THE AAF IN THE MIDDLE EAST
A STUDY OF THE ORIGINS OF THE NINTH AIR FORCE

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THE AAF IN THE MIDDLE EAST

A Study of the Origins of the Ninth Air Force

(Short Title: AAFRH-8)

The original of this monograph and the documents from which it was written are in the USAF Historical Division, Archives Branch, Bldg. 914, Maxwell Air Force Base, Alabama.
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Prepared by
Assistant Chief of Air Staff, Intelligence
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June 1945

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I. ORIGINS OF AMERICAN INTEREST IN THE MIDDLE EAST. .... 1

Military situation in North Africa at the end of 1940...Strategic importance of the Middle East... American aid extended to countries at war with Axis powers in the Mediterranean area...United States profits by British experience in the Western Desert... Egyptian campaign assumes greater significance with the fall of Crete and the invasion of the Soviet Union...Increased shipment of American equipment to the British in Egypt...Establishment of the South Atlantic and trans-African ferry route... Extension of the route to the East.

II. AID TO THE BRITISH (1941 to June 1942). ....... .20

Improvement of Middle Eastern supply and transportation facilities...Problems of aircraft maintenance and repair...Sending of American technicians and military observers to Egypt...Establishment of the North African and Iranian Military missions... American interest in the Middle East augmented by outbreak of war in the Pacific...Plans for the dispatch of American air units in support of the British... Critical situation in Egypt in June 1942.

III. THE NINTH AIR FORCE TAKES SHAPE
(26 June to 12 November 1942) ............. 68

Establishment of the U. S. Army Middle East Air Force, under the command of General Borden...Expansion during the summer...Initial operations... Cooperation between the AAF and RAF...Growing independence of the American groups...Activation of the Ninth Air Force...Organization strengthened by the arrival of additional units.

NOTES .......................... 118
GLOSSARY ........................ 177
BIBLIOGRAPHICAL STATEMENT .... 179
INDEX ........................... 180

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SECURITY INFORMATION
### Maps

<table>
<thead>
<tr>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Map</td>
<td>frontispiece following</td>
</tr>
<tr>
<td>Ferry Routes</td>
<td>10</td>
</tr>
<tr>
<td>Red Sea Area</td>
<td>20</td>
</tr>
<tr>
<td>Delta and Levant Areas</td>
<td>68</td>
</tr>
<tr>
<td>Enemy Shipping Routes</td>
<td>90</td>
</tr>
</tbody>
</table>
The AAF in the Middle East
A Study of the Origins of the Ninth Air Force
Chapter I

ORIGINS OF AMERICAN INTEREST IN THE MIDDLE EAST

At the close of 1940, the movement of German air units to the Mediterranean area indicated that the tempo of the war in this theater was likely to increase. In the Western Desert, the campaign begun by Italy in September and supported by a thrust from East Africa had been turned in favor of the British by the fall of Sidi Barrani on 11 December. Under continued British attack, the Italians had withdrawn into Libya, with losses sufficiently heavy to prevent Marshal Graziani's army from being an immediate menace to Egypt. This reversal of the military situation offered some relief to the British, who, in the midst of preparations for their offensive, had felt obliged to go to the aid of Greece when Italian forces crossed her frontiers late in October.

Such air and naval assistance as Great Britain could send had enabled the Greeks to meet the invaders with stiffened resistance. Yet the diversion of aircraft to Greece was made at the expense of the RAF, whose limited resources in the Middle East suffered from this further dispersal. The Mediterranean fleet, on the other hand, had benefited temporarily from the opening of the Greek campaign, in that the availability of bases in Crete afforded it greater freedom and security in the pursuit of Italian ships. On the apparent assumption that there was need to offset this advantage and to occupy the British more effectively than the Italians had succeeded in doing, German
bomber units experienced in attacking shipping had been transferred to Italy and Sicily.

Although the plans of the enemy were still a matter of conjecture, many observers saw in these developments the initial steps in a two-pronged thrust toward southwest Asia—a region which Imperial Germany had hoped for a quarter of a century to dominate. Standing at the gateway to three continents, the Middle East had always occupied a strategic position, but the importance of its location had been greatly enhanced by the recent trend of events. From a military point of view, however, its principal asset consisted in the abundant supply of oil in Iraq and Iran. From Kirkuk in the Mosul district of Iraq, this oil is piped to Haifa in Palestine and to Tripoli in the Lebanon; from the Ahwas district of Iran, it flows to the great refineries at Abadan, whence it finds its chief outlet through the Iraqi port of Basra. Any power holding this territory would therefore be provided with one of the sinews of war—a consideration which Great Britain and France had in mind when the pipelines to the Mediterranean were laid through territories over which they exercised mandatory control.

Inasmuch as Germany's lack of oil was thought to constitute her "Achilles' heel," it seemed probable that she hoped eventually to acquire Middle East sources to supplement the production of Romanian fields already under her "protection." If Turkey's coolness to German propaganda should present an obstacle to an eastward thrust from the Aegean, there was reason to suppose that the hand of the Axis might fall upon Egypt. In fact, a drive across Northern Africa to the
Persian Gulf would serve a double purpose by giving the Axis access to oil supplies and, at the same time, enabling it to strike a heavy blow at British imperial communications. Confronted with such possibilities, Britain had considered it perilous to allow further German advances in the Balkans. The extension of aid to Greece entailed serious risks, however. With a superior air force and no substantial commitments elsewhere, Germany could throw the bulk of her weight against the Balkan Peninsula, if need be. For a new expedition, Great Britain, on the other hand, had few troops and few airplanes to spare, for she was faced with the necessity of guarding her home islands from invasion, of providing protection for the Suez, and of continuing both the Western Desert and East African campaigns. No one could foresee what proportions the ensuing conflict would assume. There was, however, a growing feeling that the Middle East would prove of vital importance to the Allied Nations, not only as a place to defend but also as a potential base from which ultimately to launch a counter-offensive.

Since the American rearmament program had been undertaken with the object of enabling the United States to wage war under whatever necessity might arise, it had been decided soon after the opening of the Western Desert Campaign that United States military observers should be sent to the Middle East. At a time of rapid technical and tactical development, the Army Air Corps was especially desirous of drawing upon British experience in this theater. The first of such observers, Col. Gerald E. Brower and Maj. Demas T. Craw, had arrived in Cairo early in November 1940 to investigate problems connected with the role
of air power in modern warfare. Under the tutelage of RAF officers, they spent several profitable weeks in Egypt before crossing to Greece to study operations there.

With the approach of spring the Balkans became the center of attention, as Nazi armies concentrated on the borders of Yugoslavia and Greece, and then invaded the two countries on 6 April 1941. Although the position of the United States was one of official neutrality, Americans were deeply concerned in the struggle. Convinced that its own defenses could best be strengthened by aiding the countries at war with those powers which menaced its security, the United States had been furnishing supplies and equipment to Great Britain and her allies under a cash-purchase arrangement. These orders were now being delivered in considerable volume, and the passage of the Lend-Lease Act, on 11 March, had made possible the formulation of an ampler program of assistance. It would be months, however, before our factories could have ready the equipment which these plans represented. In view of the critical situation in the Balkans, efforts were made to send to the harassed nations airplanes and armament from our stocks on hand. Although these supplies were afterwards put to good use by the British, and by such Yugoslav and Greek forces as were able to join them in Palestine and Egypt, these shipments failed to reach their original destination. By 18 April, Yugoslavia had been overrun; 9 days later Athens was occupied by the invaders; and the Allied armies were obliged to fall back upon Crete. By the end of May, it too had been lost, and Egypt itself was at stake.
they were not obliged to route their messages through time-consuming channels proved a decided advantage—and one that added greatly to their usefulness. By keeping their companies informed about the faults of planes, the modifications undertaken in the field, and the requirements peculiar to the theater, these representatives were destined to play an increasingly important role. Incidentally they passed on to the British a good deal of technical information and, along with personnel of the Army Air Corps, often proved instrumental in winning acceptance for new types of planes. In the case of the Kittyhawk, for example, the servicing of guns from the bottom instead of the top of the wing panel, as in the Hurricane and Spitfire, met with disapproval until the British realized how much more easily the guns could be cleaned under this arrangement; that is, simply by spraying them with gasoline, which drained out through the service holes.

In response to requests from the RAF for instructors and supervisors in the work of maintenance and overhaul, American aircraft companies also sent to the Middle East in the spring and summer of 1941 groups of skilled mechanics, each equipped with his own kit on account of the scarcity of hand tools there. Before the end of the year, other technicians recruited under lend-lease terms to assist the British and other belligerents in assembling American-manufactured equipment, and to give them instruction in the essential features of its operation, enlarged the number of Americans employed in the Middle East.

Inasmuch as extended lines of communication in Egypt created for the British a problem of maintenance and supply comparable to one which
This turn of events made American aid all the more important, and fortunately additional ways of extending help to the Middle East had been found. With the capture of the Eritrean port of Massaua, on 8 April, the Red Sea had been brought completely within British control and was opened, by presidential proclamation, to American shipping 3 days later. From West Africa, a thin trickle of American-manufactured P-40's, erected at a British assembly plant at Takoradi, had already begun to reach Egypt. Owing to the inexperience of some of the British and Polish pilots in the Middle East and their unfamiliarity with the Tomahawk, many of the P-40's were wrecked in being ferried from the Gold Coast to Cairo, and the remainder were not always used to advantage.

In the hope of remedying conditions, a few officers and enlisted men of the U. S. Air Corps were dispatched to the Middle East in the spring to give instruction in the operation and maintenance of planes being furnished to the British. Assigned to tactical units, these technicians fulfilled their mission so satisfactorily that upon the arrival of the first Kittyhawks later in the year, RAF personnel were considered capable of carrying on the work of instruction.

Desirous of learning how their aircraft stood up under actual combat conditions, American manufacturers early adopted the practice of sending representatives to the Middle East, where the Western Desert Campaign provided a veritable laboratory for such a purpose. These experts not only assisted in the solution of mechanical problems, but were able to make careful observations in the field and to report defects directly to the factories with which they were connected. The fact that
would confront an American air force at war, the Material Division had recommended in December 1940 that a specialist be sent to study the organization and operation of the British Maintenance Command in the Middle East. In the spring of 1941 this investigation was undertaken jointly by Capt. Edwin S. Perrin, detailed to Cairo for this purpose, and by Colonel Brower, already serving as an air observer in this theater. Because of the current importance of the matter, these officers were ordered to report all possible information on the subject. It was thought that the experience thus gained would be useful in assisting the Air Corps in handling problems pertaining to the development and maintenance of equipment under service conditions. Since the Desert Campaign was attracting a good deal of attention, these observers were also instructed to take note of such topics of general interest as antiaircraft defense, organization and operation of field-army headquarters, supply and communications, motor transportation of troops, the organization and operation of individual units, and the coordination of air, ground, and naval units in special operations.

Meanwhile, the dispatches of our Military Attaché in Cairo, Maj. Bonner Fellers, kept us informed of the situation in Egypt. During the Balkan engagement the British had suffered reverses in the Western Desert. The transfer of a German air unit to Sicily had enabled the Germans to bombard Malta, harass British shipping, and bring convoys from Italy to North Africa in increasing numbers. In the apparent hope of diverting British forces from Greece, the Germans had crossed to Libya to test British strength and efficiency and to experiment.
with desert equipment. As a result, General Rommel's panzer units had reached the Egyptian frontier in June, and the Axis was holding airfields within striking distance of the Suez Canal and the naval bases dependent upon it. By transferring forces from Sicily and Greece, it was feared that the Germans could assemble sufficient air power to control the southern and eastern shores of the Mediterranean. To protect the Haifa pipeline and to forestall Axis collaboration with Vichy, the British and the Free French had undertaken the joint invasion of Syria on 8 June 1941, and strenuous efforts were being made to hold the German armies on the Egyptian frontier.

As a base for the defense of the Middle East, Egypt offered many advantages. It had space for the training and accommodation of large forces, routes of communication, and harbor facilities; from its Red Sea wells, it could furnish oil for ships, tanks, and planes. Because of the character of the terrain, landing fields could be prepared with a minimum of effort, and consequently it would be possible to establish here bases from which tremendous forces, once organized, might be transported across the Mediterranean to attack Nazi-held Europe. Although the arrival of men and materiel in Egypt compensated in part for the heavy losses sustained in the Greek and Cretan campaigns, their numbers were rigidly conditioned by the scarcity of shipping space and the time consumed in the voyage around Africa. With Axis ships shuttling back and forth across the few hundred miles of sea between Italy and Libya, it seemed unlikely that reinforcements and supplies could reach the Middle East soon enough to be of service. The invasion of the Soviet
Union by the Germans on 22 June 1941 therefore came as a respite, for it reduced to some extent the Axis threat to this area. In fact, the withdrawal of German aircraft from the theater had been noted for several days before the outbreak of hostilities. The assumption that these planes and their crews had been transferred for employment on some other front seemed borne out by the presence of a greater number of Italian pilots in the Western Desert after the opening of the Russian campaign.

During the hot summer there was reason to suppose that the fighting in North Africa would be limited to light skirmishes. In the course of these months, the British therefore mustered their strength for the resumption of hostilities in the fall. Anticipating in the Western Desert a renewal of the German practice of attacking airfields with fighter planes—a method which had proved most effective in Crete—the British were engaged in echeloning their airfields to the rear. Airfields for refueling and rearment were placed 25 to 50 miles behind the lines, while operational fields for squadrons were located between 80 and 100 miles from the front, and base fields as much as 120 to 150 miles to the rear. Theoretically, at least, each field was to have complete mobility, and all airfields were to be widely dispersed. A beginning of the "leapfrog" system, later used so satisfactorily, was to be seen in a plan providing for the occupation of forward operational fields by only half of a squadron at one time.

The skillful employment of German air power in the Cretan campaign had also shown that the success of military and naval operations was
contingent upon the cooperation of air units. For such coordination of action the British air force in Egypt was wholly inadequate. In a series of urgent meetings late in June 1941, British representatives discussed with officials of the Division of Defense Aid Reports and of the Army Air Corps the question of what could be done to meet the critical need for planes in the Middle East. Especially acute was the problem of prompt delivery. With the loss of the French fleet in 1940, the British had been cut off from the western Mediterranean, and in recent months the activity of the German air force in Sicily had virtually closed their only direct air route, which ran by way of Gibraltar and Malta.

There was, fortunately, an alternative to shipping planes from Great Britain and the United States by the long passage around Africa. From 1931 to 1936, an air route from Khartoum in the Anglo-Egyptian Sudan to Lagos on the Nigerian Coast had been plotted by British civilian airmen. A few airfields, hewn from the jungle or laid out on the desert, had made pioneering operations possible, and in the following years these had been extended to Accra and Takoradi. Only after the closing of the Mediterranean, however, had the usefulness of the route been fully realized. Then, with several large flying boats bought from Pan American Airways, the British had inaugurated a transport line running from Great Britain to Gibraltar, and thence southward to the Gold Coast, where land-based planes continued the service to Egypt.

Across this route, in the fall of 1940, British pilots had begun to ferry squadrons of Hurricanes and Blenheims shipped from the British
Isles to Takoradi, where at a British-built plant they were assembled, tested, and made ready for convoy. In this way, the time consumed in the trip around Africa was shortened by weeks. Although still in the experimental stage, operations had expanded steadily. With increased production of planes, this avenue promised to become one of the most important reinforcement lanes to the Middle East.

The flight across the continent was by no means an easy one, for the weather was subject to sudden and violent changes, and geographical conditions varied greatly. Maps were few and inaccurate, and inland radio and meteorological stations nonexistent. The first leg of the route, from Takoradi to Lagos, followed the hot, malaria-ridden coast, where thunderstorms and line squalls complicated flying during the rainy season. From Lagos to Kano, the course ran northeast across forests overhung with clouds, past the junction of the Niger and Kaduna rivers, and over the rocky hills of central Nigeria. Here the vegetation thins out to a park-like growth, and the rich, red soil supports farming. Between Kano and Maiduguri the land is level and without distinctive topographical characteristics, a lack which proved a great disadvantage to pilots, for here is encountered the dust haze blown southwest from the desert and locally termed "the harmattan." East of Maiduguri for some 300 miles, stretch the swamps and rivers which constitute the inland drainage basin of the Chad, a little-known area where landing grounds were to be found at only a few widely scattered posts like Fort Lamy and Ati.
In the Anglo-Egyptian Sudan, the first stop was El Geneina, one of the most inaccessible of RAF stations, with the nearest white outpost 200 miles across the mountains and its base of supplies some 700 miles distant. Beyond the twin peaks of Barra Symbal lay El Fasher, which is virtually an oasis, although the surrounding country supports camel thorn and prickly grass and is therefore not truly a desert. From here to El Obeid and on to Khartoum, the terrain is monotonously flat and deteriorates steadily into desert upon approach to the Nile. The last 1,000 miles, from Khartoum to Cairo (Heliopolis), constituted the simplest part of the flight, for the river and railroad served as guides to navigation, and the prospect for making a successful forced landing was good. Despite these advantages, vigilance could not be relaxed, for violent sandstorms sometimes arose and mirages and shimmering heat-glare complicated landings at airfields like Wadi Halfa.

Although the Khartoum-to-Cairo stretch of the trans-African route represented an older and better-established course, the newer portion from Khartoum westward was indeed a primitive affair. Its inadequacies—small fields, short runways, and service stations with limited facilities—accounted, in part, for the number of planes damaged or lost in making the crossing. Since the British had employed their bombers at home, large airfields had not been needed for the fighter planes which had been flown across Africa. If Egypt were to be furnished with aircraft in a short time, it was obvious that this trans-African ferry route must be transformed into an effective airline capable of providing for
bombers as well as for a greater number of fighters, and that an air
lane across the South Atlantic must be inaugurated, in order that
bombers could be flown all the way from the United States.

During the Anglo-American discussions in the summer of 1941, it
was proposed that the route should run from Miami or West Palm Beach
to American and British airfields in such West Indian islands as Puerto
Rico and Trinidad, and thence by several short hops to Natal, on the
bump of Brazil. After approximately 1,800-mile flight across the
South Atlantic to Batimurst in Gambia, or Monrovia in Liberia, it would
then connect with the trans-African line. A chain of airfields
through the Caribbean and down the east coast of South America had
already been developed by Pan American Airways. There was, however,
a possibility that Brazil, as a country then neutral, might object to
military planes crossing her territory and using her airdromes.
Fortunately she offered full cooperation and provided a corridor through
which American transport and combat planes could pass on their way
to the Middle East.

Since there were, at the time, few American airmen qualified by
training and experience to fly so hazardous a course, it was clear
that the undertaking would have to be assumed by a commercial airline
with sufficient facilities and experience to make a success of the enterprise. Frequent consultations with the civil aeronautics authorities
and officials of commercial companies led the War Department to choose
Pan American Airways for the task. After making a rapid survey of the
route, this company consented to undertake the project.

According to the contracts of 12 August 1941, the United States Government was to provide planes, priorities, and money from lend-lease funds to finance the enterprise. The establishment and operation of the South Atlantic and trans-African airways and the development of transport service on both legs of the route were the obligations of Pan American Airways (PAA) and Pan American Airways - Africa, Ltd. (PAA-Africa, Ltd.), a subsidiary founded to cope with the problems of the African assignment. In addition, Pan American Air Ferries, Inc., another subsidiary, assumed the responsibility for actual ferrying to the Middle East of bombers from the United States and pursuit planes from West African assembly plants, where they were piling up through lack of pilots capable of flying them to Egypt.

Possession of a series of bases running through the Caribbean and along the Brazilian coast, facing the "Narrows" of the Atlantic enabled Pan American Airways to establish the overseas route with relative ease. The African project presented greater difficulties, however. Under the management of a general staff composed of men individually responsible for construction, operation, maintenance, communications, meteorology, and like services, PAA began to assemble shiploads of materiel essential to the building of airfields and the setting up of radio and weather stations and fuel depots. Meanwhile, in Africa, hosts of natives recruited by the beating of drums were engaged in carrying tons of stone for runways, and hundreds of camels
were lumbering across trackless wastes, bearing cans of gasoline to remote refueling posts. Since the British could spare no men to operate the airfields, it was necessary to raise and equip a highly technical force in the United States, transport it a third of the way around the world, spread it over a continent, and maintain it in health. To keep it in supplies across an ocean infested with submarines, and over jungles and deserts lacking both highways and railroads, was an enormous task in itself.

This work was not done in a day. The first members of the African transport service reached Accra in the autumn, just after the close of the rainy season—a fortunate circumstance which enabled them to learn the transcontinental route well before the bad weather of the spring set in. This group was composed of former commercial pilots, reserve officers recently graduated from air schools, and Army Air Corps pilots released for civilian duty with Pan American Airways - Africa, Ltd.

Because the facilities of the RAF and the British Overseas Airways Corporation (BOAC) had been placed at the disposal of the American company, it was possible to begin limited operations to Bathurst, Takoradi, and other West African ports almost immediately, and to Khartoum not long afterwards. Before the end of the year Cairo, too, was to be included in the service.

To run ahead of the story briefly, the route was extended across Palestine to Teheran, the Iranian gateway to Russia, and to the Iraqi port of Basra soon after our entry into the war. As the military crisis in the Pacific mounted, extensions to India (Karachi) and to Burma...
Rapid expansion of the route greatly multiplied the problems of maintenance and supply in Africa, where tools and spare parts were already at a premium. On account of poor roads and lack of transportation facilities, it had not been the intention of Pan American Airways to establish elaborate bases across the continent, but rather to keep a high level of stock at the main base in Accra, to which aircraft in need of repairs could wire for equipment, spare parts, and personnel required to put a plane in condition. It was estimated that in most cases delivery could be made within 48 hours. At the time of America’s entry into the war these plans had not yet materialized, but, through the hard work and ingenuity of the operational force, planes were kept in the air, and our connection with the Far East was maintained during the difficult months which followed.

Owing to the necessity of extending runways and strengthening their foundations before heavy aircraft could be flown to the Middle East in any numbers, Pan American Airways had not expected to have adequate landing grounds and other facilities ready for the ferrying of such planes until the end of November, or even the middle of December. As a matter of fact, operations of this kind were begun somewhat earlier. The first bombers to be flown all the way to Egypt are said to have been L5-30's which left the United States in November 1941. Meanwhile, about a dozen of the Pan American airmen who were early arrivals in Africa had been flying with a group of RAF pilots engaged in ferrying across the continent Blenheims, Hurricanes, and
some P-40's assembled at Takoradi. Expansion of personnel soon enabled the American company to assume a larger share of this work. With the help of flight-delivered planes, it was therefore possible for the British to build up their air strength in time for the November offensive, which temporarily flung Gen. Erwin Rommel's forces back from the threshold of Egypt.

In an effort to augment the flow of aeronautical equipment to the Middle East under lend-lease agreement, the responsibilities of the Air Corps Ferrying Command were enlarged, by presidential directive in the fall of 1941, to include the delivery of aircraft to Africa. Steps were taken at once to insure the necessary cooperation of Venezuela and Brazil, and later, that of Liberia too. At the request of the British, who were urgently in need of heavy bombers, the Ferrying Command almost immediately undertook its first commission of this sort—the delivery of 16 Liberators for use on the Egyptian front. Five of the LB-30's had been dispatched before the attack on Pearl Harbor caused the diversion of the remaining planes to other theaters. Despite this interruption, the possibilities of the route had been demonstrated, and deliveries of heavy aircraft to the Middle East therefore seemed assured. To make equally practicable the air delivery of short-range bombers, of which the British felt an acute need against the coming winter, it was decided in December that provision for their dispatch by way of Ascension Island should be made. The use of this British possession, properly developed, would reduce South Atlantic flights to less than 1,300 nautical miles a leg, a distance not too great with the aid of

* B-24's modified for the British were called LB-30's.
bomb-bay tanks. Although this great volcanic rock comprises only 10 to 12 square miles, with a mountain occupying a part of the area, preliminary surveys indicated that an airdrome of suitable size could be constructed on the so-called southwest plain of the island. In order to reduce the length of the course from Natal to Waterloo by another 200 miles, action was also taken to secure enlargement of the airdrome on Fernando de Noronha, an island off Brazil in direct line of flight to the west coast of Africa.

In view of the large number of planes which the Ferrying Command would be flying over the South Atlantic route in the near future, the United States Government felt that it should obtain from Brazil immediate consent for the sending of Army and Navy units to protect that portion of the course which ran through her territory. The weekly arrival of LATI (Linhas Aereas Transcontinentaes Italianas) planes from Europe, the existence of hostile elements within the country, and the inadequacy of Brazilian troops stationed in northeastern Brazil rendered the airports of the route extremely vulnerable. It was therefore highly desirable that these points be guarded by United States forces. The scant protection afforded the trans-African route was likewise a matter of grave concern. Sabotage was always a menace and, in case French West Africa were occupied by the Axis, the safety of the entire route would be greatly endangered. For that reason, thoughts were already turning to the possibility of establishing an alternate and more southerly route across Africa.
When the United States entered the war in December 1941, she had already assumed heavy responsibilities in the Middle East. A policy of supplying aircraft to the British had led, through necessity, to a project for sharing in their delivery. To insure their effective employment and to gain from the opportunity the maximum advantage for the American defense effort, it had been decided to send into the theater an increasing number of observers and technicians, a group on whose experience the government was able to draw through the first crucial months of its active belligerency. In the field of maintenance and supply, as the following chapter will indicate, the United States also had made important contributions and gained experience of considerable value.
Chapter II
AID TO THE BRITISH, 1941 TO JUNE 1942

Increased shipments of aircraft and other materiel to the Middle East in the late spring and early summer of 1941 had imposed heavy burdens on the limited facilities of the Red Sea area. South of Suez the ports were primitive, with few docks and scant equipment for the unloading of vessels. Modern warehouses and assembly plants did not exist, and only poor means of transportation afforded communication between the sea and the front. As a joint enterprise, the British and American governments therefore undertook the development of ports and the improvement of highways and railroads in this region. Coupled with this combined effort was an equally important project providing for the establishment of repair and supply depots there, in Eritrea, and in the Levant.

For the protection of Egypt, these undertakings were of particular importance. During the months of July and August, German planes based within striking distance of the Suez Canal had directed their attacks principally against Suez ports, the depot at Abu Susir (Depot No. 102), and RAF service and maintenance units in the Delta and its immediate vicinity. Without adequate antiaircraft or other defensive equipment, these installations were severely damaged and suffered heavy losses in materiel. Repeated bombings also had a disruptive effect upon the labor situation, and even some of the

* For location of depots in the Delta Area, see map following page 68.
American mechanics engaged in erection and salvage work at these depots made complaint, on the ground that they had not volunteered for service in a zone of such danger. As a result of these circumstances, deliveries were lowered, and for a time the closing of Suez ports to American ships seemed imminent.

Inasmuch as continued bombings were to be expected, there was need for taking steps to meet the situation. After some deliberation, it was finally decided that all concentrated supply and repair depots in this area should be transferred to Eritrea or the Sudan, and that the larger repair bases should be moved even farther to the south. For local requirements, however, overhaul supplies and aircraft accessories were taken to Cairo for distribution among warehouses and little shops operated by natives, or shifted to small, isolated depots in the neighboring desert. Geneifa (Depot No. 107), about 30 miles south of Ismailia, was designated as a dispersal point for spare parts and as a local repair and overhaul station for American-manufactured planes in this district. Until the procurement of more effective means of protection than that provided by a barrage of small balloons, tools and other portable equipment here were buried in the sand at the end of the day and returned to the hangars each morning. Needless to say, such an expedient proved unsatisfactory, for inevitably some matériel was lost in these transfers.

Although the Delta area was used for the assembly of P-40's still being off-loaded from ships in the Suez Canal, Port Sudan, about 300 miles to the south had been selected as the Red Sea base
for the erection of crated Tomahawks and Kittyhawks, and deck-loaded Havocs and Bostons. Since, for this purpose, it had been necessary to build hangars and in other ways enlarge facilities there, the erection of P-40's was not begun until the last of August, and that of Bostons, not until several weeks later. About the first of September, a group of Curtiss and Douglas technicians and air crews, along with Allison and Wright representatives, arrived to assist RAF mechanics in this work. In the beginning, progress was slow, because the crews were not yet thoroughly trained, and such equipment as tools, cranes, and electric power was not then available. Since lack of blue prints and technical literature had accounted for much of the trouble experienced by other erection and flight-test crews and engine mechanics, manufacturers' representatives put forth every effort to procure copies of proper tracings, handbooks, and manuals—a practice previously frowned upon by the Air Ministry, for fear that such information would fall into the hands of the enemy. Under the circumstances, the rough assembly-line procedure in use was bringing satisfactory results. For a while, production of P-40's remained at one plane a day, but it was hoped that the daily output would rise to five, within the first month.

Although the RAF mechanics were interested in their work, and were said to maintain a level of morale equal at least to that of the average British soldier, it was found necessary to impress upon them the need for exact workmanship. On account of the short life of the aircraft, they were inclined to feel that the expenditure of much
time and effort was scarcely justifiable. The continuance of such
an attitude, it was felt, would seriously affect the safety of the
aircraft being assembled.

For necessary modifications, gun synchronization, and further
test flights, airplanes assembled at Fort Sudan were to be flown to
Summit, approximately 60 miles to the southwest, where a camp was then
under construction. Here an altitude of 3,000 feet makes the climate
more pleasant than that at Fort Sudan, which is subject to frequent
sand storms and high temperatures for the greater portion of the
year. Through a rotation of duties, however, it was planned that
each member of the crew would spend a part of his time in the hills.
From Summit, aircraft made ready for combat would be forwarded to
dispersed storage units near Wadi Halfa or Cairo. The combined use
of these two places seemed a logical solution to the need for re-
moving airplanes from the Fort Sudan area as quickly as possible,
in order to increase security and to minimize the corroding action
of the heavily laden salt and dust air.

The establishment of an assembly plant at Fort Sudan had been
the result of a decision on the part of the British to discontinue the
practice of erecting American aircraft in West Africa and ferrying
them across the continent. In the future, P-40's and other air-
planes that could not be delivered to the Middle East by air would
be carried around the Cape of Good Hope and up the Red Sea for
assembly in Egypt. Despite the length of the trip around Africa,
this policy was believed to have advantages over the plan in effect.
Improvement of the trans-African ferry route and the wider experience of ferrying pilots had brought about a substantial reduction in the number of accidents, yet many planes continued to be wrecked in making the crossing. These crashes were attributed in large measure to the fact that the aircraft were flown from Takoradi to Cairo without any "breaking-in" period. By assembling the airplanes at Port Sudan and flying them the relatively short distance of 900 miles to their operating bases, it was thought that smaller losses would occur.  

Although the Middle East RAF Command expected eventually to replace British planes with ones of American manufacture, comparatively few American combat planes had been used in this theater prior to the fall of 1941, and the performance of these had failed to meet with complete satisfaction. During the preceding spring, 10 or 15 Glenn Martins had been employed in medium-range reconnaissance rather than in bombing, because the load of eight 250-lb. bombs, which this plane then carried, was considered insufficient. Alteration of the bomb racks to hold four 500-lb. bombs was subsequently made, while improved communications between pilot and navigator and a reduction in noise were recommended. Owing to lack of ferry pilots and the inadequacy of assembling facilities, only two squadrons of P-40's had been put into operation by June 1941—one in the Western Desert, after having seen service in the Delta area, and the other in Syria and Palestine. In the course of the summer a third had been added. Although the Tomahawk had developed mechanical difficulties and its
inability to attain high altitude had been criticized by the RAF, its performance was obviously superior to that of the Hurricane.\textsuperscript{21} After pilots and crews had had some weeks of experience in operating this plane, it gained favor, and by fall the Tomahawk had proved its worth in ground-strafing and anti-tank action.\textsuperscript{22} Up to this time, the hit-and-run technique employed by the ME-109's had afforded little opportunity for actual fighting; yet many pilots thought that the P-40 was capable of out-maneuvering the German plane in close combat.\textsuperscript{23}

The unpopularity of the Tomahawk among RAF airmen had been due, in large measure, to the fact that the Curtiss plane had reached the Middle East before American personnel were available to give instruction in its erection, operation, and maintenance.\textsuperscript{24} As a consequence, the plane had been assembled under difficulties; in the hands of inexperienced pilots, it had developed ground-looping tendencies; and its frequent crashes along the ferry route had given rise to exaggerated rumors concerning the dangers of flying it.\textsuperscript{25} Operational instruction, lectures on the machine itself, and the diagnosis of individual problems of pilots helped to dispel much of the initial prejudice. A generous measure of credit for the excellent reputation which the P-40 acquired within a few months was ascribed by Curtiss-Wright representatives to the efforts of the Army Air Corps personnel in this area.

In the supply, maintenance, and repair of American aircraft in the Middle East, the British were faced with a problem of considerable
magnitudes—and one in which they looked to the United States for assistance. The situation in regard to spare parts was especially deplorable, since many aircraft were grounded through lack of essential replacements. Failure to ship spare parts with engines and planes, and unusually high consumption of parts due to sand and desert conditions, accounted in large degree for this shortage. Inasmuch as the British Aircraft Commission in Washington was not always cognizant of the requirements of the theater, it was suggested that the liaison officer between this group and the Division of Defense Aid Reports (i.e. lend-lease) sit with the Air Corps Maintenance Command, and be empowered to procure spare parts and to follow shipments through to their destination—a duty that Wing Commander Messiter assumed in the late summer of 1941.

In the theater itself, the supply system was crippled by lack of coordination and a point of central control. As a consequence, supplies often remained unclassified, were delayed in delivery, or lost in the resulting confusion. With the hope of relieving conditions temporarily, American manufacturers' representatives visited various Middle East depots, in order to locate equipment and to arrange for its transfer, for, through lack of information about departures from the United States and arrivals in Africa, shipments in transit were not easily traced. In an attempt to organize supply depots more efficiently and to employ current stocks to greater advantage, these representatives instructed the personnel of storea-centers in the identification of equipment, the use of factory blue-prints, and the establishment of filing systems. For the convenience of repair
units, it was recommended that the list of interchangeable parts used by the Curtiss-Wright Company for Mohawks, Tomahawks, and later Kittyhawks, be procured, and, in the absence of handbooks, the numbering system for parts was explained to mechanics. 30

In view of the shortage of technicians which would exist with the expansion of operations in the near future, it had been suggested by Mr. Harry L. Hopkins (while he was in the Middle East with the Harriman Mission, in June 1941) that the United States furnish skilled mechanics to this theater. Assistance in such a form would be most welcome to the British, who were handicapped by lack of personnel familiar with American equipment. To the distribution of these men among British workers in widely scattered shops, there was, however, some objection on the part of the Harriman Mission. Arrangements of this sort had already proved unsatisfactory, in that British and American techniques were different; our technicians were inclined to find fault with the British for not having on hand equipment especially designed for the assembly and overhaul of American planes, and quite naturally resented criticism of American products. Moreover, they were prone to contrast the standards of our country under peacetime conditions with those of the Middle East, suffering under the strain of 2 years of war. Since such a state of affairs was harmful to Anglo-American amity, Brig. Gen. Ralph Royce, as a member of the Mission, pointed out the desirability of having the United States assume certain definite tasks rather than subscribe to a general program of assistance. 31
As a military observer particularly concerned with questions of maintenance, supply, and training, Maj. Gen. George H. Brett, Chief of the Air Corps, expressed a similar view, on his mission to the Middle East in the fall of 1941.32 His ground for taking this stand was partly the failure of middle-ranking RAF officers to appreciate the importance of American cooperation in the maintenance of British air units. To prevent diversion of personnel and equipment, he therefore considered it essential that American installations be kept entirely within our control. The current practice of pooling American personnel in the Middle East he found advantageous and favored its continuance, because it insured the uniform operation of all projects for which Americans bore responsibility.

These suggestions did not go unheeded. In response to a request from the British, made in the summer of 1941, the United States agreed, under lend-lease arrangements, to establish and operate a base for the complete overhaul of all types of American engines and planes supplied to the Middle East—a project which would greatly increase the quantity and efficiency of such equipment used in this area. The Douglas Aircraft Company was designated by the War Department to carry out this undertaking, and many millions of dollars were set aside for the purpose. Because of the bombings in the Delta and Suez districts, it had already been decided that any such installation must be placed well to the south. Asmara, on the edge of the Eritrean plateau and not far from the port of Massaua, would have been the Douglas Company's choice of location, but, on the strength of General Brett's recommendation, Gura, about 30 miles farther south, was selected.
instead. This site had two advantages. Here was situated the former assembly plant of the Caproni company, which had served as the main Italian base for the East African Campaign and had fallen to the British with many facilities still intact. Close at hand lay the Gura airfield, an Italian-built field used in the air attack upon Ethiopia in 1935.

The development of Gura would make necessary the reopening of the port of Massaua, which was cluttered with ships scuttled by the Italians before their surrender. Having undergone sufficient improvement to serve as a base for destroyers and submarines, this harbor had been equipped with workshops, warehouses, and other installations essential to the maintenance and repair of naval vessels during the period of Italian occupation. In view of the present insecurity of Alexandria and Suez as points of supply, Massaua, at no great distance from the Western Desert battleground, promised to become a center of some importance. From this port, when reconditioned, many tons of equipment would be transported over the 80-odd miles of hard-surfaced mountain road to Gura. Inasmuch as the port, the road, and the depot constituted a single unit, it was suggested that this entire project be administered and supervised in a manner similar to that of the Panama Canal. Under such a plan, full authority would be vested in the American corporation responsible for the construction and operation of these facilities, while the conditions under which it would work and its relationship with the British civil and military authorities would be covered in detail by an agreement then under discussion. Because of the scale of the enterprise and delay in
the procurement of materiel, the limiting date of 2 February 1942 was extended for 2 months (until 2 April 1942). Inasmuch as the transportation of engines and other large parts by air was an essential factor in this American overhaul scheme, it was also necessary to make provision for transports capable of carrying such cargoes. At the time of the formulation of the Gura plans in the fall of 1941, all transports being sent to the Middle East were usable solely for the movement of troops and small parts. Unless modified to handle engines, or unless airplanes similar to C-39's were substituted, even large numbers of these transport aircraft would prove wholly inadequate. In order to simplify the maintenance and repair problem, it was later suggested that Douglas planes of the same type be sent to this area.

While these plans for a general overhaul depot were taking shape, first and second maintenance had been organized fairly successfully in Egypt. In fact, when General Brett arrived in the Middle East in the early autumn, he found that RAF personnel needed only limited supervision from factory representatives and our enlisted men serving as instructors in the theater. Additional tutelage would enable them to assume full responsibility—a circumstance which strengthened the conviction that the British should replace American personnel as soon as they were qualified by training to do so.

Third echelon maintenance, however, remained to be put into working order. Although detailed plans for such service could not be made until the British had fixed the importance of the Middle East
Theater in relation to their total war effort, it was obvious that the shortage of equipment would require the attention of American personnel for some time. As a partial solution to the problem, General Brett suggested that a mobile depot be established at the head of the Nile Delta, and that a small group of civilians capable of teaching its use be dispatched to Egypt at once, with the understanding that the British take over the depot whenever their staff had acquired sufficient familiarity with it. Although these arrangements would provide for current needs, it was understood that they would in no way take the place of establishments in depth essential to a sustained campaign. 

Appreciating the inability of the United States to carry out simultaneously all the Middle East projects requested by the British, the Air Ministry, in October, concurred in General Brett's recommendation that priority should be given first to Gura, and second, to the mobile depot in the Delta area. As a more immediate measure, General Brett proposed that complete groups of mobile repair trucks, each in charge of an Air Corps noncommissioned officer, be sent to the Middle East for the purpose of testing their serviceability with the Royal Air Force.

Americans had already undertaken instruction of the British in the operation and maintenance of American aircraft, and it was planned that this effort be continued with the introduction of each new type of plane, an enterprise in which both Air Corps officers and enlisted men would participate. With a view to furthering the self-sufficiency of the RAF, General Brett sought to enlarge and coordinate
this program by proposing the establishment of a technical school, for which all American personnel in the area would be available as instructors. He was disappointed at finding that representatives of American manufacturing concerns had been employed largely as individual consultants on emergency problems, and that little systematic effort had been made to use them for technical instruction. Inasmuch as all AAF personnel on duty in the theater had been constituted the American Air Force Delegation in the Middle East early in September, he asked that aircraft companies place their representatives under the direction of this delegation. While permitting continuance of their regular duties, such an arrangement, he felt, would facilitate their effective employment in an enlarged training program.

According to plans developed after repeated conferences with Air Marshals Tedder and Dawson, the RAF would furnish ground and physical equipment for the school and establish policies for the selection of its students, while the Air Corps would provide supervision and management and draw up courses of instruction. With General Arnold's approval, arrangements were completed. Failure to find a suitable location in the neighborhood of Cairo finally led, in November, to the choice of Ismailia as a site for the school. The curriculum as a whole fell into four major divisions—maintenance, repair, equipment, and supplies—with detailed instruction offered in each of these branches. Since it was understood that from time to time the commanding officer of the school should select adequately trained students to replace the American military and civilian instructors, the plan
envisioned ultimately an institution operated and maintained by the
RAF. With the sending of Majs. Steward Morgan, Sory Smith, and
Albert Wilson, and four enlisted men to Egypt to assist in the or-
ganization of the school, the project began to take shape late in
the fall of 1941. Despite the fact that General Brett was obliged by the nature
of his mission to devote much of his attention to questions of mainte-
nance and supply in the Middle East, he nevertheless found opportunity
to study the movements of the British Eighth Army, then under the
command of Gen. Claude Auchinleck. Although its engagements at the
time were by no means spectacular, they proved of interest to American
observers in that they illustrated the functions of the tactical air
force, a new combat unit which had grown out of the experience of the
RAF in the Western Desert. Its existence, in turn, had made possible
the integration of air and ground forces, a form of collaboration that
was to expand as the North African campaign progressed. Struck by
the significance of this new tactical development, General Brett had
requested the Air Force Combat Command to send small groups of officers
to report on this type of operation—one officer for operational
liaison in Middle East Headquarters, another for bomber operations,
and a third for fighter operations—assignments which, in themselves,
reflected the organization of Air Marshal Tedder's Western Desert
Command. After a period of 2 months, each was to be replaced, in
order that the Air Corps might make the widest possible use of this
opportunity.
That other recommendations of General Brett might be carried out was suggested early in the fall of 1941 by the issuance of a presidential directive to the Secretary of War, authorizing the formation of a military mission to the Middle East. Designated as the United States Military North African Mission and headed by Brig. Gen. Russell H. Maxwell, this organization was intended to further the supply and maintenance of American equipment for the theater. It was also expected that the mission would make local investigations related to projects which the United States then had under consideration as possible forms of aid to the British. Most of these "tasks" had been recommended on behalf of the British Admiralty, the War Office, and the Air Ministry, after discussions with Mr. Hopkins, Mr. Harriman, and representatives of the British Government in July of that year. To this program the first substantial American contribution would be the repair and maintenance facilities for the depot at Suda. Because of the magnitude of this undertaking, it was thought that, from the approximate 100 officers and enlisted men allotted to the Mission proper, the number of personnel would be expanded to four or five thousand within a few months.

With the establishment of the United States Military North African Mission, it had been decided that in the Middle East all Air Corps personnel, except those on diplomatic status (i.e., attachés, assistant attachés, and observers attached to the Embassy), should constitute part of a Special Observers group and should report to General Maxwell upon reaching Cairo. In accordance with a policy
adopted some months before, that all air observers going to Egypt should have some knowledge of the production and experimental programs of the Army Air Corps, it had been stipulated that they should spend at least 48 hours at Wright Field prior to their departure. The desirability of giving them a fuller appreciation of the problems at hand had also prompted the suggestion that they be schooled in the joint relationship existing between the United States and Great Britain, as evinced by White House policies. Since in all probability tutelage of this kind could be accomplished most successfully through Air Corps agencies, it was thought that supplementary information about local conditions, the practices of various divisions, etc., could then be furnished to new arrivals by some Air Corps officer in the Middle East. In this way, it was hoped that a good deal of mutual criticism and misunderstanding between American and British personnel might be avoided.

The arrival of the North African Mission in Cairo would provide the War Department with machinery for carrying on its vastly increased business in the Middle East. In former years the Military Intelligence Division had been called upon to handle various administrative matters for United States war agencies abroad, and in most capitals the aggregate of such work was still not too great to be borne in this way. In Egypt, however, the exigencies of the current emergency had so multiplied these duties that decentralization of administrative personnel had been under consideration for some time. In fact, the
move on the part of the Air Corps to provide more effective coordina-
tion of effort through the American Air Force Delegation in the Middle
East was indicative of an administrative need increasingly felt by
the fall of 1941. At the outset it had been possible to clear most
administrative matters through the military attache at Cairo and to
handle certain technical questions by reliance upon General Chaney's
mission, which had been functioning in London since May. Particular
problems had been met by the dispatch of officers or other specialists
for the purpose. The last practice of course had some advantages over
a staff permanently located in the theater, in that field experts
naturally tended to lose touch with conditions at home. The grow-
ing importance of air power in the Middle East and the RAF's increas-
ing employment of American aeronautical equipment, however, led
General Brett early in October to urge the appointment of an air
attache to Cairo, with a staff paralleling the Air Staff of the War
Department. If full assistance were to be rendered to the British,
he considered it essential that the Air Corps have there an effective
organization familiar with the operational needs of the theater.
In order that these matters might be studied more carefully in the
field, he suggested the sending of a military air mission to the
Middle East. By the time that these recommendations reached
Washington, the military mission to that theater had already been
authorized by presidential directive, and the plan of an air section
within the mission was followed instead. Brig. Gen. Elmer E. Adler
was appointed Chief of the Air Section, and also named as Air Repre-
sentative of the AAF in the Middle East.
Before the departure of the North African Mission, however, the urgency of the situation on the Eastern European front led to the recommendation that the Air Section be withdrawn and a separate air mission be established in its place. The reasons were these. When the British and American projects for the development of the Red Sea area were begun in the summer of 1941, these enterprises were linked with a similar program for the opening of a new and vital supply line to the Soviet Union. From the head of the Persian Gulf, and across Iran, was to run the Middle East equivalent of the Burma Road—a combined rail and truck route, over which war materiel could be carried beyond the Caucasus to the Soviet fronts. Included in this general scheme were plans for the expansion of the port of Khorramshahr, improvement of roads, enlargement of airfields, and the building of a depot at which American-manufactured planes would be assembled and made ready for delivery to representatives of the Soviet Government. Because of the strategic importance of these undertakings, it was necessary to take measures for the guarantee of their safety. In order to make certain that Iran, which swarmed with German agents, did not fall into the hands of the Axis, British and Soviet troops jointly occupied the country toward the last of August 1941. The abdication of the Shah in favor of his son resulted in the dismissal of Nazi advisers, and in the establishment of a government sympathetic to the Allied cause.

Before the end of November 1941 the United States Military Iranian Mission, under the direction of Brig. Gen. Raymond A. Wheeler,
reached the Middle East to supervise the development of the Persian Gulf area. The United States Military North African Mission had been instructed to render him all possible assistance. It was the absence of an air section in the Iranian Mission, together with the prospect that Far Eastern developments might soon broaden still further the responsibilities of General Adler and his staff, which had prompted the recommendation for a separate air mission. The imminent arrival of the Air Section in Cairo, with definite plans and means sufficient for their implementation, had also given rise to the fear that its progress might be retarded by the somewhat slower operation to which the North African Mission as a whole might be committed through its need for making exploratory investigations. The proposed dissociation of the two organizations called forth opposition, however, on the ground that their general functions were so interdependent that a common head was considered essential. Inasmuch as General Adler's assignment was a detailed one with the North African Mission, there was reason to suppose that the connection of the Air Section with the Iranian Mission would consist largely in his acting in an advisory capacity to General Wheeler. Moreover, it was thought that the assembly of aircraft in this area probably would entail such extensive duties that a competent air officer would of necessity be added to General Wheeler's staff within a short time. These arguments prevailed, and American air interests in the Middle East therefore remained vested in the Air Section of the United States Military North African Mission until June of the following year. It was pointed out at the time that,
In the event of the development of an American theater in the Middle East, General Adler's Air Section should come under the commanding general of the United States air force in that theater. 67

General Maxwell was expected in Cairo about 20 November; General Adler and other members of his staff began to arrive about the same date. By the 10th of December the Mission included 25 officers representative of the Air Corps, Infantry, Corps of Engineers, Signal Corps, Medical Corps, and Ordnance, and had in addition 23 enlisted men and 11 civilians, exclusive of contractors' personnel. 68 In matters pertaining to the supply and maintenance of air equipment in the Middle East, responsibility rested upon the Chief of the Army Air Forces, acting through the head of the North African Mission. Actually, however, direction of air matters was in the hands of General Adler, whose duties were connected both with the Air Section and with the North African Mission proper. 69 With the assistance of a group of able officers, among whom were Maj. Reuben C. Hood, Robert C. Oliver, Daniel F. Callahan, Sory Smith, Albert T. Wilson, and John DesIslets, it was his task to establish and set in motion maintenance and supply facilities which could be turned over to the British at the earliest practicable date. In view of the important influence that recommendations from the mission might have upon the future development of the AAF itself, care was taken to include on General Adler's staff men well versed in the logistical, tactical, and strategical phases of air operations. 70

Soon after his arrival in Cairo, General Adler got in touch with General Wheeler, who had already begun work in the Persian Gulf area.
Since the northern route to the U.S.S.R. was subject to increasing hazards and might well be closed by ice during the winter months, it was probable that a heavy burden would soon be placed upon this southern line of supply. Originally Basra had been selected as the point of assembly for American aircraft being furnished to the Soviet Government. After reconnaissance of the district, however, it was agreed that Abadan would prove a better location. Since adequate facilities could not be established here before spring, temporary arrangements were made with the British for the erection of American-manufactured planes at their depots in the vicinity of Basra. In order to assist the RAF in this work, a group of test pilots, enlisted men, and Douglas mechanics was to be sent by air from American headquarters in Cairo, and visits from General Adler and his chief engineer would be paid to insure coordination of effort. Upon completion of installations and the arrival of American mechanics, the assembly point would then be shifted to Abadan, where the Douglas Aircraft Company would assume responsibility for the operation of the plant. Although this organization would serve under the administrative control of the Wheeler Mission, it was to be subject, in technical matters, to the jurisdiction of the Air Section of the Maxwell Mission. In carrying out the delivery of aircraft to representatives of the Soviet Government, it was arranged that the Wheeler Mission should act as the United States agent, and that actual transfer should take place at the point of assembly, and not at Teheran as at first planned. From Basra or Abadan, as the case might be, Soviet pilots would then fly the planes northward to bases within the boundaries of
their own country. 74

The increased flow of aircraft that these plans represented would
be of great help to the people of the Soviet Union, for months of hard
fighting had made replacements a matter of growing urgency. With
their western industrial area overrun and their resources steadily
depleted by loss of territory, they found themselves unable to produce
vast stores of specialized equipment. Although factories had been
opened in the region of the Urals and beyond, these new centers were
still operating on a limited scale. If resistance were to be continued,
the Soviet Union obviously would be forced to rely upon outside help--
at least until the reconstruction of its industrial system had been
completed. Large shipments to that country would, of necessity, post-
pone the delivery of heavy equipment and long-range bombers so essential
to future British operations; yet both Mr. Roosevelt and Mr. Churchill
recognized the importance of meeting the requirements of the Soviet
Government. It was, however, clear that even the greatest generosity
in diversion could insure but limited supplies, for the United States
and Great Britain were still straining to overtake their own needs.

By the end of November 1941, the situation on the Eastern
European front was critical indeed. With Crimean defenses broken
through and the railroad center of Rostov temporarily in German hands,
the Caucasus loomed as a possible objective. In the face of stiffening
Soviet resistance, such a step was not to be taken without deliberation,
for Turkey's attitude was uncertain and a thrust to the southeast
would lengthen Germany's lines of communication, which were already
far-flung. While the matter hung in the balance, the Japanese attack upon Pearl Harbor, on 7 December, not only opened up a new theater of operations but precipitated the United States into a conflict now global in character. Four days later, by formal declaration of war issued against us, we found ourselves opposed by Germany and Italy too. Actually, in the Middle East, we had been engaged in the struggle against these two Axis powers for some months.

That the United States should assume in North Africa obligations other than those entailed in accelerating the flow of lend-lease supplies to the British, and in rendering them technical assistance in the maintenance and repair of American-manufactured equipment, apparently was not seriously contemplated in the early part of December 1941. In fact, for two reasons, the development of an American theater of operations there seemed rather unlikely. In the first place, the Middle East was looked upon largely as a responsibility of the British, and, in the second place, the defense of the Far East was then regarded of greater urgency. With every effort being made to send reinforcements to her beleaguered islands in the Pacific, the United States found herself in no position to undertake new enterprises. Yet the possibility of such a step could not be lost sight of entirely. The Libyan offensive launched by the British in November was progressing satisfactorily, but it was obvious that the demand for men and arms created by the outbreak of war in the Pacific would require the withdrawal of British forces and equipment from the Mediterranean area. Moreover, the danger of a Soviet collapse, and
the disastrous effect that such a debacle would have on the Middle East, could not be ignored. Thus, by its very nature, the war raised for the United States the question of additional commitments in the Middle East.

For actual participation in the war in North Africa, the United States was, in one sense, not wholly unprepared. In the course of the preceding months, an American military attaché had been established in Cairo; British requests for technical assistants had brought to Egypt skilled mechanics, members of the Army Air Corps, and manufacturers representatives; coordination of lend-lease efforts had led to the opening of a Defense Aid Office in Cairo; the delivery of planes to the Egyptian front had necessitated the development of the trans-African ferry route, and to the training of scores of pilots to fly it; United States engineers were busily engaged in deepening harbors, expanding railroads, and building highways; and the Maxwell and Wheeler missions had already taken up their respective duties in the North African and Persian Gulf areas. For the testing of American-manufactured equipment, the Western Desert had proved a veritable laboratory; Air Corps observers had profited by following the operations of the RAF there; and the operational requirements of the theater had been carefully studied by scores of experts connected with the special missions that had been dispatched to the Middle East for various purposes. As a result of this activity, reports of all kinds flowed from these channels to War Department offices, so that there was being built up a fund of information, as well as a body of experienced men, which could be drawn upon in the future.
Since distances were great and shipping was at a premium, any active American participation in the war on this front would probably be in the nature of air operations. For the basing of an American air force in North Africa, the first suggestions had been offered, not in direct connection with the defense of the Middle East, but rather indirectly, with the prospect of establishing there a striking arm for offensive operations against Europe. As early as April 1941, Major Fellers, the American Military Attaché in Cairo, had pointed out the menace that such a possibility presented to the Axis as long as the Allies continued to hold bases on the southern and eastern shores of the Mediterranean. In September, with the war some months nearer, the United States was deeply concerned over the question of the availability of bases. In the event that American national policy should necessitate offensive air operations against Axis powers in Europe, there was indication from surveys already made that the British Isles did not provide a sufficient number of airdromes to accommodate contemplated British and American air units. From the standpoint of area, the Middle East undoubtedly would afford adequate bases, but the lack of water and the maintenance of lines of communication imposed such great difficulties that the operation of an extensive air force from this region then seemed almost out of the question. In the field, a more thorough examination of these matters was made by General Brett within the next month. For the operation of various types of American aircraft, he considered regional conditions most favorable there. For B-24's, there were distant targets well within their range; light and medium bombers
would lend themselves to cooperative operations in the Western Desert; and pursuit planes could be used advantageously for patrols and other kinds of duty. He granted that the logistical and maintenance problems were perplexing, but believed that neither presented obstacles too great to be overcome with careful planning.  

In the organization of the British Army, however, he found a situation to which he felt that thoughtful consideration should be given. Owing, at the time, to lack of central control and the absence of a theater commander, he feared that the British chain of command would prove indefinite and therefore might result in confusion. Such a state of affairs would hamper the effectiveness of any common endeavor—a matter that had begun to receive attention soon after the turn of the year, when it became obvious that the United States might be drawn into the European war. If, by way of assistance, reinforcements were to be sent to the RAF in Egypt, it was considered extremely desirable that such air units operate under their own officers and staff, as an integral part of an American command. However, in a common theater such as North Africa, where coordination and control both of RAF and AAF contingents would be essential, it was thought that a satisfactory working basis could be achieved through joint action of the headquarters of each air force. According to the plan envisioned, this joint command would control the tactical operations of both air forces, but administrative matters would be handled by the individual headquarters to which the units belonged. In order to
fit lesser United States air groups into the RAF system, a similar
arrangement would be used in fighter, bomber, and other types of
command.\footnote{3}

It was considerations such as these that had led General Brett to
recommend the sending of a military air mission to the Middle East, to
study the theater as a whole, and sectors of operation in particular.
If the United States entertained any idea of participating in the war
on this front, he urged that special attention be given to objectives.
He suggested that all planning should be based on the utilization
of any American contingent as an individual air force. For the
avoidance of future difficulties, he advised that a definite under-
standing be reached as to its employment as an expeditionary force,
rather than as a part of the RAF—a position for which General Pershing's
insistence upon an American army in France during World War I had fur-
nished a precedent.\footnote{2} With all United States units under American
control, General Brett advocated definite and separate allocation of
port facilities, supply lines, and airfields. Such an arrangement
not only would relieve the British of heavy responsibilities but also
would facilitate the flow of supplies.\footnote{3}

By way of following up some of these recommendations of General
Brett, the Air Section of the Maxwell Mission had undertaken a study
of British effort, with a view to seeing what could be done in making
preliminary organizational plans for possible operations in that
theater. As the days passed, there was a growing feeling that the
Middle East would play an increasingly important part in the general

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strategy of the war, and that eventually an American air force would be located there.

Useful as were these activities of the Air Section of the Mission, its principal function consisted in furthering the general purpose of lend-lease by facilitating the flow of supplies and by establishing the technical schools and depots which had already been planned. Almost before this program could be begun, however, General Adler and his staff were faced with the even more pressing problem of helping to build up the trans-African ferry route and its recent extensions to the East. The outbreak of war in the Pacific had made the sending of supplies and equipment to the Orient a matter of the greatest urgency. Shipment by air was the only means by which materiel could reach the Philippines and Australia in time to be of any service. Yet attacks upon the islands of Midway and Wake, and the strategic location of Japanese-controlled islands in the Central Pacific, had closed effectively this airway to the Philippines, while the projected route across the South Pacific by way of Hawaii, Christmas and Canton islands, the Fijis, New Caledonia, and Australia had not yet been completed. The only hope of immediate supply therefore lay in flying materiel across Africa, and thence to India, Sumatra, Java, and Australia—a route stretching two-thirds of the way around the world.

Although an increasing number of smaller aircraft was being flown across Africa by Pan American Air Ferries Inc., the route was scarcely sufficiently developed for the use of heavy bombers and large transports.
Many of the airfields were inadequate, and the initial stocks of fuel were low. Despite these limitations—and a lack of spare parts that at first grounded a large proportion of the planes en route—the Air Corps Ferrying Command succeeded in sending a thin trickle of reinforcements to the East. To Rangoon, the command's flyers rushed supplies for the First American Volunteer Group, who were guarding the Burma Road. Under cover of clouds, darkness, and bad weather, they shuttled into Java and Burma, carrying to these fronts equipment and munitions, of which at least a part had been borne across the trans-African ferry lane. Over the route, too, came Liberators, Flying Fortresses, and crews for the 7th and 19th Bombardment Groups, operating within the ABDA Command in defense of the Netherlands East Indies. For tactical units whose training had been designed to equip them for combat rather than for coping with the various types of problems peculiar to transcontinental and transoceanic flights, the Ferrying Command often furnished convoy planes manned with their own crews.

Owing to the serious lack of equipment along the routes still under development, they also flew a number of combat planes to key points like Cairo, where these aircraft were used as a source of spare parts, both for airplanes operating in the theater and for those flying across Africa on their way to the East.

In the face of intensified enemy threats to the Dutch East Indies, attention had been directed in January to the possibility of constructing an air route running from Ascension Island, in a general easterly direction across Africa and the Indian Ocean to the British-
held islands of Coetivy, Diego Garcia, and Cocos, and thence to Port
Hedland in Western Australia. These plans included the development
of Pointe Noire in French Equatorial Africa as a port of entry, with
Leopoldville and Bukama in the Belgian Congo, Khaya in Tanganyika,
and Mombasa in Kenya, serving as stations on what appeared to be the
most feasible route across the continent. Before an initial survey
of the Indian Ocean section of the proposed airway had been concluded,
however, the Japanese had overrun the entire Netherlands East Indies
late in February, thus cutting into the former ferry route through
Sumatra and Java and putting themselves in a position to threaten the
security of any air lane across the Indian Ocean. As soon as it was
learned that the islands could not be defended, all idea of the route
was abandoned. In a somewhat different form, plans for the African
portion of it were revived in the spring. At that time the prospect of
a German offensive in Libya and the danger of enemy attacks upon
French West Africa emphasized the vulnerability of the trans-African
ferry route and showed the need of having a second, or alternate,
route across the continent.

Although the occupation of Java and Sumatra had severed their
aerial lifeline to the west, the units which had withdrawn with General
Brett to Australia were not entirely cut off from the United States by
air, for on 6 January 1942 the ferry route across the South Pacific
had been opened by the inaugural flight of three B-17's. For India
and China, however, the Japanese thrust had greater significance.
The only hope of sending airborn supplies and equipment from the
United States to General Chennault's Flying Tigers operating in southern China and Burma, and the nuclear Tenth Air Force which Maj. Gen. Lewis H. Brereton was building from the small group of men who had come with him from Java to India, now depended solely upon the maintenance of the trans-African ferry route. Along this artery also flowed a stream of war supplies which were helping to stiffen Soviet resistance on the Eastern European front.

This turn of events had directed increased attention toward the Middle East. Its relative importance to the general war effort was no longer a matter of opinion, for its commanding position on the supply lines to the Soviet and India-Burma-China theaters amply demonstrated the necessity of holding this region. Since the security of the area depended upon the adequacy of its air power, immediate reinforcement of the RAF Middle East Command was imperative. With this end in view, Sir Charles Portal, in conversation with General Arnold at the beginning of 1942, had asked that two American pursuit groups be sent to this theater at the earliest practicable date. Such a plan had much to recommend it. Not only would British military control of the Egyptian district be strengthened, but our squadrons would acquire valuable training in the coordination of air and ground efforts—a type of experience that would prove most useful, if in the future the United States wished to employ bombardment units in the locality.

In anticipation of such a possibility, tentative plans were outlined for a United States air force, which would operate there, and, under the Air Force Combat Command, the organization and training of
its potential bomber and pursuit groups was begun. In order that the
situation in the Middle East might be studied at closer range, the
Air Force Combat Command also was directed to establish, at once,
small headquarters for interceptor, bomber, and air service commands,
from which it would be possible to select a limited number of men for
assignment to Egypt. Under these circumstances, especially heavy
responsibilities would fall upon the air service command, for its
personnel were expected to formulate plans and make preparations
essential to the movement, employment, and supply of any air unit
allocated to the Middle East. In accordance with these decisions,
General Adler was informed before the end of January that the trans-
formation of the Air Section of the North African Mission into an
air service command functioning under his direction was contemplated—
provided of course that General Maxwell and General Wheeler concurred
in the plan. If the change were effected, General Adler would still
serve as Air Representative to the Mission, but in air matters it
was expected that he would act independently.

When these arrange-
ments were made, it was also determined that any air units dispatched
to the Middle East should be organized into a single air force and
placed under the command of a general officer of the Air Corps. He,
in turn, would operate initially under the strategic direction of the
senior British commander in the theater. In the absence of such an
officer, he would collaborate with the three senior British commanders,
on a basis of equality. If, on the other hand, an American theater
commander were appointed, he would of course operate within the command

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SECURITY INFORMATION
of the latter instead.

Initially, however, it was agreed that this potential air force in the Middle East should consist of Task Force Cairo, composed, for planning purposes at least, of the 58th and 78th Pursuit Groups, together with one transport and one air depot group, and essential ground services. In respect to both personnel and equipment, the organization was given a high priority; yet, on account of previous commitments, it seemed extremely unlikely that the two groups of F-47B's (Thunderbolts) allotted to it would be fully equipped before June. Only one means of placing pursuit units in the Middle East at an earlier date presented itself—the reassignment of two F-40F groups destined for North Ireland. This proposal, whereby the first two pursuit groups ready for shipment overseas should be diverted to Egypt, won strong support from the British Chiefs of Staff, in that the suggested change would meet a critical need for fighters in an operational theater suffering from recent transfers of aircraft to the Far East. The arrangement was therefore agreed upon, and a preliminary estimate of the necessary men and airplanes was made. Despite the fact that the composition of the task force presupposed its employment in a region where antiaircraft artillery and ground defenses would be furnished by the British, these figures showed that the two pursuit groups, with interceptor command headquarters and necessary Air Corps and allied services, would represent a total of more than 10,600 men. A complement of 181 aircraft and a reserve of 90 planes for replacements were considered initial requirements for operational
purposes. In order to provide for housing and other necessary
facilities, it was thought highly desirable that command and service
elements should precede combat units by 6 weeks at least.\footnote{103}

Meanwhile, Japanese advances in the Pacific and the uncertain
trend of Middle Eastern affairs had led Air Marshal Portal, in mid-
January, to suggest that as soon as possible the United States send
heavy bombardment units to reinforce the Cairo district. Because of
the timeliness of the request, it was decided that an initial augmenta-
tion of TASK FORCE CAIRO by one bombardment group should receive serious
consideration. To the diversion of any units from the task force for
the British Isles, which was scheduled to move soon after 1 March
1943, objections were raised, on the grounds that a change of this
sort would weaken TASK FORCE BRITAIN, and that the dispatch of a
heavy bombardment unit to Egypt in advance of pursuit groups would
be inadvisable from the standpoint of balance.\footnote{104} By the middle of
February, however, the British situation in both the Asiatic and
Mediterranean sectors was indeed grave. Burma had been invaded and
was being fast overrun; the great port of Singapore had surrendered;
and in North Africa the forces which had succeeded in driving Marshal
Rommel to El Agheila, on the borders of Tripolitania, had fallen back
upon a line of defense running south from the vicinity of Tobruk.
\footnote{105}

In the face of these disasters, the British Chiefs of Staff sub-
mitted, toward the end of February, a proposed "Policy for the
Disposition of United States and British Air Forces," extending the
scope of help which the United States would contribute. With the
hope of finding means for enlarging TASK FORCE CAIRO and hastening
its departure, it was therefore decided that plans for the establish-
ment of an American air force in Egypt should be reviewed. 106

In March a revision of plan was presented. Upon analysis, the
table of production had shown that the request for reinforcements in
the Cairo area could not be met without disruption of the United
States schedule of commitments and detriment to the American training
program. Under the circumstances, deliveries to the British therefore
represented the only source from which diversions to the Middle East
could come—a course of action strongly supported by a cabled message
from the Prime Minister to the President, in which Mr. Churchill re-
viewed the current strategic situation. 107 If, however, the British
were able to provide aircraft for such reinforcement groups, it would
be possible for the United States to make available the required per-
sonnel, at least partially trained and organized into AAF operational
units. In view of these facts, the revised plan proposed the estab-
ishment of a task force composed of two pursuit groups, two light
and one medium bombardment groups, an air force headquarters, and
necessary services. The aircraft for this organization were to be
procured from British allocations and would be furnished throughout
with British armament and accessories. After a brief period of train-
ing in the United States, the entire task force, together with its
aeronautical equipment, would then be forwarded to Egypt. If this
proposal met with approval, and shipping were immediately available,
it was thought that the American units could be made ready for em-
­barkation within a short time. 108
For the present, maintenance, supplies, and replacements resulting from attrition would have to be furnished by the British. Because of the prevailing shortage in types of aircraft needed for this theater, it was strongly recommended that an effort be made to restore to operational status a reasonable number of the airplanes then out of commission. Doubtless this step would do much toward relieving the demand for reinforcements. If, however, the sending of additional specialists would facilitate work of this kind, the United States was willing to dispatch them at once.

While ways and means were being found to give enlarged support to the British military effort in North Africa, American attention became focused on the India-Burma-China theater, where the war was not going well. After the fall of Singapore in February, a regrouping of forces had enabled the enemy to concentrate on a drive into Burma. By 7 March, the success of this thrust made necessary the evacuation of Rangoon—a step which involved not only the loss of a port, but the closing of the lower portion of the Burma Road as well. Yet so acute was China's necessity and so vital to Allied strategy was her continued resistance that, despite the difficulties, plans for the establishment of an air cargo service between Sadiya (near Dinjan) and Kunming were undertaken almost immediately. Initial operations were begun in April with the help of 10 DC-3's borrowed from PAA's trans-African run for the special mission of transporting to China supplies of gasoline and oil that were to be used by General Doolittle's flyers, in their projected flight from China to India, after the bombing of Tokyo.
This was not the only instance in which the India-Burma-China theater looked to the Middle East for assistance. When the emergency resulting from the collapse of the ABDIA Command made necessary the organization of an air force based in India for immediate operations against the Bay of Bengal, Burma, and China, General Wheeler was ordered from Iran to India, where his efforts were directed first toward enlargement of the port facilities at Karachi, and later toward making arrangement for the supply of American forces expected there. 113

In shaping his plans for the establishment of the service command of the Tenth Air Force, Maj. Gen. Lewis H. Brereton also drew upon the Middle East. Soon after his arrival in India late in February, he requested the assignment of General Adler and several of his assistants to the India-Burma-China theater. Their transfer could not be effected at once, but General Adler, who was then in India on business, remained for another 10 days to give advice and assistance. 114

Since the approach of the monsoon season emphasized the need for haste, strenuous efforts were made by the Air Section of the Maxwell Mission to assemble information and formulate plans which might prove helpful to General Brereton. It was not until 26 April that General Adler arrived in India to head the Air Service Command of the Tenth Air Force. With him, from the Middle East, came Col. Reuben C. Hood, who was to serve as chief of the Supply Division, and Capt. Gwen Atkinson, who acted as aide-de-camp. About a month later, they were joined by two other members of General Adler's former staff—Lt. Col. Daniel F. Callahan, who took charge of the Maintenance and

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SECURITY INFORMATION
Repair Division, and Col. Robert C. Oliver, who became General Adler's chief of staff. Already the experience which the Air Section of the North African Mission had acquired during the previous months was being put to good use.

For the increased traffic which was now to pass along the ferry route to the Far East, existing logistical arrangements were considered inadequate, although from bases established by the Maxwell and Wheeler missions, it was thought that suitable support of this kind could be furnished for Africa and the Middle East. Upon the assignment of Col. William H. Crom as replacement for General Adler, it was therefore decided that, in coordination with the North African Mission, a separate air service command would be organized, with headquarters in Cairo. Inasmuch as there were no immediate plans for the sending of troops to the Middle East, the designation of this area as an American theater was not contemplated at the time.

Meanwhile, as aircraft reinforcements were sent to this new theater of operations, ground crews at the various stations along the trans-African ferry route serviced the planes in transit, overhauling ones that otherwise would have been unable to continue on their way, repairing others that could be patched, and salvaging those wrecked beyond repair. In April, PAA pilots on duty in Africa aided in the delivery of 50 P-40E's erected at Takoradi and flown across the desert to Dinjan, and thence to Kunming for the AVG, who were then very much engaged in Burma and badly in need of new planes.
Although by no means isolated instances, these examples are indicative of a feeling of mutual reliance that was developing between the Middle Eastern and Asiatic theaters—a state of affairs which was reflected in a Combined Chiefs of Staff policy of considering the two as interdependent.\textsuperscript{121}

While plans for the expansion of the Tenth Air Force were being laid and means for the implementation of TASK FORCE CAIRO were sought, American support of the British effort in North Africa had continued much as before. Colonel Crom, who not only assumed responsibility for the organization of the Air Service Command but also acted in an advisory capacity on air matters for the North African Military Mission, found himself confronted with many of the same problems—lack of spare parts, the difficulty of maintaining aircraft under desert conditions, the shortage of tools, need for the extension of facilities, and an inadequate number of personnel.\textsuperscript{123} The situation during the past months had brought out most forcibly the necessity of setting up an effective maintenance system before undertaking operations in a theater.\textsuperscript{123} Conditions were gradually improving, however, and the practical assistance which the United States had been able to furnish was beginning to show results. The RAF had gained a good deal of experience in the servicing and maintenance of American-manufactured equipment, and shortages were becoming less pronounced, as its supply stores slowly built up more complete stocks.\textsuperscript{124} In order to make sure that dispersed supplies and spare parts could be located and put to good use at once, the RAF had established a control system, and was
careful to salvage disabled planes and to make the most of usable parts. These improved conditions were reflected in the number of aircraft completely overhauled or rebuilt. Over a period of 6 months the total was 1,035, with figures rising from 103 for November 1941 to 247 for April 1942.

Because of the size of the RAF undertaking and the comparatively small number of American technical advisors, it was difficult to estimate the value or amount of help that the United States had contributed to the RAF maintenance system. Manufacturers' representatives had been most useful in diagnosing mechanical troubles, in giving advice on the assembly of planes and designs for special tools, and in keeping their companies in touch with developments in the theater. The Air Section of the North African Mission had also rendered valuable assistance. In the opinion of some members of this Section, its main contribution consisted in expediting the flow of technical information from the United States and disseminating that which accumulated in office files.

More tangible evidence of its work was to be seen in the progress of the American Technical School, which had now been running for several months. In the beginning, the registration was small, but so rapid had been the rise in attendance that its initial capacity of 73 students had been increased to 124 at the end of the first few weeks. According to the policy of selection outlined by the RAF, students from units undergoing operational training were assigned to the school prior to entering combat zones. Since it was not
always possible to follow this plan, selections sometimes were made from groups already engaged in hostilities. As a consequence, students often were withdrawn before completion of their courses of study, or were unable to report at all, on account of the sudden employment of their units in tactical operations. Also, unpredictable demands on transportation for higher priorities had, on occasion, delayed their movement or prevented their coming. Despite these handicaps, the enrollment had continued to rise. Inasmuch as a sufficient number of well-trained students were now available as instructors, Colonel Crom cabled early in May that the school had been turned over to the British, in compliance with the original plan.\textsuperscript{127}

Although few American maintenance resources were yet available, the depot at Gura was reported well advanced by the beginning of May. In the forward area, accumulation of aircraft and component parts in need of repair indicated that heavy demands would be made upon its resources, as soon as operations were begun. Arrangements for a regular water route between Suez and Massawa were undertaken, but the main burden obviously would fall upon air transport. According to the original plan, the United States had been expected to furnish a transport squadron for the purpose, but in the face of greater necessity this commitment was canceled in May. With the cooperation of Brig. Gen. Shepler W. Fitzgerald, who was soon to take charge of the affairs of the Ferrying Command in Africa and the Middle East, transportation by this organization would be provided instead.\textsuperscript{128}

The Abadan project, too, had progressed satisfactorily and, unless some unforeseen complication should arise, there was reason to
suppose that all its facilities would be ready for use upon the arrival of Douglas personnel in June. In the meantime, General Adler and his chief engineer at Basra had paid frequent visits to the plant and had done what they could to further coordination of effort. Already operations on a limited scale were being carried on by a detachment of the RAF. As soon as the Abadan plant could operate under its own personnel, these men would be released to aid in the development of their own repair and maintenance depots in the Middle East. In the emergency the RAF had proved most helpful indeed, for more than 400 of its mechanics had had a part in erecting at Basra, Boston aircraft shipped by water and destined for the Soviet Union. Inasmuch as only a small group of test pilots, enlisted men, and Douglas mechanics, from American headquarters in Cairo, had been available when the first of these planes reached the Persian Gulf area toward the close of January 1942, the terms of the contract under which the aircraft were being delivered to the Soviet Government could not have been met without their assistance.

By the middle of April 1942, 60 Boston 3's and 30 A-30C's had been sent to Iran. On the whole, these aircraft had been assembled with comparatively little difficulty, although, on account of the diversion of the Boston 3's from Great Britain to the U.S.S.R., these planes required modification and were found to be operationally incomplete, owing to the shipment of much of their equipment to Britain. The critical inspection of planes by the Soviet officials to whom they were delivered and the need of supplying special training
to the Soviet pilots who ferried them to their home bases had caused additional delay. On 19 April, General Adler cabled that 23 Boston 3's had already been accepted, and that the remaining ones, along with the A-200's, were either in the process of assembly or of test.\footnote{132} When on occasion the pressure of work became unusually heavy, it was found expedient to borrow, from Africa, Air Corps officers, FAA pilots, or Gura personnel, for short periods.

In February arrangements for the delivery of B-25's to the Soviet Union had been completed, and within a month the first of these medium bombers had been flown to Iran.\footnote{134} Brought by the Ferrying Command from Miami to Africa, and then on to Basra, these planes were set down on the field of the RAF station at Shaibah, 16 miles away, because that of the airport at Basra was not considered suitable for their use. Here the aircraft were carefully inspected, put to test flights, and prepared for transfer to Soviet representatives.\footnote{135}

Since for reasons of security, the crowded condition of airdromes at Abadan, Basra, and Shaibah caused the RAF a good deal of concern, it had been suggested that the B-250's be routed from Cairo to Teheran, via Habhamiyeh.\footnote{136}

Success in the delivery of B-250's by air led, in June, to the proposal that ways be sought for flying the A-200's to the Soviet Union by the trans-African ferry route. If the range of these planes could be increased sufficiently to make such a plan feasible, only a small crew would then be left in the Basra area for the final checking of planes. In all probability, the remainder of the group would then
be moved to Gura, or to other depots in India or the Middle East.\footnote{137}

On the basis of experience, General Adler was inclined to believe that the delivery of planes to the Soviet Government had become a depot rather than an assembly task. Although the Air Section of the North African Mission had furnished from its limited corps the maximum aid possible, delay in the arrival of personnel had proved a handicap. As a partial solution to the problem, he therefore recommended that the commanding officer for the Abadan depot, along with his staff, should be dispatched to Iran at once, so that Air Corps personnel might assume complete charge of the undertaking.\footnote{138}

If the United States were to engage in other enterprises in the Middle East theater at this time, it was agreed that the best contribution which American effort could make to aircraft maintenance and overhaul problems would be the establishment of a mobile depot in the Delta district—a recommendation which General Brett had made in the fall. In view of the concern of the RAF over the fact that senior Air Corps officers sent to inspect RAF installations had been unable to return to the United States to give firsthand reports of the difficulties involved in maintaining aircraft operations in the desert, it was suggested that an officer be detailed to Egypt for this purpose.\footnote{139}

One other significant proposal affecting the theater was made late in the spring. A survey of the ferry lanes across Africa and the Middle East had brought into prominence problems regarding the maintenance of these routes and provisions for their security.\footnote{140} There were, however, other matters in need of clarification—a situation
by no means surprising, in view of the rapid developments of the last few months. Soon after the entry of the United States into the war, the Air Corps Ferrying Command had assumed responsibility for the ferrying of aircraft across Africa. This change of circumstance, dictated by military necessity, had relieved General Adler of previously assigned duties in connection with AFC and FPA activities in that region. In February 1942, a revision of contracts with Pan American Airways and its subsidiaries gave assurance of the ultimate militarization of the ferry route under AFC control—a step not fully accomplished until December of that year. The sweeping scope of the operations of the Ferrying Command had made necessary the administration of its affairs through a central office, where policies could be formulated and movements in both hemispheres regulated. Any other arrangement obviously would have proved an uneconomical use of personnel and equipment.

In order that the situation might be clearly understood in the field, General Maxwell was notified in April that his cooperation in furthering the efficient functioning of the Ferrying Command in North Africa was expected, but that he had no responsibility or authority regarding its operations. As administrator of the Air Service Command in the Middle East, he would be kept informed of the requirements of the Ferrying Command through its regional officer, who, in turn, would coordinate his activities with General Maxwell. By definition of duties, the relationship between the Ferrying Command and the senior officer in the theater was therefore settled well in advance of the establishment of an American air force in the Middle East.
In the course of the winter, the number of combat planes and the amount of cargo delivered over the trans-African route had risen rapidly. By May the volume of this air traffic assumed such large proportions that the placing of an air officer in charge of all activities connected with the route was recommended.145 Within a short time, this proposal resulted in the establishment of the Africa-Middle East Wing of the Ferrying Command (soon the Air Transport Command), with Brig. Gen. Shepler W. FitzGerald in command.146 By 20 June he had reached Accra. He then proceeded to Cairo, where he entered upon his duties about a week later. From headquarters there he would direct the affairs of an organization extending from the west coast of Africa to Karachi in India.147

Before these arrangements could be effected, however, the military situation in North Africa was altered by the campaign which Marshal Rommel opened at the end of May.148 As the British fell back under the force of attacks which carried the Axis line to El Alamein, it became obvious that their position might be rendered hopeless by lack of strong air cooperation.149 Despite an accepted strategy which precluded the diversion of personnel, materiel, and shipping,150 the United States sought means of reinforcing the Middle East at once, for there was reason to fear that loss of this region would result in the closing of the southern supply route to the U. S. S. R. and in the isolation of the India-Burma-China theater.

After a number of conferences with the British in June,151 two forms of help were devised. The first of these grew out of the

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SECURITY INFORMATION
Arnold-Portal-Towers conversations, in which it was agreed that nine American combat groups should be allotted to the Middle East. With the understanding that the RAF would furnish maintenance and allied services until the arrival of American ground crews, it was decided that three of these units—one group each of heavy and medium bombers and pursuit planes—should leave the United States in July, and that the remainder should be moved to North Africa within the next 6 or 7 months, as ships became available.

The second plan promised more immediate assistance. Because of the interdependence of the Middle East and Far East theaters, the Combined Chiefs of Staff had endeavored to maintain sufficient flexibility of plan to make possible the diversion of forces to whichever area had the greater need. This policy was now acted upon. On 23 June 1942, Lewis H. Brereton, Commanding General of the Tenth Air Force at New Delhi, received orders to take all available heavy bombers and proceed to the Middle East, to render assistance to Gen. Claude Auchinleck, who was then faced with a German army already well within Egypt. Because of the critical character of the situation, General Brereton was authorized to transfer such personnel and transports as were required for the proper functioning of the heavy bombers, and to divert, from shipments bound for India and China via the Middle East, whatever supplies and equipment were essential. On 25 June he left Karachi, with a detachment of Flying Fortresses and a small group of staff officers, among whom were General Adler, Lt. Col. Victor H. Strahm, Col. Cornelius V. Whitney, and Maj. Richard E. Pierce.
Meanwhile General Maxwell had been relieved from duty as head of the U. S. Military North African Mission and assigned as Commanding General of the U. S. Army Forces in the Middle East (USAFIME). On 19 June he formally assumed office. Upon the arrival of General Erereton in Cairo on the 28th of the month, it was therefore by general orders issued from General Maxwell's headquarters that he was placed in command of the U. S. Army Middle East Air Force, which comprised all air units then being collected as a striking arm for that area—a position for which wide combat experience had admirably fitted him. Although plans for a Ninth Air Force had been contemplated for some time, its establishment in the Middle East as a complete homogeneous unit now seemed contingent only upon the ability of the Allied Nations to hold the region.
General Brereton's arrival in Egypt occurred at a time when the British were sorely in need of help. With the fall of Tobruk on 21 June, Marshal Rommel's army had swept forward and by 1 July had reached El Alamein, only some 70 miles from the great naval base at Alexandria. Whether the line could be held at that point was still a matter of conjecture. Under such circumstance, the sending of an American air force to the Middle East might well prove a decisive factor in the determination of that issue.

During the period in which the advance squadrons of this air force would operate in support of the British, it had been decided that they should be assigned to the United States Army Forces in the Middle East, under the command of General Maxwell. This relationship was indicated in their designation as the United States Army Middle East Air Force (USAMEAF). Inasmuch as the direction of air activities and coordination of effort with Generals Auchinleck and Tedder devolved upon him, General Brereton at first regarded this arrangement as most unsatisfactory. In an air theater of operations, he found himself in a post of great responsibility but without authority to deal directly with the RAF and British General Headquarters. Through faulty organization, he feared that the success of tactical operations might be jeopardized by a long chain of command. In the best interests of the service, he therefore asked that this state of affairs be corrected. By way of remedy he
suggested the immediate activation of the Ninth Air Force and numerical
designation for the air units already in the Middle East.

Such action was out of question at the moment, but within a few
days an acceptable modus operandi was reached. By that time General
Brereton had a thorough understanding of his mission and was receiving
most generous support from General Maxwell. He also could rely upon
the full cooperation of General Adler, who was already busily engaged
in developing the Air Service Command. Activated on the same day on
which the Middle East Air Force itself came into being, this command
had been able to function almost at once, through material assistance
furnished by the British and the efficiency of a staff drawn largely
from the Air Section of the former North African Mission. With the
help of personnel who had come with him from India and were now serving
as a nuclear staff, General Brereton then turned to the organisation
of his combat forces. These consisted of two units—the Brereton and
Halverson Detachments. The Brereton Detachment, as its name suggests,
was composed of members of the Tenth Air Force, drawn from two squadrons
of the 7th Bombardment Group—the 9th and the 436th (formerly the 88th
Reconnaissance Squadron). A number of these men had seen service in
Java and the Philippines, and were looked upon as the most experienced
heavy-bomber and ground crews in India. The advance echelon had
arrived at Fayid, Egypt, on 28 June 1942, but 2 days later was sent
with its B-17’s to the RAF station at Lydda, Palestine, where it was
joined early in July by the rear echelon and command post.

The Halverson Detachment (Halpro), on the other hand, was a
carefully chosen task force originally designated for duty in China. The
special object for which it had been trained was the bombing of
Tokyo, an enterprise then cloaked in the greatest secrecy. Before
departing for the Asiatic theater, however, Col. Harry A. Halverson,
the commanding officer of the unit, had been notified that his group
of B-24's might be deflected in Egypt for emergency operations.
According to instructions, he therefore proceeded to Khartoum, where
he received orders to pause briefly in the Delta area for the performance
of a single mission—a raid upon the Ploesti oil district of Roumania
on 12 June. After the completion of this assignment and participation
in a damaging attack upon an Italian naval force off Taranto—3 days
later (15 June), the detachment had hoped to continue on its way.
In fact, Colonel Halverson feared that one more cooperative mission
in the Mediterranean area would deplete his unit to such an extent
that its primary mission could not be accomplished. Moreover, lack
of spare parts for B-24's in this theater would make operational
maintenance a serious problem, for the Halpro supplies which had been
shipped to Karachi were already deep within India, and resort to
cannibalism would prove an expensive and disheartening process.

Despite these objections, the critical character of the military
situation led the British to press their case. Since Marshal Rommel's
divisions had succeeded in breaking through their defenses in Cyrenaica,
it was obvious that the main British forces would be obliged to withdraw
to the Egyptian frontier in order to avoid encirclement. Heavy bombers
were therefore badly needed to slow down the German pursuit and to stave
off the collapse of the Middle East. This circumstance, and the fact that the progress of the Japanese in the Burma-China sector made it extremely doubtful whether the detachment could reach its original destination, influenced the War Department to decide in mid-June that the Halpro task force should remain in the Middle East temporarily.

In accordance with this change of plan, Colonel Halverson was directed to assemble his command in the vicinity of Cairo and to report to General Maxwell. The unit's connection with the North African Mission was limited to administrative matters only, however; for operational purposes it came under the direction of No. 205 Group of the RAF. Inasmuch as the headquarters of this group was at Ismailia and Halpro was stationed at Fayid, the proximity of their bases made such an arrangement relatively simple, for operations were merely a matter of daily conferences, with operational and intelligence material close at hand.

Although the first two assignments of the Halverson Detachment marked the beginning of active American participation in the war in the Middle East, these missions had no immediate effect upon the Battle of Egypt. With the fall of Tobruk, and the change which this disaster made in the prospect of a successful stand on the Egyptian frontier, Halpro was brought directly into the conflict by the gravity of the British situation. Possession of the four-engine bomber, of which there were then very few in that theater, enabled this squadron to play a part out of proportion to the size of its force. The deterioration of
the defense during this period could be traced by the targets upon which Halpro's B-24's, flying with Wellingtons or British Liberators of No. 159 Squadron, concentrated night after night. From 21 to 24 June, when the Axis advance was most rapid, they attacked the wharves and shipping at Benghazi in a series of raids intended to deprive Marshal Rommel of supplies that would not have reached him for at least a week, in any case. The bombing of harbor installations at Tobruk promptly followed, for supplies landed there could be delivered to the front within a few days. Finally, on the night of 26 June, the objective was tanks and motor transport on the road between Sollum and Matruh. It was not the intention of the War Department that the planes of the Halverson Detachment should be employed in local tactical operations unsuited to the technical characteristics of heavy bombers. Only the extreme need of weakening the enemy close to the front, so that the effects of the attack would be felt at once in the battle area, justified the use of these bombers for such a purpose. The delaying action of these and similar efforts, however, gained time for the British and made possible the regrouping and strengthening of their forces. By 30 June, General Auchinleck had gathered his available troops and equipment for a stand at Al Alamein. Here the coastal corridor between the sea and the sands of the Qattara Depression, narrowing to a bottleneck of about 40 miles, constituted virtually the last point at which the British Eighth Army could hope to bar an Axis sweep into the Delta area. Since the Fayid
base on which the Halpro aircraft were stationed was now regarded
dangerously near the range of German bombers, the B-24's were flown
to Lydda, where the planes of the Erereton Detachment already were
located.

Within the next few days the British Mediterranean fleet retired
to the upper reaches of the Red Sea, and plans for the evacuation of
Egypt were completed. In an effort to conform to any movement of
British General Headquarters in the Middle East, General Maxwell's
headquarters were kept mobile in two echelons. Pending the stabili-
zation of the situation in Egypt, the headquarters of the North African
Service Command and all activities not contributing directly to the
support of current British and AAF operations were to be transferred
to Eritrea by air and by sea. In the event that Cairo and the Delta
area became untenable, General Ereroton considered only one line of
action open to him. If the British withdrew either to the east or to
the south, he believed that the USAF must remain with the Eighth
Army in an attempt to fulfill its mission of rendering support to
General Auchinleck. Should the British forces be destroyed in the
Delta or in the Levant, he proposed the withdrawal of his air units to
Khartoum for the maintenance of the trans-African ferry route, or to
the east for the defense of the oil fields and refineries of Iraq and
Iran. Each alternative had much to recommend it, but in the face
of existing conditions the second plan seemed to offer the greater
advantage. If Cairo were evacuated, the air line to bases in Palestine
would, of necessity, run from Khartoum to Basra, and then westward to
the Levant. Although, in such a case, immediate measures would be
taken to reinforce the staging fields across the continent, it was
obvious that future Axis successes might necessitate abandonment of
the northern ferry route. In the hope of insuring continued
deliveries to the Far East, even under such circumstances, preparation
of the southern ferry route across Africa had been hastened and rights
to fly over central as well as southern Arabia had been procured.
If the northern Red Sea ports could not be held, personnel and supplies
would be diverted to Basra. Because nearness to the coast and the lack
of ground defenses, antiaircraft artillery, revetments, and westward
air-raid warning facilities made aircraft and airfields in Palestine
extremely vulnerable to enemy air attack from Crete, there was grave
concern over the security of these Levantine airfields. Lack of bases
in depth and the necessity for conserving fuel had, however, required
the use of these coastal facilities. In an emergency, the heavy bombers
could be transferred to the Persian Gulf district, and in a last
extremity they could fall back upon India.

Fortunately Marshal Rommel’s army was halted at El Alamein, and
the development of the USAMC/AF progressed without interruption. On 17
July the Halverson Detachment was redesignated the Hal Bombardment
34 Squadron. About the same time the Brereton Detachment also took
squadron status, and 3 days later (30 July) these two combat units,
with a group headquarters, were welded into the First Provisional Group
35 under the leadership of Colonel Halverson. During the month of July,
Tobruk and Benghazi were the principal targets against which operations

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SECRET
SECURITY INFORMATION
were directed. According to prearrangement, on all approved missions, the American heavy bombers were to be dispatched from Lydda to their former base at Fayid for briefing and final instructions issued by the RAF, under the general supervision of Air Commander Ritchie. To Colonel Halverson this system was not wholly satisfactory. Distance made communications and coordination difficult. As a consequence, he often received meager information regarding operations and sometimes felt that he was given insufficient warning concerning them. Under this method, he also lost control of his organization as soon as it departed from Lydda. A solution to these problems was found in the assignment of Maj. Alfred F. Kalberer as liaison officer with No. 205 Group at Ismailia, and in the sending of several American airmen to Fayid to serve as a small advanced operational staff.

For General Brereton's command, the next few months represented a period of rapid expansion. The 57th Fighter Group, led by Col. Frank Nears, began to arrive in the theater before the middle of July, and by early August the group had become an official part of the American air force in the Middle East. This unit, later known among newspaper correspondents as "The Flying Circus" because of its spectacular assaults, consisted of Group Headquarters and the 64th, 65th, and 66th Fighter Squadrons. Owing to the various means of transport employed, these components reached the Middle East at different times. Since speed was a matter of prime importance, an experiment used successfully in April, when fighter planes were needed in India, was resorted to again. Pilots who had received previous instruction in the principles of carrier technique and 72 P-40 F's were taken aboard the U.S.S. Ranger.
which left Quonset, R.I., on 1 July. When the ship was within a hundred
miles of West Africa, the aircraft were launched, in groups of 18, from
a point off Accra. After landing on the coast, the planes were then
flown in a series of hops along the transcontinental ferry route to
Egypt. For the skilful piloting of the P-40 F's across the jungles and
desert wastes of Africa, the 57th Fighter Group received commendation
from General Maxwell and General Brereton, both of whom commented on
the negligible percentage of aircraft lost in the crossing. This
record was made possible by the efforts of ground crews, who followed
by air transport. After landing on the same fields as the fighters,
the men would spend the night putting the P-40 F's into condition for
the next leg of the trip. In this way all the planes of the 57th
Group were transferred across the continent. From Cairo, they moved
on to a temporary station at Muqseiba, Palestine, where they arrived
at the end of the month (29-31 July).

The rest of the air echelon and a small number of essential personnel
also had left the United States at the beginning of July; having traveled
by air, they had reached Muqseiba more than 2 weeks earlier (12-13 July).
These first arrivals were given practice in formation flying, or were
sent into the desert to gain combat experience by being infiltrated into
seasoned British wings. The progress of the latter group, made up
principally of squadron commanders and flight leaders, was evinced by
the fact that as early as 12 August some of these pilots participated
in a mission of No. 233 (afterwards No. 7 SAAF) Wing over enemy territory.
In almost a month of flying with this wing, the Americans learned a
great deal about tactical missions and the characteristics of air
warfare in the desert—the need for mobility of fighter units cooperating
with ground forces, the reduction of squadrons to a minimum, and their
organization into ground and air echelons, so that they could leapfrog
ahead, or withdraw, if there were occasion to do so.

Meanwhile the ground echelon embarked on H. M. T. Louis Pasteur,
which sailed from New York on 16 July 1942. After a long voyage across
the submarine-infested Atlantic and around the Cape of Good Hope, these
men reached Port Tewfik a month later and, from the reception center
at El Kabrit, were sent promptly to Palestine to rejoind their respective
units. About the time of the arrival of the ground echelon, the three
squadrons were dispersed for a period of training—the 65th was transferred
to Cyprus; the 66th moved to Beilt Darras, near Lydda; and the 64th,
together with Group Headquarters, remained at Muqbilah for the time
being.

Although the instability of the African and Russian fronts made
it questionable whether sufficient security could be provided for the
Middle East bases available to bombers, the shipment of the 98th Bombard-
ment Group (E) overseas in July had nevertheless been decided upon.
The announcement of its coming was most welcome to General Erleto,
for the number of operationally fit planes at his disposal was becoming
so reduced that he feared the bombardment efforts of the USANEAF would
soon prove ineffectual. Needless to say, such a circumstance would
have been disastrous, for the American heavy bombers had already played
a part in interrupting Axis shipping to North Africa and in safeguarding
the Eastern Mediterranean.

Since the supply and maintenance of bombers in the Middle East presented something of a problem, it was considered essential that they leave the United States with enough small spare parts for a 60-day period. The 98th Bombardment Group was therefore well equipped before its departure. The limited facilities of the Air Service Command of the USAMEAF, however, had led to the suggestion that this group be stationed temporarily at Guba where the Douglas Aircraft Company had a force of approximately 600 men with twice that number en route, or in the vicinity of Pointe Noire, French Equatorial Africa, where it was then thought that the 8th Air Depot Group would be located upon its arrival in Africa early in August. Although it was tactical considerations that determined the choice of an operational base for the group, its maintenance needs were given a good deal of thought. Fortunately the ground echelon of the unit was able to sail on the Lusitania with the ground echelon of the 57th Fighter Group. Having reached Egypt by the middle of August, it soon proceeded to bases in Palestine. Meanwhile, with instructions to carry as many maintenance men for combat planes as possible, the air echelon had left Lakeland, Fla., by squadrons, between 17 and 30 July. By 7 August it was reassembled in Palestine, under the command of Col. Hugo F. Rush. Here the group was established on two fields: Group Headquarters and the 345th and 415th Squadrons were located at St. Jean d'Acre, while the 343d and 344th Squadrons were camped at Ramat David, near the Syrian border.

With the arrival of the 98th Bombardment Group, the work of the
small advanced operational staff at Fayid was increased, since it was found expedient for this group also to make use of the Fayid base as a landing ground for refueling before continuing on missions to the west. The operational staff at Fayid was therefore assigned to Major Kalberer, and the liaison duties with No. 205 Group became an operational staff task for the two units, supplying them with all their operational and intelligence material and also briefing their crews, either at their own base or at the one at Fayid. When crews of both groups were on the Fayid field, transmission of information and the details of briefing could be carried on without any difficulty. Communications between Palestine and the Suez area, however, were not too good, and distances were considerable. When the two groups took off directly from their home fields, Major Kalberer was hard-pressed to get his Lockheed Hudson, obtained from the RAF, to all the bases in time to do a thorough job.

The 12th Bombardment Group, Medium, commanded by Col. Charles Goodrich, also was added to the USAMEAF about the same time. Designated originally for a North Ireland project, the unit had been diverted when plans for a Middle East air force were undertaken. By way of preparation for foreign service, the organization had been given a period of intensive training and, as a result, was well qualified and well equipped when ready for movement overseas. The ground echelon embarked on the Pasteur and arrived in Egypt in the middle of August. The air echelon, however, departed from Morrison Field, Fla., between 14 July and 2 August following a course which ran through Puerto Rico.
and Trinidad to Brazil, then across the South Atlantic by way of Ascension Island, and thence along the trans-African ferry route to Egypt. In actual flying time, these thousands of miles were covered in an average of 72 hours. Despite the difficulties of the route, the group lost none of the 57 Mitchell planes (B-25's) and crews with which it set out. Upon reaching the Delta area, the squadrons were separated: the Group Headquarters with the 81st and 82d Squadrons were assigned to Deversoir airfield, while the 83d and 434th Squadrons were located at Ismailia, about 20 miles away. Since both of these units were to furnish support to the British Eighth Army, they were placed under the tactical control of the RAF.

For an introduction into desert warfare, mid-August proved to be a most opportune time. Owing to the need for building up serviceability in preparation for a fall offensive, neither side was engaged in intensive activity at the moment. Under the tutelage of RAF and SAAF wings, the group was given a month of intensive training. This proved an experience of great value, for location of the target in the desert was a most difficult task, and one which often could not be mastered until the battle area had become fairly well known. (In fact, it is said that this knowledge sometimes was not acquired in fewer than 20 or 25 missions.) During this period, five missions were flown to acquaint the crews with the various aids to navigation available in the Middle East. The first raids were night attacks upon harbor installations at Mersa Matruh and enemy airfields at El Daba and Fuka—a type of mission for which they were ill-suited until equipped with...
flame dampeners.

On the Pasteur also came the 323d Air Service Group, consisting of Headquarters and Headquarters Squadron, two service squadrons, a signal company service group, and various ordnance and quartermaster companies. After making several intermediate stops, the unit arrived, on 26 August, at its base at Rayak, Syria, where it took up its duties of servicing and supplying the American air force in that area. Until assistance could be sent, its responsibilities were unavoidably heavy, but in an emergency manufacturers' representatives and the Douglas personnel from Guara and the Persian Gulf district, who were manning the advanced depot in the direction of Basra, could be called upon for help. Inasmuch as all combat units of the USAFIME, except the 13th Bombardment Group, were stationed in Palestine, the depot was reasonably well located with reference to the squadrons which it served. Its location at Rayak had been largely a matter of circumstance, however. At the time of the arrival of the 323d Group, the military situation was such that only a small number of suitable airfields was available. The Air Service Command was therefore faced with the problem either of turning over all its supplies to the RAF for storage, or of finding a site for an air depot. As one of the few possibilities, Rayak offered desirable facilities in the way of hangars, warehouses, and living quarters—considerations which seemed to outweigh whatever disadvantages existed. The improvisation of a depot here made it possible for the Air Service Command to use its own methods of supply and so proved a major factor in the maintenance of a high percentage of aircraft in operation.
Whenever the campaign in Egypt permitted movement to the west, the
establishment of air depots in support of these units would, of course,
be necessary.

Throughout the summer expansion of the Air Service Command had
been furthered by every means. Although the RAF was furnishing house-
keeping, supply, and maintenance for all American bases in the combat
zone, obviously the resumption of hostilities in the fall would make
it more difficult for the British to continue this service. The recent
arrival of ground echelons, and the development of essential facilities,
would doubtless do much toward helping the American units to attain
a fair degree of self-sufficiency. In the meantime, it was agreed
that there should be no interference with the quantity or present system
of supplies to the British, for the repair and maintenance both of RAF
and AAF aircraft was of the greatest importance.

Since Palestine was an area from which heavy bombers could operate
satisfactorily both to the north and the west, there was reason to
suppose that they would be stationed there for some time. As a consequence,
this region became the center of gravity for American installations, and
a new supply line based on the railhead and port of Aqaba was opened.
These developments had more than local importance, for, in relation to
the theater as a whole, Palestine was looked upon as a potential zone
of communications from which axes would extend east to the Persian Gulf
and south to Gaza. Such a scheme not only would lend flexibility to
the logistical plan, but also would provide means for maintaining a
greatly enlarged air force.
Although Gura, like Abadan, was excluded from the USAAF and retained under theater control, the Air Service Command acted as the controlling agent for General Maxwell and, at his request, had assumed direction of the technical staff at both places—an arrangement which insured the maintenance of close contacts with these depots. At Gura, the overhaul of aircraft and engines had already begun, but, owing to the loss of machine tools, spares, and other equipment through the sinking of the *Oklahoma* off the east coast of Africa early in July, only limited operations were possible during the summer. Until this materiel could be replaced by shipments from the United States, the EAF had agreed to furnish from its stocks such supplies as it could, and every effort was made to utilize the existing facilities and manpower for the district. Both to installations and personnel at Gura, the presence of the enemy in Egypt was thought to constitute a grave hazard. Sabotage always loomed as a menace, but now there was reason to believe that even the danger of capture could not be disregarded. Defense of the Eritrean area as a whole was a duty devolving upon the British, who would endeavor to carry out the obligation as long as the Eighth Army remained intact. The internal security of the depot itself was an American responsibility. In the absence of an adequate number of military police, authorities were therefore urged to take all possible precautionary measures for its protection.

Upon completion, Gura was envisaged as a central control depot for aeronautical supplies furnished by the United States. Although all materiel would not actually be stored in warehouses there, the keeping...
of a complete set of record-files at the depot would do much to eliminate
duplication both of procurement and equipment—a matter especially serious
in the Middle East because of the extreme shortage of transportation
facilities. Moreover, such an arrangement would have the additional
advantage of making possible the linking of theater requirements for
the RAF, American combat units, and Air Transport Command. In order to
determine the operational details of a system of this sort, discussions
with the Royal Air Force Delegation in Washington were to be held in
the fall. To proposals for the formation of a single supply and
maintenance organization with British and American sections, there was
objection on the ground that such a plan was not consistent with American
military policy. Although interest in keeping a maximum number of planes
in the air made a common aim essential, it was the American opinion
that the same ends could be achieved through close cooperation of the
two independent service commands.

Meanwhile a careful study of present and projected operations had
indicated that a Services of Supply organization was badly needed for
the United States Army Forces in the Middle East. By utilizing all
available installations, it was decided that an organization of this
kind could be established effectively in subordinate service commands
located in Eritrea, the Delta, the Levant, and the Persian Gulf district.
In these four commands would lie the technical and administrative
strength of the organization, while the Services of Supply headquarters—
purposely kept small—would confine its duties to planning and
inspection.

RESTRICTED
SECRET
SECURITY INFORMATION
As the summer wore on General Brereton strongly opposed the return of the combat crews and planes of the 9th Bombardment Squadron to the Tenth Air Force and the dispatch of the Halverson Detachment to the India-Burma-China theater. His objection was based on the argument that withdrawal would reduce the heavy-bomber effort of the Middle East by as much as 50 per cent. Since the RAF in the Middle East had not been equipped with this weapon originally, he felt that, in his theater, this type of plane should be increased rather than diminished in number. The effectiveness of his plea was reflected in the decision that both units should remain in the Middle East for the time being.

Reassured on this point, General Brereton then turned his attention to administrative affairs. In order to avoid duplication of personnel, he organized his headquarters in Cairo with a small tactical and strategical planning staff, and a supporting air service command. This pattern, similar to that which was used by the Tenth Air Force in India, appeared to be well suited to this theater, because the headquarters of the air force and the air service command were in close proximity. Both headquarters consisted largely of personnel on temporary duty from the Tenth Air Force and the Air Section of the North African Mission. Under the direction of General Adler as air service commander, and Colonel Strahm as chief of staff, these groups now worked in full accord with the British. Inasmuch as close cooperation of this sort was essential to the efficient functioning of the USAMAF, General Brereton was unable to say when they could be returned to India. The transfer of officers and enlisted men to the Middle East had greatly
handicapped the Tenth Air Force, which was suffering from lack of
75 personnel at the time of their departure. Since Brig. Gen. Clayton
L. Bissell, then commanding that air force, wished to bring it up to
the strength prescribed by the table of organization as soon as possible,
a clarification of the situation was requested. After some deliberation,
it was finally agreed that the staff officers who had accompanied General
Brereton to the Middle East should be relieved from duty with the Tenth
Air Force and assigned to the Ninth, and that General Brereton should
remain to command this air force, which soon was to be established in
the theater. On temporary status, the air echelon of the 9th Bombard-
ment Squadron, along with certain transport and replacement crews on
detached service, might also be retained in the theater, but the ground
echelon of the heavy bomber detachment was to be dispatched to India
by the middle of October. Owing to difficulty in arranging for
transportation, it was, however, November before the last of these
79 personnel left the theater.

With the approach of autumn, the British began to complete their
preparations for the coming campaign. The preliminary thrusts which
Marshal Rommel had attempted during the summer had shown that the two
armies were fairly evenly matched in strength. Additional equipment
or large consignments of supplies might easily swing the balance in
favor of one or the other. Fully aware of the gravity of the situation,
Colonel Fellers, as American Military Attaché in Cairo for the past 15
months, had strongly urged immediate reinforcement of the Middle East.
Although a pronounced shortage of ships seemed to prevent such a step,
nevertheless a study on the feasibility of augmenting AAF participation in operations in that area was initiated. If a revision of schedule were possible, it was hoped that additional groups allocated to the theater could be placed there at an earlier date.

For the reinforcement of the USAF/AAF, plans had been made for the sending of the 33rd Fighter Group to the Middle East in September. Not long before its departure, however, General Doolittle had requested the assignment of this group to the Northwest African project. Since the group was ready to leave, and the ship available for its transportation could carry P-40’s only, General Arnold was not in favor of the diversion. Nevertheless, he was willing to withdraw his objections, if the British Chiefs of Staff concurred in the change. The reassignment of this group would delay the arrival of the second fighter group in the Middle East until November—a fact which troubled General Arnold greatly, because he fully appreciated the importance of building up the American air force there in support of British operations in the theater.

When the proposal was submitted to Sir Charles Portal, his reaction to the matter was negative. Inasmuch as only a limited number of air units could be supported in the area in which the Northwest African force would operate, he thought it wiser to employ fewer of them, and to rely on replacements. In view of the recent concern of Air Marshal Tedder over the fighter position in the Middle East, other British officials agreed with Sir Charles in maintaining that a reduction in that force could not be approved. The question was then referred to General Eisenhower. After conferring with General Doolittle, he was
inclined to think that the strategical importance of the Northwest African project justified the diversion of the 33d Group. However, in giving his decision, he emphasized the fact that air superiority in Egypt would contribute greatly to the success of the Northwest African undertaking, and therefore expressed the hope that other P-40’s could be dispatched to the Middle East quickly, and in numbers sufficient to increase the strength of the British forces.

By 22 September, General Marshall was able to give the British reassurance that, as partial compensation for the temporary loss of this second fighter group, arrangements had been made to ship 100 pursuit planes to the Middle East. Forty-eight of these, originally intended for the 33d Fighter Group if it had gone to that area, were already en route to the Gold Coast. To fly them to Egypt, pilots of the 79th Fighter Group, which was to serve as a replacement unit for the 33d Fighter Group, would soon be sent by air to Accra, and the remainder of the air echelon would follow within a short time. Since the ground echelon was scheduled to sail in October on the Neusteria, which was bound for the Middle East by way of Rio de Janeiro and the Cape of Good Hope, it would be almost the middle of November before they could reach Egypt. In order to provide a maximum amount of training for the combat crews of the 79th Group, who had had less experience with the P-40’s than had the pilots of the 57th Group, General Brereton requested that an advance echelon of 150 enlisted men for maintenance work, and 10 ground officers, be flown to Cairo. He felt that their arrival, concurrent with the dispatch of planes from the
elevation depot in West Africa, would not only further the operational training of the group but would advance their entry into combat by 6 to 8 weeks.

These plans for reinforcing the fighter position in the Middle East greatly relieved Sir John Dill and Sir Charles Portal, who were forced by the length of the supply line to Egypt to think always in terms of probable future needs. They were, moreover, keenly aware of the importance of maintaining a steady flow of planes to this theater, for the RAF was already feeling the effects of a serious gap in the June shipments of the P-40's. To be sure, compensation had been made during the next 2 months, but a fresh lag was bound to result from the diversion of the 33d Fighter Group and from the inevitable delay which would arise before the 79th and subsequent fighter groups were fit for service. Unfortunately this shortage would manifest itself at a time when the opening of the fall campaign would have occasioned hard fighting in Libya.

Under the circumstances, Sir Charles Portal believed that it would be of considerable value if General Brereton and Air Marshal Tedder could be instructed that all P-40's in the Middle East should be treated as a common pool for the maintenance of American and British units, at the strength prescribed by previous agreement. According to Sir John Dill, this principle had been adopted in the ABD area in the early part of the year. In such conditions as prevailed in the Western Desert, he foresaw that, of necessity, the P-40's of both the AAF and the RAF would pass through the same repair shops and would be
maintained from the same stock of spare parts. Therefore it did not seem to him feasible that individual planes should be earmarked for the sole use of one or another of the air forces in the theater. In his opinion, matters would be simplified for commanders in the field, if they were empowered to use available resources in whatever way seemed to them, by mutual agreement, best calculated to insure the heaviest impact on the common enemy.

This suggestion, included in a letter to General Marshall, was given careful consideration. The idea was not a novel one, for a cable dispatched to General Brereton in July had stated that provision for a pool of P-40's had been made through a recent agreement with the British. Upon investigation, it was learned that the arrangement was based on verbal agreements with the RAF Delegation in Washington, and apparently had never been communicated to authoritative British representatives, a conclusion borne out by the tenor of Sir John Dill's letter. The agreement itself seems to have been more limited in scope than the cabled message implied, and may well have been intended merely to provide compensation for temporary shortages arising from irregularities in the shipment of planes, or in production of models. As a matter of fact, the fixed monthly allotment of American-manufactured aircraft to the British did not take account of the number of British squadrons equipped with the P-40, and as a result the pooling of this sort of plane was, at the time, virtually out of the question. General Brereton was therefore informed that a plan for the control of all spare parts through a United States central
depot in each theater was then under discussion, but that aircraft
would be assigned to the various theaters in accordance with previous
commitments. Under conditions mutually acceptable to him and Air
Marshal Tedder, however, exchanges or temporary loans of aircraft
common to the AAF and RAF might be made, provided the normal operational
equipment of both forces was maintained at the strength prescribed by
existing commitments. Along with the assurance that the United
States would send fighter planes to the Middle East at the maximum
rate consistent with the fulfillment of its obligations to other theaters,
these views were conveyed to Sir John Dill, in the hope that they
would be found substantially in accord with the suggestion contained
in his letter.

In the course of the summer, an RAF squadron of B-240's had been
sent to the Middle East, and a part of it had remained under the
designation of No. 160 Squadron. The heavy bomber force had been
further augmented by a squadron of Halifaxes too. Despite these
efforts to send to the Middle East the only reinforcements that could
arrive in time to be of service, many observers feared that the Allies
were faced with too great odds. Cut off from the western Mediterranean
but nevertheless determined to save the Middle East, they were forced
to bring the bulk of their supplies from Great Britain or the United
States, through sea lanes infested with submarines and lurking surface
raiders. Their one advantage lay in the relatively short haul by
which fuel oil, in its various forms, could be obtained from the
refineries of the Persian Gulf district.