Airpower: End of WWI through WWII

Cognitive Lesson Objective:
• Comprehend the significance of airpower from the end of WWI through the end of WWII.

Cognitive Samples of Behavior:
• Describe the general mood of the country and the condition of the Air Service at the conclusion of WWI.
• Identify the major contribution Brigadier General William “Billy” Mitchell made toward the autonomy of the Air Force.
• Outline the key theories of ACTS staff members in the 1930s.
• Identify the significance of Air War Plans Division Plan #1.
• State the significance of combining GHQ Air Force and the Army Air Corps on 20 June 1941.
• State the most important lesson in air warfare learned in North Africa.
• Explain the lessons learned with strategic bombing in Europe.
• State the unique tactics used with tactical airpower in the Pacific Theater during WWII.
• Describe the use and importance of strategic airpower in the Pacific Theater during WWII.

Affective Lesson Objective:
• Respond to the importance of air power advancements from the end of WWI through the end of WWII.

Affective Sample of Behavior:
• Actively participate in classroom discussions.
The scale of destruction and bloodshed in World War I was truly shocking. No one could have imagined 10 million dead and 21 million wounded soldiers or 9 million dead civilians. A generation had been slaughtered in the trenches, the events witnessed by 2 million American servicemen who went home from “over there,” convinced that such a war should never be fought again. In its aftermath, diplomats pursued collective security through the League of Nations; the Kellogg-Briand Pact renouncing war as an instrument of national policy; the Locarno Pact recognizing the inviolability of European borders; and the Washington, London, and Geneva disarmament treaties and talks. In Germany, Airmen sought to restore mobility to the battlefield, joining aircraft and tanks to create blitzkrieg warfare. In America Airmen strove for the coup degrace-strategic bombing directly against the vital centers of a nation’s war-making capability.

American Airmen came back from France with a unique perspective on modern war. Josiah Rowe, of the 147th Aero Squadron, wrote of the World War I battlefield as “a barren waste, broken only by shell holes, trenches and barbed wire, with not one living thing in sight.” He was “glad to get away from such gruesome scenes” by climbing into the sky in his airplane. Billy Mitchell wrote that the Allies could cross the front lines “in a few minutes” in their aircraft, whereas “the armies were locked in the struggle, immovable, powerless to advance, for three years. It looked as though the war would go on indefinitely until either the airplanes brought [it to an end] or the contending nations dropped from sheer exhaustion.”

American Airmen knew that aircraft lacked the range, speed, and reliability for strategic bombing, but they had faith that technology could overcome any restrictions. They also knew the importance of concentrating on basic objectives such as winning air superiority or interdicting the front, both of which, they believed, required an independent air force. They had caught tantalizing glimpses of what strategic bombing could do to an enemy’s industrial centers. They saw the effectiveness of offense and the futility of defense against a determined aerial assault.

For these and other servicemen, aircraft seemed the answer to the slaughter of trench warfare. German Airmen soon envisioned air power as mobile artillery accompanying fast-moving armored units (blitzkrieg warfare). American Airmen, however, saw air power as an independent strategic force that could bring an enemy nation to its knees. Throughout history, an attacking army fought its way through a defending army to get to its enemy’s vital centers. Strategic bombers would fly over the army to strike at the enemy’s heart. Air leaders such as Billy Mitchell believed that with aircraft future wars would be shorter and less bloody.

During World War I America’s air service had not coalesced. Afterwards it had to be built in an atmosphere of antiwar fervor and tight congressional budgets. In addition, the U.S. Army and U.S. Navy, viewing the air service as their auxiliary arms and a supporting weapon, placed obstacles in the way of its further development. The President’s Aircraft Board,
better known as the Morrow Board for its chairman, the banker Dwight Morrow, called by President Calvin Coolidge in 1925 to evaluate the air service's call for independence, reinforced this view: "The next war may well start in the air but in all probability will wind up, as the last war did, in the mud." Evolving technology and irrepressible flyers, however, drove the air service in a different direction.

Few in the air service were particularly keen on flying close air support in trench warfare. Most Airmen thought it unglamorous, marginally effective, and dangerous. What then could air power do, especially with advanced technology? The War Department General Staff already knew what it wanted from its Airmen—close air support, reconnaissance, interdiction, and air superiority over the battlefield. The Dickman Board, named for its chairman, Major General Joseph Dickman, appointed in 1919 by General Pershing to evaluate the lessons of the war, concluded: "Nothing so far brought out in the war shows that aerial activities can be carried on, independently of ground forces, to such an extent as to affect materially the conduct of the war as a whole."

The air service could hardly contradict this judgment. Its heavy bomber at the time was the French-built Breguet. A veteran of the Great War with a range of 300 miles and a top speed of 100 miles per hour, it could only carry a 500-pound bomb load. In the postwar demobilization, by 1920 the air service was reduced to fewer than 2,200 officers and 8,500 enlisted men. To formulate basic doctrine for the fledgling air force and train officers, Air Service Chief Major General Charles Menoher established the Air Service Tactical School at Langley Field in Virginia, later to become the Air Corps Tactical School at Maxwell Field in Alabama. He made Brooks and Kelly Fields in Texas responsible for flight training and the Engineering Division at McCook Field in Ohio, later to become the Materiel Division at nearby Wright Field, responsible for flight technology. Congress provided the air service a measure of independence, changing it from an auxiliary force to an offensive force equal to the artillery and infantry, by creating the U.S. Army Air Corps on July 2, 1926.

Other aerial pioneers sought to test the versatility of aircraft through aerial exploration and discovery in a succession of record-setting flights. In 1921 Lieutenant John Macready climbed to 35,409 feet, higher than anyone before. In 1923 Macready and Lieutenant Oakley Kelly flew a Fokker T-2 nonstop across the width of the United States. In 1924 several air service crews led by Major Frederick Martin took 175 days to fly around the world. In 1925 Lieutenants Jimmy Doolittle and Cy Bettis won the Pulitzer and Schneider Cup speed races for the air service. Major Carl Spatz (later spelled Spaatz), Captain Ira Eaker, Lieutenant Elwood Quesada, and Sergeant Roy Hooe flew the Fokker trimotor Question Mark to a record duration of 150 hours in 1929, displaying the great promise of inflight refueling. Doolittle and Lieutenant Albert Hegenberger achieved what the New York Times called the "greatest single step forward in [aerial] safety"—a series of blind flights from 1929 to 1932 that opened the night and clouded skies to flying. Only the Air Corps' assignment to deliver air mail in the first half of 1934, called “legalized murder” by Eddie Rickenbacker because of the 12 lives it claimed, detracted from the image that these aerial pioneers were helping to create.
Record-breaking military flights, alongside trailblazing civilian achievements by Charles Lindbergh and Amelia Earhart, represented the public side of a revolution in aviation technology. The staff at the Engineering Division, and later the Materiel Division, worked with American industry and the National Advisory Committee for Aeronautics (predecessor of the National Air and Space Administration) to develop essential technologies such as sodium-cooled engine valves, high octane gasoline, tetraethyl lead knock suppressants, stressed duraluminum aircraft structures, cantilevered wings, superchargers, turbosuperchargers, retractable landing gear, engine cowlings, radial engines, variable pitch constant speed propellers, and automatic pilots. The two-engine Keystone bomber of the 1920s, a biplane constructed of steel tubes and wires and fabric surfaces, with an open cockpit and fixed landing gear, could fly 98 miles per hour for 350 miles with one ton of bombs. A decade later Boeing’s four-engine B-17 bomber could fly nearly 300 miles per hour for 800 miles with over two tons of bombs.

How would America’s military aviators use this technology in war? The Army General Staff wanted to employ tactical air power “in direct or indirect support of other components of the Nation’s armed forces.” It believed the primary target was the adversary’s Army. The most vocal opponent of this view was Assistant Chief of the Air Service, Brigadier General Billy Mitchell, who saw in strategic bombing the proper use of air power. Close air support and interdiction, he asserted, only perpetuated trench warfare and the horrors of World-War I-like slaughter. He argued for a force that could strike directly at an enemy’s vitals, “centers of production of all kinds, means of transportation, agricultural areas, ports and shipping,” forcing “a decision before the ground troops or sea forces could join in battle.”

Mitchell’s actions created opponents as well as adherents. A series of highly publicized ship-bombing tests (tactical airpower display) begun in 1921 overshadowed the ideas he had espoused in books (strategic airpower) such as Winged Defense: The Development and Possibilities of Modern Air Power-Economic and Military. Air service bombers sank several unmanned, anchored ships, including battleships. Mitchell’s apparent success, despite poor bombing accuracy, diverted both the public’s and the Congress’s attention from more critical aerial achievements and issues of the period. Mitchell’s troubles with Army and Navy leaders eventually led to his court martial after he spoke intemperately about the crash of the airship Shenandoah in 1925. (He blamed the loss on “incompetency, criminal negligence, and almost treasonable administration.”) President Coolidge, famous for his reticence and nicknamed “Silent Cal,” expressed a widely-held view when he contended, “General Mitchell [has] talked more in the last three months than I [have] in my whole life.” (Please reference the “Focus On: The Billy Mitchell Court-Martial” article at the end of this section.)

Behind such scenes, Chief of the Air Corps Major General James Fechet urged his officers in 1928 to look beyond the battlefield, beyond close air support, and find a way for the Air Corps to win a war independently. He imposed only three limitations: First, the Air Corps had to get the most for any money available. Second, civilians could not be targets of aerial attack. Secretary of War Newton Baker had ruled earlier that doing so “constituted an abandonment of the time-honored practice among civilized people of restricting bombardment to fortified places or to places from which the civilian population
had an opportunity to be removed.” Americans would not undertake terror raids, he said, “on the most elemental ethical and humanitarian grounds.” Third, anything the Air Corps did would have to solve or avoid the evils of trench warfare.

One officer who answered Fechet’s challenge was Lieutenant Kenneth Walker. Conventional wisdom taught that while Airmen achieved high accuracy when they bombed from low altitudes, they exposed themselves to deadly ground fire. Walker showed that daylight high-altitude precision bombing was superior to low-altitude bombing and provided greater survivability, explosive force, and, ironically, accuracy. (Bombs released at low altitudes tumbled and ricocheted when they hit the ground.) He wrote, “Bombardment missions are carried out at high altitudes, to reduce the possibilities of interception by hostile pursuit and the effectiveness of anti-aircraft gun fire and to increase the explosive effect of the bombs.” The keys to attaining accuracy from high altitudes were Carl Norden’s new M-series bombsights, designed under Navy contract, but destined to equip Air Corps bombers beginning in 1933.

At Maxwell Field in Montgomery, Alabama, Major Donald Wilson and the faculty of the Air Corps Tactical School proposed in the early 1930s to destroy an enemy’s ability to resist by bombing what Wilson called the “vital objects of a nation’s economic structure that tend to paralyze the nation’s ability to wage war and the hostile will to resist.” Because of America’s opposition to attacking civilians or non-military targets, this bombing would be aimed not directly at an enemy’s will, but at the machines and industries that supported that will and its military defenses. The destruction of an enemy’s vital industries would destroy its ability to continue to wage war. Wilson viewed high-altitude vital industries as “an instrument which could cause the collapse of this industrial fabric by depriving the web of certain essential elements—-as few as three main systems such as transportation, electrical power, and steel manufacture would suffice.”

The technological innovations of the 1930s, which so profoundly inspired the ideas of Walker and Wilson among others, were applied in particular to the large aircraft demanded by America’s airlines, and they created a curious situation-large bombers flew faster than small fighters. Thus was born the conviction among Airmen, as expressed by Brigadier General Oscar Westover: “No known agency can frustrate the accomplishment of a bombardment mission.” The B-17 of 1935 could reach 252 miles per hour at high altitudes, compared with the P-26 front-line fighter, which could not exceed 234. Because speed would allow a bomber to overcome enemy aerial defenses, strategic bombing became the focus of air power development for Mitchell, Walker, Wilson, Wright Field’s engineers, and such Air Corps leaders as Brigadier General Henry “Hap” Arnold, commanding the 1st Bombardment Wing, who labored to create the tactical formations, flying techniques, and organization needed for this new kind of warfare. So while the Air Corp Tactical Schools (ACTS)original mission was to teach air strategy and tactics it changed in the mid 1930’s from an emphasis on ground support to strategic bombing. Billy Mitchell’s key followers at the ACTS believed future wars would be decided by airpower and so the airplane would be a major offensive weapon of modern forces moving forward.
Upon the recommendation of a War Department committee, known as the Baker Board (named for former Secretary of War, Newton Baker), Congress established the General Headquarters Air Force (GHQAF) on March 1, 1935. This first American “named” air force, under the command of Brigadier General Frank Andrews and headquartered at Langley Field in Virginia, controlled all offensive aviation in the nine corps areas of the United States, including organization, training, and operations. Powerful opponents in the Army separated the GHQAF from the Air Corps under Major General Westover, in charge of individual training, procurement, doctrine, and supply. The Air Corps remained a combatant arm of the Army, while the GHQAF came under the Chief of Staff in peacetime and the commander of field forces in wartime. The two air components remained divided until March 1, 1939, when the GHQAF came under the control of the Chief of Air Corps.

The MacArthur-Pratt agreement of 1931 made the Air Corps responsible for short-range coastal defense and Army operations on land, but left the Navy as America’s offensive force on the sea. Two developments changed this division of responsibility. First, advances in aviation technology made restrictions to short-range operations nonsensical, as when three B-17s intercepted the Italian liner Rex in the Atlantic over 700 miles from America’s shores in 1937. Still, the Army continued buying, for the most part, short-range tactical aircraft, including the twin-engine B-18, to support ground operations. Second, Adolf Hitler’s successful use of air power as a threat in the Sudetenland-Czechoslovakia crisis of 1938 convinced President Franklin Roosevelt that the United States needed a large air force “with which to impress Germany,” and ordered the acquisition of 10,000 aircraft (later reduced to 5,500 based on budget constraints) when Congress appropriated $300 million for the buildup.

When Germany invaded Poland in September 1939, the Air Corps had 26,000 Airmen and a heavy bomber force of only 23 B-17s. With the support of President Roosevelt, Chief of Air Corps Arnold used British and French orders for 10,000 additional aircraft to help launch a huge expansion of the aviation industry. With the fall of France in June 1940, Roosevelt ordered an Air Corps of 50,000 aircraft and 54 combat groups. Congress appropriated $2 billion, eventually, to insure funding for both strategic and tactical air forces. In March 1941 the Air Corps expanded to 84 groups. These actions and events presaged what would become the largest air force in the world equipped with the most modern aircraft available. By December 1941, however, the Army’s air corps still had only 3,304 combat aircraft, but World War II mainstays such as P-51 Mustang and P-47 Thunderbolt fighters and the B-29 Superfortress bomber still were not operational. All would become part of the U.S. Army Air Forces (USAAF) led by Major General Hap Arnold, established under Army Regulation 95-5 on June 20, 1941, with the Air Corps and the Air Force Combat Command (formerly the GHQAF) as subordinate arms. This merge creating the USAAF was significant because it represented the final hurdle in organizational change prior to the creation of an independent Air Force in 1947.

In August 1941, at the behest of the War Department, USAAF Chief Arnold directed four former faculty members of the Air Corps Tactical School to devise an air plan against America’s potential adversaries. The plan was known as AWPD/1. This was significant because it established independent operating objectives for the Air Corps and called for
precision bombing of the German industry and economy. Lieutenant Colonels Kenneth Walker and Harold George and Majors Haywood Hansell and Laurence Kuter of the newly-formed Air War Plans Division (AWPD) identified in their plan 154 “chokepoint” targets in the German industrial fabric, the destruction of which, they held, would render Germany “incapable of continuing to fight a war.” A lack of intelligence prevented the design of a similar plan against Japan. The four planners calculated that the desired air campaign would require 98 bomber groups-a force of over 6,800 aircraft. From their recommendation General Arnold determined the number of supporting units, aircraft, pilots, mechanics, and all other skills and equipment the USAAF would need to fight what became World War II. The 239 groups estimated came close to the 243 combat groups representing 80,000 aircraft and 2.4 million personnel that actually formed the USAAF in 1944 at its wartime peak. The planners had also assumed that they would not have to initiate their air plan with a complete 98-group force until April 1944. However, they were not allowed the luxury of time. When the Japanese attacked Pearl Harbor four months after the air plan’s submission to the War Department, an ill-equipped USAAF found itself thrust into the greatest war in human history.
Focus On:

THE BILLY MITCHELL COURT-MARTIAL


In the Army’s view, the issue was insubordination, not the validity of Mitchell’s claims.

By 1925, Billy Mitchell had alienated almost everybody in the War Department and Navy Department, to say nothing of President Calvin Coolidge. Strident in his advocacy of airpower, Mitchell did not hesitate to lash out when he disagreed with his superiors, which was often. “The General Staff knows as much about the air as a hog does about skating,” he said.

William Mitchell (no middle name) came to fame as the combat leader of American air forces in France in World War I. He was promoted to the temporary grade of brigadier general and kept his star after the war because of his assignment as assistant chief of the Army Air Service.

When Mitchell’s bombers sank the surplus German battleship Ostfriesland in a July 1921 demonstration, it was a strong blow for airpower. It was also a huge embarrassment for the Navy, which had said he couldn’t do it. Mitchell’s traditionalist boss, Army Chief Gen. John J. Pershing, sided with the Navy in dismissing the significance of the demonstration.

Mitchell continued his all-out public campaign for airpower. He said the world stood on the threshold of an “aeronautical era” and that military airpower, independent of ground and sea forces, should be the first line of defense.

He was popular with the public and the press and had some supporters in Congress. He had a strong following among younger officers, and even a few moles in the Navy. The generals and admirals wanted to be rid of him.

Thus when his term as assistant air chief expired in March 1925, he was not reappointed. He was assigned to Fort Sam Houston in San Antonio as aviation officer for the Army’s Eighth Corps Area, reverting to his permanent grade of colonel. It was an important job in a significant command, but Mitchell felt he had been demoted and sent to the boondocks. The Airmen in Texas still called him “General.”

Two Navy aircraft mishaps soon caused Mitchell’s temper to boil over in even more spectacular fashion than usual. The worst of the accidents was the breakup of the Navy dirigible Shenandoah over Ava, Ohio, Sept. 3. The airship was on a publicity junket, due to pass over 27 cities at times announced in advance to please politicians and their constituents. Over Ohio, Shenandoah ran into a line squall of intense thunderstorms but did not divert around it, remaining on course for a state fair the next day.
Gripped by the storm, the airship pitched up to 6,300 feet, plunged to 3,200 feet, and was thrown back up to 6,200 feet. The keel broke and the airship was torn into three parts. The front section fell a mile to the ground, killing the skipper, Lt. Cmdr. Zachary Lansdowne, and 13 other crew members. Part of the ship was able to maneuver as a free balloon and landed, saving 27 lives.

The Shenandoah tragedy followed the news that a Navy PN-9 seaplane on a demonstration flight to Hawaii had gone down in the Pacific because of engine failure. Another aircraft on the flight was forced to land in the water 200 miles short of Hawaii when it ran out of fuel.

**Rocket From San Antonio**

What enraged Mitchell as much as anything was the public reaction of Secretary of the Navy Curtis D. Wilbur, who said the accidents illustrated limitations of airpower. “Some people,” said Wilbur, “make extravagant claims for aviation. Great things have been achieved. From our experience, however, I am convinced that the Atlantic and the Pacific are still the greatest bulwarks against any air invasion of the United States.” Wilbur said the PN-9 incident showed how difficult it was to cross 2,100 miles of ocean without carrying bombs, much less to cross with 1,000-pound bombs.

In San Antonio Sept. 5, Mitchell called in the press and gave them a 5,000-word statement. “These accidents are the direct result of the incompetency, criminal negligence, and almost treasonable administration of the national defense by the Navy and War Departments,” he said.

"All aviation policies, schemes, and systems are dictated by nonflying officers of the Army or Navy who know practically nothing about it," he said. “The lives of the Airmen are being used merely as pawns in their hands. ... Officers and agents sent by the War and Navy Departments to Congress have almost always given incomplete, misleading, or false information about aeronautics.”

Mitchell said Shenandoah, overweight in its structure and with low reserve buoyancy, had been sent on a propaganda mission without adequate safeguards. He then moved on to general criticism of Army and Navy aviation programs.

He wasn’t finished.

Four days later, he called the reporters back and said, “If the department does not like the statement I made, let them take disciplinary action as they see fit, according to their judgment, court-martial or no court-martial. ... The investigation that is needed is of the War and Navy Departments and their conduct in the disgraceful administration of aviation.”

Summoned to Washington to explain himself, Mitchell was greeted at the train station by cheering supporters and an American Legion fife and drum corps.
Orders From Coolidge

President Coolidge was Mitchell’s direct opposite in personality. A dour man of few words, he was satisfied to be known as “Silent Cal.” He made his national reputation by putting down a police strike in Boston in 1919 when he was governor of Massachusetts.

The War Department inspector general recommended that Mitchell be tried by court-martial. The charges were not made by Mitchell’s military superior but rather by the Secretary of War at the direction of the President.

Coolidge did not accuse Mitchell directly in public. That might have been seen as prejudicing the outcome of the trial. However, there was no doubt who Coolidge was talking about when he spoke to the American Legion convention in early October.

“All organization of men in the military service bent on inflaming the public mind for the purpose of forcing government action through the pressure of public opinion is an exceedingly dangerous undertaking and precedent,” Coolidge said. “It is for the civil authority to determine what appropriations shall be granted, what appointments shall be made, and what rules shall be adopted for the conduct of its armed forces. ... Whenever the military power starts dictating to the civil authority by whatever means adopted, the liberties of the country are beginning to end.”

Mitchell was charged under the 96th Article of War, the catch-all general article that covered “disorders and neglects to the prejudice of good order and discipline [and] all conduct of a nature to bring discredit upon the military service.” Mitchell ridiculed Article 96, saying, “Officers are tried under it for kicking a horse.”

The Army held Mitchell’s statements were prejudicial to good order and discipline, insubordinate, “contemptuous and disrespectful,” and intended to discredit the War Department and Navy Department. With the Sept. 5 and 9 statements counted separately, it added up to eight specifications to the charge.

Coolidge, hoping to tamp down the controversy and divert attention from the Mitchell court-martial, appointed a board, headed by New York banker Dwight W. Morrow, to look into the military aviation issue.

Curtain Up

The court-martial began Oct. 28 in the Emery Building, an old red brick warehouse, at the foot of Capitol Hill in downtown Washington. Five hundred people, including 40 reporters and newsreel cameramen, lined the streets to see Colonel Mitchell and Mrs. Mitchell arrive.

Twelve senior generals, handpicked by the Army and the War Department, were appointed to the court. One of them, destined for greater things, was Mitchell's boyhood friend from Milwaukee, Douglas MacArthur. In addition, there was a “law member” of the court, Col. Blanton C. Winship, a legal officer assigned to assist and rule on legal questions.
Mitchell promptly challenged three of the generals off the court, including Maj. Gen. Charles P. Summerall, a future Army Chief of Staff who was to have been president of the court. The ousted generals were not replaced, as only six members were required for a trial. Maj. Gen. Robert L. Howze took over as president.

Mitchell’s defense team was led by Rep. Frank R. Reid (R-Ill.), a first rate lawyer who met Mitchell at House Aircraft Committee hearings. He called members of the court “you men” and “you people,” but the generals took it in stride. The prosecutor was the trial judge advocate, Col. Sherman Moreland, fully competent but no match for Reid in flash and dash.

Photos from the trial show members of the court with old-style high military collars. Mitchell wore his collar folded down in the more modern fashion favored by Airmen, who claimed that high collars chafed their necks while flying.

The prosecution introduced its evidence the morning of Nov. 2 and rested its case that afternoon. Moreland called witnesses who established that Mitchell made the two statements and gave them to the press. In the Army’s view, this was prima facie breach of good order and discipline and sufficient for conviction.

It wasn’t nearly over, though. Next day, Reid announced that he wanted to call 73 witnesses for the defense and asked for thousands of Army documents. He intended to argue the validity of what Mitchell had said. Moreland objected. All that mattered was Mitchell had made the statements. The substance of what he said counted only for mitigation and extenuation, if that.

However, the court did not rule against the evidence Reid wanted to present. Under the glare of public and press attention, Mitchell was given leeway that he would not have gotten under other circumstances. Reid and Mitchell had effectively converted the court-martial into a public debate about airpower. The trial would continue for six more weeks.

**Gullion Evens the Odds**

Reid introduced a parade of witnesses who gave evidence about equipment, training, misleading military assessments to Congress, Army disregard of advice from air officers, and endangerment of pilots from orders by nonflying superiors. He established that in the past seven years, Mitchell had made 163 recommendations to improve the air service, nearly all of them ignored or disapproved.

A surprise witness was Margaret Lansdowne, widow of the Shenandoah commander. She testified the Navy tried to influence her statement to the board of inquiry, wanting her to say that her husband had been willing and ready to make the flight. She told the inquiry and the Mitchell court that her husband had regarded the flight as political and had flown it under protest, believing the timing was dangerous because of the weather risk. She produced a copy of a letter from Lansdowne to the Chief of Naval Operations asking for a delay until thunderstorm season had passed.
Among those testifying for Mitchell were World War I ace Eddie Rickenbacker and Congressman Fiorello La Guardia. “Billy Mitchell is not being judged by his peers,” La Guardia said. “He is being judged by nine dog robbers of the general staff.” Two little-known majors, Henry H. “Hap” Arnold and Carl A. Spaatz, appeared for Mitchell as well. Even the court was momentarily star struck when famed humorist Will Rogers, a friend of Mitchell’s, attended a session of the trial.

Mitchell was the runaway favorite of the public, but the weeks of airpower testimony made less of an impression on the members of the court, who understood better than the civilians did the meaning of an Article 96 charge.

To shore up the prosecution, Maj. Allen W. Gullion was added as an assistant trial judge advocate Nov. 17. A West Pointer and a former infantry officer, Gullion was regarded as one of the best and most aggressive prosecutors in the Army. The attack on Mitchell and the defense witnesses sharpened as Gullion took on a big share of the questioning.

The trial reached its dramatic peak in late November when Gullion cross-examined Mitchell. He elicited acknowledgments from Mitchell that a considerable part of his statements were opinion rather than fact and that he relied on the newspapers for some of his information, especially about the Navy. Gullion tried to force Mitchell to admit that he had accused officers of long and honorable standing of treason and criminal actions. Mitchell said his words had been directed at a system rather than against an individual or individuals, but Gullion had scored his point with the senior officers on the court.

The prosecution called a succession of rebuttal witnesses. Mitchell debunkers were not difficult to find. As the trial ground on, the Morrow Board made its report, basically accepting the arguments of the traditionalists over those of the Airmen. No radical changes were necessary. The nation was safe from air attack. The Army and Navy air arms should stay where they were.

Summing up for the prosecution on the last day of the court-martial, Gullion pulled out all the stops.

“It is sufficient if the record shows that the conduct is to the prejudice and of a nature to discredit,” he said. “The statements of Sept. 5 and 9 speak for themselves in that regard. But can there be any doubt that the discipline of our Army will be ruined if the accused, in the expressive vernacular of the doughboy, is allowed to get away with it? Every trooper in Fort Huachuca, as he smokes his cigarette with his bunkie after mess, is talking about this case. If the accused is not dismissed, the good trooper will be dismayed and the malcontent and sorehead will be encouraged in his own insubordination.”

(A fascinating footnote to the story is that one of Gullion’s grandsons, Gen. Thomas S. Moorman Jr., became vice chief of staff of the Air Force from 1994 to 1997.)
Mitchell Leaves the Army

After deliberating for three hours on the afternoon of Dec. 17, the court found Mitchell guilty on the charge and all specifications. It suspended him from rank, command, and duty, with the forfeiture of all pay and allowances for five years.

The votes were never revealed but Howze, the president of the court, said it was a split decision. It was widely believed that MacArthur had voted to acquit, but according to most historical sources, that was never confirmed. In his memoirs, MacArthur was cryptic on the subject, saying, “I did what I could in his behalf.”

In November 1945, Sen. Alexander Wiley (R-Wis.)—who was trying to get Mitchell promoted posthumously to major general—wrote to MacArthur, saying, “It was my understanding that yours was the one vote against the court-martial’s verdict which cashiered Billy Mitchell.” MacArthur replied, “Your recollection of my part in his trial is entirely correct. It was fully known to him, and he never ceased to express his gratitude for my attitude. ... He was a rare genius in his profession and contributed much to aviation history.”

Coolidge approved the conviction Jan. 25, 1926, saying that Mitchell “employed expressions which cannot be construed otherwise than as breathing defiance toward his military superiors.”

However, Coolidge recognized that the sentence left Mitchell in an impossible situation. It kept him in service, which prevented him from obtaining private employment, but took away his pay, so he had no means of support. Coolidge reduced the punishment to forfeiture of half of Mitchell’s monthly pay. The free-spending Mitchell could not get by on half pay. The net effect was to force Mitchell to resign from the Army, which he did on Feb. 1.

Pershing, now retired, observed, “There seems to be a Bolshevik bug in the air.” With Mitchell gone, the Army cracked down on dissent. Arnold, an activist on Mitchell’s behalf, was exiled to Fort Riley, Kan., a cavalry post, where he became commander of an observation squadron.

Some Airmen concurred in Mitchell’s conviction. Benjamin D. Foulois, who had despised Mitchell since their time in France in World War I, said, “A civilian could say things like that but not an officer on active duty who had obligated himself by his commissioning oath to an unswerving course of loyalty to his civilian and military superiors.”

In his memoirs, Arnold acknowledged as much. “No matter what was said about ‘Airpower being on trial’—as it was, at times even in the eyes of the prosecution—the thing for which Mitchell was really being tried he was guilty of, and except for Billy, everybody knew it,” Arnold said. “We all knew there was no other way—in accordance with the Army code, Billy had it coming.”
Reconsiderations

Mitchell continued to speak, write, and advocate for airpower. He died in 1936, but as his disciples, including Arnold and Spaatz, moved into positions of authority, he was openly acknowledged as an Air Force hero.

When the Air Force Association was formed in 1946, Mitchell became AFA’s hero, too. And when the Air Force gained its independence from the Army in 1947, the cover of the association’s journal, Air Force Magazine, proclaimed it “The Day Billy Mitchell Dreamed Of.”

Mitchell was celebrated in 1955 in a Warner Brothers movie, “The Court-Martial of Billy Mitchell,” which was longer on enthusiasm than on historical accuracy. Only Hollywood would have chosen Gary Cooper, an actor noted for not talking much, to play Mitchell. Rod Steiger was cast as Gullion.

In 1956, William Mitchell Jr., with AFA acting as his agent, petitioned the Air Force Board for Correction of Military Records to overturn the verdict of the court-martial. The board heard the case in 1957, but the results were not disclosed until the final review in 1958.

By a vote of four-to-one, the board recommended the findings and sentence of the court-martial be declared null and void. “The conclusion is inescapable in the board’s opinion that Mitchell was tried for his views rather than a violation of Article 96,” the proceedings report said.

Secretary of the Air Force James H. Douglas Jr. could not agree. He recognized that many of Mitchell’s beliefs had been vindicated by history but that “while on active duty and subject to the discipline of military service, he characterized the administration of the War and Navy Departments as incompetent, criminally negligent, and almost treasonable.” Mitchell’s statements in September 1925 substantiated the charges against him. “Subsequent confirmation of the correctness of certain views he expressed cannot affect the propriety or impropriety under the 96th Article of expressions which he employed.” The verdict stood.

The Mitchell issue was supposedly settled, but popped up again in a different form in 2004. The Fiscal 2005 Defense Authorization bill authorized the promotion of Billy Mitchell to major general, effective as of the date of his death in 1936. Neither the Pentagon nor the White House took any action as a result of the authorization, and the matter is again at rest—at least, so far.

WORLD WAR II - GLOBAL CONFLICT

Despite the heroics of such Airmen as Lieutenant George Welch, who was credited with having downed 4 enemy aircraft, the surprise strike on Pearl Harbor showed the limitations of the USAAF’s preparations for war. The Hawaiian Air Force lost 66 percent of its strength on December 7, 1941, while the Japanese lost only 29 pilots.
Across the International Dateline, Lieutenant Joseph Moore claimed 2 Japanese aircraft in the skies over Clark Field in the Philippines, but General Douglas MacArthur’s air force of 277 aircraft, including 2 squadrons of B-17s (35 aircraft in all), was destroyed. These greatest concentrations of American air power at the time had failed to deter or hinder the Japanese.

At the start of World War I a solid industrial infrastructure on which to construct the world’s greatest air force had not existed in the United States. At the start of World War II this was not the case. The aircraft manufacturing sector was large and growing daily. Before the war, General Arnold had established nine civilian primary flight training schools, two Air Corps basic flight training schools, and two Air Corps advanced flight training schools. The number of trained pilots had jumped from 300 in 1938 to 30,000 in 1941 (plus 110,000 mechanics). On December 7, 1941, the USAAF had a running start and was in the war for the duration.

Arnold planned first for vastly expanded production, training, and research, with the long-term military interests of the nation in mind. While German factories maintained a one-shift peacetime work week until 1943, American plants ran around the clock. Swelled by hundreds of thousands of women, more than two million American workers built nearly 160,000 aircraft of all kinds for the Army and 140,000 for the Navy and Allied nations during the war. America’s aircraft production overwhelmed that of every other nation in the world. Altogether, its factories turned out 324,750 aircraft for the war effort; Germany’s factories turned out 111,077 and Japan’s 79,123. Where other nations stopped production lines to make modifications, or manufactured models long obsolete, the United States, left its factories alone to insure high production levels and established separate depots to modify and modernize older models. Until the German ME 262 jet, American aircraft set the standard for performance and combat success with their ruggedness (the B-17 Flying Fortress, B-24 Liberator, and P-47 Thunderbolt); their range and bomb load (the B-29 Superfortress); their range, speed, and agility (the P-51 Mustang); and their utility (the C-47 Skytrain). Eventually, they were to equip 243 groups, consuming about 35 percent of America’s total investment in equipment and munitions for the war. They were supported and flown by two and a half million men and women, nearly a third of the U.S. Army’s total strength.

As important as production to Arnold was training. The demands of flight required the best from the brightest. Voluntary enlistments swelled the USAAF initially, supplemented by a pool of deferred flyers previously enrolled in the Air Corps Enlisted Reserve. Flying Training Command prepared nearly 200,000 pilots, nearly 100,000 navigators and bombardiers, and many hundreds of thousands of gunners and other specialists. American pilots received more uninterrupted training than those of any other nation, again because of Arnold’s strategic vision and America’s bountiful resources. Primary, basic, and advanced training were for individual flyers, brought together at operational training units under the First, Second, Third, and Fourth Air Forces and I Troop Carrier Command for forming into new units. Technical Training Command prepared over two million others, mostly mechanics and specialists to keep aircraft airworthy. Arnold and others labored to insure that the equipment these legions employed was the most advanced available. Research
centers and test facilities sprang up all over the United States, dedicated to stretching aviation performance to the limit—and beyond. High octane aviation gasolines, radars, jets, rockets, radios, and special bombs were all products of the USAAF’s commitment to basic and applied research and development.

This enormous aerial force was wielded by General Arnold, who assumed control over all USAAF units, with the War Department reorganization of March 1942. He quickly agreed with General George Marshall to postpone any discussion of an independent air force until after the war. However, Arnold was a member of both the American Joint Chiefs of Staff (JCS) and the joint American and British Combined Chiefs of Staff. The March 1942 reorganization and Arnold’s position on the Combined Chiefs of Staff, nevertheless, gave the USAAF a large measure of autonomy, which was subsequently enhanced with the formation of the Twentieth Air Force (responsible for the B-29 campaign against Japan and under Arnold’s direct command). A tireless commander, Arnold sacrificed his health building a winning air force.

Before the United States entered the war, American and British officials met from January to March 1941 for the ABC-1 talks and agreed on a strategy for defeating the Axis nations. They decided that because Germany represented the stronger enemy, British forces in the Mediterranean would hold their positions. In the Pacific, American forces would go on the strategic defensive, while Allied armies in Europe built up for an eventual landing on the continent followed by a victorious march to Berlin. After December 1941, however, events worked to modify this strategy. First, the U.S. Navy successfully bid for higher priority in the Pacific in an early two-pronged assault on Japan, one from Australia and New Guinea through the Philippines, the other through the islands of the South and Central Pacific. Second, in Europe, British demands for action in the Mediterranean and the immediate need for a reduction of German pressure on the Soviet Union diverted British and American forces to fight in North Africa. These developments left only the England-based Allied air forces to attack the German homeland through a strategic bombing campaign.

On June 12, 1942, the USAAF inaugurated operations in the Mediterranean, striking against the Ploesti, Romania, oil fields, a target American airmen would come to know well. Large-scale action began with Operation TORCH—the invasion of North Africa—six months later on November 8. American doctrinal and organizational problems allowed the German Luftwaffe to achieve early domination in the air. Allied ground commanders in North Africa demanded that air units maintain continuous air cover over Army formations. Their firepower thus diluted, “penny packets” patrolled the skies constantly, rarely finding the enemy, and were therefore not available in sufficient numbers when the Luftwaffe made concentrated attacks. German pilots achieved a three-to-one advantage in aerial victories. At the Casablanca Conference, in late January 1943, the United States adopted a tactical doctrine formulated by British commanders Arthur Coningham and Bernard Montgomery after bloody fighting against Germany’s Afrika Korps. This employment of airpower in tactical situations would turn out to be the most valuable lesson learned from the USAAF in the North Africa campaign. Air superiority became their first objective for the air arm, including deep sweeps against enemy airfields, followed by interdiction to
isolate battlefields, and then close air support to assist ground units in their movements against the enemy. Air and ground commanders would work together, neither auxiliary to the other. This experience highlighted the need for a single commander of all theatre air forces.

Codified as Field Manual 31-35, this new doctrine of tactical warfare served the USAAF well. With their air forces finally organized into an independent Northwestern African Air Forces under General Carl Spaatz, including a Strategic Air Force under General Jimmy Doolittle and a Tactical Air Force under Coningham, the Allies achieved air superiority in the spring of 1943 and cut the flow of supplies and reinforcements to Field Marshal Erwin Rommel’s army in North Africa. Allied commanders had the assistance of ULTRA intercepts, the top secret code-breaking operation, that provided detailed information about German ship and aircraft schedules. Axis armies in Tunisia, numbering 270,000 men, surrendered in May.

These initial steps toward organizing air power as an independent, unified force also led Army Chief of Staff George Marshall to issue Field Manual 100-20 in 1943. This document, the USAAF’s “declaration of independence,” recognized “land power and air power” to be “coequal and interdependent forces.” In the Mediterranean, the Twelfth Air Force neutralized the Luftwaffe when Allied forces invaded Sicily in July and the Italian peninsula in September. Tough fighting slowed Lieutenant General Mark Clark’s forces as they pushed northward, forcing him to rely increasingly on USAAF assistance to break through German lines. After an initial bombing campaign failed to break the stalemate on the ground, USAAF units focused their attention on interdiction. Operation STRANGLE hoped to cut the flow of supplies to German defenders in Italy. The Twelfth Air Force learned how difficult that could be. Downing bridges, strafing trains and trucks, and bombing supply dumps contributed to eventual victory in 1945, but the protection of darkness gave the enemy opportunities to supply its forces.

AWPD/1 had called for a strategic bombing campaign against the sources of Germany’s power as the most efficient and effective means of achieving victory. With the United States on the defensive in the Pacific and Allied units bogged down in North Africa, the Eighth Air Force in England joined the Royal Air Force (RAF) in the largest strategic bombing campaign ever attempted. Progress was slow through 1943. Airfields had to be built, crews trained, aircraft modified. Circumstances diverted Eighth Air Force units to pressing needs elsewhere in the world. The first official bombing mission did not come until August 17, 1942, when twelve B-17s of the 97th Bomb Group, accompanied by Eighth Air Force commander Ira Eaker, attacked a marshalling yard in France. The Eighth Air Force, along with the RAF and the Italy-based Fifteenth Air Force (beginning in late 1943), would be the only Allied forces attacking targets inside Germany’s borders until late 1944.
Missions through the summer of 1943 were trial and error, as the Eighth Air Force slowly pushed deeper into German-occupied territory. Prewar doctrine dictated that unescorted self-defending bombers could fight their way through air defenses to destroy targets in an enemy’s heartland. Attacking in small numbers (AWPD/1 had called for a force of 6,834 bombers), the USAAF was severely tested by poor weather, bombing inaccuracy, lack of bombers, and stiff enemy defenses as it attempted to get at Germany’s industrial web.

While the Eighth Air Force labored to overcome these challenges, the Air Staff, the AWPD, and the Committee of Operations Analysts worked to identify for destruction chokepoints in the German war economy. Although RAF Bomber Command’s Arthur Harris wanted the USAAF to join him in a night campaign of area bombing to destroy Germany’s cities, the Combined Chiefs of Staff at the Casablanca Conference gave its support for daylight precision strategic bombing. AWPD/I had identified 154 targets. A new plan, AWPD/42 found 177. In late April 1943 at the Trident Conference, the Combined Chiefs approved a list of 76 targets as Eighth Air Force objectives. The Eighth Air Force, with the RAF, was to win air superiority, an “intermediate objective second to none in priority,” and weaken Germany enough to allow an invasion. Its undertaking was to be known as Operation POINTBLANK, the Combined Bomber Offensive.

The pace of operations intensified for the 17 groups General Eaker had available in July 1943. Brigadier General Laurence Kuter and Colonel Curtis LeMay worked out combat formations at the wing and group levels to maximize the number of defensive machine guns to be brought to bear against attacking fighters. Day after day, weather permitting, the Eighth Air Force struck at German airfields, aircraft depots, and aircraft industry, hoping to win air superiority by bombing the Luftwaffe on the ground; in late July alone it lost 10 percent of its attacking bombers, In August it struck at ball bearing factories in Schweinfurt and the Messerschmitt aircraft factory at Regensburg while the Twelfth Air Force hit oil refineries in Ploesti, Romania, and aircraft factories in Wiener Neustadt. Eighth Air Force P-47 Thunderbolt fighters were soon outfitted with drop tanks, which extended their range and were intended to reduce losses as they escorted the bombers, but the Luftwaffe simply withheld attacking until they ran short of fuel and had to return to England.

The second week of October 1943 marked the low point in the Eighth Air Force’s initial campaign. Scoring some bombing successes, General Eaker’s command lost 8 percent of its bombers over Bremen, 8 percent over Anklam-Marienburg, 13 percent over Munster, and 26 percent in a return trip to Schweinfurt. The loss of over 1,000 crewmen and nearly 150 bombers forced a change in American strategy. First, Arnold ordered all long-range P-38 Lightning and P-51 Mustang groups completing training in the United States to England to provide escort for the bombers for the duration of the war. Second, he created a new strategic air force in Italy, the Fifteenth, to attack Germany from the south. Third, he revised the command structure of the strategic bombing effort, moving General Spaatz to England as head of United States Strategic Air Forces in Europe (USSTAF) to command the bombing campaign against Germany, assisted by Fred Anderson and Jimmy Doolittle.
as operational commanders and William Kepner as fighter commander. Eaker went to command the Mediterranean Allied Air Forces, including the Fifteenth and Twelfth Air Forces.

Change came quickly. Kepner revised fighter tactics to include phased and relay escort to extend the range of the fighters accompanying the bombers deep into Germany, especially when P-51 groups began arriving in December 1943. Doolittle ordered Kepner to unleash his fighters, assigned not just to escort bombers, but to go out, find, and destroy Luftwaffe aircraft. Kepner told his pilots to strafe German fighters on the ground if necessary. On February 20, 1944, Spaatz and Anderson began an all-out bombing offensive against German aircraft production. Five days of bombing, nineteen thousand tons worth, impaired some production; but the key to week’s effectiveness was the Luftwaffe’s loss of one-third of its strength through aerial combat, and the Eighth and Fifteenth Air Forces growth in theirs.

To keep up the pressure, Spaatz and Anderson resolved to bomb industrial targets in Berlin, under the assumption that the Luftwaffe would make an all-out effort to defend its capital. Their assumption was correct. Two days of the heaviest fighting yet seen in the skies over Germany so depleted the defender’s forces that on the third day, March 9, 1944, the Luftwaffe failed to rise and give battle. Anderson relished reports that Berlin radio was “squealing like a stuck pig.” The Luftwaffe grew weaker and the USAAF grew stronger as new groups, both fighter and bomber, arrived from the United States. A flood of men and materiel bespoke Arnold’s 1941 commitment to prepare for a long war. Further attrition of the German defenders would be necessary in future months, but air superiority was now firmly in American hands.

To Arnold and Spaatz, this hard-won victory finally opened German industries to destruction from the air. Two conditions affected the strategic bombing effort and delayed the final bombing campaign. The pending V-weapon assault by Germany on England forced a massive preemptive Allied bombing campaign against it, diverting 6,100 sorties from POINTBLANK strategic targets. The cross-channel invasion, scheduled by the Allies for late spring, diverted Eighth Air Force bombers against transportation targets in France to isolate the invasion area. In support of the invasion, Spaatz wanted to go after German oil targets to ground the Luftwaffe and force the German army to park its vehicles. Invasion commander General Dwight Eisenhower overruled him on March 25, assigning USSTAF to interdict the landing area. VIII Fighter Command under Kepner continued to strafe German airfields and other ground targets through June.

When eight Allied divisions landed in Normandy on June 6, 1944, they did so under conditions of near total Allied control of the air, courtesy of USSTAF—only two Luftwaffe fighters appeared in the area that day. In late July USSTAF bombers again proved critical to the ground campaign as they blasted a hole through German lines at St. Lo for Lieutenant General George Patton’s Third Army. Allied tactical air forces, which included Major General Elwood Quesada’s IX Tactical Air Command for the First Army and Major General Otto Weyland’s XIX Tactical Air Command for the Third Army, provided protective cover and close air support, in line with procedures established in North Africa, for Allied
armies sweeping across France toward Germany. At Argentan-Falaise in August air power plugged the gap between encircling American and Canadian armies, destroying hundreds of German armored vehicles and aiding in the capture of fifty thousand German troops. During the Battle of the Bulge in December, airlift, aerial interdiction, and close air support helped turn a near-disaster into an Allied victory.

Eighth and Fifteenth Air Force attacks on Germany’s fuel industry provided immeasurable help to the ground offensives, restricting severely the ability of German ground forces to maneuver their armored and mechanized units. Allied air superiority, a product of the Eighth Air Force’s aerial campaign, had permitted the landings in Europe, the Allied armies freedom of maneuver, and resupply without concern for the Luftwaffe. Germany had shown the world in 1939 and 1940 what close coordination between tactical air power and ground armies could accomplish. The USAAF repaid the favor with a vengeance in the drive from Normandy into Germany in 1944 and early 1945.

Eisenhower held first call on Spaatz’s strategic bombing force through the summer of 1944, but allowed it to return to POINTBLANK objectives with an assault on Germany’s oil production when it was not bombing targets in France in support of ground units. ULTRA intercepts confirmed that the USAAF had finally found a true chokepoint in the German industrial economy. German armaments minister Albert Speer predicted that continued attacks on it would have “tragic consequences.” Despite heroic efforts to restore production, Germany found its tanks and aircraft immobilized because of growing fuel shortages. The entrance of the ME 262 jet fighter into combat inflicted occasional heavy losses on USSTAF, including thirty-three of the 445th Bombardment Group’s thirty-seven bombers on September 27, 1944, but it could not change the war’s outcome.

Adding Germany’s railroad network to its priority target list in the autumn of 1944, USSTAF brought Germany’s economy to the point of collapse by February 1945. Responding to temporary German successes during the Battle of the Bulge, Soviet requests, and a desire to hasten the enemy’s surrender, USSTAF joined with the RAF in area-bombing Berlin, Dresden, and other German cities in February. Assigned targets remained industrial and transportation chokepoints in keeping with precision strategic bombing doctrine, but clouds and other factors made these missions, in effect, terror bombings. Spaatz declared an end to the strategic bombing campaign on April 16, 1945.

American Airmen had decided that they could defeat the enemy most efficiently by destroying its industrial web through precision strategic bombing. In so doing they hoped to prevent a repeat of World War I’s trench warfare. Ironically, the contest they found in the skies over Europe from 1942 to 1945 was in many ways just as bloody as the earlier war’s contest on the ground. Medal of Honor recipient Lieutenant William Lawley of the 305th Bombardment Group flew a B-17 back from Heiterblick, over 550 miles, with a face full of broken glass and shrapnel, a dead copilot draped over the controls, wounded crewmen, and only one engine running. The numbers associated with the USAAF’s tactical and strategic campaigns against Germany reveal the ferocity of the air war: 1.6 million tons of bombs dropped on Europe, 765,000 bomber sorties, 929,000 fighter sorties, 31,914 airmen dead (by combat and accident), and 27,694 aircraft lost (by combat and accident).
In the waning days of the war against Germany, Arnold ordered an independent team to evaluate air power’s accomplishments and failures. Their product, called the United States Strategic Bombing Survey (USSBS) and supported by 216 volumes of analysis and documentation on the European war (another 109 covered the war against Japan), concluded “that even a first-class military power—rugged and resilient as Germany was—cannot live long under full-scale and free exploitation of air weapons over the heart of its territory.” The USSBS admitted that a slow buildup of aerial forces and inaccurate bombing had kept air power from reaching its potential, but judged as “decisive” the diversion of Germany’s capabilities from the supporting of armies to the defending of its own skies, the attrition of enemy air forces, and the destruction of enemy oil supplies and transportation networks. The strategic bombing campaign forced Germany to divert 40 percent of its industry to aerial defense, 2 million of its workers to manufacturing supplies and equipment for air defense, 2 million of its soldiers to manning ground defenses, and 2.5 million of its laborers to cleaning up the damage. Victory in the air was “complete,” and air power had helped “turn the tide overwhelmingly in favor of Allied ground forces.”

Despite Europe’s priority in Allied planning, America’s first strategic bombing effort of the war began against Japan, when sixteen B-25 Mitchell bombers under the command of Lieutenant Colonel Jimmy Doolittle and launched from the USS Hornet attacked targets on the Japanese home island of Honshu in mid-April 1942. Although militarily insignificant, the Doolittle raid embarrassed and infuriated Japanese military leaders and raised Allied morale. It was an omen of what Japan could expect from America’s air power.

All the while, the Pacific war was more than just half-a-world away. In Europe the United States had powerful allies to consult and support at every turn. Except for the British Empire’s forces in India, Burma, and Australia, the war against Japan was an American show. Europe had Eisenhower to unite British and American armies, navies, and air forces. In the Pacific, the U.S. Army and U.S. Navy competed in the drive toward the Japanese homeland. In General Douglas MacArthur’s Southwest Pacific Area, the U.S. Army fought from Australia through New Guinea to Leyte and Luzon in the Philippines. In Admiral Chester Nimitz’s Pacific Ocean Areas, the U.S. Navy moved among the islands from the Solomons and Gilberts through the Marshalls, Carolines, and Marianas to Iwo Jima and Okinawa. Combined with a lesser American effort to support China’s war against Japan, the distances involved insured a major role for the USAAF.

In the Army’s initial fighting on Papua New Guinea, thick jungles, rugged terrain, and inadequate forces restricted the help the USAAF could provide for MacArthur’s hard-pressed command. By December 1942 the Fifth Air Force under Major General George Kenney had sufficient numbers of P-38s to seize air superiority over the island, allowing its B-17, B-24, B-25, and A-20 bombers to cut the flow of Japanese reinforcements and supplies. Kenney proved the master tactical innovator, developing skip bombing to sink enemy ships and arming his medium bombers with extra nose-mounted machine guns and even 75-mm cannon to improve their firepower. Kenney took a “seamless” approach to air power that had, in Carl Spaatz’s words, “no line of cleavage between strategic and tactical air forces.” One day his heavy bombers would attack enemy troop formations hundreds of feet from American lines; the next, they pursued enemy shipping hundreds of miles behind enemy lines.
General MacArthur adopted an island-hopping strategy, skipping over large enemy forces in the American drive northward, and, because of the Fifth Air Force’s command of the air, leaving isolated Japanese garrisons to starve, cut off from resupply and rescue. The range of General Kenney’s aircraft determined the distance to the next objective. By October 1944 MacArthur’s army was ready to leap from New Guinea to Leyte in the Philippines, a target beyond the range of land-based air power. Admiral William Halsey’s carriers provided air cover until Kenney’s Far East Air Forces (FEAF), which combined the Fifth and Thirteenth Air Forces, could move to the Philippines. There, FEAF became engaged in the Army’s longest Pacific land campaign, which continued until the end of the war.

The USAAF also became involved in the effort to keep Chiang Kai-shek’s China in the war, tying down dozens of Japanese divisions. Initially this involved Claire Chennault’s small force of private American pilots in China’s pay, the Flying Tigers, who captured headlines in the United States when victories of any kind were few in number. With their occupation of Siam and Burma by mid-1942 the Japanese had isolated China, blockading it by sea and cutting supply roads. The USAAF had little choice but to launch a resupply effort into China over the “Hump”—the Himalaya Mountains—from India. The route took American crews above some of the most dangerous terrain in the world in overloaded C-46 and (C-47 transports not designed for the weather and high altitudes the missions required. By war’s end Hump pilots had ferried 1.18 million tons of supplies from India into China for the fight against Japan.

Although America’s original Pacific strategy sought to choke the enemy through a naval blockade, after three years of war Japan remained unwilling to surrender. For Hap Arnold, a strategic bombing campaign employing B-29s would force it to capitulate, obviate the need for an Allied land invasion, and present an opportunity to prove the war-winning potential of an independent air force. The JCS had approved Arnold, as their executive agent, to command the Superfortresses of the Twentieth Air Force. They could strike from fifteen hundred miles, but even their great range left few options for bases from which to launch the air assault. Nimitz’s drive through the Marianas in the summer of 1944 freed Tinian, Guam, and Saipan to base the B-29s of Brigadier General Haywood Hansell’s XXI Bomber Command, the combat arm of the Washington-based Twentieth Air Force. Iwo Jima, conquered after heavy fighting in February 1945, provided an emergency landing field for damaged B-29s and a base for P-51 fighter escorts. After a largely futile strategic bombing effort from India and China in 1944, XX Bomber Command joined Hansell’s growing force in the Marianas early in 1945 for the final strikes against Japan.

Hansell, an author of AWPD/1, stayed true to high-altitude daylight precision strategic bombing doctrine, beginning with XXI Bomber Command’s first mission against the Japanese home islands on November 24, 1944. His assignment was to “achieve the earliest possible progressive dislocation of the Japanese military, industrial, and economic systems and to undermine the morale of the Japanese people to a point where their capacity and will to wage war was decisively weakened.” He faced technical problems (including B-29 engines that tended to burst into flames), unanticipated 200 mile-per-hour winds of the jet stream over the home islands, and bad weather when striking mainly at
Japan’s aviation industries. At high altitude bombing accuracy was minimal; only 10 percent of bombs dropped fell within 1,000 feet of a target. Twenty-two missions disabled only one factory.

Arnold replaced Hansell with Major General Curtis LeMay in January 1945, with orders to achieve immediate results. During January and February 1945, LeMay’s results were no better than Hansell’s. He then surmised that Japanese industry was too dispersed and bombing accuracy too poor for a precision campaign from high altitude in daylight. Recognizing that Japanese air defenses were far weaker than those he had encountered in Germany, but still taking a great gamble to produce immediate results, he ordered his crews to remove their defensive guns and fly low (at seven thousand feet) by night to carry heavier bomb loads, and burn down Japan’s cities with incendiaries. The initial raid against Tokyo on March 10, 1945, burned 15.8 square miles of urban area, killed almost 85,000, wounded almost 45,000, made almost 1 million homeless, and became the most deadly air attack in history. By August LeMay’s command had burned 150 square miles in 68 Japanese cities—few of significant size remained undamaged. Faced with an implacable enemy unwilling to surrender and the prospect of a costly invasion, but equipped with a new weapon of tremendous destructive capability, President Harry Truman ordered the first atomic bomb dropped on Hiroshima on August 6 and a second on Nagasaki three days later. Japan surrendered on August 14 after strategic bombing had levelled all of its major cities and killed or injured 800,000 of its people.

The Pacific war cost the United States over 13,000 aircraft. Most were lost in transit, to battle damage, and through general wear-out. At war’s end, the USAAF claimed 9,100 Japanese aircraft destroyed in combat. America’s top ranking ace of all time, Medal of Honor recipient Major Richard Bong, became one of the war’s last statistics when he crashed in California, test-flying a jet. The Allies used 502,781 tons of bombs against Japan, 160,800 of which were dropped on the home islands. The B-29 mining campaign and the naval blockade had destroyed Japan’s economy, but only a strategic bombing campaign convinced its leaders to surrender.

From 1939 to 1945 the USAAF’s personnel strength grew from 24,000 to 2,253,000; its aircraft inventory from 2,400 to 63,715. It dropped 2.05 million tons of bombs in World War II, flying and fighting over every ocean and six continents. Strategic bombing and air power did not live up to doctrinal expectations and win the war independently, but the USAAF forced enemy nations to divert enormous resources and effort toward
defending their skies against it. If the USAAF did not make the Army and Navy obsolete, it insured that they rarely had to face the full force of enemy counterparts. Generals learned that air superiority and close air support were essential to the success of any ground campaign and that battlefield air interdiction was perhaps the most difficult of air power functions. North African operations proved that air power worked best when its forces were concentrated and directed as an independent or at least autonomous arm to achieve wartime objectives—coequal to the ground forces, auxiliary to neither. Finally, and to Arnold perhaps most important, the USAAF learned that air power meant planning, organization, training, and harnessing technology and science to produce new ordnance, radar, jets, rockets, and a variety of advanced aircraft that ensured success in combat.

Focus On:
DAYLIGHT PRECISION BOMBING


A basic belief of the Army Air Forces was severely tested in the skies over Germany and Japan.

In the aviation enthusiasm of the 1930s, it was popular to claim that Air Corps bombardiers could drop a bomb into a pickle barrel from high altitude. In 1940, Theodore H. Barth, president of Carl L. Norden Inc., said that “we do not regard a 15-foot square ... as being a very difficult target to hit from an altitude of 30,000 feet,” provided the bombardier was using that company’s new M-4 bombsight connected to an autopilot. That was stretching it considerably. In everyday practice in 1940, the average score for an Air Corps bombardier was a circular error of 400 feet, and that was from the relatively forgiving altitude of 15,000 feet instead of 30,000. Nobody knows for sure where the “pickle barrel” imagery began. The term may have been coined by Norden’s Barth, who was among its most energetic popularizers. Norden was not alone in spreading the legend. Some Air Force bombardiers spoke proudly of tossing bombs into a 100-foot circle from four miles up. The pickle barrel story, often told and widely believed, served to reinforce the theory of daylight precision bombing, developed in the 1930s at the Air Corps Tactical School at Maxwell Field, Ala. The theory rejected the previously prevailing strategy of bombing broad areas, more or less indiscriminately, and focused on specific targets of military significance. As a side benefit, precision bombing would avoid civilian casualties and limit collateral damage.

The Army Air Forces was the lone champion of daylight precision bombing. The Navy—for whom the Norden bombsight was originally developed—gave up on it in favor of dive bombing. The British, finding that they could not hit precision targets, relied on area bombing at night. Daylight precision bombing was conducted by various kinds of aircraft in World War II, but the real test of it was the long-range strategic bombing missions in Europe and Asia of AAF B-17s, B-24s, and B-29s. The first experimental bombsights appeared in 1910, but early bombing techniques were rudimentary. Bombing in World War I was at times spectacular—as when Zeppelin airships and Gotha biplanes dropped bombs on London—but it was of little strategic importance. A US Air Service pamphlet in 1918 spoke of bombs hitting “in the vicinity” of the target. Precision bombing did not come into its own until the 1930s, with the availability of high-quality bombsights from Norden and Sperry and the introduction of faster, longer-ranging bombers. The best Air Corps bombardiers achieved considerable success in good weather and against clearly marked targets, which were typically huge bull’s-eye circles painted on the ground. Strategic bombardment was not yet an Air Corps mission. Development of long-range bombers had to be justified on the basis of coastal defense. However, the Tactical School theorists did not bother with such pretense. They saw strategic bombardment as the future of
warfare. The special mission of the air arm, they said, was to attack the “enemy national structure,” especially the “industrial web,” which was vulnerable to the air arm but not to either of the other arms.

**Committed to Precision**

Daylight precision bombing became Air Force doctrine, inseparable from the push to obtain four-engine B-17 bombers in appreciable numbers. In 1940, Maj. Gen. Henry H. “Hap” Arnold, Chief of the Air Corps, declared, “The Air Corps is committed to a strategy of high-altitude precision bombing of military objectives.” The Air Corps regarded the bomber as its principal weapon. Furthermore—on the basis of very thin evidence—the Air Corps concluded that new bombers such as the B-17 and the B-24 flew too high and too fast for pursuit aircraft to catch them and that bombers could operate over enemy territory without fighter escort. In 1941, the AAF plan to implement Rainbow 5, the basic Army-Navy war plan, was drafted by four officers who had been daylight precision ringleaders at the Tactical School: Lt. Col. Harold L. George, Lt. Col. Kenneth N. Walker, Maj. Haywood S. Hansell Jr., and Maj. Laurence S. Kuter. Air War Plans Division Plan No. 1 (AWPD-1) was straight out of the Maxwell playbook. It prescribed an emphasis on precision bombing against the German national infrastructure, industry—especially the aircraft industry—and the Luftwaffe. The planners were not misled by pickle barrel assumptions. According to data from training and practice bombing, a heavy bomber at 20,000 feet had a 1.2 percent probability of hitting a 100-foot-square target. About 220 bombers would be required for 90 percent probability of destroying the target. AWPD-1 forecast a need for 251 combat groups to carry out the plan. Bombing was a complicated proposition. Where the bomb hit was a function of the direction and speed of the airplane at the moment of release, the aerodynamics of the projectile, and the wind and atmospheric conditions while the bomb was in flight.

The bombardier looked through the telescope of the bombsight to find the target somewhere ahead, then made adjustments to compensate for the effects of wind drift and the speed of the airplane. He then fixed the target in the crosshairs, and flew the airplane to the automatically calculated release point by the link from his bombsight to the autopilot.

Historian Stephen L. McFarland has explained the geometry of it, using the example of a B-17 flying at 160 mph at 23,000 feet and dropping a 600-pound bomb. The bomb was released at a distance, measured on the ground, of 8,875 feet from the target. It was in flight for 38 seconds. If the speed calculated for the airplane was off by two mph and the altitude wrong by 25 feet, that made a difference of 115 feet in where the bomb would land. The limited yield of the bombs added to the problem. A 500-pound bomb, standard for precision missions after 1943, had a lethal radius of only 60 to 90 feet. It dug a crater just two feet deep and nine feet wide. With bombing accuracy measured in hundreds of feet, it took a great many bombs to get the job done. Such high ratios of ordnance expended to results achieved were not unusual in war, nor were they unique to AAF bombers in World War II. The Army fired 10,000 rounds of small-arms ammunition for each enemy soldier wounded and 50,000 rounds for each enemy killed. It took the Germans an average of

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*Airpower: End of WWI through WWII*
16,000 88 mm flak shells to bring down a single Allied heavy bomber. Daylight precision bombing got off to a rocky start. When Eighth Air Force was set up in England in 1942, its methods were at odds with those of the Royal Air Force. Air Chief Marshal Arthur T. Harris, chief of Bomber Command, was the foremost advocate of “city busting,” the night area bombing campaign that targeted the German population centers and workforce. He was supported in this by Prime Minister Winston Churchill and a national policy of “dehousing” the Germans. Churchill wanted the Americans to join the British bombing program rather than instigate a different one of their own. He was prepared to put pressure on President Roosevelt to order the AAF to change its strategy but was talked out of it at the Casablanca Conference in January 1943 by Maj. Gen. Ira C. Eaker, commander of Eighth Air Force. Eaker’s key point was the value of keeping the Germans under attack both day and night. Eaker had other problems as well. He could not mount large bomber operations because his aircraft and aircrews were diverted to operations in North Africa and the creation of Fifteenth Air Force in Italy in 1943. More than half of his remaining resources were assigned to attacking German submarine pens—a high priority for the British—even though bombing had little effect on these hardened facilities. Bombing accuracy was terrible. The average circular error in 1943 was 1,200 feet, meaning that only 16 percent of the bombs fell within 1,000 feet of the aiming point. “Rather than dropping bombs into pickle barrels, Eighth Air Force bombardiers were having trouble hitting the broad side of a barn,” said historian McFarland. The prewar prediction that fighters could not intercept bombers was wrong. The Luftwaffe and ground defenses took a heavy toll on bombers if they ventured without fighter escort deep into hostile territory. As the loss rate spiked to eight percent in early 1943, crews calculated their chances of surviving a 25-mission combat tour. On the Ploesti, Romania, mission in August 1943, losses were 30 percent and against Schweinfurt in October, 28 percent.

The Turning Point

Nobody tackled the accuracy and casualty problems with more initiative than Col. Curtis E. LeMay, commander of the 305th Bomb Group at Grafton-Underwood, Britain. He identified the best bombardiers, made them “lead bombardiers” for the formation, and had all of the aircraft drop their bombs when the lead bombardier did. LeMay also devised a staggered “combat box” formation, which gave the B-17 guns maximum fields of fire for mutual defensive support. After Schweinfurt, the B-17s did not again fly deep into Germany until long-range P-38 and P-51 fighters were available to escort them. The best of the fighters by far was the P-51, which could escort bombers to their most distant targets. After 1943, all of the fighters, including the older P-47s, took advantage of disposable fuel tanks to extend their range. Eaker did not have much in the way of strategic bombing results to show for his first two years. However, he said, “When our Eighth Air Force had but 200 bombers operating out of England in 1943, there were more than a million Germans standing at the anti-aircraft and fighter defenses on the West Wall to defend against them. And another million Germans were fire wardens or engaged in bomb damage repair.”

Finally, there were enough bombers to put together large formations. Joint efforts by Eighth and Fifteenth Air Forces put up a 750-bomber mission in January and a 1,000-bomber mission in February. AAF fighters coursed deep into Germany, and in a matter of months, they had virtually destroyed the Luftwaffe. When the D-Day invasion landed in June, the Germans were able to launch less than 100 sorties in defense of Normandy. With fighter escorts and suppression of enemy air defenses, the aircrew loss rate declined in 1944 and 1945. For the bomber offensive as a whole, Eighth Air Force lost 4,182 aircraft from a total of 273,841 attacking, a rate of 1.5 percent. RAF’s Bomber Command aircraft loss rate for the same period was 2.5 percent. The 250,000 aircrew members who flew bomber missions in Eighth Air Force in World War II sustained 58,000 casualties—18,000 killed, 6,500 wounded, and 33,500 missing. AAF bombing accuracy improved. By 1945, Eighth Air Force was operating at much lower altitudes and was putting up to 60 percent of its bombs within 1,000 feet of the aiming point, almost four times better than in the dark days of 1943. Radar bombing, adopted from the British, was an alternative when conditions did not permit visual delivery, but it was not a precision technique in any true sense of the word. RAF Bomber Command continued its night area bombing. From 1942 on, 56 percent of its sorties were against cities. On some occasions, notably the bombing of Dresden in 1945, the AAF joined the British in bombing cities, but overall, less than four percent of US bombs in Europe were aimed at civilians. The main targets for the AAF 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 Strategic Bombing Survey found that “Allied airpower was decisive in the war in Western Europe.” That conclusion is sometimes challenged, but the bombing had reduced German rail traffic, aviation fuel production, steel production, and other aspects of the wartime infrastructure by 50 to 90 percent. Millions of people were occupied in repairing the damage and replacing the goods destroyed by bombing. Nazi Armaments Minister Albert Speer said that the bombing created a “third front” and that “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.” In the Pacific, the question of daylight precision bombing centered on the last part of the war when the Japanese home islands came within range of the newest and biggest bomber, the B-29. All of the B-29s were assigned to Twentieth Air Force, with Arnold retaining command personally as the agent of the Joint Chiefs of Staff.

Jet Stream Boosts

The B-29 was rushed into operation in June 1944 with XX Bomber Command. The headquarters was in India and the B-29s could reach southern Japan from forward bases in China. LeMay was brought from Europe to head XX Bomber Command. With the US capture of the Marianas (Saipan, Tinian, and Guam), the B-29s obtained bases from which they could reach almost any target in Japan. XXI Bomber Command was
established there, with Hansell, the AWPD-1 planner, now a brigadier general and the most fervent of the daylight precision bombing advocates, in command. Over Japan, the B-29s encountered the jet stream, fierce winds above 25,000 feet that added as much as 250 mph to an aircraft’s speed relative to the ground. The jet stream pushed the bombers over the target too fast for the Norden bombsight to compensate. Flying against the jet stream, the speed relative to the ground was so slow that the airplanes were sitting ducks. Daylight precision bombing faltered, especially on the missions from the Marianas. The weather permitted only four days a month of visual bombing. The long distances and high altitudes consumed so much fuel that the bomb loads were relatively small. There were frequent aborts and ditchings as Twentieth Air Force worked the kinks out of the new bomber under combat conditions.

Arnold and the AAF were under tremendous pressure to produce strategic results and help bring the war in the Pacific to an end. Hansell stuck doggedly to daylight precision bombing, although repeated efforts against such targets as the Nakajima-Musashino aircraft plant near Tokyo were unsuccessful.

Meanwhile, the clamor was building in Washington to switch to incendiary area bombing. The Office of Scientific Research and Development had developed the highly effective M-69 incendiary bomb, to which the Japanese style of construction was starkly vulnerable. Japanese industry, including cottage industries making military parts and equipment, was so integrated with populated areas that it was difficult to draw the line between them. The Japanese regarded surrender as dishonorable and fought to the last in battle after battle. The possibility loomed that an invasion of the Japanese home islands would be necessary. Plans projected a landing force of 1.8 million US troops and anticipated massive casualties. The US was no longer as reluctant as it once had been to bomb enemy cities. LeMay, who was the more aggressive commander and who had gotten better results with the B-29s in India and China, replaced Hansell at XXI Bomber Command in January 1945. XX Bomber Command was phased out and its aircraft and crews were transferred to the Marianas.

It had become apparent, LeMay said, that “we weren’t going to be able to defeat Japan using high-altitude precision bombing before the scheduled invasion was to begin.” Acting on his own initiative, LeMay ordered a massive low-level night mission against Tokyo with incendiary bombs March 9. Three wings of bombers would attack from the altitudes of 4,000 to 9,200 feet. The aircraft were stripped of excess weight, including most of the guns. Flying lower and less heavily laden, the B-29s carried more than twice as many bombs as before. The strike force found landfall by radar and bombed with intervalometers set to space the bombs 50 feet apart. About a fourth of Tokyo was destroyed and some 84,000 people were killed. It was supposedly while touring the firebombed area that Emperor Hirohito came to the conclusion that the war had to end as soon as possible. LeMay continued to order precision attacks and to use high explosive bombs when targets and weather were suitable, but the emphasis had shifted to incendiary bombing at night. It systematically laid waste to Japan’s large industrial cities and by July, had reduced overall Japanese industrial output to some 60 percent from the 1944 level. LeMay and Arnold believed that the incendiary bombing would eventually bring on a Japanese
surrender. Gen. George C. Marshall, the Army Chief of Staff, and President Truman were not convinced. The Japanese military hardliners were prepared to accept enormous casualties and destruction and had assembled a force of 2.3 million troops in the home islands to throw back an invasion. Truman decided to use the atomic bomb.

Infrastructure Devastation

Both at Hiroshima Aug. 6 and at Nagasaki Aug. 9, the atomic bombs were delivered by daylight high-altitude precision drop, using the Norden bombsight. Maj. Thomas W. Ferebee, bombardier on the B-29 Enola Gay, picked up the aiming point in Hiroshima, the Aioi Bridge, 12 miles out. The bomb, dropped from 30,700 feet, detonated in an airburst 800 feet (measured on the ground) from the bridge. The bombardier for Nagasaki was Capt. Kermit K. Beahan on the B-29 Bockscar. The bombing altitude was 31,000 feet and the explosion was 1,500 feet from the aiming point, the Mitsubishi Steel and Arms Works. The hardliners wanted to hold out, but Emperor Hirohito broadcast his rescript of surrender Aug. 15, bringing World War II to a close. Postwar analysis found that accuracy had been about the same in Europe and Asia for day visual and radar precision bombing. Eighth Air Force in Great Britain put 31.8 percent of its bombs within 1,000 feet of the aim point from an average altitude of 21,000 feet. Fifteenth Air Force in Italy averaged 30.78 percent of its bombs within 1,000 feet from 20,500 feet. In the Asia and the Pacific, Twentieth Air Force—45.5 percent of whose sorties were daylight precision despite the emphasis on area bombing in the last months of the war—put 31 percent of its bombs within 1,000 feet of the aim point, although the bombing altitudes were on average 4,500 feet lower than for Eighth Air Force. Critics of various persuasions have challenged the value of the strategic bombing. However, postwar occupation authorities found that both the German and Japanese economies and their national infrastructures had been devastated to the point that they barely functioned. Industries that had supported the war were in shambles. That level of destruction and disruption was the result of Allied land, sea, and air action—and airpower had hardly been the least of it. After the war, “pickle barrel” claims passed out of fashion even though nostalgic bombardiers and the popular press kept the notion alive for years. Despite the advent of nuclear weapons, the quest for precision delivery of bombs continued. The first Strategic Air Command Bombing Competition was held in 1948 at Castle AFB, Calif., with visual and radar releases from 25,000 feet. SAC continued to develop radar bombing techniques and used them effectively in its Arc Light missions in Vietnam. Precision guided munitions first gained fame in the Vietnam War, but it was in the Gulf War and other conflicts of the 1990s that the Air Force finally achieved pickle barrel accuracy, placing bombs within 10 feet of the aim point. The use of the Global Positioning System and satellite data for aiming had made the issue of day vs. night irrelevant.

The Mystique of the Norden Bombsight

Other companies made bombsights, but the famous name was Norden. Carl L. Norden was a Dutch engineer who immigrated to the United States in 1904 and worked for Sperry Gyroscope before going into business for himself. He lived in the United States for 43 years but never became a citizen Norden began his contract work with the US Navy in
1918. He liked the Navy better than the Air Corps, which he considered too flamboyant. He preferred the Navy as a customer, even though the Navy moved away from high-altitude horizontal bombing in the 1930s and took the bombsights out of most of its airplanes in the 1940s. (For no better reason than service parochialism, the Navy held on to its Norden bombsights, which it was not going to use, even though the AAF had a critical need for them.) Some commanders were said to have required a “bombardier’s oath” from their young men. Wording of the oath varied from report to report, but all included the vow to protect the secrecy of the Norden bombsight “if need be, with my life itself.” Actually, the secret had been blown, several times over. A Norden employee sold drawings to the Germans in 1938. The Russians stole a bombsight in 1940 but could not figure it out. They gave it to their (then) allies, the Germans. The Germans soon had plenty of samples of their own from the wreckage of US bombers shot down. In 1944, the US gave the Russians 100 lend-lease patrol aircraft—complete with Norden bombsights and a training package—in return for allowing US shuttle bombers to land in Soviet-controlled territory.
Navy Capt Francis S. Low conceived the idea of flying Army medium bombers off a Navy carrier and attacking Japan. The B-25 was selected because it was small; had sufficient range to carry two thousand-pound bombs, two thousand miles; and because it took off and handled very well. General Arnold selected Lt Col James H. “Jimmy” Doolittle to lead the attack. According to Arnold, “First I found out what B-25 unit had the most experience and then went to that crew, that organization and called for volunteers and the entire group, including the group commander, volunteered.”

The training was hard, no one had ever taken off a fully loaded B-25 in less than five hundred feet. First they had to prove it could be done, then they had to train the people to do it. Before they were through, the bombers would lift off in only 287 feet. The crews proved they were good and so were their airplanes.

The raid was carefully planned, nothing was left to chance. Because the attack would be low-level, Norden bombsights were replaced by a twenty-cent improvisation to prevent the secret devices from falling into enemy hands. Doolittle then considered what to do if the Japanese spotted the task force. If intercepted by Japanese surface ships or aircraft, the aircraft would immediately leave the decks. If they were within range of Tokyo they would go ahead and bomb Tokyo, even though they would run out of gasoline shortly thereafter. That was the worst possible scenario. If the aircraft were not in range of Tokyo, they would go back to Midway. If neither Tokyo nor Midway were in range, the B-25s would be pushed overboard so the decks could be cleared for the use of the carrier’s own aircraft.

On the morning of 18 April 1942, Japanese patrol boats sighted the task force. The boats were quickly destroyed, but they could have transmitted a position report. It was eight hours before scheduled takeoff, an additional four hundred miles to the target. Gas reserves would be dangerously low, but they were spotted and they would have to go.

The program went almost according to plan. The B-25s were to bomb the targets, turn in a general southerly direction, get out to sea as quickly as possible, and after being out of sight of land, turn and take a westerly course to China. The bombers came in on the deck and pulled up to about fifteen hundred feet to bomb and to make sure they were not hit by the fragments of friendly bombs. According to Doolittle, the feeling was “Get the job done and get the heck out of there.” The actual damage done by the raid was minimal. There were 16 B-25s each carrying one ton of bombs. In later raids, Gen Curtis E. LeMay with his Twentieth Air Force, sent out five hundred planes on a mission, each carrying 10 tons of bombs.
Reaching a safe haven after the raid wasn’t easy, and because they had to take off much sooner than planned, they were very low on fuel. One crew went to Vladivostok, the other 15 crews proceeded until they got to the coast of China. When they reached China, two of the Mitchell Bombers were so low on fuel that they landed in the surf alongside the beach. Two people were drowned, eight of them got ashore. The weather was quite bad, so most of the aircraft flew on until they felt they were as close to their final destination as possible. Having been on dead reckoning for quite awhile, most crews were off target when they jumped.

On 15 August 1942 it was learned from the Swiss Consulate General in Shanghai that eight American flyers were prisoners of the Japanese. After the war, the facts were uncovered in a War Crimes Trial held at Shanghai that opened in February 1946 to try four Japanese officers for mistreatment of the eight prisoners of war (POW) of the Tokyo Raid. Two of the original 10 men, Dieter and Fitzmaurice, died when their B-25 ditched off the coast of China. The other eight, Hallmark, Meder, Nielsen, Lt William G. Farrow, Lt Robert L. Hite, Lt George Barr, Sgt Harold A. Spatz, and Cpl Jacob DeShazer were captured. In addition to being tortured, they contracted dysentery and beriberi as a result of the deplorable conditions under which they were confined. On 28 August 1942, Hallmark, Farrow, and Spatz were given a “trial” by Japanese officers, although they were never told the charges against them. On 14 October 1942, Hallmark, Farrow, and Spatz were advised they were to be executed the next day. At 4:30 P.M. on 15 October 1942, the three Americans were brought by truck to Public Cemetery No. 1 outside Shanghai. In accordance with proper ceremonial procedures of the Japanese military, they were then shot.

The other five men remained in military confinement on a starvation diet, their health rapidly deteriorating. In April 1943 they were moved to Nanking and on 1 December 1943, Meder died. The other four men began to receive slight improvement in their treatment and by sheer determination and the comfort they received from a lone copy of the Bible, they survived to August 1945 when they were freed. The four Japanese officers tried for their war crimes against the eight Tokyo Raiders were found guilty. Three were sentenced to hard labor for five years and the fourth to a nine-year sentence.

Eighty crew members flew in the Doolittle Raid, 64 returned to fight again. They were part of a team recognized for its professionalism and heroism, a rich heritage remembered by a new generation of airmen. When the news of the raid was released, American morale zoomed from the depths to which it had plunged following Japan’s successes. It also caused the Japanese to transfer back to the home islands fighter units that could have been used against the Allies. In comparison to the B-29 attacks against Japan two years later, the Tokyo Raid was a token effort. However, it was an example of brilliant tactics and achieved a moral victory for the nation.
Focus On: Strategic Attack in the Pacific

PLOESTI RAID (AUGUST 1943)

The oil refineries at Ploesti, Romania, provided Germany with 35 percent of its oil. Air planners figured it would take many high-level attacks by huge fleets of heavy bombers to destroy the refineries. Col Jacob E. Smart, a member of Arnold's Advisory Council, believed a low-level attack might prove successful. Smart had seen A-20s in training hit moving targets while flying low and fast. This led him to conclude that aircraft accuracy would allow a low-level attack of Ploesti. Smart believed a low-level attack might mitigate the extensive air defenses. Not everyone held this opinion. Col Richard Hughes, an AAF target expert, protested that Allied pilots did not have the necessary skills or experience to tackle such a complex mission. However, with President Roosevelt and General Arnold's backing, the mission plans were built.

The plan called for a 2,700-mile mission conducted by more than three hundred bombers to attack seven refineries. The mission was flown by IX Bomber Command whose training included bombing a full-scale outline of the Ploesti complex in the Libyan desert. The operation included the 44th, 93d, 98th, 376th, and 389th Bomb Groups.

On 1 August, 178 B-24s took off to bomb Ploesti. The 376th Bomb Group, commanded by Col Keith Compton, led the mission. The lead navigator was in another plane that ditched into the Mediterranean Sea several hours after launching. Colonel Compton misidentified the initial point, a ground feature used to coordinate the attack, and led his group on a route 30 miles south of Ploesti. Three of the five groups were behind schedule and Compton's error eroded any remaining attack coordination.

One hundred sixty-four B-24 Liberators reached Ploesti and attacked at levels often lower than the refineries' towers. Bombers flying through the explosions of oil tanks were assaulted by merciless flak trains and machine gun fire. B-24 gunners dueled with gunners in towers and church steeples. Ploesti was also defended by 120 German and two hundred Romanian fighter aircraft. The 98th Bomb Group, led by Col John Kane, was the only one to fly its assigned course and arrive on schedule. The courage and determination of the aircrews is the sole reason the raid had any success.

Flying so low that aircraft had to ascend to avoid smokestacks 210 feet high, the bombers took high losses. Seventy-three B-24s were lost in the raid and another 55 suffered major damage. Nearly five hundred aircrew were killed or wounded and more than one hundred became prisoners of war. Navigation and timing problems prevented a coordinated attack. Despite this, aircrews managed to destroy 60 percent of the complex’s output. Five airmen, including Colonel Kane, received the Medal of Honor for their mission to Ploesti. This was the most Medals of Honor awarded for any single engagement in World War II.
Focus On:
THE REGENSBURG/
SCHWEINFURT RAIDS (1943)

The growing strength of German fighter operations in Europe was a great concern to the Allies in 1943. On 10 June 1943 the combined Chiefs of Staff issued the directive known as “Pointblank.” This directive placed German fighter strength as the top strategic priority. In order to hurt the German’s fighter operation, Colonel Hughes, one of the Allied air planners, decided to attack production facilities at Regensburg and Schweinfurt. A large percentage of Germany’s fighters were produced in Regensburg in southeast Germany. An equally critical target was Schweinfurt, a major ball-bearing production center.

The plan was for General LeMay’s 4th Bomb Wing to fly to Regensburg, bomb the Messerschmitt plant, then fly across the Mediterranean and land in North Africa. The arrival of the new B-17F with greater range made this possible. The Luftwaffe was expected to meet the attack early, then land and refuel for the attack on the bombers as they headed back to England. The Allied plan, however, called for the 1st Bomb Wing to follow the 4th by only 15 minutes along the same flight path before breaking off to bomb Schweinfurt. By the time the Germans figured out that the 4th Bomb Wing was not returning and that the 1st was heading for Schweinfurt, they would be on the ground short of both fuel and ammunition. The plan called for the biggest aerial diversion ever attempted with three B-26 groups raiding coastal airfields to draw Luftwaffe fighters from the 1st Bomb Wing. This would allow the 1st to attack Schweinfurt relatively unmolested.

On 17 August 1943, 139 B-17s, with LeMay in the lead, crossed the Dutch coast headed for southeast Germany. The 4th Bomb Wing lost 17 aircraft en route to Regensburg but the remaining 122 bombers conducted a very accurate mission from less than 20,000 feet. As the 4th left Regensburg, the 1st Bomb Wing was still over the North Sea, five hours behind schedule—the timing plan was awry.

The Luftwaffe expected the 4th Bomb Wing to return to England and massed their fighters in unprecedented numbers. The 1st Bomb Wing flew into this mass of three hundred enemy fighters over Germany. By the time the 1st reached the Schweinfurt initial point, 36 B-17s were lost. The four ball-bearing plants at Schweinfurt were tough targets to find under ideal circumstances. However, the delay in launching caused an approach heading change to avoid flying into a setting sun. This change combined with the Germans’ artificial fog generators made the task nearly impossible. The 10 bomb groups scattered their bombs all over the town while the Luftwaffe refueled and rearmed their aircraft. The return trip for the 1st Bomb Wing was tougher than the trip into Germany.
The Regensburg/Schweinfurt raids cost the Allies 60 B-17s, 16 percent of the dispatched force. General Arnold reported the operation a success. In terms of lost production, the attack on Regensburg probably accounted for one thousand lost Me-109s or about three weeks of total fighter production. At Schweinfurt, the attack proved to have little if any effect. Three of the five factories were severely damaged but few of the machine tools that produced ball bearings were destroyed. “The Raid” showed how difficult and costly it was to conduct air warfare. However, “The Raid” foretold the story of the day when the Luftwaffe would not be able to stop Allied bombing.
Focus On: Strategic Attack in the Pacific

BOMBING TOKYO (9–10 MARCH 1945)

The Doolittle raid on Tokyo had done a lot for US morale, but it was not a viable method of conducting sustained strategic bombing of Japan. To bring the full weight of airpower to bear on Japan, the United States built bombers of unprecedented range (the B-29s) and captured islands from which B-29s could reach Japan. In November 1944, US bombers finally returned to Tokyo in the form of B-29s flying out of Saipan.

The Japanese tried to defend against the B-29s but they grossly underestimated the power of strategic bombing. They chose to concede air superiority over Japan to the United States in order to use their main air strength to oppose Allied surface forces. This disastrous miscalculation was partly due to the fact that Japanese air forces were tightly controlled by army and navy leaders who had a weak understanding of airpower.

Limited Japanese defenses, however, did not guarantee successful US bombing. The B-29 was the best bomber of World War II, but it did not have the ability to hit precision targets through clouds. The consistently bad weather over Japan made sustained precision bombing of Japanese factories impossible. On the night of 9 March 1945, General LeMay, commanding B-29 operations against Japan, ordered a radical change in tactics. On this raid the B-29s did not execute their normal daylight, high-altitude, formation attack with high-explosives but instead, they hit Tokyo with incendiary bombs, at night, from low altitude, flying individually. Flying at night at low altitude took advantage of Japanese weakness in night-fighters and low-altitude air defenses. The low-altitude individual bombing runs also enabled the B-29s to carry less fuel and hence more bombs. Since LeMay expected little enemy fighter opposition, he removed the gunners, guns, and ammunition from the B-29s and replaced them with still more bombs. The change in tactics doubled the bomb-load of each B-29 and incendiary bombs were much more effective against the highly flammable Japanese city than high-explosive bombs.

The results were stunning. Before 9 March 1945, the B-29s had done very little damage to the Japanese war effort, but on that night they burned out 16 square miles of Tokyo and killed more than 80,000 Japanese in the most devastating air raid ever. Subsequent firebombing devastated more than 60 Japanese cities, left millions of Japanese homeless, and radically reduced Japan’s military production.
Focus On: The Ultimate Strategic Attack in the Pacific

THE HIROSHIMA AND NAGASAKI BOMBINGS

(AUGUST 1945)

President Truman and the armed forces had three strategic options for inducing the Japanese surrender: continue the fire-bombing and blockade, invasion, or use the atomic bomb. Truman was aware that the first two options would probably not be very effective methods to induce the Japanese to surrender. The Battle for Okinawa caused 48,000 American casualties when the Japanese refused to surrender. So it was the right time to resolutely make a decision. Gradually, US authorities made preparations for the decision to use the bomb, as it was close to production. The Interim Committee on S-1 suggested to the president that the bomb should be used directly against Japan, because a demonstration explosion was not thought to be a strong enough representation of the power that the bomb held. Several US military leaders went with the president to the Big Three meeting at Potsdam in July, and discussions continued there. It was determined then that the bomb should be used. On 25 July Truman prepared the order for use of the first atomic bomb as soon after 3 August as weather permitted on one of the four target cities. The Potsdam Proclamation was issued during the Potsdam meeting by the heads of government of the United States, Britain, and China. It warned of “utter devastation of the Japanese homeland” unless Japan surrendered unconditionally.

At approximately 2:00 A.M. on the morning of 6 August, the Enola Gay, carrying an atomic bomb, started on the long flight from Tinian Island. The Enola Gay was one of 15 B-29s modified specifically for the highly secret atomic bomb missions. These airplanes were outfitted with new engines and propellers and faster-acting pneumatic bomb bay doors. Two observation planes carrying cameras and scientific instruments followed behind her. After 6:00 A.M., the bomb was fully armed on board the Enola Gay. Col Paul W. Tibbets Jr., pilot of the Enola Gay, announced to the crew that the plane was carrying the world’s first atomic bomb. The trip to Japan was smooth. At about 7:00 A.M., the Japanese radar net detected aircraft heading toward Japan, and they broadcast the alert throughout the Hiroshima area. Soon afterward when an American weather plane circled over the city, the people went back to their daily work thinking the danger had passed. At 8:00 A.M. the Japanese detected two B-29’s heading toward Hiroshima. They broadcast the alert throughout the Hiroshima area. At 8:09 A.M., the crew of the Enola Gay at 26,000 feet could see the city appear below; it was time to drop the bomb. Just then, they received a message indicating that the weather was good over Hiroshima. The bomb was released at 8:16 A.M. A terrible, strong, and unimaginable explosion occurred near the central section of the city. The crew of the Enola Gay saw a column of smoke rising fast and intense fires springing up. The astonishing result of the first atomic strike: it killed between 70,000 and 80,000 people, injured another 70,000, and burned almost 4.4 square miles. On 9 August, Nagasaki was bombed by a B-29 named Bock’s Car. The Japanese unconditionally surrendered on 14 August 1945.
Focus On: Leadership

GENERAL OF THE ARMY

HENRY H. “HAP” ARNOLD

- Taught to fly by Orville and Wilbur Wright.
- A five-star general and two-time winner of the Mackay Trophy for aeronautical achievement.
- In 1934, he was awarded the Distinguished Flying Cross for demonstrating the range of strategic airpower by leading a flight of B-10 bombers from Washington, D.C., to Alaska.
- Named Chief of the Army Air Corps in 1938. During World War II, he became the first Air Chief to sit as an equal member on the Joint Chiefs of Staff.
- He was the commanding general of the Army Air Forces (AAF) during World War II.

Henry H. Arnold was one of the truly great men in American airpower. Taught to fly by the Wright brothers, he rose steadily in rank and responsibility throughout the ’20s and ’30s and became the commanding general of the Army Air Forces during World War II. In 1944 he was promoted to five-star rank, but his health was very poor, he suffered several heart attacks during the war, and retired less than a year after Japan surrendered.

Graduating from West Point in 1907, Arnold had hoped to join the cavalry. However, his cadet performance was so dismal he was relegated to the infantry. After a tour in the Philippines, he reapplied to the cavalry, but again was refused. Largely out of a desire to escape from the infantry, Arnold then applied for the Signal Corps and became one of America’s first military pilots. Aviation was extremely dangerous in those early days, and after several crashes and near crashes, Arnold elected to ground himself. After more than three years of desk work, he overcame his fears and returned to flying. Because of his relatively extensive experience in aviation, and much to his chagrin, he was forced to remain in Washington on the Air Service staff during World War I.

After Armistice Day, he slowly began his steady rise in rank and responsibility. He commanded wings and bases, became a protégé of Billy Mitchell, twice won the Mackay Trophy for aeronautical achievement, was awarded the Distinguished Flying Cross for leading a flight of B-10 bombers to Alaska to display the range of strategic airpower, and was named assistant to the chief of the Air Corps in 1935. When Oscar Westover was killed in a plane crash in 1938, Arnold succeeded him as chief. In this position he was instrumental in laying the groundwork for the massive industrial expansion the war would require. During the war he sat as an equal member of the Joint Chiefs of Staff and was responsible for guiding the air strategy of the various theaters. Belying his nickname “Hap” (short for “happy”), Arnold was a difficult taskmaster. He drove himself so hard
during the war that he suffered several heart attacks and he pushed his subordinates just as hard. This did not endear him to everyone in the USAAF, but it was just what was needed to run the largest air force during the largest war in the history of the world. His drive, vision, and sense of initiative were indispensable in leading the air arm during the war and setting the stage for the creation of the US Air Force shortly after the war.
Focus On: Leadership

LT GEN CLAIRE L. CHENNAULT

- In the 1930s, he was the Air Corps Tactical School’s most famous proponent of pursuit tactics at a time when strategic bombardment was premier.
- Forced out of the Air Corps in 1937 because of bronchitis, he went to China to advise Chiang Kaishek on building an air force.
- Commanded the American Volunteer Group, better known as the “Flying Tigers.”
- Under his leadership the Flying Tigers overcame severe operational handicaps and achieved a two-to-one kill ratio over the Japanese.

Claire L. Chennault’s reputation as leader of the Flying Tigers has been immortalized in movies and novels, making him one of America’s more famous airmen. Chennault arrived at the Air Corps Tactical School (ACTS) in 1930 with a reputation as a premier pursuit pilot. His ideas concerning pursuit employment evolved from much thought and practical experience. But Air Corps doctrine was making a decisive shift in favor of bombardment, and Chennault’s attempts to stem that tide were futile. Chennault’s abrasive personality negated his arguments, and his colleagues found it more satisfying simply to ignore him. Suffering from a variety of physical ailments and realizing his theories were out of tune with Air Corps policy, he retired in 1937. Soon after, he traveled to China, where he served as an adviser to Chiang Kai-shek, and formed the Flying Tigers volunteer group to fight against the Japanese. The much-storied group of mercenaries-turned-heroes was well suited to Chennault’s aggressive and unconventional personality.

When America entered the war, the Flying Tigers were incorporated into the Fourteenth Air Force, and Chennault was promoted to brigadier general and made its commander. Chennault was an outstanding tactician, whose determination in the face of overwhelming supply and equipment difficulties kept the Fourteenth Air Force in the field, but his strategic ideas were limited to his tactical mindset. Never on good terms with his Air Corps colleagues, Chennault exacerbated this relationship with his constant complaints and his tendency to circumvent the chain of command by dealing directly with Chiang and President Roosevelt. Although knowing how this infuriated his superiors, Chennault persisted. As a consequence, George Marshall thought him disloyal and unreliable. Hap Arnold and Joe Stilwell disapproved of his command style. Even if his strategic theories had been correct, his method of promoting them ensured their demise. He believed that a small force of aircraft, mostly pursuit with a handful of bombers, could so disrupt Japanese logistics as to lead to its eventual defeat. In retrospect, it is doubtful if any amount of tactical airpower could have prevented Japan from overrunning China, much less brought about its defeat.
Focus On: Leadership

LT GEN IRA C. EAKER

- Lt Gen Ira Eaker was commander of the VIII Bomber Command in England which became the Eighth Air Force in 1944.
- He piloted the Question Mark in its record-breaking air refueling flight over California in 1929. The plane remained aloft for 150 hours, 40 minutes, and 15 seconds.
- Served as aide to Maj Gen James Fechet, the Air Corps Chief, and as private pilot to Maj Gen Douglas MacArthur.
- In 1927 he piloted the San Francisco, the only plane to complete a 23,000 mile Pan American goodwill flight on schedule. For this he was awarded his first Distinguished Flying Cross.
- During World War II, he commanded Allied Air Forces in the Mediterranean.
- He was deputy commander of the Army Air Forces in 1945–46.

One of the great pioneer airmen, Ira C. Eaker, met “Hap” Arnold and Carl Spaatz at Rockwell Field in 1918, and the three became friends and colleagues for life. Eaker was one of the premier pilots between the wars, participating in the Pan American flight of 1926–27 and the Question Mark flight of 1929. The Question Mark project was the product of Eaker’s imagination, political savvy, and zeal. He selected a trimotored Fokker and a Douglas C-1 for the flights. On 1 January 1929, the Fokker took off from San Diego, California, and droned back and forth at 70 MPH between Los Angeles, California, and San Diego for six days. Eaker piloted the Question Mark with Pete Quesada as copilot and Maj Carl Spaatz in back to hook up the hose during refueling. On 7 January the Fokker’s left engine quit and the Question Mark was forced to land with a record-breaking 150 hours, 40 minutes, and 15 seconds aloft.

Eaker was also politically well connected, serving not only as an aide to Maj Gen James Fechet, the Air Corps chief, but also as the private pilot of Gen Douglas MacArthur. An excellent writer with a graduate degree in journalism, he figured prominently in airpower public relations efforts during the 1930s and coauthored several aviation books with Hap Arnold. During World War II he joined Spaatz in England to head the VIII Bomber Command and eventually Eighth Air Force. In early 1944 Eaker moved down to Italy to command the Mediterranean Allied Air Forces.

The task of organizing and standing up the Eighth was extremely daunting. Eaker’s talents as a leader and manager were essential. Strategic bombing was not a proven concept, the green Eighth was entering combat against an enemy already battle tested, and the prodigious production capacity of America not yet manifest. Moreover, just as it appeared the Eighth was strong enough to play a major role in the war against Germany, it was stripped of men and machines for operations in North Africa and then Italy. Arnold pushed Eaker to do more, and finally, against Eaker’s wishes, he was promoted and moved...
to Italy, while his place at Eighth was taken by James H. “Jimmy” Doolittle. Soon after Doolittle took over, Eaker’s labors bore fruit: air superiority over the Luftwaffe was gained, the invasion of France took place, and the sweep across northern Europe eventually led to victory.

In April 1945, Eaker was named deputy commander of the AAF and chief of the Air Staff. He retired from active duty on 31 July 1947.
Focus On: Leadership

GEN CARL A. “TOOEY” SPAATZ

- One of the most favored American air commanders of World War II. Both Generals Eisenhower and Bradley rated Spaatz the best combat leader in the European theater.

- Received the Distinguished Service Cross for shooting down three German aircraft during World War I.

- The project leader for the Question Mark flight which refueled in the air to stay aloft over 150 hours. Spaatz rode in the rear of the aircraft where he reeled in and hooked up the refueling hose from the tanker plane.

Carl A. Spaatz was born 28 June 1891, in Boyertown, Pennsylvania. In 1910 he was appointed to the United States Military Academy. Upon graduation on 12 June 1914, he was commissioned into the Infantry. He served with the Twenty-fifth United States Infantry at Schofield Barracks, Hawaii, from 4 October 1914 to 13 October 1915, when he was detailed as a student in the Aviation School at San Diego, California, until 15 May 1916.

Spaatz went to France with the American Expeditionary Forces in command of the 31st Aero Squadron and joined the 2d Pursuit Group in September 1918. He was officially credited with shooting down three German Fokker planes, and received the Distinguished Service Cross. After World War I he reverted to his permanent rank of captain, 27 February 1920, but was promoted to major on 1 July 1920.

Spaatz commanded the Army plane Question Mark in its refueling endurance flight over southern California, 1–7 January 1929, keeping the plane aloft a record total of 150 hours, 40 minutes, and 15 seconds, and was awarded the Distinguished Flying Cross.

A few weeks after Pearl Harbor, in January 1942, General Spaatz was assigned as chief of the AAF Combat Command in Washington, D.C. In May 1942 he became commander of the Eighth Air Force to prepare for the American bombing of Germany. On 7 July he was appointed commanding general of the AAF in the European theater in addition to his duties as commander of Eighth Air Force.

On 1 December 1942, Spaatz became commanding general of the Twelfth Air Force in North Africa. He returned to England in January 1944, to command the US Strategic Air Forces in Europe, which he headed throughout the preinvasion period and the ensuing campaign which culminated with the utter defeat of Germany. His service in Africa won an award of the Distinguished Service Medal, and the accomplishments of his Strategic Air Force in 1944 earned him the Robert J. Collier Trophy for that year, awarded annually to the American making the most outstanding contribution to aviation. He was present at all three signings of unconditional surrender by the enemy—Rheims, Berlin, and Tokyo. In February 1946, he was nominated to become commander of the Army Air Forces.
September 1947 he was appointed by President Harry S. Truman as the First Chief of Staff of the new United States Air Force until 30 April 1948. General Spaatz retired on 30 June 1948.
Focus On: Leadership

GEN GEORGE C. KENNEY

George C. Kenney was a fighter pilot during World War I. He downed two German aircraft and won the Distinguished Service Cross.

Commander of Fifth Air Force and Far East Air Forces providing airpower for Gen Douglas MacArthur in the Southwest Pacific Theater during World War II.

One of only four airmen to hold the rank of four-star general during World War II.

One of the most innovative operational airmen of World War II.

The first commander in chief of Strategic Air Command from 1946 to 1948.

George C. Kenney was America’s top Airman in the Pacific theater during World War II. Kenney had served as a fighter pilot in the First World War, downing two German aircraft and winning the Distinguished Service Cross. Between the wars he attended Command and General Staff College, the Army War College, and taught at the Air Corps Tactical School before heading Operations and Training for General Headquarters Air Forces. He also earned a reputation as an accomplished engineer through assignments at Wright Field, and became recognized as an expert in tactical aviation. Significantly, he was serving as an air attaché to Paris during the German invasion of France in 1940 and witnessed the effectiveness of airpower in that campaign.

In July 1942, Arnold selected Kenney to become Douglas MacArthur’s air deputy. For the rest of the war the short, fiery, and tireless Kenney served as commander of the Fifth Air Force and then Far East Air Forces under the difficult and demanding MacArthur. His success in such battles as Bismarck Sea, Rabaul, Wewak, and the Philippine campaign were dramatic, and he has become the prototype for the modern concept of an "air component commander," the one individual in charge of all aviation assets in a theater. Kenney’s grasp of what is today called “operational art” and how airpower could be used to complement the operations of land and sea forces was outstanding, and he was considered by many to be the most accomplished combat air strategist of the war.

In April 1945 he was promoted to full general—one of only four Airmen holding that rank during the war. However, Arnold had more complete confidence in Spaatz and after the war Spaatz was named Arnold’s successor. Kenney had hoped to become Chief of Staff after Spaatz but Hoyt Vandenberg, nine years younger than Kenney, replaced Spaatz as chief of staff in 1948. Kenney was instead given command of the new Strategic Air Command (SAC) after the war. When the Berlin Crisis of 1948 broke out, Vandenberg conducted an investigation of SAC’s war readiness. The results were unacceptable, so Vandenberg replaced Kenney with Curtis E. LeMay. Kenney was then named commander of Air University. He retired from that position in 1951.
Focus On: Leadership

GEN BENJAMIN O. DAVIS, JR.

“SILENCE”

- The first black to graduate from West Point this century and later became the first African-American Air Force general.
- During his years at West Point he was officially “silenced” by all cadets—no one spoke to him for four years except on official business.
- Commissioned in 1936, earned his wings at Tuskegee in 1941 and was a lieutenant colonel squadron commander in August 1942.
- Commanded the all-black 99th Fighter Squadron in North Africa in 1943 and a fighter wing in Korea in 1953.
- His commands culminated with his third star and command of Thirteenth Air Force.

Born 18 December 1912 in Washington, D.C., to an Army First Lieutenant who later would become a general himself, Benjamin O. Davis, Jr. was born right into the strife that came along with being black in America at the beginning of the 20th Century. Determination and perseverance would become trademarks of his character and function as the moral compass that navigated his decisions throughout life.

He was raised by a much disciplined father and step-mother after his biological mother passed away when he was only three years old. Manners, education, both formal and informal, sports and extra-curricular activities were all important to Davis, Sr. and thus passed on to Davis, Jr. These qualities would prove beneficial as Davis, Jr. would endure years of struggles due to racial inequalities.

The four years General Benjamin Davis, Jr. spent at the United States Military Academy in West Point, New York, between 1932-1936, were arguably the four toughest, and yet most inspiring years of his life. The events that occurred during this timeframe forever shaped his life, the United States Army and the future of the United States itself. The treatment he received as a minority went beyond anything one would comprehend by today’s standards. Aside official orders, he was not spoken to nor was he allowed to have interactions with other cadets aside official interactions. Despite the adverse circumstances, he was determined to succeed at all costs and he believed he had more to offer the nation. His relentless tenacity propelled him to prosper graduating 35th out of 276 cadets in his class.

As was customary at the time, his only choice for assignment was to either an infantry or cavalry unit. He chose infantry taking him to Fort Benning, Georgia. After serving a year as an infantry company commander, he graduated from the Infantry School and assumed duties as Professor of Military Science at Tuskegee Institute. In May, 1941 he entered
Advanced Flying School and received his pilot wings in early 1942. General Davis, Jr. was then transferred to the Army Air Force in May 1942 and became the first commander of the 99th Fighter Squadron, a historic organization that became known as the Tuskegee Airmen… the fierce Red Tail fighters.

Throughout his career General Davis, Jr. continued to face trials and tribulations. He was routinely discriminated against because of his skin color, questioned of his stature in society, and discounted as a human being in his ability to be a leader of men. His vision of becoming a pilot in the Army Air Corps led to his pursuit of justice based on a man’s knowledge and abilities and not his ethnicity nor his heritage.

General Davis, Jr. retired at the rank of Lieutenant General on 1 February 1970. He was advanced to the four-star General rank on 9 December 1998 and had his four stars pinned on by President Clinton. Operation DESERT FOX, a four-day strategic bombing campaign against Iraqi forces, was initiated only seven days later on 16 December 1998, nostalgically linking now General Davis, Jr. to an Air Force he could have only envisioned and on which he had such a direct impact.

Respectfully fitting, General Davis, Jr. passed away on 4 July 2002, exiting this world on a day our entire nation celebrates together the independence of tyranny, recognizing all those who have fought, such as General Benjamin O. Davis, Jr., to change the face of a nation for its betterment.

“I was silenced solely because cadets did not want blacks at West Point. Their only purpose was to freeze me out. What they did not realize was that I was stubborn enough to put up with their treatment to reach the goal I had come to attain.”

General Davis, Jr.’s life, from his early years to his final days, directly matched the AFDD-1 institutional competencies of Organizational-Strategic Thinking-Vision and Adaptability.