

# THE ARMY AIR FORCES IN WORLD WAR II





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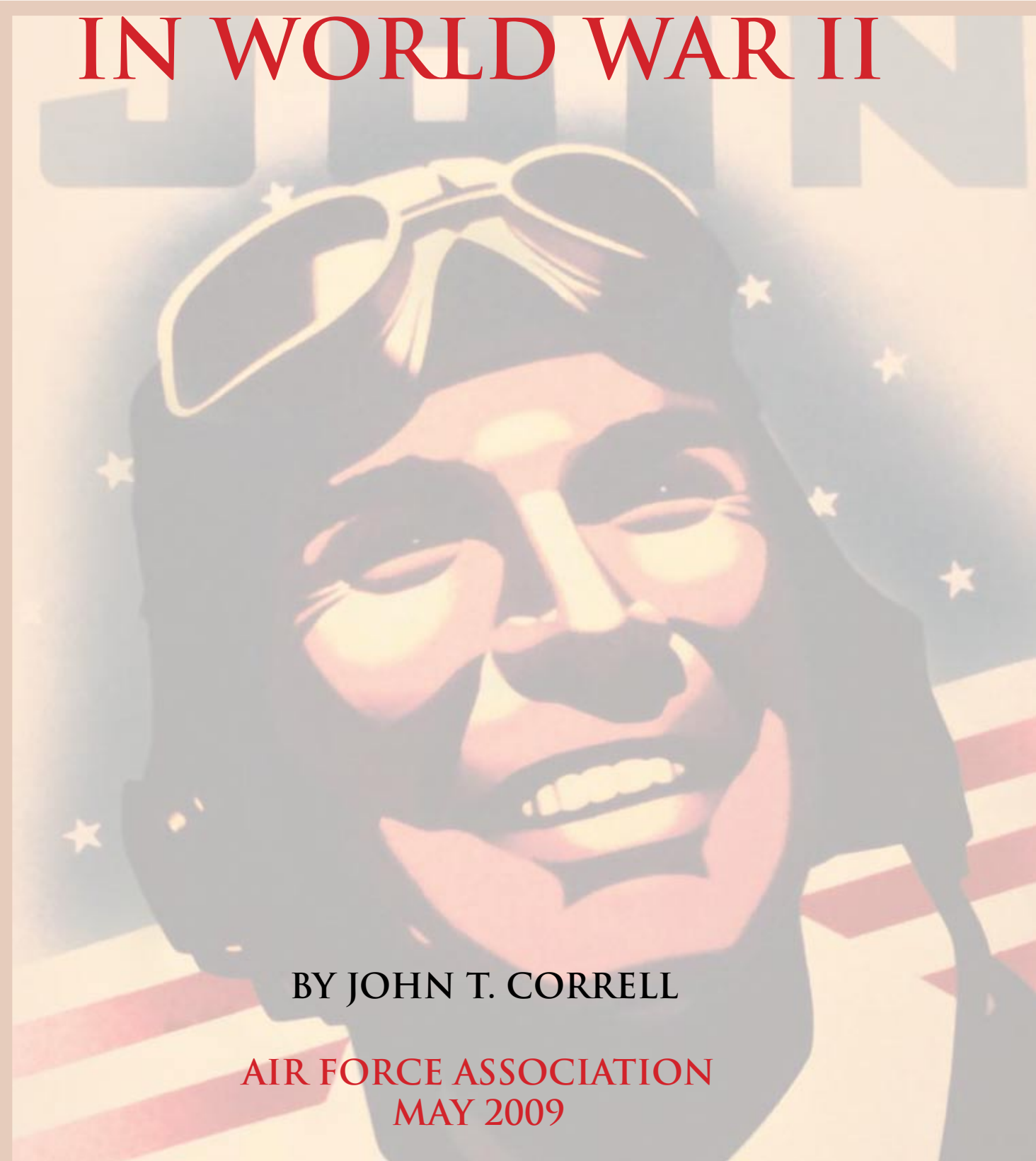
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# THE ARMY AIR FORCES IN WORLD WAR II



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AIR FORCE ASSOCIATION  
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B-17s over Germany.

# I. Emergence of the Army Air Forces

**T**he nation's air arm went through many names and configurations before it became the Army Air Forces in World War II. In the beginning, the forerunner of the US Air Force was the Aeronautical Division of the Army Signal Corps. It became the Army Air Service in World War I and watched enviously as the Royal Flying Corps and the Royal Naval Air Service merged in

1918 to form the autonomous Royal Air Force.

The Air Service remained under the thumb of the Army and was perceived to have no mission other than to support ground forces. In 1926, with efforts resurgent in Congress to establish an air department, the Army redesignated the Air Service the Army Air Corps. It was on an organizational par with the Infantry, Ar-

tillery, and the Corps of Engineers—but like the Artillery, it was regarded as subservient to the Infantry.

A big break came in 1935 when the General Headquarters Air Force was established with a charter that went beyond ground support. It took Air Corps tactical units away from Army field commands and put them under a single organization headed by an aviator who reported to the

Army General Staff. The Air Corps kept control of training, supply, and policy. The air arm was thus divided into two parts, but it was a net gain for airpower.

The Army Air Forces was created June 20, 1941, with both the Air Corps and Air Force Combat Command (formerly GHQ AF) reporting to the Chief of the AAF. A War Department reorganization on March 9, 1942, established the status of the AAF as equivalent to the Army Ground Forces and Army Service Forces.

From 1942 on, the Commanding General of the AAF was a member of the Joint Chiefs of Staff, alongside the Chief of Staff of the Army and the Chief of Naval Operations. It was de facto recognition that the Air Force mission, centering on long-range strategic bombardment, was independent of Army ground forces.

By 1944, the Army Air Forces had a strength of 2.4 million, which accounted for 31 percent of total Army strength.

In 1948, Gen. Carl A. Spaatz—the AAF’s senior commander in the field in World War II and first Chief of the independent Air Force—said, “The war against Germany was fundamentally an infantry war supported by airpower, much as the war against Japan was fundamentally a naval war supported by air.” That somewhat understates the Air Force contribution and the importance of Allied airpower in the war.

The German plan to invade Britain in 1940 failed because the Luftwaffe could not wrest control of the air—a necessary precondition for invasion—from the Royal Air Force. The relative role of airpower increased steadily. No Allied ground forces were engaged in Western Europe until the last 11 months of the war. Up to then, the AAF and the RAF carried the offensive against Germany and its forward bases in Europe. Allied air superiority, provided essentially by the AAF, enabled the D-Day invasion and the ground force advance across Europe. By that time, the capabilities of the German war machine had been reduced substantially by Allied air bombardment.

In the Pacific, the turning points

of the war were the carrier victory at Midway in 1942 and the capture in 1944 of island bases from which AAF B-29s could strike the Japanese homeland. The decisive actions that brought the war to an end were the

atomic missions against Hiroshima and Nagasaki.

By the end of the war, the AAF was essentially operating as a separate service and was well on its way toward independence from the Army.



**Gen. Carl Spaatz (l) with Gen. George Kenney (c) and Gen. Douglas MacArthur.**



**Gen. H. H. Arnold (l) with Gen. George Marshall.**



**King George VI (l) with Spaatz, Maj. Gen. Ira Eaker, and Brig. Gen. Newton Longfellow.**

# The Numbered Air Forces Around the World







### AAF's Numbered Air Forces in 1945

<b>First</b> Eastern US	<b>Seventh</b> Central Pacific	<b>Twelfth</b> Italy
<b>Second</b> Western US	<b>Eighth</b> Great Britain	<b>Thirteenth</b> South Pacific
<b>Third</b> Southeastern US	<b>Ninth</b> France	<b>Fourteenth</b> China
<b>Fourth</b> Far Western US	<b>Tenth</b> India-Burma	<b>Fifteenth</b> Italy
<b>Fifth</b> Southwest Pacific	<b>Eleventh</b> Alaska	<b>Twentieth</b> Marianas
<b>Sixth</b> Canal Zone		

# II. Chronology: The AAF and



*B-17 Flying Fortress sits in foreground of devastation at Hickam Field in Hawaii.*



*B-17 of the 381st Bomb Group flies toward target in Europe.*

## 1941

**June 20, 1941.** Army Air Forces established, consisting of Air Force Combat Command (formerly GHQ Air Force) and the Office of the Chief of Air Corps.

**Sept. 11, 1941.** Air War Plans Division Plan No. 1 (AWPD-1) forecasts requirement for 251 combat groups. Actual AAF wartime strength peaks at 243 combat groups.

**Dec. 1, 1941.** Civil Air Patrol established.

**Dec. 7, 1941.** Japanese attack Pearl Harbor, catch US Navy and Army Air Forces in Hawaii by surprise, inflict heavy losses in American lives, ships, and airplanes. Nine hours later, AAF bases in Philippines also caught by surprise, with further losses.

**Dec. 8, 1941.** US declares war on Japan.

**Dec. 10, 1941.** Five B-17s attack Japanese convoy near the Philippines, sink enemy vessel.

**Dec. 11, 1941.** Germany and Italy declare war on US.

**Dec. 16, 1941.** Lt. Boyd "Buzz" Wagner downs his fifth Japanese airplane over the Philippines, becomes first AAF ace of World War II.

**Dec. 20, 1941.** American Volunteer Group—the legendary "Flying Tigers"—begins combat operations over China against Japanese.

## 1942

**Feb. 23, 1942.** B-17s attack newly established Japanese base at Rabaul in Solomon Islands.

**Feb. 23, 1942.** Brig. Gen. Ira C. Eaker establishes Headquarters Eighth Bomber Command in London, first American air headquarters in Europe in World War II.

**March 7, 1942.** First African-American pilots graduate from training at Tuskegee Army Air Field in Alabama.

**March 9, 1942.** US Army reorganized into three autonomous commands: Army Air Forces, Army Ground Forces, and Services of Supply (later, Army Service Forces).

**March 13, 1942.** First AAF detachment reaches China-Burma-India theater.

**April 2, 1942.** Tenth Air Force flies its first mission in CBI, bombing Andaman Islands.

**April 8, 1942.** First flight of supplies over "The Hump"—a 500-mile air

# the Air War, 1941-1945



*Airmen relive a mission.*



*Ground crew work on P-47 Thunderbolt in England.*

route from India, over Himalayas to Kunming, China—to sustain Nationalist Chinese and US forces.

**April 18, 1942.** Sixteen B-25s, commanded by Lt. Col. James H. “Jimmy” Doolittle, take off from carrier USS *Hornet* and bomb Tokyo.

**May 4–8, 1942.** Battle of Coral Sea, first naval engagement fought solely by aircraft.

**June 3–4, 1942.** In Battle of Midway, three US carriers destroy four Japanese carriers while losing one of their own, inflicting major defeat on Japanese fleet.

**June 12, 1942.** In first AAF mission against a European target, 13 B-24s fly from Egypt against oil targets at Ploesti, Rumania.

**July 2, 1942.** First B-17 bombers arrive in England.

**July 4, 1942.** US crews in borrowed British Boston IIIs (RAF version of the A-20 Havoc) fly first AAF bomber mission over Western Europe, attacking airfields in the Netherlands.

**July 4, 1942.** Flying Tigers incorporated into AAF as 23rd Pursuit Group.

**July 7, 1942.** B-18 bomber sinks German submarine off Cherry Point, N.C.

**Aug. 17, 1942.** First American heavy bomber mission in Western Europe in World War II flown by B-17s against Rouen-Sotteville railyards in France.

**Aug. 20, 1942.** Twelfth Air Force (codenamed “JUNIOR”) spun off from Eighth Air Force for operations in North Africa.

**Sept. 3, 1942.** Fifth Air Force established at Brisbane, Australia, for operations in Southwest Pacific. Maj. Gen.

George C. Kenney commanding.

**Sept. 9, 1942.** Three Royal Air Force “Eagle Squadrons,” consisting of American volunteers, transfer to AAF.

**Sept. 21, 1942.** First flight of Boeing XB-29 Superfortress.

**Oct. 9, 1942.** Sixty US B-17s launch heaviest daylight raid of the war to date against industrial targets in France.

**Nov. 8, 1942.** Allied air and land forces invade North Africa to link up with British Army in Egypt and defeat Axis forces in between them.

**December 1942.** First issue of AAF’s *Air Force Magazine* published, succeeding *Army Air Forces Newsletter*.

**Dec. 4, 1942.** Ninth Air Force B-24 Liberator crews, based in Egypt, bomb Naples—the first American attacks in Italy.



Airmen sit on tail of P-38 Lightning to lift its nose wheel for landing gear maintenance.



P-47s fly escort for bombers over Italian Alps.

## 1943

**Jan. 5, 1943.** Army Air Forces Maj. Gen. Carl A. "Tooe" Spaatz appointed commander in chief of Allied Air Forces in North Africa.

**Jan. 21, 1943.** Casablanca Directive orders Combined Bomber Offensive by RAF and AAF against Germany, with Air Chief Marshal Charles Portal head of operations.

**Jan. 27, 1943.** Eighth Air Force B-17s make first American air raid on Germany, striking Wilhelmshaven and other targets.

**Feb. 18, 1943.** First class of 39 flight nurses graduates from AAF School of Air Evacuation, Bowman Field, Ky.

**March 1-3, 1943.** In Battle of Bismarck Sea, land-based airplanes sink majority of ships in Japanese convoy

en route to resupply and reinforce Japanese garrison on New Guinea.

**March 10, 1943.** Fourteenth Air Force formed in China under command of Maj. Gen. Claire L. Chennault.

**March 10, 1943.** First P-47 combat mission, a fighter sweep over France.

**March 19, 1943.** H. H. "Hap" Arnold becomes first AAF four-star general.

**April 4, 1943.** The B-24 *Lady Be Good*, returning from mission, overshoots base at Soluch, Libya, is not heard from again. In 1959, wreckage found by oil exploration party, 440 miles into Libyan desert.

**April 5, 1943.** Operation Flax begins, targets Axis air transport service between Italy and Tunisia, destroys 201 enemy aircraft.

**April 8, 1943.** P-47 enters combat, escorting B-17s over Europe.

**April 18, 1943.** P-38s from Hender-

son Field, Guadalcanal, intercept and shoot down two Mitsubishi "Betty" bombers over Bougainville, killing Japanese Adm. Isoroku Yamamoto, who planned the Pearl Harbor attack.

**May 17, 1943.** Heavy losses of B-26s flying from England on a low-level bombing mission in Holland lead to change in tactics. Thereafter, B-26s bomb from medium altitudes of 10,000 to 15,000 feet, where danger from ground fire is less.

**May 17, 1943.** B-17F Flying Fortress *Memphis Belle* becomes first heavy bomber in European Theater to complete full tour of 25 missions and return to US, where it and crew go on a war bond tour.

**May 18, 1943.** Aerial bombing offensive opens against island of Pantelleria, off coast of Italy, to weaken it for invasion. As landing craft approach



*Tuskegee Airmen ground crew members load a wing tank on a P-51 Mustang.*



*Ground personnel watch return of B-17 bombers from mission.*

on June 11, defenders surrender, completely exhausted from weeks of bombing. First major military objective to be surrendered because of airpower.

**June 10, 1943.** Combined Bomber Offensive (AAF portion designated Operation Pointblank) officially begins.

**July 19, 1943.** Rome bombed for first time. Flying from Benghazi, Libya, 158 B-17s and 112 B-24s carry out morning raid. Second attack staged that afternoon.

**July 21, 1943.** War Department Field Manual 100-20, reflecting lessons of North Africa campaign, states: "Land power and airpower are co-equal and interdependent forces; neither is an auxiliary of the other."

**Aug. 1, 1943.** Flying from Benghazi in Libya, Ninth Air Force B-24s bomb oil refineries at Ploesti, Rumania, only

mission for which five Medals of Honor were awarded.

**Aug. 5, 1943.** Women Airforce Service Pilots (WASPs) formed by merger of Women's Auxiliary Ferry Squadron and Women's Flying Training Detachment.

**Aug. 17, 1943.** Eighth Air Force bombers attack Messerschmitt works at Regensburg, Germany, and ball-bearing plants at Schweinfurt in massive daylight raid. German fighters down 60 of 376 American aircraft.

**Aug. 17-18, 1943.** Fifth Air Force bombers destroy 175 Japanese aircraft on the ground at bases in New Guinea.

**Sept. 27, 1943.** P-47s with belly tanks go the whole distance with Eighth Air Force bombers for a raid on Emden, Germany.

**Oct. 14, 1943.** Eighth Air Force con-

ducts its second raid on ball-bearing factories at Schweinfurt, takes massive losses. Sixty B-17s shot down over continent, five more crashed en route home; 600 aircrew members did not return.

**Oct. 15, 1943.** First P-38 long-range escort fighter group becomes operational in Eighth Air Force.

**Nov. 1, 1943.** Fifteenth Air Force established in Italy as Twelfth Air Force is split into two parts, with Bomber Command becoming Fifteenth Air Force and Fighter Command becoming Twelfth Air Force (Tactical).

**Nov. 3, 1943.** First use by Eighth Air Force of H2X air-to-surface radar.

**Nov. 20, 1943.** Stage play "Winged Victory" opens on Broadway. Sponsored by AAF and written by famed playwright Moss Hart, it tells the story of the AAF Training Command and ef-



*Airmen in the Aleutians relax between alerts near their P-40s.*



*P-38s fly mission over Philippines.*

forts of cadets to earn their wings. Cast of nearly 300 are all service members.

**Nov. 22–26, 1943.** At Cairo Conference, President Roosevelt, British Prime Minister Churchill, and Chiang Kai-Shek, agree that B-29s will be based in China-Burma-India theater for strikes on Japanese home islands.

**Dec. 5, 1943.** P-51s begin escorting US bombers to European targets. Ninth Air Force begins Operation Crossbow raids against German bases where secret weapons are being developed.

**Dec. 20, 1943.** First use by Eighth Air Force of “Window” metal chaff to jam enemy radar.

**Dec. 24, 1943.** First major Eighth Air Force operation against German V-weapon sites as 670 B-17s and B-24s bomb Pas de Calais area of France.

## 1944

**Jan. 1, 1944.** United States Strategic Air Forces in Europe (USSAFE) established in London to exercise operational control of Eighth and Fifteenth Air Forces; Lieutenant General Spaatz commander. Official abbreviation changed in February to USSTAF.

**Jan. 21, 1944.** Eighth Air Force changes first mission of fighters from protection of bombers to destruction of Luftwaffe.

**Jan. 22, 1944.** Mediterranean Allied Air Forces fly 1,200 sorties in support of Operation Shingle, the amphibious landings at Anzio, Italy.

**Feb. 15, 1944.** The German held abbey of Monte Cassino, Italy, destroyed by 254 American B-17, B-25, and B-26 bombers attacking in two waves.

**Feb. 20, 1944.** First mission of “Big

Week”—six days of strikes by Eighth Air Force (based in England) and Fifteenth Air Force (based in Italy) against German aircraft industry.

**March 4, 1944.** B-17s of Eighth Air Force conduct first daylight bombing raid on Berlin.

**March 5, 1944.** British Brig. Gen. Orde Wingate’s Raiders, popularly known as Chindits, flown by US Waco CG-4A gliders to “Broadway,” a site near Indaw, Burma, in daring night operation. Wingate is killed 19 days later in airplane crash.

**March 6, 1944.** In first major AAF attack on Berlin, 660 heavy bombers drop 1,600 tons of bombs. Eighth Air Force loses 69 heavy bombers, the most ever on a single mission.

**March 25, 1944.** Fifteenth Air Force crews temporarily close Brenner Pass between Italy and Austria.



*Catching up on the news.*



*An engine change for B-17 hit by German fighters on a mission over Berlin.*

**April 4, 1944.** Twentieth Air Force formed to conduct B-29 missions against Japanese home islands. Hap Arnold retains personal command of the new organization.

**April 8, 1944.** B-24s knock out twin spans of Sittang Bridge, most critical rail target in Germany.

**May 11, 1944.** Operation Strangle (March 19–May 11) ends. Mediterranean Allied Air Forces' operations against enemy lines of communication in Italy total 50,000 sorties, with 26,000 tons of bombs dropped.

**May 21, 1944.** Operation Chattanooga Choo-Choo—systematic Allied air attacks on trains in Germany and France—begins.

**June 2, 1944.** First shuttle bombing mission, using Russia as the eastern terminus. AAF Lt. Gen. Ira C. Eaker, head of Mediterranean Allied Air For-

ces, flies in one of the B-17s.

**June 5, 1944.** First very heavy bomber mission by Twentieth Air Force as 77 B-29s bomb Japanese railroad yards at Bangkok.

**June 6, 1944.** Allied aircraft fly 15,000 sorties on D-Day. Luftwaffe manages to fly less than 100 sorties.

**June 9, 1944.** Allied units begin operations from bases in France.

**June 13, 1944.** First German V-1 flying bombs fired in combat launched against England.

**June 15, 1944.** Forty-seven B-29s, based in India and staging through Chengtu, China, attack steel mills at Yawata in first B-29 strike in Japan.

**June 22, 1944.** GI Bill signed into law.

**July 6, 1944.** P-61 Black Widow night fighter shoots down Japanese G4M "Betty" bomber over the Pacific.

**July 29, 1944.** B-29 damaged by flak during attack on Showa Steel Works in Japan, lands at small Soviet airfield at Tarrichanka. Crew interned, aircraft confiscated. Two other B-29s later fall into Soviet hands. Soviets copy B-29 as Tu-4, their first strategic bomber.

**Aug. 4, 1944.** First Aphrodite mission (radio-controlled B-17 carrying 20,000 pounds of TNT) flown against V-2 rocket sites in France.

**Aug. 10, 1944.** Guam secured, completing US capture of Marianas, and providing B-29s with bases from which to strike Japan.

**Aug. 19, 1944.** Fourteenth Air Force B-24 *Nitemare* uses radar bombing to sink Japanese cruiser at night in South China Sea.

**Aug. 28, 1944.** Eighth Air Force aircraft destroys Me 262, first jet aircraft to be shot down in combat.



*Ground crew work on B-29 Superfortress on Saipan in the Pacific.*



*B-29 navigator works at his station following a mission over Tokyo.*

**Sept. 8, 1944.** German V-2, world's first ballistic missile, first used in combat. Two strike Paris; two more launched against London.

**Sept. 17, 1944.** Operation Market Garden begins: 1,546 Allied aircraft and 478 gliders carry parachute and glider troops in airborne assault between Eindhoven and Arnhem in the Netherlands in an effort to secure Rhine crossing at Arnhem.

**Nov. 1, 1944.** F-13 (photoreconnaissance B-29) makes first flight over Tokyo since 1942 Doolittle Raid.

**Nov. 10, 1944.** Thirty-six Fifth Air Force B-25s attack Japanese convoy near Ormoc Bay, Philippines, sinking three ships.

**Nov. 24, 1944.** XXI Bomber Command begins operations from the Marianas against Japan; 88 B-29s

bomb Tokyo.

**Dec. 17, 1944.** 509th Composite Group, created to carry out atomic bomb operations, established at Wendover, Utah.

**Dec. 17, 1944.** AAF Maj. Richard I. Bong records his 40th and final aerial victory.

**Dec. 21, 1944.** Gen. Henry H. "Hap" Arnold becomes General of the Army—first airman to hold five-star rank.

**Dec. 24, 1944.** Eighth Air Force sends more than 2,000 heavy bombers to support American ground forces in Battle of the Bulge.

## 1945

**Jan. 11, 1945.** Capt. William A. Shomo, flying P-51 Mustang in Philippines, sets AAF all-time record of

seven enemy air victories in a single engagement.

**Jan. 25, 1945.** In largest mining operation of war, B-29s drop 366 mines in approaches to Singapore.

**Feb. 3, 1945.** A total of 959 B-17s carry out largest raid to date against Berlin by American bombers.

**Feb. 13-14, 1945.** RAF and AAF bombers all but obliterate Dresden.

**Feb. 25, 1945.** B-29s begin night incendiary raids on Japan; 334 aircraft drop 1,667 tons of firebombs and destroy 15 square miles of Tokyo.

**March 9, 1945.** In a change of tactics in order to double bomb loads, Twentieth Air Force sends more than 300 B-29s from Marianas against Tokyo in low-altitude, incendiary night raid, destroying about one-fourth of the city.





**B-24 Liberator radioman packs for move forward from Mariana Islands.**



**B-29 Superfortress bombers fly on mission over Burma.**

**March 11, 1945.** Greatest weight of bombs dropped in a USAAF strategic raid on a single target in Europe falls on Essen, Germany, as 1,079 bomber crews release 4,738 tons of bombs.

**March 18, 1945.** Some 1,250 US bombers, escorted by 670 fighters, deal Berlin its heaviest daylight blow—3,000 tons of bombs on transportation and industrial areas.

**March 26, 1945.** US Marines secure Iwo Jima, which becomes emergency landing field for B-29s and base for fighter operations.

**March 27, 1945.** B-29s begin night mining of waters around Japan, eventually establishing a complete blockade.

**April 9, 1945.** Last B-17 rolls off the line at Boeing's Seattle plant.

**April 10, 1945.** Thirty of 50 attacking German Me-262 jet fighters shot

down by US bombers and their P-51 escorts. German fighters shoot down 10 bombers.

**April 12, 1945.** US destroyer *Manbert L. Abele* sunk near Okinawa by rocket-powered Yokosuka MXY-7 Ohka (Cherry Blossom) suicide attack aircraft. *Abele* is first ship ever sunk by a piloted bomb.

**April 17, 1945.** *Flak Bait*, a B-26B Marauder, completes record 200th bombing mission, more over Europe than any other Allied aircraft in World War II. *Flak Bait* then completes two more missions.

**May 1, 1945.** Fifteenth Air Force B-17s fly last AAF heavy bomber combat mission in Europe.

**May 8, 1945.** V-E Day. War ends in Europe.

**June 26, 1945.** B-29s begin nighttime raids on Japanese oil refineries.

**July 16, 1945.** World's first atomic bomb successfully detonated at Trinity Site in desert near Alamogordo, N.M.

**Aug. 6, 1945.** "Little Boy" (uranium) atomic bomb dropped on Hiroshima, Japan, from B-29 *Enola Gay*, commanded by AAF Col. Paul W. Tibbets Jr.

**Aug. 9, 1945.** "Fat Man" (plutonium) atomic bomb dropped on Nagasaki, Japan, from B-29 *Bockscar*, commanded by AAF Maj. Charles W. Sweeney.

**Sept. 2, 1945.** V-J Day. Official Japanese surrender aboard battleship USS *Missouri* in Tokyo Bay. (Alternatively, V-J Day is regarded by some to be Aug. 15, the date upon which Emperor Hirohito broadcast his radio message, the Imperial Rescript of Surrender.)

# III. Names That Made History



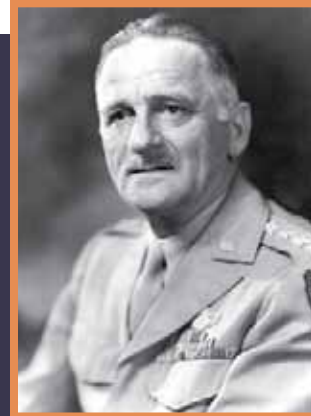
**GEN. H. H. "HAP" ARNOLD**

Wartime leader of the AAF. First (and so far, only) Air Force five-star general. Recognized by all as father of the US Air Force.



**ROBERT A. LOVETT**

Superb as assistant secretary of War for Air during World War II. Secretary of Defense 1951-53.



**GEN. CARL A. SPAATZ**

Arnold's closest colleague. Top AAF commander in Europe in World War II. In 1947, first Chief of the independent US Air Force.



**GEN. GEORGE C. KENNEY**

Commander, Far East Air Forces. Smart, effective, and resourceful—and he could get along with MacArthur.



**LT. GEN. FRANK M. ANDREWS**

Prewar commander of GHQ Air Force. Greatest advocate of B-17. Rising star cut short by fatal air crash in 1943.



**GEN. IRA EAKER**

Built Eighth Air Force from scratch. CINC, Mediterranean Allied Air Forces. Deputy commander, Army Air Forces. (Promoted to four stars in 1985.)



**GEN. JIMMY DOOLITTLE**

Led raid on Tokyo in 1942. As head of Eighth Air Force, directed strategic bombing offensive against Germany. (Promoted to four stars in 1985.)



**LT. GEN. CLAIRE L. CHENNAULT**

Leader of the American Volunteer Group—the Flying Tigers—and of AAF's Fourteenth Air Force. (Given honorary third star in 1958.)



**GEN. CURTIS E. LEMAY**

A legend, even before Strategic Air Command. Key B-17 commander in Europe, B-29 commander in the Pacific.



**LT. GEN. HAROLD L. GEORGE**  
Air Corps Tactical School strategist, AAF's chief war planner, commander of Air Transport Command.



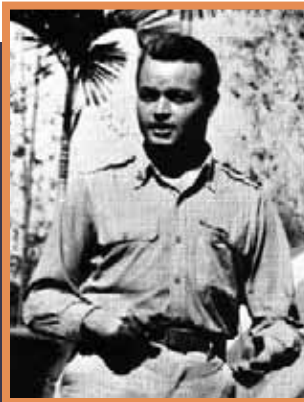
**LT. GEN. ELWOOD "PETE" QUESADA**  
Noted advocate and leader of tactical airpower in Europe as commander of IX Fighter Command.



**MAJ. GEN. HAYWOOD "POSSUM" HANSELL**  
Thinker, combat leader, staunch advocate of daylight precision bombing.



**LT. GEN. WILLIAM H. TUNNER**  
Commander of the Hump Airlift and the postwar Berlin Airlift. He made the transports fly on time.



**COL. PHILIP G. COCHRAN**  
Air Commando leader in China-India-Burma theater. "Flip Corkin" in *Terry and the Pirates*.



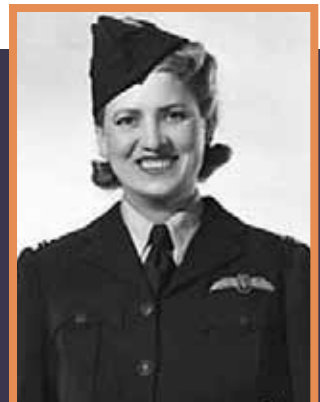
**GEN. BENJAMIN O. DAVIS JR.**  
Combat leader of the Tuskegee Airmen. Later, the Air Force's first black general officer. (Promoted to four stars in 1998.)



**BRIG. GEN. PAUL TIBBETS**  
Commander of the 509th Composite Group and pilot of the *Enola Gay*, the B-29 that delivered the atomic bomb at Hiroshima.



**MAJ. RICHARD I. BONG**  
P-38 pilot and America's leading ace of all time with 40 aerial victories over Japanese aircraft.



**JACQUELINE COCHRAN**  
Leader of the Women Airforce Service Pilots (WASPs). In civilian life, holder of numerous world aviation records.

# IV. A Gallery of World War II Aircraft

## PRINCIPAL AIRCRAFT OF THE AAF

### BOMBERS

#### **B-17 Flying Fortress** (*Boeing*)

AAF's first mass-produced four-engine bomber. Served in all theaters but especially identified with the daylight precision bombing campaign against Germany. Range 2,000 miles, carried 6,000 pounds of bombs and 13 machine guns. Dropped more bombs than any other US aircraft in World War II.

#### **B-24 Liberator** (*Consolidated*)

Overshadowed in fame by the B-17, but the B-24 had more range (2,100 miles), greater payload (8,800 pounds of bombs), and was built in greater numbers (18,000) than any other warplane in US history. Used in Europe, but noted for service in Pacific, where its range made it the preferred bomber until the B-29 arrived.

#### **B-25 Mitchell** (*North American*)

Twin-engine medium bomber. Flown by Doolittle Raiders against Tokyo in 1942. Used in every theater of the war, but primarily in the Southwest Pacific.

#### **B-26 Marauder** (*Martin*)

Twin-engine medium bomber, used mostly in Europe. Better performance than B-25, but it was difficult to fly without adequate training. Nicknames included "Flying Prostitute" (the small wings provided "no visible means of support"). Rugged, it had the lowest combat loss rate of any Allied bomber.

#### **B-29 Superfortress** (*Boeing*)

Last and best bomber of the war. Far surpassed the B-17 and B-24 in range and payload. Introduced in India and China in 1944. Flew strategic missions against Japan from Marianas. Delivered atomic bombs to end the war.

### FIGHTERS

#### **P-38 Lightning** (*Lockheed*)

Two engines mounted in twin-boom design gave it a distinctive look. Flown by AAF's two top aces (Dick Bong, 40 aerial victories, and Tom McGuire, 38). Effective long-range escort fighter in Europe, but achieved greatest fame in the Pacific.

#### **P-39 Airacobra** (*Bell*)

Radical design, with 37 mm cannon in the nose and the engine mounted behind the pilot, inside the fuselage. Light

and fast, operated best at lower altitudes. Half of the P-39s were transferred to Russians, who used them with good effect against tanks.

#### **P-40 Warhawk** (*Curtiss*)

Principal fighter of the AAF at the beginning of World War II. Best known for its service with the American Volunteer Group, the Flying Tigers, who flew it with overwhelming success against Japanese fighters that were supposedly superior in capability.

#### **P-47 Thunderbolt** (*Republic*)

Rugged fighter known as "The Jug" because of its rotund fuselage. Entered combat service in 1943. Accounted for 7,000 enemy aircraft destroyed in European theater alone. Also saw service in Pacific. Effective in ground-attack role.

#### **P-51 Mustang** (*North American*)

AAF's best fighter of the war. From December 1943 on, it gave Eighth Air Force a fighter with enough range to escort bombers to the most distant targets. Highly successful against Luftwaffe fighters. Also flew as B-29 escort in Pacific.

#### **P-61 Black Widow** (*Northrop*)

First US aircraft designed specifically as a night fighter. Radar in the nose enabled the crew to find and attack enemy aircraft in total darkness. Armed with four 20 mm cannons and four .50 caliber machine guns. Twin-engine, twin-boom design resembled P-38.

### ATTACK

#### **A-20 Havoc** (*Douglas*)

AAF's principal attack aircraft at beginning of the war. Used extensively in low-level, precision attacks in Southwest Pacific. Called the Boston in service with RAF. AAF crews flew their first mission in Europe in borrowed Bostons.

#### **A-26 Intruder** (*Douglas*)

Entered combat service in November 1944. AAF's best twin-engine attack aircraft at the end of the war. Remained in service for 25 years and saw duty in Korea and Vietnam.

### TRANSPORTS

#### **C-46 Commando** (*Curtiss*)

"Ol' Dumbo." Main transport for the Hump airlift over the Himalayas. Carried double the cargo of the C-47.

# raft

## **C-47 Skytrain** (*Douglas*)

The “Gooney Bird,” military version of the DC-3. More than 13,000 built. Went everywhere, did everything.

## **C-54 Skymaster** (*Douglas*)

Military version of DC-4. Four engines, long range, core of the Air Transport Command’s global system.

## TRAINERS

### **PT-13 Kaydet** (*Stearman*)

Biplane and principal primary trainer for AAF. Rugged and could withstand the rough handling it got from beginning aviators.

### **BT-13 Valiant** (*Vultee*)

Aircraft most used by AAF for basic flight training, which came between primary and advanced. Student pilots called it the “Vultee Vibrator” because it did.

### **AT-6 Texan** (*North American*)

AAF’s standard advanced trainer, used as well to train many Navy and Allied pilots.

## MAJOR ENEMY AIRCRAFT

### GERMAN

### **Bf 109** (*Messerschmitt*)

Luftwaffe’s best fighter at the beginning of the war. Carried the campaign against RAF Spitfires and Hurricanes in the Battle of Britain.

### **Bf 110** (*Messerschmitt*)

Twin-engine long-range fighter—but most effective when used in the fighter-bomber role.

### **FW 190** (*Focke Wulf*)

Widely regarded as Luftwaffe’s best fighter. Bane of unescorted B-17s on daylight bombing missions. A major challenge for Allied fighters until training and quality of German pilots deteriorated late in the war.

### **Me 262** (*Messerschmitt*)

World’s first operational jet fighter. First flew in 1942. Hampered by late delivery of jet engines. Appeared in combat in squadron strength in February 1945. Only about 300 ever saw combat. Too little, too late.

### **Ju 87 Stuka** (*Junkers*)

Classic dive bomber. Terror weapon in the Blitzkrieg cam-



B-24



P-40



P-61



AT-6

paigns, but it was vulnerable to enemy fighters and could not be employed unless the Luftwaffe had air superiority.

### **Ju 88 (Junkers)**

Fastest and most versatile of the German bombers. Also employed in fighter-bomber, night fighter, and close air support roles. Operated from rough sod airstrips on the Russian front.

### **He 111 (Heinkel)**

Twin-engine bomber. Luftwaffe's primary medium bomber in early part of the war, used extensively in Battle of Britain. Remained in service until war's end.

### **Do 17 (Dornier)**

Light twin-engine bomber, called "the Flying Pencil" because of its slim fuselage.

## **JAPANESE**

### **A6M Zero (Mitsubishi)**

World's best carrier-based fighter at the beginning of the war. Escorted bombers at Pearl Harbor. Used by both land-based and sea-based forces. Sacrificed structural strength and defensive armor for range and agility. Eventually surpassed by AAF P-38 and Navy F6F Hellcat.

### **B5N Kate (Nakajima)**

Japan's standard torpedo bomber at the beginning of the war. Delivered both torpedoes and bombs at Pearl Harbor.

### **D3A Val (Aichi)**

Dive bomber, used at Pearl Harbor. Served everywhere in the Pacific, was used as a kamikaze aircraft at the end of the war.

### **Ki-43 Oscar (Nakajima)**

Army day fighter, resembled—and was often mistaken for—Zero. Could turn inside Zero.

### **G4M Betty (Mitsubishi)**

Medium bomber with exceptional range (3,256 miles). Effective, so long as it had the protection of Japanese air superiority as it lacked sufficient armor and self-sealing fuel tanks.

## **AIRCRAFT OF FRIENDLY FORCES**

### **US NAVY/MARINE CORPS**

### **F6F Hellcat (Grumman)**

Navy's primary carrier-based fighter from 1943 on. Began as improved version of F4F Wildcat. Designed specifically to counter the Japanese Zero. Mainstay of rout of Japanese at "Marianas Turkey Shoot." Flown by 305 aces, most of any aircraft in US history. Shot down 5,156 enemy aircraft.

### **F4U Corsair (Chance Vought)**

Fast, small, and sleek. Large engine. The US Navy fighter the Japanese feared the most. Superb speed (446 mph) and climb rate. Versatile in fighter and attack roles and at intercepting kamikazes.

### **SDB Dauntless (Douglas)**

Navy's main dive bomber in the early part of the war. Flew to fame at the Battle of Midway. Replaced in the last part of the war by the larger Curtiss SB2C Helldiver. Army variant designated A-24.

### **TBF Avenger (Grumman)**

Rugged, highly regarded torpedo bomber, effective against Japanese ships in Pacific and German U-boats in North Atlantic.

### **PBY Catalina (Consolidated)**

Twin-engine flying boat with exceptional range (2,545 miles), used for patrol, search and rescue, and other missions. Designated OA-10 in AAF service.

### **ROYAL AIR FORCE**

### **Hurricane (Hawker)**

The RAF's "workhorse" fighter, teamed with the "thoroughbred" Spitfire. Larger and slower than Spitfire. Shot down more enemy aircraft in Battle of Britain than Spitfire did.

### **Spitfire (Supermarine)**

Britain's best fighter at the beginning of the war. Signature airplane of the RAF in the Battle of Britain. More than 22,000 built.



### **Lancaster (Avro)**

Best British bomber of the war. Four engines, single pilot. Accounted for 60 percent of the tonnage delivered by Bomber Command.

### **Beaufighter (Bristol)**

Night fighter variant of Bristol Beaufort torpedo bomber. Equipped with airborne intercept radar and four 20 mm cannons.

### **Typhoon (Hawker)**

The "Tiffany." Originally intended as an interceptor to replace the Hurricane but became deadly in fighter-bomber and close-air-support roles instead. Fast (400 mph) and generated immense firepower.

## **USSR**

### **Il-2 Shturmovik (Ilyushin)**

Produced in great numbers, principal ground attack aircraft employed against Germans on the Eastern Front. Difficult to shoot down. Took a terrible toll on Panzer divisions.

### **La-5 (Lavochkin)**

Fast, maneuverable close air support aircraft. In fighter role, excelled at low altitudes, where it could take on enemy's best. Shot down a German Me 262 jet aircraft.

### **Po-2 (Polikarpov)**

Fabric covered biplane. 40,000 built. Used for everything from training to crop dusting. Adapted as light night-attack aircraft. Attacked at night, very low level. Could absorb an enormous amount of damage and keep flying. Germans called it Nähmaschine (sewing machine) because of its rattling sound.

### **Yak-3 (Yakovlev)**

One of the smallest and lightest fighters used in combat by any country. High performance from its light weight and powerful engine. Highly regarded.

### **Yak-9 (Yakovlev)**

Built in vast quantities. Best of the evolving series of Yak fighters, which were built in greater quantities than any other Soviet fighters of the war. Simple design, easy to maintain.



**FW 190**



**Ju 87**



**B5N**



**Lancaster**



**Il-2**



*B-24s over Ploesti.*

# V. Battles & Events



## Pearl Harbor

*The Navy and the Air Force lose the first round.*

# 1941

In December 1941, World War II was under way already in Europe and Asia. There was no chance the United States could stay out of it despite strong public opinion in favor of isolationism. In fact, the nation had begun preparing for war in 1939. The emphasis in rearmament was on airpower, at the insistence of President Franklin D. Roosevelt, who recognized that airpower would be a big factor in the coming conflict.

An aggressive move by Japan somewhere in the Pacific was expected. The US had broken the Japanese diplomatic code and was reading intercepted messages from Tokyo. However, it was unknown when and where the attack might come.

Army Air Forces deployments in the Pacific were extensive. The Philippines had the biggest concentration of Army aircraft outside the United States. Some of the aircraft sent to Hawaii and the Philippines were older models, such as P-36 fighters, but there were P-40 fighters and B-17 bombers as well.

Japan, poised to expand its empire on the Pacific Rim, felt it must knock out the Pacific fleet at Pearl Harbor to keep the US off its flank for six critical months. On Dec. 7, 1941, a Japanese carrier task force launched a surprise attack on Pearl Harbor and the Army airfields in Hawaii.

The Navy and the Army were caught flat-footed, on alert for sabotage but not for air attack. The Japanese sank or severely damaged eight battleships and 10 other vessels and destroyed 76 aircraft. More than 2,700 Americans were killed. Some AAF fighter pilots, acting on their own, got into the air and shot down 10 Japanese airplanes. Nine hours later, Japan struck Army Air Forces bases in the Philippines, destroying 100 airplanes and killing 77 airmen.

The United States entered the war as a direct result of Pearl Harbor, declaring war on Japan Dec. 8. Any possibility that we would respond only to Japanese aggression and stay out of the war in Europe was eliminated when Germany and Italy declared war on the US on Dec. 11. It would be a global war to the finish.

*Damage at Wheeler Field.*



## China and the Flying Tigers

*Shark-mouthed P-40s confront the invaders.*

# 1941

In 1938, Generalissimo Chiang Kai-shek and the Chinese Nationalists fell back from the Japanese invasion and established their wartime capital at Chungking. Cut off from the coast, their only supply line from the outside world was the Burma Road. Supplies moved by rail from Rangoon to Mandalay to Lashio, where the Burma Road began, 700 miles through the high passes of the Himalayas to Kunming.

China recruited 100 American airmen—the American Volunteer Group, commanded by Col. Claire L. Chennault, a former US Army Air Corps officer—to protect the Burma Road and keep the Japanese at bay. They were equipped with 100 P-40 fighters, diverted from production lines in the United States. Their world-famous trademark was shark's teeth painted around the air scoops of their airplanes, with a glaring eye behind the propeller spinner to complete the effect. Time Magazine dubbed the AVG “The Flying Tigers,” much to the surprise of the AVG.

They were in action against the Japanese from December 1941 to July 1942. They never had more than 55 airplanes ready to fight on any given day. Their P-40s could not match the capabilities of the sleek Japanese fighters, mostly Nakajima Ki-43 Oscars. However, Chennault coached his pilots in diving, hit-and-run attacks, which helped overcome the disadvantage. They outflew and outfought the Japanese and defeated them in more than 50 air battles. The Flying Tigers were the only effective Allied air force on the Asian mainland.

In July 1942, the AVG was inducted into the AAF with Chennault kept in command. In 1943, it became Fourteenth Air Force, which continued the “Flying Tigers” name and heritage. After the war, the commander of Japanese forces in central Asia said, “I would judge the operations of the Fourteenth Air Force to have constituted between 60 percent and 75 percent of our effective opposition in China. Without the air force, we could have gone anywhere we wished.”

Today, the 14th Air Force is still the Flying Tigers—in Air Force Space Command—with the old wartime Flying Tiger still featured on its official emblem.

*Fourteenth Air Force Flying Tigers run to P-40s.*



## Doolittle's Tokyo Raid

AAF B-25s launch from a carrier deck.

# 1942

In the dark days of early 1942, Japan held the initiative in the Pacific as the United States urgently sought a means of striking back. The solution was suggested by a Navy submarine officer, who said that if a twin-engine Army bomber could take off from a carrier, it could reach Tokyo. The Navy proposed the idea and the AAF agreed.

Lt. Col. Jimmy Doolittle, already a famous aviator, was chosen to lead the raid on Tokyo, which would be carried out by 16 B-25 bombers. The plan was for the carrier to get them within 450 miles of Japan, if possible, with 650 miles regarded as the outside limit. After bombing Tokyo, they would land at airfields in China and turn the B-25s over to new AAF units forming there. The raiders embarked on the carrier *Hornet*, escorted by a task force led by Vice Adm. William F. Halsey Jr. on the carrier *Enterprise*.

The Americans did not know that the Japanese had radio-equipped picket ships on watch about 750 miles from the coast. On the early morning hours of April 18, the task force was sighted by a fishing boat. Halsey ordered the bombers to launch, 10 hours ahead of plan and, by Doolittle's reckoning, 824 miles east of Tokyo.

Doolittle went first, taking off at 8:18 a.m. into a 40-knot gale. The deck ahead of him was 467 feet, but Doolittle was up with deck to spare. All 16 bombers were airborne by 9:21 a.m. Shortly after noon, they bombed Tokyo, Kobe, Yokohama, Osaka, and Nagoya. The Japanese, who believed themselves invulnerable to bombing, were stunned.

Through a mix-up in signals, there were no homing beacons or landing flares for the raiders in China. Three aircraft ditched at sea. One landed in the Soviet Union. Fifteen of the crews landed or bailed out in China.

Back home, Doolittle was promoted to brigadier general (skipping the grade of colonel) and awarded the Medal of Honor. President Roosevelt, asked where the raid had come from, invoked the secluded valley from the popular novel and movie *Lost Horizon* and said they "came from Shangri-La."

B-25 takes off from USS *Hornet* for raid on Japan.



## Flying the Hump

500 miles, over the Himalayas into Kunming.

# 1942

In March 1942, despite the best efforts of the Flying Tigers and the Allied ground forces, the Japanese cut Nationalist China's last surface route to the outside world, the Burma Road. The only way to sustain Chiang Kai-shek's Nationalist Army and US forces in China was by airlift over the Himalayas from India, the "Hump."

It was 500 miles from India to China, one uncharted mountain chain after another, with passes at 14,000 feet flanked by peaks rising to 16,500 feet. In monsoon season, the winds reached 100 mph. The main Hump, which gave its name to the entire route, was the Santsung range of the Himalayas, 15,000 feet high, between the Salween and Mekong Rivers.

Everything had to come over the Hump by air: fuel, weapons, ammunition, C rations, and carbon paper. The airlift began in July 1942, with C-47 Gooney Birds flying from Dinjan in India to Kunming in China. Eventually, there would be 13 bases in India and six—built by local labor using hand tools—in China. AAF's Air Transport Command took over the operation in October 1942.

The flying was hazardous and hundreds of airplanes were lost crossing the Hump. It gave rise to a craft industry for the mountain villagers, who made products from the aluminum they gathered from crash sites. The C-46, which could better handle the altitude and carry twice the cargo, replaced the C-47 as the main aircraft.

The airlift hit its stride under the command of "Willie the Whip"—Brig. Gen. William H. Tunner—who arrived in 1944 with orders to cut the accidents and increase the tonnage. He managed both with insistence on regularity, standardization, and procedure.

At its peak, the airlift had one airplane crossing the Hump every minute and 12 seconds. It came to an end in 1945 with the opening of the Ledo Road, 465 miles from India to Lashio, where it joined the old Burma Road to cross the mountains to Kunming. By then, the airmen who flew the Hump had established airlift as a regular mission of the AAF.

C-4 flying the Hump.



## Battle of the Bismarck Sea

*Skip bombing sinks a Japanese convoy.*

# 1943

Japan's military expansion stalled out in 1942, and by early 1943 the imperial Army and Navy were on the defensive in the South Pacific. US forces had taken Guadalcanal in the Solomon Islands and, along with Australian forces, had ousted the Japanese from their fortified positions around Buna on the eastern coast of New Guinea.

The Japanese acted swiftly to resupply and reinforce their remaining garrisons on New Guinea with troops transferred from China and Japan. Convoys moved from Rabaul, New Britain, across the Bismarck Sea. There was no Allied naval presence. Stopping the convoys was up to the AAF Fifth Air Force and the Royal Australian Air Force.

In February 1943, radio intercepts revealed that the Japanese would send a large convoy in early March across the Bismarck Sea to their base at Lae on the northeastern coast of New Guinea. Patrolling B-24s sighted the convoy off New Britain on March 1. It consisted of 16 ships: eight destroyers, seven transports, and the special service vessel Nojima.

Allied air forces engaged the convoy in the Battle of the Bismarck Sea, March 1-3. Among the attacking aircraft were US B-17s and B-24s and RAAF Bristol Beaufighters and Bristol Beaufort torpedo bombers, but the most dramatic results were achieved by Fifth Air Force B-25s and A-20s, using low-level "skip bombing" techniques they had perfected. They swept down on the ships, releasing their bombs as low as 50 feet above the surface, skipping them across the water like flat stones until they struck their targets with devastating impact.

Twelve of the vessels, including all of the cargo and troop ships, were destroyed, completely wiping out the reinforcements for Lae. In addition to vessels in the convoy, Allied airmen sank two other ships in the general vicinity. Of the 350 Japanese aircraft encountered during the battle, 50 to 60 were shot down, most of them by AAF P-38s. The Japanese never again tried to run large vessels into Lae.

Lowell Thomas, the famous radio newscaster, logged this entry into his diary for March 4, 1943: "From the coast of New Britain to the coast of New Guinea, the waters are strewn with the wreckage of Japanese ships and airplanes. The battle of the Bismarck Sea was spectacular victory."

**B-25 uses skip bombing against Japanese ships.**



## North Africa

*Land power and airpower are co-equal forces.*

# 1943

In 1942, planning for D-Day—the invasion of Europe—had not even begun. The confrontation with the Germans was in Africa, where Montgomery's British 8th Army was up against Rommel's Afrika Korps. In November, US and British forces launched Operation Torch, landing in Algeria and Tunisia with the intent of pushing east to link up with Montgomery in Egypt. US Lt. Gen. Dwight D. Eisenhower was in overall command.

The Allied invasion soon ground to a halt in Tunisia. The inexperienced US II Corps did not fight well, but one of the biggest problems was German airpower. Although outnumbered, the Luftwaffe held air superiority over Tunisia, where US airpower was spectacularly ineffective, unable to protect the ground forces or do any real damage to the enemy. The Stuka dive bomber, stymied by the RAF in the Battle of Britain, was resurgent in North Africa.

Airpower was controlled by ground commanders at division level and below and tightly held for local support. They tried in vain to establish an air "umbrella" for protection and held airpower back from taking the offensive.

In February 1943, American and English commands in northwest Africa merged. Air Vice Marshal Arthur Coningham, who previously served with Montgomery, took command of the Allied Northwest African Tactical Air Force. Montgomery agreed with Coningham that "nothing could be more fatal to successful results than to dissipate the air resource into small packets placed under the control of army formation commanders." Upon taking command, Coningham removed control of the air forces from the US II Corps and the British First Army and allocated it to a coordinated attack on the enemy. By the end of April, most of the Axis aircraft were gone from Tunisia, either destroyed or withdrawn. Allied ground forces, supported by 2,000 sorties a day, forced the Axis surrender.

Eisenhower became a believer. So did Gen. George C. Marshall, the US Army Chief of Staff. In July 1943, the lessons of North Africa were codified in Army Field Manual 100-20, which said, "Land power and airpower are co-equal and interdependent forces; neither is an auxiliary of the other."

**B-25s flying over North Africa.**



## Pantelleria

*Airpower induces an enemy island to surrender.*

# 1943

The battle for North Africa had ended with the capitulation of the Axis forces May 13, 1943. Sicily was next, and then the Italian mainland. But before the Allies could open the attack on Sicily, they had to deal with the island of Pantelleria in the Mediterranean Sea.

Pantelleria, eight miles long and five miles wide, lies about halfway between Africa and Sicily. It is an outcrop of volcanic rock, with steep cliffs along the coast, with only one beach suitable for an invasion landing. In 1943, the island was occupied by 10,000 Axis troops and the hilly terrain was thick with pillboxes and gun emplacements. About 100 aircraft operated from a 5,000-foot airstrip on the northern end of the island. Pantelleria was a threat to the coming Allied invasion of Sicily, both as an observation point and as an operating base for aircraft, submarines, and torpedo boats.

Land attack of Pantelleria presented all kinds of difficulties, so the Allied commander, Lt. Gen. Dwight D. Eisenhower, gave the job of neutralizing the island to AAF Lt. Gen. Carl A. Spaatz, commander of the Northwest African Air Force. Spaatz had a mixed force of bombers—B-17s, B-25s, B-26s, and RAF Wellingtons—plus P-38 fighters and one group of P-40s, flown by the Tuskegee Airmen in their first combat outing.

The first strikes were on May 18, but the full strength of the Allied attack did not fall until June, when it was met by intensified resistance from German and Italian fighters from Mediterranean bases. In the first 10 days of June, the Axis lost 60 airplanes in the defensive effort. On June 10, Spaatz threw almost 1,100 aircraft against Pantelleria. The day-long assault was unrelenting, with bombers circling and waiting their turn to attack.

That night, the military governor, Vice Adm. Gino Pavesi, notified Rome that the Allied bombing could be “endured no longer.” On June 11, he surrendered the island and the garrison of 78 Germans and 11,121 Italians. The harbor, roads, airfield, and gun emplacements were promptly restored and an AAF fighter group was in operation on the island by June 26.

It was the first time that aerial bombardment had forced a defended area to surrender.

**B-25s over North Africa.**



## The Combined Bomber Offensive

*The RAF by night, the AAF by day.*

# 1943

The British flew their first strategic bombardment mission of the war in September 1939. American B-24s and B-17s began bombing targets in Europe in 1942. However, it was not until the Casablanca Conference in January 1943 that the AAF and the Royal Air Force got formal orders for the Combined Bomber Offensive against Germany. The offensive did not officially begin until June 10, 1943.

The British and American bombers took distinctly different approaches to the task. The RAF, having decided early that accuracy was insufficient to hit specific targets, engaged in area bombing at night. More than half of RAF Bomber Command's aircraft targeted population centers and the German workforce.

The AAF was committed to daylight precision bombing and concentrated on specific military targets that could be seen and identified. On occasion, the Americans joined the British in bombing cities. The most notable instance was Dresden in 1945. The objective, in part at least, was to prevent the Germans from using the Dresden transportation hub for a major troop redeployment to counter a breakthrough on the Eastern Front. Nevertheless, Dresden is usually portrayed in history—and by postwar revisionist historians in particular—as an act of inhumanity.

The main targets of the AAF bomber missions were marshaling yards (27.4 percent of the bomb tonnage dropped), airfields (11.6 percent), oil installations (9.5 percent), and military installations (8.8 percent). The US Bombing Survey said the bombing was decisive, but 65 years later, the issue is still debated vigorously. However, there is no question that the Germans had to allocate enormous resources to air defense or that millions of people were occupied in repairing the damage and replacing the goods destroyed by bombing. A fifth of the German workforce was so diverted.

According to Nazi Armaments Minister Albert Speer, the bombing created a “third front,” tying down huge numbers of troops, weapons, and industrial output and influencing the course of the war. “Without this great drain on our manpower, logistics, and weapons, we might well have knocked Russia out of the war before your invasion of France,” he said.

**RAF Lancasters.**



## Ploesti, Regensburg, and Schweinfurt

*The bombers strike deep and take heavy casualties.*

# 1943

One of the popular misconceptions about World War II is that those who fought in the air faced less danger than those who fought on the ground. In fact, battle deaths as a percentage of the number who served was higher for the AAF than for either the Army or the Navy and almost as high as for the Marine Corps. In particular, the missions in 1943 against Ploesti, Schweinfurt, and Regensburg stand as testimonials to the courage of AAF bomber crews and the hazards of the air war.

The target on Aug. 1, 1943, was Ploesti in southern Romania, or as it was called then, Rumania, where seven refineries produced a third of Germany's oil and a third of its aviation fuel. It was too far for B-17s to reach from England, but within range for B-24s from Benghazi, Libya, carrying extra fuel tanks. The distance, 1,350 miles one way, was too long for fighter escort.

The strike force had 177 aircraft. Intelligence, which said resistance would be light, was wrong. Ploesti was defended by a dense ring of anti-aircraft artillery (AAA) and more than 60 fighters. The Germans knew the bombers were coming and were laying for them. One mishap followed another. The B-24s, separated en route, arrived over Ploesti in three segments rather than as a cohesive strike.

Despite that, the B-24s pressed on against lethal defenses, with so many instances of valor that five Medals of Honor were awarded for the mission, the most for any single air action in US history. The losses were terrible. Thirty percent of the strike force—54 airplanes, 532 airmen—did not return.

On Aug. 17, B-17s from Britain struck into southern Germany against the Messerschmitt aircraft factory at Regensburg and the ball-bearing plant at Schweinfurt. Of 376 B-17s that flew the mission, 60 were destroyed. The second mission against Schweinfurt on Oct. 14 was worse: 60 B-17s shot down, and five more crashed or crash-landed in England. Six hundred crew members were lost over enemy territory. The day is remembered as "Black Thursday."

**B-24s over Ploesti.**



## Big Week

*Maximum effort against aircraft industry & Luftwaffe.*

# 1944

In February 1944, the Allies launched Operation Argument, a concerted bombing offensive against the German aircraft industry. It was the first time that all three strategic air forces—the US Eighth and Fifteenth and the RAF Bomber Command—fought together. The Americans struck by day, the British by night.

A break in the prevailing bad weather, Feb. 20-25, created a window for a series of missions that came to be known as "Big Week." Never before had the AAF mounted an offensive of this scope, employing more than 1,000 heavy bombers and 17 groups of fighter escorts on the first day. When weather brought Big Week to a close after six days, the AAF had dropped 10,000 tons of bombs, roughly equal to the tonnage Eighth Air Force had delivered in its entire first year of operation.

The fighters included not only P-47s and P-38s, but also long-range P-51s, which had arrived in Europe in December. With drop tanks, they had an operating radius of 850 miles, enabling them to fly with the bombers to targets deep inside the Reich.

Big Week damaged or destroyed 75 percent of the plants that produced 90 percent of Germany's aircraft. Unfortunately, much of the machine tooling was salvaged from the factory wreckage and the Germans were able to restore production capacity, at least for a time. Nevertheless, Big Week and the offensive that resumed when the weather cleared took most of the remaining starch out of Germany.

The fighters took a terrible toll on the Luftwaffe, which lost 18 percent of its fighter pilots in February. Still more were lost in the months that followed. By late spring, the Allied bombers were taking more losses from flak than from German fighters. The bombers destroyed most of Germany's oil industry, and by summer, the Germans had neither the fuel nor the pilots to fly their remaining aircraft.

With the Luftwaffe beaten back, AAF fighters were free to attack trucks, railroads, and other targets. Allied bombers met diminishing resistance as they pounded Germany into rubble. The stage was set for the D-Day invasion in June.

**B-17s over Europe.**



## Airpower and the Invasion of Europe

*On from D-Day, with air superiority.*

# 1944

The Luftwaffe in its heyday would have wreaked havoc on the Allied invasion force fighting its way ashore on D-Day, June 6, 1944. However, in the critical morning hours, only two German FW 190 fighters attacked the beachheads. Throughout the first day, the Luftwaffe was able to fly less than 100 sorties in defense of Normandy.

Allied planners had understood from the beginning (as early as 1941) that a successful invasion of German-held Europe was predicated on air superiority. To some extent, Allied air superiority at D-Day was a cumulative effect of the war thus far, but it had mostly been achieved in the previous five months. Between January and June 1944, the Luftwaffe had been virtually destroyed.

In the early months of 1944, Americans and British stepped up the Combined Bomber Offensive. This time, there were long-range fighters that could escort the bombers all the way into Germany. With drop tanks, the newly introduced P-51 had an operating radius of 850 miles. Eighth Air Force soon freed the fighters from staying tightly with the bombers and put them on offensive against the Luftwaffe.

The AAF deliberately sent bombers against Berlin and other targets that the Luftwaffe was forced to defend. When the Luftwaffe came up, Allied fighters shot them down. In five months, Germany lost 2,262 of its 2,495 single-engine fighter pilots. The replacements were inexperienced—their training cut short because of a lack of fuel—and no match for the Allied onslaught. The AAF destroyed the bases in France near the English Channel, so the German fighters were nowhere near on D-Day. Gen. Dwight D. Eisenhower, commanding the invasion forces, was able to tell the soldiers in the first waves of the attack, “If you see fighting aircraft over you, they will be ours.”

The Luftwaffe put up sporadic resistance as Allies advanced across Europe, but Allied bases on the continent enabled even short-legged fighters like the British Spitfires to operate east of the Rhine. The invasion, set up by airpower, was rolling and the end of the war in Europe was not far away.

*P-51s over England.*



## The Mission of the *Enola Gay*

*Atomic bombs bring the war to an end.*

# 1945

By July 1945, it was clear that Japan had lost the war. However, the Japanese, whose culture regarded surrender as dishonorable, refused to accept defeat. The war dragged on, with casualties rising. Earlier in the year, more than 26,000 Americans had been killed or wounded on Iwo Jima and US casualties had been 49,000 in the subsequent battle for Okinawa.

The Japanese had assembled a force of 2.3 million regular troops to defend the home islands from invasion. They were supported by 10,000 airplanes, most of them kamikaze. Civilians, trained as suicide bombers, were to strap explosives to their bodies and throw themselves under advancing tanks.

US B-29 bombers were laying waste to the cities and infrastructure of Japan. Conventional bombing would eventually induce a surrender, but nobody knew how long it might take or how many more would die before it was done. US plans allocated five million troops to a possible invasion of Japan, which would not be completed until sometime in 1946. US casualty estimates for the invasion ranged from 220,000 to 500,000 or more.

President Harry Truman decided to use the atomic bomb instead. The 509th Composite Group, trained in secret to deliver the bomb, had deployed to Tinian in the Mariana Islands. On Aug. 6, the B-29 *Enola Gay*, flown by the commander of the 609th, Col. Paul W. Tibbets, dropped the first atomic bomb on Hiroshima, killing more than 80,000 Japanese. Japan was severely shaken but did not surrender until a second atomic bomb, dropped by the B-29 *Bockscar*, fell on Nagasaki Aug. 9, killing 40,000.

Emperor Hirohito, acting against the wishes of his hard-core militarists, surrendered Aug. 15. More than 60 years later, the decision to drop the bomb is still debated fiercely, but it finally brought an end to the war in which 17 million people had died at the hands of the Japanese empire since 1931. Even counting those who died at Hiroshima and Nagasaki, the atomic bomb saved untold numbers of lives on both sides by eliminating the need for an invasion of the Japanese home islands.

*B-29 Enola Gay landing at Tinian.*



## Notable Named Operations

- **TORCH:** November 1942-May 1943. Allied land and air campaign against German and Italian forces in North Africa.
- **FLAX:** April 5-22, 1943. Allied air operations to cut Axis air supply lines from Italy to Tunisia.
- **CORKSCREW:** June 1943. Defeat by airpower of Axis forces on island of Pantelleria, off the coast of Italy.
- **HUSKY:** July-August 1943. Invasion of Sicily.
- **POINTBLANK:** June 10, 1943-May 1, 1945. American portion of Combined Bomber Offensive.
- **STRANGLE:** March 19-May 11, 1944. Allied air operations to interdict road, rail, and maritime supply lines in Italy.
- **TIDAL WAVE:** Aug. 1, 1943. Air strike by B-24s based in Libya against oil refineries at Ploesti in southern Rumania.
- **STARKEY:** Sept. 9, 1943. More than 500 US bombers attack targets in Pas de Calais in "rehearsal" for invasion of France.
- **CROSSBOW:** December 1943-June 1944. Air attacks on German V-1 and V-2 rocket launch sites.
- **CARPETBAGGER:** began Jan. 6, 1944. Supply flights to resistance forces in Western Europe.
- **ARGUMENT:** Feb. 20-25, 1944. Coordinated attack (also known as "Big Week") on German aviation industry.
- **FRANTIC:** June 2-Sept. 22, 1944. Shuttle bombing missions, launched from Britain and Italy, landing in Soviet-controlled territory, and launching from there for return missions.
- **CHATTANOOGA CHOO CHOO:** May 21-31, 1944. Air offensive against trains in France and Germany.
- **OVERLORD:** March 25-June 30, 1944. Allied invasion of Europe.
- **MATTERHORN:** June 5, 1944-March 30, 1945. Strategic bombing of Japanese forces in Asia by B-29s based in India and China.
- **COBRA:** July 24-25, 1944. Carpet bombing by US Eighth and Ninth Air Forces in support of breakout from the Normandy beachhead.
- **CLARION:** Feb. 22-23, 1945. Large scale AAF and RAF strikes against transportation and communications targets in Germany.
- **THUNDERCLAP:** February 1945. Massive bombing of Berlin, Dresden, and other rail hubs.
- **ICEBERG:** March 19-May 11, 1945. Invasion and conquest of Okinawa.

***And two that did not happen made unnecessary when use of the atomic bomb at Hiroshima and Nagasaki ended the war***

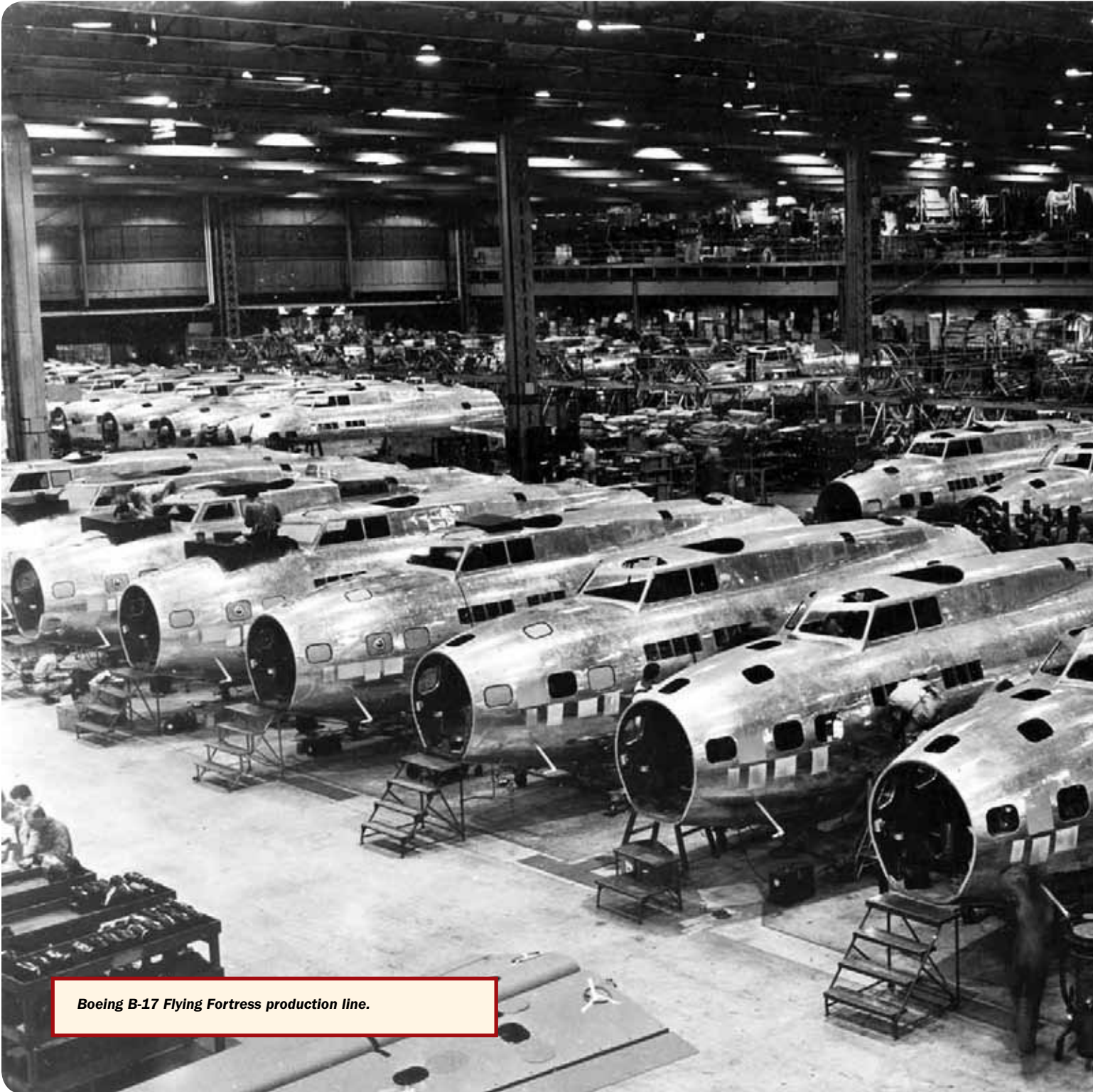
- **OLYMPIC:** (projected for Nov. 1, 1945). Invasion of southern Japanese island of Kyushu by 766,700 US ground troops and massive aerial bombardment.
- **CORONET:** (projected for March 1, 1946). Attack on main Japanese island of Honshu by 1,026,000 US ground troops and enormous number of aircraft.

**B-25s over Italy.**



# VI. Off We Go . . .

## Dimensions of the Global Force



*Boeing B-17 Flying Fortress production line.*





## Training the Force

*Aircrews were just the beginning of the requirement.*



**Aircraft technicians in training.**

In 1939, the Air Corps had been a small force of 26,000. The war brought a sudden requirement to train officers and airmen in very large numbers.

Like other branches of the Army, the AAF conducted its own basic training. The single basic training center at Jefferson Barracks in St. Louis was swamped with the flood of recruits and inductees, and by 1942, the AAF had opened nine other centers. Still, the initial rush was so great that the AAF cut basic training down to four weeks and did not stabilize it at eight weeks until 1943.

The demand for technical training surged to new heights as well. Before the war ended, AAF tech schools had produced 1.3 million graduates, almost 700,000 of them in the aircraft maintenance specialty. Another field with large requirements was gunnery, in which every enlisted aircrew member and some of the officers were trained, a total of about 300,000 altogether.

Between July 1939 and August 1945, the AAF produced 768,991 pilot training graduates. The course was difficult. Only 60 percent of those who began it went on to win their wings, but many pilot washouts later became navigators or bombardiers.

The pilot training program was divided into primary, basic, and advanced phases. In the primary phase, students learned to fly a simple airplane. The Stearman PT-13 Kaydet biplane was the principal primary trainer. It was rugged and could withstand the rough handling it often got from beginning aviators. In the early part of the war, civilian flying schools conducted primary training on contract with the AAF. Student pilots had to make at least 175 landings to complete primary.

The basic phase took the student pilot into more complicated situations with a heavier airplane, typically the Vultee BT-13 monoplane. The airplane for advanced training—for AAF pilots and for many Navy and Allied pilots—was the classic North American AT-6 Texan. AT-6 variants were used for years in fighter and attack roles. Repainted AT-6s were used to depict the Japanese Zero in the 1970 movie *“Tora! Tora! Tora!”*

## Arsenal of Democracy

*Ford produced tanks instead of automobiles.*



**Lockheed P-38 Lightning production line.**

Almost a year before the nation entered World War II, President Franklin D. Roosevelt declared in his “fireside chat” on Dec. 29, 1940, that the United States must be “the great arsenal of democracy.” He strengthened the message after Pearl Harbor. In his State of the Union address in January 1942, Roosevelt said the US would “convert every available plant and tool to war production,” not only large factories but also “the village machine shop.”

Most aspects of American life shifted rapidly to a wartime footing. Rationing was imposed on consumer goods. In February 1942, the manufacture of civilian cars stopped. The big Ford plant at Willow Run, Mich., turned to the production of B-24 bombers. Chrysler made tanks. General Motors produced guns, bombs, engines, and military vehicles. Women joined the workforce as men went to war. Factories operated around the clock. Defense outlays rose to 38 percent of the Gross Domestic Product and almost 90 percent of federal spending.

The most critical product of the Arsenal of Democracy was airplanes. Over the course of the war, US industry would produce 299,293 aircraft, of which more than 62 percent were for the Army Air Forces. The others were for the Navy and for lend-lease Allies.

Before the war, there had been no need for mass production of aircraft. A purchase of 50 was a large order. Wartime requirements were massive. The life expectancy of a heavy bomber in Eighth Air Force over Europe was 47 missions. Furthermore, aircraft needed spare parts. Total production of propellers was 807,424. Accordingly, industry employed assembly line efficiencies and procedures. Manhours required to manufacture a B-17 fell from 55,000 to 19,000. To avoid disruptions and slowdowns caused by changes and variations, the AAF set up its own modification centers.

The US industrial base, the formidable Arsenal of Democracy, had a major influence on the outcome of the war. Other nations could not keep pace with it. At its peak in 1944, US aircraft production reached 96,318—more than the output of Germany, Japan, and Great Britain combined.

## The Tuskegee Airmen

*They proved their point against the Luftwaffe’s best.*



**Tuskegee Airmen by a P-51 Mustang in Italy. (Left to right Lt. Dempsey Morgan Jr. Lt. Carroll Woods Lt. Robert Nelson Jr. Capt. Andrew Turner and Lt. Clarence Lester.)**

In 1940, President Franklin D. Roosevelt directed the Army Air Corps to organize an all-black flying unit. The Army, as racially biased as the rest of the nation, reluctantly opened a flying school at Tuskegee Institute in Alabama. The first 13 student pilots entered training in 1941, and black enlisted men began aircraft maintenance training at Chanute Field, Ill.

Between 1942 and 1946, Tuskegee Army Airfield graduated 994 pilots. Black navigators, bombardiers, and gunnery crews trained at other bases. When the first flying unit was activated, Capt. Benjamin O. Davis Jr., one of the first pilots trained, was chosen to lead it. He was one of only two black West Point graduates in the Army. The other one was his father.

The Tuskegee Airmen deployed to North Africa and Italy and were in combat from 1943 on, flying P-39, P-40, P-47, and P-51 fighters. They soon proved that they could fly and fight with the best the Luftwaffe could put up. The fighter squadrons flew more than 15,000 combat sorties, shot down 111 German airplanes, and destroyed another 150 on the ground. A bombardment unit was formed as well, but it did not see combat.

One of the Tuskegee fighter squadrons, the 332nd, was awarded the Presidential Unit Citation for a bomber escort mission to Berlin on March 24, 1945. That day, the Tuskegee Airmen shot down three German Me 262 jet fighters and damaged five more German jets without losing any of the bombers they were escorting or taking any losses themselves.

The outstanding performance of the Tuskegee Airmen in World War II helped persuade the Air Force in 1949 to become the first service to integrate racially. In 1954, Davis was promoted to brigadier general, the first black general in the Air Force. He retired in 1970 as a lieutenant general. In 1998, Congress promoted him to four-star rank.

In March 2007, the Tuskegee Airmen received the Congressional Gold Medal. More than 300 of those who had served in World War II—pilots, navigators, bombardiers, mechanics, and others—came to the award ceremony in the Capitol Rotunda.

## WASPs and Air WACs

*Almost half of the women in the Army were in the AAF.*



**ASPs with a B-17.**

The armed services were resistant to recruiting women, but acute manpower shortages led to the creation of service auxiliaries for women. The Women's Army Auxiliary Corps, organized in 1942, became a regular part of the Army in 1943 and was renamed the Women's Army Corps. Among the early recruits was Jeanne M. Holm, who began as an Army truck driver and went on to become (in 1971) the first woman general officer in the Air Force.

The WACs got a better reception in the AAF than in the other branches. Nearly half of all the women in the Army were "Air WACs"—a term the Army disliked because it suggested Air Force separatism. About half of the Air WACS were in administrative jobs, but they served in 200 different specialties and more than 600 of them were in aircraft maintenance. The number of Air WACs peaked at 38,282 in 1944. Women also served as military nurses, including 500 who were AAF flight nurses.

Another group of women flew AAF airplanes during the war, but unlike the Air WACs, they never became full-fledged members of the force. In August 1943, the Women Airforce Service Pilots (the WASPs) was formed by a merger of the Women's Flying Training Detachment (the WFTD or the "Woofteedies") and the Women's Auxiliary Ferrying Squadron. The leader of the WASPs was Jacqueline Cochran, already a well known pilot with several major aviation records to her credit.

WASPs wore uniforms, but their actual status was civil service. AAF leader Gen. Hap Arnold was a strong supporter, but he was unable to persuade a reluctant Congress to approve military status for the WASPs. More than 1,500 WASP pilots served with the AAF, ferrying airplanes from point to point, flying weather, administrative, and cargo missions, towing targets, and serving as test pilots and as instrument instructors for aviation cadets. They flew 77 different kinds of aircraft, from P-38 fighters to B-17 bombers. In 1977, former WASPs were finally awarded military veteran status, although with limited benefits.

## Enlisted Aircrews

*Crewmen on bombers and transports saw combat in record numbers.*



**Gunners on a B-24 Liberator. (From left SSgt. William Adair, tail gunner, and SSgt. Billie McClennen, right waist gunner.)**

Enlisted airmen saw combat in record numbers during World War II, flying on crews of big bombers and transports. On a typical B-17 crew of nine, for example, five crew members were enlisted: the flight engineer, the radio operator-gunner, and the waist, bottom turret, and tail gunners. Some bombardiers were enlisted, too. Of the 16 B-25 bombers that flew with Doolittle on the Tokyo Raid, nine had enlisted bombardiers.

In the early days of the war, fighters did not have the range to accompany bombers on long missions, so the bombers had to defend themselves. Therefore, all enlisted crewmen and some of the officers went to gunnery school. Accuracy was difficult. Leading the target—as in skeet shooting—did not always work. Sometimes the gunner actually had to aim behind the attacker to compensate for the bomber's forward motion. To graduate from gunnery school, students had to strip and reassemble a .50 cal. machine gun while blindfolded. The coldest job in the force was that of the waist gunners, who worked through open windows on eight-hour missions above 25,000 feet with temperatures as low as minus 50 degrees.

AAF quickly abandoned an attempt to assign credits to individual gunners. However, there were reportedly several hundred that would be considered aces, including TSgt. Arthur P. Benko, one of the highest scoring, who destroyed 18 enemy aircraft: nine in the air and nine on the ground.

To qualify as a radio operator, an airman had to be able to send and receive Morse code at 16 words per minute. Paul W. Airey, the first Chief Master Sergeant of the Air Force, was the radio operator and waist gunner on a B-24 bomber. He was shot down on his 28th mission over Europe in 1944.

Four enlisted crewmen—one radio operator and three gunners—received the Medal of Honor in World War II. Among them was TSgt. Forrest L. Vosler, who defended his embattled B-17 from the top turret gun in 1944. His eyesight impaired by glass fragments in the attack, he fixed the shot-up radio by touch. Vosler was one of the leaders who formed the Air Force Association in 1946.

# WHAT THEY DID IN THE WAR

*World War II experiences of postwar four-star generals.*

Nearly all of the four-star generals who served in the US Air Force between 1945 and 1980 were veterans of World War II. More than 70 of them saw active service in the war, most of them flying in combat or in command of combat units. In addition to those on the following list, also see "Names That Made History," p. 16. Individuals who were West Point cadets during the war are not listed here.

## **SAMUEL ANDERSON.**

Combat missions in Pacific and Europe. Commander, Ninth Bomber Command in Europe.

## **WILLIAM H. BLANCHARD.**

Flew first B-29 into China. B-29 group commander, planned and led missions over Japan.

## **MARK E. BRADLEY.**

Test pilot, P-47 project officer, flight test section chief at Wright Field, Ohio. Deputy commander, 1st Tactical Air Force Service Command in Europe.

## **GEORGE S. BROWN.**

Bomb squadron commander, group executive officer in Europe. Flew B-24 on epic low-level mission against oil refineries at Ploesti in 1943, leading group back to Libya.

## **DAVID A. BURCHINAL.**

Deputy operations chief, XXI Bomber Command, and operations chief, Twentieth Air Force, Guam.

## **JOHN K. CANNON.**

Commanding general, 12th Air Support Command and 12th Bomber Command in North Africa. Commanding general, Twelfth Air Force and Mediterranean Allied Tactical Air Force. In May 1945, commanding general of US Air Forces in Europe.

## **PAUL K. CARLTON.**

B-17 instructor pilot. B-29 pilot, flying combat missions from bases in India and China.

## **JACK J. CATTON.**

Instructor pilot. B-29 pilot, combat missions over Japan.

## **BENJAMIN W. CHIDLAW.**

Deputy commanding general, 12th Tactical Air Command, Mediterranean. Commander, 22nd Tactical Air Command and Mediterranean Allied Tactical Air Forces.

## **LUCIUS D. CLAY JR.**

Operations officer, squadron commander, and group commander for bomb group in Europe.

## **GABRIEL P. DISOSWAY.**

Flying instructor, training director, fighter group commander in Panama. Fighter wing operations officer and commander in China.

## **ROBERT J. DIXON.**

Joined Royal Canadian Air Force before Pearl Harbor, transferred to AAF in 1943, shot down over Germany on 65th combat mission. POW.

## **RUSSELL E. DOUGHERTY.**

Instructor pilot. B-17 pilot and B-29 combat crew member.

## **RICHARD H. ELLIS.**

Bomb group commander, 200 combat missions in western Pacific. Deputy chief of staff, Far East Air Forces.

## **HOWELL M. ESTES JR.**

Flying training assignments, base commander at two bases in Texas.

## **FRANK F. EVEREST.**

Staff officer, AAF and War Department and in South Pacific. Commanded 11th Heavy Bomb Group at New Hebrides Islands and Guadalcanal.

## **MUIR S. FAIRCHILD.**

Assistant chief of Air Corps; staff officer, Joint Chiefs of Staff.

## **JAMES FERGUSON.**

Fighter-bomber group commander in Europe. Assistant chief of staff, 9th Fighter Command. Air controller in Normandy invasion.

## **JOHN K. GERHART.**

Commander of combat bomb wing with four B-17 groups in Europe.

## **THOMAS P. GERRITY.**

Bomber squadron commander on New Guinea, 49 combat missions.

## **HUNTER HARRIS.**

Bomb group and wing commander, staff assignments in Europe. Flew 25 combat missions in B-17s and several in P-51s.

## **JAMES V. HARTINGER.**

Sergeant in the infantry.

## **JAMES A. HILL.**

31 combat missions as B-24 pilot in Europe.



(Left to right) Lauris Norstad, Curtis LeMay, and Thomas Power.

**JAMES E. HILL.**

P-47 ace in Europe, five aerial victories, 127 combat missions.

**KENNETH B. HOBSON.**

B-17 squadron commander in Pacific; chief of staff, 5th Bomb Command. War Department staff.

**BRUCE K. HOLLOWAY.**

Fighter ace with 13 victories. Combat missions with the Flying Tigers, in both the American Volunteer Group and 23rd Fighter Group under AAF. Commander of 23rd FG.

**JOSEPH R. HOLZAPPLE.**

Bomb group commander in North Africa, Europe, and Pacific. Flew 99 combat missions in B-26s, B-25s, and A-26s.

**ROBERT E. HUYSER.**

B-29 pilot in Southwest Pacific.

**DANIEL JAMES JR.**

Civilian instructor pilot at Tuskegee Army Air Field until January 1943. Commissioned July 1943, followed by fighter unit assignments in US.

**LEON W. JOHNSON.**

Awarded Medal of Honor for heroism in leading B-24 bomb group against Ploesti in 1943. Commanded bomb group in Africa and combat wing in England.

**DAVID C. JONES.**

Commissioned 1943. Advanced flying instructor.

**JOE W. KELLY.**

Commander of B-26 bomb group in Europe.

**LAURENCE S. KUTER.**

AAF's chief planner. B-17 bomb wing commander. Deputy commander, Northwest African Tactical Air Force; represented AAF at Yalta and Malta conferences. Key AAF organizer for US Army Strategic Air Force in Pacific; in May 1945 in Marianas, AAF deputy commander, Pacific Ocean area.

**TRUMAN H. LANDON.**

Led B-17 squadron that arrived in Hawaii in middle of Pearl Harbor attack. Commander, 7th Bomber Command in Central Pacific.

**JOHN D. LAVELLE.**

Instructor pilot, fighter pilot with combat missions in Europe.

**WILLIAM V. MCBRIDE.**

Squadron and group navigator, B-26 bomb group in Europe.

**JOHN P. MCCONNELL.**

Chief of staff, China-Burma-India Training Command. Deputy commander, Third Tactical Air Force in Asia.

**SETH J. MCKEE.**

Fighter group commander in Europe. Flew 69 combat missions in P-38. Two aerial victories.

**WILLIAM F. MCKEE.**

AAF staff assignments in Washington.

**JOSEPH T. MCNARNEY.**

Served on War Department Reorganization Board and Army HQ staff. Deputy and acting Supreme Allied Commander, Mediterranean Theater.

**JACK G. MERRELL.**

Bomb group deputy commander in US. Bomb group commander in Europe.



**Emmett O'Donnell Jr. (right) with Maj. Robert Morgan, B-29 pilot.**

**JOHN C. MEYER.**

Ace in Europe, 24 aerial victories (with ground kills, 37.5), 200 combat missions. Fighter squadron, group commander in England.

**T. R. MILTON.**

Led B-17s on Schweinfurt mission in 1943. Led 730 B-17s and B-24s on first successful daylight mission against Berlin in 1944.

**WILLIAM W. MOMYER.**

Fighter ace with eight victories. P-40 group commander in North Africa. Single-handedly engaged 18 Ju 87s and their German and Italian fighter escorts, shot down four of the enemy aircraft.

**WILLIAM G. MOORE JR.**

Bomb squadron commander in Italy; 35 combat missions in B-24.

**JOSEPH J. NAZZARO.**

Bomb group commander in Europe. Deputy director of operations, US Strategic Air Forces in Europe.

**LAURIS NORSTAD.**

Operations officer, England, North Africa, Mediterranean. Chief of Staff, Twentieth Air Force.

**EMMETT O'DONNELL JR.**

B-17, B-29 commander in Pacific. Led first mission from Marianas against Japan.

**TIMOTHY F. O'KEEFE.**

Training assignments in US. Operations and training staff officer, Thirteenth Air Force in Southwest Pacific.



**Brig. Gen. Claire Chennault pins Air Medal on then-Lt. Col. Bruce Holloway.**



**William Blanchard (second from left) with (l to r) Col. L.B. Woods, Col. Alan Clark, and Col. Alfred Kalberer.**

**EARLE E. PARTRIDGE.**

Member, Joint Strategy Committee, War Department. Commanding general, air defense wing. Chief of staff, 12th Bomber Command and Fifteenth Air Force in Europe. Deputy commander, Eighth Air Force.

**SAMUEL C. PHILLIPS.**

Fighter pilot; two combat tours in Europe.

**THOMAS S. POWER.**

B-24 combat missions in Europe. B-29 wing commander in Pacific. Led large scale fire-bombing missions over Japan.

**MAURICE A. PRESTON.**

Bomb group commander in Europe. Flew 45 combat missions in B-17.

**EDWIN W. RAWLINGS.**

Material and production assignments at Wright Field.

**RAYMOND J. REEVES.**

Technical training assignments in US.

**JOHN W. ROBERTS.**

Commissioned in 1944. Instructor pilot.

**F. MICHAEL ROGERS.**

Fighter ace with seven aerial victories in Europe. P-51 fighter squadron commander.

**JOHN D. RYAN.**

Flight instructor in Texas. B-17 bomb group commander in Italy.

**BERNARD A. SCHRIEVER.**

Flew 63 combat missions, primarily in B-17s, in Pacific. Commander, advanced HQ for Far East Air Force Service Command.

**GEORGE B. SIMLER.**

Two combat tours in Europe. Shot down in 1944 but evaded capture.

**JACOB E. SMART.**

Key planner of the Ploesti mission. Bomb group commander in Italy. Shot down on 29th combat mission. POW.

**FREDERIC H. SMITH JR.**

Command and staff assignments during two years of fighter combat service in Pacific. Staff duty in Europe and HQ AAF.

**DEAN C. STROTHER.**

Fighter and command assignments in Pacific. Commander, 15th Fighter Command in Italy.

**WALTER C. SWEENEY JR.**

AAF task group commander at Battle of Midway. Staff officer, War Department. Deputy commander of B-29 wing in Marianas.

**NATHAN F. TWINING.**

Commander, Thirteenth Air Force and later had tactical control of all Allied aircraft in Pacific. Commander, Fifteenth Air Force in Italy and Twentieth Air Force at end of war in Pacific.

**HOYT S. VANDENBERG.**

Organizer of air forces and combat pilot in North Africa. Headed air mission to Russia. Deputy air commander, Allied Expeditionary Forces in Europe. Commander, Ninth Air Force.

**JOHN W. VOGT.**

Fighter squadron commander and ace (eight victories) in Europe.

**HORACE M. WADE.**

Flew 36 combat missions in B-17s and B-24s in China-Burma-India and Middle Eastern theaters. War Department staff officer.

**OTTO P. WEYLAND.**

Service in six major campaigns. Commanding general, XIX Tactical Air Command in Europe.

**THOMAS D. WHITE.**

Staff assignments in US. Deputy commander, Thirteenth Air Force in Pacific. Commander, Seventh Air Force in Marianas.

**LOUIS L. WILSON JR.**

P-47 bomber escort in Europe. Commander, P-47 fighter squadron. Flew 114 combat missions.

## ENLISTED CHIEFS IN THE WAR

*The position of Chief Master Sergeant of the Air Force was established in 1967. The first three CMSAFs were veterans of World War II.*



**PAUL W. AIREY.**

Radio operator and waist gunner on B-24. Shot down over Europe on his 28th combat mission. POW.



**DONALD L. HARLOW.**

AAF gunnery instructor and personnel specialist.



**RICHARD D. KISLING.**

Infantry soldier in Europe, arriving one month before V-E Day.

## MOVIE STARS IN THE AAF

*In World War II, those in uniform included major league baseball players, the sons of Presidents, even college professors. Movie stars served in all branches of the armed forces. The following were among those in the Army Air Forces.*

**FLIGHT OFFICER GENE AUTRY.**

Ferry pilot, Air Transport Command.

**CHARLES BRONSON.**

B-29 gunner.

**FLIGHT OFFICER JACKIE COOGAN.**

Glider pilot, 20 combat missions with air commandos in Burma.

**MAJ. CLARK GABLE.**

Documentary film officer, five combat missions on B-17s over Germany.

**PETER GRAVES.**

Aircraft maintenance crew.

**SGT. CHARLTON HESTON.**

Radio operator-gunner, B-25s in Pacific.

**LT. WILLIAM HOLDEN.**

Motion picture/training film unit.

**CAPT. TIM HOLT.**

B-29 bombardier, 22 combat missions over Japan.

**GORDON MACRAE.**

Navigator-bombardier.

**WALTER MATTHAU.**

Radio operator-gunner, combat missions over Europe.

**CAMERON MITCHELL.**

Bombardier.

**JACK PALANCE.**

B-24 pilot.

**ROBERT PRESTON.**

Intelligence officer.

**CAPT. RONALD REAGAN.**

Motion picture/training film unit.

**COL. JIMMY STEWART.**

B-17 pilot, 20 combat missions over Germany.

**JACK WEBB.**

B-26 pilot.

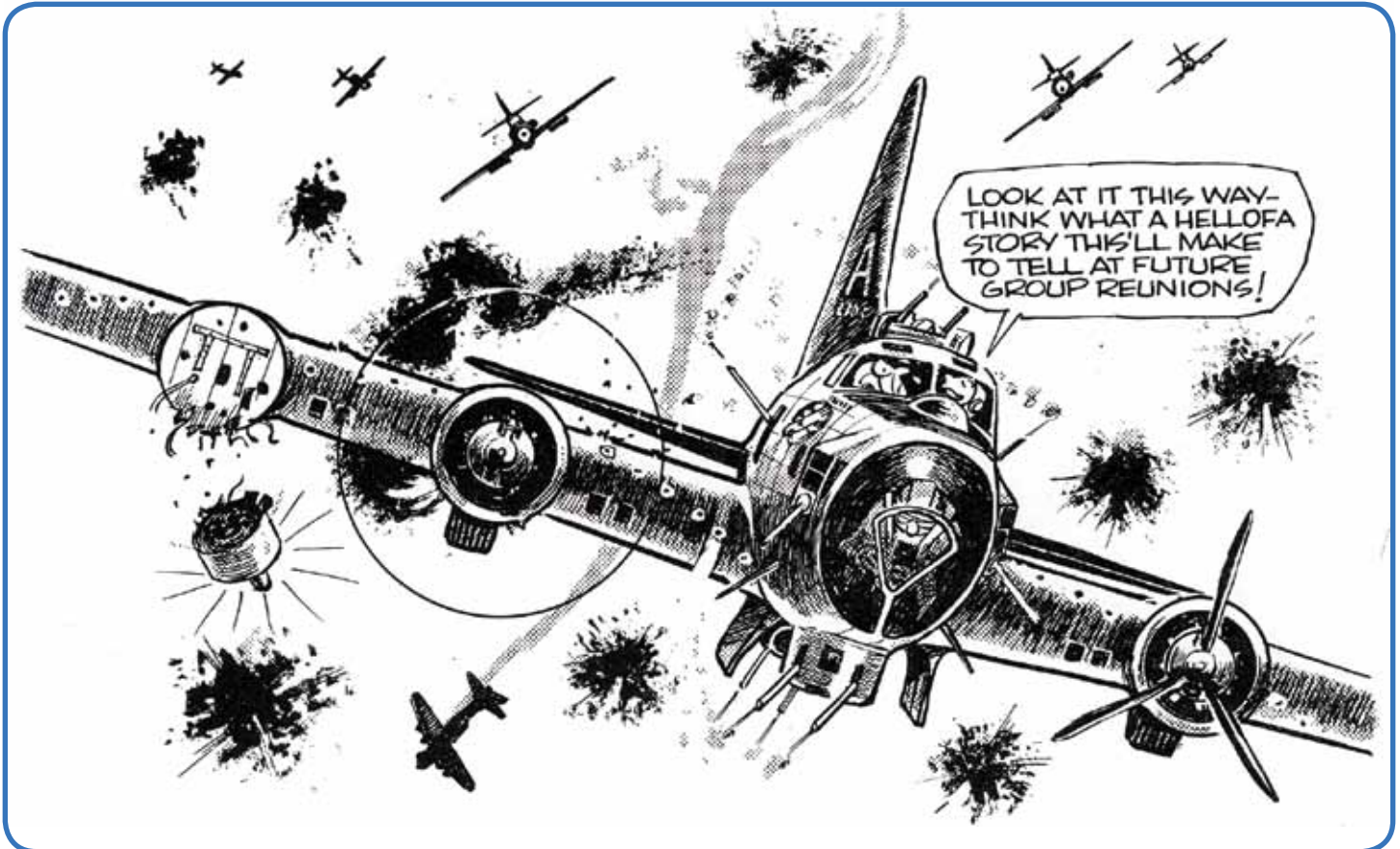
*Source: James E. Wise Jr. and Paul W. Wilderson III. Stars in Khaki. (Naval Institute Press, 2000)*

Bob Stevens'

# "There I was..."

World War II as remembered by Bob Stevens, whose work appeared in Air Force Magazine for 29 years.

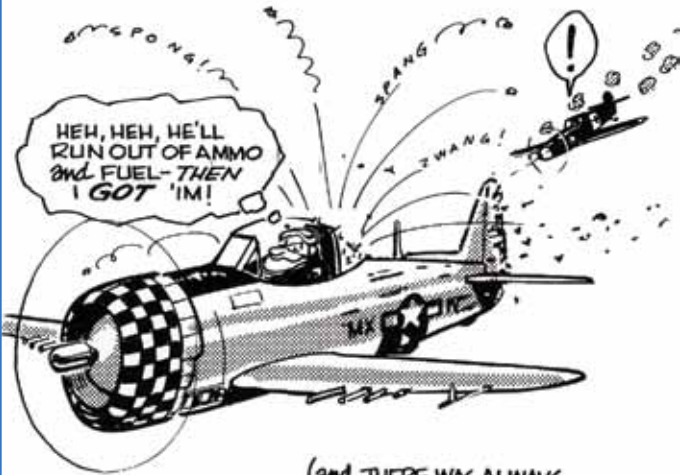
From January 1964 to December 1993, the final page of AFA's Air Force Magazine was home base for Bob Stevens and "There I was." Here is Bob's USAF anniversary page from 1972, followed by selections from his other great pages over the years.







IT WAS ALLEGED THAT THE HEAVILY ARMORED JUG'S HIGH KILL RATIO WAS ACCOMPLISHED BY GETTING IN **FRONT** OF THE ENEMY and...



(and THERE WAS ALWAYS THE POSSIBILITY THE HUNTER MIGHT RUN INTO ONE OF HIS OWN RICOCHETS!, ED.)

Y'KNOW WHAT? I'M TIRED OF FLYIN'!



SOME SADIIST DESIGNED A THROAT MIKE THAT WAS SUPPOSED TO FREE YOUR HANDS (BUT TO KEEP FROM CHOKING, YOU HAD TO LEAVE IT LOOSE & HOLD IT TO TALK ANYWAY).



(PS. SWEAT "SHORTED 'EM OUT" and LEFT BURN MARKS ON YOUR NECK)

IN WW II, CREW MEMBERS OFTEN CARRIED "LITTLE EXTRAS" TO ADD A PERSONAL TOUCH TO THE PROCEEDINGS-



# VII. Heroes

## USAF Recipients of the Medal of Honor



**VOSLER**



**JOHNSON**



**SMITH**



**MATHIS**

**Names and Rank  
at Time of Action**

**Place of Birth**

**Date of Action**

**Place of Action**

**World War II**

Baker, Lt. Col. Addison E.	Chicago	Aug. 1, 1943	Ploesti, Romania
Bong, Maj. Richard I.	Superior, Wis.	Oct. 10-Nov. 15, 1944	Southwest Pacific
Carswell, Maj. Horace S. Jr.	Fort Worth, Tex.	Oct. 26, 1944	South China Sea
Castle, Brig. Gen. Frederick W.	Manila, Philippines	Dec. 24, 1944	Liège, Belgium
Cheli, Maj. Ralph	San Francisco	Aug. 18, 1943	Wewak, New Guinea
Craw, Col. Demas T.	Traverse City, Mich.	Nov. 8, 1942	Port Lyautey, French Morocco
Doolittle, Lt. Col. James H.	Alameda, Calif.	April 18, 1942	Tokyo
Erwin, SSgt. Henry E.	Adamsville, Ala.	April 12, 1945	Koriyama, Japan
Femoyer, 2nd Lt. Robert E.	Huntington, W.Va.	Nov. 2, 1944	Merseburg, Germany
Gott, 1st Lt. Donald J.	Arnett, Okla.	Nov. 9, 1944	Saarbrücken, Germany
Hamilton, Maj. Pierpont M.	Tuxedo Park, N.Y.	Nov. 8, 1942	Port Lyautey, French Morocco
Howard, Lt. Col. James H.	Canton, China	Jan. 11, 1944	Oschersleben, Germany
Hughes, 2nd Lt. Lloyd H.	Alexandria, La.	Aug. 1, 1943	Ploesti, Romania
Jerstad, Maj. John L.	Racine, Wis.	Aug. 1, 1943	Ploesti, Romania
Johnson, Col. Leon W.	Columbia, Mo.	Aug. 1, 1943	Ploesti, Romania
Kane, Col. John R.	McGregor, Tex.	Aug. 1, 1943	Ploesti, Romania
Kearby, Col. Neel E.	Wichita Falls, Tex.	Oct. 11, 1943	Wewak, New Guinea
Kingsley, 2nd Lt. David R.	Portland, Ore.	June 23, 1944	Ploesti, Romania
Knight, 1st Lt. Raymond L.	Houston	April 25, 1945	Po Valley, Italy
Lawley, 1st Lt. William R. Jr.	Leeds, Ala.	Feb. 20, 1944	Leipzig, Germany
Lindsey, Capt. Darrell R.	Jefferson, Iowa	Aug. 9, 1944	Pontoise, France
Mathies, Sgt. Archibald	Scotland	Feb. 20, 1944	Leipzig, Germany
Mathis, 1st Lt. Jack W.	San Angelo, Tex.	March 18, 1943	Vege sack, Germany
McGuire, Maj. Thomas B. Jr.	Ridgewood, N.J.	Dec. 25-26, 1944	Luzon, Philippines
Metzger, 2nd Lt. William E. Jr.	Lima, Ohio	Nov. 9, 1944	Saarbrücken, Germany
Michael, 1st Lt. Edward S.	Chicago	April 11, 1944	Brunswick, Germany
Morgan, 2nd Lt. John C.	Vernon, Tex.	July 28, 1943	Kiel, Germany
Pease, Capt. Harl Jr.	Plymouth, N.H.	Aug. 7, 1942	Rabaul, New Britain
Pucket, 1st Lt. Donald D.	Longmont, Colo.	July 9, 1944	Ploesti, Romania
Sarnoski, 2nd Lt. Joseph R.	Simpson, Pa.	June 16, 1943	Buka, Solomon Islands
Shomo, Maj. William A.	Jeannette, Pa.	Jan. 11, 1945	Luzon, Philippines
Smith, Sgt. Maynard H.	Caro, Mich.	May 1, 1943	St. Nazaire, France
Truemper, 2nd Lt. Walter E.	Aurora, Ill.	Feb. 20, 1944	Leipzig, Germany
Vance, Lt. Col. Leon R. Jr.	Enid, Okla.	June 5, 1944	Wimereaux, France
Vosler, TSgt. Forrest L.	Lyndonville, N.Y.	Dec. 20, 1943	Bremen, Germany
Walker, Brig. Gen. Kenneth N.	Cerrillos, N.M.	Jan. 5, 1943	Rabaul, New Britain
Wilkins, Maj. Raymond H.	Portsmouth, Va.	Nov. 2, 1943	Rabaul, New Britain
Zeamer, Capt. Jay Jr.	Carlisle, Pa.	June 16, 1943	Buka, Solomon Islands

## Army Air Forces Aces of World War II

Ranks are as of last victory in World War II.



**BONG & MCGUIRE**

Bong, Maj. Richard I.	40
McGuire, Maj. Thomas B. Jr.	38
Gabreski, Lt. Col. Francis S.	28
Johnson, Capt. Robert S.	27
MacDonald, Col. Charles H.	27
Preddy, Maj. George E.	26.83
Meyer, Lt. Col. John C.	24
Schilling, Col. David C.	22.50
Johnson, Lt. Col. Gerald R.	22
Kearby, Col. Neel E.	22
Robbins, Maj. Jay T.	22
Christensen, Capt. Fred J.	21.50
Wetmore, Capt. Ray S.	21.25



**GABRESKI**



**R. JOHNSON & MAHURIN**

Voll, Capt. John J.	21
Mahurin, Maj. Walker M.	20.75
Lynch, Lt. Col. Thomas J.	20
Westbrook, Lt. Col. Robert B.	20
Gentile, Capt. Don S.	19.83
Duncan, Col. Glenn E.	19.50
Carson, Capt. Leonard K.	18.50
Eagleston, Maj. Glenn T.	18.50
Beckham, Maj. Walter C.	18
Green, Maj. Herschel H.	18
Herbst, Lt. Col. John C.	18
Zemke, Col. Hubert	17.75



**PREDDY**



**MEYER**



**WETMORE**

# VIII. The AAF in Facts & Figures



*B-17 bomber on mission over Europe.*

## Air Corps/Army Air Forces Military Personnel (as of June 30 each year)

	Total	Percent of US Army Strength
1939	22,387	11.9
1940	51,185	19.3
1941	152,125	10.5
1942	764,415	23.2
1943	2,197,114	31.4
1944	2,372,292	31.0
1945	2,282,259	27.6

— Army Air Forces Statistical Digest

### Airplanes on Hand in the AAF

	1939	1940	1941	1942	1943	1944	1945
<b>Very Heavy Bombers (B-29)</b>					2	445	2,865
<b>Heavy Bombers (B-17, B-24)</b>	16	54	120	846	4,421	11,720	11,065
<b>Medium Bombers</b>	400	478	611	1,047	4,242	5,427	5,384
<b>Light Bombers</b>	276	166	292	696	1,689	2,914	3,079
<b>Fighters</b>	494*	477	1,018	2,950	8,010	15,644	16,799
<b>Reconnaissance</b>	356	414	415	468	486	1,056	1,971
<b>Transports</b>	118	127	144	824	4,268	9,433	9,561
<b>Trainers</b>	735	1,243	4,124	12,610	22,849	27,907	9,558
<b>Communications</b>	7	7	53	1,732	3,051	4,211	3,433
<b>Total</b>	<b>2,402</b>	<b>2,966</b>	<b>6,777</b>	<b>21,173</b>	<b>49,018</b>	<b>78,757</b>	<b>63,715</b>

Figures for 1939 as of July 31. 1940-1944 are as of June 30. Figures for 1945 as of Aug. 31. Combined total production, counting lend lease and experimental aircraft, was 230,288. Of these, 31,000 were heavy bombers, 68,259 were fighters, and 22,698 were transports.

*Army Air Forces Statistical Digest*

### Composition of Combat Units

Type of Unit	Major Type of Aircraft	Number of Aircraft (including Reserve)	Number of Crews (including Reserve)	Men per Crew	Personnel Total	Officers	Enlisted Personnel
<b>Very heavy bombardment group</b>	B-29	45	60	11	2,078	462	1,616
<b>Heavy bombardment group</b>	B-17, B-24	72	96	9-11	2,261	465	1,796
<b>Medium bombardment group</b>	B-25, B-26	96	96	5-6	1,759	393	1,366
<b>Light bombardment group</b>	A-20, A-26	96	96	3-4	1,304	211	1,093
<b>Single-engine fighter group</b>	P-40, P-47, P-51	111-126	108-126	1	994	183	811
<b>Twin-engine fighter group</b>	P-38	111-126	108-126	1	1,081	183	898
<b>Night fighter squadron</b>	P-61, P-70	18	16	2-3	288	50	238
<b>Troop carrier group</b>	C-47	80-110	128	4-5	1,837	514	1,323
<b>Combat cargo group</b>	C-46, C-47	125	150	4	883	350	533
<b>Tactical reconnaissance squadron</b>	F-6 (P-51), P-39, P-40, L-4, L-5	27	23	1	233	39	194
<b>Photographic reconnaissance squadron</b>	F-5 (P-38)	24	21	1	347	50	297
<b>Combat mapping squadron</b>	F-7 (B-24), F-9 (B-17)	18	16	9	474	77	397

### USAAF Military Personnel Overseas

	January 1943	December 1943	June 1944	December 1944	April 1945	August 1945
<b>European Theater of Operations</b>	38,062	294,385	436,417	447,344	453,329	271,613
<b>Mediterranean Theater of Operations</b>	71,967	142,790	168,776	167,854	157,216	56,563
<b>Pacific Ocean Areas</b>	18,521	33,095	52,379	65,915	81,625	46,647
<b>Far East Air Forces</b>	45,641	129,281	173,168	173,620	178,372	216,616
<b>China-Burma-India</b>	13,009	41,936	71,313	91,609	95,985	91,424
<b>Alaska</b>	13,889	19,919	16,177	11,980	11,369	11,013
<b>Twentieth Air Force</b>	—	—	15,131	46,417	72,277	101,465
<b>Air Transport Command</b>	6,477	36,616	75,031	111,755	119,763	149,299
<b>Other</b>	53,064	37,644	28,942	47,642	54,070	54,969
<b>Total</b>	<b>260,630</b>	<b>735,666</b>	<b>1,037,334</b>	<b>1,164,136</b>	<b>1,224,006</b>	<b>999,609</b>

### Combat Sorties Flown

	December 1941	1942	1943	1944	January-August 1945	Total
<b>Theaters vs. Germany</b>	—	<b>9,749</b>	<b>233,523</b>	<b>1,012,101</b>	<b>438,192</b>	<b>1,693,565</b>
European Theater of Operations	—	2,453	63,929	655,289	312,381	
Mediterranean Theater of Operations	—	7,296	169,594	356,812	125,811	
<b>Theaters vs. Japan</b>	<b>212</b>	<b>16,939</b>	<b>132,417</b>	<b>272,094</b>	<b>247,573</b>	<b>669,235</b>
Pacific Ocean Areas	—	130	1,413	26,364	31,194	
Far East Air Forces	212	14,311	103,147	163,397	134,912	
China-Burma-India	—	1,341	23,151	78,999	44,538	
Alaska	—	1,157	4,706	815	640	
Twentieth Air Force	—	—	—	2,519	36,289	
<b>Total</b>	<b>212</b>	<b>26,688</b>	<b>365,940</b>	<b>1,284,195</b>	<b>685,765</b>	<b>2,362,800</b>

### Air Transport Command Operations, July 1942 to August 1945

	July-December 1942	1943	1944	January-August 1945	Total
<b>Number of passengers</b>	N/A	N/A	1,256,714	1,700,740	<b>2,957,454</b>
<b>Millions of ton-miles</b>	64.4	320.4	857.5	1,127.1	<b>2,369.4</b>
<b>Millions of passenger miles</b>	157.7	883.5	2,439.7	3,456.4	<b>6,937.3</b>
<b>Millions of airplane miles</b>	31.3	128.6	340.7	434.4	<b>935.0</b>
<b>Thousands of hours flown</b>	191.5	775.2	2,053.6	2,617.9	<b>5,638.2</b>



*Transports drop waves of paratroopers over Holland in September 1944.*

Tons of Bombs Dropped						
	December 1941	1942	1943	1944	January-August 1945	Total
<b>Theaters vs. Germany</b>	—	6,123	154,117	938,952	455,271	<b>1,554,463</b>
European Theater of Operations	—	1,713	55,655	591,959	322,435	
Mediterranean Theater of Operations	—	4,410	98,462	346,993	132,836	
<b>Theaters vs. Japan</b>	<b>36</b>	<b>4,080</b>	<b>44,683</b>	<b>147,026</b>	<b>306,956</b>	<b>502,781</b>
Pacific Ocean Areas	—	35	1,309	17,546	13,843	
Far East Air Forces	36	2,633	29,705	92,134	107,988	
China-Burma-India	—	697	10,841	27,987	22,636	
Alaska	—	715	2,828	295	493	
Twentieth Air Force	—	—	—	9,064	161,996	
<b>Total</b>	<b>36</b>	<b>10,203</b>	<b>198,800</b>	<b>1,085,978</b>	<b>762,227</b>	<b>2,057,244</b>

## Enemy Aircraft Destroyed

	1942	1943	1944	1945	Total
<b>Theaters vs. Germany</b>	<b>327</b>	<b>7,605</b>	<b>15,664</b>	<b>6,251</b>	<b>29,916</b>
European Theater of Operations	169	3,865	10,425	5,960	
Mediterranean Theater of Operations	158	3,740	5,239	291	
<b>Theaters vs. Japan</b>	<b>608</b>	<b>3,232</b>	<b>3,778</b>	<b>2,226</b>	<b>10,343</b>
Pacific Ocean Areas	—	96	226	472	
Far East Air Forces	518	2,466	2,518	416	
China-Burma-India	53	636	772	361	
Alaska	37	34	8	6	
Twentieth Air Force	—	—	254	971	
<b>Total</b>	<b>935</b>	<b>10,837</b>	<b>19,442</b>	<b>8,477</b>	<b>40,259</b>



*Trainees undergo flight instruction at Randolph Field, Tex.*



### USAAF Battle Casualties in Overseas Theaters

	Total Casualties	Died	Wounded and Evacuated	Missing, Interned, and Captured
<b>1941 (December)</b>	728	315	401	12
<b>1942</b>	8,788	3,477	469	4,842
<b>1943</b>	22,512	10,002	4,181	8,329
<b>1944</b>	68,617	21,072	9,957	37,588
<b>1945 (January-August)</b>	19,560	4,600	3,046	11,914
<b>Date unknown</b>	1,662	595	184	883
<b>Total</b>	<b>121,867</b>	<b>40,061</b>	<b>18,238</b>	<b>63,568</b>

### Aircraft Losses on Combat Missions

	1942	1943	1944	January- August 1945	Total
<b>Theaters vs. Germany</b>	<b>141</b>	<b>3,028</b>	<b>11,618</b>	<b>3,631</b>	<b>18,418</b>
European Theater of Operations	55	1,261	7,749	2,622	
Mediterranean Theater of Operations	86	1,767	3,869	1,009	
<b>Theaters vs. Japan</b>	<b>341</b>	<b>819</b>	<b>1,671</b>	<b>1,699</b>	<b>4,530</b>
Pacific Ocean Areas	13	25	116	224	
Far East Air Forces	276	539	910	769	
China-Burma-India	35	217	532	292	
Alaska	17	38	18	15	
Twentieth Air Force	—	—	95	399	
<b>Total</b>	<b>482</b>	<b>3,847</b>	<b>13,289</b>	<b>5,330</b>	<b>22,948</b>

### USAAF Military Personnel by Specialty, July 1944

Officers		Enlisted Members	
<b>Pilot</b>	132,477	<b>Airplane maintenance</b>	351,710
<b>Bombardier</b>	18,812	<b>Aerial gunner</b>	135,098
<b>Navigator</b>	24,991	<b>Other aircrew</b>	29,037
<b>Other aircrew</b>	201	<b>Armament</b>	101,931
<b>Administrative</b>	29,534	<b>Communications</b>	144,532
<b>Armament and ordnance</b>	7,546	<b>Radar</b>	34,117
<b>Communications</b>	14,570	<b>Medical</b>	49,013
<b>Engineering</b>	17,821	<b>Supply</b>	81,386
<b>Medical</b>	19,560	<b>Utility and construction</b>	55,480
<b>Operations</b>	11,026	<b>Automotive</b>	182,898
<b>Supply</b>	16,496	<b>Administrative</b>	245,026
<b>Other</b>	49,880	<b>Other specialists</b>	205,119
		<b>Nonspecialists</b>	445,545
<b>Total</b>	<b>342,914</b>	<b>Total</b>	<b>2,060,892</b>



*B-25 radio operator SSgt. John Underwood on mission over Burma.*

**USAAF Personnel by Arm or Service, July 1944**

Officers		Enlisted Members	
Air Corps	290,474	Air Corps	1,603,420
Chemical warfare	1,696	Chemical warfare	12,513
Engineer	5,064	Engineer	103,829
Finance	1,267	Finance	7,908
Medical	20,889	Medical	67,981
Military police	772	Military police	18,685
Ordnance	4,553	Ordnance	68,248
Quartermaster	5,387	Quartermaster	67,221
Signal	8,999	Signal	109,419
Chaplain	1,833	Other	1,668
Other	1,980		

**Their Aircraft Production—and Ours**

Year	Japan	Germany	Great Britain	US
1939	4,467	8,259	7,940	2,141
1940	4,768	10,826	15,049	6,086
1941	5,088	11,776	20,094	19,433
1942	8,861	15,556	23,672	47,836
1943	16,693	25,527	26,263	85,898
1944	28,180	39,807	26,461	96,318
1945	8,263	—	12,070	46,001

Figures for 1945 are for eight months for the US, nine months for Britain, and 7.5 months for Japan, — Craven and Cate, *Army Air Forces in World War II*.



