of area attacks, such claims were infrequent and small, possibly because of the enemy's restriction of road traffic to the hours of darkness but more probably because our aircraft concentrated their attention on rail targets. Second, in a few instances interdiction missions encountered enemy aircraft. When they did so, their actions contributed to the maintenance of our air superiority as the following table shows.

<table>
<thead>
<tr>
<th>July</th>
<th>Enemy Aircraft in Air Encounters</th>
<th>Losses</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5-5-3</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>0-1-1</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>1-0-0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>3-1-4</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>4-0-0</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>6-1-2</td>
<td>5 (missing)</td>
</tr>
<tr>
<td>18</td>
<td>10-6-14</td>
<td>3 (2 missing)</td>
</tr>
<tr>
<td>25</td>
<td>4-0-5</td>
<td>1 (unknown)</td>
</tr>
<tr>
<td>26</td>
<td>2-0-3</td>
<td>2 (unknown)</td>
</tr>
<tr>
<td>27</td>
<td>5-0-0</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>40-14-34</td>
<td>15 (11 missing or unknown)</td>
</tr>
</tbody>
</table>

Planning Interdiction Operations

In July, as in all other periods of the interdiction program, it was essential that the rail bridges on the periphery of the area be denied to the enemy in spite of his vigorous efforts to effect their repair. It was likewise essential that he be denied the use of as much as possible of the rail complex within the interdiction zone through the destruction of bridges and the cutting of vital lines.
To achieve such ends extreme vigilance was required on the part of those who planned and directed the operations. It was comparatively simple to determine the main bridges to be brought down. It was more difficult to select those lines on which cuts should be made. But most difficult of all were the closely allied tasks of assessing the damage done to bridges and rails by attacks which had been carried through, and of planning further attacks to offset the enemy's repair work on bridge structures and to maintain constantly the requisite number of cuts on rail lines. In other words, constant vigilance was essential on the part of the planners if bridges were to be not merely brought down but kept down, and if rail cuts were to be kept at the desired level.

Reports rendered immediately following missions were of uneven quality; hence effective photographic reconnaissance became a matter of prime importance to the planners. Under favorable circumstances the task of obtaining such evidence in respect to bridge structures was comparatively simple, although the great number of rail cuts scattered over a wide area made their complete reconnaissance coverage extremely difficult. In July, however, the situation was not favorable, for adverse weather severely restricted photo reconnaissance as well as other air missions. In its absence, therefore, the planners had to reassign some bridge targets for attack after the lapse of the estimated time needed to effect the repair of damage earlier inflicted, and without definite knowledge of their status. Similarly, since the stakes were high and since the principle that "when in doubt, take
the trick applied, they heavily accentuated the work of rail cutting even though exact knowledge of the number of effective cuts was lacking at the moment when further attacks on rails were ordered. Meticulous planning under difficult conditions, coupled with the skill and daring of pilots and the ability of ground crews to keep the requisite number of aircraft on the job, caused the interdiction program to achieve a notable over-all success.

Evaluation of Results

As has been frequently observed, the results of individual interdiction missions are hard to assess, and the assessment of the work done by the different types of planes employed is almost equally difficult. Enemy sources, however, pay tribute to the cumulative effects produced by the mediums and fighter-bombers which shared in the great work of interdiction.

Enemy Evidence

Such evidence is available in the shape of the captured "War Diary of the 7th German Army." Its observations speak for themselves. On 6 July the Diary states that "the transportation situation makes it impossible to forecast when the 275th Inf. Div., one combat team of which is already committed, can be brought up." Two days later entries declare that "enemy bombing and strafing attacks against troop concentrations and movements, as well as against supply traffic, continue and are inflicting noticeable loss," and assert that the prevailing scarcity of transport facilities is "attributable for the most
part to the overwhelming and constant air superiority of the enemy."

The point is again stressed on the 10th:

These units [portions of the 343d, 365th, and 266th Infantry Divisions in Brittany] no longer possess any motorized transportation since everything available was used to motorize the combat groups that were taken out. The remaining vehicles, both our own and those requisitioned locally, must remain with the divisions to bring up supplies, especially since the latter has become extremely difficult due to the large size of the sectors and the destruction of railway facilities. The 2nd Paratroop Div., which is being formed is likewise completely non-motorized.

A statement on 15 July declares that the battle of supply as waged from the air by the Americans "was unprecedented in its severity."

Those which appear on the 19th and 20th elaborate this text:

The army supply situation must still be regarded as strained. It is true that there has been a slight decrease in the rate of gasoline consumption at the present time among the troops fighting in Normandy. However, since we cannot count on any supply worth mentioning for the next few days, and since the gasoline trains have not yet arrived, we must figure on a decreased supply. In consequence of the failure of rail transportation because of the long periods of heavy fighting, a decrease in ammunition supply below the basic quota was inevitable... If the ammunition trains do not appear, a serious ammunition crisis must be expected within three or four days.

Only if several ammunition and fuel trains arrive, will the tense supply situation be eased. The difficulty is caused by the increased interruption in railway lines and the lack of sufficient motor transport space. If it is not possible to bring up the supply trains, a further deterioration of the supply situation must be expected.

One cause of the crisis thus emphasized is given in the diary entry for 20 July. "On the evening of July 19, four bridges over the Loire were eliminated because of the lack of antiaircraft protection." Actually the bridges had been "eliminated" by positive action on the part of IX Bomber Command which attacked bridges at Nantes, La Poissonniere,
Les Ponts du Câ and Tours la Riche between 1952 and 2002 on 19 July and gave a lower estimate of damage done than that contained in the German statement. An entry on 30 July rounds out the enemy's commentary on the interdiction program as affecting supply. Command- ing General West and Field Marshal von Kluge then held that among "urgent measures" to be taken was "the assurance of increased munition and fuel supply by means of supply replacement transports, the secu- rity of which is to be effected through fighter and antiaircraft pro- tection, particularly for the Loire bridges so important to the [7th] Army."

On 25 July the effect of interdiction on reinforcement of the battle lines is suggested by the comment that an agreement was then reached to make a withdrawal which, by shortening the front, would free troops for use elsewhere. It was made "only because it was im- possible within eight days to bring up fresh forces to the Army."

The above entries are all of unusual significance. Collectively they establish the fact that interdiction was in July, as previously, a cause of major difficulties to the enemy. Those of 19 and 20 July, describing the enemy situation in the days preceding the great American assault of the 26th, afford conclusive evidence that the long continued work of interdiction on the part of the Ninth Air Force was one of the fundamental causes for the break-through west of St. Lo and for its rapid exploitation in the remaining days of July.
American Evidence

An official study by the Economic Objectives Unit, Economic Warfare Division, Embassy of the U.S.A. (London) reinforces the general conclusions drawn from German sources and adds pertinent details concerning the effects of the interdiction program on enemy troop movements in the period 6 June to 26 July 1944.

Destruction of bridges over the Seine forced elements of five enemy divisions to make the crossing by ferry. Some divisions coming from Holland, Rumania, or the U.S.S.R. detrained in the Paris area and moved on foot to the battle area. Six to seven days were required by the 16th CA Division to make a march of 150 miles in late June, while the 9th and 10th SS Panzer Divisions detrained at Versailles and other points just west of Paris and proceeded by night marches on secondary roads. There was little uniformity in the time their units required to reach the battlefield: one arrived after two days, while others consumed two weeks in their movement.

The broken bridges over the Loire "for most of the time constituted an impassable barrier . . . More than half of the troops detrained at the Loire and marched six to 12 days into battle." Even those which did cross on bridges which were temporarily in operation did not advance more than 50 miles before detraining and subsequently moved on foot for four to 10 days, the extent of their march depending on the availability of motor transport for part of the distance which they had to cover. In consequence three divisions coming from
the Bayonne and Harbonne areas averaged from 120 to 130 miles per
day south of the river, and only 75 to 90 miles per day north of
that barrier. The movement of one of these divisions (276th Infantry
Division) from Bayonne to the battle area began on 11 June and spread
over a month's time, largely because of delays caused by the chang-
ing status of Loire bridges. "Had even one bridge been open over
the whole period, the move could have been accomplished in a con-
siderably shorter time."

The American, like the German report indicates that movement
from Brittany to the battle zone was seriously restricted. The
266th Infantry Division required the full 15 days from 11 to 25 June
to negotiate 140 miles, limiting their marches to hours of darkness
and keeping as far as possible to side roads. In the same period
the 383d Infantry Division took between 14 and 15 days to cover 150
miles. Both divisions utilized any available transport—e.g.,
bicycles and horse-drawn vehicles—to assist their movement. It is
significant that elements of each were forced to detour around such
places as Vire, Ivranches, Villedieu, and Tessy because of bomb
damage to highways within those towns.

Attacks on bridges, rail cutting, and the destruction of rail
transport forced virtually all troop movements within the Seine-Loire
area to take to the roads. Continued attacks on daylight road move-
ments by fighter-bombers forced the enemy to limit his marches to
the hours of darkness and to disperse his columns over secondary
roads. But the adoption of such procedures cost the enemy dear.
March timetables were performed lengthened because the nights were short and night movement is slower than that by day. Moreover, dispersed movement by company or platoon units meant that their arrival at their destination was disorderly, and caused units to be committed piecemeal with inadequate organization of commands.

Thanks to enemy repair activities, it was inevitable that all lines should not be simultaneously blocked and that, after the first two weeks had passed, careful routing of trains should neutralize in part some of the effects of the interdiction program. However, in spite of the enemy's energy and skill, attacks on troop trains in transit and the systematic interdiction of all available through lines affected divisional movements significantly.

The general conclusions drawn from such evidence by the American authorities are both clear and valuable. Because of interdiction "the enemy was unable to use the rail system inside the Seine Loire area for any large scale movement of troops...." Furthermore, "the decisive reduction in the speed of movement to the front was that caused by detrainment at the rim of the Seine-Loire arc, and movement therefrom by L.T. and on foot." The net result of the effort is summarized in the emphatic statement that "It is now evident that the enemy failed to match the Allied build-up in the lodgment area, and that the continued attacks on his transport facilities played a large part in that failure." The concentration of the Ninth Air Force upon the interdiction program entitles it to a considerable
share of credit for the results evident in the months of June and July 1944.

Attacks on Enemy Supplies

The Ninth Air Force frequently attacked fuel and ammunition dumps through July. A variety of intelligence, chiefly that derived from prisoners of war, indicated that enemy shortages of these two essentials were often of a critical nature. With a view to reducing the enemy's stocks, already depleted through the success of the interdiction program, the Ninth Air Force repeatedly attacked such dumps, particularly those in close proximity to the battle zone.

In the course of the month IX Bomber Command attacked 12 different targets of this type at least once, a total of 24 attacks being delivered against three ammunition dumps, a fuel storage depot, and eight fuel dumps. Since the dumps were usually located in dense woods it was seldom possible to gauge the results of bombings with any real accuracy. The appearance of craters in the target area was almost the only evidence immediately available, but the desire that already critical shortages should be rendered more acute caused IX Bomber Command to assault six installations twice, two three times, and one on four occasions within the period. The attacks were made by single groups in 12 instances, by two groups in seven others, and by three groups in four cases. The size of the attacking force was partly determined by the necessity of ensuring reasonable success in area bombing.
In nearly all cases the target areas were well hit, but as noted above, no precise assessment of damage is possible with the exception of five targets where ground observers' reports cast light on the situation. In two cases results were negative. All three of the attacks on the fuel dump at Forêt de Conches (6, 22, 23 July) were made after the enemy had evacuated it. Some tank trucks in the Forêt d'Excouves (11, 12 July) had been destroyed, but it too was probably evacuated when the two attacks of this period were delivered. In other cases positive results are established. The Forêt de la Gueuche was attacked on 16 and 31 July. There 100-pound GP bombs had been used with marked effect on the drums stored in bunkers or trenches. Many were ruptured by internal explosion and all were burned or scorched. The gasoline storage depot at Bannes was likewise twice attacked by the mediums, and also by fighter-bombers in July, but the attacks of the mediums on 9 and 17 July seem to have been responsible for most of the damage done. This included not merely 75 per cent damage to offices and warehouses, but also the destruction of some 2,000,000 liters of gasoline for which the Wehrmacht hungered. The observers' report on their findings at the ammunition dump at the Forêt de Sonchonches (20, 26, 28 July) includes the effects of the mediums' repeated attacks in June as well as of their three attacks by three groups each in July. Here the stores were ranged in over 600 stacks well dispersed over an area of two square miles. Seventy of these stacks had been destroyed, some by casual strafing on the part of fighter-bombers, involving the loss of
some 10 per cent of the stores. Much of this damage, however, was
apparently caused by an attack on 25 June.27

Fighter-bombers also attacked fuel and ammunition dumps in the
course of the month. On occasion IX TAC struck at such targets. Four
were hit in the St. Lo-Periers area between 5 and 16 July with fires
or explosions resulting. Similar results were produced by attacks
of 18 and 19 July on two like targets in the same area, while black
smoke indicated that some measure of success attended the attack
on a dump at Vitre on the 17th. IX TAC's most concentrated effort
against targets of this type was made on the last day of the month
when no less than 16 strikes were scheduled on some 11 targets
selected by Headquarters Ninth Air Force. Fuel tanks at Tours were
twice attacked and left burning. At Rennes fires and smoke followed
two bombings of the target area. Since no fires resulted after direct
hits on tanks at Fontorson and Angers, the containers there were be-
lieved to have been empty. Six other targets were hit with less
definite results observed. Fighter-bombers on armed reconnaissance
under the operational direction of IX TAC selected such targets on
occasion, as when they hit a fuel dump at Sens (13 July), destroyed
an ammunition dump southeast of Beuil (16 July), damaged oil tanks at
Orléans (20 July), and destroyed one in the Ardèche marshalling yard
(26 July).

In the case of attacks by the mediums, available evidence
suggests that where the dumps were stocked at the time of the bomb-
ings the results were the best that could be expected in view of the
type of target attacked and the force employed. Furthermore, in
attempting to measure the success of any attack, whether by mediums or fighter-bombers, two questions arise. First, did the destruction of supplies contribute to the over-all shortage which we know existed? Here the answer is in the affirmative, although the extent of the contribution can but seldom be established. Second, did the damage done produce a local shortage of critical proportions? To this question no definite answer is possible. It can merely be suggested that, under prevailing conditions, even a small loss, particularly in the battle area, could well be the straw that broke the camel's back. 28
Chapter V

OPERATIONS IN AUGUST 1944

The General Situation

The Changing Battlefronts

August 1944 was a most notable month in the invasion of Europe. The extent of the accomplishments is clearly shown by the contrasting situations which existed at its beginning and at its end. On 1 August the territory held by Allied armies was small, although the break-through at St. Lo was being rapidly exploited. The lines ran west and east through positions south of Caen and St. Lo and then dipped south, paralleling the coast a short distance inland as far as the area of Arranches. By 1 September Brittany had been overrun with the exception of its ports at Brest, Lorient, and St. Nazaire, and American lines had reached the Loire from the region of Nantes in the west to Glen in the east. By that same date American forces had crossed the Seine above and below Paris and overrun a great area to the east of the liberated capital. Compiegne, Laon, and Reims had been taken on the northern flank; to the east they had reached the Meuse at Verdun and crossed the upper Marne at St. Dizier; in the south they had occupied the regions of Troyes and Sens. On 1 August the Battle of France was only a week old. On 1 September it was rapidly drawing to a close.
Such were the over-all gains registered on the ground by the Twelfth U. S. Army Group. The most dramatic action was that of the Third Army, which became operational on 1 August. It first drove its mobile columns through the Avranches bottleneck west into Brittany and south towards the Loire, cutting off the Breton peninsula. Then, with startling speed, some of its units swung northeast towards Argentan, tightening the noose about the Norman pocket, while others raced east to Paris and beyond to points within 60 miles of the German frontier. Meanwhile the First Army pushed south from St. Lo and fought to widen the coastal corridor by an eastward advance. In the early days of the month it stopped, in the Orne region, the German counterattack which was designed to cut through to the coast at Avranches and sever the communications upon which the Third Army depended. That done, it, with the British, the Canadians, and the Third U. S. Army closed in upon the enemy, and as it swept east to and beyond the Seine, destroyed a large portion of his army in Normandy. The over-all results were phenomenal, and never had the joint responsibility of ground and air for the achievements recorded been more clearly evident. The Ninth Air Force was teamed up with the Twelfth Army Group, IX TAC acted in cooperation with the First U. S. Army, and XIX TAC cooperated with the Third. Throughout the month mediums and fighter-bombers of the Ninth were constantly employed to help win the Battle of France by missions involving air-ground cooperation, whose tactical worth was obvious, and likewise by missions whose bearing upon current operations was equally forceful—missions to
isolate the battlefield and to destroy enemy communications and
supplies. The Ninth was continuing to function as a Tactical Air
Force.

Ninth Air Force Organization and Movements

On 9 August 1944 Maj. Gen. Hoyt S. Vandenberg assumed command
of the Ninth Air Force vice Lt. Gen. Lewis H. Brereton, relieved. A
new hand was at the helm, but many earlier traditions were maintained,
none more vigorously than that set forth in General Brereton's oft-
repeated slogan "Keep Mobile." ¹

For the proper performance of its tasks, mobility on the part
of the Ninth Air Force was a prime requisite. To operate efficiently
Ninth Air Force combat units must be based on the continent and as
close to the fighting fronts as possible. The movement of fighter-
bombers from Britain to France had been begun in June when seven
groups became operational on the continent. It continued through
July, and by early August all were based in France. ² With the rapid
advance of the ground forces, changes of location in France were
necessary, and movements from the original bases in Normandy and the
Cotentin to others in the vicinity of Rennes, Le Mans, Chateaudun,
and Paris were effected. Not every move was of immediate advantage.
Airfield construction had been planned in accordance with estimated
movements of ground forces, which in August advanced at a greater
speed and at times in other directions than had been anticipated. On
occasion a move might bring the fighter-bombers no nearer the fighting
than they had been in a previous location, and operational difficulties were often in evidence throughout the month as the front accelerated its eastward movement.\footnote{3} Mediums had begun to shift from their Essex bases between 18 July and 5 August when the four groups of 98th Wing established themselves in the Bournemouth area. As continental fields previously employed by fighter-bombers became available, these same groups moved across the Channel (18 to 30 August). IX Bomber Command was itself alerted for such movement at the end of the month. Upon its arrival on the continent operational control of the groups based there devolved upon 98th Wing, which was furnished with a list of IX Bomber Command priority targets from which it prepared its missions.\footnote{4}

**Association of Air and Ground Headquarters**

Mobility was likewise demanded of Ninth Air Force Headquarters and headquarters of IX and XIX TAC. It was essential that the operations controlled by Ninth Air Force Headquarters be developed in the closest association with Headquarters Twelfth Army Group, which had immediate tactical command of all American ground forces. Accordingly headquarters at Uxbridge in Britain and at Grandcamp les Bains on the far shore were both closed at 2400, 5 August, and a single headquarters opened at St. Sauveur Lenselin at C001 on 6 August. It was there placed beside Advanced Headquarters Twelfth Army Group whose G-2 Air and G-3 Air were established in the Ninth Air Force Operations Center. Advanced Headquarters AEF was located at the same spot.
later move (23 August) to a position east of Laval maintained this
close association of ground and air, in the main, although the
immediate connection with Headquarters Twelfth Army Group was
severed.  
IX TAC strove to continue its intimacy with FUSA in its success-
ive moves to Canisy (2 August), to Coutours (12 August), and to
Haleine (22 August).  XIX TAC had established an advanced head-
quarters between Lessay and Coutances on 31 July, in proximity to
Headquarters Third U.S. Army (TUSA). In an effort to maintain this
association, later moves were negotiated to Beauchamps, east of
Granville (3 August), to St. James (7 August), to Les Chenes Secs,
north of Laval (15 August), and to Autainville, near the Forêt de
Marchenoire, south of Chateaudun (30 August).  If any headquarters
was to maintain effective operational control of its components,
complete wire communications with them were necessary, but as the
armies raced eastward their headquarters moved with almost equal speed
and at a rate which air force communications could not hope to equal.
This was particularly true of TAC Headquarters. As early as 7 August,
therefore, IX TAC constituted a flying column, and XIX TAC an ad-
vanced echelon to accompany Advanced Headquarters FUSA and TUSA,
respectively. Completely mobile, the operations officers who composed
these units maintained contact with the armies and with their own
operational headquarters which, perforce, lagged behind. They were
powerfully reinforced in their effort to effect full air-ground coopera-
tion by the frequent presence of their respective commanding generals
at the advanced headquarters of the army with which they were
associated.\footnote{8}

The association of Ninth Air Force Headquarters with that of
Twelfth Army Group was imperative throughout this critical period.
At best it was difficult to lay on preplanned missions. Bomb lines
established by the armies were difficult to ascertain in days when
the front was advancing at great speed and when communications were
often improvised or inadequate. Intelligence was often none too
plentiful, and the use of the combined resources of air and ground
was required for the proper information of both. Moreover, German
deception through the use of VHF required the provision of counter-
measures and safeguards. Only through the full utilization of all
available resources, those of air complementing those of ground, was
it possible to plan and execute the extraordinary ground-air opera-
tions of August 1944.

\textbf{IX Tactical Air Command}

IX TAC flew 378 missions, aggregating a total of 12,305 sorties
in the month of August 1944.\footnote{9} The records for the period use the
phrases "Armored Column Cover" and "Armed Reconnaissance" as des-
criptive titles for the greater part of these missions, the balance
being special tasks undertaken at the direction of superior head-
quarters or at Army request. With very few exceptions, the areas
or targets assigned to all missions lay west of the Seine or north
of the Loire. Moreover, by far the greater part of these areas and
targets were within or very close to the battle lines of the moment, notably as the lines drew nearer the great rivers. All operations were of a tactical nature, but because of the above facts it is difficult to distinguish between those which should be classed as direct air-ground cooperation in association with the battlefield effort of ground troops and those whose tactical relationship with such effort is to be classed as indirect rather than immediate. Such distinctions must, however, be attempted.

**Armored Column Cover in August**

Armored column cover missions, obviously involving close cooperation with FUSA's operations, were flown on 21 days of the month, aircraft from one to four groups being assigned each day. Largely because the GAF tended to be more aggressive than in the earlier period, eight aircraft now constituted the usual patrol, remaining in the area for one and one-half hours and conducting reconnaissance some 20 miles in advance of the column when requests had been accomplished or if no requests were forthcoming. The techniques earlier employed were continued and perfected. In one case the A-3 of 368th Fighter-Bomber Group spent five days with the 3d Armored Division in order that the latter's selection of appropriate targets for air attack might be improved. Towards the end of the month, as the distance separating air bases from the heads of columns increased, aircraft on armored column cover had to employ belly tanks in the execution
of their missions. A few examples serve to indicate that, as previously, these missions were effective.

The most notable of these occurred on the second day of the month when "Foolele" (a combat command of 3d Armored Division) was held up by guns in buildings northwest of Mortain. Aircraft of 368th Fighter-Bomber Group were called upon to bomb, which they did, scoring direct hits which allowed the column to proceed. It was again held up at the next town, St. Barthélemy, but escorting aircraft again blasted the fortified positions and received their reward in seeing our armor enter Mortain at 1815 hours. On 5 August ground requested that both ends of a bridge be bombed to explode mines, but asked that the bridge itself not be attacked. This was done. The next day a mission bombed a road northeast of Vire and destroyed a steeple (possible CP), an antiaircraft emplacement, and other gun positions. On 7 August planes of 368th Fighter-Bomber Group bombed woods south of Brecy and produced a terrific explosion. "Murphy" (3d Armored Division) then directed them against 88-millimeter guns located in woods. The results were good, since many gun flashes were seen in the area before the bombing and none after it. "Murphy's" report was that the aircraft had done a fine job. The following day aircraft of 366th FS Group distinguished themselves when one formation destroyed 5 tanks and damaged 8 others, and another claimed 12 tanks, 8 LVTs (5 carrying ammunition), 5 horse-drawn vehicles, and 3 horse-drawn flak guns. The crews of six flak guns on a road west of Mortain were wiped out by one formation on the 9th; another on the 10th attacked
gun positions near Sourdeval, which ground forces knocked out so completely as to deserve commendation. On 15 August aircraft of 404th FB Group, escorting the 3d Armored Division, twice bombed the town of Parnes at ground’s request, and strafed near-by roads with marked effect. A single formation listed 15 tanks, 4 armored vehicles, and 2 gun positions among its claims; while the claims of the 11 formations of 404th FB Group, which furnished “flying interference” during the day, totaled 29 tanks, 12 armored vehicles, 5 half-tracks, 35 LTR, and 5 gun positions destroyed. The following day a formation affording cover destroyed two tanks, 11 LTR, and an ambulance which was towing an 88-millimeter gun. Fifty LTR were claimed by an escorting formation of 369th FB Group on 25 August. On the 27th 16 of 404th FB Group’s P-47’s engaged in escort were jumped by over 40 enemy aircraft. Their claims were 11-4-1 for a loss of four. Other armored column cover missions produced less striking effects individually, although the aggregate result of the sustained endeavor was great.

Air-Ground Cooperation, 1 to 7 August

Many area missions described as armed reconnaissance, many others undertaken as the result of joint plans developed by IX TAC and FUSA, and such few as were flown in this period at the request of Army corps and divisions likewise fall under the heading of direct air-ground cooperation. In these missions pilots had to exercise unusual care in bombing as the month of August wore on. On the one hand, enemy pockets of resistance remained within territory which was for
the most part occupied by American troops, while on the other hand friendly units were operating deep in enemy territory. "Know your target before you hit it" became the current motto by prescription. Selected examples must again serve to exhibit the nature and the results of these activities.

Air-ground cooperation missions of this type were but few in the first week of August since most armed reconnaissance was concerned with areas somewhat removed from the existing battle lines. However, on the 4th, ground control directed one armed recce against four tanks, two of which were destroyed. The remaining two were damaged and troops strafed. On the same day "Murphy" gave another armed recce a target in the shape of a troop concentration in woods southwest of Vire. Twenty-four bombs fell in the area and produced a large explosion. On 7 August a divisional command post at Vengeons was hit as requested by XIX Corps, which marked the target with red smoke.

**Air-Ground Cooperation in Critical Days, 8 to 14 August**

Air-ground cooperation missions on the part of IX TAC became an outstanding feature of its operations beginning with 8 August. On the night of 7-8 August the enemy launched his counterattack from the Mortain area with Avranches as its objective. This action, designed to cut the American communications in the bottleneck, had been determined on the 4th. It was vigorously pursued in the days which followed, but the joint resistance of ground and air was such that on 14 August the enemy was forced to plan a general withdrawal, and on
the 16th to order retirement beyond the Orne. British armies joined in the Allied countermeasures, and RAF's 2d Tactical Air Force likewise cooperated.

IX TAC exerted its maximum effort in the battle area. In the seven days 8 to 14 August it flew a total of 4,012 sorties, nearly all of them in direct air-ground cooperation. On the 13th, 675 were flown, dropping 310.8 tons of bombs. Daily claims, most of them derived from actions in the battle area, stand in direct relation to the effort expended and the targets offered. For example, on 8 August 532 sorties resulted in the destruction of 47 tanks and 122 18s; on the 13th, 649 sorties accounted for 106 armored vehicles and 570 18s; and on the 14th, 614 sorties gave rise to claims of 56 armored vehicles and 243 18s destroyed. Fourteen squadron-strength missions in the La Ferté-Falaise-Argentan area claimed 18 tanks and 70 18s on the 13th. The actions of individual groups possess a like interest. On 14 August 72 aircraft of 366th FB Group claimed the destruction of 5 tanks and 94 18s; on the 16th, 36 aircraft claimed 16 tanks and 53 18s; while the next day 40 aircraft listed 24 tanks and 37 18s among the enemy materiel destroyed. One mission by the 366th FB Group in the Argentan area demolished 6 tanks, damaged 4 others, and destroyed 12 18s on 12 August, while a squadron of 368th Group destroyed two guns towed by ambulances near Ger, and then at Murphy's direction bombed the town and left it burning. That same day the 366th Group's claims of 8 tanks, 5 self-propelled guns, 1 gun
emplacement, and 69 IX earned a commendation from the Commanding General, IX TAC. A formation from the same group did a notable job the following day (13 August). It first sighted two trucks under trees on a road near Carrouges and almost immediately noted what appeared to be trees in the middle of the road. Closer examination disclosed that some 20 gas trucks were parked in the area, and that at least six tanks were retreating from them. The area was both bombed and strafed; fires appeared along a line one and a half miles long, and explosions of ammunition trucks were observed.

In accordance with the joint plans of IX TAC and FUSA three gun positions and two tank concentrations in the Sourdeval-Nortain area were attacked on 8 August. A total of at least 14 guns and six tanks were claimed destroyed. At the request of VII Corps a troop concentration near Juvigny was attacked on the 9th, and bombs fell in the smoke-marked target area. The next day a request by VII Corps for the bombing of tanks and 17 west of Sourdeval was answered with resulting fires in the area attacked. On 12 August the 2d Infantry Division requested that some five infantry positions be dealt with. All were attacked with reported results of "good" or "excellent."

In this same period (8 to 14 August) IX TAC and FUSA planned air attacks on road junctions in the Élres-Écompte-Nortain-Sourdeval area. On the 9th four such targets were hit with bombs carrying the usual fuses. In the evening attacks against like targets on each of the four following days, some instantaneous fuzings were employed, but
for the most part the bombs were armed with fuses providing delays of from six to 12 hours with the hope, as when such fuzes had been previously used, of impeding enemy movement at night. Several targets were assigned to each of the missions thus flown in at least squadron strength. Four took place on the 10th, four more on the 11th, three on the 12th, and one on the 13th. The origin and the location of the targets of these missions cause them to be recorded here rather than under the heading of interdiction.

Some unusual direct air-ground cooperation missions were flown in this period. Aircraft of IX TAC, flying escort to the C-47's of IX TCG which sought to resupply the 2d Battalion of 120th Infantry Regiment isolated east of Mortain on 10 August, incidentally scored hits on three enemy gun positions. The following day a squadron of F-47's themselves dropped supplies. On 14 August 3d Armored Division requested that plasma be dropped for the use of one of their advancing units. Within two and one-half hours after the origin of the request the plasma was dropped and pilots saw it picked up by U. S. ground troops.

Air-Ground Cooperation, 11 to 31 August

Direct Cooperation

The developing ground situation determined that direct air-ground cooperation on the part of IX TAC should continue as a prominent feature of its activities during the remainder of the month (15 to 31 August). The German lunges against Avranches had been stopped and
Allied countermeasures threatened to annihilate his armies in Normandy. The advance of the Third U. S. Army to the vicinity of Argentan, coupled with the British movement south in the Falaise area, steadily narrowed the only corridor through which enemy troops west of those points could hope to escape from the pocket thus created. By 17 August a fighter-bomber pilot reported that "the whole goddam German Army was moving through this gap," while the pocket had been so reduced that bomb liners within it were eliminated. Two days later, patrols of the 90th U. S. Infantry Division and the Polish Armored Division, operating with the Canadians, met. The pocket was mopped up in the days which followed, and Allied armies, advancing to the east, crossed the Seine at Le Mesnil-Gassicourt and at Vernon by 23 August and compressed the remnants of the German forces in Normandy into a narrow area on the west bank of the Seine between Vernon and the sea.

Armed Reconnaissance

In this period, 15 to 31 August, armed reconnaissance missions were of frequent occurrence and the areas assigned usually lay within the battle zone or in its immediate rear. The "Deep" area assigned on 17 August ranged from Le Mesnil-Gassicourt to Roudan to Breteuil, and hence lay west of the Seine. "Seine River Area" is the title employed in describing armed recces on 18 August and later. Not until the end of the month were areas assigned east of the Seine-Seims-Herpy-Juvincourt; those of Rouen-Beauvais-Soissons were prescribed on 27
August, and Amiens-St. Quentin-Camplagne-Bézuais on the 31st. The tangled transport of the disorganized enemy columns and their means of escape across the Seine constituted the chief targets for IX TAC's fighter-bombers in a constantly shrinking area. IX TAC's total claims of 612 LF destroyed on 17 August, 419 on the 23d, and 227 and 294 on the 26th and 31st, respectively, indicate the extent of damage done on days when the hunting was particularly good. Armored vehicles were also hard hit—72 were claimed destroyed on the 16th, 34 on the following day, 59 on the 25th, and 34 on the 26th. On 15 August one formation of 367th FS Group assisted tanks shelling Le Tremblay le Vicomte by bombing the town; while another, blocking a column of 30 vehicles and tanks by hitting its head and tail, scored 24 hits.

Barges on the Seine or its tributaries appear in the claims of 18 August, when some 17 formations over the Seine River area reported 56 barges, one lock, and a pontoon bridge (Les Andelys) destroyed. On the 20th seven missions of squadron strength accounted for 13 barges and damaged docks and a steamer. On the same day, and once again in the Seine area, an unusual episode occurred when 75-plus LF marked with the Red Cross symbol were seen clustered about a ferry terminal near Vexinnes on the west bank. They were first identified as military vehicles, and then bombed and strafed. Black smoke and violent explosions proved that the identification was correct. Ferries and their terminals were also hit on the 23d and 25th. It is noteworthy that on occasion leaflet bombs were dropped on the pocket and on the withdrawal areas (e.g., 15, 18 August) in the hope of lowering enemy morale.
Air Strikes on Communications Targets

Attacks on specified communications targets supplemented armed reconnaissance and were, in most cases, of a nature which causes them to be rated as air strikes in air-ground cooperation. Five IT were destroyed by Napalm on the road between Briouze and Falaise (16 August). An attack on the bridge at Tubouf (18 August) resulted in four hits on the approacher. A bridge under construction over the lower Seine was heavily bombed (22 August) with 15 hits reported in the target area; and a new wooden bridge near Cissel was destroyed (35 August), together with 50-plus IT which stood bumper to bumper. Earlier (20 August) six squadron-strength missions had dropped delayed-action bombs on Seine ferry crossings which the enemy was using at night.

St. Malo and the Ile de Cezembre

Direct air-ground cooperation on the part of IX TAC was further in evidence in the reduction of St. Malo and the Ile de Cezembre. On 17 August 35 planes of 370th FB Group dropped two Napalm bombs on the citadel before they received word from ground that its surrender had been effected; they then delivered the balance of their load on the obstinate Ile de Cezembre. Again on 31 August IX Tactical Air Command attacked the latter stronghold, this time as part of an air, ground, and sea attack which had been carefully coordinated. Mediums of IX Bomber Command and Lancasters of RAF Bomber Command opened the aerial assault as H.M.S. Margrave, covered by planes of
50th FB Group, delivered salvos of 16-inch armor-piercing projectiles. At intervals field artillery directed the fire of 155's and 8-inch and 260-millimeter guns at embrasures, ports, and tunnel entrances. Finally, 33 P-38's of 370th FB Group rained down napalm combs. G-3 Air of Twelfth Army Group reported that veteran artillerymen were lost in admiration as the Ninth Air Force planes circled the target, waited for the smoke to clear, and then peeled off and bombed. At 1800 a demand was made for the island's surrender, but no capitulation resulted until 2 September, since the German commander lacked the necessary permission of higher headquarters.12

Other Tactical Operations

The above narrative of IX TAC's effort by way of air-ground cooperation in direct relationship to the ground effort indicates that such actions absorbed the bulk of its resources and energies throughout August 1944. Certain other activities must, however, be recorded to complete the picture. They, too, are tactical in nature and related to the ground effort, but their connection therewith appears to be rather less direct than the actions already chronicled. Their purposes were varied: to destroy enemy materiel, particularly by the attrition of his critical supplies, to disrupt his powers of command by attacks on headquarters, to delay his retreat, and by continued attacks so to harass his personnel as to reduce their morale.

Transportation Targets

During the first week of August missions in the nature of armed
reconnaissance occasionally carried aircraft of IX TAC as far afield as Cambrai, Soissons, Nevers, and Poitiers (1, 2, 4, 5 August). Some damage was done to rail targets, as when the locomotive and 10 cars of a troop train were hit and tracks cut in the St. Cyr-Orleans-Nevers area and when three trains were destroyed near Sauxur (5 August). Again in the closing days of the month some armed recces flew to the east of Paris. On 27 August two missions in the Reims-Beauvais-Soissons area listed 12 T and horse-drawn vehicles, together with 13 barges among their claims. A third mission in the same area and on the same day concentrated on rail targets and claimed three locomotives and 50 cars destroyed, while a fourth claimed the destruction of over 100 tank cars in the yards at Chantilly. On 31 August two missions, each of group strength, in the Arlans-St. Quentin-Beauvais area claimed 123 T, 9 armored vehicles, and 93 horse-drawn vehicles as their contribution to the affilliation of the retreating enemy. Such actions as these were obviously related both to the activities of American ground forces and to the interdiction program.

Dumps

In an effort further to cripple the enemy, IX Tactical Air Command continued to attack fuel, ammunition, and supply dumps. Attacks on fuel distribution points had the greatest significance because the Eighth Air Force was engaged in bombing the sources of such supplies. In the opening days of the month dumps at Domfront, Pannes, and Angers, and in the vicinity of Orleans, Tours, and Troyes were attacked with
satisfactory results (1, 4 August); while the familiar targets in the Forêt d'Andaine were hit again (6 August) with no results observed. In the period of the German counterattacks further missions were directed against like targets on each day from 8 through 13 August. Dumps in the Domfront area, in the Forêt de Coeuvres, Forêt d'Andaine, Forêt de Semondres, and Forêt de Rambouillet were hit, as were others east of Dreux and near Maintenon and Briouze. On 23 August supply dumps in the Forêt de Bretteville were attacked and fired. As a rule the missions were of squadron strength. Exact results could not be determined, although some explosions and fires were produced.

Airfields and Aerial Combat

Attacks on enemy airfields were in order in August because of the increased activity of the GAF. Runways were damaged and fires started at Beauvais-Tille (18 August). Dispersals, buildings, or runways were hit in attacks on fields at Laon-Athies, Laon-Chambry, Juincourt, and Olaines, and on another near Roye in attacks which destroyed a total of nine enemy aircraft in the air and 10 on the ground (23 August). On 25 August IX TAC delivered exceedingly powerful blows east of Paris and likewise south of the Loire. Three squadrons of 379th FB Group were dispatched against airfields in the St. Quentin area. Hangars and runways were hit on several fields, but more important were the claims of 20-3-6 in air combat for a loss of seven. Two squadrons of 474th FB Group, sent against the fields
at Zermies, Laon-Chambry, and Harpy, engaged in air combat also. They lost a total of 11 planes against claims of 21-3-15. On the same day action was taken against fields at Cognac and Dijon, which the enemy was known to be using for the evacuation of troops caught between the American Third and Seventh Armies. At Cognac two squadrons, one from the 365th and the other from the 367th FB Group, destroyed 12 enemy aircraft on the ground. Ten were troop-carrying Ju-52's. A squadron of 370th FB Group and another from the 367th attacked Dijon, destroying 21 enemy aircraft, including 20 Ju-52's on the ground, and damaging three. The total claims of IX TAC for the day were thus 41-6-21 in the air and 21-0-3 on the ground, for a grand total of 62-6-24. Such claims, coupled with the steady maintenance of armed reconnaissance and armored column cover, help us explain our overwhelming air superiority. Not the least of the results which were derived from this was the uninterrupted flow of reinforcements and supplies over the roads from the beaches to the fighting lines. The roads were of necessity crowded, and offered ideal targets for attacks from the air which seldom materialized. That they did not was one of the miracles of the Battle of France. Airfields in the Dijon, Bourges, and Cognac areas were again hit on 26 and 27 August with total ground claims of 22-0-4, while damage was inflicted at Peronne, Eloy Air, and Essieres on the 23th.

Enemy Headquarters

On occasion information gathered by intelligence caused IX Tactical Air Command to deliver attacks on enemy headquarters. Two
such attacks, made in the month of August, were notable. On the 25th what was reputed to be von Kluge's headquarters at Verzy, southeast of Reims, was hit with 24 Royala tanks and left burning furiously. Its personnel may, however, have found safety in nearby caves. Earlier (17 August) three squadrons of 474th FB Group attacked as many pinpointed targets in a Gestapo headquarters near Chateauroux, south of the Loire. Bad weather prevailed as the strikes were delivered, but pilots' reports of the bombing and strafing were enthusiastic, recording damage to structures and personnel, and listing two hits on the front door of the main building. Later reports from the ground indicated these claims were fully justified. Four buildings on an airfield and two châteaux were demolished, as were a station used for headquarters passing through, and a motor park containing some 200 vehicles. German personnel suffered severe casualties. Headquarters FUSA extended its thanks and congratulations for the mission which it described as a complete success. 13

Recapitulation

Weather had an adverse effect upon operations of all types during the month. On three days (21, 29, 30 August) no operations were possible. Operations were frequently restricted on others, particularly when night dew was transformed into ground haze or fog over bases or in target areas. But the situation was such that missions were flown whenever there was any chance for their execution. The 673 sorties of 12 August constituted the month's high; the 161 sorties on the 19th was the low for the period. As previously remarked, the total
sorties by IX TAC in August reached the notable total of 12,305. Its effort, in which air-ground cooperation figured so prominently, was marked by the loss of 123 aircraft and by the month's total claims of 63-2-13 enemy aircraft on the ground and 92-1-18-35 in the air. 

XIX Tactical Air Command

The association of XIX TAC with Third U. S. Army (FUSA) was as intimate as that of IX TAC and First U. S. Army (FUSA). To an even greater degree than in the case of IX TAC, the missions of XIX TAC, under the command of Brig. Gen. Otto P. Weyland, were in direct air-ground cooperation. The problems involved were enormous. Technical difficulties in maintaining communications between ground and air units were frequently in evidence. Armored columns split up into two or more combat teams, thereby making demands for Air Support Parties beyond anything envisaged in air force T/O's. Notably after General Patton's columns turned eastward on 6 August and began their famous "end run," the rapid advance of the battle lines gave rise to the new problems concerning the location of headquarters, as was mentioned above, and left air bases so far to the rear that aircraft were often forced to operate at extreme range, returning to base with tanks nearly bone-dry or refuelling at a forward field before completing their missions. In spite of all difficulties, however, the achievements of XIX TAC were on a grand scale.
Three groups of fighter-bombers were available when XXI Tactical Air Command became operational on the continent on 1 August. By the 5th a total of five groups was under its control, and by 7 August, nine. In the course of the month 12,392 sorties were flown, an average of 439 for each of the 28 operational days. On a single day (9 August) 73 missions were flown which involved 780 sorties, and on only three days (1, 24, 28 August) did the total sorties made fall below 200.\textsuperscript{16}

\textbf{Characteristics Activities, 1 to 7 August}

The very nature of the operations involved in direct air-ground cooperation precludes the possibility of rendering a complete and accurate report upon them. The fleeting nature of fighter-bomber attack, the indistinct quality of the targets, and the smoke and dust incidental to the attack all contribute to such a result. Once again we must depend upon available examples to indicate the nature and effect of such action.\textsuperscript{17}

During the first week of its association with TUSA, XXI Tactical Air Command provided excellent samples of the work it was to do throughout the month in direct air-ground cooperation. Flying cover for the 2d Armored Division in the Cassy area, two flights of 363d FB Group destroyed a total of seven tanks, damaged another, and silenced six gun positions on 1 August. Rockets of 406th FB Group destroyed two tanks and two four-gun batteries on the 2d, while its bombs covered a smoke-marked target west of Fise with results unobserved. On 2 August, also, 365d FB Group flew five eight-plane missions to cover
the Avranches bottleneck, while with a view to protecting communications between the advancing columns and that vital area, aircraft returning from armored column cover were directed to make periodic sweeps over the rear of their columns and in the direction of Avranches. On the 3d an element of 405th FB Group was vectored to a road south of Rennes which it bombed and strafed, destroying 22 LT and four horse-drawn vehicles. A squadron of 373d FB Group destroyed an AAA position north of Rennes on 4 August, and on the following day 11 missions by eight aircraft each of 405th FB Group claimed as destroyed 51 LT, 9 horse-drawn vehicles, and 3 self-propelled guns.

On the 5th, likewise, 358th FB Group reported that American troops were storming into Mortain from the west. Two elements of 405th FB Group accounted for 13 tanks and 8 LT by rocket fire and for another 16 LT by strafing on 7 August. On the same day, 363d Group flew 15 armored column cover missions over the Brest peninsula, bombing an ammunition convoy sheltered in woods at Plonagot. Reports of such characteristic activities fill the "Operp" for the balance of the month. Transport and strong points, tanks and gun positions, smoke-marked areas, and others designated by pin points were under constant attack by XIX FG in the course of the 28 operational days in August 1944, and reports of the positions of friendly and enemy troops were regularly submitted.

The scale of this effort was notable; 363d Group flew 7 such missions on 4 August, 15 on the 7th, 13 on the 8th, and 15 on the 9th. On 4 and 5 August, 11 such missions were flown by 405th FB Group.
followed by 17 on 14 August and 15 on the 15th. The ordinary effort was two group missions per day, or six squadron missions or 72 sorties.

Techniques and Problems

Cover for the armored columns was furnished by elements of from eight to 12 aircraft, reliving one another in rotation. On arrival at the designated area, the leader checked in with the flight leader being relieved and also with the Air Support Party on the ground. The relieving element was then ready to act on information received from the ground, and to carry out the standard operating procedure of patrolling ahead to a distance of 35 miles to seek out the enemy, to attack suitable targets, and to report his positions to the armored column. The number of aircraft employed and their bomb load varied with the amount of enemy armor opposing the movement of the American column and the possibility of encountering enemy aircraft. For example, in the area between Le Mans and Fontainebleau, where few thick-skinned enemy vehicles were encountered, it was possible almost to dispense with carrying bombs, since the desired results could be obtained by strafing. Armor-piercing incendiary ammunition was found to be the most effective for strafing, as for other purposes, and experience proved that tanks could be set on fire by strafing attacks from the rear. In the Mantes-Carriacourt region, close to Paris and the enemy's fighter fields, only one-third of our aircraft were bombed up because of the frequency of encounters with enemy aircraft. The damage inflicted by intense light flak over concentrations of enemy
troops rendered operations under 3,500 feet impracticable. For dive bombing a 5,000-foot ceiling with broken cloud was required. The effective radius for the P-47 with full bomb load but without spare tank was 200 miles. The spare tank (150 gallons) increased this distance to 350 miles. For the P-51 the radius was 325 miles on fighter sweeps without tanks, or about 600 miles with it. The most frequently employed loading was two 500-pound GP bombs with instantaneous fuze. This bomb was suitable for use against most military installations not protected by reinforced concrete or masonry. For rail cutting an eight- to 11-seconds delay-fuze was employed. Frag clusters and 200-pound frags were on occasion employed against personnel and thin-skinned vehicles, notably against the concentrations in the Argentan pocket. Napalm, placed in belly tanks provided with a detonator and dropped from minimum altitude without the use of a sight, was infrequently though profitably used.

Communications with the ground were often difficult and at times impossible—crowded channels, poor reception, and excessive "chatter" being frequently reported; but this situation was improved by a reassignment of frequencies. The enemy at times sought to confuse the situation by giving false directions to divert or to trap American aircraft. Demands for authentication usually disclosed the true nature of the sender, as in the extreme case where the enemy was asked—and failed—to sing "Fairfax Boats."18

It is not to be assumed that uniform success attended all missions. Random examples from the experience of 356th FB Group indicate that
results varied greatly and that they were at times disappointing. On 9 August this group dispatched 11 squadron-strength missions on assault area cover in the Lo Mans—Laval—Fougeres region. In eight instances contact was established with the ground. In one case the indicated target could not be discovered, in another lack of fuel prevented investigation of the designated area. In four cases no targets were given to the covering planes. Furthermore, one of the squadrons—the last dispatched in the course of the day—was recalled, while seven brought their bombs back to base although planes from one of these (probably those assigned to escort and hence not carrying bombs) strafed horse-drawn artillery. Two enemy tank elements were, however, bombed; and gun positions were bombed and strafed in the course of the three other attacks delivered that day. On 23 August 358th Group flew eight missions to afford close cover to the 5th Infantry and 7th Armored Divisions in the area Dampes—Fithiviers—Monteureau—Helum. Contact with ground was made in at least five cases, but again lack of fuel prevented search in one instance, while in another the given target was not located. One mission was recalled, one was reported uneventful, and bombs were returned to base by four others. Three missions attacked, their crews reporting direct hits on designated gun positions and on a supposed concentration of enemy troops, together with the strafing of tanks and horse-drawn artillery. In this connection, however, certain facts should be observed: first, that covering aircraft were available when needed; second, that when lack of fuel prevented investigation of an attack upon a designated target by
one squadron, the task could be passed on to that which relieved it; and third, that the constant presence of American planes in the assault area for the moment was a source of encouragement to our ground forces and provided them with a sense of security, while the effects upon the enemy were the exact opposite. Even when no air strikes were delivered, the aircraft of XXI TAC were serving the cause of direct air-ground cooperation.

**Air-Ground Cooperation, 8 to 31 August**

As has been frequently noted, air-ground communications were an essential to effective air-ground cooperation in the assault area. The brief narratives in the "Opreps" of the period are often inconclusive on this score. At times they report that contact was made and attacks delivered on a given mission, but do not specify that the targets were those designated by ground. In other cases they record attacks but do not mention ground contact, although such may well have been established. Accordingly such instances as exist which clearly indicate ground control of air-ground cooperation missions possess an unusual value since they establish the fact that highly significant results were obtained when communications worked well and when appropriate targets existed and were found. Examples of such action have added interest because of the types of situations or targets involved, the reported efficacy of air operations, and the techniques employed. Those given below are merely illustrative. They do not claim to be inclusive.
On 8 August a formation of 371st FE Group had bombed and strafed tanks east of Mortain when control referred them to a P-51, which led them to tanks and half-tracks under hedgerows in the same area. These were bombed and strafed, though with unobserved results. Two days later the same group was providing escort for XIX Corps in the vicinity of Angers. One of its formations was directed to a target reported to be horse-drawn artillery in woods; upon reaching the target, it discovered stationary trucks, which it bombed and strafed, reporting five destroyed. On the 10th, as the Argentan trap was being closed, ground vectored an element of 368th FE Group to tanks near Harolles; two of the six were left smoking as the result of direct hits. During the continued heavy fighting about Mortain on the same day "Murphy" asked a formation of 362d FE Group for an attack on 14 mortar positions north of the town. Fourteen 500-pound GP bombs completely silenced the position and drew the comment from ground that the results were the best ever achieved in air-ground cooperation.

Actions on 11 August afford further examples of effective operations. A squadron of 368th Group was giving cover in the Nantes-Angers area when it was vectored to woods southwest of Redon. Troops were seen running from the woods following the dive-bombing attack, which fact, together with the nature of ground fire received, suggested that an enemy concentration had been hit. As the result of a ground request received at XIX TAC Combat Operations, 303d Wing vectored a squadron of 368th Group to a railway gun which was holding up the
5th Infantry Division near Angers. Forty minutes after the request was received, direct hits destroyed the target. A squadron of 36th FB Group was informed that armored units were holding up our advance east of Alençon. Bombs dropped in the target area at St. Rémy du Plain destroyed four tanks and the town was strafed with results unknown. Another squadron of the same group spotted an enemy convoy southeast of Sees. Ground authorized the attack which destroyed nine tanks and 24 I.T. Other squadrons of 36th Group were similarly active the same day. One was given targets northeast of Alençon by ground control and in a series of attacks claimed five tanks destroyed and eight damaged, the most notable results following an attack of a 10-tank column which was first blocked on the road and then bombed and strafed. A second squadron was informed that an American column was held up by a Tiger tank northeast of Alençon. Fifteen 500-pound GP bombs were dropped in the area—"resistance eliminated. Column advanced."

On 13 August a squadron of 371st FB Group, returning from bombing the Forêt de Ponsigné, was asked by ground to attack two convoys east of Argentan. Both were strafed with total claims of some 57 I.T., 2 half-tracks, and 3 light armored cars destroyed. In Brittany on the same day a formation of 356th FB Group was directed against a troop concentration in St. Gildas des Bois, and one of 354th FB Group to another near Paimpol. Both targets were hit. Squadrons of 376th FB Group operated in the Argentan-Saleise-Alençon area on 13 August. "Poodle" called upon one of them to eliminate a gun position.
west of Alençon which was holding up a column, and "perfect team work with the flight destroyed the gun." Later (17 August), as American columns advanced through Dreux toward Seine crossings near Vernon, a flight of 362d FB Group was directed against enemy infantry and antitank positions at a road junction north of Dreux. Artillery marked the position with smoke. Bombing and strafing followed and while trees and hedgerows denied observation of results to the air, ground forces congratulated the flight leader on silencing the guns.

Ten Tiger tanks at the Seine crossing near Bonnieres were smoke-marked for attack by a formation of 371st FB Group on 19 August; bombs delivered in the raid fell in the target area with no results observed. The 20th saw the battles west of the Seine from Nantes-Saariecourt to Vernon develop in intensity, with air making a substantial contribution to their success. Ground directed one flight of 359th FB Group against vessels ferrying trucks across the Seine. Their bombs missed one such ferry, but damage was inflicted by a strafing attack. Another element was vectored to an area where a tank battle was raging in the bend of the Seine near Noisson, and there damaged two tanks. A third was sent against four smoke-marked tanks at La Beumiere (west of Vernon), where three bombs destroyed one tank and damaged two others. A fourth attacked a machine gun nest and claimed damage to five tanks. On the same day a flight of 362d FB Group checked Seine crossings west of Nantes at ground's request and was subsequently sent by another controller to bomb the town of Pacy.
our Hure and three tanks in a nearby orchard. The town was bombed and then extensively strafed, while the tanks were found and one left ablaze. Another formation was vectored to the spot, and other flights of the same group were called upon to attack tanks west of Vernon. One bomb and strafed two with unserved results. Another's mission was properly reported in greater detail. Ground had given the eight-plane flight a target of tanks which opposed elements of the 5th Infantry and 7th Armored Divisions. At the target the aircraft found American troops on one side of a wood with six well camouflaged enemy tanks in orchards and a town beyond. The flight leader searched the targets at very low altitude and directed individual planes to attack. Bombing destroyed five tanks, and strafing accounted for the sixth. On 23 August tanks were assigned to two elements of 362d Group between the Hure and the Seine to the east of Authuill. One squadron found a single smoke-marked tank and damaged it; the other found two, destroyed one, and damaged one. The same day 18 camouflaged tanks in woods east of Erreux were designated as the target for another squadron of the same group; it dropped three 500-pound G5 bombs and six frag clusters in the target area with unserved results. Again on the 23d, squadrons from 362d Group furnishing cover in the Chartres area attacked convoys. Ground cleared one such target for attack west of Fontainebleau, and directed that the other east of Sens be attacked. Claims of 32 IJ destroyed resulted. On 25 August "Beagle" (4th Armored Division) directed a formation from 371st 33 Group to a retreating German convoy east of Troyes from which was
exact a toll of 25 I.T. destroyed and 18 damaged. On the succeeding
day planes of 405th FS Group were given a like target in the same
area, now congested with fleeing enemy vehicles. They destroyed 20 I.T.

On several occasions aircraft of XIX TAC were asked by ground
units to act against enemy planes which were over our lines. Although
the attacks were not heavy and countermeasures were not always success-
ful, they deserve recording. American trucks under attack southwest
of Avranches on 2 August asked action from a formation of 362d Group.
It answered the call and discovered two I-109’s, which, however,
escaped into the surrounding haze. On the 22d, planes from the same
group responded to a call from the ground in the Vernon area where
German strafing planes had left before ours arrived. Our formations
had better luck on three other occasions. Once again it was an
element of 362d Group which was vectored to two enemy aircraft over
our lines at Le Mans. One was destroyed, and the 79th Infantry
Division, which had caused friendly AAA to hold its fire during the
encounter, voiced its thanks. Two enemy aircraft of those diving in
the Dreux area, to which a formation of 371st FS Group had been
vectored, were destroyed on 19 August. Finally, 362d Group reappeared
upon the scene on the 23d in the region of Sains. The group had just
bombed a gun position at St. Florentin when “Beagle” reported that it
was being strafed near Villeneuve. 362d Group jettisoned the balance
of its bombs, flew to the attack, and in the encounter which ensued
with five I-109’s claimed 2-1-0.
The instances above cited of direct air-ground cooperation when ground requested that attacks be delivered against targets which it had selected or approved, coupled with the examples drawn from the first week of XII TAC's activities, must serve as illustrations of the general run of its air-ground cooperation in the month of August. The number of such missions flown is so great as to forbid that all be narrated. Their number, and the manner in which they reported, do not justify the elaborate work of compilation that would be required to present an inclusive summary. Accordingly it remains only to mention a few episodes which, because of success achieved or because of the unusual nature of the target attacked, should appear in a narrative of air-ground cooperation for the month.

The advance of ground troops in this period moved at so swift a pace as often to outrun their own communications and to cause air to contact its assigned ground force at a point some miles in advance of that fixed for their rendezvous. Air reports of the position of friendly troops were therefore much to be desired and were frequently given in the formal reports which constitute our source of information. A few selected examples will illustrate the point. On 15 August 355th FB Group noted a steady stream of Allied vehicles moving towards Chartres. On 20 August 338th FB Group reported that our troops were entering Vernon. On the 27th the report of 36th FB Group included the remark that American troops were moving from the Sens area toward Troyes along every road. Such details are relatively
unimportant now. In the days of August 1944 when they were reported, they might contain information supplementing that of tactical recon-
nnaissance and ground intelligence and of great worth to air and ground alike.

The area of air-ground cooperation was that of the current battle front. But on occasion covering planes might sweep the region beyond it. For example, a formation of 371st FB Group, assigned to cover the XIX Corps in the vicinity of Angers, attacked a column of horse-drawn artillery and troops south of the Loire at that point on 10 August. The case is of greater interest because on the 6th, General Jodyard, in conference with General Patton, had assumed the task of protecting the Third Army's southern flank as its columns raced eastward merely occupying key cities along the Loire. Here was an instance where air acted against a possible danger to that flank. Examples of such action south of the Loire are few, for as the invasion of southern France progressed, the main task which devolved upon XIX TD was to conduct some armed reconnaissance and regular tactical reconnaissance south of the river. Tactical recon-
nnaissance could spot movements; armed reconnaissance could help pre-
vent their combining into a real threat.

Unusual results attended some missions over the battle zone. A three-squadron mission by 36th Group in the Argentan area came upon 300 to 1,000 vehicles standing on the roads on 13 August. The entire group strafed and reported the destruction of 400 to 500 (a dropped belly tank; destroyed 12), while another squadron in a later mission
in the same area destroyed 50. Three squadrons of the same group
found 2T bumper to bumper on the roads about Argenton on the 18th
and claimed the destruction of 7. The target was again unusual on
the 27th, when one squadron of 36th Group struck road targets east of
Argent and northeast of Menau with total claims of 20 horse-drawn
vehicles, 8 pieces of horse-drawn artillery, 14 3T, and 3 tanks
destroyed; while another claimed 13 horse-drawn artillery pieces, 8
tanks, 25 3T, and 52 ammunition wagons in its attack on a convoy of
280 vehicles near Joigny. Such smashing attacks both stimulated and
disorganized the German retreat. Action by an element of 362d FB
Group produced remarkable results when it put seven heavy guns out
of action near the Seine crossing at Le Mans on 22 August.

Earlier, on the 12th, ground requested an attack by eight planes
of 36th Group on six destroyers leaving the harbor of Lorient, one
of which was left burning. Two actions against ground troops also
should be mentioned here. On 9 August a formation of 363d FB Group
giving armored column cover over the Brest peninsula, strafed a column
of 100 horse-drawn vehicles until they waved the white flag. Even
more remarkable was the action on the 14th of a squadron of 405th FB
Group which was covering the 7th Armored Division in the Dreuix-Argent
le Rotre area. It had strafed trucks when it observed Germans in
the road waving white flags. The squadron turned them several times
as several hundred formed column and marched toward our lines. Ground
was informed, and troops were sent out to receive that portion of the
Wehrmacht which had surrendered to XIX TAC.
Other Tactical Operations in August

Amored column cover and armed reconnaissance over the battle area constituted a first claim upon the resources of XIX TAC throughout August and absorbed the bulk of its energies. However, special missions and armed reconnaissance directed against targets or areas well beyond the front lines were another feature of the command's manifold activities. Since the many columns of TUSA were advancing over such great an area and at such considerable speed during this period, many of these missions are almost indistinguishable from those in the battle area. Moreover, many stand in some sort of relationship to the modified interdiction program then current, if only because rail and road targets—i.e., communications targets in general—were either assigned to, or selected by the leaders of such missions.

Once more we must depend upon selected examples to present this activity in which XIX TAC was to some extent engaged on nearly every operational day during the month. For the sake of clarity, areas of activity will likewise be selected. First, there is the region within the Seine-Loire interdiction line where the relationship of armed reconnaissance to the battle zone is generally most intimate. Second, activities in the area east of Paris-Beauvais, Soissons, and eventually Verdun will be treated. Third, the area southeast of the capital—Montargis, Oder, Troyes, and as far east as Reims—will furnish useful examples. Fourth, missions in the area south of the Loire will be illustrated.
Transportation Targets

Within the Interdiction Zone. In the area within the interdiction line, most missions fall within the time limits of 1 to 19 August. At its outset there is a formation of 358th FB Group bombing key targets which concealed AAA guns near Lamballe (1 August), and another from 405th FB Group destroying seven tanks and twice that number of I15 in the vicinity of St. Lalo (3 August), as USA's columns overrun the Brest Peninsula. At its close 382d FB Group is strafing barges southeast of Paris, destroying two and damaging more than 50, and the 405th FB Group is claiming 13 barges destroyed and 27 damaged in the Melun area (19 August), as American forces threaten to cross the river barriers south of the capital. In the intervening period a number of actions provide useful examples. Armed rescue (13 August) by two squadrons of 373d FB Group in the Dantinos area, resulted in claims of three rail cuts and 22 freight cars destroyed. Then squadrons of 36th Group hit the marshalling yard at Chatres (7 August) 65 to 100 freight cars were left burning. A flight from the same group scored 16 direct hits on the rail center at Lorient three days later and destroyed a FLAK battery and over 40 cars. In the Tours region three squadrons of 372d Group claimed on the 8th at least six rail cuts and the destruction of 38 cars, including many tank cars. The destruction of 13 tanks was reported after missions were flown by 36th Group in the Tours-Lorient area on 10 August, and rail targets were hit by 405th Group in the Nogent-Vendome area two days later, with
claims of four locomotives and 68 cars destroyed. On 13 August
358th, 405th, and 406th FG Groups hit six trains during the day's
operations. The claim of 408th Group included the destruction of
11 locomotives and over 150 cars, many of them carrying ammunition or
oil; while 358th reported the destruction of 17 and hits on an ammu-
nition dump. In view of the battles raging in the Argentan area, such
actions possessed peculiar value in denying supplies and reinforcements
to the hard pressed enemy and in reducing his capability to effect a
withdrawal.

The Area East of Paris. Armed reconnaissance penetrated the area east
of Paris throughout the month. On the 2d, 36th Group destroyed an
ammunition train at Joyon, hit another at nearby Appilly, and by straf-
ing destroyed an oil train and many barges on the Oise canal. Five
barges destroyed near Soissons, together with trains strafed, were among
the claims of 373d Group on 7 August. Railway targets at Crepy en
Valois, at Peronne, and at Soissons were among those selected for
attack by 362d Group's four missions on the 11th. Later in the month,
coincident with the advance of ground forces to the east of Paris,
actions on 25 August further disrupted enemy transportation in the
general area of Soissons-Laon-Reims: 36th Group claimed 5 locomotives
and 40 cars; 405th Group reported 18 locomotives and nearly 170 cars
destroyed. In the vicinity of Soissons on the 27th, 373d Group sought
out a different type of target and reported a barge, 34 l.t., and 6
tanks among its claims. At Vouliers, on the Aisne northwest of Verdun,
rocks of 405th Group destroyed five gun positions on the closing day of the month.

The Area Southeast of Paris. The area southeast of Paris assumed unusual importance in the course of August—through it the enemy sought to funnel a portion of his troops in the course of his withdrawal, and into it USA's columns advanced on the roads to Troyes and beyond. Here, too, XIX TAC's armed reconnaissance missions were active. For example, 405th Group, operating in the Montargis area on the 10th, bombed a train of 30 cars, strafed 25 cars on a siding with fire and explosions resulting, and twice strafed a loaded troop train, inflicting heavy casualties upon its personnel. The group claimed a total of 11 locomotives and 146 cars destroyed during the day. On the following day the marshalling yard at Montargis was well hit by 406th Group and bombed by 373d Group on the 12th. In an attack by four squadrons of 303d Group on 18 August a railway bridge near Gien was rendered impervious by bomb damage; while at Jaigny, further to the east, 373d Group cut tracks, fired an ammunition dump, and destroyed rolling stock on the 22d. Finally, on 28 August, a squadron of 405th Group made a particularly successful attack on the marshalling yard at Meudon/rec, some 25 miles south of Oise. Here they found six locomotives and a train loaded with JU-88 fuselages. Strafing destroyed three locomotives and damaged the contents of the train.

South of the Loire. Actions in the area south of the Loire possess special interest because of XII TAC's mission to protect the exposed
southern flank of TUSA. Attacks on communications would inevitably affect the enemy's capacity to concentrate his forces. Such attacks were delivered as the following illustrations indicate. The 373d Group claimed the destruction of 15 freight cars at Villefranche and of tank cars south of Blois on the 9th. Two days later 406th Group reported the bombing of a train loaded with 60 tanks east of Montrichard, the complete destruction of a fuel train, and damage to another. On 13 August 373d Group reported bombing trains at Chambourg and Loches, while 352d Group bombed four rail centers south of Nantes. Trains south of Blois, near Issoudun, and at Nohant were struck by 373d Group on the 16th; the next day 406th Group attacked the railway center at Chateauroux, while 371st Group hit three others below Nantes. On 27 August 373d Group attacked canal and rail targets in the Bourges-Levers area, while on the 28th two squadrons of 362d Group reported the destruction of no less than nine locomotives by bombing and four more by strafing in the region Saumur-Chateauroux.

The illustrations given above of XIX TAC's activity beyond the battle lines indicate clearly that such actions supplemented those of direct air-ground cooperation in powerful fashion. Such missions, and many others of like character, made their contribution to the total claims of XIX TAC, notably against communications targets, which are given below. The command was fulfilling one of the missions of a tactical air force by disrupting enemy communications.

Aerial Combat and Airfield Attacks

Formations of XIX TAC engaged in one or more air combats on some
17 days during August—a fact which indicates a greater activity on the part of the Luftwaffe than in the preceding months. Each day during the critical period 7 to 20 August was marked by one or more such encounters. The enemy formations varied from small flight to elements composed of from 20 to 30 aircraft; and then the larger units were encountered. American planes were usually outnumbered. On 7 August several encounters occurred. Each of the squadrons of 373d Group met with 5-plane enemy aircraft in the vicinity of Chartres. They destroyed a total of five, while a third squadron in combat with a smaller formation, brought the group's claims to 6-1-3 for the day. An eight-plane formation of 373d Group spotted twice their number of German aircraft and shot down three. While in equal combat with 10 enemy planes over Lyonne, aircraft of 35th Group claimed 5-0-0 for a loss of two. A novel combat took place on the 11th when planes of 436th Group scattered an aggressive enemy formation by discharging their rockets. On the 13th, eight aircraft of 373d Group bounced 12 CAT planes in the vicinity of Lille and scored 4-1-2, while another formation of the same group bounced 20 others in the same area and claimed 0-0-0. No losses were experienced in either combat. Three eight-plane sections of 373d Group joined battle with the CAT on 15 August. The first had bombed the airfield at Dreux and then they were bounced by an equal number of 14-109's; those pilots were aggressive but not well trained. Claims of 5-0-0 were reported. The second section encountered seven enemy planes near Chartres and destroyed five; and the third, jumped by 30 Germans near Compiègne, lost three planes in the engagement but downed four of its adversaries. The 16th and 351st Group scored 13-0-3 in
aerial combat. Eight of its planes spotted a German formation of 70, destroyed two, and forced the remainder to abandon their mission.

Two American planes were lost here, and as many more in a notable action over Leintzen. Here, the aerial area patrol of eight aircraft bounced a German formation of 50 which was soon joined by 60 others. The enemy was both aggressive and experienced, but we were in contact ranging from 11,000 feet to the deck, with claims of 11-0-3.

Squadron formations of 561st Group met the enemy in the air over the Paris area on 19 August. A first encounter with 30 enemy planes resulted in the destruction of four. In the second, the American squadron, caught without ammunition, was attacked by 13 of the GAF, but the deck, where skillful maneuvers on the part of American pilots caused two German planes to crash. One of our planes was lost in these engagements. Claims were 6-0-1 on the 29th, when eight planes of 363rd Group in a cover mission met 32 Germans and a single pilot destroyed four. On 22 August 16 aircraft of 364th Group destroyed eight enemy planes which they had bouned as they were taking off from an airfield near Epernay. A squadron of 369th Group bouned 50 Germans over Winter-Cathecourt with claims of 2-1-0, while elements of the 355th Group, flying cover for the ground forces west of Chartres, claimed 4-0-1 for a loss of one in an encounter with 50 1-2-109's. The 355th Group claimed a total of 36-1-8 on 25 August as the result of three actions which developed in the course of fighter sweeps east of Paris. In the first, 12 of its planes bouned 20 planes of the enemy near Pethel, with claims of 10-1-3. In the second, a formation of 16 planes attacked the
German formations of 12 each in the Reims area and reported 12-0-2. In the third, two German formations of 16 each were attacked by 12 American aircraft which claimed 12-0-2. The only U.S. losses were experienced in the third encounter when the report was four aircraft missing, no information on three others, and one pilot forced to bail out. Other air encounters during the month by elements of HX 21C brought the total score for the command to 167-16-21. On the one hand such figures, and the details of such actions as have been narrated above, show an effort on the part of the Luftwaffe to stay our advance on the ground or to protect its own bases in the Chartres-Paris-Reims region. On the other hand they exhibit the quality of American pilots as well as the contributions of HX 21C to the maintenance of Allied air superiority.

A further contribution to that same result was made by HX 21C in destroying enemy aircraft on the ground, the total claimed for the month being 66-1-29. Major increases in this total were the consequence of attacks upon enemy airfields serving the battle area. On 7 August 13 planes of 354th Group found a well camouflaged field near Chartres, where they destroyed 18; on the same day a squadron of 802d Group destroyed eight and damaged three on another field in the same vicinity. Two days later 354th Group strafed enemy aircraft behind cover near a field north of Reims and claimed 6-0-2; and on the 23d it destroyed four on a covered field at Ecury. On the 26th the same group reported claims of 10 destroyed near Beauvais and three more in the vicinity of Reims. Nine were claimed destroyed by 405th Group near Neufenestrau.
on 23 August. On infrequent occasions some damage was done to hangars and other installations in the course of these actions. Fields such as those at Brestigay and Chartres (15 August), at Creil (23 August), and elsewhere in the Paris area (23 August) were also attacked, although with less significant individual results.

The Breton Ports

No operational narrative of VIII TAC for the month of August would be complete without mention of its participation in the assaults upon the enemy-held ports in Brittany. Its activities at St. Malo were on a limited scale—e.g., 371st FG Group’s missions against diving in the harbor (4, 6 August) and its bombing mission against the île de Carembro (23 August). At Brest it was another story as the ground forces began to exert strong pressure upon that citadel. The account of operations there will be given in another place.

Recapitulation

In conclusion, the statistics for the month’s activity on the part of VIII TAC must be given. They embrace, without distinction, all types of missions flown and therefore indicate the command’s total effort and total claims. Both are impressive. The claims are of particular interest because from them, better than from any other available evidence, an estimate of the results achieved may be formed. It should be observed in this connection that the claims of most individual missions were small. The impressive totals are the result of summing up the results of the many missions flown during a month.
of intense activity. It is believed, moreover, that any possible exaggeration of individual claims is more than offset by the fact that observation of the effects of many missions was impossible, with resulting entries of UFD (no results observed) in the records.19

Decumulation

Air Operations
Sorties .......................... 12,232
Losses ................................ 114
Enemy aircraft (air) ............. 163-16-24
Enemy aircraft (ground) .......... 68-4-28
Enemy aircraft (total) ........... 239-20-62

Ground Targets Destroyed or Damaged (pilot's claims)
Motor vehicles .................. 4,068
Tanks and armored vehicles .... 466
Horse-drawn vehicles .......... 628
Locomotives ..................... 266
Railroad cars ................... 2,953
Tanks and river craft .......... 165
Observation vessels ........... 18
Trench vessels .................. 6

Attacks on Miscellaneous Targets (hitting or strafing on both)
Can positions ................... 229
Baseballing yards ............. 37
Ammunition dumps .......... 11
Fuel and supply dumps ....... 13
Radio installations .......... 8
Airfields .................... 17
Enemy headquarters ......... 7
Enemy concentrations and troops
areas .................. 4
Formed and other enemy buildings . 53
Hill lines cut ............ 129

Since much of this impressive record was compiled as the result of air-ground cooperation activities, the commendation of XXI Corps by General Patton, Commanding General, Third U. S. Army, is pertinent. His commendation in wording General DeLand the Bronze Star is particularly pertinent.
I am in the opinion of all the officers and men in this army that I express to you our admiration and appreciation for your magnificent effort.

IX ENLARGED COMMAND

Identification of the Interdiction Program

IX ENLARGED COMMAND continued to devote a considerable portion of its power to the execution of the interdiction program during the month of August 1966. That program was, however, considerably modified during the period. On 2 August it was prescribed at Army request that no bridges, fuel dumps, or similar targets in the Brittany peninsula should be attacked except on request of Ninth Army Group. The advancing columns of XIX Corps could, and did, make good use of bridges and of any fuel they might find. Furthermore, on the 8th day and at the request of Ninth Army Group, it was determined that no rail communications or facilities should be attacked west of, but not including, the line St. Maurange-Mortain on line. In late September, the line Sart, Ste. Mere-Eglise, and Cherbourg to the sea following the line of the rail. Trains in movement were exempted from this prohibition. The line was later shifted to the east. By 8 August no attacks were to be made on rail communications that were west of a line running from the sea to Foug and thence through Mortain, Cherbourg, and Clopas to the line at
Drilling and down the line to Paris. The Loire bridges on this line were not to be bombed, but all others were on the eligibility list. Later, at about 1900 on 17 August, it was stipulated that no bridges of any kind were to be attacked without the express authorisation. Later still, on 27 August, it was stipulated that as far as possible no attacks should be made on railway cars left without engines or blocked by rail cuts, unless it were known that they contained military supplies.

All these prescriptions exercised a limiting effect, geographically or in respect to targets, upon the execution of the interdiction program.

Certain of the above restrictions, coupled with the changing situation on the ground, caused a basic revision of the interdiction program itself, which was announced on 3 August. Under the terms of the schedule then issued, the Tihany Interdiction Project, enjoying first priority, was defined as including eight Seine railway bridges, 13 highway bridges over the river between Paris and Louvain, and six railway bridges in the Paris-Orleans area. The purpose of this line of interdiction was, as previously, to deny the enemy access to the battlefront.

Second priority was accorded to 21 railway bridges on the second bridge interdiction line. This line started near the coast at Douglas and went in a wide arc to the east of Paris, running through such critical points as Boucamps and St. to the northeast, Fleury and Fleuryville to the east, Vignacourt and Limours to the southeast, and reaching the Loire at Leury. The purpose here was to impede the enemy's advance into the Paris area.
The main general purpose was to place third priority to the nine rail bridge sections. The main body of the bridge sections were produced on the Second Bridge Interdiction Line and were located to block access to Paris from the north and the west. The bridges, all crossing the Oise, extended northeast from that river's junction with the Seine, near Compiègne, to Chantilly.

Fourth priority went to 10 supplementary interdiction points. The bridges were designated, with targets and emergency sites. The emergency sites were designated, with targets and emergency sites. In addition, the full schedule is given.

**Interdiction Plan, 3 August 1944**

**First Interdiction Plan, First Priority:**

|-----------------|----------|----------|---------|------------|------------|------------|-------|---------------------|----------|----------|---------|----------------|--------------------------|

**Highway Bridges:**


**Second Interdiction Plan, Second Priority:**

|-----------------|----------|----------|---------|------------|------------|------------|-------|---------------------|----------|----------|---------|----------------|--------------------------|

b. Initial Distillation Points—Second Priority.

2. Fontaine 5. Tremeur 8. Conville
3. Ayvre sur Gis 6. Our St. Martin

b. Supplementary Distillation Points—Fourth Priority.

4. Selon (west) 11. Terre de Berdun 18. Abbeville (west)
6. Cemen 13. Scoubie

A directive of Headquarters Ninth Air Force transmitted these
schedules to IX 23 together with a list of all targets currently authorized for attack by it. It stated that in an over-all general priority
communications, targets ranked first, fuel dumps second, and ammunition dumps third. New targets were to be added to IX 23 by Headquarters
Ninth Air Force, if accepted in the daily conference between that headquarters and Advanced Headquarters XIX. From such military IX 23
(via) the detailed selection of the targets and weight of attack for each day's operations. It was to select the force employed with a
view to securing adequate destruction in the initial attack and, where
doubt might exist as to the exact force necessary, to err on the side
of over-estimation. High priority targets attacked unsuccessfully were
to be re-scheduled immediately. No attacks were to be made within the
city of Reox or Chantrex, on the Abbeville bridge, or on shipping;
and IX 23 attacks were forbidden over the target's proximity to a city
or village unnecessarily endangered its population or buildings. In
exercising its responsibilities, however, IX 23 was restricted by the
series of directives from 2 to 17 August. Brittany targets were pro-
hibited (2 August), and those within the interdiction area were
progressively reduced (2, 8, August).Although now interdiction
targets were provided by the schedules of 9 August, all bridges were
excluded from attack unless specific authorization were given on the
17th.

Interdiction Attacks

Seine Bridges

Under the new conditions described above, IX BC continued to
follow up the interdiction program by attacking significant scheduled
targets on each day in the period 1 to 16 August 1944. Bridges at two
points on the Seine required further attention. A group mission
against Montes-Jassicourt probably rendered the structure unserviceable
(3 August), and another cut the lines west of a temporary span (8
August). Cissol was attacked by a group of A-20's on the 6th and the
approaches to the new span damaged. Possible damage to one of the
bridges there was reported following the last of the attacks on Seine
structures on 12 August. However, later ground investigation dis-
closed the fact that this railway bridge was being used for vehicular
traffic at the time of the 12 August attack. Many vehicles were
destroyed on the bridge, and the block thus created caused a notable
traffic jam. For approximately five miles back into the country,
ground observers noted a line of vehicles and guns. All vehicles had
been either burned by their crews or set on fire by strafing.
Paris-Orleans Gap

In the Paris-Orleans gap six targets were bombed during this period. The few planes which completed their mission on 1 August did no damage to the railway junction at Espoo-Neziers, but three subsequent missions damaged the embankment or cut tracks. Lines were cut by the group which attacked the bridge at Maintenon (1 August), and while the first two of the three group missions against Chartres (1, 3 August) failed to destroy the bridge, the third (9 August) collapsed the east span. Epernon embankment was hit four times (4, 9, 10, 14 August), the last attack being delivered at Army request; and on each occasion damage was done to the lines there. Lines were rendered unserviceable by group attacks on the bridges at Nogent la Roi (7 August) and at Chérisy (13 August).

Loire Bridges

In the short period when Loire targets were generally open to attack (1 to 8 August), four were bombed by group missions. On 1 August the embankment at Bouchencin (near Angers) was cut and the bridge at Les Ponts du Go rendered unserviceable. The same day approaches to the Cinq Lars bridges were hit, while the eastern structure was broken in two places by a follow-up attack on the 2d. Hits on the approaches to a bridge at Nantes made it temporarily unserviceable.

Inside the interdiction Zone

August directives speedily eliminated the targets within the
Seine-Loire arc which had, in previous months, figured conspicuously in the operations of IX BC, and only a few attacks were delivered—all in the period 1 to 5 August. Both ends of the bridge at Nogent sur Loire were severed by a bombing on the 1st, and severe damage caused by one at Marcouy on the 3d. Seven bridges within the arc were attacked by as many groups on 5 August, the most conspicuous results being those attained at Le Mans, where all lines were cut, and at La Croisille and Laigle, where approaches were reported severed. The other attacks, like those earlier delivered at Fourth (1 August) and La Chenais (3 August), inflicted only incidental damage. On the 6th, however, a group attack on the Courtelain bridge destroyed its southern half and likewise a locomotive and 13 cars which were on the structure at the time of the bombing. The same day a group attack hit the approaches at Beaumont sur Sarthe. Thereafter there were no attacks on bridges in this area unless at Army request.

Bridges East of Paris

Although bridges on the new interdiction line to the east of Paris (Schedule B, second priority) did not appear on a formal listing of targets until the 9 August directive, the campaign against them began on the 7th. Then the bridge at Nogent sur Seine was bombed by 14 aircraft to block the movement of divisions from the south into the Paris area, and hits were scored on tracks. On the same day the bridge at Corbie was partially destroyed by a group attack, while another caused the lines at Neuvy sur Loire to be
classed as unserviceable. On 8 August no less than eight points on this line, ranging from Frevent in the north to Joigny in the south, were subjected to attacks of group strength. At Joigny hits were scored on the bridge and on a train crossing it. The structures at Manteuil, Feronne, and Jussy were reported unserviceable or probably unserviceable; and damage was done to the lines at Frevent, Doullens, and Les Foulons. Only at Anizy le Chateau did the attack lack effect. This bridge again escaped injury on 10 August; but on that day the northern half of the structure at Nogent sur Seine was destroyed by a group attack, and hits were scored on the approaches at Feronne.

Fismes was again a target on the 11th and the 16th: the first attack made the lines unserviceable, and results of the second, when only three planes attacked, are unknown. On 13 August, Beaautor was bombed for the first, Doullens for the second, and Feronne for the third time since 8 August. These group attacks damaged Beaautor, rendered Doullens unserviceable, and probably displaced the structure at Feronne. Since the lines at Les Foulons were expected to be passable by 13 August, this target was again attacked, with probable heavy damage, on the 14th. On that day a group mission against Frevent blocked through traffic in the marshalling yards there. Altogether, 12 of the 31 points on Schedule B had been attacked between 7 and 16 August, with a result of six bridges partially destroyed or rendered unserviceable.

Gise-Sambro Line

Attacks on the nine targets which appeared on Schedule C of the
9 August directive were began on the day it was issued, when five of them were bombed. After the second of two attacks on Chauny, damage to the bridge and its embankments classed it as unserviceable. Cuts at both ends were reported at Beaumont and the center span at Compiegne was destroyed; while at Valmandois-l'Isle Adam the lines were rendered unserviceable. A sixth bridge was struck on the 11th, when with a view to impeding the movement of three enemy divisions reported moving into the Paris area from the northeast, Creil St. Maximin was severely damaged. Second attacks on Pontoise (14 August) and Valmandois-l'Isle Adam (15 August) rendered the lines unserviceable in each case. On the 15th an attack on Avers sur Oise probably broke the bridge there. This attack, and one whose bombs blanketed the marshalling yard at Compiegne the same day, were designed to block an enemy division moving from Belgium into the Paris region. Nine attacks, each in group strength, had blocked traffic over seven Oise bridges, at least temporarily, between 9 and 15 August and by so doing contributed to the effectiveness of the interdiction program.

Air Strikes on the Enemy's Line of Retreat

While not integral parts of the formal interdiction program, certain attacks by IX BC on enemy communications possess special significance because of their relationship to the tactical situation on the ground. That the enemy intended to withdraw eastward from the Argentan area was suspected as early as 12 August; by the 14th such
a movement was definitely under way across the Touques and Risle rivers towards Rouen. By the 20th, German troops were packed in the wooded areas on the west bank of the Seine in the vicinity of Rouen at ferry crossings which they could use freely only at night.

As this situation developed, IX BC was called upon to act. Earlier it had devoted its energies to preventing enemy movement into the battle area. Now it acted with opposite intent—to prevent his movement from the battle area so that his armies might be there destroyed. Action followed action in the period 12 to 27 August, with this mission always in view.

On 12 August six groups were assigned the task of blocking roads west of Paimpont and Argentan about such centers as Conde sur Noireau, Flers, Erquy, and La Ferte Meace, although the towns themselves were to be avoided. Some 40 points were specified for attack. Aircraft were over their targets from 1931 to 2051 hours, and 158 planes dropped 237.55 tons of 100-500-, and 1,000-pound GP bombs, some with delayed-action fuses to harass night movements. In the case of 15 road points, success was achieved in varying degree; in the majority of cases either no bombing took place or no damage was ascertained. Since some concern developed lest allied advance into the bombed area be hampered by 12-hour delay fuzings such as had been employed on some of the bombs dropped, later missions of like character used a six-hour delay as a maximum.

The following day the road net in the general area of Lisieux served as the objective, and upwards of 70 points were marked for attack. These ranged from Pont l'Evêque in the north, through
Bernay and Broglie, to the vicinity of Rugles in the south. A total of 281 aircraft from eight groups dropped over 430 tons of 250- and 500-pound GP bombs, with results generally more gratifying than those of the previous day. Damage was done in some 30 places where bombs fell on or across roads or where intersections were reported blanketed.

At Army request, bridges over the Touques River, which flows through Lisieux to the sea, were assigned as targets for three attacks by 18 to 19 planes each, on 14 August. Hits were scored at Notre Dame de Courson, and strikes covered two bridges near Quilly le Vieux. At Gosset no damage was done.

On the 15th, road junctions east of the Risle River and four bridges over the river itself were ordered attacked by four groups. A total of 128 aircraft were dispatched, but all were recalled because of unfavorable weather. The Risle bridges were, however, rated as of such importance in the effort to block the enemy's escape routes that attacks were made on them in the course of the two following days, with a PFF plane leading each of the attacking formations. The first attempt on 16 August to bomb the bridges could not be carried through, but the second resulted in the bombing of five on PFF. At Thibouville results were unknown. Possible damage was reported to structures at Port Audemer and Briomme. On the 17th four of the bridges attacked the previous day were rescheduled for attack, together with six others. Weather was not favorable: two of the 11 groups participating did not bomb, while others bombed on PFF. Of 375 planes dispatched, 289 attacked, dropping
466.75 tons of bombs. The bridge at Beaumontel was blanketed and that at Launay possibly damaged, while the approaches at La Ferrière, Beaumont le Roger, Hassanes, Pont Authou, and Pont Audemer were hit. A second assault on the 17th against five other bridge targets in the same area again employed PFF. Four groups participated, one dividing its strength between two objectives, the others concentrating on one. A total of 230 tons of bombs were dropped by the 123 aircraft attacking. The bridge at Le Bourg was reported blanketed and the approaches damaged at Angevillers, Foulbec, and at one of the structures at La Rabellurie. Later investigation on the ground indicated that road craters had temporarily blocked traffic in the attacks of 16 and 17 August at Brionne and Thibouville. In the first instance the town was badly damaged and heavy casualties inflicted on civilians. In the second, a large area of the town was destroyed.

A few days later IX BC joined fighter-bombers in the effort to harass the enemy, who was then seeking to cross the Seine. On 20 August attacks on three forest areas just west of the Seine were planned, but only one could be carried out. Two groups, however, dropped over 120 tons of 260-pound frags on German concentrations in the Forêt de la Lande. Nearly a week later like targets were hard hit in the same area. On the 26th seven groups attacked, followed by seven more the following day. On the 26th, 179 aircraft dropped 232.5 tons of 500-pound GP bombs and 260-pound frags; on the 27th, 141 planes bombed with the same weight of 500-pound GP bombs.
together with 260-pound and 500-pound frags. In each attack the
majority of the bombs were reported to have fallen in the target
areas. No other evidence of the results of these attacks is available,
although it is assumed that enemy losses were severe.

**Enemy Supplies**

Throughout the better part of August fuel and ammunition dumps
figured as second and third priority targets for IX BC. Such targets,
located in some 30 places, were in this period the objectives for 34
attacks delivered by 12 to 132 aircraft. The purpose of the attacks
was to destroy stocks upon which German troops in the battle zone
depended, and thus further to attenuate their supplies of vital
materials.

In the early days of the month, when the Argentan pocket was
taking shape but before the mass withdrawal began on the 14th, 13
dumps in or near the battle area were bombed. The familiar target of
the Forêt d' Andaine was subjected to attack by four groups which
dropped over 164 tons of bombs (6 August). Dumps in the Forêt de
Sille (5 August), the Forêt de Perseigne (6 August), and Le Lude
(2, 7 August) were also struck. All of these were in the immediate
area of conflict, but hits were also made on targets some little
distance from the troops which they served. Among them were dumps in
the Rouen area at Caudebec (2, 10 August) and the Forêt de Roumare
(11 August) and another at Le Buisson near Evreux. To the west of
Paris, fuel stocks at Maintenon were struck (3 August), and to the
south of the capital those at Corbeil were bombed (13 August). Along
the Loire, dumps were selected for attack in the Forêt de Blois (6, 7 August), in the Forêt de Montrichard, east of Tours (11 August), and at Essouches du Desert in the Nantes area (7 August).

From 15 August the dumps attacked were somewhat farther removed from the battle area, although their relationship therewith was so close as to warrant army requests for bombings. Targets close in to Paris were bombed at the Forêt de Chantilly (15 August), the Forêt de l’Isle Adam (19 August), and Valenton (16 August). Others were hit in the Compiegne-Chantilly region, Compiegne, itself, and Compiegne-Clairbox (26 August), the Forêt de l’Aigue (28 August), St. Cobain (26 August), Parisis (28 August), and the Forêt de Samoussy (27 August). In the Beauvais area attacks were made at Marseilles en Beauvaisis (15 August) and at Fournival (26 August). Other attacks were made yet farther north in the Somme region at such points as Ham (28 August), Doullens (28 August), and farther to the west in the vicinity of Arques (29, 31 August), and at Querrieu (28 August).

In only a few cases is there direct evidence of results achieved. Reports of many craters observed following the two attacks on the ammunition dumps at Le Lude (2, 7 August), of explosions and fires produced at Compiegne (26 August), and of like results at Doullens (28 August) and the Forêt d’ Arques (31 August) are exceptional. Even more exceptional is the statement that at Corbeil (13 August) the point at which fuel was transferred from tank cars to barges was completely obliterated by a group attack. In the other cases reports state merely that bombs fell in the target areas.
or declare that the results of bombing were non-assessable, as in
the extreme cases of night bombing of dumps at the Forêt de Sillé
(5 August) and the Forêt d’Halouze (13 August). In the course of
the month over 1,600 aircraft participated in these attacks, dropping
some 2,288 tons of bombs.

The Breton Forts

IX BC participated in the efforts to reduce the enemy strong-
holds at St. Malo, on the near-by Ile de Cézembre, and at the fortress
of Brest during August 1944. In all cases the actions, planned in
conjunction with the assaulting forces, are to be classified as air-
ground cooperation and related to the efforts of Ninth Air Force
fighter-bombers against the same objectives.

St. Malo

In the case of St. Malo, IX BC attacks upon the citadel at
St. Servan began on 6 August with an attack by two groups carrying
1,000-pound GP bombs. On the 11th a single group dropped 500-pound
GPs, and on the 15th three groups bombed with 250-pound GP’s,
100-pound incendiaries, and 1,000-pound SAP’s. A total of 208 air-
craft attacked on these three occasions, dropping 319.5 tons. The
target was an underground fortress, well provided with deep shelters,
whose pill-boxes, gun emplacements, and strong-points were all pro-
tected by heavy reinforced concrete. No penetration of these
structures was found when the citadel was examined by ground
observers, nor was evidence discovered of damage done by incendiaries.
Prisoners' statements indicated that the bombings were hardly felt in the shelters, and that attacks from the air did not influence their surrender on 17 August.

Ile de Cézembre

The Ile de Cézembre, which controlled the deep-water channel to St. Malo and the approaches to Granville, was likewise attacked several times by Ninth Air Force mediums as well as by its fighter-bombers. One group delivered a night attack with the aid of flares shortly after midnight 6-7 August, and reported that 250-pound and 500-pound GP's scored near misses on the batteries which were holding up the ground attack on St. Malo. Heavier attacks followed. Two groups, equipped with pathfinders and armed with 500- and 2,000-pound GP's and 1,000-pound SAP's, bombed the island again on the 11th. On the 20th two groups led by pathfinders dropped 500-pound and 1,000-pound GP's in the target area, while the next day, when fighter-bombers attacked with Napalm, mediums of three groups, again led by pathfinders, mixed in a few 500-pound GP's with their main loads of 1,000-pound SAP's. Ground and naval artillery had shared in the bombardment of the target—an island one-half mile long and one-quarter mile wide. When ground observers had an opportunity to examine the island, they were struck by the fact that the entire island was covered with craters and debris produced by the aerial attack. Open gun emplacements and an AAA position had been demolished. Barracks and the distillation plant had been destroyed. However, while Napalm had burned out one shelter it had apparently produced little effect on personnel.
Underground shelters, magazines, control points, and the well protected OP were intact and casualties were apparently few. The surrender on 2 September was in part induced by a water shortage to which the destruction of the distilling plant had contributed. A total of 255 aircraft of IX BC had attacked the island and dropped a total of 465.5 tons of bombs. On 3 September the Commanding General, 83d Infantry Division expressed his appreciation of IX BC and IX TAC's air attacks of 31 August which had demolished buildings that could have been used as firing positions in defense of the beaches, sheared off weapons in the open, and by removing earth from camouflaged shelters and pillboxes, allowed heavy artillery to reduce the latter with direct laying. "Undoubtedly the will of the defending troops to resist was greatly lowered by the combination of heavy bombardment, the jellied gasoline bombs, and the heavy artillery, to the point where surrender was necessary."

Initial Attacks at Brest

As American forces closed in about Brest, two efforts were made by IX BC to destroy in the harbor ships which it was reported the enemy planned to use to block its approaches. On the 7th one group attacked; on the 9th, two. No damage was done by the first, while possible damage to one ship was claimed after the second attack. Later attacks on Brest are narrated below.

Recapitulation

In the course of the month of August IX BC had dispatched 9,142
aircraft of which 6,554 attacked. Thirty-four aircraft were lost and
1,032 damaged. Total tonnage of bombs dropped was 10,470.69. Claims
were 2-0-2, and total casualties 204 in combat missions.

The Ninth Air Force in the Brest Campaign,
26 August-19 September 1944

The air-ground assault on "Fortress Brest," postponed because of
weather unfavorable to air operations, was finally launched on 26
August 1944. It was resolutely continued until 19 September, by which
date Brest itself, and likewise the Crozon peninsula, had been entirely
reduced. Because it constitutes a distinct entity, it is treated in
full hero regardless of the time limits elsewhere observed in this
section.

The Roles of IX Bomber Command, XV Tactical Air Command

Direct air-ground cooperation was afforded to the ground assault
on all save three of the 26 days involved. Fighter-bombers were active
on each of the 23 operational days of the period, while the weight of
medium bombardment was applied to Brest's perimeter defenses on six
days during the assault period. Heavy bombardment of other air forces
was also employed, but the main responsibility for tactical air
operations fell to the Ninth Air Force. Until 9 September, when it was
declared that Brest no longer constituted top priority for the Ninth
Air Force, SHAEF determined that air strikes in that area should be
accorded a very high, and at times the highest priority because of the
value then attached to the port as a potential supply base. Therefor,
when IX Bomber Command operated, it operated in strength from its
bases in Essex and those in the Cherbourg peninsula, and fighter-bombers rendered vigorous air-ground cooperation under the direction of XIX TAC throughout the period. The position of this command was unusual, since at once and the same time it must cover the operations of TUSA in the east and those against Brest in the west, and hence direct operations at points over 300 miles removed from one another. Its own resources were not always sufficient to meet the demands of both; hence in the period of intense effort at Brest from 5 to 10 September, two or more groups of IX TAC were placed under the operational control of XIX TAC on each of those six days. On 5 September alone XIX TAC employed its own seven groups plus five from IX TAC.

Coordination of medium bombardment with ground effort occasioned some difficulties. Information as to the structure of the targets to be bombed was at times so meager as to prevent the selection of the most appropriate bomb loads and fuzings. On occasion targets could be designated only by means of coordinates, a fact which made their identification difficult at the time of the attack and therefore led to spotty results. Fighter-bombers were rather more fortunate. Their normal function was to furnish air-ground cooperation to the assaulting units, the ideal situation being that in which they gave continuous cover during the operational period. The techniques of air-ground cooperation were essentially those which have been earlier described; and contacts with the Air Support Parties of VIII Corps were generally successful, the targets assigned by them being attacked from the air. However, since the enemy fired white smoke shells on our positions in an effort to cause them to be attacked by friendly aircraft, colored
smoke came into use to mark enemy targets. In default of targets
given them by the ground, fighter-bombers might attack predetermined
targets, and in some instances they were given their targets at the
time of take-off. Weather over bases, or over the Brest targets,
frequently conspired to reduce the intended weight of Ninth Air Force
attacks or the continuity of cover and on occasion forced hurried
briefings when a mission had to take advantage of a momentary break.

The Initial Air Strikes, 25 August

On 25 August, the first day of the assault, air strikes by the
fighter-bombers were chiefly directed against shipping. These unusual
targets were attacked successfully. The 362d FB Group flew four
missions and caused the explosion of a cruiser which was observed
burning the next day. Two vessels were destroyed by rockets in the
course of 406th FB Group's nine missions. In four missions by
358th FB Group two vessels were claimed destroyed and a third was
left burning. The same day, one group of IX BC was assigned to each
of nine targets in the Brest defenses—four coastal batteries, three
AAA positions, and two strong points. In only three cases were
positive effects reported: two gun positions severely damaged at
Kervinic: coastal battery, one direct hit and a concentration on the
AAA battery at Pointe d'Espagnols, and tracks and a road cut near the
strong point in the arsenal. A total of 273 aircraft of IX BC had
attacked, dropping 389.7 tons of bombs (100-, 500-, and 1,000-pound
GP's together with 250-pound frags).
Air-Ground Cooperation during the Assault

As the air-ground attack progressed, IX BG continued to attack the same types of targets, the only notable variation being the bombing of bridges over the Penfeld River (1 September), while fighter-bombers attacked ground targets almost exclusively. Troop concentrations, barracks, flak positions, and above all, gun positions figure in the list of their designated targets with an almost monotonous regularity. Pilots' reports are of necessity less informative than one would desire. They specify the point attacked, on occasion declare that a battery was silenced, but more often are content to declare results poor, fair, good, or excellent, or to state that their bombs hit the target area. The nature of the attacks, the character of the targets, and the atmospheric conditions rendered more exact reports impossible. Because of adverse weather, coupled with the absence of flak, bomber attacks were often delivered from altitudes of 8,000 feet or less.

The two days 5 and 6 September saw an unusual effort on the part of medium bombers and fighter-bombers alike. The latter flew an average of over 40 missions each day with an average of over 500 aircraft dispatched on missions which attacked. The former attacked with 310 bombers on the 5th and 545 on the 6th, the planes dropping 517 and 984.65 tons of bombs, respectively. Fighter-bombers were to reach to greater heights than previously on 8 September, when 49 missions were flown with 574 aircraft dispatched to share in the operations against Brest.
Scale of Ninth Air Force Effort

The total Ninth Air Force effort in air-ground cooperation is set forth in the following table. In it are listed only those attacks which were carried through by some of the planes dispatched.

**Air Operations Against Brest**  
**25 August to 19 September 1944**

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<th></th>
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**Totals** | **331** | **3,696** | **2,059** | **1,573**

Results Achieved

Most unfortunately, there is a decided lack of exact evidence as to the results produced by these attacks which involved such considerable use of Ninth Air Force resources over so long a period.
Ground investigations plus a few statements on the part of the ground forces do, however, permit some general observations and afford examples which are helpful. That our exact knowledge should be so limited is due to two factors: first, the fact that intense artillery fire in addition to various types of air bombardment so churned up the area within the perimeter defenses as to prevent the evaluation of most Ninth Air Force attacks; and second, the absence, at present writing, of any considerable mass of evidence derived from the ground forces participating.

Fortified Positions

The results of the bombing of modern reinforced concrete emplacements were negative. These structures proved practically impervious to air attack, and there appears to be no authenticated report of one being so destroyed. A 1,000-pound bomb falling close to a battleship-type turret of five-inch steel failed to inflict damage upon it. In the case of masonry forts there is one example which shows that medium bombardment could be effective. Ft. Komanaux was an old stone structure provided with a moat. Three attacks (1, 3, and 6 September) completely reduced the old fortifications and partially filled the surrounding moat, although modern emplacements suffered little. That the bombings should have been so effective is possibly due to the fact that the target was easily identifiable from the air. Attacks by mediums upon open emplacements seem to have produced good results, the number of bombs dropped in such actions increasing the chances of scoring the needed direct hits.

Fighter-bombers merely by their presence in an area served to
siline the fire of enemy artillery which they threatened. However, dive bombing of modern emplacements not previously fractured by sustained artillery fire was not effective. Direct hits on open emplacements were destructive, and blast and fragmentation effects were produced by near misses.

Evidence Supplied by Ground Commanders

From 29th Infantry Division sources came isolated examples of results produced by air strikes. Five days' softening of the strong point at Korgenant was followed by a dive-bombing attack immediately preceding the ground attack on 7 September. In the final air strike by formations of P-47's, damage was done to matériel and personnel which, coupled with the fact that air action kept the Germans under cover, allowed the capture of a first critical position. It was much the same story at the strongly defended position on Hill 89. The air strike here registered only one direct hit, the balance being near misses; but again the enemy was kept under cover as the 116th Infantry Regiment advanced and seized the position. What was in some ways the most interesting example of direct air-ground cooperation was afforded by the action against Fort Teubronch on 3 September. The commander of the 5th Ranger Battalion asked fighter-bombers on air alert for a bombing of his objective. They complied, and as their last bomb struck, the Rangers closed on the fort and took it before its defenders had an opportunity to organize for further resistance. It was reported that leading elements of the Rangers reached the position six minutes after the last bomb fell. Here the value of the close coordination of ground assault with air strike was fully demonstrated.
Evidence furnished by the 26th Infantry Division is supplemented by that of the 3d Infantry Division. On 27 August an air strike by 12 P-47's, coordinated with heavy artillery fire, knocked out Battery Domaïne (coordinates 006047), producing marked effect on its bunkers and emplacements, some of which were only 200 yards from our front lines. A strafing (5 September) by eight Thunderbolts on enemy positions 150 to 200 yards in front of the 23d Infantry Regiment opened the way for their capture. Even when an element of 38th Infantry Regiment was strafed at the beginning of a run, the men who took the enemy strong point remarked that they were glad to have had the direct cooperation which had reduced an emplacement. An all-afternoon attack, in which targets on Hill 90 were pounded by artillery and bombed and strafed from the air, allowed the hill to be occupied without resistance the following morning; while Hill 100, which constituted the dominating terrain feature at the eastern edge of Brest, was completely neutralized by dive bombing and heavy artillery. In consequence it fell without excessive loss to the infantry. The infantry break-through at Illic on 11 September followed immediately after fighter-bombers had bombed in the vicinity of the enemy's center of resistance.

General Conclusions

Such facts as the above do not give the full measure of the results produced by the several hundred missions flown by the Ninth Air Force in the assault upon Brest. They do, however, prove that on
some occasions air made notable contribution to the success achieved, even when only small air formations were employed. They further suggest that the almost constant presence of our aircraft over the assault area not merely produced an adverse effect upon the enemy’s morale but also lessened his capacity to resist by reducing the volume of his artillery fire. In this connection it should be observed that our air supremacy over Brest was complete throughout the assault period. There were no encounters with enemy planes, only two aircraft of IX BC were lost in the course of its attacks, and fighter-bomber losses were remarkably low. The rate of loss from flak was undoubtedly reduced by artillery fire on flak positions prior to major air strikes. In addition it is evident that effective air attacks could be delivered against enemy positions close to those occupied by friendly troops—the entire absence of ground casualties from attacks by friendly planes constitutes further proof of the possibility of such actions. Furthermore, the value of air alert as an instrument of air-ground cooperation was fully demonstrated. Its use averted the hazards incident to planned missions, which must of necessity be laid on well in advance of the attack and without knowledge of rapid changes in the details of the ground situation produced in the interval between the briefing and the actual air strike. The device likewise allowed the ground commander to concentrate air power on active targets close to his own lines and to effect such concentration within the shortest possible time limit. Ground agreed with air on these points.

Two other matters connected with air’s participation in the reduction of Brest require mention. First, air was able, as a commander

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of the 29th Infantry Division testified, to make effective attacks upon targets beyond the range of ground observation. Second, throughout the assault tactical reconnaissance planes of the Ninth Air Force assisted in directing the fire of artillery. G-3 Air of Twelfth Army Group stated on 7 September that artillery officers felt that the spotting by aircraft engaged in "Arty R" throughout the Brest campaign had been the best that they had experienced.

Attacks by the Ninth Air Force continued until 19 September. On that day early missions were flown, but others were recalled, control informing them that "the war was over on the Crozon peninsula."
Chapter VI

OPERATIONS IN SEPTEMBER 1944

The Ground Situation

Ground force operations for September 1944 fall into two well-marked phases embracing equal portions of the month. The first, a continuation of the Battle of France, was marked by further German withdrawals and persisted until 14 September. By that date American forces had reached Maastricht, faced the Siegfried Line from Aachen to the Moselle, reached that river at Thionville and in the Metz area, and crossed it south of Pont a Mousson and Nancy. Initial penetration of the Siegfried Line south of Aachen on 15 September began the Battle of Germany and marked the advent of the second phase of the month’s operations, a phase in which operations stood in marked contrast to those of the preceding period. Problems of supply, weather, and terrain limited American capabilities, while the enemy reorganized his forces and generally stood his ground, giving way only at points in the Aachen area, in the vicinity of Metz, and south of Nancy.

Ninth Air Force Movements

Headquarters

The further advance of the ground forces in September determined that movement should continue to be a feature of the
life of Ninth Air Force units. Its main headquarters gave up its English station at Sunninghill Park and established itself at Chantilly, to the north of Paris (15 September). Advanced headquarters, streamlined to provide only essential operational personnel, accompanied Twelfth Army Group to Versailles (6 September) and Verdun (20 September). In keeping with the movement of the armies with which they were associated, the headquarters of IX and XIX TAC moved eastward. Versailles (2 September) and Jemoulx, near Charleroi in Belgium (11 September), served as headquarters for IX TAC, while XIX TAC's headquarters first moved to Chalons sur Marne (13 September) and later to Étain, near Verdun (22 September). The first continental headquarters of IX BC was opened at Chartres on 18 September.

Combat Units

These movements of headquarters were paralleled by the displacement forward of combat units. By the end of September the fighter-bomber groups of IX TAC were based on fields in the region of St. Quentin and Cambrai and on others in the Reims area, with a single group at Florennes in Belgium. The group last mentioned had occupied a Normandy base at the outset of the month. Its third move placed it on the most easterly field assigned to IX TAC at the month's close, by which time three other groups of the command had begun their movement to Belgian fields. The requirements of air operations in the Brest area caused XIX TAC to maintain some of its groups in the western area until after the reduction of the fortress on 18 and 19 September, but by the end of the month they were all
based on fields in proximity to Reims or farther to the south in the
Vitry le Francois area. By 2 October the last of IX BC's groups had
left Britain and become operational on the continent. The 97th Wing
was by that date based on airfields just south of Paris and 99th Wing
well to the north of the capital, on airfields scattered from
Cormeilles through Beaumont sur Gise and Beauvais to Roye Amy; while
98th Wing had shifted from its first continental bases to a second
series in the vicinity of Dreux, Chartres, Chateaudun, and Orleans.

Despite such forward movements, the fighting front outstripped
the advance to new operational sites until mid-September, and the fighter-
bombers in particular operated under disadvantages. For them the
increase of the distance from their bases to the front lines was
critical since an increase of that distance from 60 miles to over 100
miles served to increase the average duration of fighter sorties from
two hours to almost three hours, and to boost their operational gas
consumption by 50 per cent. A change from one field to another 200
miles nearer to the front did not obviate the necessity of using
auxiliary fuel tanks, nor did so great an advantage as might be
imagined accrue when a field which had been bombed early in the month
was occupied before its close. On occasion the necessity of pro-
viding sufficient fuel caused a limitation of fighter-bomber tactics
by preventing the use of external loadings. In early September the
combination of tactical necessity and the location of their bases
forced fighter-bombers of XIX TAC to make an initial flight to such
forward bases as Chateaudun, Coulommiers, Juvincourt, Reims-Champagne,
and St. Dizier, where they refueled before flying their missions. Even then the omnipresent problems of providing adequate fuel supplies and services occasioned further problems. On one occasion fighter-bombers abandoned a mission because of lack of fuel at the advanced base; while on another, delays in refueling caused the same result. Such difficulties were only in part offset by using advanced bases for roulement planes refueling at these bases on flight to a first mission, returning for fuel and ammunition, and flying a second mission therefrom. The demands upon transportation caused by movements at a time when transport facilities were limited, coupled with difficulties of maintaining effective communications between combat groups and IX AFSC, caused the ordnance supplies of fighter units to become perilously low on occasion. The absence of trucks interfered with the effort to prestock airfields before they became operational, and with their resupply after they were in use. The absence of communications caused requisitions to move slowly with resulting delays in filling them. In spite of these handicaps no operations were canceled due to the absence of ordnance supplies. Only when the front was in some measure stabilized in mid-September and when further eastward movements of bases were effected in a later period could these problems be reduced in size and their effect upon operations be limited.

Organizational Changes

Certain organizational changes in the Ninth Air Force require mention here. Relieved of its assignment to the Ninth as of
26 August, IX TAC disappears from the operational narrative. On 16 September IX BC was redesignated as the 9th Bombardment Division, by which name it will be described throughout this chapter. Toward the close of the month a somewhat confused but brief relationship was established between the Ninth Air Force and XII TAC. This command was part of the Twelfth Air Force, and had accompanied the Seventh U. S. Army in its drive from southern France into Alsace. As directed by higher authority, the Ninth Air Force assumed operational control of XII TAC units on or about 24 September, and soon afterwards was delegated the administrative responsibility which USSTAF had assumed. Later, the establishment of the First Tactical Air Force (Provisional), designed to function with Sixth Army Group, of which the Seventh U. S. Army was a part, led to the attachment of XII TAC units to it. However, some measure of operational and administrative control over XII TAC on the part of Ninth Air Force continued under verbal agreements until approximately 16 November. Meanwhile a step was taken to provide XII TAC with added strength for the better performance of its mission. On 29 September, the 50th and 971st FB Groups, formerly with IX and XIX Tactical Air Commands respectively, together with ancillary units, were assigned to XII TAC. However, since the complicated relationship of XII TAC to the Ninth Air Force was so brief, and because the story of its activities, like its operational records, belongs to the First Tactical Air Force (Provisional), no attempt will be made here to set forth the operational narrative of XII TAC.

IX Tactical Air Command

Air-Ground Cooperation

The provision of air strikes in cooperation with ground units of
PUJA was continued by IX TAC. However, examination of operational records indicates that many covering missions developed into armed reconnaissance missions beyond the enemy's lines. The increased use of "Y" service for the control of airborne planes partly accounts for this change, but the main cause is to be found in the changed nature of action on the ground. The shift from pursuit to position warfare inevitably influenced air tactics. It is also true that the same records give even less graphic information of air-ground cooperation than the earlier reports record. Nevertheless, when examples are found they indicate that joint action had lost none of its efficiency. In the days when the pursuit was continuing in the north, three armored vehicles moving to attack our troops near Arlon were designated as targets and destroyed. Likewise the advance of the 3d Armored Division near Limburg was furthered when elements of 368th FB Group successfully attacked a barn where a gun was hidden (10 September), achieved what ground termed "perfect results" in bombing vehicles (10 September), and destroyed an antitank gun (11 September). Later (16 September) the same division asked planes of 404th FB Group for a strike against a German counterattack near Tirlemont, and ground reported that 10 armored vehicles were destroyed. The 368th FB Group destroyed three gun positions at the behest of 2d Armored Division (11 September), while planes of 363d and 368th FB Groups responded to that division's request for the bombing of tank troops and dragons' teeth as it sought to advance south of Aachen (12 September). By air action gun emplacements were destroyed east of Maastricht (16 September) by a formation of 50th FB Group, while
another of the same group bombed woods in the same area at request and also positions near Valkenburg (17 September), with results described as good by ground control.

Pillboxes in woods north of Aachen were the target for 24 bombs dropped by 474th FB Group in what ground termed "a beautiful job," while Leidenborn and gun positions were hit by planes from the 50th Group (22 September). "Excellent bombing" by 368th FB Group was reported following an attack requested on Geilenkirchen, north of Aachen (26 September). Other examples of joint action are found in accounts of air strikes associated with the stiff fighting in the general area of Stolberg and the Rotgen and Gemund forests. There 369th Group obtained very good results on a smoke-marked target in Rotgen forest (23 September) and excellent results on indicated strong points in the same area (29 September). An interesting feature of the latter attack was the ground request that the aircraft orbit over the area after their bombing to draw the enemy's attention away from the advance of friendly troops. The same group attacked artillery in Gemund forest and scored well in a requested strike on a smoke-marked troop concentration west of Stolberg (29 September). The 367th was credited with a "beautiful job" in dropping four tons of bombs on smoke-marked targets in the Hartgen forest (28 September). Stepping over into the TSA area a formation of 48th FB Group had patrolled an area west of Hats where engineers were building a bridge, and at ground's request broke a near-by dam. Out of such incidents was the story of air-ground cooperation by IX TAC composed. In the first 15 days of September alone, 183 missions had been dispatched to enable
the command to discharge one of its major functions. The missions were usually of squadron strength with a portion of the participating aircraft assigned to the provision of top cover.

Highway Targets

Armed reconnaissance was likewise a marked feature of IX TAC's activities. The considerable effort directed at interdiction and railway targets will be treated later in connection with the interdiction program. The other missions of this type were largely concentrated in IX TAC's area of responsibility on the FUSA front, although on occasion a mission might be flown in the Dijon area (6 September) or south of the Loire in the region of Bourges-Chateauroux-St. Amand (8 September). As previously, road targets were among those attacked, particularly in the early days of the month when roads in the north were crowded with German vehicles moving to the east along the line Peronne-Cambrai-Valenciennes-Charleroi. In the first four days of September, IX TAC amassed the unusual total of 2,201 MT, 126 armored vehicles, 435 horse-drawn vehicles, and 25 horse-drawn artillery destroyed or damaged in this general area. On the single day of 3 September active hunting in the so-called Mons pocket yielded the largest claims for any day to date—319 MT, 58 armored vehicles, and 757 horse-drawn vehicles. Again on 9 September 368th Group, operating with the 3d Armored Division in the Aachen area, submitted claims of 10 over 100 MT and 20 tanks destroyed or damaged. Thereafter the claims on individual days were smaller, but totals for the month amounted to 3,017 MT, 293 armored vehicles, and 1,468 horse-drawn vehicles. The claims inevitably fell off as the battle lines were stabilized. Sarge
traffic on the Rhine was occasionally attacked, as on 14 September when a formation of 387th FB Group destroyed four paddle boats and three self-propelled barges south of Koblenz. The month's claims of boats and barges destroyed or damaged were 31.

**Special Missions**

Special types of missions were occasionally flown by IX TAC. When the airborne "Operation Market" was initiated with critical bridges in the Netherlands as its objectives (17 September), 48th, 366th, 387th, and 474th FB Groups flew group-strength missions in its support. These concentrated their attacks on gun positions in order to reduce the volume of flak in the area which the troop carriers must penetrate, and they reported some guns destroyed and others silenced. Weather caused the abandonment of the efforts to continue this support on the days which immediately followed.

**Night Intruders**

Since the enemy was moving as little as possible in daylight because of the unremitting efforts of fighter-bombers, night intruder missions by P-38's were attempted with a view to attacking and disorganizing his movements by night. SCR-584 was employed to bring the planes to their target and to direct their return to base. This control functioned well, but weather severely limited the number of missions which could be flown, and the malfunctioning of flares and bombs on occasion reduced the effect of such as were flown. From four to nine aircraft participated in five night intruder missions by 474th FB Group (10, 12, 17, 29 September); one plane was lost to friendly and
one to enemy flak. A marshalling yard was bombed at Hayen and the
destruction of two locomotives claimed. Elsewhere trains and convoys
were bombed and strafed with results usually unobserved.

**Propaganda Leaflets**

Leaflet bombs were likewise dropped on occasion either by missions
flown for that specific purpose (*e.g.*, 48th Group, 6 September, in the
Maastricht-Tongres area), or as a feature of armed reconnaissance (*e.g.*,
405th Group, 26 September, in the Euskirchen-Seilenkirchen area.)

**Actions against the GAF**

**Airfields**

By attacks on enemy airfields and in air encounters IX TAC
assisted in maintaining air superiority and further reduced the
strength of the Luftwaffe. An attack by planes of 48th Group, on a
field near Giessen (9 September) resulted in pilots' claims of 3-2-5.
On 10 September a field in the Frankfurt area was hit by 370th FB
Group and another on the following day by the 387th, pilots' claims
being 2-0-0 and 15-0-0, respectively. At an airfield near Bonn,
exploding and black smoke were produced by an attack of 50th Group
(12 September), while an element of the same group damaged the hangars
at Hanau and claimed 11-0-2 enemy aircraft on the ground at
Seligenthal (13 September). The latter two fields were in the
general area of Frankfurt. In the Köln region hangars and buildings
were hit by 48th Group attacks on Ostheim and Wahn (13 September).

**Air Encounters**

11 September was an unusual day inasmuch as more than 70 enemy
aircraft were sighted, with two encounters taking place. When four enemy planes had the temerity to bounce 12 of a 365th Group formation in the Bonn-Duren area, all were destroyed at no loss, while a squadron of 368th Group destroyed five attacking ME-109's for the loss of one in combat over Eupen. The next day more than 70 enemy aircraft attacked 20 P-39's of 474th FB Group near Duren. Five of our planes were lost as against pilots' claims of 8-1-0. Three encounters occurred over Aachen on the 18th, together with a sighting which did not develop into combat since the enemy turned toward Köln and its strong flak defenses. A formation of 33 P-38's of 370th Group, when jumped by more than 50 enemy planes, lost one but claimed 2-0-3. Seven P-47's of 404th Group joined in the combat, engaging nine enemy aircraft and claiming 4-0-2 for no loss. In the third action of the day a squadron of 50th Group was bounced by 12 FW-190's and claimed 6-0-2 for no loss. It is significant that the day was one of continued ground effort to penetrate the Siegfried Line in the Aachen region and that the enemy was aggressive. Two days later (18 September) one squadron of 365th Group lost four planes when bounced by 36 to 40 enemy aircraft over Aachen, but claimed an equal number destroyed. Another squadron of the same group sighted 36-plus of the enemy leaving the Aachen area, but failed to pursue them. Three air actions transpired in a single hour on the 21st in the Bonn-Köln region, three group formations of IX TAC sharing the honors without loss. The 50th Group destroyed three of the 10 FW-190's which they attacked; 48th Group claimed three out of some six ME-109's which attacked them; and 367th Group reported
4-4-2 when they were jumped by 30-plus ME-109's. Further encounters occurred on each of the three days 26 to 28 September. Over Bonn (26 September) a squadron of 355th FB Group claimed 2-1-1 in a combat in which some of the enemy planes appeared to be old ME-109's. In encounter with over 50 enemy planes over Dusseldorf (27 September) 16 P-47's of 365th Group lost one but claimed 5-0-1. Finally, when 36 aircraft of 404th Group attacked 20 of the enemy over Arnhem (28 September), they suffered no loss in scoring 7-0-2. Of the enemy planes destroyed, a single pilot claimed six.

Total claims reported by IX TAC for September in respect to enemy aircraft were 70-11-33 in the air and 24-3-7 on the ground. In the course of the month the command had flown 307 missions, dispatching 12,970 aircraft and dropping 1,993 tons of bombs.

**XIX Tactical Air Command**

**Air-Ground Cooperation**

**The Metz Area**

Examples, rather than a complete narrative, must suffice to indicate the nature of air-ground cooperation between XIX TAC and TUSA on the eastern battlefields. As XX Corps developed its attack south of Metz on 10 September, a series of squadron-strength missions by 36th, 362d, and 371st FB Groups took action so effective as to earn the commendation of the ground forces. Red smoke marked a fort as target which was struck with results reported good. At Arry, east of the Meuse, one formation struck at tanks and trucks, destroying one of the former and two of the latter at request; while another made 40 individual passes at 15 tanks in the town and left them smoking and
immobile. As requested by 5th Infantry Division an enemy-held area near Amanvillers was neutralized by strafing, and an ammunition dump in the same area was hit by 20 bombs which started fires. XX Corps reported that the successful attacks facilitated the infantry's advance and that they knocked out some fortifications and led groups of enemy troops to surrender during the bombing.

On 16 September, 5th Infantry Division instructed a covering squadron of 405th Group to bomb a crossroads near Fagny, south of Metz, where two tanks and 17 LT were destroyed; and on the 20th two more were destroyed near Fleury, where the area was blind-bombed. The 5th Infantry Division reported that hits were scored and a gun position destroyed. Joint efforts continued in the Metz area where forts were usually the objectives. The 405th Group delivered a series of attacks against these targets. On 20 September a squadron dropped Napalm tanks and bombs on Fort No. 1. On the 24th the Fort at U-7753 was bombed and strafed by one squadron and hit again two days later by three squadrons whose bombs and Napalm tanks fired barracks. The next day (27 September) three stubborn forts were attacked—one by four squadrons and two others by one each. All were well hit and ground declared itself pleased with the results at U-7950. On 28 September 30th Infantry Division marked the Fort at U-7858 with smoke, and 36 aircraft of 353rd Group dropped 22 x 1,000-pound GP and 23 x 150-gallon Napalm bombs on the target. Direct hits were made and a fire started. Three other forts were hit by another mission on the part of 40 planes from the same group on this same day. Later, on 29 September, a
squadron of 36th Group, assigned to cover units of XV Corps, was
picked up by 90th Infantry Division of XX Corps and directed to
attack the villages of Amavillers and Semecourt which it successfully
bombed and strafed. A pilot who bailed out in the course of this
mission later reported himself safe and acted as a ground controller.
On this day, also, a directed attack on troop billets in Maizières
les Metz dropped 22 bombs on the town and then strafed it, producing
many fires.

The Nancy-Épinal Area

when 60th Infantry Division was attacking east of the Moselle
between Pont a Mousson and Nancy, air cooperation at "Ironclad's"
direction. At its request five towns in the area of its advance were
thoroughly fired on the 15th by the strafing attacks of three squadron-
strength missions from 373d FB Group, to which ground reported, "You
are doing a damn good job strafing, keep it up." On the strength of
this the squadron went on to silence two near-by gun positions.

On 13 September XII Corps vs driving against Nancy from the
west, and at its request one squadron of 36th Group silenced an
88-millimeter gun position, while another rendered a bridge unservice-
able. The same day French armor expressed its thanks to 406th Group
for its intervention in a tank battle near Dompeiro, west of Épinal.
Here ground confirmed the destruction of 15 tanks by one squadron
which dropped four frag clusters and then strafed. Two other
squadrons also attacked and destroyed five more tanks between them.
The enemy's attack, delivered by 45 tanks with two infantry companies
in support, had threatened to overrun the French command post at Ville sur Ilion; but close liaison between ground and air, coupled with the speed and accuracy of the air strikes, had saved the day. Later when XII Corps was moving east from Nancy towards Chateau Salins on 20 September, 4th Armored Division requested an attack on 20 tanks and as many LT southeast of the latter town. A squadron of 36th Group attacked. Its bombs accounted for five tanks and its strafing for five LT.

On the 24th the same division experienced a counterattack at Lencierville en Saulnois, northwest of Chateau Salins, and instructed a squadron of 405th Group to attack an area in which there were 50 tanks. Weather was troublesome, but two tanks were destroyed by bombing, and near-by woods were strafed. Ground reported that air had repulsed the counterattack. On the 25th, 405th flew nine squadron-strength missions in cooperation with XII Corps and furnished several interesting examples of air strikes. Ground fog was heavy, but the planes struck with good results the towns of Jallaucourt, Mellaucourt, and Fresones en Saulnois, as directed. At Chambory bombing was through clouds, but the violet smoke marking the target penetrated them, and ground reported good results. One squadron observed a tank battle near Arracourt. The 30 German tanks retreated at their approach; but one tank was destroyed, two probably destroyed, and four damaged, while the American ground column advanced. Another squadron was directed to a tank battle south of Haraucourt, where 20 to 30 enemy tanks faced an American motorized column. The squadron dive-bombed the tanks, destroying three and damaging one. It then strafed the woods in the

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vicinity, believed to contain enemy troops, set fire to a house, and destroyed two half-tracks and a truck. The ground controller reported that the squadron also flushed six tanks which were knocked out by our armies and artillery.

General Elster's Surrender

An interesting episode connected with air-ground cooperation occurred on 16 September, when at the request of the commanding general of the Ninth U.S. Army, General Hoyland, in command of XIX TAC, was present at the surrender of the German General Elster and 20,000 of his Marsh Gruppe at Beaunancy Bridge. General Elster and his forces were part of those elements of the German Heer which in southern France which had sought to join the battle north of the Loire. Planes of XIX TAC, discharging their mission of guarding the southern flank of TUSA, had located the enemy, cut his communications, and prevented any effective action on his part. When on 10 September the negotiations were begun which led to the surrender as the columns eventually reached the Loire, General Elster had signified that he was ready to capitulate if a halt were called to air attacks. The attacks were stopped, but the constant threat of their renewal kept the German leader to his resolution. Air power had thus been the greatest single factor in forcing the final capitulation.

Attacks on Road and River Transport

Road targets were regularly subjected to attack in the course of armed reconnaissance by XIX TAC during the month of September. As previously, the net results were impressive, made so as the result of
the accumulation of numerous small claims. As in the case of IX TAC, the most extensive claims for the operations of individual days are found at the beginning of the period. On 1 September 405th Group flew six squadron-strength missions from Mezieres and Arlon to Thionville, Metz, Nancy, and Toul and claimed the destruction of 200 LT, 28 horse-drawn vehicles, 5 tanks, and 4 horse-drawn artillery. Two days later three of its squadrons claimed 63 LT, 3 horse-drawn vehicles, and 5 artillery pieces in the Saarbrücken-Strasbourg-Escaut area. Even more striking were results achieved south of the Loire as the enemy streamed westward to escape the converging Third and Seventh U. S. Armies. On 1 September 38th Group earned a commendation from the Commanding General, XIX TAC. It had flown three squadron-strength missions in the Poitiers-Chateauroux-Clemency area and had found a large convoy of mixed vehicles east of Chatellerault and others near Poitiers. They claimed the destruction of some 500 vehicles and damage to many more. On the 7th, 406th Group flew two group-strength missions, their assigned targets being a mixed convoy discovered near Chateauroux by tactical reconnaissance. Claims of over 450 vehicles destroyed were submitted. Later reports indicated that French Forces of the Interior took prisoner the remnants of the column. Incident to operations in this general region, planes of XIX TAC dropped propaganda leaflet bombs in the Chateauroux, Epinal-Dieuze, and Luxembourg-Chateau Salins areas (9, 11, 20, 29 September.)

Rhine barges on occasion offered good communications targets. One was destroyed and six others were driven aground by an attack from 373d
Group on 15 September; and on the 29th the same group destroyed 15, together with a tug. On the 29th, likewise, 362d Group was assigned barges at Bingen for dive-bombing attack. The assaulting squadron dropped 21 x 500-pound GP bombs on 14 oil barges. Large fires resulted, and six barges and a tug were destroyed.

Attacks by XIX TAC upon railway communications targets will be treated in connection with the interdiction program.

**Actions against the GAF**

**Air Combats**

Air combats between enemy aircraft and XIX TAC units were infrequent in September. A single enemy aircraft was shot down over Saarbrucken during a sweep of that area by 354th F3 Group on the 10th, and another was destroyed when 20 enemy planes jumped 15 aircraft of 371st Group west of Karlsruhe on the 28th. The following day a squadron from 406th Group, while rail cutting near Landau, sighted 30 enemy planes. All dropped their tanks and 12 to 15 closed in combat in which the 406th lost two but claimed 6-0-3. Aside from such actions the air encounters of 12 September were outstanding. A squadron of 405th Group, covering the XII Corps near Font a Mousson, was jumped by enemy planes and claimed 5-0-5 for the loss of two. Two formations of 354th F3 Group had encounters in the Limburg area. One formation of 11 P-51's had attacked an airfield when it was asked to help another squadron; in complying it tackled at least eight enemy aircraft with resulting claims of 6-0-1. The second, with 15 P-51's, was bounced by over 40 FW-190's which had Me-109's flying top cover. The 354th's leader and his wing man sought to divert the covering formation, but no combat resulted. The balance of the formation, however, engaged in dog fights with the FW-190's and shot down 24 without loss as the enemy pressed his attack.
Airfields

A few actions resulted in the destruction of enemy planes on the ground. On 1 September the score was 2-0-2 after 10 aircraft of 406th Group strafed a Metz airfield which was their assigned target. A squadron of 354th Group claimed 1-0-1 after its attack on a Frankfurt field where heavy flak limited its attack of 12 September. The same day another of the 354th's formations strafed a field near Limburg where its claims of eight destroyed brought the group's total for the day to 39-0-3 in the air or on the ground. On the 27th a field at Bormscheim was strafed by 15 aircraft of 36th Group, which destroyed two enemy planes and left a hangar burning. XIX TAC control then gave them an airfield near Metz as a target, but lack of fuel prevented an attack. The next day 31 P-51's of 354th Group strafed three airfields in the course of a sweep. On one west of Speyer they destroyed one and damaged another. No attack was delivered on a field northwest of Frankfurt since heavy flak would have rendered it unprofitable; but at Erbenheim, north of Mainz, and at a field south of Frankfurt scores of 4-0-2 and 2-0-0 were run up, with a glider also destroyed. In addition 354th Group set two fires on an airfield east of Weisbaden on this same mission. By such actions, and by the strafing of a field south of Metz on the 29th, the Luftwaffe was harassed and its capabilities in some measure reduced.

Recapitulation

In the course of September XIX TAC had flown 7,701 sorties and dropped 2,015 tons of bombs. It had conducted operations on all days
of the month save two, but its air activities had been considerably reduced by weather on 15 others. Against enemy aircraft its total claims were 32-0-5 in the air and 34-6-24 on the ground. Among ground targets claimed destroyed were 2,122 LT, 196 armored vehicles, 376 locomotives, and 892 railway cars.

In connection with all fighter-bomber activities during this month it is to be observed that the relatively stabilized warfare of the period presented few close cooperation targets. Accordingly, fighter-bomber effort was concentrated on armed reconnoissance against traffic supporting the enemy's attempted build-up along the West Wall. However, valuable assistance was rendered in protecting the American Moselle bridgehead against air and ground counterattacks; and in cooperating with limited objective attacks of the Twelfth Army Group along its front. As usual, the American armies enjoyed an almost complete immunity from enemy air attacks during this period when they were regrouping, strengthening their supply situation, and coiling for another strike.

9th Bombardment Division

Air-Ground Cooperation

The Nancy Area

As previously noted, 9th Bombardment Division cooperated in the assault upon Brest in September 1944. It likewise engaged in air-ground cooperation at various points on the eastern front during this same period, although its activities of this and other types were considerably curtailed by weather. While the attack on Brest was
continuing, initial blows were delivered in the general area of Nancy. Elements of TUSA had crossed the Moselle to the north of Pont a Mousson and it was desirable that their southern flank be protected by denying to the enemy the use of the bridges at Custines and Rompey (north of Nancy) over which some of his forces to the west of Nancy might have moved to the Pont a Mousson area. Accordingly, on 10 September, 84 aircraft from three groups attacked the bridges and reported probable damage to both. On the 10th, and again on the 12th, German forces in the Forêt de 1e Haye were bombed in an effort to hasten their retreat eastward through Nancy itself. Each of seven groups was assigned a defended area in the forest on 10 September, and two days later four groups were sent against a total of seven targets, chiefly artillery positions. Bombing accuracy varied considerably in these attacks, and the wooded character of the area prevented any clear assessment of results. Later, on 28 September, part of one group bombed the Forêt de Parroy in cooperation with the 79th Infantry and 4th Armored Divisions. The attack had been scheduled but abandoned on each of the three preceding days, and on the 28th only 37 planes of the four groups assigned were able to complete their mission—with indefinite results.

Metz Attacks

On 11 September 9th Bombardment Division cooperated with TUSA in its drive against Metz. In morning missions seven groups struck at as many targets ranging from positions north of Thionville to others south of Metz. In the afternoon four of the same groups bombed four other targets in the same region. Thousand-pound GP's and 500- and
1,000-pound SAP's were dropped in the designated areas and inflicted some damage, although there was no evidence of serious effect on the concrete gun emplacements which constituted the bulk of the targets.

The Siegfried Line

In connection with VII Corps' advance against the Siegfried Line seven groups of bombers were dispatched on 12 September armed with 1,000-pound GP and 1,000-pound SAP bombs. Four attacked antitank barriers, artillery, and machine gun emplacements and lookouts in the Scheldt area, and three others were sent against like targets near Echternach. At Scheldt the bombs of 20 of the 112 aircraft attacking fell in the target area; while at Echternach, where 54 planes attacked out of 110 dispatched, reports were indefinite. Later, at TUSA's request, points in the Siegfried Line west of Zweibrucken were singled out for experimental bombing by 9th Bombardment Division. However, missions scheduled for the 16th, 17th, and 18th were not carried through, and on the 29th only 12 aircraft of the two groups dispatched dropped their 250-pound GP bombs. The results of this bombing were undetermined.

Action in the British Sector

On two occasions 9th Bombardment Division acted on the British-Canadian front. In the first instance German communications with their positions north of the Scheldt estuary were the objectives. Here a viaduct near Bath on the isthmus connecting Zuid Beveland with the mainland was the target for 77 bombers from three groups on 16 September. They inflicted severe damage and left the viaduct unserviceable. A second target on the same day was the embankment at Arnhem which associated
with the span connecting Walcheren with Zuid Beveland. The attack here, delivered by 73 planes from two groups, scored hits on tracks, on the highway, and on the embankment itself. Later, on 30 September, the bridge over the Neder Rijn at Arnhem was bombed for the first time in an effort to deny its use to the enemy after the 1st British Airborne Division had withdrawn to the south bank. The 23 tons of 1,000-pound GP bombs dropped by the 14 aircraft of the group which had been dispatched did not damage the structure.

**Leaflet Missions**

In an effort to undermine enemy morale, 14 leaflet-dropping missions were flown during the month with from four to eight aircraft participating in each. Aircraft of a single mission were often assigned a very considerable area. For example, Ostend, Dunkirk, Calais, Boulogne, Le Havre, Brest, Crozon, Lorient, St. Nazaire, and Arrec were assigned to eight planes of 391st Bombardment Group on 5 September. Pathfinder planes were almost exclusively employed for these tasks after 10 September.

**Tests of the A-26**

It should be observed that, beginning with 6 September, service tests of A-26 aircraft were carried on as a first step in their introduction as standard equipment for 9th Bombardment Division. Eight medium-altitude missions were flown, in the course of which no enemy aircraft were encountered and no strafing was attempted. The September tests were considered preliminary, and more extensive and thorough ones were planned, with an A-20 group re-equipped with A-26's and flying on missions assigned to units equipped with A-20 and B-25 type aircraft.
Summary

Including its activities against rail targets, which will be treated in connection with the interdiction program, 9th Bombardment Division as a whole operated on a total of 21 days during September, although the operational days of individual groups ran at the lower level of 9 to 14 days. A total of 5,390 aircraft were dispatched, of which 5,103 became sorties and 3,349 attacked. Movements to new fields, plus the foul weather of a European fall, were the main causes of this decline. Later it was determined that in the course of 40 days prior to 25 October, 25 per cent of the missions sent out had no appreciable weather difficulties. But on the other hand, 25 per cent of such missions were completely abortive, while another 50 per cent had the attacks on their primary targets reduced in strength by from 20 to 80 per cent because of adverse weather conditions. The number of planes dispatched was 59 per cent of the August figures and the number of those attacking, 62 per cent. Twelve aircraft were lost with 101 personnel casualties. A total of 5,691,285 tons of bombs was dropped which amounted to 53 per cent of the August total. Bombing accuracy deteriorated in some measure, due partially to the decreasing percentage of bomber crews which possessed extensive mission experience.
Chapter VII

A NEW INTERDICTION PROGRAM, SEPTEMBER TO NOVEMBER 1944

Genesis of the Plan

Preliminaries

A new program of rail interdiction designed to isolate the battlefield west of the Rhine took form in the course of September and early October 1944. Its inception is found in a request on 8 September that Twelfth Army Group make an exception to established rules and cut rails to prevent enemy movement into the Siegfried Line. 

A day later the Army proposed a list of some 19 lines which, if cut, would produce the desired result; and on 10 September Advanced Headquarters Ninth Air Force issued orders assigning seven stretches of line to IX TAC and seven more to XIX TAC in the initial version of the new program. All 14 lines lay west of the Rhine and north of the rail crossings of that river abreast of Karlsruhe. The tactical air commands were directed to attack these targets and to persist in such assaults so that the lines might be kept continuously immobilized.

On 12 September a new feature of the program appeared when six rail lines, located east of the Rhine and converging on the river's crossings at Karlsruhe, Rastatt, and Strasbourg, appeared among the eight new lines assigned as targets of XIX TAC. Two days later five other targets of like character were given to XIX TAC, together with two others west of the river, and a substitution was made in the original seven lines assigned to IX TAC. The list of lines to be
out, as published on 14 September, was to remain in force until the 28th.

The Program of 14 September 1944

The program of 14 September provided for rail-cutting operations by fighter-bombers of IX TAC against seven lines extending westward from Rhine crossings at Dusseldorf, Köln, Remagen, and Koblenz. To XIX TAC were assigned 11 lines running west from Rhine crossings at Bingen, Heins, Worms, Ludwigshafen, Speyer, Germersheim, and Karlsruhe, and another 11 lines east of the river leading to the rail centers at Karlsruhe, Pastatt, and Strasbourg. The full list of cuts as determined on 14 September was as follows:

INTERDICTIO N PROGRAM AS OF 14 SEPTEMBER 1944

Note: Lines which appeared on the initial lists of 10 September are marked *. Grid references are to Army/ir maps 1:250,000.

IX TAC (west of Rhine River)

*Julich F-0359 - Andernach F-0987
*Julich F-0359 - Duren F-1145
*Eschweiler K-3647 - Euskirchen F-3222
*Obernich F-1715 - Euskirchen F-3222
*Heidolph L-3308 - Duppeldau F-4206
*Dein L-6676 - Mayen L-6252
*Engersbr L-4225 - Koblenz L-8986

XIX TAC (west of Rhine River)

*Hermeskeil L-4120 - Simmern L-8654
*Heimbach L-4312 - Bad Kroumsha M-0635
*Altenglan L-8008 - Lauterbach L-8817
*Ludwigsburg Q-8890 - Kaiserslautern K-0194
*Zweibruecken Q-7572 - Pirmasens Nord Q-9074
*Landau R-2868 - Schenect R-2651
*Germersheim R-4869 - Junction R-4069
*Kaiserslautern R-6366 - Neustadt R-2062
*Hinterweidendorf R-5867 - Landau R-2766
*Pirmasens Nord Q-9074 - Kaiserslautern R-0983
*Germersheim R-4669 - Worth R-3950
XIX TAG (east of Rhine River)

Durlach R-5048 = Greben R-5463
Durlach R-5046 = Bruchsal R-5286
Durlach R-5048 = Pforzheim R-7033
Dötlingen R-1839 = Pforzheim R-7033
Forbach R-4510 = Klosferreichenbach W-5082
Gegenbach W-2273 = Hausach L-3264
Karlsruhe R-4643 = Tengen R-5581
Crotzingen R-5443 = Bretten R-6949
Kastatt R-3623 = Freudenstadt W-5688
Offenburg L-1686 = Lohach L-2866
Offenburg W-1686 = Lahr L-0372

Development of the Program to 8 October 1944

In the period during which the directive of 14 September was in vigor, the importance of the interdiction program was stressed in two orders, those of 21 and 25 September. The first called for accent on the plan for rail interdiction since the enemy was transporting large quantities of equipment and personnel to the battle area by rail. The second provided that the tactical air commands should concentrate 3 on rail cutting and consider such operations their first priority.

Further consideration of the interdiction program by Twelfth Army Group and Ninth Air Force resulted in its revision and elaboration between 26 September and 8 October. The revision involved changes in the lines to be attacked and in the distribution of the new lines between the four tactical air commands (IX, XIX, XXIX, and XIII) operating on the American front at this time. The elaboration of the program involved the addition to the revised lines for attack of another series lying farther to the east. The first was styled the inner line of interdiction, the second the outer line of interdiction. Cuts along the outer line would reinforce the dislocating effects of those made upon the inner line. By way of further
elaboration the Ninth Air Force requested that 2d TAF (RAF) be allotted
the task of keeping cuts on northern extensions of both the inner and
the outer lines, to render the interdiction program more complete in
respect to communications leading to the entire battle area. On 29
September, when the outer line first appeared in orders, the points
specified for attack lay beyond the existing tactical area, and there-
fore clearance by Ninth Air Force Headquarters was required before
missions against them could be flown. This situation was remedied by
the eastward extension of the tactical area's boundaries on 1 October.
Thereafter the outer line was fully at the disposal of the Ninth Air
Force for rail-cutting operations.

The changes described in the preceding paragraph were effected
by a series of orders and messages. As a result, the program in vogue
on 8 October was as follows:

INNERDICTIO PROGRAM AS OF 8 OCTOBER 1944

Inner Line of Interdiction

**IX TAC**

Beal L-0772 - Junction P-0883
Julich P-0359 - Lueden P-0837
Duren L-1350 - Eldorf P-1759
Duren L-1350 - Junction P-2737
Norvenich F-2343 - Junction P-2355
Muskirchen F-3529 - Liblar F-3645
Muskirchen F-3529 - Stadt Neurokheim F-4925

**XXIX TAC**

Dorsel L-3338 - Junction P-3518
Daun L-3679 - Mayen L-392

**XIX TAC**

Wongerohr L-3253 - Koblenz L-8396
Hermeskeil L-4120 - Simmern L-8554
Nohfelden L-5610 - Sobernheim L-9432
Homburg Q-7180 - Lauterhecken L-9517
Homburg Q-7180 - Kaiserslautern R-0194
Thaleschweiler Q-5014 - Kaiserslautern R-0194
Lunden R-2853 - Heustadt R-2804
Lunden R-2853 - Speyer R-0181

XII TAC

Graben R-5568 - Hockenheim R-5960
Bruchsal R-6359 - Waldorf R-5923
Breiten R-7149 - Eppingen A-3011
Junction R-6140 - Birkenheide S-0341
Pforzheim R-7133 - Gelnhausen R-7114
Freudenstadt W-5033 - Eutingen W-7537
Junction W-5435 - Willingen W-5540
Freiburg W-0333 - Heustadt W-5224

Outer Line of Interdiction

IX TAC

Heem B-0844 - Neubeckum E-3057
Seest B-23631 - Lippstadt B-4242
Seest B-23631 - Belecke B-4222
Junction B-3206 - Nettlar B-4908

XXIX TAC

Junction G-5669 - Allendorf G-6570
Junction G-5258 - Junction G-7353
Stukenburg G-6030 - Cobbe G-7451
Junction G-9226 - Nieder Gemunden G-9333

XIX TAC

Stockheim H-9193 - Lauterach E-1727
Geinhausen H-0373 - Schlochterm N-2796
Aschaffenburg H-0285 - Lohr H-3256
Wertheim R-2351 - Lohr R-3256
Konigshofen N-4207 - Neidingsfeld N-5932
Konigshofen N-4207 - Weikersheim N-5700
Holl S-4559 - Crailsheim S-7062
Schorndorf S-3225 - Aalen S-7329
Flochingen S-2414 - Geisingen S-5506
Hollbrunn S-0702 - Junction S-0772
Thus, under the arrangements in effect on 8 October the inner line was made up of 25 lines of which 17 lay west of the Rhine and eight east of the river; while the outer line was composed of 18 selected lines, ranging from Hamm in the north to Geislingen in the south, all of which were over 45 miles east of the Rhine. Although targets different from those of 14 September were selected to compose the inner line of 8 October, the same rail communications were affected in both cases. Generally speaking, all towns and especially the more populous termini of the listed sections were to be avoided because of flak. The sections were made as long as possible to offer a wide selection of points of attack, and multiple cuts on a single section were desired for maximum effect, even though it was held that a single cut on each of the designated sections would produce the result desired. By orders of 5 October, cuts and their maintenance were accorded first priority since, as in the case of the earlier interdiction program, the success of this plan depended upon the effectiveness of numerous cuts at any given moment.

Addition of Bridges to Interdiction Targets

On 7 October previous instructions were canceled and all bridges on the U. S. front except those over the Rhine were opened for attack, with first priority accorded to those included in the rail sections assigned for cutting or to those whose destruction would duplicate the effects of rail-cutting operations. On 9 October an initial list of 10 bridges was given to the tactical air commands, and other individual structures appear in the operational orders of later dates.
(17 October) all Rhine rail and road bridges were cleared for attack, and on 18 October Twelfth Army Group requested that the significant battle area be isolated by the cutting of 17 listed rail bridges over the Issel, the Rhine, and the Moselle. If the Ninth could not attack the Rhine bridges north of Köln, it was suggested that heavy bombers be requested. First priority was for the moment accorded this program even if the diversion of fighter-bombers from air-ground cooperation should be necessary. In case the specified bridges could not be attacked, it was requested that the Ninth Air Force cut sufficient rail bridges on the inner line of interdiction to accomplish the same result. The importance of the interdiction program was thus stressed and an added means of carrying it into effect was provided. On 19 October the operational order issued by Advanced Headquarters Ninth Air Force prescribed that for all tactical air commands rail cutting on the inner line of interdiction should have first priority and bridge cutting on the outer line second priority, and that these two programs should take priority over all other commitments.

The Problem Defined

Certain facts must constantly be borne in mind in considering the development of the interdiction program and its execution in September and the months which immediately followed. Full success could be achieved only if all vital lines were cut and kept cut. In view of the extraordinarily complex nexus of lines in the German railway system, an intense and sustained effort was required. This was the more necessary because of the enemy's familiarity and skill in making
use of his transportation system, and because of his provision of an elaborate and efficient system for affecting needed repairs. It appears that on occasion he was able to restore, in a matter of hours, traffic over a line which had been cut. On the other hand, it was later learned that considerable damage was done to the rails themselves by the impact of 50-caliber projectiles used in strafing rolling stock. Constant vigilance was required of track walkers in this connection, for while the injury might appear superficial it was of a nature which might cause the eventual collapse of a rail and the consequent derailment of a train.

Furthermore, a full knowledge of the existing situation on the target sections was, as previously in France, an essential to effective planning of interdiction operations. Such knowledge was not available in the fall months of 1944. Pilot’s reports were helpful, but frequent check-ups by aerial reconnaissance were a requisite. Visual reconnaissance was limited by many of the factors which lessened the value of pilots’ reports. Photo reconnaissance was therefore of peculiar value. But weather, in the shape of the all-too-prevalent clouds and ground haze, reduced the amount and value of photographic evidence, just as it limited the amount and effectiveness of combat operations. Photo reconnaissance was further limited by the fact that on good days photographic units had tasks of extreme urgency to accomplish for the ground forces as well as for the air. Under such circumstances the operational direction of the interdiction program was beset by many difficulties, and the historian’s endeavor to narrate its course and appraise its results is attended by as many more.
Accordingly, in the treatment of interdiction we must be content with sampling, with the description of a variety of missions, and with giving an indication of what could be done when full-scale operations were possible on a single day or on several consecutive days.

**Interdiction Effort by IX TAC**

**September Activities**

In the early days of September, when the interdiction program was taking form, IX TAC achieved considerable success against rolling stock on rails east of the battle area, as a few examples will indicate. On the 6th three squadrons of 494th FB Group attacked a heavy concentration in a marshalling yard northeast of Köln and destroyed six locomotives and 20 cars. A railway center at Julich was hit the next day by a single squadron of the same group which claimed 21 locomotives and 10 tank cars destroyed. On the 9th, likewise, one squadron of 365th FB Group strafed six trains and bombed another in the Bonn-Aachen-Köln area, another reported five locomotives destroyed, and a third claimed eight destroyed near Trier. A squadron from the same group blasted a 30-car ammunition train west of Köln and struck three trains south of Euskirchen on the 11th, while a squadron of 365th FB Group attacked five others on the line Scheid-Sotenich-Lissendorf. On the 14th a squadron of 474th FB Group spotted 10 locomotives pulling cars loaded with troops and equipment in the Eschweiler-Erftolenz area and claimed the destruction of nine locomotives. It should be observed that the only rail targets assigned for attack in these missions were the two marshalling yards. The others were selected by the leaders of
formations whose priority assignment was armed reconnaissance, air-ground cooperation, or—as in one instance—leaflet dropping. Throughout the month similar actions against rolling stock built up the altogether creditable total of 321 locomotives and 1,321 cars claimed destroyed.

IX TAC mounted a comprehensive rail-cutting effort on 10 September, the very day that the first list of rail interdiction sections appeared. Two areas and five lines were listed for attack. Included in the latter were five of the program's sections and another which did not figure in its listings. One line was to be attacked by two squadrons, while each of the others, together with each of the two areas, was assigned to a single squadron. An additional squadron was to provide top cover on one mission. Thus a total of nine squadrons (102 aircraft), all from 404th Group, was to be dispatched.

Multiple cuts were made on the sections Königshof–Koblenz and Sotenich–Duskirchen, both of which appeared on the 10 September list. Five others were scattered over a wide area. Rolling stock had offered attractive targets, and 24 locomotives and 120 cars figure among the total claims; but it is obvious that if interdiction were to be effective, efforts like that of 10 September would have to be made almost daily. Other commitments and weather did not allow this in the days which immediately followed.

Nevertheless, an example of sustained interdiction effort on the part of IX TAC is found in the nine-day period 21 to 29 September. Seven of these days were operational, and on each of them one or more missions were flown with rail targets as their special objectives.
The total of such missions was 14, and all seven were of group strength. Their targets ranged from the Venlo area in the north to the Moselle River in the south. Rail cutting was clearly their priority assignment, although accounts of attacks on rolling stock figure in their reports.

Conservative claims of cuts indicate that their number and frequency along some lines were sufficient to constitute a formidable traffic obstacle. Such obstacles were probably established by the moderate concentration of cuts on lines extending to the northeast and southeast of Venlo, along those connecting Rheindt with Roermond, and on those in the immediate vicinity of Julich. Farther to the south similar effects were produced by like concentrations between Duppelfeld and Remagen, and on the line Wengenrhr-Koblenz. Much more considerable results occurred in the rail complex within a 20-mile arc west of Köln where the concentration and the frequency of cuts were by all odds the heaviest. The line running west to Duren and the north-south lines between Bedburg and Zulpich were hard hit, as were those extending from Euskirchen north towards Köln and southeast towards Reichenbach. Cuts, some of them multiple, were reported at some 70 specified points during these seven days of operations, with others listed in general terms. It is of interest to observe that of the seven sections assigned to IX TAC under the formal program, only one—Wengenrhr-Koblenz—was considerably affected.

During September a few cuts were made by IX TAC on lines east of the Rhine. Four group-strength missions were dispatched to this region, but weather prevented one from finding its targets. A mission on the
28d reported six cuts on the line east of Dillenburg and six more on
rails west of Marburg. On the 27th, when two missions were flown,
several cuts were scored on the rails east of Limburg and on those
near Salchenroth, where a bridge was also destroyed. Since the
attacks could not be continued, the damage must be rated as incidental.

October Activities

In spite of its generally reduced scale of operations in October,
IX TAC systematically pursued the interdiction program. On 15 days
it sent missions to cut rails west of the Rhine (Green System) and on
eight against those east of the river (Red System). Each mission
reported cuts ranging from two to 17, with a total of 217 claimed during
the month on these and other missions. By no means all of these were on
the sections singled out for interdiction attack.

The missions were usually of group strength. On eight days two
such missions were dispatched against the Green System and on three
days the same weight of attack was delivered against the Red rails.
On the last two operational days of the month a particularly notable
effort was made when on the 28th six group-strength missions and one
of squadron strength were dispatched, and on the 29th nine of group
strength. On both days, particularly on 29 October, the attacks were
concentrated on lines west of the Rhine, with priority given to bridges.

In view of their decidedly unusual weight, the attacks of 28 and
29 October arc worthy of analysis. A total of 534 aircraft was dis-
patched--231 on the first and 303 on the second day. Five bridges were
claimed destroyed, four on the line Ahrdorf to Remagen and one between Norvenich and Meldrecht, west of Koln. Damage in varying degrees was done to three other bridges on the Norvenich-Meldrecht section, and to five in that from Ahrdorf to Remagen. Cuts were made at 11 specified points on the 25th and at 16 on the 29th, with concentrations in the areas just west of Koln and east of Luskirchen and on the rails from Ahrdorf to Remagen. A single group of P-38's struck at lines east of the Rhine and effected cuts in three places in the Rotenburg-Federborn area. Weather prevented only one group from attacking rails.

The small size of the bridge targets helps to explain why they so often escaped destruction; and it should be remembered that when they escaped injury, damage to their approaches and to rails in their immediate vicinity was considerable. Moreover, it is clear that as the result of heavy attacks on these two days the lines Remagen-Ahrdorf, Meldrecht-Norvenich, and Bedburg-Duren were put out of commission, at least temporarily, by rail cuts and by the destruction of small bridges.

On the other hand, it is evident that success on such a scale was not regularly achieved, either because effort could not be so concentrated as on 25 and 26 October, or because of adverse weather. The attacks of these two days indicate what could be done when circumstances were 10 favorable.

November Activities

In November IX TAC's interdiction operations were on a limited scale, partly because of the demands of the American drive towards Koln, but to a greater degree because of continued adverse weather. Many
planned missions were canceled, while others which were dispatched were prevented from carrying out their assigned tasks. However, between 3 and 11 November, 13 missions attacked rail targets as did six others between 18 and 20 November. Of these six, all of group strength, bombed at points east of the Rhine. They struck the marshalling yard at Dillenburg (26 November), claimed the destruction of bridges near Elsefthal (18 November) and Fredenburg (19 November), and reported a few widely separated rail cuts, none of which were on sections listed in the formal program.

The remaining 13 missions struck at rail targets west of the Rhine. Most of these were in group strength and had rail targets specifically assigned. They hit railway centers near Euskirchen and Neuenhain and partially blocked a tunnel near Ahweiler (3 November), while two bridges near Horren were claimed destroyed (11 November).

Rail cuts, largely affected in the period 3 to 11 November, were concentrated on lines between Köln and Aachen and upon rails to the east and west of Euskirchen. Such concentration, because of the areas struck and the timing of the strikes, may have had some effect upon the enemy's transportation. It cannot be rated as significant, however, since the total of cuts claimed for the entire month was only 70.

**Interdiction Effort by XIX TAC**

**September Activities**

XIX TAC hit rail targets associated with interdiction on many of its September missions. The targets of any day's operations were varied and emphasis shifted from one type of target to another as
opportunity offered. No sweeping generalizations are possible, but examples will serve to indicate the character of the work accomplished.

On 13 September, as the interdiction program was being inaugurated, 405th Group dispatched a total of 63 aircraft on five armed reconnaissance missions, each of approximately squadron strength. These missions attacked rail targets in general. Three of them reported cutting rails in the vicinity of St. Die, Colmar, and Nohfelden in the course of attacks which ranged from Nohfelden in the north to Milheusen in the south. Only the cuts near Nohfelden stood in immediate relationship to the formal program. Marshalling yards were special objectives chosen by each mission, and those at St. Die, Kochern, Zweibrucken, Saarburg, Colmar, and Nohfelden were bombed. As the result of bombing and strafing a total of 23 locomotives were claimed destroyed in the yards or in attacks upon individual trains, and other rolling stock was destroyed or damaged. On the 22d the same group sent out three squadron-strength missions, with rolling stock earmarked for special attention. They operated along the lines Saarburg-Zaern-Brunath and Searey-mund-Hagenau with conspicuous success, as evidenced by their total claims of some 10 locomotives and 103 railway cars destroyed. An ammunition train, one made up of 30 oil gondolas, and another whose 20 cars were freighted with tanks were among the targets attacked. No cuts were reported except those in the vicinity of Brunath and at Zaern; nor do cuts appear conspicuously in any reports until the closing days of the month, although missions against rail targets were flown on at least a dozen days in September.
Then a significant example of rail cutting activity on the part of XIX TAC aircraft is found in the operations by two of its groups during the three days 27 to 29 September. During that period 406th Group dispatched 15 missions which attacked rail interdiction targets, and 362d Group dispatched 16. All were of approximately squadron strength (12 to 16 aircraft) and involved a total of 403 planes. A grand total of 59 cuts was reported—21 by 406th and 38 by 362d FB Group. Their distribution is of interest. Thirteen were on lines specified for rail cutting in the formal program, and six others were closely associated with such lines. A single cut was on the line Deum-Leyen. Four lay along the line Lengenohl-Koblenz with another just west of Lengenohl. Two were made on the Hermeskeil-Simmern line, and four on that between Altenglan and Lauterecken, with three others south of Altenglan. Two cuts were affected between Landstuhl and Kaiserslautern, with two others just west of Landstuhl.

No cuts were attempted east of the Rhine and more than two-thirds of those made lay west of the western termini of the listed interdiction sections. However, the more notable concentrations were directly related to vital rails over which the enemy positions east of Luxembourg and in Alsace received reinforcements and supplies.

The line parallel to the Luxembourg frontier between Lissendorf and Trier was cut in three places. Lines within a 30-mile arc from Saarbrücken, including Saarbrücken, Ottweiler, Neunkirchen, and Zweibrücken, were cut in 13 places. Those between Bitsch and Haguenau and between Saarbrücken and Haguenau were each severed in three places. Eight cuts were made on the rails connecting Saarburg with Brumath,
and four on lines leading to Kutsch from St. Die on the west and Sanktettstadt on the south. As a result of these cuttings on three days of more than ordinary interdiction operations against vital lines, a considerable volume of the traffic from the Rhine crossings between Koblenz and Strasbourg to the battle area was at least temporarily affected.

Other results accrued from attacks on rolling stock and rail facilities in the course of those same missions which further increased the enemy's problems of supply and communications. A total of 44 locomotives were claimed destroyed in the three days' operations. The Fred Krewensch marshalling yard was hit by 22 x 500-pound GP bombs dropped by 302d group on the 25th. These caused an ammunition and tank car train of 80 cars to blow up, producing great fires in adjacent warehouses and a heavy explosion after the planes had left the target. A squadron of 406th Group on the 27th strafed an ammunition train west of Hagenau. One plane was destroyed by the resulting blast, and other explosions—apparently from an ammunition dump—were observed over a five-mile area.

**October Activities**

In October XIX TAC contributed to the interdiction program by cutting rails, destroying bridges, and attacking marshalling yards. It was a month of restricted operations in general, and those against railway targets were no exception to the rule.

The "Orops" for the period disclose the fact that two of XIX TAC's groups—334th and 302d—possessed a virtual monopoly of rail
cutting during the month. A few cuts were made by 362d Group east of
the Rhine, and a dozen or more in the same area were specified by
354th Group. They were scattered from the Wiesbaden and Frankfurt
area in the west to Karlstadt and Würzburg in the east. Neither their
number nor their concentration was sufficient to produce any marked
effect upon the German transportation system.

A greater number of missions which had rail cuts as a feature were
from west of the Rhine. In their reports the stereotyped phrase "some
rails probably destroyed, many damaged" appears time and again and
suggests considerable, although indefinite, results. A charting of
cuts for which grid coordinates are given indicates that a few were
affected in the area east of Kitz and in the vicinity of Saarburg.
Others temporarily broke the lines leading into Kaiserslautern from the
west and those extending eastward from that center in the direction of
Bad Kreuznach, Heidelberg, and Heusenstamm. Some interrupted traffic on the
rails leading southeast from Trier, but the most conspicuous con-
centration was on the lines Trier-Koblenz, where the relationship of
the cuts to the formal program was most in evidence. In other
instances such relationship is difficult to discover, although the
lines attacked were clearly serving the battle front. Four tunnels
were hit in the course of these operations with results claimed good.

Bridges were subjected to attack by various groups. Because of
their location over water or in valleys these targets were often hidden
by mist or cloud, and numerous missions were forced to seek other
objectives. When attacks were delivered the bridge structures on
occasion escaped injury, but effective results were obtained on
approaches and rails near by. In spite of such disappointments, how-
over, some definite results were obtained on bridges in the Saar area.
At Hornbach, 13 planes of 362d Group knocked out a bridge on the 18th.
On the 28th a structure near Kaiserslautern was destroyed by three
direct hits made by 1,000-pound GP bombs dropped from 43 planes of
353d Group. On the next day 33 aircraft from 352d Group damaged the
structure at Wachendorf (east of Kaiserslautern), and 46 planes from
the same group destroyed that at Firmans, together with a locomotive
and 15 cars which were crossing the bridge at the time the attack was
made. In Alsace elements of 405th Group bombed a bridge north of
Heleneau on the 26th, 28th, and 29th and destroyed one span, while on
the 29th two other bridges were hit. At Kaltenhouse (near Heileneau)
405th Group left the bridge unserviceable after two squadrons attacked,
while 32 aircraft of 406th Group smashed the Schlettstadt (Selestat)
bridge north of Colmar.

Railway centers and marshalling yards appear to have been favorite
targets in October when over 25 were attacked either as designated
objectives, or more often, as objectives selected by the leaders of
elements on armed reconnaissance and other missions. On the two days
14 and 15 October squadrons from 405th Group struck six east of the
Rhine—one southeast of Mainz, two in the Heidelberg area, one at
Frankfurt, and others north of Lohr and east of Stuttgart. In Alsace
five were bombed in squadron-strength attacks—Saarstat by 362d
Group (2 October), Erkheim by the 358th (2 October), Saarburgen by
the 362d (20 October), and Ingelheim and Pfaffenhofen by the 353th
(26 October). The remaining targets of this type lay within the Saar area. Here the more significant yards attacked were Simmern (2, 6, 13 October), Scharbrücken (2 October), St. Wendel (3, 13 October), Landau (6 October), Hermeskeil (13 October), three rail yards east of Bad Kreuznach (14 October), and Speyer (23 October). Of these attacks those on Landau, Kaisersleutern, and Speyer were delivered by elements of 406th, 406th, and 587th Groups respectively; all others were made by units from 362d Group. The effects of such attacks in damage done to rails, rolling stock, and facilities were generally satisfactory.

Traffic and facilities on the Rhine-Verne canal were hit by 358th Group on the 7th and by 362d Group on the 9th with claims of some 24 barges destroyed, 50 or more damaged, and locks and banks considerably damaged. Six Rhine barges were claimed destroyed by an attack of a squadron from 358th Group on 13 October.

Rolling stock was often hard hit in the course of interdiction and other operations, notably on the following occasions. On 3 October a squadron of 406th Group, assigned to operate with XX Corps, was vectored to two trains south of Trier, hitting both with good results; on the same day 11 locomotives were claimed by a squadron of 362d Group in the course of a rail-cutting mission. Three days later a three-squadron mission of 406th Group included among other rail targets three trains at Pfeddersheim. On the 13th, when 12 aircraft of 362d Group bombed the marshalling yard at Kaiserslautern, they likewise strafed a 20-car ammunition train which exploded and burned; and in the course of three squadron-strength rail-cutting missions on the next day 354th Group destroyed four trains, one a 30-car ammunition train. Once again, however, the total claims against rolling stock are built up
chiefly from numerous small claims.

**November Activities**

Over-all operations on the part of XIX TAC were further reduced in November and those related to interdiction were affected in marked degree. Few missions which had rail cuts as their assigned purpose were carried through. Cuts described by coordinates all but disappear from the records, and general claims are the exception rather than the rule. While attacks on bridges occasionally figure in the records, no instance has been found of any carried out with marked success.

Marshalling yards again figure rather prominently among such rail targets as were attacked. East of the Rhine, Coer Roden (southeast of Frankfurt), together with Goennheim and Sachsenheim, were hit by squadrons of 405th Group on 25 November. Explosions followed the bombing and strafing of the latter two. On the 19th 353th Group hit the yard at Restatt, east of the Rhine, and also at near-by Leutersburg on the west bank. On that same day two yards near St. Goar, on the Rhine above Koblenz, were struck by an element of 362d Group. Yards at Schlachtigheim, near Strasbourg, were attacked by 356th Group on the 16th, and six locomotives, together with 48 cars and sunry buildings, were claimed destroyed. Another Alsatian target was the yard at Colmar which the same group struck on the 21st. Five of the remaining railway centers attacked lay within a 20-mile radius of Saarbruecken. A squadron of 362d Group destroyed seven ammunition cars at Hargerton on the 9th. The 406th Group hit the same target on the 16th, together with the yard at Saargermund, and claimed a total of 12 locomotives destroyed. Fires
followed the strike at Korsig by the 362d Group on 15 November, and
three days later an element of the same group claimed a locomotive and
30 cars at Neunkirchen, to which it had been vectored. A center near
Lebach was bombed by 362d Group on the 20th. Still in the Saar but
farther to the east, the yards at Simmwiller were hit by the same group
on 19 November.

Damage to rolling stock has been noted in connection with attacks
on marshalling yards. It likewise appears in the claims reported by
other missions which include items such as the following. On 18 November,
404th Group claimed 15 locomotives destroyed by Napalm bombs and strafing
near Wittringen. On this day XX IX TAC ran up its highest score to date
for destruction of railway cars, claiming 456, together with 74
locomotives. In the course of four squadron-strength missions on the
next day, 354th Group claimed 13 locomotives and as many rail cuts.
The 354th reported 21 locomotives destroyed in the Saar area by two
squadron missions on the 20th. On the 25th, 405th Group reported a
train and six locomotives destroyed near Heidelberg, while on the
following day 354th Group claimed 12 locomotives and 10 rail cuts in a
21-plane mission east of the Rhine.

**Interdiction Effort by XX IX TAC**

**October Activities**

XX IX TAC's October operations associated with the interdiction
program were limited by weather which eliminated all activities on many
days and restricted them on others. Yet interdiction was given attention
both by missions which were assigned that task and by many others which
made rails their targets of opportunity. Many cuts were effected, but
only those cases where they were reported by means of coordinates can be dealt with here.

West of the Rhine incidental and sporadic action against rails is often to be observed, but on 8 October and again on the 13th and 14th there was a notable concentration of effort on these targets by missions dispatched with varied purposes. On the 8th a squadron mission of 373d Group probably destroyed a bridge at Dampelfeld and cut rails on either side of that town, while 36 aircraft of 38th FB Group effected some half dozen cuts in the area west of Köln. On the 13th one 24-plane formation and another of 36 from 58th FB Group, together with one of 36 aircraft from 373d Group, made rails their principal targets; while several formations of 368th FB Group delivered incidental attacks. The following day 373d Group flew two attacks of 31 and 34 planes, respectively. Concentrations of cuts on these two days put several lines out of action for the time being—Erlolmen-Phaydt, Köln-Duren, Duren-Bedburg, Euskirchen-Bruhl, and Kyllburg-Gerolstein. Other cuts interrupted traffic in the vicinity of Echternach, southeast of Euskirchen. Here was an example of what might be done under propitious conditions.

Bridges west of the Rhine were often designated or selected for attack. One at Roch and another on the Luxembourg frontier west of Echternach were claimed destroyed in attacks on 7 October by squadrons of 375th and 368th FB Groups, respectively. On the 8th, as already noted, the structure at Dampelfeld was probably destroyed by a squadron of 373d Group, and a like result was reported on the 15th following a group attack by the same organization. A bridge north of Renagen was
destroyed by 33 planes of 36th Group on 19 October, and five direct hits scored by the 373d in a group attack knocked out a bridge near Grevenbroich on the 20th. The following day a group attack by the 36th left a bridge near Julian unserviceable but standing; and 404th's group-strength strike at the structure near Horren, west of Köln, registered direct hits.

On occasion Rhine berge were attacked by XXIX TAC, as when a group and a squadron mission of 573d Group attacked on the 6th and the 11th, each reporting two destroyed. On 11 October, 35 aircraft of 36th Group destroyed nine and damaged eight other berge in the Koblenz area; while on the 25th a group mission by the 36th in the Dusseldorf-Köln region claimed 16 berge, one tug, and one steamer destroyed.

Between 6 and 29 October XXIX TAC dispatched eight group-strength missions against rails east of the Rhine, another group selected rails there as its secondary target, and a 24-plane mission cut rails both east and west of the river. The operations took place on seven different days. With the exception of one mission on the 20th which did little damage and two on the 29th which cut rails in the vicinity of Saarl, on the line Arnsberg-Verden, and farther south in the Sienaringen area, all these efforts fell within the period 6 to 17 October. Two lines specified in the formal interdiction program were cut at Saarl-Lippstadt and Colbe-Steinfurt. Rails on lines Alzendorf-Grenkemagen and Leuspha-Colbe, closely related to other sections in the program, were likewise severed in the other concentrations of the period. Enough damage was done on these lines to have interrupted
traffic on the sections for a time, but in the absence of attacks in the latter portion of the month service was probably fully restored and maintained. It is of interest to observe that in the two group-strength missions by 36th Group on the 7th 15 locomotives were claimed destroyed.

November Activities

In November the combination of bad weather and the tactical needs of the ground forces drastically reduced interdiction operations on the part of XXIX TAC. No such concentrations of cuts on rail lines as were affected in October were reported. In fact, reports of specified cuts are few, and those which were claimed are so separated in time and area as to be of negligible value. A total of 86 cuts was reported for the month. Attacks on bridges continued. In the area east of the Rhine, one bridge south of Kassel was destroyed by 36th Group (5 November) and another southeast of Heidelberg by the 404th (9 November). West of the river the destruction of a bridge near Grevenbroich was claimed by 48th FB Group (8 November) and another near Julich by the 35th (19 November). Other attacks upon such structures produced less decisive results. Such attacks as were delivered on marshalling yards lack significance in connection with interdiction.

Interdiction Effort by 9th Bombardment Division

September Activities—Marshalling Yards

Just as rail cutting on specified lines was the special assignment to IX and XXIX Tactical Air Commands in connection with the interdiction program in September, so attacks on marshalling yards marked the
interdictive effort of 8th Bombardment Division in that period. The purpose of the bombers was to impede rail movement from Rhine centers to German positions further to the west, and to restrict the enemy's capability to move troops laterally from one point to another along the front. If the effort were successful it would force the enemy to a greater use of motor transport, place added strains on that service, and drain his restricted supplies of fuel. In keeping with such purposes 9th Bombardment Division attacked 11 different marshalling yards in the course of the month, in the expectation of blocking traffic and of destroying facilities, together with such supplies and military personnel as might be found in the storage or transshipment areas associated with the yards or located on their crowded sidings. Only one of these targets (Einsen) lay on the Rhine itself—the others were situated in relatively close proximity to the battlefront between Aachen and Trier. All were related to the railway lines connecting the Rhine centers with the front, while six lay along main lines parallel to the front between Julich in the north and Trier in the south. The fact that nearly all the marshalling yards singled out for bombing lay in USA's area indicates the priority on air effort which its operations enjoyed during the period.

Four of the yards attacked were part of the rail complex serving Aachen immediately. On 12 September two groups attacked Euren with 79 aircraft, and one bombed Lochweiler with 37. In both cases all through tracks were cut at least once, and incidental damage was done to buildings and rolling stock. Julich and Kuskirchen were assigned to four and two groups, respectively, on the 20th. Bombs from 45 of the
60 aircraft which attacked blanketed the target area at Euskirchen. The 121 planes which dropped more than 220 tons of 1,000-pound GP's on the sorting sidings and near-by warehouses at Julich inflicted damage whose exact measure was unassessed.

Six other marshalling yards were incidentally related to positions in the Siegfried Line along the Luxembourg frontier between Aachen and Trier. On 10 September a single group sent against Sittigburg attacked with 26 aircraft whose bombing destroyed three warehouses and damaged r barracks. Although some tracks were cut, through traffic apparently remained possible. At Trier a full group bombèd on the 20th, probably blocked all lines, and damaged both rolling stock and transshipment sheds. The following day Fromefield, Gerolstein, and Euren were the objectives of group-strength attacks. No damage was done by the 14 planes which bombèd Fromefield. At Gerolstein 20 aircraft destroyed rolling stock and almost completely blocked traffic, while the 30 which attacked Euren scored 60 hits in the target area, making through traffic impossible and destroying or damaging approximately 100 freight cars.

On 20 September From received a first attack and Sittigburg a second.

Thirty-five A-20's blanketed the From target area with their 500-pound GP bombs. At Sittigburg a barracks area, reported to house green troops moving movement to the Siegfried Line, was heavily damaged by the 65 planes of the two groups which attacked; and 52 aircraft from two other groups which struck the marshalling yard left its facilities completely unserviceable and damaged adjacent warehouses heavily. On the 26th, likewise, bombs from some 30 of the 72 attacking A-20's probably
inflicted heavy damage at Eingen, which served as a Rhine base for enemy troops in the Metz area. Earlier, on 12 September, two groups were dispatched to hit a special rail target at St. Wendel, north of Saarbrücken; but only 14 aircraft attacked, with no damage effected.

It is to be observed that operations against marshalling yards were confined to four days (19, 20, 21, 23 September). Numerous other attacks on marshalling yards were scheduled, but were either canceled or aborted, largely on account of weather, which so often prevented the effective conduct of the interdiction program in the course of September.

**October Activities—Bridges**

During October, 9th Bombardment Division gave its attention almost exclusively to communications targets, among which railway bridges were most prominent. Such attacks was in keeping with the interdiction program for the period, but on occasion tactical considerations led to the choice of such targets.

It was the ground situation which caused 9th Bombardment Division to be given several transportation targets in Holland, an area in which the Ninth Air Force did not ordinarily operate. Here the Allied salient extending to the Leder Rijn at Arnhem required protection. The bridge at Arnhem itself, which 9th Bombardment Division had unsuccessfully attacked on 20 September, was twice assaulted to deny its use to the enemy. No damage was done by the group attack on 6 October, but on the following day another group destroyed the structure. In an effort to block the enemy's attempt to strike the salient from the east, three communications targets were scheduled. A group bombing on the 12th hit
Venoij highway junction so well as to win commendation. The next day
the rail bridges at Venlo and Roermond were each bombed by a group of
A-20's which destroyed the structure at Venlo and left that at Roermond
unserviceable. Nijmego marshalling yard was somewhat farther removed
from the Arnhem area but nonetheless served it. On 6 October bombs
from two groups fell on the city rather than on their rail target, but
on the 7th a single group inflicted considerable damage upon rails,
rolling stock, and facilities.

The desire to block the supply route of the German forces in
Netherlands Island caused one group to be sent against Hoerdijk bridge and
another against that at Gertrudenberg on the 23th. Led by Pathfinder, the
attacking planes claimed to have rendered the first bridge unservice-
able, but did no damage to the second. Prior to its destruction by the
Germans, Hoerdijk was again attacked by 9th Bombardment Division on the
29th, but the 35 aircraft attacking claimed only slight damage.

Attacks in the American area were more directly related to the
interdiction program. In view of the current ground effort these were
largely concentrated in the Aachen region where a marshalling yard and
four railway bridges were attacked. The bridge at Lusseiken was bombed
five times (8, 9, 13, 17, 29 October) in group strength. Two attacks
reported no damage, two more reported their results unknown, while the
bombing on 13 October left the bridge serviceable but blocked the lines
temporarily. Crovenbroich bridge was not hit by the group dispatched on
the 8th, and remained undamaged after a second bombing by a group on the
12th. Tracks were cut when a group bombed the bridge at Ahrweiler on
12 October, but only 13 aircraft bombed out of the two groups dispatched
on the 28th—and these did no damage. No damage resulted from the
bombing of the structure close to the Rhine at Sinsheim on the 28th. Two
groups were assigned to each of three areas at Duren on 8 October and
their reports were gratifying. An ammunition dump was blanketed, a
barracks area was severely damaged, and the marshalling yard itself well
hit. Jülich, another road and rail center serving Aachen, was hit by
bombs of six flights from two groups on the 8th, while those of one
flight fell on Gellenkirchen marshalling yard. Between the Aachen and
the Metz area four railway bridges and one highway bridge were bombed in
the course of six group-strength attacks, none of which were reported to
have vitally damaged the structures. Mayen was bombed on the 18th and
again on the 29th. On the main line Koblenz-Trier, Bulley was attacked
on the 7th and Eller on the 29th; while on the latter date a road and a
road bridge at Konz Kartheus, southwest of Trier, were also attacked.

Considerable success was, however, reported after an attack on warehouses
in the Trier marshalling yard (7 October) which supplied German divisions
opposing the advance of the 26th Infantry and the 5th Armored Division.
Three groups of A-20's attacked, destroying six warehouses and severely
damaging four others.

In the area more closely related to the Metz front the bridge at
Dillingen, on the main line from Trier to Saarbrücken, was destroyed by
the group which attacked on 7 October, and that at Bed Munster was left
unserviceable after a group bombed the following day. In this area, as
in the others, enemy supplies offered targets, and on the 12th three
groups bombed the Camp de Bitche and claimed severe damage to at least
a quarter of the target area.
These attacks on transportation targets in October had not achieved conspicuous success, and their contribution to the interdiction program was but slight. Missions had, however, been flown on 10 different days, one or more on nearly every day which permitted combat operations. In many instances weather had forced the use of pathfinders.

November Activities--Bridges

Rail bridges at 13 key points on the lines serving the German front were the targets assigned to elements of 9th Bombardment Division for interdiction attack on 21 occasions during November. Five were bombed on the 2d, five on the 3d, and four on the 11th. Single groups were dispatched in all cases except with one exception, 23 to 32 aircraft bombed. In the exceptional case only five attacked. Single attacks on the bridges at Bulley (2 October) and Ahrweiler (11 October) resulted in no appreciable damage, nor were greater results reported following the two attacks on Heiden and on Laskirchen (2, 11 October). Later in the month the Rhine bridges in the 6th Army sector at Freisach (18 October) and Neumarkt (18, 19 October) were bombed without effect. In the case of the remaining seven rail structures attacked, the results of at least one of the attacks delivered on each was more satisfactory. A first attack on Konz Harthaus (2 October) rendered the bridge unserviceable, though that on the following day did not add to the damage. At Trier-Mulsen (2 October) half of the span was dropped into the river, and 23 Hunster was severely damaged on 3 October. Results of the bombing of Moschel and Kaiserslautern (3 October) were
at first reported as undetermined, but in later records vital damage was claimed. The case holds true of results at Hawied-Ihrlich (8 October) and Sinsig (11 October). Both these bridges were subjected to further bombing, but the attacks on Hawied (13, 21 October) and on Sinsig (21, 25 October) were inconclusive.

Summary for the Period September to November

The interdiction program was planned on a grand scale. No less comprehensive plans could have promised to produce the desired results upon the intricate German rail network. But more than ordinary effort, as well as continued success in such effort, were both required if the battle area was to be truly isolated. Not even in September and early October, when the varied types of interdiction effort were most manifest, could the endeavor be rated as extraordinary. For the better part of October and throughout November its scale was even less, for at no time did weather and other factors permit interdiction attacks to become a part of the daily routine of Ninth Air Force elements. Temporary achievements in some areas were recorded in the course of interdiction operations in these months. But the enemy's skill in using his railway network and his ability to effect speedy repairs were such as to classify the over-all results as "interruptions of traffic" rather than as "interdiction" of the sort earlier achieved within the Seine-Loire area.
Chapter VIII

OPERATIONS IN OCTOBER AND NOVEMBER 1944

Major Ground Force Actions

During the month of October and November 1944, the ground forces developed four major actions. In October a push against Aachen by XXXI resulted in the encirclement of that stronghold on the 16th and its capture on the 23rd, while in the south XXXI moved across the Meuse in the direction of Château Citée. On 8 November XXXI inaugurated a large attack that led to the capture of Aachen, carried across the Meuse to Siegfried Line positions in the north, and reached positions farther south to the west of Eifel, Luxembourg, and Saarbrücken. On 10 November the First and Ninth U.S. Armies jumped off in the Aachen area and moved steadily forward to new positions just west of the Euphrates.

Ninth Air Force Comments

Movements of the headquarters of Ninth Air Force and its elements, together with further forward displacements of its combat units, took place during this period. Main Headquarters Ninth Air Force remained fixed at Chantilly, but the tactical headquarters followed that of Twelfth Army Group to Luxembourg on 10 October. In keeping with this move, Headquarters 9th Embarkation Division left Chartres and on 29 October established itself at Reims, where communication with Advanced Headquarters Ninth Air Force and with its own echelons was simpler. Earlier, on 5 October, IX TAC moved its advanced headquarters to
Verviers, where it continued in residence. Advanced Headquarters XXIX TAC was established at Nancy on 12 October, and as noted below, that of the new XXIX TAC was located first at Arlon (1 October) and after 22 October at Maastricht. Association with the headquarters of appropriate armies was in evidence in connection with each of the tactical air commands.

The 99th Bombardment Wing, within 9th Bombardment Division, moved to its third continental area when its elements settled down at Saint-Avold, Vincennes, Peronne, Château, and Leu-Éthièr in the course of the month. While two groups of XX TAC remained in the Reims area throughout October, on the 1st 471st TB Group joined the 370th which had preceded it to Terezin, and the 355th and 368th moved eastward to Château by 4 October. Toward the end of November, 366th TB Group shifted from Leu-Éthièr to the Belgian field at Asch. XX TAC units continued at their earlier locations throughout October; but on 5 November 362nd TB Group moved forward to the neighborhood of Verdun, and between 20 and 22 November 354th TB Group advanced to Vesay-or-en-Haye, northwest of Nancy. By the end of October the fighter-bombers of XXIX TAC were based on Belgian field, in the region of Le Caulet and St. Irons, where they continued throughout November. None of these movements involved an improvement of operational facilities, since the new fields were appreciably nearer the front than the old.

**Appearance of XXIX Tactical Air Command**

In the opening days of October the Ninth U. S. Army joined Twelfth Army Group on the front. Anticipating its appearance there, a new
tactical air command of the Ninth Air Force had earlier appeared upon the scene so that each army of Twelfth Army Group might have a command of this type associated with it. On 1 September 1942, XXXI Tactical Air Command (Provisional) had been activated at Vermand, near St. Quentin. Brig. Gen. Richard E. Nugent was appointed its commanding general, and the personnel of its headquarters and headquarters squadron were derived from 8th and 20th Fighter Wings. During the initial phase of its existence, XXXI TAC was attached to IX TAC for organization, training, and operations.

At Vermand the personal personnel of XXXI TAC perfected their organization and, in association with four groups of IX TAC, developed their operational techniques without actually assuming the direction of operations. By 5 October, however, headquarters of the Ninth U. S. Army had been established at Aisne and had taken over the southern sector of the old 5th Army front. Catching this development, XXXI TAC had opened operational headquarters at Aisne on 1 October, on which date the 35th, 366th, and 372nd FG Groups, together with the 5031st Landing Zone Reconnaissance Group, were assigned to it. With the establishment of its headquarters at Aisne, XXXI TAC was relieved of its attachment to IX TAC for organization, training, and operations, although in the weeks which immediately followed, certain of its groups were assigned temporarily under the operational direction of IX TAC. Such action was the more justified because the front with which XXXI TAC was associated was comparatively quiet.

Within the Ninth U. S. Army for its associated tactical air command
was long to remain in its first operational area. The way was switched to the extreme northern front of the American front, and inevitably XXXII AC moved with it. On 22 October, therefore, XXXII AC established its headquarters along with that of the Ninth U.S. Army at Wesel, in Holland. Effective that date, 417th FG Group returned to XXXII AC, but 39th and 377th FG Groups and 385th Bombardment Group remained under the control of XXXII AC, and 35th and 308th FG Groups were redesignated to it. With four fighter-bomber groups and one tactical reconnaissance met group under its operational direction, XXXII AC began its active cooperation with the Ninth U.S. Army.\(^1\)

**Distribution of Fighter-Bomber under the Tactical Air Command**

As a result of the second readjustments the assignment of fighter-bomber groups among the three tactical air commands of the Ninth Air Force on 31 October 1945 was as follows:\(^2\)

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<th>IX FG</th>
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**Operations in October**

**IX Tactical Air Command**

**Air-Ground Cooperation**

As would be anticipated, IX ETO acted jointly with FUSA in October. Direct air-ground cooperation was particularly in evidence from the
As through the 21st when continued advances to the north and south of
Alekha by VII and XIX Corps isolated the city and forced its surrender.
On the 13 days of this 30-day period when weather allowed ground
operations by the enemy, at least half of each day's missions had
assigned this significant role. The fact that some were labeled
'Support' and others 'Aerial Reconnaissance' matters little. In default
of targets assigned by the Air Support Party a revised 'Support'
mission could perform aerial reconnaissance ahead of the advancing
ground column. On the other hand, aerial reconnaissance missions were
frequently asked to deliver air strikes by ground controls of various
types. The concentration of the resources of IX EZ upon this essential
mission (in particular) evident on 2 October than 17 out of 28 missions
flew were in air-ground cooperation, on the 15th than the ratio was
20:8, all on the 18th than it was 10:1. In a rule the missions were
in squadron strength (12 aircraft), although on occasion entire groups
participated. After Alekha's surrender on the 21st the resources of
IX EZ were increasingly devoted to the tasks of rear and interdiction.

In general these air-ground cooperation missions were unexceptional
but important, and displayed the same general characteristics as those
of the earlier period. Any only exceptional example need be re-
turned to here. In association with XIX Corps' effort north of Alekha on
2 October, 370th FG group bombed eight of the 10 pin-pointed positions
designated at it, while 47th FG group hit four others marked by chalk,
with results reported excellent by ground. Compositions associated
with a counterattack by enemy armor in the rear area were hit by two
equivalents of 49th I.I. Group on the 5th. Enemy armor, gathering for
counterattack on 1st Infantry Division, was struck by one squadron of
309th I.I. Group on the 12th in the ground described as a "corpsmen
job," and a second squadron halted another concentration in the same
area with relative unharmed. On the 15th, at heavy troops closed
in on Locinn, defense positions near or in the city were destroyed
by five missions, four of group and one of squadron strength.

At 7 Corps attack north of Kehlma on 11 October, 23
P-47's of 399th I.I. Group attacked the town of Wolfrath on request.
Artillery supported by center battery fires on their positions and by
striking the target withMemo at both ends and in the middle. In con-
squence the fighter-bombers had a clear run and destroyed or damaged
nearly every building in the town. As a result of this and other actions,
Maj. Gen. Elwood R. Quesler, commanding General of 7 Corps, commended
IX I.A. for particularly fine close support that was of the greatest
assistance in repelling vicious German counterattacks. This support
alone has accounted for an appreciable number of enemy personnel and
vehicles, including tanks and artillery.\(^{[6]}\)

On 13 October, 399th I.I. Group flew a total of nine squadron-strength
missions in association with XIX Corps. Favorable elements were
elicited from ground artillery and four attacks on town, gun positions,
and entrenched troops. One squadron had already delivered one successful
attack when it was called upon to strike a concentration of some
30 tanks. It had only two tanks left, but it dropped these on the enemy
order and then fly over the front at 50 feet, striking the German troops as they attacked. The ground report declared that those who were not killed or wounded turned and fled. Because of its importance this mission was commanded by USA. In its endeavors by such spectacular missions, and by many others well executed, IX IAC was running true to form in executing its task of air-ground cooperation.

**Actions against the GAF**

IX IAC likewise maintained its tradition by operations against the IAC with October claims of 22-12-25, in the air and 24-3-6 on the ground. Aside from such actions as that on 2 October when an element of 368th FB Group forced a jet-propelled I-233 to crash, this achievement was largely the result of actions on five days. On 4 October a squadron of 360th FB Group was attacked by an equal number of enemy aircraft with results of 5-0-1, while 32 P-35's of 367th FB Group bounced 10 F-100's and claimed three.

Two days later 360th FB Group scored a notable success. While on a sweep east of Anzio the group was vectored to the enemy airfield of Drutsch 14, then W-Intercept had learned that a pair of which had been over our lines were landing. Fifty F-100's were vectored on the field with six of 368-3, and the others were destroyed as they came into land. Four groups shared the honors on 12 October. Vectored to an enemy airfield northwest of Anzio, 705th Group destroyed four for no loss. Eight planes of 707th Group were jumped by 22 I-100's and claimed 0-0-1 for the loss of two, while a squadron of 360th Group, joining in an action already underway, lost one but claimed 3-1-1 in combat with
20 enemy aircraft. The planes from 271st Group joined in the fight over Aachen and reported 5-1-1 without loss.

On 13 October 20 aircraft of 371st Group were vectored to 20 enemy planes in the Durm area. In the ensuing encounter claimed 7-7-3 for the loss of three, while two planes on the way home bunched 16 7-2-109's and claimed one. Five I-17's of 395th Group lost three in an encounter the same day with 10 7-2-109's, claiming 1-0-1. Three groups shared the honors on the 29th. In a total of 173 0/1 planes sighted. Three squadrons of 376th Group on a mail-calling mission had three separate engagements with enemy formations of 20, 16, and 7 planes, respectively, over Durlach and Durm. Seven I-109's were lost, but the total claims were 2-3-15. Also on the 29th, 30 of the enemy bunched 92 I-109's of 370th IJ Group in the Durm area, and 20 others encountered 11 I-17's of 395th Group near Koblenz. In the first encounter claims were 2-1-3 for the loss of two; in the second two were lost against claims of 6-0-2.

In a Koblenz area conspicuous success was achieved by 30 I-17's of the 395th Group in an afternoon sweep on the Cl. They found bunched 15 to 20 enemy aircraft, and then at their full vs running low, out and another formation of equal size. Their total claims were 22-2-11 for the loss of three.

Recitalution

In the course of the month of October 1944 271st Group fielded a total of 300 missions, with 6,001 fighter-bomber dispatched, approximately one-third
less than in the preceding month. A total of 1,007 tons was to be, 
including 130 tanks and 130 trucks, was dropped. Since the number 
of targets fell off, and because the front was generally stabilized, 
the amount of tons dropped considerably at the following last entry:

<table>
<thead>
<tr>
<th>Type</th>
<th>Tons</th>
<th>Note</th>
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<tbody>
<tr>
<td>Air-raid</td>
<td>78</td>
<td>Foiled interdiction</td>
</tr>
<tr>
<td>Ground vehicles</td>
<td>6</td>
<td>Bridge</td>
</tr>
<tr>
<td>Motorized vehicles</td>
<td>1</td>
<td>Sold</td>
</tr>
<tr>
<td>Infantry</td>
<td>105</td>
<td>Ground positions</td>
</tr>
<tr>
<td>Supplies</td>
<td>317</td>
<td>Troop concentrations</td>
</tr>
<tr>
<td>Field guns</td>
<td>217</td>
<td>220, 221, 23.2 for killing yards</td>
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</tbody>
</table>

**IX Tactical Air Command**

Air-ground cooperation on the part of IX TAC was evident on a
limited scale in October. The Third U.S. Army, with which IX TAC
was co-operatively quiet, its major actions centering about the Fort
Campbell area and in an outward advance from that toward Nixy
which resulted in excursions of the Mobile River and of Eastern Seaboard.

In both there were IX TAC actions.

On 2 October 74 planes of 502d IL Group struck at three Me-500
forts with results on two reported good by ground; while 503d IL Group,
cooperating with XX Corps in its attack on Fort Bragg, flew nine
squadrons-strengths targeting of 11 targets with good concrete hits
reported on one. Tanks were coming into the fort at U-3554 after
a squadron of 510th Group attacked on the 6th, and the next day a squadron
of 501 IL Group struck at those to the north of the city. On the 11th
a troublesome railway gun southeast of 503d was caught out by a squadron
of 503d IL Group which destroyed encamped installations on railway
tracks; while on the 16th gun positions at St. Emy were attacked by a
formation of 404th FE Group. Such actions as these stand out among those reported in the area.

Others were similarly evident in connection with the campaign toward Chartres. On 2 October 406th Group bombed tanks west of Briouze with excellent results and thoroughly strafed the town of Villaret on the 3rd, and thoroughly strafed the town of St. Symphorien on the 6th. On the 7th, 8th, 9th, 10th and 11th, the 406th Group hit troop concentrations in the area east of Pont a Mousson. A similar concentration southwest of Chartres was attacked and strafed by an squadron of the SCSO on 12 October, and a command post destroyed. On the 13th one of the squadrons of 250th Group hit an area with tank troops near Beaumont, and on the 15th, 16th, 17th, 18th, and 19th, 10 aircraft of 250th Group hit a tank concentration at Bouy, east of the Forest de Corvey. A unit plan in the area reported that the tankers had very accurate fire.

Attacks in air-ground cooperation were occasionally joined to other units. On 5 October a squadron from 406th FE Group was sent to work with 738th Infantry Division (Smith, U. S. Army), and destroyed three enemy batteries east of Chamant. In the area of France, on the 7th, 8th, 9th, 10th, and 11th, two units on the 12th were hit by a formation from 300th FE Group on the 13th. A week later (12 October) a squadron of 300th Group joined in 250th attack on Huisnes, then it discharged 10 rockets at a formation of 30 tanks, destroying three and damaging many more.

In one all attacks were delivered by elements of 300th FE Group on 20 October. In the morning the squadron moved through intense flak to
A second and important air strike was made at 1,000-foot altitudes 10 miles north of the town, by a third squadron on an afternoon mission. The purpose of the strike was to soften the ground obstacles of the French defenses before American troops crossed the Oise in this area, so that the French might not have an opportunity to cut them off by blowing the dikes after their projected crossing. This had been fully coordinated with XII Corps' objective to deliver a limited objective attack in the area. Their objective was to prevent the enemy from blowing the dikes, i.e., to prevent the mobility of heavy enemy elements in the area, and direct the French attacks of maneuver. As a further result of this air operation, the French attacked the American attack successfully completed three days later.

**Action Against the Oise**

Air attacks were continuously instituted in October. On the 6th, an American squadron of 366th Group hit the railhead yard at Droue on the 6th, their second flight of the day. Other American aircraft joined in the attack in which they lost one plane and claimed 4-0-1. Two days later, a squadron of the same group again destroyed a railhead, destroyed three sill, and claimed 1-0-3 on the ground. On 9 October, another squadron of 366th Group sighted three enemy formations, but only one encounter resulted when these enemy aircraft attacked a support group over Chateau-Thierry. This attack accounted for one of the 6-0-1.
The outstanding action of the month was that in which 229th FG Group participated in the Bekassina area on the 29th. Thirty-five F-89s were then bounced by 75 MiG-15s, which had a 20-plane lag cover that eventually joined in the 32-minute escort. American pilots reported that the enemy pilots were the most aggressive they had ever encountered, and that they maintained their formations in flight for four. In spite of this, the group claimed 21-11 for a loss of three. Then a squadron of 329th Group attacked the airfield at Sokhna on the 8th. Ground claims were 2-0-5. During the month XII FG claimed against enemy aircraft amounting to 66-2-18 in the air and 93-10-16 on the ground.

Recapitulation

During October XII FG lost two groups. In addition, weather prevented operations on seven days and limited them on 12 others. Total sorties in combat reduced the enemy's efforts to a total of 1,700 sorties. Among ground claims were the destruction of 317 M4, 200 air and ground vehicles, 287 locomotives, and 1,800 military cars.

XII FG Tactical Air Control

Air-Ground Coordination

Since the 11th U.S. Army was holding a quiet and stable front during the latter part of October, air-ground cooperation on the part of XII FG was conspicuous by its absence, and the command was able to devote its resources to other tasks. However, its units report...
some actions in association with FUSLI's drive against Aachen then
326th ID Group flew three squadron-strength divisions of the usual
strength on the 12th. On that same day 372nd ID Group sent two group-strength
nations for joint action with the ground forces in the Aachen area.
The first did that ground described as a "good job" on one tank con-
centration north of the city, and proceeded to attack two others near
Emmerich. The second also struck at tanks and likewise destroyed build-
ings held by enemy troops. Later, after its associated army had moved
to the north, 43rd ID Group flew three squadron-strength divisions on
23 October in association with XIX Corps. In the course of these
missions the anti-tank term of Luxembourg was taken with results
unobserved, but other attacks on inhabited localities were held up
because the enemy was throwing shells and colored smoke shells within
friendly lines.

Actions against the GII

Only infrequently was action possible against the GII in October.
The 372nd Group, however, had one of its squadrons blunted by 60-plus
enemy planes over Koblenz on 7 October. It suffered the loss of the
aircraft, but its claims were 11-1-0. The only other considerable air-
action during the month occurred on the 23th. Then 16 aircraft of
611th Group, acting for a rendezvous with bombers over Andernach,
were attacked by 20-plus of the GII. In the ensuing action American
planes claimed 0-0-1 for no loss. In actions on 2 October enemy planes
were destroyed on the ground. On that day 298th Group sent one group...
Mission against the airfield at Gross Catherin and another to that at
Gosn CL. In both cases L.40 was done to installations, and at Gosn
CL' four enemy aircraft were destroyed on the field. The same day 20
planes of 375th Group attacked an airfield northeast of Frontenort, with
claims of 6-0-3 on the ground. 1

9th Trenchant Division

Air-Ground Cooperation

Aside from its attacks on transportation targets in October, 9th
Trenchant Division occasionally flew missions which are too be class-
ified as air-ground cooperation. On 6 October a group led by planes
on the north shore of the Scheldt estuary. Ground had requested the
action which was designed to assist in Frontenort's capture by the British
and the target area was well hit.

Earlier, on the 27th, in coordination with the XXX Corps, push north
of Laheen, attacks were delivered against defended villages. Three
missions bombed areas at Birkach in attacks by one, two, and three
groups. Only part of one mission hit the assigned area. On this day
two missions were given Utach as their target. The first of
the group strength, landed in poor error, while the second of
down group strength, placed the bulk of the flight in the target
area. Utach, through which reinforcements moved to Utach, was struck
on 2 October by a single group, two of whose flights damaged buildings,
roads, and a bridge. On the 12th and 13th, Leopold, an obstruc-
In the path of the 9th Trenchant Division, was battered in group-strength
attacked. No direct hits were done by the first, but the normal closed direct hits on rail lines running through the town.

In the late evening 9th Infantry Division struck at the forces south of the city in an effort to neutralize guns which were holding up the advance of the 8th Infantry Division into Fort Bruck. Thirty-four 2-00's were dropped 15 tons of High and reported probable damage to one target and slight damage to the other.10

Conditions in Eastern

Air-Ground Cooperation—Operation QUEEN

During November of the limited all operations on the part of IX EAD. On nine days no combat operations were possible, on six other days than 20 artillery or tanks, and on only four were more than 30 effective. However, in many days the operations were conducted rather than received their full strength. In spite of such conditions, 19th operations, a fitting proportion of IX EAD's effort was devoted to air-ground cooperation in operations which centered about Hachen. Since the character of such actions has been fully detailed in the narrative of earlier periods, only an outline treatment is required in this for the month of November.

Between 1st and 31st, there are 10 to 20 per cent of available air effort as planned is to used in the scheduled southeast of Hachen where 12th Infantry Division (V Corps) was to advance through the rubber fields of the Hurtgen and Emsdorf.
strength missions were regularly flown—two on 2 and 3 November, three on the 7th, four on the 9th and 10th, and five on the 11th. In addition, no circumstances demanded that smaller, additional missions of greater weight and risk should be undertaken, consisting directly with the mobile units in the region of ground forces, and when it hit at the different towns in the region at ground forces—Schiot itself was attacked, together with the neighboring towns of Weeze, Jülich, and Nettmat. The tactics usually employed to meet the targets which ground forces were to have attacked, although the group tactics sought to confuse the situation by firing red smoke shells into the localities by means of a group. Special missions of group-strength were dispatched into this area on two occasions in this initial visit. The 20th aircraft of the 3rd Group attacked the towns on the eastern front of Schiot on 6 November, and on the 8th a total of 20 were. The group carried their bombs in a non-ordnance form suitable to contain destruction of small units. The 20th group carried a group-strength mission which with several vehicles its target. These units dropped by the 20th group on the 7 November fell on pre-arranged positions near Schiot, according to ground report, caused the destruction. On the 8th, the 3rd Group attacked the town of Schiot, at pre-arranged positions in the vicinity, and of the two units of Dinsfeld. Elliot's report, support for the hit of the individual mission in the Schiot area achieved an increase in success. The co-ordination received by
IX TAC during the Planning Period. It appears that the net
result of air-ground cooperation is operations in the area was approval
of the ground forces. 13

Operation UNWIN was the code name applied to the joint air-ground
offensive which had an aim from the start of the area toward the south
and the main, or its general objective. The weather had forced the
postponement of the assault from Day to Day between 11 and 15 November,
but on the 16th it was launched. Even then weather limited air
operations.

On each of the 10 operational days from 16 to 20 November IX TAC
flung air-ground cooperation missions. Ordinarily there were of squadron
strength, and their actual number per day ranged from 12 to a high of 19,
the latter being largely dependent upon the weather. On 19 November,
19 out of 30 daylight missions were directly coordinated
with the ground effort.

On 16 November three missions of unusual size took off to bomb
key objectives in preparation to the launching of the ground assault.
Further, ten planes were dispatched by 37th Air Group, as many by the
74th, and 19 by the 279th. The 279th Group had its three targets
in the vicinity of Fortuna. They had been marked by both, and ground
signals led to the target on 16 November. On 16 November, the 74th,
where three targets by contrast of Fortuna, nineteen to the south,
and three to the north which had been marked by each to the north of the
original target. The 74th Air Group failed to find the originally designated
targets for the 74th. This group had difficulty with
overall and dragged 17 of it back out into the exposed area.

Now, a good example of what happened on our side is this attack
and the subsequent results. The four squadron-strength divisions
from the 18th, in cooperation with infantry divisions reported
destroying all, or rolling up, and bombing, the towns of Julich and
Cey, together with gun positions at Mobsen.

In the days which followed (17 to 20 November) IX Corps
concentrated its effort in the battle area. Its objective: destroy the
main tactical target. Ground was gained with the attack by 35th ID
Group on gun positions and houses containing troops near Ebelmann
(13 November), on the one day with 30th ID's attack which forced
Maybach out of hiding at Kehlheim. The standing of soldiers, and
knew that the standing of resistance was a matter of fire. Elements of
30th ID under the 101st were reported as excellent. When an enemy
counterattack was prepared, on the 18th in the Ebelmann, 35th ID
Group struck at a town, Mobsen, in the hills, and at a position from
which the 30th ID in the Ebelmann was being shelled. It also
threw three anti-tank gun near Cey (17 November) to give the area
high visibility.

In this, the reports of the units indicate this town and will
were the characteristic tanks in this area, protected by, visible or
air-ground cooperation. Shortly after, in the period following the
stabilization of the front in September, turned these into fortified

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position and they had them to be reduced, as after the other, by visual and ground effort. More than 90 different targets of this type were hit in this period, over of them by repeated attacks. For the most part they were situated in the area bounded by the river V. on the east, the Moskva to the north, and the large lake about Yurygin in the south. Vehicles reports, supplemented by observation on the part of ground controls, indicate that such attacks were usually successful. It was reported to have fallen on tanks, vehicles, buildings, and in air and ground explosions. In greater detail, could be expected from the obserbation during action, and in the statements that the vehicles, tanks, etc., did much to damage the troops and tanks, and the troops did much to damage the vehicles and tanks. In the next successful attack, destroyed its ground equipment, with a number of troops and tanks of Yurygin to Volgograd. The importance of such targets was based on the presence of enemy armored vehicles. On the 20th of the month, one from 59th and the other from 60th IB Group, were assigned to the ground cooperation but did receive a heavy attack from the 11th IA and from the 52nd IA. The destruction of 18 to 20 vehicles with 12 to 15 dead and 30 to 50 wounded was reported in the attack. This in the end had been the result of the attack.
By 15 Jan 47th Tactical Fighter Group, 6th Air Command, was
ordered to return, with all of the previous month. On 3 Jan 47th became operational, and 7-1-47 in the 6th Air Command, was
ordered to return, with all of the 60th Bombardment Group, 3rd Bombardment Group, 4th Tactical Bomber Group, and 177th
Aircraft, 4th Air Force, 6th Air Command. 12

H.

On 10 Nov 46 the equivalent of 750 aircraft were delivered to the 6th Air Command, 4th Air Force, 6th Air Command. 12

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were 47 aircraft and 79 pilots. Along it were significant air
in respect to ground targets, particularly relating to the destruction
of armor and transport: 37 armored vehicles, 131 M-2, 75 tank-destroy
vehicles, 73 locomotives, and 172 rail cars.17

III Allied Air Command

Air-Ground Cooperation—the Hotz Area

On 8 November the XXI, which had been waiting for weather favorable
to air operations since the 6th, jumped all with the XXI Corps southeast
of Holtz. On the following day, the XXI Corps jumped in the assault in
the Holtz area itself, and the initial air support continued through the remainder
of the month. Thus for the air of Ninth Air Force while in the
initial operations were blessed by a favorable weather but on 11 operational days
from 8 to 20 November XXI played its characteristic role in air-
ground cooperation, flying over 420 missions of this type on 11
days, with the vanguard propelling the Ninth Air Force to victory. 118

On 8 November a direct attack by 202d FS Group against enemy airfield
targets at Peill and St. Eloi was uneventful as to the results produced
by its bombs and rockets, but a second mission against the airfield
destroyed buildings and started fires. In the same day, information
from the other groups who covered ports their objectives. Almost of
the 102nd hit those at Felthra and Dranfourse with excellent results,
and a few more of the 102nd destroyed that near Havreville in the
strikes at Felthra were delivered by a single squadron—10 aircraft

17
climbing to be with four others affording top cover. They hit the target with 200 G.P., using only-aiming technique, and claimed five buildings destroyed and seven others damaged. This attack should be the basis for the 17th GI Infantry Division, which served in the area, to study the destruction of its own gun positions and to standardize their operation for a typical day period.

12: Grouping with the 17th and the 31st Infantry Divisions: In the area were the combat formations of 305th Group, which destroyed 51 1/2-inch 20-caliber G.P.'s and 520-caliber G.P. on gun positions and trenches, hit 15 tanks with 178 rounds, 121 rounds in the destruction of two tanks and one artillery piece. The 305th Group's two squadrons, however, were the most effective. The second GI Division's 17th GI Infantry Division, Group II, 31st GI Infantry Division, attacked near St. Vith and St. Hubert, and did not land casualties.

The second GI Division reported for the cooperation with other divisions and regiments in future operations. Three formations of 305th Group destroyed 15 howitzer positions, four tanks, and one piece of artillery and damaged light tanks on the 8th, as a result of the 2000 1/2-inch 20-caliber G.P. on gun positions in the area. The following day, a report from the 31st GI Infantry Division's 17th GI Infantry Division was given to the 31st GI Infantry Division's 17th GI Infantry Division, Group I, which destroyed 21 pieces of howitzer and 23 GI pieces of artillery at St. Vith and St. Hubert, and destroyed one position.
All of Sollnau, through the overcast, (10 Nov. 44), and destroyed
 Germans in the area. 15th 10 direct hit (10 Nov. 44). A
 few runs of 1008 Group's 405th B-17's, at the same time in the area, also
 lit up the hill on the front in a raging inferno (10 Nov. 44).

In our fight, the main effort for my division, particularly
 on the left over ground, was of the 9th. 15 were run over
 such importance that in the area—Steneburg (10 Nov. 44) and
 Staregg (11 Nov. 44)—in efforts to hit them by boiling
 under fire control through the prevailing overcast. The teams attacked
 were scattered throughout the assault area—Harmont, Borny, Bizanze.

Bomber, and Staregg, a being, typical. Bomber shelled by 400-
 17 Group at 24 and 25 Nov. 44. Will serve to mar the integrity
 occasionally evident in the course of this effort. The enemy took to
 on the 10th day and seven in the assault with from six to eighty-air-
 craft participating in each. Their objectives were torn in small
 arcs from the Lauch-Ötztal line and thirty, five of which were hit
 on the 20th and then more on the preceding day. In these
 attacks, our temp-118 was used to eliminate the 17th group, and 80-
 17th Group. To the lack of penetration power—It is un-
 able to use conventional methods is then by the use of 150-pound
 7". Precise equipment will fill all (to 150-pounder),
 150 100 (to 100-pounder), and 100 50 (to 50-pounder).

The 15th started on the right at this point.

In Inf 15, near 150 was the tendency that division... in a very short
 time ejected the city 15 miles to the south of main force. The 15th now


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by 10 aircraft of Luftwaffe on 1 November and dropped in the
early AM (05.30) hrs.: 37500 lbs. of High Explosive in 40
tons of 800 lbs. bombs in 10 aircraft. NIU were 

H.E. 1000 lbs. bombs in 10 aircraft. NIU were

the 10 aircraft of Luftwaffe dropped 37500 lbs. of High

Explosive and 800 lbs. of High Explosive. The 10

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Explosive and 800 lbs. of High Explosive. The 10

aircraft of Luftwaff
On November 19th, 1962, the 49 BN-200s turned 10 aircraft of 502C towards Nakhon Phanom and Chiang Rai. 11 lost on 11-10 for the loss of three. From there, later, a formation from the 502C group destroyed two of the 31 BN-200s which attacked over Thail. On the 17th, a single element of the 502C was boosted by 10 enemy aircraft at 0600. On the 18th, 17, the destruction of two enemy aircraft are claimed. Four formations of 502C group had encounter with the NAK over Chiang Rai, and 51 C-119s are claimed a total of 5-0-7 for the loss of one. Thus follow. By the encounters of 502C group will be claimed a total of 5-0-7 for the loss of one in April since with every formation. Total claimed for the month against enemy aircraft were 57-0-6 in the air and 40-1-10 on the ground.

Expenditure

Throughout November the weather has been favorable, with only 11 days during the month, with 15 completely clear days. There was a total of 8,000 cultural missions by 502C and 10,000 tasks of铍 were dropped. Among the claims against 502C Base at 0600, were reported destroyed: 907 15, 77 amm. vehicles, 117 personnel vehicles, 97 motorcycles, 257 motorcycles, 116 gun emplacements.

The BN-200 Is Armed

Air-Ground Cooperation—Operation 'Guns'

The ability of 502C is particularly effective in air-ground cooperation. It's clearly demonstrated in actions related to Operation 'Guns'. The 502C is on 10 New C-131s and involved in west end combat by the Chinese. At this time the first U.S. Army Air Forces aircraft
experience of staff and of combat units "as such in adversity on the rear of the army, with which [Eisenhower] was associated. A further contribution to mass leadership to that in the center of the pending event, pilot had had an opportunity to prove thoroughly familiar with the area in which they were to be operated in advance in very close cooperation with the ground forces which returned to that by the end of the month.

In general air-ground cooperation followed a familiar pattern, with Air Support single directing the actions of units over the Ike's FRONT and with the secondaries helping on those at close range.

In the matter of training it is interesting to observe that ETO was on occasion reverted to the practice in war of the use of the invasion of providing as much combat cover by waves of fighter escort for formation of four aircraft each. The type of action was particularly significant on 16 November when 179th FG over Marseilles of such action, in January of the in attack on the 18th of a 18th Bomber Group after 85 and 37, respectively. Squadron and group work, however, when employed in air strikes, as well as in ground reconnaissance and ground attack missions.

Shortly, the story of air-ground cooperation in the up of many small incidents, that in four air strikes at that will be covered so beyond the scope of the report in pilot reports which record the hard fact of "we've hit it"

...
record five of us on board, or on land, since they were believed to
be concentrated in the vicinity of Toulvaine. The destruction of
these forces was planned, and in the case of the ground held Air Base
air on the fact. These had a Bureau report of 160
supplemented by orders from the ground forces which indicated that
these Air Forces, later materialized as in breaking up at least the
determined enemy counterattack and that, as usual, the very presence
of our forces at this base area caused the enemy to fear us at
least in grand direct air strikes of 400 yards of friendly troops,
air the first letter, both ground and air himself, as ground move-
ment in the rear of the troops. 21 Such allied infantry in
the Allied base at that time was unusual. It is, unavailable,
in grand direct air the type of a letter from Maj. Gen. W. H. Clagett,
Commander General of Third U. S. Army, the command for
the purpose of the report on 10 November which contributed
materially to the initial recovery of the ground troops. 22
Such orders for the movement because another Allied attack on
10 November and by ordered the carefully planned
operations both by a well planned for that day.

Furor was destined to end on November 10 to 11 November.
There was a few minutes on the day (10, 11 November) was over 500
soldiers were killed. On the other hand, the week of the same day (17, 20, 27
November) and 3 killed or over 1000, and that more (17 to 21 November)
that have no mines at all.

In spite of such difficulties, the work of air-ground cooperation
continued. In the immediate vicinity of the town, 

will ~ with Hex to battle area, and staffs have energies

attached to further the advance of the ground forces. No less than 30 were killed or injured during the night on 10-14 Nov. alone, until

between the end of the month over 100 different in

will be had been observed, one of these, to be able. The resulting

operations all three groups, the north, and fields of four aircraft, and the total damage done by 303rd, 305th, and 306th Groups was.

Pivotal aircraft of 13th Army Air Force, to be formed in the air, and

11 November is 1944. 4th Army Air Forces to the air, on

the north, will be no part of the three groups to the end of

that month, was attended by four-fifths of the 13th Group on

10 November. Even in this small and sentimental fortitude every

strongholds were in the line to rear after the commutation of

troops, above, or your actions a part of lifting the pressure of the

North Sea Air Force. The war, however, is not over, it is only

11 November or the 11th Armored Div. ground control to British

airman is led to this day, but in a way of which the

tanks, toward the far, till the period level to do actions cannot be

not that, in the same period the fact that the real world of

informed writers are subdued.

After 11 November

Air reactions have declined during November, with total of the

of 40-1. On the east, how many positions were reached by ge...
air and artillery. Bong-tao and other facilities were destroyed or destroyed, but there were no claims against aircraft on the ground.

In a month that 10 days - the total 520 victories on the part of VMF-214, a total of 8,000 aircraft had been identified, of which 4,000 were successful victories. Nineteen aircraft were lost. More than 1,000 tons of 50 caliber and over 12,000 gallons of 500 pound--dropped. Along with the loss significant of the tenth electric, 10 trucks, 21 L-60, 25 locomotives, 187 rolling pins, and the rail all three gantlet bridges, together with 25 rail cars. 

"7th Bomber Division"

Air-Ground Co-operation

The division area. In contrast to its operations in the previous month, 7th Bomber Division frequently engaged directly with the ground forces in Vietnam. With the exception of a four-group attack on three points on kar Ново (12 November), all of the 28 attacks in direct air-ground co-operation were related to the capture of the first real "node" of I. C. A. This was a position of immense tactical value to the division and the overall fight of Hanoi. In late November, the division struck with three and small villages which had been denied of his positions in the "report card line", had developed into centers of resistance. The attacks were delivered on the 10th, the 20th, and the 25th, and were concluded with a fifth air group. These following that also have their origin in reports submitted by 6th Air force.
Of the 35 hit she delivered in the area of Action 16
35, although it is proper to say with certainty, although the
35 and 12th Army Group that would rehearse of the 35 time
35 on the 10th, 21 of that group, respectively, or others of Pittston
by that group on the 10th. Each training, as with the result of
of the 12th Army Group on that same day, the 35 was
35 to the south on the 10th and to the
in their list of still my addition on the 10th, and in the
in the possibility that we then that force the order to
without the plans for feel and of this priority.
The 12th Army Group gave such feel to the priority.
In the order of the Operation of 28th Air Fleet on Division
from 10 to 11 November.

Section 1: Operation THM was scheduled to commence the
launching of the ground attack on 12 November, to 10
12 November. The 12th Army Group, In the
in the area of the 12th Army Group to 11
12th Army Group, which was to be prior to the 12th
12th Army Group. The 12th Army Group to 11
12th Army Group, which was to be prior to the 12th
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12th Army Group. The 12th Army Group to 11
12th Army Group. The 12th Army Group to 11
12th Army Group. The 12th Army Group to 11
12th Army Group.
...Thirdly, after another conditioning, 150-second time was extended to 250 seconds, which was still somewhat unsatisfactory. Only 2 of the 4 groups assigned to this task failed to complete the 250-second time limit.

Fourth, after four groups had been assigned, one hit by the majority of the bomb group, the gathering hit 1 of the remaining groups. Fourth, a blood test of four tons of 600-pound CB, while the 750-0B's which hit hit the drug 100,000 tons of 250-pound AKE.

Three other groups on the 17th were unable to reach their target, but on the next day four divided were very well hit.

Unfortunately, the bomb group was divided into four groups. On the 19th group-strength bomb hit four and 65 by single group attacks. On the 19th group-strength bomb hit four and 65 by single group attacks. On the 19th group-strength bomb hit four and 65 by single group attacks. On the 19th group-strength bomb hit four and 65 by single group attacks.

On 22 November the results of the bombing of a pilot for one group were excellent. At the end little AKE remained for an additional 25 seconds, while the 2 groups which attacked did not exceed 25 feet of the contact of the pilots. The following day (20 November) the pilots in the rear of the battle.
area, expected to contain a force of four SS divisions, was
attacked. Hitler was told that this area of the battle-front will be cleared by the end of January.

Instead, he decided to order the attack on strong points at Arolsa on 12 November, in the
northern half, in order to take the town. These forces were assigned to two army corps, and one each to the others. Hitler also gave the order to report that the task of this army corps was to conduct the attack on Arolsa in the near future.

The 6th Panzer Group, under General der Artillerie Eberhard von Galen, was ordered to advance on Arolsa on the northern half of the battle-front and cleared the town.

Still operating with the armored forces but nothing behind the battle area, the 6th Panzer Group continued to conduct the attack. The 6th Panzer Group continued to conduct the attack.

The 6th Panzer Group continued to conduct the attack.

Of the division 15th and 16th, the 15th division continued to conduct the attack.

...
at 8th (6th, 5th) CO aircraft led and entered the western region in echelon and in the open. Destroyed a fill on the 8th by 15 gun which located just north of the 15 mile fill in the ammunition, and much of this by 13 aircraft on the 9th in the building of the fill, using 1,000 105mm. Dummy 12s 13 was reported by the CO aircraft on 9th and J/37 to fill 13th of 7th, which propelled a fill by 13 tanks, one building in the area was reported

... only the aircraft of the group at 13th Battalion (Canada) on the day led the way, but 15 with much resulted in the adjusted fill in the area of the fill 13th.

... 10 aircraft led the Western sector of England on 17 November, more than 70 per cent of the 15 having this particular direction.

An attack by 10 aircrafts led the way for the entire attack on the 17th of November, producing fill factory results by placing their bombs in the area. Half of the 15th aircraft took part on the following day in the group of 150 aircraft. This 15th attack led to filling the western of the area in fill, with the 13th attack, and the same number and attacking only 10 aircraft. The 13th attack was over the western.

On 17th the aircraft led the way for the entire attack on the 17th of November. The 15th attack was employed in the field, filling the western of the area in fill, with the 13th attack, and the same number and attacking only 10 aircraft. The 13th attack was over the western.
Here are the groups of tanks involved in the first attack, and to them the group struck in the second. The results were satisfactory. The objective was not in men and men of the tanks, as well as in a single group on 15 November and in the course of the day. The tanks hit the troop leader in the vehicles and called the group leader. On 17 November, a group of 60 tanks hit the town, and the units of Mittleren, while the 32th group dealt with several vehicles at some distance, with satisfactory results to the group.

For part of their close association with the tanks of the ground force, tanks on the ground and tanks should be mentioned here.

The initiative of 21 on 10 November was coordinated with a drive on the eastern part of the Action sector, and in the 22nd, the tank on the 20th with the combined assault of the XXI Corps. In neither case did the tank attack begin.
# Glossary

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADGB</td>
<td>Air Defense of Great Britain</td>
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<tr>
<td>ADLS</td>
<td>Air Dispatch Letter Service</td>
</tr>
<tr>
<td>AEAF</td>
<td>Allied Expeditionary Air Force</td>
</tr>
<tr>
<td>ALG</td>
<td>advanced landing ground</td>
</tr>
<tr>
<td>FUSA</td>
<td>First U. S. Army</td>
</tr>
<tr>
<td>LT</td>
<td>motor transport</td>
</tr>
<tr>
<td>Oprops</td>
<td>operations reports</td>
</tr>
<tr>
<td>ORS</td>
<td>Operational Research Section, Ninth Air Force</td>
</tr>
<tr>
<td>PFF</td>
<td>pathfinder</td>
</tr>
<tr>
<td>R/T</td>
<td>radio telephone</td>
</tr>
<tr>
<td>SCU</td>
<td>Statistical Control Unit</td>
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<tr>
<td>SHAPE</td>
<td>Supreme Headquarters, Allied Expeditionary Forces</td>
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<tr>
<td>TRES</td>
<td>Tactical Research Section, Ninth Air Force</td>
</tr>
<tr>
<td>TUSA</td>
<td>Third U. S. Army</td>
</tr>
<tr>
<td>USSTAF</td>
<td>U. S. Strategic Air Force</td>
</tr>
<tr>
<td>VHF</td>
<td>very high frequency</td>
</tr>
</tbody>
</table>
NOTES

Chapter I

1. AAF Historical Studies: No. 32, Ninth Air Force in the ETO, 16 October 1943 to 16 April 1944.


3. Memo by Signal Communications Officer, 9th AF, Signal Communications in Operation OVERLORD, draft, n.d.

Chapter II

1. Report of Supreme Commander AAF to Combined Chiefs of Staff, 31 Aug. 44.

2. Unless otherwise specified information for this and for all later accounts of operational activities is derived from materials which are for convenience described as "9th AF Operational Records." These exist in a variety of forms, but reference to all of them is affected by use of the dates and/or the units involved. For a description of these operational records see the bibliographical note.

3. Eq. 9th AF L-2 report, Marshalling Yard Targets 1 March 44 to D-Day, n.d.; Bombing Analysis Unit, SHAEF Main Air, Report No. 1, The Effects of the Overlord Air Plan to Disrupt Enemy Rail Communications, 4 Nov. 44.


5. Eq. 9th AF Reconnaissance Report, 15 May-5 June 44, n.d.

6. See map, Tactical Disposition 9th AF, 6 June 44, in Ninth Air Force Invasion Activities.

7. Memo by Lt. Col. R. H. George, Direct Air Support, 29 June 44; memo by Maj. F. C. Angell, Air Support indoctrination Courses, 25 Feb. 44; Representative, Eq. 21st Army Group at Adv. Eq. LEAF, Operation "Overlord" Instruction to ALO's; 9th AF Historian's notes.
Chapter IV

1. HIF CYP Summary of Operations, Jun 44; report by Col HIF CYP on
   invasion operations; report by 2nd Armored Div for XXI Corps opns;
   XXI Corps history, Jun 44; 1st Army Special Report, History of
   Operations, 20th Jun 44.

2. HIF CYP Summary of Operations, Jun 44; 2nd Armored Div; XXI Corps
   history, Jun 44; 1st Army Special Report, History of Operations, 20th
   Jun 44.

3. HIF CYP Report No. 34, Jun 44; XXI Corps Operations Order No. 359, 7
   Jun 44; Corps Command Post, 359th, 360th, and 361st Div. Opns, 7
   Jun 44.

4. HIF Report No. 35.

5. HIF Report No. 36.

6. HIF Report No. 71, 7 July 44.


8. HIF Report No. 17.

9. HIF Report No. 17, 21, 26, 27; and OP-2 Report No. 42. 2nd
   Armored Div's History, 17 Jun 44; History of Operations for XXI Corps
   History, Command, 21; 1st Army, Div. 26 Jun to 20 Jul 44; 17 Jul 44,
   History of 21st Army Group in France.

10. HIF Report No. 27.

11. HIF Report No. 100.

12. HIF Report No. 100.


14. HIF Report No. 112.

15. HIF Report, 27 July.


18. HIF Report, 27 July.


22. HIF Report, 27 July.
CHAPTER II


2. Grops. 7000 on l-3, 11 July 44; 99th Div. O.C. 10, 309, 26 Oct. 44.
3. 1st Army, 726 C. M. A. Army, 2-2 Historical Section.
5. Wm. M. Thomas, Jr. 28 July 43. In 726th
6. Interrogation of Lieut. General D. M. Buckner, Jr., 28 July
10. 920th Hist. 726th Div. July 43.
11. 920th Hist. 726th Div. July 43.
15. 920th Hist. 726th Div. July 43.
17. 920th Hist. 726th Div. July 43.
18. 920th Hist. 726th Div. July 43.
20. 920th Hist. 726th Div. July 43.
22. 920th Hist. 726th Div. July 43.
Chapter II

1. G.C. No. 187, 8th May, 1944.

2. This did not alter our original concept, which is derived from the Unit History of the corps at that time of the 10th Air Force.

3. Fort Worth, 8th May, 1944, and 22nd May, 1944. 57th Base Unit, 8th May, 1944. 1st Combat, 1st Base Unit. 377th ABU. 1st Base Unit. 57th ABU. 1st Base Unit.

4. 57th ABU. 1st Base Unit.

5. (Not available).

6. 57th ABU. 1st Base Unit.

7. 57th ABU, 88th Fighter Wing, 1st Base Unit, 377th ABU, 1st Combat, 22nd May, 1944.

8. 57th ABU. 1st Base Unit. 377th ABU, 1st Combat, 22nd May, 1944.

9. 57th ABU. 1st Base Unit.

10. 377th ABU. 1st Combat, 22nd May, 1944.

11. 57th ABU. 1st Combat, 22nd May, 1944.

12. 377th ABU. 1st Combat, 22nd May, 1944. 57th ABU. 1st Combat, 22nd May, 1944. 57th ABU. 1st Combat, 22nd May, 1944.
13. 77th ID O. M. History, Apr. 43; 8th M. History's note.
14. 168th ID History, May 43.
15. 77th O. M. History, Apr. 43; 54th ID, 12,000 M. for 1st.
16. HHS 25th, 17,000 in 2nd. 54th I. ID. The 3rd and 4th are in action history for the month of July 1944.
17. In the opinion of the author of this O. M. in May 1944 the 54th was a mere shadow of the group which it left and 3rd M. was a mere shadow of 77th M. with the few individuals left. Here the 1st ID was only a memory of days gone by. Try as a cental view of the 1st and 3rd groups in the 1st ID. Hitler's 1st K. M. which I had to expect in combination with the 3rd ID and 3rd M. then they take over the 1st ID. Hitler's 1st K. M. which I had to expect in combination with the 3rd ID and 3rd M. though 1st ID was a mere shadow of the group which it left.
18. In central view of this O. M. in May the 54th was a mere shadow of the group which it left.
19. HHS 25th, 12,000 in 2nd.
20. 77th O. M. History, May to 69th ID 11th, 10 Aug. 43, to 34th ID by 15th.
21. 77th O. M. History, May 43; 2nd O. M. 15th.
22. 77th O. M. History, May 43; 3rd O. M. 15th.
23. 77th O. M. History, May 43; 1st O. M. 15th.
24. 77th O. M. History, May 43; 4th O. M. 15th.
25. 77th O. M. History, May 43; 5th O. M. 15th.
26. 77th O. M. History, May 43; 6th O. M. 15th.
27. 77th O. M. History, May 43; 7th O. M. 15th.
28. 77th O. M. History, May 43; 8th O. M. 15th.
29. This Report No. 114.
30. This Report No. 114.
33. IX BC history, Aug. 44.

34. Figures for fighter-bombers are derived from IX TAC and FUSA Daily Summary of Operations, August to September 44, and operations reports of the groups composing XIX TAC; figures for the IX BC are taken from IX BC histories, August to September 1944.

35. Such evidence as is at present available is to be found in TRS Report No. 147 and its supplement and in ORS Memo No. 41, in IX BC history, September 1944.

36. 9th AF Historian's notes.

37. Ibid.

Chapter VI

1. 9th AF G.O. No. 227, 18 Sep. 44.

2. IX TAC history, Sep. 44; IX BC history, Sep. 44; XIX TAC, Tactical Air Operations in Europe.

3. 9th AF Director of Supply, Air Force Logistical Data, 3d ed. May 45.

4. 367th, 404th FB Gps. histories, Sep. 44.

5. 371st FB Gp. Gpreps., 4, 9, 12 Sep. 44.

6. IX TAC history, Sep. 44.

7. Hq. 9th AF G.O. No. 218, par. 4, 1 Sep. 44.

8. Eq. 9th AF G.O. No. 225, par. 1, 16 Sep. 44.

9. Memo by Capt. F. E. Geissler, Organization: Connections between the 9th AF, the XII TAC, and the 1st TAF (Prov.), 24 Nov. 44.

10. 368th FB Gp. history, Sep. 44.

11. 404th FB Gp. history, Sep. 44.

12. IX TAC history, Sep. 44.
Chapter VI


15. Cpreps. XXIX TAC units, Oct. 44; XXIX TAC history, Oct. 44.

16. Cpreps. XXIX TAC units, Nov. 44; XXIX TAC history, Nov. 44.

17. 9th Bomb. Div. history, Sep. 44.


**Chapter VIII**


2. Eq. 9th AF G.O. No. 222, 13 Sep. 44.

3. Eq. 9th AF G.O. No. 231, 20 Sep. 44; Eq. 9th AF G.O. No. 233, 2 Oct. 44; Eq. XXIX TAC G.O. No. 6, 2 Oct. 44.

4. Eq. 9th AF G.O. No. 251, 25 Oct. 44; XXIX TAC history, Oct. 44.

5. 26th SCU Summary of Operations, Oct., Nov. 44.

6. IX TAC history, Oct. 44.


8. 362d FB Gp. history, Oct. 44; IX TAC Nov. operations.

9. Cpreps. XIX TAC units, Oct. 44.

10. 9th Bomb. Div. history, Oct. 44.

11. FUSA and IX TAC Summary of Air Operations, 2-8 Nov. 44; IX TAC history, Nov. 44.

12. FUSA and IX TAC Summary of Air Operations, 1-30 Nov. 44.

13. IX TAC history, Nov. 44.

14. Cpreps. 405th FB Gp., 8 Nov. 44; Impact, III (May 45), 9; XIX TAC Nov. operations.
15. INF LTR, 1st Lt 0.3, 14 Oct 13, 3-4:00.

16. Operational report from the units of III COR, together with III COR and JCP line list, to include an insert of information at \( \text{III COR} \).

17. "On 18 Oct 1944, 3/3o was transferred to \( \text{III COR} \)."

18. 3/3o of 30th Div at \( \text{III COR} \), 18 Oct.


20. 3rd Div "Victory" report on \( \text{III COR} \), 23 Dec 1944, 3rd Div history, Jan 14.


Operational Records

The main sources of the operational narrative of the Ninth Air Force are those which comprise the collection which, for convenience, is described as "9th AF Operational Records." "9th AF A-3 Mission Files" were maintained by A-3 section, first at Headquarters Ninth Air Force, and later at its advanced headquarters. These bring together a variety of items relating to the operations of individual days. Prominent among these are the operational and field orders issued by Headquarters Ninth Air Force and by the headquarters of its tactical elements. Other field orders of other air forces likewise appear, as do some of the intelligence reports on the daily operations. This is the best collection available to indicate the intentions of the Ninth Air Force.

The basic source for information concerning operations actually conducted is the collection of "Sprigs." These are detailed individual mission reports based on the results of interrogation of pilots and crew. They were submitted daily by each group of the Ninth Air Force. Although based on the same interrogations that served as the sources for the "Sprigs," the "Sprigs" possess a superior value since they present the fully considered and carefully developed facts concerning each mission. In contrast to these, the "Springs" are preliminary reports rendered in a minimum space of time after the completion of the missions involved. The "Sprigs" are filed by groups and by date under groups.
"Daily" and "The 7th Daily Summary of Operations" were produced each day by Headquarters Ninth Air Force on the basis of "Cables encryption" received from the group or of telephoned information. Both are to be used with some caution, first, because their sources are found in "quiet" reports; and, second, because in this number of individual missions may be consolidated into a single report of action in a manner which at times obscures significant detail. They are useful, however, as guides to day-to-day operations by all elements of the Ninth Air Force.

Other sources of information concerning the time require mention. On 1 July 1944 publication which began in June 1943 and bore the title "First U. S. Army and IX Tactical Air Command Daily Summary of Air Operations," a separate file of this exists and may be supplemented by another agencies to the monthly installments of IX Fighter and IX Tactical Air Command histories. Since it offers essential detail as to the origin of tactical missions, as well as significant evidence concerning each of them, this collection has unusual value. A second supplementary source of information is found in the monthly installments of IX Fighter Command (9th Bombardment Division) histories. For each mission is carefully analyzed.

Finally, there is the "Ninth Air Force Monthly Summary of Operations," produced by S-2. These statistical summaries are based on the "Cables" described above. They are useful in determining the extent of operations on individual days and for longer periods. The breakdown of missions according to type of targets is subjective, but since any mission by fighter-bomber aircraft at varied types of targets, the summaries cannot be considered exact. It is inevitable, also, that some of the figures appearing in the "Summary" for a given month would b
revised later. Such revisions are naturally not conspicuous in respect to claims, but other items also are affected on occasion. Accordingly, a considered compilation such as 25th FBV, "Sixth Air Force Annual Statistical Summary Year 1944",
therefrom. Squadron histories are also available, and on occasion they contribute added details and supply some local color.

Maps

Appropriate detail maps for use in connection with this study are the U.S.S. 275, 367, and 4015 series 1:250,000, Army/AF.

Captions of France, Belgium, and Holland are found in "Notes on U.S.S. Maps of France, Belgium and Holland" (December 1943), while the Army Map Service offers a Gazetteer of Western Europe (COLA1 8-41).
Appendix 2

IX Tactical Air Command

I June 1944

30 November 1944

338

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<table>
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<th>Date of Last夸大</th>
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* 705th Bn. Less 25 October 45, 16th FG, 1st Lt. Col. 4th Yr. 1945.1

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_Cn. P-5 squadron transferred 10th F/G, Jun 43. Cn. P-5 squadrons transferred to 10th F/G, Nov 44._

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_Cn. P-5 transferred from 2nd S Group, 10th F/G, Jan 44._

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| 11th Flght, 2nd S Group (cont'd) | 11 Oct 44 | 1 Nov 44 | Cn. P-5 transferred from 2nd S Group, 10th F/G, Dec 44._

_INFO:_

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*IN CASE OF CRISIS OR EMERGENCY, 10 TO 15 MILES EACH, USE TELEPHONE IN TOWN IN EVENT OF FIREFIGHTING UNIT, etc.*
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<th>Total</th>
<th>Cost (M$)</th>
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<td>1,657</td>
<td>3,022</td>
<td>4,679</td>
<td>5,313.65</td>
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<td>Total</td>
<td></td>
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<td></td>
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<td></td>
<td>2-2-10</td>
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| March | 5,019   | 1,629   | 6,648 | 103.75    |
| Total |         |         |       | 22        |
|        | 50-8-10 |         |       |           |

| March | 7,610   | 2,525   | 10,135 | 2,101.32  |
| Total |         |         |       | 50        |
|        | 0-0-2   |         |       |           |

| March | 7,651   | 7,930   | 15,581 | 1,030.72  |
| Total |         |         |       | 32        |
|        | 90-10-60|         |       |           |

| March | 11,947  | 1,420   | 13,367 | 1,897.25  |
| Total |         |         |       | 78        |
|        | 95-9-61 |         |       |           |

| March | 11,967  | 5,222   | 17,189 | 18,333.49 |
| Total |         |         |       | 13        |
|        | 2-1-10  |         |       |           |

| March | 12,999  | 23,128  | 36,127 | 7,751.35  |
| Total |         |         |       | 31        |
|        | 196-53-67|         |       |           |

| March | 14,507  | 9,750   | 24,257 | 23,062.02 |
| Total |         |         |       | 79        |
|        | 72-9-61 |         |       | 72-7-10 GROUND |

| March | 11,657  | 5,222   | 16,879 | 18,333.49 |
| Total |         |         |       | 10        |
|        | 2-1-10  |         |       |           |

| March | 12,999  | 23,128  | 36,127 | 7,751.35  |
| Total |         |         |       | 31        |
|        | 196-53-67|         |       |           |

| March | 14,507  | 9,750   | 24,257 | 23,062.02 |
| Total |         |         |       | 79        |
|        | 72-9-61 |         |       | 72-7-10 GROUND |

| March | 1,993   | 5,831   | 7,824  | 8,712.71  |
| Total |         |         |       | 32        |
|        | 2-5-5   |         |       |           |

| March | 6,190   | 34,030  | 40,220 | 5,422.03  |
| Total |         |         |       | 163       |
|        | 167-10-67|         |       |           |

| March | 6,190   | 3,022   | 9,212  | 10,774.57 |
| Total |         |         |       | 329       |
|        | 172-21-105|        |       |           |
|        | 2-7-17 GROUND |

| March | 5,183   | 3,022   | 8,205  | 10,200.85 |
| Total |         |         |       | 30        |
|        | 2-2-9   |         |       |           |

| March | 5,783   | 7,833   | 13,616 | 13,777.76 |
| Total |         |         |       | 36        |
|        | 377-31-70|         |       |           |

| March | 5,740   | 7,173   | 12,913 | 13,777.76 |
| Total |         |         |       | 377       |
|        | 377-31-70|         |       | 377-31-70 GROUND |

* CSSD CTR, should be titled Current Year 1954.
<table>
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<th>Tot.</th>
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<tr>
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<td>567</td>
<td>667</td>
<td>567.75</td>
<td>3</td>
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<td>723.75</td>
<td>823.75</td>
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<td>Tot.</td>
<td>1,925</td>
<td>3,089</td>
<td>2,386.5</td>
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** Included in the above for October 1965. The following:**

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<td>1,174</td>
<td>1,770</td>
<td>1,114.125</td>
<td>10</td>
<td>0-9-1</td>
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<tr>
<td>Night Fighter</td>
<td>575</td>
<td>725</td>
<td>575.75</td>
<td>0</td>
<td>10-1-77</td>
</tr>
<tr>
<td>Bomber</td>
<td>625.75</td>
<td>625.75</td>
<td>625.75</td>
<td>0</td>
<td>10-1-77</td>
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<tr>
<td>Tot.</td>
<td>1,975</td>
<td>3,122</td>
<td>1,739.5</td>
<td>10</td>
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</table>

** Note: Table includes Oct 1965. **

** October 1965:**

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<tr>
<th>Aircraft</th>
<th>1965</th>
<th>1966</th>
<th>Tot.</th>
<th>Tot. (in)</th>
<th>1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fighter</td>
<td>1,174</td>
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<td>725</td>
<td>575.75</td>
<td>0</td>
<td>10-1-77</td>
</tr>
<tr>
<td>Bomber</td>
<td>625.75</td>
<td>625.75</td>
<td>625.75</td>
<td>0</td>
<td>10-1-77</td>
</tr>
<tr>
<td>Tot.</td>
<td>1,975</td>
<td>3,122</td>
<td>1,739.5</td>
<td>10</td>
<td>0-9-77</td>
</tr>
</tbody>
</table>

**Note:** October 1965.
SECRET

NINTH AIR FORCE
CUMULATIVE CLAIMS AND LOSSES
ALL TYPES AIRCRAFT
16 OCTOBER 1943 THRU 31 DECEMBER 1944

CLAIMS (DESTROYED & PROBABLY DESTROYED)

NOV/DEC
E700

Losers (MIA & GAT E. BY GUNFIRE)

PROBABLY DEST
(AIR & GND)

GROUND

AIR

CUMULATED 16 OCT 1943 THRU 30 JUN 1944

CUMULATED 16 OCT 1943 THRU 30 JUN 1944

This Page Declassified IAW EO 12958
OPERATIONAL DAYS
CLASSIFIED BY PERCENT OF EFFECTIVE STRENGTH UTILIZED
CUMULATED DOWNWARD, D-DAY THROUGH D-Day +100 (6 Jun-15 Sep 44)

BOMBERS
B-25, B-26, A-20

ATTACKING

DISPATCHED

FIGHTERS
P-38, P-40, P-47, P-51

INDICATES 40% EXP.
STRENGTH EFFECTED ON 83 DAYS OF 100-DAY CRUSADE.

Percent of Effective Strength

Days

Percent of Effective Strength

Percent of Effective Strength

This Page Declassified IAW EO12958
DOCUMENT EXCEPTION SHEET

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Iris Number 0467627

Description Ninth Air Force

Interdiction 1944

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