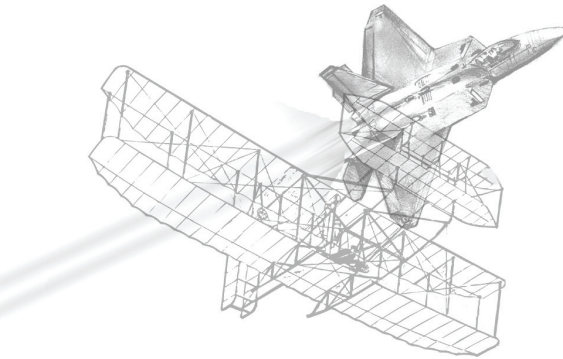
AIR FORCE HANDBOOK 1

AIRMAN

U.S. AIR FORCE



FOURTH EDITION

Foreword

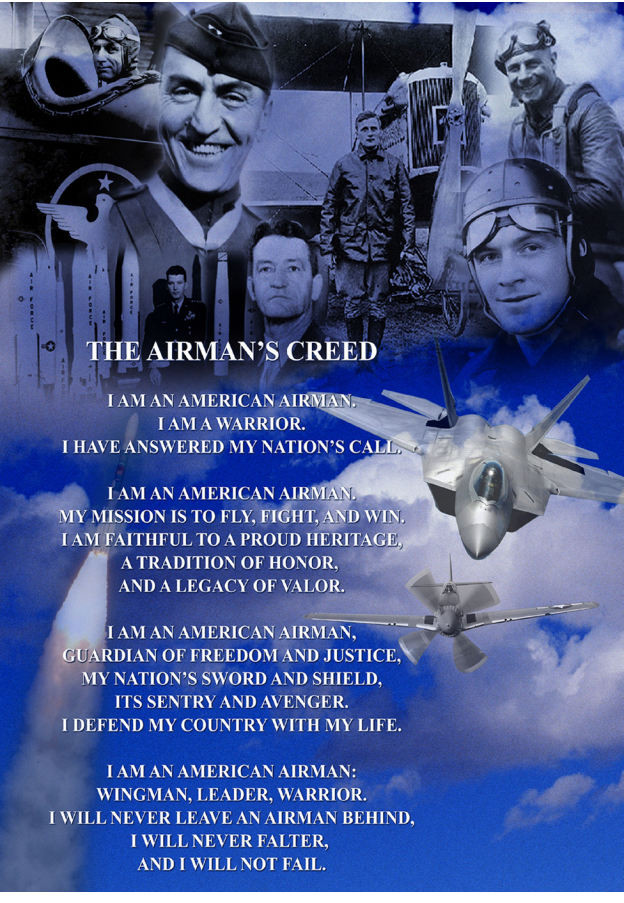
With the dawning of the 21st Century, America and the Air Force celebrated the Centennial of Flight, born of the vision and ingenuity of the Wright brothers.

The advent of flight forever changed the world, giving us unprecedented access to air and space. From the Army Air Corps to the Army Air Forces, aviation changed the world and led to the birth of the United States Air Force.

We have a unique heritage and distinguished history. Our Air Force is the world's premier air and space power because of our professional Airmen, our investment in technology, and our ability to integrate our people and systems to meet global combatant commanders' needs.

The Air Force's core values: Integrity First, Service Before Self, and Excellence In All We Do are essential to our continued success. These core values are manifested within each and every Airman. As America's Airmen, we must exhibit the highest standards at all times. Nothing less will suffice.

Air Force Handbook 1 reminds us of our past, reinforces where we are, and enables us to envision the future. As you read, take pride in being a member of the world's finest air and space force—second to none.



THE AIRMAN'S CREED

I AM AN AMERICAN AIRMAN.
I AM A WARRIOR.
I HAVE ANSWERED MY NATION'S CALL.

I AM AN AMERICAN AIRMAN.
MY MISSION IS TO FLY, FIGHT, AND WIN.
I AM FAITHFUL TO A PROUD HERITAGE,
A TRADITION OF HONOR,
AND A LEGACY OF VALOR.

I AM AN AMERICAN AIRMAN,
GUARDIAN OF FREEDOM AND JUSTICE,
MY NATION'S SWORD AND SHIELD,
ITS SENTRY AND AVENGER.
I DEFEND MY COUNTRY WITH MY LIFE.

I AM AN AMERICAN AIRMAN:
WINGMAN, LEADER, WARRIOR.
I WILL NEVER LEAVE AN AIRMAN BEHIND,
I WILL NEVER FALTER,
AND I WILL NOT FAIL.

TABLE OF CONTENTS

TABLE OF CONTENTS continued

TABLE OF CONTENTS continued

AIR FORCE KNOWLEDGE

www.AIRMAN.af.mil

Secretary Michael B. Donley

Mr Michael B. Donley is the 22d Secretary of the Air Force, confirmed 2 October 2008. He is responsible for the affairs of the Department of the Air Force. This includes organizing, training, equipping, and providing for the welfare of more than 300,000 men and women on active duty; 180,000 members of the Air National Guard and Air Force Reserve; 160,000 civilians; and their families. He also oversees the Air Force's annual budget of approximately $110 billion.

Mr Donley has 30 years of experience in the national security community, including service in the Senate, White House, and Pentagon. Prior to assuming his current position, Mr Donley served as the Director of Administration and Management in the Office of the Secretary of Defense. He oversaw organizational and management planning for the Department of Defense and all administration, facility, information technology, and security matters for the Pentagon.

Mr Donley served in the United States Army from 1972 to 1975 with the XVIIIth Airborne Corps and 5th Special Forces Group (Airborne), attending the Army's Intelligence and Airborne Schools and the Defense Language Institute. Mr Donley earned both Bachelor of Arts and Master of Arts Degrees in International Relations from the University of Southern California and attended the Senior Executives in National Security Program at Harvard University.

General Norton A. Schwartz

General Norton A. Schwartz, Chief of Staff (CSAF), United States Air Force, is the senior Air Force officer responsible for organizing, training, and equipping nearly 700,000 regular, guard, reserve and civilian forces serving in the United States and overseas. As a member of the Joint Chiefs of Staff, the general and other service chiefs function as military advisers to the Secretary of Defense, National Security Council, and the President.

General Schwartz graduated from the United States Air Force Academy in 1973. He is an alumnus of the National War College, a member of the Council on Foreign Relations, and a 1994 Fellow of Massachusetts Institute of Technology's Seminar XXI. He commanded the Special Operations Command-Pacific, as well as the Alaskan Command, Alaskan North American Aerospace Defense Command Region, and the 11th Air Force. Prior to assuming his current position, General Schwartz was Commander, United States Transportation Command, and served as the single manager for global air, land, and sea transportation for the Department of Defense.

General Schwartz is a command pilot with more than 4,400 flying hours in a variety of aircraft. He participated as a crewmember in the 1975 airlift evacuation of Saigon, and in 1991, served as Chief of Staff of the Joint Special Operations Task Force for Northern Iraq in operations Desert Shield and Desert Storm.

CMSAF James A. Roy

Chief Master Sergeant of the Air Force (CMSAF) James A. Roy represents the highest enlisted level of leadership. As such, he provides direction for the enlisted force and represents their interests, as appropriate, to the American public and to all levels of government. He serves as the personal adviser to the Chief of Staff and the Secretary of the Air Force on all issues regarding the welfare, readiness, morale, and proper utilization and progress of the enlisted force. Chief Roy is the sixteenth chief master sergeant appointed to the highest noncommissioned officer position.

Chief Roy grew up in Monroe, MI, and enlisted in the Air Force in September 1982. His background includes numerous leadership roles at squadron, group, numbered air force, and combatant command levels. He has been stationed in Florida, South Korea, Missouri, Guam, Mississippi, South Carolina, Virginia, Kuwait, Japan, and Hawaii, and has served in a variety of civil engineering duties. Chief Roy also served as a superintendent of a military personnel flight and a mission support group before becoming a command chief master sergeant at the wing, air expeditionary wing, numbered air force, and combatant command levels. Before assuming his current position, he served as Senior Enlisted Leader and Adviser to the U.S. Pacific Command Commander and staff at Camp H. M. Smith, Hawaii. He was appointed as CMSAF on 30 June 2009.

Assistant Secretaries of War for Air	F. Trubee Davison	1926-1932
	Robert A. Lovett	1941-1946
	W. Stuart Symington	1946-1947

Secretaries of the Air Force

W. Stuart Symington	1947-1950
Thomas K. Finletter	1950-1953
Harold E. Talbott	1953-1955
Donald A. Quarles	1955-1957
James H. Douglas, Jr.	1957-1959
Dudley C. Sharp	1959-1961
Eugene M. Zuckert	1961-1965
Harold Brown	1965-1969
Robert C. Seamans, Jr.	1969-1973
John L. McLucas	1973-1975
James W. Plummer (acting)	1975-1976
Thomas C. Reed	1976-1977
John C. Stetson	1977-1979
Hans M. Mark	1979-1981
Verne Orr	1981-1985
Russell A. Rourke	1985-1986
Edward C. Aldridge, Jr.	1986-1988
James F. McGovern (acting)	1988-1989
John J. Welch, Jr. (acting)	1989-1989
Donald B. Rice	1989-1993
Michael B. Donley (acting)	1993-1993
Sheila E. Widnall	1993-1997
F. Whitten Peters (acting)	1997-1999
F. Whitten Peters	1999-2001
Dr. Lawrence J. Delaney (acting)	2001-2001
Dr. James G. Roche	2001-2005
Michael W. Wynne	2005-2008
Michael B. Donley	2008 - Present

Military Air Chiefs

Capt Charles D. Chandler	1907-1910
Capt Arthur S. Cowan	1910-1911
Capt Charles D. Chandler	1911-1912
Lt Henry H. Arnold	1912-1913
Col Samuel Reber	1913-1916
Brig Gen George O. Squier	1916-1917
Lt Col John B. Bennet	1917
Brig Gen Benjamin D. Foulois	1917
Brig Gen Alexander L. Dade	1917-1918
Maj Gen William L. Kenly	1918-1919
Maj Gen Charles T. Menoher	1919-1921

Military Air Chiefs cont'd

Maj Gen Mason M. Patrick	1921-1927
Maj Gen James E. Fechet	1927-1931
Maj Gen Benjamin D. Foulois	1931-1935
Maj Gen Oscar Westover	1935-1938
Gen Henry H. Arnold	1938-1946
Gen Carl A. Spaatz	1946-1947

U.S. Air Force Chiefs of Staff

Gen Carl A. Spaatz	1947-1948
Gen Hoyt S. Vandenberg	1948-1953
Gen Nathan F. Twining	1953-1957
Gen Thomas D. White	1957-1961
Gen Curtis E. LeMay	1961-1965
Gen John P. McConnell	1965-1969
Gen John D. Ryan	1969-1973
Gen George S. Brown	1973-1974
Gen David C. Jones	1974-1978
Gen Lew Allen, Jr.	1978-1982
Gen Charles A. Gabriel	1982-1986
Gen Larry D. Welch	1986-1990
Gen Michael J. Dugan	1990-1990
Gen John M Loh (acting)	1990-1990
Gen Merrill A. McPeak	1990-1994
Gen Ronald R. Fogleman	1994-1997
Gen Ralph E. Eberhart (acting)	1997-1997
Gen Michael E. Ryan	1997-2001
Gen John P. Jumper	2001-2005
Gen T. Michael Moseley	2005-2008
Gen Norton A. Schwartz	2008 - Present

CMSgts of the Air Force

CMSAF Paul W. Airey	1967 - 1969
CMSAF Donald L. Harlow	1969 - 1971
CMSAF Richard D. Kisling	1971 - 1973
CMSAF Thomas N. Barnes	1973 - 1977
CMSAF Robert D. Gaylor	1977 - 1979
CMSAF James M. McCoy	1979 - 1981
CMSAF Arthur L. Andrews	1981 - 1983
CMSAF Sam E. Parish	1983 - 1986
CMSAF James C. Binnicker	1986 - 1990
CMSAF Gary R. Pfingston	1990 - 1994
CMSAF David J. Campanale	1994 - 1996
CMSAF Eric W. Benken	1996 - 1999
CMSAF Frederick Finch	1999 - 2002
CMSAF Gerald R. Murray	2002 - 2006
CMSAF Rodney J. McKinley	2006 - 2009
CMSAF James A. Roy	2009 - Present

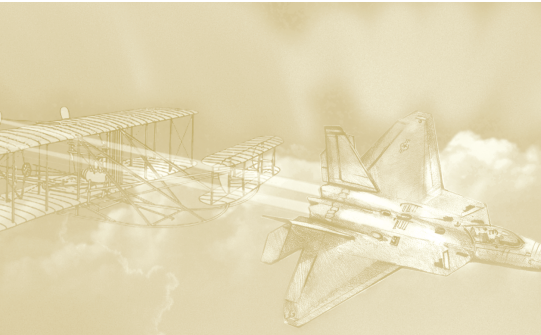
We Are America's Airmen

We are America's Airmen—a Total Force of regular, guard, reserve, and civilian patriots. We fight and win where ever our nation needs us. Expeditionary Airmen provide the air and space power necessary to protect America and our way of life.

Our United States Air Force reflects the vision of the founders of airpower. We foster ingenuity in the development of the world's most professional Airmen. Airmen are the heart and soul of our unique fighting force, and are identified by a proper noun—Airmen. We will continue to transition new technologies into joint warfighting systems and integrate our capabilities to produce decisive warfighting effects.

You have joined a team of Airmen who have a rich history, and play an unparalleled role in the defense of America. Our Air Force is the greatest air and space force in the world because of the generations of professional Airmen who devoted their lives to serving their country. Airmen today recognize and honor their historic achievements and unique contributions to fighting and winning America's wars.

Whether we are active duty, guard, reserve, or civilians, first and foremost, we are America's Airmen—confident in our ability to protect and defend the United States of America.



The United States Air Force Historical Perspective

by
Dr. John T. Farquhar

United States Air Force Academy
Department of History

and contributing editor

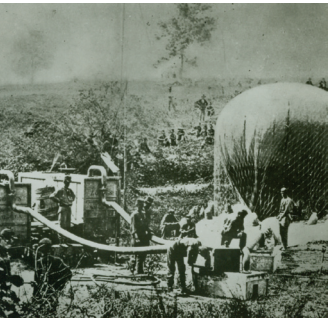
George W. Bradley III
Air Force Space Command (AFSPC)
Historian

Introduction

As preparation for your entry into the Air Force, this section will introduce the Air Force mission and its evolution, the machines and technology associated with air and space flight and most importantly, the legacy of the men and women of the United States Air Force. By surveying the history of aviation, you will discover our heritage, appreciate Air Force traditions, and understand your role in our nation's defense.

The Dawn of Flight

The dream of flight recurs in myth and legend from ancient times, but not until two French brothers, Joseph Michel and Jacques Etienne Montgolfier, launched a hot air balloon on 15 October 1783, with passenger Jean François Pilatre de Rozier, did man first "fly." The military potential of aviation was noted in 1794, when the French "Aerostatic Corps" balloons accompanied the armies of the French Revolution until 1798.



In September 1861, a "Balloon Corps" provided aerial observation for the Union Army during the American Civil War. However, the early balloons proved fragile, vulnerable to weather, and of limited value.

Aviation languished in the United States, but in Europe, balloons, gliders, and aerodynamics advanced rapidly. By 1853, Britain's Sir George Cayley created a glider with fixed wings, cambered airfoil, and horizontal and

vertical stabilizers. Continuing Cayley's work, German engineer Otto Lilienthal produced flying machines similar to today's hang gliders. From 1891 until his death 5 years later, Lilienthal greatly advanced aerodynamic theory. The publicity generated by Lilienthal spurred on imaginative people on both sides of the Atlantic, including Orville and Wilbur Wright.

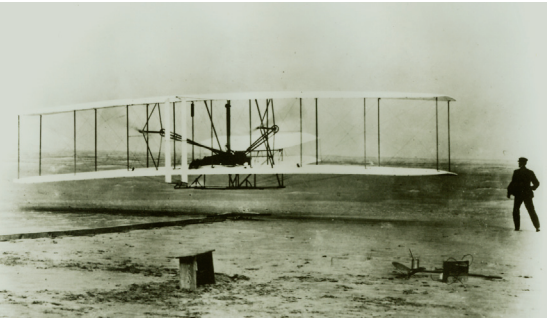
The Wrights furthered Lilienthal's experiments with the assistance of American Octave Chanute, whose book, *Progress in Flying Machines,* provided their foundation in aeronautics. From 1900 to 1902, the Wrights conducted more than 1,000 glides from Kill Devil Hills near Kitty Hawk, NC. After perfecting wing warping, elevators and rudders, and a water-cooled engine, they attempted the first powered flight on 14 December 1903. On that try, the aircraft stalled upon takeoff and crashed 3 seconds later. Success came at 10:35, on 17 December 1903, when Orville Wright flew 120 feet in 12 seconds. Alternating pilot duties, the brothers made three more flights with Wilbur flying 852 feet and staying aloft 59 seconds on the fourth attempt.

American military authorities rejected the Wrights' flyer, reacting in part to the highly publicized failure of Samuel P. Langley's steam-powered Aerodrome in October 1903. Although a highly respected scientist and Secretary of the Smithsonian Institution, Langley and the Army were subjected to public ridicule and Congressional criticism for the "waste" of a $50,000 government grant. Only when President Theodore Roosevelt intervened was an aeronautical division established in the U.S. Army's Signal Corps on 1 August 1907.

The Early Days of the U.S. Air Service: 1907-1917

By December 1907, the new Army Air Service established

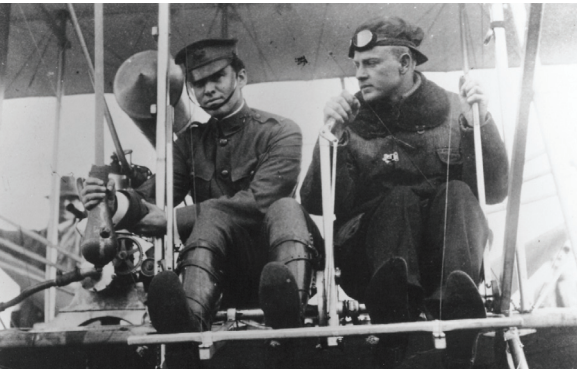
specifications for an American military aircraft. The flying machine had to carry two people (with a combined weight of 350 pounds or less), and fly for 125 miles at an average speed of 40 miles per hour (mph). The Air Service received 41 bids, but only one, submitted by the Wright brothers, produced a flyable aircraft. By September 1908, the Wright Type A Military Flyer flew for more than an hour at a maximum altitude of 310 feet, carrying the first military observer, Lieutenant Frank P.



Lahm. A subsequent test on 17 September 1908 resulted in the first military aviation fatality: Lieutenant Thomas E. Selfridge. On 30 July 1909, pilot Orville Wright and Lieutenant Benjamin D. Foulois flew from Fort Myer to Alexandria, VA, at an average speed of 42.6 mph. The Army accepted the plane 2 August 1909 and awarded the Wrights $25,000 and a $5,000 bonus.

The U.S. Army Air Service's early operations were not promising. In October 1909, Wilbur Wright trained Lts Frank P. Lahm and Frederic E. Humphreys to fly; on 26 October, they were the first Army pilots to fly solo. By 5 November, they crashed the Army's plane, and within weeks, were transferred out of aviation. In March 1910,

Lt Foulois received orders to become the Signal Corps' pilot. Chief of the Signal Corps, Gen James Allen, told him, "Don't worry. You'll learn the techniques as you go along . . . just take plenty of spare parts and teach yourself to fly."



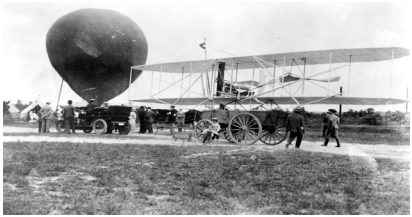
U.S. military aviation was falling behind Europe. By the end of 1911, the French had produced 353 aviators versus 26 American pilots, of whom only 8 were military. By 1913, France and Germany each had spent $22 million on military aviation; Russia spent $12 million; and even Belgium spent $2 million, compared to just $430,000 for the United States.

America's first aviation combat experience demonstrated that the Air Service was not prepared. When Francisco "Pancho" Villa's Mexican forces raided Columbus, NM, in March 1916, the U.S. Army 1st Aero Squadron accompanied Gen John J. Pershing's to the area. The squadron, commanded by Captain Foulois, sought to provide aerial scouting for the ground forces. However, mountain weather, dust, and extreme temperatures wreaked havoc with Foulois' underpowered, dilapidated

Curtis JN-3 Jennies. After a month of operations, only two JN-3s were still flyable.

The First Air War

Aircraft and aerial warfare evolved during the first World War, 1914-1918. Observation, artillery spotting, and reconnaissance emerged as the airplane's most important war missions. By 1915, pursuit aircraft were developed to deny the enemy use of the air. After early attempts to down enemies with handguns, French pilot Roland Garros attached steel plates to the propeller of his Morane-Saulnier Type L monoplane, enabling him to fire a machine gun through the propeller arc. He earned wide acclaim as the war's first "ace." When engine trouble forced Garros to land behind enemy lines on 19 April 1915, the Germans studied his innovation. Dutch-born Anthony Fokker then created the first true fighter plane, the Fokker Eindecker, using an interrupter gear to enable a machine gun to fire through the propeller. By the end of World War I, Airmen had pioneered most of today's aerial missions, including photographic reconnaissance, close air support for ground troops, battlefield interdiction, and day and nighttime strategic bombardment. The German air service inaugurated long-range strategic bombardment as early as 1915 with its massive Zeppelin dirigibles.



Despite the importance of reconnaissance and artillery spotting, fighter pilots captured the public's imagination.

Newspapers portrayed the daring, skill, and chivalry of the "knights of the air." Following Roland Garros, the French produced such aces as Rene Fonck, with 75 kills, and Georges Guynemer, with 54 aerial victories.

Like the allies, Germany publicized "aces" to foster public support for the war effort. Germany's first ace, Max Immelmann, developed the revolutionary technique to reverse direction of an aircraft in flight. The technique still bears his name. Manfred von Richtofen, perhaps the most famous ace of all flew a scarlet, Fokker triplane, earning him the name, "the Red Baron." Shortly after his 80th victory, Richtofen was shot down and killed on 21 April 1918.

Not to be outdone by the French and Germans, Britain exulted in the exploits of fighter pilots. Britain's leading ace, with 73 kills, was Edward "Mick" Mannock, who was killed by groundfire while aiding a novice wingman.

Americans entered the ranks of aerial heroes even before the United States entered the war. The French air service established the *Escadrille Americaine* for American volunteers on 21 March 1916. Later renamed the *Lafayette Escadrille*, this squadron flew French Nieuport 17 fighters and provided valuable experience when the U.S. entered the war. French-born American Raoul Lufbery shot down 17 German planes before transferring to the American Air Service, where he commanded the famous "Hat in the Ring" 94th Aero Squadron, before his death on 19 May 1918.

Of the 767 U.S. pilots and 481 observers in action in 1918, Capt Edward V. "Eddie" Rickenbacker and Lt Frank Luke, Jr., achieved the most fame. Rickenbacker was a renowned race car driver before the war. Older than most pilots, the 28-year-old became America's "Ace of Aces" with 26 confirmed kills. Frank Luke

was the only pilot awarded the Medal of Honor during the war (Rickenbacker would be awarded one in 1931). Known as the "Arizona Balloon Buster," Luke downed 14 German balloons and 4 aircraft in 17 days. His spectacular career ended on 29 September 1918 during a solo attack, when he shot down three enemy balloons and two aircraft before enemy ground fire forced him down. Seriously wounded, he died with a pistol in his hand.

While he was not an ace, William "Billy" Mitchell emerged as one of the outstanding American air combat commanders of the war. Mitchell was the first Combined Forces Air Component Commander as he directed British, French, and American airpower. Supremely confident about the efficacy of airpower, Mitchell sometimes clashed with his superiors, including aviation pioneer General Foulois. Nevertheless, Foulois recognized Mitchell's leadership and recommended him for the top combat position, Chief of Air Service, 1st Army. In September 1918, Mitchell massed 1,481 aircraft of American, French, British, and Italian units to support General Pershing's St. Mihiel offensive. Mitchell emphasized concentrated, mass attacks to overwhelm enemy airpower and punish German ground forces. In 4 days, Allied Airmen flew 3,300 combat sorties and dropped 75 tons of explosives. Lauded as a success by General Pershing, Mitchell refined his tactics during the Meuse-Argonne offensive

of 26 September 1918, where 700 American aircraft faced 500 German planes. By 1918, based upon his outstanding performance directing Air Service combat units over the Château-Thierry area, the St. Mihiel salient, and the Meuse-Argonne, Mitchell earned the Distinguished Service Cross for valor, and temporary promotion to brigadier general.

By the Armistice of 11 November 1918, airpower had played an important role in the Allied victory. Although observation, reconnaissance, and artillery spotting remained the most significant missions, close air support, interdiction, and strategic bombardment showed promise. Eclipsing all other roles, the image of the glamorous

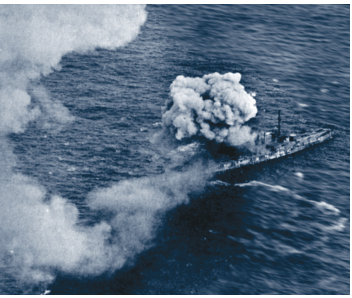
fighter ace with his brightly painted aircraft, leather jacket, and flying scarf captured public attention. The Army Air Service destroyed 781 enemy aircraft and 73 balloons at a cost of 289 American aircraft, 48 balloons, and 569 battle casualties.

Controversy and Records, 1920s Airpower

Convinced of airpower's potential as the primary component of national defense and a war-winning weapon, Mitchell aggressively promoted his cause to create an independent air force. Hoping to make it the nation's first line of defense,

Mitchell challenged the U.S. Navy, arguing that bombers rendered battleships obsolete. Reluctantly, the Navy agreed to allow Mitchell to test his Martin MB-2 bombers against some captured German battleships. Mitchell's Airmen sank the 27,000-ton battleship, *Ostfriesland,* 21 July 1921. Despite its' four-layer armored hull and watertight compartments, the battleship sank in 21 minutes after being struck by two 1,000-pound bombs. Although Mitchell failed to convince the War or Navy departments, the bombing tests spurred carrier-based aviation development.

Frustrated by what he perceived as a lack of progress, Mitchell's public statements were increasingly incendiary. When the Navy airship *Shenandoah* crashed on 5 September 1925, Mitchell issued a press release charging the Department of the Navy and the War Department with "incompetency, criminal negligence, and almost treasonable administration of our national defense." During the ensuing court martial, Mitchell attempted to transform the trial into a public hearing on airpower. Found guilty of "conduct of a nature to bring discredit upon the military service," the court sentenced Mitchell to a 5-year suspension from the service without pay. On 1 February 1926, Colonel Mitchell resigned from the Air Service (he served twice in the temporary grade of brigadier general during World War I and in the early 1920s) to continue the fight for an independent air force. Until his



death in 1936, Mitchell fought tenaciously for his vision. He placed his indelible stamp on U.S. air combat practice and doctrine with his emphasis on massed forces and offensive operations.

Mitchell's efforts produced some success for the fledgling Air Corps. The Air Corps Act of 1926 greatly improved

the status of aviation within the Army. It transformed the Air Service into the Air Corps, provided representation on the General Staff, added an Assistant Secretary of War for Air, and promised expansion to a force of 1,650 officers, 15,000 enlisted men, and 1,800 serviceable aircraft within 5 years. However, funding never matched the goal established.

Budget cutbacks 2 years later reduced the 1918 Air Service from 190,000 men to fewer than 20,000. Likewise, the $460 million allocated for military aviation in 1919 fell to $25 million in 1920. Even worse from a technology viewpoint, Congress demanded that new military aircraft use the surplus Liberty engines produced during the World War I buildup. Consequently, First World War vintage Curtiss Jennies and Liberty DH-4 bombers remained in service until the 1930s, despite technological advances in airframe and engine design.

On the other hand, a concerted effort to achieve records in speed, altitude, endurance, and other areas helped spur aviation advances in the 1920s. In September 1922, Lt James "Jimmy" Doolittle became the first man to fly across the United States in less than a day. Seven months later, Lts

Oakley Kelley and John Macready flew a Fokker T-2 on the first nonstop transcontinental flight. On 6 April 1924, a team of Army pilots departed Seattle in four Douglas World Cruisers, christened the *Chicago, Boston, Seattle*, and *New Orleans*, in an effort to fly around the world. Although the *Seattle* and *Boston* were lost to a mountain crash and engine failure, respectively, the remaining aircraft completed the circuit 175 days later. In 1925, Jimmy Doolittle achieved further fame by winning the Schneider Trophy, an over-water seaplane race, and established a world seaplane record at 245.71 miles per hour. Although less publicized, Doolittle also played a major role in desiging and testing instruments for all-weather flying, including an altimeter, gyro, artificial horizon, and radio navigation aids.

On 24 September 1929, Doolittle was the first pilot to take off, fly a set course, and land using instruments alone.

New Year's Day 1929, a team of Airmen destined for fame, took off in a Fokker C-2 featuring a large question mark on the fuselage. The question was simple: how long could they stay in the air? Using a crude air refueling technique pioneered in 1923, Major Carl "Tooey" Spaatz, Capt Ira Eaker, Lt Harry Halverson, Lt Elwood "Pete" Quesada, and Staff Sergeant Roy Hooe flew the *Question Mark* 150 hours

and 40 minutes, taking on 5,600 gallons of hand-pumped fuel during 37 air-to air refuelings, to travel 11,000 miles. This endurance test proved the unlimited range available with air refueling. The quest for world records in the 1920s honed the skills of Airmen, advanced aviation technology, and kept military aviation in the limelight.

Air Corps Tactical School and the Rise of the Bomber: 1930s Air Corps

Although technological advances continued into the 1930s, the Great Depression dominated the decade. The technological promise of all-metal construction, monoplane design, and advanced power plants met the harsh realities of a shoe-string budget caused by reduced tax revenues and economic malaise. Toward the latter half of the decade, powerful totalitarian states, including Fascist Italy, Nazi Germany, Nationalist Japan, and the Communist Union of Soviet Socialist Republics (USSR), threatened western democracies, but powerful isolationist sentiment limited the U.S. military response.

Within the Air Corps, leading Airmen emphasized doctrinal development through the Air Corps Tactical

School. Doctrine, the concepts that are the basis of how to fight, provided ideas for technological requirements, aircraft procurement, strategy, and tactics. The ACTS served as the military aviation doctrine center from its founding in 1920 as the Air Service Field Officer School, Langley Field, VA. In 1922, it was renamed the Air Service Tactical School before becoming the Air Corps Tactical School in 1926. Even before the ACTS moved to Maxwell Field, AL, in 1931, the school attracted the best and brightest Airmen to its faculty; including: Harold L. George, Kenneth Walker, Donald Wilson, George C. Kenney, Haywood S. Hansell, and Muir S. Fairchild. Influenced by Billy Mitchell, Italy's Giulio Douhet, and Britain's Hugh Trenchard, the ACTS faculty emphasized long-range strategic bombardment.

According to ACTS lectures, massed bombers would penetrate enemy defenses, bypass field armies and navies, and strike enemy "vital centers" whose destruction would collapse the enemy's economy. Proper target selection would destroy an enemy's capability and will to fight. In an era before radar, airpower theorists believed effective air defense would be impossible. They looked to high altitude, speed, and internal armament for defense. The ACTS idea became known as the "industrial web" theory, or High Altitude Precision Daylight Bombardment.

Coinciding with ACTS doctrine, the American aviation industry introduced a series of advanced bombers that encouraged airpower advocates. In 1931, the Boeing Airplane Company introduced the B-9, an all-metal, stressed-skin bomber with retractable landing gear capable of 188 mph. A few months later, the Martin B-10 overshadowed the open-cockpit B-9. The B-10 also featured an all metal, monoplane design with retractable landing gear, enclosed cockpit, a glazed gun turret, variable

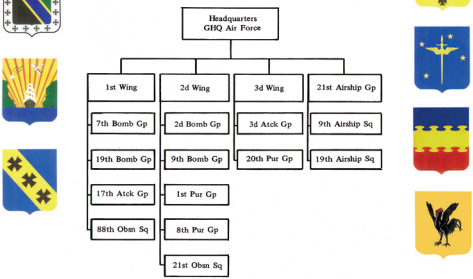
pitch propellers, wing flaps, and an internal bomb bay with power-driven doors. On 19 July 1934, Colonel Henry H. "Hap" Arnold led a squadron of B-10s from Washington, DC, to Anchorage, AK, covering 4,000 miles in 25 flying hours. Bomber theorists saw this exploit as a validation of their ideas.

The Air Corps was put to the test when President Franklin D. Roosevelt cancelled airmail contracts with civilian airlines in February 1934. Without a thorough analysis of Air Corps capabilities, General Foulois asserted that the Air Corps would pick up the slack until contracts were renewed. However, the Air Corps underestimated the challenge posed. Army Airmen attempted to fly mail routes in open-cockpit planes with primitive instruments in one of the worst winters recorded. In 3 months, the Air Corps lost 66 aircraft and suffered 18 fatalities. The airmail fiasco forced Foulois to resign and led to a Congressional investigation known as the Baker Board.

The Baker Board scrutinized Air Corps operations and recommended the creation of a single command for all combat aircraft, known as General Headquarters (GHQ) Air Force. Brig Gen Frank Andrews assumed command 1 March 1935. Airmen applauded the action as a means to consolidate command, centralize doctrine, and integrate training. The initial cadre included 17 combat units: 3 wings, 10 groups, and 4 squadrons. Today's Air Combat Command traces its heritage to GHQ Air Force. Among

other measures, the GHQ Air Force called for a bomber capable of carrying a 2,000-pound payload for 1,020 miles, at a speed of 200 mph. The Martin and Douglas companies advanced designs, but it was Boeing's Model 299 that excited the GHQ Air Force staff. In August 1935, the four-engine aircraft flew 2,100 miles nonstop from Seattle, Washington, to Dayton, Ohio, averaging 232 mph. The B-17 "Flying Fortress," paired with the Norden bombsight, revolutionized bombardment and promised to validate ACTS theories.

The First GHQ • 1 March 1935



Airpower in World War II: The European Theater

If the First World War signaled airpower's promise, the Second World War fulfilled the vision. In every aspect of aerial combat, airpower served as a force multiplier and a vital component of the joint, combined arms campaign. Air superiority proved a prerequisite for successful land, sea, or air operations.

On 1 September 1939, Adolf Hitler launched a massive assault on Poland that opened the greatest war in history and spawned the term *Blitzkrieg*, or "lightning war." The German Air Force (*Luftwaffe)*, employed Messerschmitt Me-109 fighters to gain air superiority, Heinkel He-111 and Dornier Do-17 twin-engined bombers, to pound Poland's capital, Warsaw, and Junkers Ju-87 *Stuka* dive bombers to attack Polish ground forces and terrorize refugees. Commanded by Hermann Göring, the *Luftwaffe* emphasized speed and concentration of forces to crush the enemy.

In April 1940, German forces surprised neutral Denmark and Norway, where *Luftwaffe* aircraft inflicted significant damage to Britain's Royal Navy, protected inferior German naval forces, and airlifted German troops to Norwegian airfields. In May, Hitler's forces invaded the Netherlands and Belgium. The speed of the German advance and the ruthlessness of the bombing of Rotterdam shocked the West. German paratroopers and glider forces surprised Belgium's famed Eban Emael fortress, considered the strongest in Europe. When German forces attacked France, the *Luftwaffe* gained air superiority, masked the movement of German panzers through the Ardennes forest, and hindered Allied attempts to rally.

Following the defeat of France in June 1940, the victorious *Luftwaffe* faced Britain's Royal Air Force (RAF) in the Battle of Britain, the first all-air campaign

in history. On paper, the *Luftwaffe* appeared to have a decisive edge, with 1,232 medium bombers, 406 dive-bombers, 813 single-engine fighters, 282 twin-engine fighters, and 50 long-range reconnaissance aircraft manned by experienced crews. Opposing them, Air Marshal Sir Hugh Dowding's Fighter Command assembled 704 operational aircraft, including roughly 400 Hawker Hurricanes, suited for attacking bombers, and 200 Supermarine Spitfires, a fighter equal to German Messerschmitts.

Despite the apparent mismatch, the German Air Force suffered from serious weaknesses. Substantial losses had eroded *Luftwaffe* strength; in particular, the forces in France badly needed rest and refitting. Equally significant, German training, equipment, and experience proved ill suited for a long-range strategic air campaign. Although the Me-109 was a superb fighter, its short range limited its combat time and tactical flexibility over England. The long-range Me-110 proved hopelessly outclassed by RAF Spitfires and Hurricanes. On the other hand, Dowding's Fighter Command had been preparing for a German onslaught since 1937. Using Sir Robert Watson-Watt's innovation, radar, the British created an effective, integrated air defense system. Dowding also exploited a breakthrough in code breaking with the use of the Enigma machine. Any information gained from Enigma was top secret and known as ULTRA. This gave British intelligence forewarning of major attacks and invaluable insight on the status of German maintenance and logistics.

Plagued by poor intelligence, Göring and other *Luftwaffe* leaders miscalculated, leading to a battle of attrition won by the RAF. Failing to appreciate the value of British radar stations, the Germans first attacked RAF airfields and then after the RAF bombed Berlin 24 August,

switched to a terror bombing campaign against London. Against German losses of 1,733 aircraft, the RAF lost 915 planes. By 15 September 1940, Hitler abandoned his planned invasion of Britain. In tribute to the RAF Fighter Command, Prime Minister Winston Churchill stated, "Never in the field of human conflict was so much owed by so many to so few."

The fall of France in June 1940 galvanized President Franklin Roosevelt's resolve to fight Nazi tyranny. Knowing the isolationist sentiment of many Americans, Roosevelt turned to airpower as a major weapon. The President called for American industry to build 50,000 military aircraft. Considering that in 1939, the U.S. Army Air Corps numbered roughly 1,800 aircraft and 18,000 men, this figure stunned air leaders and industrialists alike. American industry proved equal to the task, but aeronautical designs, blueprints, tools, dies, air frames, and engines, not to mention factories, skilled workers, and the countless other components of an aviation industry required time to develop. Air logisticians, such as Major General Oliver P. Echols began the most massive aircraft procurement program in history. Until December 1940, the U.S. built aircraft at a rate of only 800 per month. By 1942, American factories produced 47,800 aircraft, and by 1944, an astronomical 96,300 planes. American industrial production emerged as a key to Allied victory.

To manage growing American airpower, a major

reorganization created the United States Army Air Forces (USAAF). General Henry "Hap" Arnold was appointed Commanding General of the USAAF and Deputy CSAF to Gen George C. Marshall. In August 1941, a group of ex-ACTS instructors created a doctrinal blueprint, Air War Planning Document 1 (AWPD-1), for the conduct of a strategic air campaign against the Axis. Led by Lieutenant Colonel Harold "Hal" George, Maj Lawrence Kuter, Maj Kenneth Walker, and Capt Haywood "Possum" Hansell, the team created the conceptual framework for the American air effort in World War II. Reflecting 1930s ACTS doctrine of using massive force to destroy the enemy's will and capability to fight through long-range strategic bombardment, AWPD-1 called for 239 combat groups; 26,416 combat aircraft, including 7,500 heavy bombers; 37,051 training planes; 150,000 trained aircrews; and 2.2 million personnel.

As America entered the war in December 1941, the RAF tried to persuade the USAAF to switch to night operations, like those of RAF Bomber Command. Under Air Marshal Sir Arthur Harris, RAF bombing doctrine embraced night area bombing of German cities to displace German workers. To USAAF leaders, night bombing was ineffective, inefficient, and indiscriminate with regard to civilian casualties. After tough negotiations, the Casablanca Directive of January 1943, inaugurated the Combined Bomber Offensive (CBO), codenamed Operation PointBlank, combining American precision daylight bombing and British night area bombing.

In February 1942, Brig Gen Ira C. Eaker established the 8th Air Force Bomber Command, flying from bases in England in preparation for the USAAF buildup. General Spaatz assumed command of the "Mighty 8th" in June 1942. On 17 August 1942, a dozen B-17Es from the 97th Bomb Group conducted the first American

operational bombing mission. The strike against a railroad marshalling yard in Rouen, France, barely penetrated the German defenses, but the mission and a series of others known as the "Freshman Raids" showed promise for American daylight bombardment.

Three disastrous missions in the late summer and fall of 1943 illustrated USAAF theory flaws. Eager to strike Hitler's oil supply, 177 North African-based Consolidated B-24 Liberators attacked oil refineries at Ploesti, Romania, 1 August 1943. Ploesti was one of the most heavily defended targets in Europe, so success depended on a 2,700-mile flight (much at low-level to avoid radar detection), accurate open-water navigation, good weather, and surprise. But a combination of bad weather, human error, and bad luck scattered the bomber

formations and resulted in a nightmare for surviving crews. As the careful plan imploded, bombers improvised striking targets of opportunity in the face of determined fighter opposition and hundreds of anti-aircraft guns. The attacking force lost 54 B-24s; 41 in combat. Of the 177 aircraft, only 30 emerged unscathed. Although the strike reduced oil-refining capacity by 40 percent, within a few days a new facility opened negating the damage.

After finally assembling enough trained crews to strike deep into Germany, 8th Air Force planners targeted German ball bearing factories in an effort to destroy

a "vital center" in the enemy's industrial web. They devised an ambitious double raid upon the Messerschmitt aircraft factory at Regensburg and the top-priority Schweinfurt ball bearing plants. The plan called for a wave of the 3d Air Division to fight through German fighters, hit Regensburg, and proceed to North Africa to land, followed 30 minutes later by a second bomber wave that would strike Schweinfurt as German fighters on the ground rearmed and refueled.

On 17 August 1943, General LeMay's 3d Air Division launched the first wave. Thick fog delayed the second wave and prevented fighter escorts from taking off. When the fog lifted, almost the entire German fighter force pounced upon the ill-fated 1st Air Division. The 8th Air Force staggered under the loss of 60 out of 361 B-17s and 600 trained aircrew members; more casualties in a day than during the previous 6 months. To make matters worse, the Schweinfurt ball bearing plants required reattack.

Known as "Black Thursday," the 14 October 1943 mission against Schweinfurt effectively ended the USAAF's unescorted bombing campaign. Determined to destroy the top priority target, General Eaker ordered 291 B-17s run the gauntlet of German fighters. This time, bombing accuracy improved significantly and the mission severely damaged the factories, but another 60 bombers were shot down, seven were destroyed upon landing in England, and 138 B-17s suffered battle damage.

While warplanners devoted the bulk of American airpower to daylight strategic bombing, in October 1943, heavily modified, mission-unique bombers from the Special Flight Section, 5th Bombardment Wing, 12th Air Force, along with England-based 801st Bombardment Group "Carpetbaggers" provided clandestine support for allied

partisans and guerilla units in occupied territories, rescuing hundreds of downed aircrews trapped behind enemy lines.

Some technological and production breakthroughs reversed the course of the air war over the winter of 1943-1944. During the initial campaigns, effective long-range escort fighters appeared to be technically impossible. In order to carry the fuel necessary for long-range flight, fighters required at least twin engines, but the increased size sacrificed speed and maneuverability. The long-range Lockheed P-38 Lightning offered a partial solution, but the P-38's performance lagged at high altitudes. In mid-1943, the USAAF introduced 75-gallon, and later 108-gallon, drop tanks that extended the combat radius of the Republic P-47 Thunderbolt fighter from 175 miles to 280 miles and 325 miles, respectively. The P-47's extended range proved an important step, but only a partial answer to the escort problem.

The North American Aviation P-51 Mustang revolutionized the air war over Europe. Designed in only 100 days during the spring of 1940, the Mustang was to supplement the RAF's Spitfire. The initial Allison engine for the P-51 proved inadequate; but when the Spitfire's Rolls-Royce Merlin engine replaced the original power plant, the results stunned aviators. At 440 mph, the P-51B was faster and could out turn and out dive the latest models of Me-109 and the new Focke-Wulf FW-190. With a basic range of 500 miles, augmentable to 850 miles, the Mustang flew farther than a B-17 with normal payload. Introduced in December 1943, the P-51 had to wait until late February 1944 before weather permitted full flight operations. It was a technological marvel: a plane with a bomber's range and a fighter's performance. The all-black Tuskegee Airmen distinguished themselves flying "Red Tail" P-51 Mustangs on 200 escort missions into Germany without losing a single friendly bomber to an enemy fighter.

Continued on page 46.

In 1941, President Franklin D. Roosevelt directed the Army Air Corps to accept black Americans into aviation cadet training. The Air Corps, like all other components of the United States Armed Forces, decided to segregate black aviators into all-black squadrons. By the end of World War II, nearly a thousand black Americans had earned their wings as Army flyers. Fired by a determination to prove their patriotism, valor, and skill in combat, these black aviators, forever called the Tuskegee Airmen, struck a significant blow against racism in America.

The first Tuskegee Airmen to fight were members of the 99th Fighter Squadron (99 FS), a unit commanded by black West Point graduate and

The Tuskegee Airmen

Colonel Alan L. Gropman, USAF (Ret)

future Air Force general officer, Col Benjamin O. Davis, Jr. On 27 January 1944, over Anzio pilots from the 99 FS, flying obsolete P-40s, downed nine superior Focke-Wulf 190s. As the 99FS continued scoring kills, the 332nd Fighter Group (332 FG), another unit manned by Tuskegee Airmen, arrived in Italy with obsolete P-39 ground-attack fighters. In the spring of 1944, these segregated units transitioned to P-47 Thunderbolts and to P-51 Mustangs a month later, when they began flying bomber escort missions.

The 332 FG flew escort missions from 9 June 1944 until the German surrender in the spring of 1945. By a large margin, the Tuskegee Airmen destroyed more aircraft than they lost. They shot down 111 enemy aircraft in air-to-air combat, losing 66 of their own aircraft to all causes, including 7 shot down. On 200 escort missions, they never lost a single friendly bomber to an enemy fighter.

The Tuskegee Airmen set the standard as the only fighter group to lose zero bombers to enemy fighters. While the 332d Fighter Group fought in Europe, the segregated 477th Bomb Group, manned by Tuskegee Airmen, was activated in 1944, at Selfridge Field, MI. Their ability to prepare for war was hampered by frequent relocations and segregation-imposed training barriers.

Nevertheless, the Tuskegee Airmen struck a significant blow to the poison of racism in America. They demolished bigotry by their actions in the skies over North Africa, the Mediterranean, Sicily, Italy, Austria, Yugoslavia, France, Romania, and Germany. With their record they dispelled myths, opened eyes, rewrote history, and prepared the United States Air Force to be the first armed service to integrate racially.

The P-47 and P-51 team seized the air superiority from the *Luftwaffe* in the spring of 1944. Complementing the technological improvements, Allied factories poured out large numbers of new aircraft and stateside training bases produced well-trained air crews. At the helm of the 8th Air Force Fighter Command, Brig Gen William E. Kepner maximized his advantage by introducing new tactics. Fighters would no longer be required to "stick to the bombers." Numerical superiority permitted fighter sweeps and aggressive scouting; superior range allowed fighters to strafe German airfields and attack targets of opportunity.

Armed with new aircraft, tactics, and superior numbers, Spaatz, Doolittle, and Kepner launched Operation Argument with the objective of winning air superiority and crippling Germany's aircraft industry. Between 20 and 25 February 1944, the 8th Air Force flew 3,300 heavy bomber sorties; the 15th Air Force added 500 missions from Italy; and RAF Bomber Command flew 2,750 night attacks aimed at German aircraft manufacturing plants. Protecting them involved nearly 4,000 fighter sorties. At a cost of 226 American bombers, 114 British heavies, and 41 USAAF fighters, Operation Argument destroyed 355 *Luftwaffe* fighters, damaged 155 fighters, and killed

400 fighter pilots. Although the *Luftwaffe* replaced its aircraft, it could not replace the 2,262 experienced pilots killed in the 5 months preceding D-Day, the invasion of Normandy.

By 6 June 1944, Allied air forces dominated the skies of Europe. On the first day of the invasion, the Allies directed 8,722 USAAF and 5,676 RAF sorties against German defenses in France. In response, the once vaunted *Luftwaffe* could launch fewer than 100 sorties and only two German aircraft inflicted damage on the invasion beaches. Allied bombers and fighters trumped the German integrated air defense network.

After the Normandy invation, the Combined Bomber Offensive (CBO) devastated Germany. Approximately 75 percent of the 1.5 million tons of bombs dropped were after June 1944. In contrast to the horrific losses experienced at Schweinfurt, Regensburg, and Ploesti in 1943, American losses fell to "acceptable" rates. By 1945, some raids reported negligible losses: 1 bomber lost out of 1,094 sent to Kassel; 5 out of 1,310 at Chemnitz-Magdeburg; and zero losses out of 1,219 at Nuremburg. At its peak, the USAAF and RAF massed 7,904 heavy bombers in the theater and 28,000 combat planes total. By 16 April 1945, General Spaatz declared the strategic air war against Germany ended since all significant targets were considered destroyed.

From 1942 to 1945, the CBO was the longest, bloodiest, air campaign in history. According to the U.S. Strategic Bombing Survey, the Allies flew 1.69 million combat sorties and dropped 1.5 million tons of bombs, killing and wounding more than a million Germans, and destroying 3.6 million buildings: 20 percent of the nation's total. Airpower emerged as a dominant weapon in Western Europe during World War II.

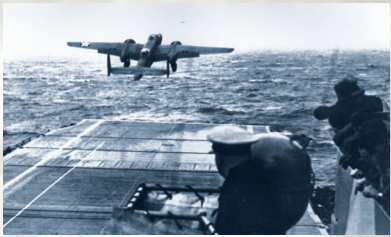
Air War in the Pacific

America's first combat experience in the Pacific Theater of World War II occurred before a declaration of war. In early 1941, former ACTS instructor Claire Lee Chennault organized the American volunteer group, known as the "Flying Tigers," to aid Nationalist China against Japanese invaders. Famous for shark mouths painted on their Curtis P-40 Warhawks, the Flying Tigers amassed an impressive 286 confirmed victories, losing only 12 pilots, before being disbanded in July 1942.

On 7 December 1941, "a date which will live in infamy," Imperial Japan dealt a devastating blow to the U.S. Pacific Fleet at Pearl Harbor. Two waves of 350 Japanese aircraft sank or heavily damaged all 8 U.S. battleships. Concerned over the prospect of sabotage, the U.S. Army ground commander ordered USAAF

aircraft parked in tight rows, that made prime targets for Japanese aviators. To make matters worse, a few hours later, Japanese forces caught U.S. aircraft on the ground refueling in the Philippines and destroyed B-17s and assorted fighters.

The Japanese forces appeared invincible during the first 6 months of conflict, and America needed a strong offensive strike against the Japanese to boost sagging morale. On 18 April 1942, Lt Col James "Jimmy" Doolittle led 16 North American B-25 Mitchell medium bombers, launching from the carrier USS Hornet, in a



bombing raid on various targets in Tokyo, Kobe, and Nagoya. The Doolittle Raid inflicted little damage, but the gesture shocked Japanese military leaders and cheered the American public. Upon his return to the United States in May 1942, Doolittle received the Medal of Honor and promotion to brigadier general.

Naval aviation played a vital role in the Pacific War. Under the leadership of Admirals Chester Nimitz, Frank "Jack" Fletcher, Raymond Spruance, and William "Bull" Halsey, U.S. carrier-based aviation proved the value of airpower at sea. The Battle of Coral Sea, fought 4-8 May 1942, marked the first naval battle fought entirely by air. At the Battle of Midway, 4 June 1942, U.S. Navy

pilots sank four Japanese carriers and turned the tide of the war in the Pacific.

The primary USAAF contribution to the Pacific counterattack was made by the 5th Air Force, attached to the Southwest Pacific Theater under Gen Douglas MacArthur's command. While Admiral Nimitz' carrier task forces struck from the Central Pacific, MacArthur's command thrust across New Guinea toward the Philippines. Because of the "Europe First" strategy, 5th Air Force flew second string aircraft out of primitive bases, struggling to overcome it's low resource priority level and a 10,000 mile supply chain.

In July 1942, Major General George C. Kenney assumed command of the 5th Air Force. Kenney maximized the resource-poor command's combat power. In a theater where range dominated employment decisions, Kenney used the Lockheed P-38 Lightning with locally developed 150-gallon drop tanks. Kenney encouraged an ingenious subordinate, Maj Paul "Pappy" Gunn, to mount quad .50-caliber machine guns in the nose of A-20 and B-25 aircraft, creating deadly attack planes. Other 5th Air Force innovations included parachutes attached to fragmentation bombs and low-level "skip" bombing techniques.

An even lower a priority than 5th Air Force, Allied forces in the China-Burma-India (CBI) Theater faced logistical challenges at the end of the war's longest supply chain. Called to

transport vital supplies across the Himalayas, Air Transport Command crews, flying C-46s and C-47s, braved perilous weather conditions to deliver 650,000 tons of supplies to Chinese and American forces. Flying the "Hump" was one of the most hazardous military air operations of World War II. Enterprise architect William H. Tunner developed many maintenance and cargo -handling techniques that later proved invaluable during the Berlin Airlift.

In addition to Air Transport Command efforts in the China-Burma-India Theater, the 1st Air Commando Group (1ACG), led by Lt Colonels Phillip G. Cochran and John R. Allison, provided assistance to British "Chindit" forces conducting long-range penetration missions against the Japanese during Operation Thursday. America's first Air Commandos demonstrated that air power could support unconventional warfare any place, any time. The 1 ACG also demonstrated its ingenuity, conducting the first helicopter combat rescue.

Allied soldiers, sailors, and marines pushed back the borders of the Japanese empire and airmen sought to destroy Japan through strategic bombardment. General Arnold hoped to clinch victory through airpower alone in order to avoid a costly land invasion. In November 1939, Air Corps leaders selected the primary campaign

instrument: the Boeing XB-29. With a pressurized crew compartment, remotely controlled guns, and new radial engines, the B-29 was an aircraft of unprecedented size and capability. The USAAF ordered 1,664 before the prototype had even flown. The rush to produce the plane led to substantial technical problems. Nevertheless, by April 1944, B-29s appeared in the CBI to conduct Operation Matterhorn.

At first, 20th Bomber Command crews attempted to reproduce high-altitude daylight precision bombing, with disappointing results. Flying from bases in China with logistical staging from India, 20th Bomber Command engine problems were amplified by distance and weather. By October 1944, B-29 operations shifted to Saipan, significantly reducing supply lines. Former ACTS instructor Haywood S. Hansell renewed efforts for a daylight precision bombing campaign. Impatient with the results, General Arnold replaced Hansell in January 1945 with Maj Gen Curtis E. LeMay, a proven combat commander from the European theater.

LeMay drastically altered B-29 tactics. To avoid the jet stream and high-altitude engine problems, LeMay ordered low-altitude, night attacks with bombers stripped of defensive machine guns, reduced fuel loads, and increased bomb loads. Much like the RAF, LeMay's B-29s relied on darkness for protection and pummeled enemy cities with incendiary bombs. From March-August 1945, American firebomb raids destroyed 66 Japanese cities and burned 178 square miles of urban landscape. Civilian casualties were severe; in one raid against Tokyo an estimated 80,000 people perished.

Following a successful atomic test on 18 July 1945, the Allied powers issued an ultimatum on 26 July calling for the Japanese government to surrender or suffer "prompt and utter destruction." Specially modified B-29s from the

Loading the atomic bomb onto the Enola Gay.

393d Bombardment Squadron, a component of the 509th Composite Group, delivered the first operational atomic bombs. On 6 August 1945, Col Paul Tibbets piloted the Enola Gay which dropped a uranium bomb, known as "Little Boy," over Hiroshima destroying nearly 5 square miles of the city and killing 80,000 people. Japan did not surrender. On 9 August 1945, the B-29 Bockscar, commanded by Maj Charles W. Sweeney, released a plutonium bomb called "Fat Man" on Nagasaki. Because Nagasaki was partially protected by hilly terrain, the bomb devastated 1.5 square miles, killed 35,000, and injured 60,000. Faced with a defeated army, destroyed navy and air force, burned cities, a declaration of war by the Soviet Union, and atomic weapons, the Japanese government surrendered 14 August 1945.

In the Pacific Theater, airpower proved even more decisive than in Europe. The industrial might of the U.S. overwhelmed Japanese forces. The geographic circumstances and immense distances involved made airpower the preeminent weapon.

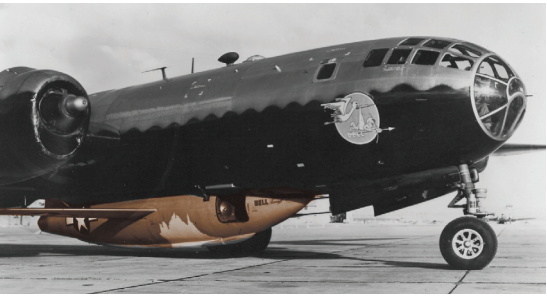
Air Force Independence and the Cold War

With victory in World War II, the American public returned to normal life. Airpower and military affairs, in general, decreased in importance. From a wartime strength of more than 79,000 aircraft and 2.4 million people, forces dwindled to 24,000 aircraft and 304,000 people by May 1947. Nevertheless, airpower's impact on warfare led to the realization of Billy Mitchell's dream. On 26 July 1947, President Harry S. Truman signed into law the National Security Act of 1947, which provided for a separate Department of the Air Force. On 18 September 1947, Stuart Symington became the

first Secretary of the Air Force and officially established the United States Air Force as an independent, coequal service. Under General Spaatz' leadership as the first CSAF and that of his successor, Gen Hoyt S. Vandenberg, the Air Force clarified roles and missions and organized to meet the challenges of the growing Cold War.

Jet aircraft technological breakthroughs changed the face of aviation. Although the Bell XP-59 Airacomet first flew 1 October 1942, the Lockheed P-80 (later redesignated F-80) entered service in December 1945 as the Air

Force's first operational jet fighter. On 14 October 1947, Charles "Chuck" Yeager seized headlines as the first man to break the sound barrier. His Bell X-1 "Glamorous Glennis" reached Mach 1.06 at 43,000 feet after a launch from a B-29 mother ship. Toward the end of World War II, German technological advances such as the V-2 rocket caught the attention of Army



Air Forces leaders, including General Arnold. General Arnold initiated several studies to determine possible uses, including a study on space operations conducted by scientist Theodore von Karman. Von Karman's November 1945 report, *"Toward New Horizons"*, concluded that "the satellite is a definite possibility."

In early 1946, General LeMay asked Project RAND to study the feasibility of using satellites for reconnaissance, weather forecasting, communications, and navigation. The 321-page report was delivered in May 1946.

The 321-page report, titled Preliminary Design of an Experimental World-Circling Spaceship, delivered in May 1946, not only suggested that satellites were possible but explored the feasibility of the placing a 500-pound satellite into orbit by 1951. This study was the basis for Air Force involvement in space operations and would mark the beginning of the transition to an air and space force.

The Berlin Crisis awakened Americans to the impact of the Cold War between the United States and the USSR.

On 24 June 1948, the Soviets blockaded railroad and road corridors serving the 2.5 million residents of West Berlin, deep within Communist East Germany. United States Air Forces in Europe (USAFE) Commander General LeMay organized a makeshift airlift of food, medicine, and coal. USAFE C-47 and C-54 cargo aircraft established a precise schedule of flights every 3 minutes, 24-hours-a-day. After the first month, Maj Gen William H. Tunner assumed command of an expanded effort that would include 300 American and 100 British aircraft flown by aircrews who would apply lessons learned while flying the "Hump" during World War II. On 15 April 1949, 1,398 aircraft delivered a one-day record 12,941 tons of supplies. By 1949, the

Soviets acknowledged the airlift's success and lifted the blockade. Operation Vittles tallied 277,804 flights delivering 2.3 million tons of supplies. This nonviolent use of airpower defused a potentially disastrous confrontation.

The 1948 Berlin Crisis and 1949 Soviet detonation of an atomic device motivated the Air Force to improve war readiness. As the new Strategic Air Command (SAC) commander, General LeMay emphasized rigorous training, exacting performance standards, and immediate readiness. In the late 1940s, SAC incorporated the B-50 (a more powerful version of the B-29) and the massive Convair B-36 Peacemaker (the first bomber with intercontinental range) into the inventory. In the early 1950s, SAC upgraded to an all-jet bomber force, activating the Boeing B-47 Stratojet and the Boeing B-52 Stratofortress. Behind the scenes, the Air Force conducted a highly secret, extensive electronic reconnaissance program that included covert flights over the USSR to assess Communist air defenses.

As the Air Force worked to increase readiness, the armed forces led America in social change. On 26 July 1948, President Truman signed Executive Order 9981 ending legal racial discrimination and fostering equal opportunity. It was a measure long overdue, reflecting the Air Force's success in incorporating equality into the ranks beginning with the valorous Tuskegee Airmen (see special insert, page 42). Under the leadership of Col Benjamin O. Davis, Jr., who later advanced to four-star general, all-black fighter and bomber squadrons proved capable and highly effective. The exploits of the 673 fighter pilots, 253 bomber pilots, and 132 navigators produced by Alabama's Tuskegee Institute paved the way for Air Force diversity.

On 25 June 1950, Communist North Korea launched a massive invasion of U.S.-backed South Korea. Three days later, American B-26 bombers attacked advancing North

Korean troops in the first major flare-up of the Cold War. For 6 weeks, Far East Air Forces (FEAF), commanded by Lieutenant General George E. Stratemeyer, gained air superiority to help United Nations (UN) forces shut down the North Korean assault. The initial phase of the Korean War illustrated the dangers of of being unprepared, as American Airmen struggled to relearn close air support and interdiction skills. In addition, the F-80's limited range inhibited the time over target required for tactical operations. About 100 FEAF Bomber Command B-29s conducted strategic operations to destroy the enemy's will and capacity to fight. Although UN forces controlled the skies and destroyed North Korea's industrial base, multiple limitations frustrated hopes of decisive victory.

General MacArthur's amphibious assault at Inchon and successive operations shattered the North Korean Army, but the UN advance into North Korea led to Communist Chinese intervention. The entry of half a million Chinese troops in November 1950 drastically changed the war. Within weeks, advanced Soviet-made MiG-15 fighters appeared. Flown by North Korean, Chinese, and Soviet pilots, the MiG-15 outperformed American F-51, F-80, and F-84 aircraft. Lt Russell Brown, flying an F-80C, shot down a MiG-15 in the world's first all-jet air battle on 8 November 1950. In response to the enemy's superior speed and altitude, Air Force leaders rushed the North American F-86 Sabre into action. The F-86 matched the MiG's speed and proved a more stable gun platform.

As the war on the ground settled into stalemate, F-86s battled over "MiG Alley," where superior training and experience prevailed. F-86 pilots destroyed 792 MiGs and 18 other enemy aircraft at a cost of 76 Sabres lost to MiGs, and 142 to other causes.

During the Korean War, the Air Rescue Service medically evacuated more than 9,600 wounded soldiers, and rescued nearly 1,000 personnel shot down over enemy territory. Meanwhile, Air Resupply and Communication Service wings executed unconventional warfare and counterinsurgency operations against enemy forces.

During the Korean War, a new group of Air Force pilots entered the pantheon of fighter aces. The F-86 pilots established a remarkable 10-to-1 kill ratio. Capt Joseph McConnell, a B-24 navigator in World War II, led the pack with a score of 16, closely followed by Capt James Jabara who tallied 15 kills. Jabara gained recognition as the world's first jet ace. Unlike the mass squadron formations often flown in World War II, Korean War pilots devised new tactics based on flights of only four F-86s.

Despite success in the air war, the Korean War frustrated American airpower. Accustomed to the commitment of World War II, Korean War era leaders struggled under political, technological, and resource limitations inherent in the Cold War. Worried that the conflict in Korea foreshadowed a Soviet invasion of Europe, American policy makers limited operations in Asia in order to build up North Atlantic Treaty Organization (NATO) forces. Nevertheless, UN forces repelled two Communist invasions of South Korea, and American airpower secured the skies against enemy air attack.

After the Korean conflict, Air Force missile and space capabilities continued to develop rapidly. In late 1953, Assistant Secretary of the Air Force for Research and Development, Trevor Gardner, convened a group of experts known as the Teapot Committee to examine the field of long-range missiles. The committee's 10 February 1954 report recommended accelerating intercontinental ballistic missile (ICBM) development. Based on the recommendation, the Air Research and Development Command (ARDC), 1 July 1954, established the Western Development Division (WDD) in Inglewood, CA, to develop and field ICBMs. On 2 August 1954, Brig Gen Bernard Schriever assumed command of the new organization.

Concurrent with efforts to develop long-range missiles, the U.S. also pursued space-based technology that could provide accurate information on Soviet military intentions. On 27 November 1954, Air Force senior leaders followed the recommendation of the RAND Corporation's Project Feed Back report, issuing Weapon System Requirement No. 5 (WSR5), directing development of an electro-optical reconnaissance satellite. WSR5 later became weapon system (WS) 117L. The scope of WS117L eventually broadened to include

other space-based missions, such as meteorology, missile warning, and multispectral imaging.

On 4 October 1957, the course of missile and satellite development changed when the Soviet Union successfully launched the Sputnik I satellite into earth orbit. The Soviet success marked the beginning of the space age and sparked the space race between the United States and Soviet Union. Over the next two decades the Air Force played a major role in the developing national space programs, assuming the mantle of America's air and space force. In response to the Sputnik I launch, President Eisenhower accelerated U.S. civil and military space efforts; a decision that would prove crucial throughout the Cold War.

Throughout the 1970s the Army, Navy, and Air Force expanded space technologies, many of them classified, to provide communication, meteorology, navigation, and reconnaissance support to national decision makers. For instance, from August 1959 through May 1972, the highly classified Corona Program gave the nation its first eyes in space. Declassified in 1995, Corona was a collective effort by the Air Force and the Central Intelligence Agency, the agencies that founded the National Reconnaissance Office (NRO).

In 1958, the Air Force developed plans for a manned military presence in space, but President Eisenhower reserved manned missions for the National Aeronautics and Space Agency (NASA). However, the Air Force's plan formed the basis of the Mercury, Gemini, and Apollo Programs. The Atlas rocket, which began as a U.S. Army Air Corps ballistic missile in October 1945, was used to launch the MERCURY missions. The Titan-II booster, also originally a ballistic missile, launched the Gemini astronauts. In fact, the Air Force and its contractors planned, built, and launched all of the Titan-II rockets in Project Gemini.

In 1960, the NRO was formed to take charge of highly classified reconnaissance satellites. President Eisenhower undertook several initiatives to help prevent a surprise nuclear attack against the United States, including establishing the classified Corona satellite photo reconnaissance program. This system, known publicly as the Discoverer research program, achieved its first successful launch of the Discoverer XIII, 10 August 1960. Corona employed a payload capsule that jettisoned from the orbiter, returned to earth by parachute, and was captured by an aircraft. Discoverer

XIV, launched a week after recovering Discoverer XIII, shot over 3,000 feet of reconnaissance film from space, heralding the beginning of America's space-based photo reconnaissance capability.

The Air Force concentrated on unmanned missions to fulfill national security needs. Space reconnaissance satellites, for instance, supported strategic deterrence throughout the Cold War, providing invaluable knowledge of the Soviet Union's nuclear inventory, and verifying arms control treaty compliance. Space systems also provided early warning of any missile attack on North America, and worldwide communications platforms for strategic command and control.

Vietnam, 1961-1973

After 8 years, during which the Air Force worked to build America's strategic nuclear forces, President John F. Kennedy's administration faced national wars of liberation backed by the Soviet Union. Responding to Communist efforts in Laos and South Vietnam, President Kennedy in April 1961 ordered Operation Farmgate; the covert deployment of the 4400th Combat Crew Training Squadron (Jungle Jim) to train the South Vietnamese Air Force. Flying North American T-28 Trojans, Douglas A-26 Invaders, and

Douglas A-1E Skyraiders, American pilots launched attack missions under the umbrella of combat training. Following the August 1964 Gulf of Tonkin incident, when North Vietnamese torpedo boats attacked the USS Maddox and USS Turner Joy, President Lyndon B. Johnson lifted the shroud of secrecy and ordered an orchestrated air attack as a show of force. By December 1964, North American F-100 Super Sabres, McDonnell RF-101 Voodoos, and Republic F-105 Thunderchiefs, with Boeing KC-135 Stratotanker support, conducted Operation Barrel Roll, attacking Communist forces in Laos.

Faced with a deteriorating political and military situation in South Vietnam, President Johnson ordered Operation Rolling Thunder; a sign of American support to South Vietnam and a signal of U.S. resolve. Beginning on 2 March 1965, Rolling Thunder was "a program of measured and limited air action against selected military targets in North Vietnam remaining south of the 19th Parallel." Closely managed by the White House, Rolling Thunder sought to apply incrementally announced military power to undermine the North Vietnamese will to wage war. However, the U.S. underestimated the enemy's resiliency and determination. Air Force leaders chafed at rules of engagement that negated the speed, surprise, and flexibility of massed airpower. They believed periodic

bombing pauses intended to signal American intentions allowed the enemy to recover. In 1965, North Vietnamese air defenses multiplied, including Soviet-made SA-2 surface-to-air missiles (SAM). Hanoi established an advanced radar-controlled air defense system that combined SAMs, antiaircraft artillery (AAA), and Soviet-produced MiG-17 and MiG-21 interceptors. Consequently, U.S. losses mounted without any visible effect from the air campaign. By the fall of 1968, Air Force tactical aircraft had flown 166,000 sorties over North Vietnam, and Navy attack aircraft added 144,500. In the process, the enemy downed 526 Air Force aircraft: SAMs accounted for 54, MiGs destroyed 42, and AAA claimed the remainder. Personnel losses were equally heavy. Of the 745 Air Force crew members shot down over North Vietnam, 145 were rescued, 255 were confirmed killed, 222 were captured, and 123 were classified missing in action (MIA). Air Force leaders found these results intolerable for an air campaign with virtually complete air superiority.

Complementing operations over North Vietnam, the air war over South Vietnam demonstrated the full spectrum of airpower. Air Force aircraft and helicopters provided close air support, interdiction, reconnaissance, airlift, tanker support, and search-and-rescue capabilities. Air Force resources ranged from one-man Cessna O-1 Bird Dogs, used by forward air controllers to mark enemy targets for strikers, to mammoth B-52Ds modified to

drop as many as 27 750-pound bombs, and 84 500-pound bombs for Operation Arc Light interdiction missions. Vintage World War II aircraft, like AC-47 Puff the Magic Dragon gunships, joined state-of-the-art platforms like the General Dynamics swing-wing, advanced terrain following radar F-111Aardvark.

The January 1968 siege of Khe Sanh displayed the potential of Air Force close air support. When more than 20,000 North Vietnamese troops, protected by hilly, covered terrain, surrounded 6,000 U.S. Marines, Gen William Momyer applied massive firepower during Operation Niagara. A flight of three B-52s hit the enemy every 90 minutes for most of the 77-day siege. To prevent the enemy from overrunning the base, American aircraft dropped 100,000 tons of bombs, two-thirds of those from B-52s.

Following the 1968 bombing halt, President Richard M. Nixon initiated a phased withdrawal from the frustrating conflict. From 536,000 U.S. troops in 1968, American personnel numbered fewer than 100,000 by 1972. When the North Vietnamese launched the Easter Offensive in Spring achieve peace with honor. Reinforcing ground troops was a political impossible, so Nixon employed Operation Linebacker to blunt the Communist attack.

Unlike Rolling Thunder, military leaders were allowed to use appropriate strategy and tactics, in part because the

administration significantly reduced restrictions. New television and laser-guided smart bombs dramatically increased strike accuracy and heralded the arrival of precision-guided munitions (PGM).

On 13 May 1972, 16 McDonnell-Douglas F-4 Phantoms hit the Than Hoa bridge with 24 smart bombs, destroying a target that had eluded American Airmen for years. From April to October 1972, Air Force and Navy aircraft dropped 155,548 tons of bombs on North Vietnamese troops. The era's first war aces earned their marks during Linebacker, as well. On 28 August 1972, Capt Steve Ritchie shot down his fifth MiG- 21. Within weeks, two F-4 weapons systems officers joined the fraternity of aces: Capt Charles De Bellevue with six kills and Capt Jeffrey Feinstein with five. When North Vietnamese negotiators accepted specific peace conditions, President Nixon terminated the air campaign.

In December 1972, North Vietnamese intransigence over the final peace agreement prompted President Nixon to initiate Linebacker II, an intense 11-day air campaign to pressure enemy compliance. From 18 - 29 December, American aircraft pounded military and industrial targets in North Vietnam. For the first time, the White House authorized B-52 strikes near Hanoi. In less than 2 weeks, 729 B-52 sorties dropped 15,000 tons of bombs and fighter-bombers added another 5,000 tons.

Despite the loss of 26 aircraft, including 15 B-52s, airpower broke the impasse. Peace talks resumed 8 January 1973 and a comprehensive ceasefire was signed 23 January.

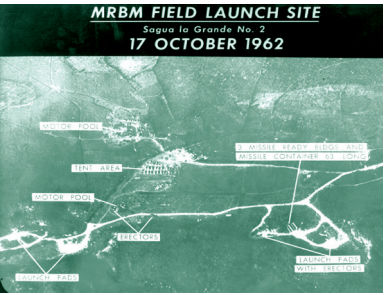
During Vietnam, airpower demonstrated its versatility and wideranging impact, as well as its limitations. Despite an impressive military showing, the United States did not win decisively in Vietnam. Although the Air Force flew more than five million sorties and dropped six million tons of bombs, North Vietnamese forces eventually conquered South Vietnam in April 1975. Airpower could not prevent the collapse of the South Vietnamese government or the change in American political climate.

The Cold War Concluded

President Kennedy's flexible-response nuclear war doctrine of the early 1960s lacked the technology to match its vision of adapting to meet various Cold War crises. Advances in geodesy, cartography, missile and satellite guidance system integrated circuits significantly improved missile accuracy. Technology improvements resulted in better targeting systems and smaller, more effective warheads. Because they were smaller and lighter, more warheads could be mounted to eICBM and submarine launched ballistic missile (SLBM). In the early 1970s, the Department of Defense (DoD) developed multiple independently targetable reentry vehicles (MIRV),

allowing 3 or more warheads to be mounted on each ICBM and SLBM. The Air Force arsenal peaked at 1,054 Titan and Minuteman ICBMs, but many carried 3 MIRVs, as opposed to earlier models that carried a single warhead.

Although Secretary of Defense Robert S. McNamara introduced counterforce targeting in 1962, circuitry improvements dramatic arsenal warhead increases encouraged the Air Force to return to the more traditional practice of bombing precise military targets, instead of countervalue cities. Counterforce targeting identified enemy military and industrial chokepoints, including command centers, military industries and bases, and ICBM silos. Targets selected supported the 1960s political leadership doctrine of mutually assured destruction or the capability to eradicate an enemy's society, even after an attack on American forces. The Cuban missile crisis in October 1962 is widely recognized as the peak of Cold War tension between the U.S. and the USSR.



Mutually assured destruction doctrine was based on the theory that superpower strategic nuclear forces could be sized and protected to survive a nuclear attack in order to retaliate with sufficient force to destroy the other side. Such retaliatory destruction was deterrent insurance because no rational leader would consider starting a nuclear war knowing that the result would be nuclear destruction.

For two decades the Air Force developed more capable satellite systems, such as the Missile Defense Alarm System (MIDAS), which was the first attempt at a spacebased long-range missile attack detection and warning system. MIDAS 7, launched 9 May 1963, validated the concept of infrared (IR) sensing from a nearly circular 2,000-mile orbit. The need for accurate information on Soviet nuclear testing led to the development of a space-based system that could specifically detect nuclear explosions. In September 1959, DoD directed the Advanced Research Projects Agency (ARPA) to develop the Vela Hotel nuclear detection program; a low-cost, automated nuclear detection satellite constellation. The first pair of Vela satellites was launched from Cape Canaveral, 16 October 1963, and detected a nuclear blast the next day.

The Air Force vision of weather satellites was realized with the development of a dedicated military weather satellite system known initially as the Defense Satellite Applications Program (DSAP). Early DSAP military weather satellites were relatively unsophisticated, weighing about 430 pounds. The Initial Defense Satellite Communications Program (IDSCP), launched 16 June 1966, was one of the earliest Air Force satellite communication systems. Another benefit of early satellites was improved navigation. Although the Navy produced the first working satellite navigation system (Transit), an early Air Force navigation satellite program was designed to provide precise time a n d navigation information in three dimensions. Later, a joint Air Force and Navy program would result in what became known as the NAVSTAR Global Positioning System (GPS). Extensive U.S. and Soviet spending for weapons and related systems escalated into what appeared to be an unlimited strategic arms race.

However, 26 May 1972, the U.S. and the USSR signed the Anti-Ballistic Missile (ABM) Treaty, limiting each country to two ABM sites: one to protect the national capital and an ICBM complex. The treaty reinforced the effectiveness of the mutually assured destruction doctrine as a deterrent. The Strategic Arms Limitation Treaty (SALT I), which was signed at the same time, limited the number of nuclear weapons, with the objective of obtaining a verified freeze on the numerical growth and destabilizing characteristics of each side's strategic nuclear forces.

The Nixon administration adopted counterforce targeting, beginning with the Single Integrated Operational Plan (SIOP) 5 of 1974. The Carter administration expanded it with Presidential Directive 59 and SIOP 5D. Counterforce was an option to mutually assured destruction, involving limited, prolonged nuclear war based on accurate attacks with limited collateral damage, while maintaining a credible second strike capability.

Increased defense spending during the early 1980s resulted in more mature space and missile programs (most of which are still in service) to replace the systems developed in the 1960s and 1970s. These included the Defense Support Program (DSP), the Defense Meteorological Satellite Program (DMSP), the Defense Satellite Communications System (DSCS), and the GPS. Concurrently, the Air Force developed the ground-based

infrastructure to support, augment, and complement the space-based portions of the systems. Ground-based systems included the Ballistic Missile Early Warning System (BMEWS); orbiting space object surveillance using Baker- Nunn cameras; and the Air Force Satellite Control Network (AFSCN). In addition, the Air Force developed launch support bases necessary to get satellites into space – one at Cape Canaveral, FL, and the other at Vandenberg AFB, CA. The launch bases provided support not only for DoD sponsored systems but also for NASA, other U.S. government agencies, and commercial requirements.

In the late 1970s and early 1980s, the time had come to substantially reorganize the way the service managed its space systems. CSAF General Lew Allen appeared with Under Secretary of the Air Force Pete Aldridge, 21 June 1982 to announce the formation of Space Command, with activation slated for 1 September 1982. Air Force Space Command's responsibilities grew quickly over the ensuing decade as it absorbed programs from Aerospace Defense Command, Air Force Systems Command, and Strategic Air Command. Eventually command missions included missile warning, space surveillance, satellite control, space defense, space support to operational forces, and launch operations. The organizational changes that led to the establishment of Space Command reflected a growth in the use of space systems in support of worldwide joint operations.

In a 23 March 1983 address, President Ronald Reagan proposed replacing the doctrine of mutually assured destruction with one of assured survival, through implementation of the Strategic Defense Initiative (SDI). SDI would include a combination of defensive systems such as space-based lasers, particle beams, railguns, and fast ground-launched missiles, among others, to intercept

ICBMs in the earth's outer atmosphere and ballistic path in space. The end of the Cold War and collapse of the Soviet Union eliminated the justification for the level of research and development associated with the project, although research continued at a much-lower level under the Ballistic Missile Defense Organization.

Beginning in March 1985, Soviet Communist Party General-Secretary Mikhail Gorbachev initiated major changes in Soviet-American relations. The Intermediate Range Nuclear Forces Treaty, in December 1987, eliminated medium-range nuclear missiles, including U.S. Air Force ground-launched cruise missiles (GLCMs). Gorbachev's announcement in May 1988 that the Soviet Union, after 9 years of inconclusive combat, would withdraw from the war in Afghanistan resulted in reduced Cold War tension, but it was only a hint of the rapid changes ahead. Relatively free and open Russian national elections in March 1989, followed by a coal miners strike in July shook the foundations of Communist rule. East Germany opened the Berlin Wall in November which led to German reunification in October 1990. The August 1991 coup against Gorbachev, led by Boris Yeltsin, resulted in the dissolution of the Soviet Union, replaced 25 December 1991 by the Commonwealth

of Independent States.

American nuclear strategy changed significantly in response to the Soviet changes. Under the Strategic Arms Reduction Treaty (START) I, signed by the United States and the Soviet Union in July 1991, the Air Force would reduce arms to 6,000 total warheads on deployed ICBMs, SLBMs, and heavy bombers. START II, signed in January 1993, would reduce total deployed warheads up to a range of 3,500 nautical miles. The resulting force structure (determined during the Nuclear Posture Review process overseen by then Secretary of Defense Les Aspin), would ultimately lead to the deployment of 500 single-warhead Minuteman III ICBMs, 66 B-52H, and 20 B-2 heavy bombers. Ninety-four B-1 heavy bombers would be reoriented to a conventional role by 2003, and all Peacekeeper ICBMs would be removed from active inventory and associated silo launchers eliminated. The Air Force, by presidential direction in September 1991, notified SAC to remove heavy bombers from alert status. SAC was subsequently deactivated in June 1992. U.S. Strategic Command replaced Strategic Air Command and controls all remaining Air Force and Navy strategic nuclear forces.

Rebuilding the conventional Air Force after Vietnam began with personnel changes. The Vietnam-era Air Force included many members who had entered its ranks in World War II. President Nixon ended the draft in 1973

in favor of an all volunteer American military. The Air Force attracted recruits as best it could, but encountered problems with the racial friction and alcohol and drug abuse that reflected America's social problems. Enough Vietnam career veterans remained, however, to direct the new service and implement changes. One of the most notable of those changes was more realistic- more dangerous- combat training. In combat simulations, Air Force pilots flew as aggressors employing enemy tactics. By 1975, training had evolved into Red Flag at the U.S. Air Force Weapons and Tactics Center, Nellis AFB, NV. Red Flag aircrews flew both individual sorties and formations in realistic situations to gain application experience before actual combat. Col Richard "Moody"

Suter is the founder of Red Flag. As a major, working in the Pentagon in 1975, he saw his vision through to fruition. Red Flag revolutionized Air Force training. According to senior leaders at the time, Colonel Suter's efforts resulted in a program that made the U.S. Air Force the premier air arm of the world.

An innovative genius, Suter flew more than 200 combat missions in Vietnam and was the first F-15 Eagle squadron commander. In addition to Red Flag, he is credited with founding the Air Force aggressor

squadron, and the Einsiedlerhof Air Station, Germany Warrior Preparation Center, used to train senior battle commanders in the art of war. Suter was the driving force behind Checkmate, the Air Force think tank for wartime scenarios.

After his death in January 1996, the Warrior Preparation Center Command Section Building and Red Flag Building, Nellis AFB, NV, were named in his honor.

Air base vulnerability to attack and sabotage were the Achilles heel of landbased air power. In Western Europe, living under the threat of a massive Warsaw Pact air offensive and land invasion, the U.S. Air Force spearheaded an active program to improve air base survivability and readiness, building thousands of reinforced concrete aircraft shelters and other hardened facilities, alternate runways, rapid repair elements, chemical weapons protection, and a host of other defensive measures.

Post-Vietnam rebuilding included applying technology improvements. The battle for control of the skies over North Vietnam emphasized the need for a highly maneuverable dogfighting aircraft armed with missiles and cannon. The F-15 Eagle and F-16 Fighting Falcon filled this need. The danger posed by radar-guided AAA and SAMs in Vietnam drove the Air Force to develop stealth technology: special paints, materials, and designs to reduce or eliminate aircraft radar, thermal, and electronic signatures. Operational by October 1980, the F-117 Nighthawk stealth fighter featured detection avoidance.

Other Vietnam War technologies included PGMs and smart bombs. From April 1972 to January 1973, the United States used more than 4,000 early smart weapons to destroy bridges and enemy tanks. Laser-guided bombs, electrooptically-guided missiles, and other precision technologies changed Air Force doctrine from its focus on strategic bombing to pinpoint bombing focused on destroying enemy's industrial web chokepoints with economy of force and no collateral damage. This doctrine change took two forms: To overcome numerically superior Warsaw Pact forces, the Air Force worked with the Army to update the air-land battle tactical doctrine published in Field Manual 100-5. The Air Force would make deep air attacks on an enemy army to isolate it on the battlefield, conduct battlefield air interdiction to prevent enemy reinforcements from reaching the front, disrupt the movement of secondary forces to the front, and provide close air support to Army ground forces. The Air Force procured the A-10 Thunderbolt II in the 1970s to support such missions.

Operation Rice Bowl, the April 1980attempt to rescue American hostages from the United States embassy in Iran, ended in disaster at the Desert One refueling site. Inquiries led to the reorganization and revitalization of U.S. Special Operations Forces. Crisis support missions during the the 1980s allowed the Air Force to test new ideas and technologies. During Operation Urgent Fury, October 1983, American forces rescued American students and restored order to Grenada. The Air Force primarily transported troops and cargo, but discovered problems with command, control, planning, and intraservice & interservice coordination during the operation. In April 1986, President Reagan mobilized England- based F-111s to strike Libya during Operation Eldorado Canyon. The counterterrorism

operation exposed on-going target identification and intelligence difficulties, punctuated by inaccurate bombing. Finally, Operation Just Cause in 1989 tested air operations; this time in Panama. The Air Force primarily airlifted troops and supplies, but also debuted the F-117 Nighthawk stealth fighter, which flew psychological operations missions with an AC-130 Spectre gunship, intimidating Panamanian troops loyal to dictator Manuel Noriega.

DESERT STORM: The Air Campaign against Iraq, 1990-1991

On 2 August 1990, Iraqi dictator Saddam Hussein ordered 100,000 troops to invade oil-rich Kuwait, claiming Kuwait as Iraq's 19th province. International condemnation followed and on 6 August the UN authorized an economic embargo. The same day, President George H. W. Bush announced Operation Desert Shield, the deployment of U.S. air and ground units to defend Saudi Arabia and Persian Gulf states. Within 18 hours of the order, Air Force Military Airlift Command (MAC) C-141 and C-5 transports delivered the Army 82d Airborne Division and the Air Force 1st Tactical Fighter Wing (whose 48 F-15Cs flew direct) elements.

Operation Desert Shield eclipsed the Berlin Airlift as the greatest air deployment in history. MAC cargo planes

delivered defensive forces 7 August - 8 November 1990, brought counteroffensive material 9 November - January 1991. The air bridge spanned more than 7,000 miles and included 20,500 strategic airlift missions. Desert Shield validated the C-5A Galaxy and C-141 Starlifter large capacity heavy lifters, which carried 534,000 passengers and 542,000 tons of cargo during the Gulf War.

The Gulf War represents the first, extensive, broad-based employment of space support capabilities. Coalition forces employed 60-plus military satellites, as well as commercial and civil sector systems during the conflict. DMSP provided

dedicated meteorological support in theater, which helped provide safe, highly effective combat power planning and application in a harsh environment characterized by sandstorms and oil fires. Satellite-based systems delivered more than 90 percent of all communications to and from the theater due to the sheer volume and the lack of ground-based infrastructure. At the height of the conflict, 700,000 phone calls and 152,000 messages per day flowed over satellite links.

At 0100, 17 January 1991, three Air Force Special Operations MH-53J Pave Low helicopters led 9 Army Apaches on the first strike mission of Operation Desert Storm.

Within hours, the world watched live television coverage of Iraqi skies filled with AAA fire. F-117A Nighthawks struck heavily defended targets with unprecedented precision. Under Horner's command, 2,700 aircraft from 14 countries and services implemented the master attack plan. The coalition effort overwhelmed the Iraqi air defense system with speed, surprise, precision, and mass. A flight of 7 B-52Gs flew nonstop from Barksdale AFB LA to strike Iraqi power stations and communications facilities with Air

Launched Cruise Missiles (ALCM). At 35 hours round-trip, the 14,000-mile raid was the longest combat mission in history and proof of America's global reach.

The first week of Desert Storm focused on achieving air supremacy and destroying the enemy's command and control system. Capt Jon K. "JB" Kelk, flying an F-15C, scored the first air-to-air kill, downing an Iraqi MiG-29. All total, coalition aircraft shot down 41 Iraqi aircraft with Capt Thomas N. "Vegas" Dietz and Lt Robert W. "Digs"

Hehemann each credited with three kills. Additionally, Allied air forces destroyed 375 enemy aircraft and 594 hardened bunkers. Faced with coalition air dominance, 148 Iraqi aircraft fled to neighboring Iran.

The air campaign then prepared the battlefield by isolating Iraqi ground units, interdicting supplies, and reducing enemy combat power. A-10 Thunderbolt II "Warthogs" and F-15Es introduced a new term -tank plinking - as they destroyed the enemy's armored forces. F-111F "Aardvarks" dropped 4,600 of the 8,000 PGMs. EF-111A electronic warfare aircraft provided tactical jamming, while combined RC- 135 Rivet Joint, E-8 Joint Surveillance Target Attack Radar System (Joint STARS), and E-3 Airborne Warning and Control System (AWACS) aircraft provided intelligence and command and control. Perhaps the most spectacular element: B-52s shattered Iraqi Army morale with massive bomb drops. When one Iraqi commander asserted that he surrendered because of B-52 strikes, his interrogator pointed out that his position had never been attacked by the B-52. "That is true, but I saw one that had been attacked," said the Iraqi.

Not all aspects of the air campaign were successful. Early in the campaign, Iraq launched modified Soviet Scud missiles against Israel, Saudi Arabia, and the Persian Gulf states. On 18 January 1991, USAF A-10s, F-16s, and F-15Es with Low-Altitude Navigation and Targeting Infrared for Night (LANTIRN) pods commenced the Great Scud Hunt. Despite 2,767 sorties (22percent of the strategic air phase), air patrols did not destroy a significant number of the missiles. Iraqi camouflage, decoys, and employment tactics frustrated the effort. The enemy launched 88 Scuds, including one that struck a U.S. Army Reserve unit at Dhahran, killing 28 soldiers and wounding 98. The anti-Scud effort did limit Scud launches after the first 2 weeks of fighting

and reduced the political impact of the weapon.

The Desert Storm air campaign demonstrated airpower's impact on a conventional battlefield. Air Force space assets provided precision positioning and navigation to joint and coalition forces with the combat debut of the GPS. Allied forces employed GPS satellites for precision weapons delivery, artillery spotting, and to maneuver large troop formations, such as Gen H. Norman Schwarzkopf's famous left hook through the featureless Iraqi desert. Space forces also provided the coalition and allies with advanced Iraqi Scud launchwarnings. DSP gave timely warning of the launch of Iraqi Scud missiles to U.S. forces in theater and allowed Patriot batteries in Israel, Saudi Arabia, and Kuwait sufficient time to engage the incoming Iraqi intermediate range ballistic missiles (IRBM). Space force capabilities influenced Israel to remain neutral, thereby preserving the integrity of the allied coalition. Over the course of the 44-day air campaign, the coalition flew 118,661 sorties, of which the Air Force flew 60 percent. The U.S. led coalition's 1991 Persian Gulf War brought military space operations to the joint community. The Gulf War was the first conflict to highlight the force enhancement capabilities of space-based communications, intelligence, navigation, missile warning, and weather satellites. Desert Storm also demonstrated the impact of PGMs on modern war. Although PGMs accounted for only 8 percent of the 88,500 tons of bombs dropped, they were responsible for 80 percent of the destroyed targets. While coalition ground forces delivered General Schwarzkopf's famous hail Mary outflanking maneuver that applied the final blow to the Iraqi military forces, airpower set the stage for victory. As the Gulf War Air Power Survey stated: It was not the number of Iraqi tanks or artillery pieces destroyed, or the number of Iraqi soldiers killed that mattered. It was the effectiveness of the air campaign in

breaking apart the organizational structure and cohesion of enemy military forces and in reaching the mind of the Iraqi soldier that counted.

Operation Allied Force

The breakup of Yugoslavia proved to be NATO's greatest challenge in the 1990s. Militant Serbian nationalism and a policy of ethnic cleansing, promoted by Yugoslavian President Slobodan Milosevic, created a crisis in Kosovo in 1999. Meanwhile, Albanian separatists in the Kosovo Liberation Army (KLA) fanned the flames of violence. When diplomacy failed, NATO worried about the possibility of a genocidal civil war and destabilization throughout the Balkans. As NATO debated intervention, President Milosevic unleashed a ruthless offensive designed to crush the KLA and drive ethnic Albanians out of Kosovo. Faced with a massive humanitarian crisis, NATO turned to airpower.

After Desert Storm in early 1992, CSAF Gen Merrill McPeak, introduced a revamped Air Force mission: Defend the United States through control and exploitation of air and space. Resultant organizational changes permitted the Air Force to attain an unprecedented level of integration between air and space capabilities by the time the Air War over Serbia (AWOS) commenced in 1999. During AWOS, AFSPC deployed nearly 150 space professionals to 9 locations in theater. During the conflict, multisource Tactical System/Combat Track I modifications to five B-52s and two B-1s allowed near real-time information to flow to the cockpits. The space-enabled information included threats, target updates, imagery, and secure communications with the wing operations center. GPS satellites provided terminal guidance data for Joint Direct Attack Munitions (JDAM), Conventional Air Launched Cruise Missiles (CALCM), and Tomahawk Land Attack Missile deliveries. This

conflict was the first operational employment of JDAM, demonstrating precision adverse weather delivery of multiple weapons against multiple aim points on a single pass.

Optimistic policymakers looked to NATO's successful 2-week Operation Deliberate Force in 1995 that brought relative peace to Bosnia. On 24 March 1999, President Bill Clinton commenced Operation Allied Force (OAF), announcing three objectives: demonstrate NATO's opposition to aggression; deter Milosevic from escalating attacks on civilians; and damage Serbia's capability to wage war against Kosovo. Milosevic and Serbian forces presented U.S. and NATO forces with an opponent with a capacity for skilled propaganda and utter ruthlessness. The ensuing 78-day battle would be directed against both the Serbian military and Milosevic's propaganda efforts.

From 24 March to 9 June 1999, NATO air forces walked a political tightrope. In over 38,000 sorties, 13 of NATO's 19 nations attempted to pressure Milosevic, destroy Serbian fielded forces engaged in Kosovo, and maintain popular support for intervention. Initially, 214 strike aircraft

followed a limited air campaign against approximately 50 targets.

The B-2 Spirit stealth bomber flew its first combat missions from Whiteman AFB, MO, delivering 650 JDAMs in 49

30-hour sorties . On 27 March 1999, Serb air defenses shot down an Air Force F-117, but Combat Search and Rescue personnel recovered the pilot. After weeks of caution and frustration, NATO expanded the scale of the air campaign: 563 USAF aircraft and 13,850 American Airmen deployed to 24 locations.

By June 1999, NATO airpower accomplished its objectives, although complex political constraints, abysmal flying weather, and a Serbian-manufactured refugee crisis hampered progress. Despite a concerted effort to avoid civilian casualties, at least 20 major incidents occurred, including the 7 May 1999 accidental bombing of the Chinese embassy.

The 1999 air campaign against Serbia reinforced historical lessons on employing air and space power. Despite limitations, air and space forces proved precise, effective, and rapid. In many ways, a limited air campaign represented the only means available to coerce an implacable foe. Assessments of Operation Allied Force concluded that air and ground commanders must agree on the enemy's centers of gravity, and micromanaging the targeting process limits military effectiveness.

Global War on Terrorism:

Operations Noble Eagle, Enduring Freedom, and Iraqi Freedom

On 11 September 2001, 19 Islamic extremist Al Qaeda terrorists highjacked four airliners and flew them into the World Trade Center, the Pentagon, and a remote field in Pennsylvania, killing about 3,000 people. In response, President George W. Bush declared a global war on terrorism. Operation Noble Eagle immediately focused on protecting the U.S. homeland from both internal and external air attacks of the nature used on September 11. U.S. Air Force fighter, tanker, and surveillance air assets provided 24-hour intercept response coverage for virtually the entire U.S in the form of ground alert and airborne combat air patrols over designated locations.

Operation Enduring Freedom (OEF) focused forming and acting with an international coalition - which included forces from the United Kingdom, Australia, Canada, the Czech Republic, Denmark, France, Germany, Italy, Japan, Jordan, the Netherlands, New Zealand, Norway, Pakistan, Poland, Russia, Spain, Turkey, and other nations - to remove Afghanistan's Taliban government. The Taliban sponsored Al Qaeda terrorism and provided a safe haven for Osama bin Laden, its leader.

On 7 October 2001, 15 Air Force bombers, 25 Navy carrier-strike aircraft, and 50 U.S. and British sea-launched Tomahawk cruise missiles launched the first wave of OEF military operations. In the opening days of the campaign, joint airpower destroyed Taliban air defenses, command centers, and other fixed targets, and protected humanitarian relief missions to the Afghan people. In contrast to Desert Storm and Allied Force, Taliban and Al Qaeda forces presented few fixed targets suitable for air attack. Instead, Air Force

assets provided flexible, time critical targeting. B-1 and B-52 bombers carrying GPS-guided JDAMs flew to engagement zones where ground-based forces directed attacks. GPS-guided munitions were employed with great accuracy, enabling air planners to reduce the number of air sorties required to destroy a particular objective. Combat operations in Afghanistan began with small groups of elite American military forces deployed to support anti-Taliban Afghani fighters. A number of the deployed troops carried 2.75-pound Precision Lightweight GPS Receivers (PLGR) and satellite-based communications devices. Air Force combat controllers, were among the 300 or so Army, Navy, and Air Force special operations personnel augmenting the Afghan Northern Alliance. On 13 November 2001, the Afghanistan capital, Kabul, fell to coalition forces.

Operations to defeat the Taliban government employed high-tech weapons, global communications, and high-quality training. Space-based communications satellite constellations such as DSCS III, upgraded MilStar, and the Global Broadcast System (GBS) provided an

array of reliable, improved, high-speed, secure and nonsecure, long-range communications options. The amount of intelligence and other data relayed through space was unprecedented. DMSP satellites provided timely meteorological information in support of the air campaign. Space-based weather information was also invaluable to ground forces that often had to endure a harsh climate. As space becomes a more integral part of the military peace and wartime tool kit, demand for more and better space capabilities will increase and the ability to reach orbit will be critical. To meet that need, the Air Force developed a new family of launch systems: the Evolved Expendable Launch Vehicles (EELV). In addition, NASA and the Air Force have undertaken joint efforts to explore improved reusable launch vehicle technology. Across the spectrum of space capabilities, new technology and innovative applications are leading to significantly advanced systems. The Air Force is developing a replacement for the Space Based Infrared System (SBIRS), which will provide unprecedented missile detection and tracking capability. Overall Air Force space systems played an even more significant role during Operation Enduring Freedom than they had during Operations Desert Storm and Allied Force.

Afghanistan's rugged terrain, complex political relationships, and distance from operating bases (Navy aircraft flew 700 miles one way from carriers and Air Force bombers ventured 2,500 miles one way from Diego Garcia) challenged coalition forces. Air Force KC- 135 tankers, C-17 and C-130 air lifters, Red Horse civil engineer teams, space-based GPS and intelligence-gathering satellites, and other support functions proved the unsung heroes of the campaign. Their effectiveness reduced combat troop casualties. In the first 18 months, the Air Force flew more than 85,000 sorties (75 percent of the total effort), dropped 30,750 munitions, delivered 487,000 tons of cargo, and provided 3,025 intelligence, surveillance, and reconnaissance (ISR) missions. On 19 March 2003 a coalition of American and allied forces entered Iraq to end the regime of Saddam Hussein and to free the Iraqi people, kicking off Operation Iraqi Freedom. One key innovation occurred early in the campaign when the Central Command (CENTCOM) commander designated the Combined Forces Air Component Commander (CFACC) as the Space Coordinator. Throughout the war space experts issued space tasking orders that ensured space resources were ready to support combat operations. Space assets were refined to provide maximum capabilities to Allied forces. In a summary of space support during the conflict, Brigadier General Larry D. James, senior space officer assigned to the Combined Air Operations Center (CAOC), said, "I think we have truly integrated air and space operations better than ever before to achieve the battlefield effects we wanted—shorten the kill chain and be able to respond dynamically to what was going on out there." As noted by former Chief of Staff of the Air Force Michael E. Ryan in January 2000, "Never again can Airmen apply airpower without the seamless

integration of space assets into their operational art, mind-set, and culture."

Although the remnants of Al Qaeda eluded capture, 28 January 2003, President Bush voiced the resolve of America. "Our war against terror is a contest of will in which perseverance is power. Whatever the duration of this struggle, and whatever the difficulties, we will not permit the triumph of violence in the affairs of men—free people will set the course of history."

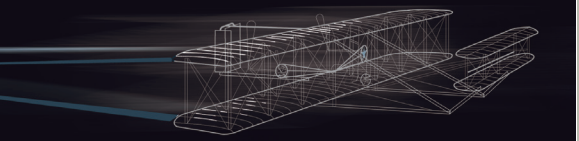
1 September 2010 marked the transition from Operation Iraqi Freedom to Operation New Dawn, signifing a formal end to U.S. military combat operations. The transition to stabilize operations was made possible by increased capability of Iraqi Security Forces and their improved ability to combat terrorists and provide security for the Iraqi people. U.S. military members moved into a supporting role and started conducting stability operations.

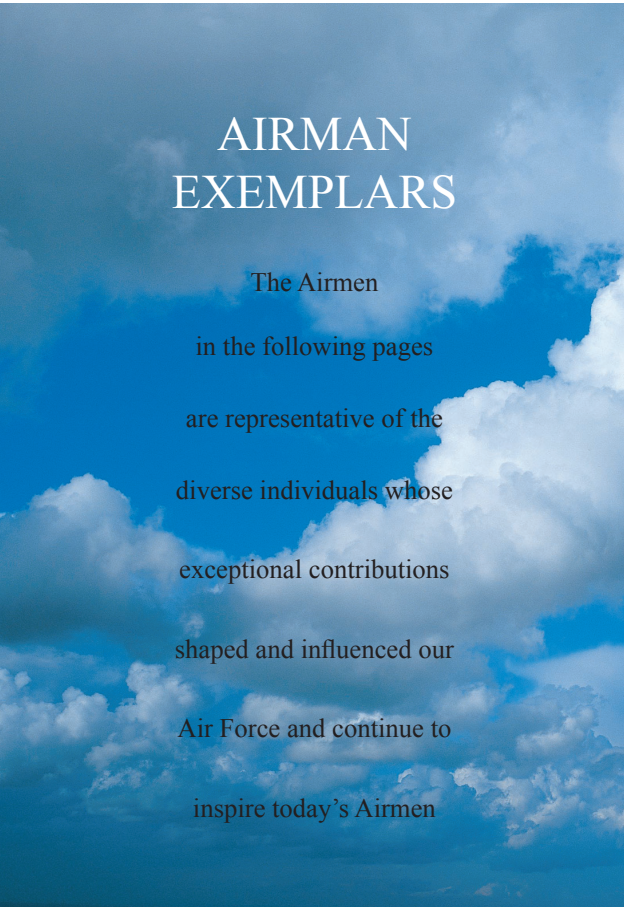
As part of Operation New Dawn, U.S. Forces have three primary missions: Advising, Assisting, and Training the Iraqi Security Forces; conducting partnered counterterrorism operations; and providing support to provincial reconstruction teams and civilian partners as they help build Iraq's civil capacity.

On 20 March 2011 a collection of aircraft launched in support of Operation Odyssey Dawn to enforce U.N. Security Council Resolution 1973, centered on protecting Libyan citizens from further harm from Libyan leader Moammar Gadhafi's regime. Following the initial launch of Tomahawk missiles, three U.S. aircraft led strikes on a variety of strategic targets over Libya. U.S. fighter aircraft created airspace where no enemy forces could advance on Libyan opposition troops.

Conclusion

From Kitty Hawk to Kosovo, the record of air and space power emphasizes powerful themes. The interplay of doctrine, technology, tactics, and strategy must be sustained by training, logistics, supply, and support infrastructure. Although history may not provide hard and fast lessons, it offers inspiration, insight, and examples to spur your thinking. Today's Airmen draw from a proud heritage of sacrifice, valor, and success. Just as our predecessors triumphed over the challenges at St. Mihiel, Schweinfurt, and MiG Alley, you will face new challenges with courage, skill, innovation, and perseverance.





AIRMAN EXEMPLARS

The Airmen

in the following pages

are representative of the

diverse individuals whose

exceptional contributions

shaped and influenced our

Air Force and continue to

inspire today's Airmen

Orville and Wilbur Wright

The Wright brothers, bicycle manufacturers from Dayton, OH, achieved the first powered, sustained, controlled airplane flight in 1903, heralding the age of heavier-than-air aviation. Wilbur was born 16 April 1867, near Millville, IN, and Orville was born 19 August 1871, in Dayton, OH. They became interested in mechanical flight after reading about Otto Lilienthal's successful glider experiments in Germany during the 1890s. In contrast to other experimenters, the Wrights concentrated their efforts on a three dimensional system of control, using an elevator and twisting the wings (called warping) in combination with a vertical rudder. A series of biplane gliders in 1902 led to a development of a perfectly controllable glider capable of generating sufficient lift. Subsequently, the brothers designed and built a relatively lightweight gasoline engine, and revolutionary, highly efficient propellers for the 1903 flyer. Using that aircraft, they successfully flew four manned missions 17 December 1903 at Kitty Hawk, NC. In 1904 and 1905, the Wright brothers conducted experiments at Huffman Prairie, near Dayton, and introduced a new improved aircraft each year. The 1905 Wright flyer is generally recognized as the first practical airplane. It could turn, bank, fly figure eights, and remain aloft for over 30 minutes. It was not until 1907 that the Signal Corps established an Aviation Section and issued

a bid for a military airplane. Tests of the Wright military machine began at Ft Myer, VA, in 1908. A crash 17 September 1908, however, seriously injured Orville, killed passenger Lt Thomas E. Selfridge, and temporarily interrupted testing. A new machine accepted in the fall of 1909 was the U.S. Army's first airplane: Signal Corps No. 1. Subsequently the Wright brothers trained several U.S. Army pilots, including Henry H. "Hap" Arnold, future commander of the U.S. Army Air Forces during World War II. The Wright Aircraft Company sold the Army several airplanes. The Wrights, however, remained wedded to the wing warping system of control and their airplanes became increasingly inferior and uncompetitive, while those of rivals like Glenn Curtiss improved rapidly in performance. Wilbur died of typhoid fever 30 May 1912, and Orville later sold the Wright Company and assumed a less active role in aviation. He remained, however, the "father" of flying and a highly honored individual until his death 30 January 1948.

Colonel William "Billy" Mitchell

Colonel Mitchell was an airpower visionary who saw the airplane dominating warfare and called for an air force independent of the U.S. Army.

Born to wealthy American parents in Nice, France, on 29 December 1879, he grew up in Wisconsin. He attended Racine College and Columbian College (now George Washington University in Washington, DC) but abandoned college at the beginning of the Spanish-American War and enlisted in the military. His father, a U.S. Senator, applied influence and he received a commission. Intelligent, able, and aggressive, Mitchell was the youngest captain ever selected to join the General Staff (1912).

In 1915, Mitchell joined the Aviation Section of the Signal Corps and the following year he took private flying lessons. During much of 1918, he commanded most of the U.S. air combat units at the front. He added the use of aircraft in mass to overwhelm the enemy to the British doctrine of taking the offensive. In September 1918, he massed more than 1,500 U.S. and Allied aircraft in support of the St. Mihiel offensive. In April 1921, Mitchell became Assistant to the Chief of the Air Service. His outspoken advocacy of a separate air force, critical remarks about the poor quality of the Air Service, and criticism of superiors caused considerable controversy. Worse was his methodology, which relied on appeals to Congress and the public outside the chain of

command, often in violation of direct orders. His claims that the airplane could sink battleships ultimately led to bombing trials in June 1921. During these trials, the 1st Provisional Air Brigade under Mitchell's leadership sank the former German battleship Ostfriesland which was probably the high point of Mitchell's military career.

Maj Gen Mason Patrick, Air Service commander after the bombing trials, was able to keep Mitchell out of trouble for a time, but in 1925 further activities led the War Department to refuse to reappoint him as Assistant Chief. Mitchell reverted to his permanent rank of colonel and was assigned to Fort Sam Houston, TX.

Even from Texas, Mitchell used the press to continue to advocate an independent air force. After the Navy dirigible Shenandoah was destroyed in a storm, he charged them with incompetence. President Coolidge personally ordered Mitchell's court-martial; was found guilty of insubordination. Mitchell resigned his commission 1 February 1926 and died 19 February 1936.

Major General Benjamin D. "Benny" Foulois

Foulois was a pioneer aviator and the first commander of an American air unit in the field. He was born in Connecticut, 9 December 1879. He enlisted in the Army at the time of the Spanish-American War and was commissioned during his service in the Philippines in 1901. In 1907, Foulois entered the Aviation Section of the Signal Corps. In 1908 and 1909, Foulois participated in the acceptance tests of the Army's first semirigid dirigible and its first airplane, a Wright flyer designated Signal Corps (SC) No. 1. In 1910, Foulois took SC No. 1 to Fort Sam Houston, TX, where he conducted tests to demonstrate its military usefulness. He remained in aviation until his retirement in 1935. In subsequent years, Foulois participated in all aspects of early U.S. Army aviation and in 1915, completed the organization of the Army's first operational unit, the 1st Aero Squadron. Foulois commanded the squadron during the Mexican Punitive Expedition in 1916-1917; the first deployment of a U.S. Army air unit to the field. Following the Punitive Expedition, Foulois went to Washington, DC, where he played a major role in planning and implementing the $640 million aviation program begun after the U.S. entered World War I. Foulois was promoted to brigadier general and named Chief of the Air Service for the American Expeditionary Force in November 1917.

He was unsuccessful, however, and was replaced by General Patrick in May 1918. Foulois' subsequent work, especially as Patrick's assistant, however, played a major role in Air Service success during the war.

In 1927, he moved to Washington, DC, to become Assistant Chief of the Air Service, and in 1931 was promoted to major general and named Chief of the Air Corps. Foulois proved a less-than-effective Air Corps leader. A hands-on individual, he tried to spend more time in the cockpit and less in the office. A firm advocate of strategic bombardment and an independent air force, his testimony before Congress was usually blunt and straightforward.

In 1934, Foulois agreed on short notice that the Air Corps could fly the U.S. mail. The service proved ill-equipped for the effort, which damaged Foulois' reputation. However, during his tenure, the Air Corps acquired its first B-17 heavy bombers and he helped organize GHQ Air Force in 1935; a significant step toward Air Force independence. General Foulois retired 31 December 1935 and died 25 April 1967.

General of the Air Force Henry H. "Hap" Arnold

General Arnold was an aviation pioneer and is generally recognized as the father of the modern U.S. Air Force, commanding the U.S. Army Air Forces during World War II. Arnold was born in Gladwyne, PA, 25 June 1886, and graduated from West Point in 1907. Originally an infantryman, he became a flyer in 1911. His career paralleled the early development of U.S. military aviation. In April 1911, the Signal Corps sent Arnold to Dayton, OH, where Wilbur and Orville Wright taught him to fly. In 1912, he won the first Mackay Trophy for making the most meritorious military flight of the year. Promoted to temporary colonel, Arnold spent most of World War I as the highest-ranking flying officer in Washington, DC. He would apply the lessons he learned during the Great War to the development of the U.S. Army Air Forces. Arnold began his rise to command of the Army Air Corps during the interwar years, serving in Air Service headquarters in Washington, DC, and in several of the most important operational flying commands in the field. Promotion to lieutenant colonel came in 1931 and with it command of March Field, CA. In 1934, he took command of the western zone of the U.S.

In 1934, Arnold again won the Mackay Trophy, leading a flight of 10 B-10 bombers from Washington, DC, to Fairbanks, AK. On 29 September 1938, he was named Chief of the Air Corps. On 30 June 1941, he became Commanding General of the U.S. Army Air Forces (USAAF).

General Arnold commanded America's aerial war effort in World War II. Under his direction, the USAAF expanded from 22,000 members and 3,900 aircraft to nearly 2.5 million members and 75,000 aircraft. Throughout the war he remained committed to strategic bombardment, laying the foundation for a post-war independent air force. He directly commanded the 20th Air Force B-29s during their 1944 and 1945 assault on Japan. Supervising the air war on a global scale proved a strenuous task. Arnold had a severe heart attack that led to his 30 June 1946 retirement.

On 7 May 1949, Congress appointed Arnold the first and only five-star General of the Air Force. (He was the five-star General of the Army in 1944). General Arnold died at his home in Sonoma, CA, 15 January 1950.

General Carl A. "Tooey" Spaatz

General Spaatz, first CSAF, was born 28 June 1891, in Boyertown, PA. He graduated from West Point in 1914, entered the Aviation Section of the Signal Corps in October 1915, and earned his wings in 1916. During World War I, Spaatz served in France. He flew in combat for only 3 weeks, but still shot down three German planes. General Spaatz was one of the pioneering aviators of the interwar years. For nearly a week, 1-7 January 1929, Spaatz and several other officers kept the Question Mark, a Fokker trimotor, aloft over California. During the 151-hour flight, the Question Mark refueled in the air 37 times, 9 of those after dark. In June 1933, he was assigned to Washington, DC, as Chief of the Air Corps Training and Operations Division. While attending the Command and General Staff School at Fort Leavenworth, KS, in September 1935, he was promoted to lieutenant colonel. In 1936, Spaatz was assigned as the executive officer, 2d Bomb Wing, Langley Field, VA. He returned to Washington in 1939 to serve as Assistant Executive Officer to the Chief of the Air Corps. In November 1939, he was promoted to colonel and transferred to England to serve as a military observer. In October 1940, Spaatz returned to Washington to accept a promotion to brigadier general and an assignment as Assistant to the Chief of the Air Corps.

After the war began, Spaatz advanced rapidly through a succession of jobs. He commanded 8th Air Force before accepting command of the Northwest African Air Forces. On 6 January 1944, he assumed command of U.S. Strategic Air Forces in Europe, tasked with softening up Hitler's Fortress Europe, before the Allied invasion. General Spaatz pinned on his fourth star in March 1945, prior to assuming command of U.S. Strategic Air Forces in the Pacific Theater. He oversaw the final strategic bombing campaign against Japan, including the 1945 use of atomic weapons against Hiroshima and Nagasaki.

In February 1946, Spaatz was promoted to Commanding General of the Army Air Forces and in September 1947, President Harry S. Truman appointed him CSAF. He retired 30 June 1948, after which he served as the Civil Air Patrol Chairman and Air Force Association Chairman of the Board from 1940 to 1951. A leading advocate of an Air Force Academy, General Spaatz died in Washington, DC, 14 July 1974.

Lieutenant General Frank M. Andrews

General Andrews was one of the founding fathers of the modern Air Force and commander of the first combat air force. Killed in an aircraft accident near Iceland, 3 May 1943, General Andrews was one of the most promising Army Air Forces generals. Born in Nashville, TN, 3 February 1884, he graduated from West Point in 1906 and entered the cavalry. He served at several posts, from the Philippines to Vermont, before joining the Aviation Division in August 1917, serving in the Office of the Chief Signal Officer. In 1918, he was assigned to the Army General Staff Plans Division. He was assigned to Germany, in August 1920, where he served for three years in public relations and civil affairs. Andrews returned to Kelly Field, TX, in 1923, to serve as executive officer and, eventually, Commandant of Flying. After attending the Air Corps Tactical School, he was assigned to 2d Wing Headquarters, Langley Field, VA, as a staff officer. Andrews completed the Army War College in May 1933, and subsequently, became Commander, 1st Pursuit Group at Selfridge Field, MI. In October 1934, he returned to Washington for a second tour on the General Staff.

In March 1935, General Andrews assumed command of the newly created General Headquarters Air Force (GHQAF). In August 1939, he was named the Army Assistant Chief of Staff for Operations and Training. In 1940, Andrews pinned on his second star and in September 1941 was named Commanding General, Caribbean Defense Command.

Andrews was promoted to lieutenant general after America entered World War II, when he assumed command of U.S. Forces in the Middle East. In February 1943, he accepted command of U.S. Forces in the European Theater. His premature death ended a career that showed great promise. In June 1949, Andrews AFB in Maryland was named in his honor.

General Ira C. Eaker

General Eaker, aviation pioneer and articulate advocate of aerospace power, was born in Field Creek, TX, 13 April 1896. In 1917, he graduated from Southeastern State Teachers College. After accepting a commission in the Army Reserve, he attended flight school. His first assignment was to the Philippines, where he did graduate work at the University of the Philippines before returning to Mitchel Field, NY, in 1922. While serving in New York, he studied law at Columbia University.

General Eaker was a daring and innovative aviator. He participated in the Pan-American goodwill tour of 1926 and 1927, and flew in the first extended aerial refueling experiment in 1929, during which the crew kept a plane aloft for 151 hours.

In the 1930s, as war loomed over Europe, Eaker returned to Washington, DC, to serve in the office of the Chief of the Air Corps. In 1940, as a lieutenant colonel, he accepted command of the 20th Pursuit Group at Hamilton Field, CA. In January 1942, shortly after the United States entered World War II, Eaker took command of the 8th Bomber Command and was promoted to brigadier general. A strong advocate of daylight strategic bombardment, he convinced Prime Minister Winston Churchill that it had merit. Eaker

directed the daylight campaigns that pounded the German military and industrial base of Nazi-occupied Europe and Germany.

In September 1943, after promotion to lieutenant general, he served as commander of the Mediterranean Allied Air Forces. After the war and until his August 1947 retirement, General Eaker was Deputy Commander, USAAF and Chief of the Air Staff.

In 1947, General Eaker accepted a position as vice president of Hughes Tool Company. He served as a vice president of Douglas Aircraft from 1957-1961. In retirement, General Eaker was an active writer, with regularly published articles and columns in numerous newspapers and military journals. President Reagan promoted him to four-star general, 10 April 1985. He died 6 August 1987.

Major General Oliver P. Echols

General Echols, a pioneer logistician who coordinated the rapid expansion of America's air arsenal during World War II, was born in Charlottesville, VA, on 4 March 1892. Logistics play a vital role in warfare, and his contribution was notable.

Echols attended Virginia Polytechnic Institute and the University of Virginia, graduating in 1913. After graduation he enlisted in the U.S. Army. He was commissioned in 1916, and was stationed in Europe with the Air Service in July 1917. He commanded the 1st Observation Group and later became chief of aviation for the 1st Army Corps. During World War I, Echols saw action in several battles including those of the Chateau-Thierry, Aisne, St. Mihiel, and in the Meuse-Argonne offensive.

After the war, following several flying assignments, Echols served in the Air Corps Experimental Engineering Section from 1927 to 1930. The following year he became chief of the Air Corps Procurement Section. After graduating from the Air Corps Tactical School in 1932, Echols returned to the procurement field as Chief Engineer, Air Corps Materiel Division. In 1938, he was promoted to assistant chief, and earned his first star and the promotion to division chief in October 1940. During World War II, General Echols coordinated the most massive aircraft procurement program in history, as Chief, AAF Materiel Division. In 1947, he retired, accepting an offer to run the Aircraft Industries Association. He died 15 May 1954.

Captain Lillian K. Keil

A pioneer in passenger care, Captain Keil successfully combined two careers (airline flight attendant and Air Force flight nurse) to become the most decorated woman in U.S. military history. Keil was one of the first stewardesses hired by United Airlines when the United States entered World War II. She was later accepted into the Army Air Forces and by the summer of 1943, she was in England pulling wounded and frostbitten crewmen out of B-17s returning from bombing raids over Europe. D-Day, 6 June 1944, found her aboard a C-47, heading for Normandy to collect the wounded. During the war, Keil made 250 evacuation flights, 23 of which were transatlantic.

After World War II, Keil returned to United Airlines as an assistant chief stewardess. In 1950, she returned to duty as an Air Force flight nurse and flew to Korea. During the next 16 months, she flew 175 air evacuations, logging 1,400 hours of flight time while assigned to the 801st Medical Air Evacuation Transportation Squadron.

The Army Air Forces captain attended to more than 10,000 wounded soldiers, sailors, and marines in the air. She was awarded 19 medals, including a European Theater medal with 4 battle stars, a Korean service medal with 7 battle stars, 4 air medals, and a Presidential Citation from the Republic of Korea.

Honored several times by her hometown of Covina Hills, CA, she was active in the Covina Hills Veterans of Foreign Wars chapter until her death 30 June 2005.

General George C. Kenney

The USAAF produced many great operational air commanders in World War II. Leaders like Spaatz, Eaker, LeMay, and Doolittle richly deserve acclaim, but some historians rank General Kenney first among equals for his ability to overcome severe organizational, logistical, personnel, technical, and strategic difficulties.

Kenney distinguished himself in World War I, flying 75 missions, downing 2 German planes, and receiving the Distinguished Service Cross and Silver Star.

His Army Air Corps experiences enabled him to command air forces with such success during World War II. He was the quintessential Air Corps officer in the sense that his experience encompassed a broad range of functions, from maintenance, supply, and production to strategy, tactics, and operations. He gained a reputation as a technical and tactical innovator.

During World War II, as commander of the Southwest Pacific Area Allied Air Forces and the 5th Air Force, Kenney was General MacArthur's Airman. He created clear lines of authority, instituted new supply and maintenance programs, commanded with authority, and earned the respect and admiration of his men. Perhaps the most daring and innovative commander of the war, Kenney gained MacArthur's confidence because he knew how to run combat air forces and produced results quickly.

Toward the end of the war in the Pacific, General Arnold cabled Kenney: “It may truthfully be said that no air commander ever did so much with so little.” MacArthur wrote: “Of all the commanders of our major Air Forces engaged in World War II, none surpassed General Kenney in those three great essentials of successful combat leadership - aggressive vision, mastery over air strategy and tactics, and the ability to exact the maximum in fighting quality from both men and equipment.” General Kenney died 9 August 1977.

General James "Jimmy" H. Doolittle

In a career defined by variety, General Doolittle was a renaissance man: an air leader, aeronautical engineer, airplane racer, businessman, commanding general, oil company executive, special assistant to the CSAF, and holder of the Medal of Honor. Doolittle was born 14 December 1896, in Alameda, CA. After a year at the California School of Mines, he joined the Signal Corps Reserve in 1917 and earned his wings in 1918. Over the next 4 years he accepted a variety of assignments in the Signal Corps aviation section, demonstrating exceptional ability as a pilot and as a daredevil. He also continued his education, earning a bachelors degree from the University of California in 1922, a masters degree from the Massachussetts Institute of Technology (MIT) in 1924, and a Ph.D. from MIT in 1925.

His aviation accomplishments are legendary. In September 1922, he flew a DH-4 coast-to-coast in 22 hours, 35 minutes, with only one refueling stop. In 1925 he won the Schneider Trophy Races, setting a seaplane speed record of 245.713 mph. He helped develop fogflying equipment in 1928, which led to widespread use of the artificial horizontal and directional gyroscopes. He made the first "blind" flight, completely dependent on instruments, for which he won the Harmon Trophy.

He served as Army advisor on the building of Floyd Bennett Field, New York City's first municipal airport.

Doolittle resigned his regular commission in 1930 to manage Shell Oil's aviation department. As part of his duties with Shell, he helped develop high octane gasoline and sold the Air Corps on the development of high-compression engines using that fuel.

General Arnold brought Doolittle back to active duty in 1940 to troubleshoot engine and aircraft development, but Doolittle is best remembered for leading the 18 April 1942 B-25 raid on Tokyo, launched from the deck of the aircraft carrier Hornet. Though all 16 aircraft were lost, the raid restored American morale and damaged Japanese confidence. It also earned Doolittle the Medal of Honor and promotion to brigadier general.

Promoted to major general in November 1942, he commanded 12th Air Force in North Africa, and in January 1944 took command of 8th Air Force in England. He was promoted to lieutenant general 13 March 1944.

After World War II, Doolittle returned to civilian life as vice president of Shell Oil. He was promoted to four-star General on the Air Force retired list in June 1985, and died 27 September 1993.

Major General Claire L. Chennault

Nicknamed "Old Leatherface," General Chennault, famed leader of the Flying Tigers, was born 6 September 1890 in Commerce, TX. He grew up in Louisiana and attended Louisiana State University before joining the U.S. Army.

Chennault was commissioned a first lieutenant in November 1917 and earned his wings at Kelly Field, TX, in 1919. During the 1920s, Chennault earned a reputation as a talented "stick and rudder man" and an absolute master of pursuit (fighter) tactics. As a captain, Chennault graduated from the Air Corps Tactical School (ACTS) in 1931, then remained at the school as an instructor, eventually becoming head of the Pursuit Section. During the 1930s, such ACTS instructors as Harold George, Robert Olds, and Kenneth Walker developed doctrine advocating high altitude, daylight, precision bombing of key enemy industrial and military targets using heavy bombers. In contrast, Chennault stressed the importance of pursuit aviation, and advocated a system of air defense based upon early warning of an enemy attack. Technology in the 1930s was not in Chennault's favor. Bombers like the B-10 and B-17 became larger and faster, and pursuers fell increasingly behind.

Forced to retired in 1937 for health reasons, Chennault went to China shortly after to train pilots for the Chinese Air Force.

In 1941, Chennault recruited American military pilots and organized the American Volunteer Group (AVG) under a carefully hidden Roosevelt Administration program to provide an air force for Chinese leader Chiang Kai-shek. Chennault trained three squadrons of "Flying Tigers" in tactics he had developed that took advantage of the strengths of his Curtiss P-40s and exploited enemy weaknesses.

Though the AVG did not enter combat until after Pearl Harbor, the unit gained fame for its victorious exploits during the first 6 months of World War II. In April 1942, the U.S. Army Air Forces recalled Chennault to active duty, in the grade of major general, to command 14th Air Force, in China. In that capacity, he fought two wars: one against the Japanese, and another against supply and equipment problems in isolated China.

In October 1945, General Chennault retired again, and in 1946 became president of the China-based Civil Air Transport Company, assisting Chiang Kai-shek's losing fight against Chinese Communist forces. On 18 July 1958, the Air Force promoted Chennault to the honorary rank of lieutenant general. He died 9 days later, 27 July 1958.

General Curtis E. LeMay

General LeMay, who made Strategic Air Command (SAC) the world's premier force, was born 15 November 1906. He attended Ohio State University and was commissioned through the Reserve Officer Training Corp program in 1928. His military career began in September 1928 with flight training at March Field, CA.

General LeMay flew pursuit planes until 1937, when he transferred to the 2d Bomb Group, Langley Field, VA. There, he earned a reputation as an outstanding pilot and exceptional navigator. Accordingly, in late 1937 and early 1938, he served as lead navigator for two mass flights of B-17s to South America.

LeMay was promoted to captain in January 1940, major in March 1941, and lieutenant colonel in January 1942. He pinned on eagles 3 months later, when he took command of the 305th Bombardment Group at Muroc, CA. Later that year his group joined the 8th Air Force in England. LeMay's no-nonsense approach to combat earned him his first and second stars in September 1943 and March 1944. In August 1944, he assumed command of the 20th Bomber Command in the Pacific. His B-29s were charged with destroying Japan's war-making potential. After the war, LeMay served at the Pentagon before his promotion and assignment as

Commander, U.S. Forces in Europe, in October 1947. His success at directing the Berlin Airlift in 1948 made him the obvious choice for SAC commander-in-chief, in October 1948.

LeMay made SAC the world's most powerful nuclear force. In the days before the deployment of guided missiles, LeMay developed SAC's policy of constant alert, keeping some bombers aloft at all times, ready to respond to a Soviet attack.

In 1957, Gen LeMay became Air Force Vice Chief of Staff, and in June 1961 rose to CSAF. He held that post until his retirement in February 1965. In 1968 he became the vice presidential candidate on the American Independent Party ticket, headed by Alabama Governor George C. Wallace. Defeated in November, LeMay returned to private life as chairman of the board of an electronics firm. He died 1 October 1990.

Lieutenant General William H. Tunner

Known as the Air Force's outstanding practitioner of air logistics and air mobility, General Tunner was born in Elizabeth, NJ, in 1906. After graduating from the U.S. Military Academy in 1928, he entered the Air Corps, and during the 1930s earned a reputation as an excellent pilot and hardworking intelligence officer. During World War II, Tunner helped create the U.S. Army Air Forces Ferrying Command. By the time it became Air Transport Command (ATC), it was delivering 10,000 aircraft monthly from stateside factories to worldwide theaters of operation.

In 1944, Tunner assumed command of the "Hump" airlift operation, supplying China from India over some of the world's highest mountain ranges. The often appalling terrain and weather, equipment, facilities, and aircraft shortages made the "Hump" a difficult operation. Tunner refined and standardized every element of the opeartion, implementing assembly-line maintenance, systemizing cargo-handling procedures, emphasizing flight safety, and imbuing the operation with a driving commitment to increase tonnage. In July 1945 alone, ATC delivered 71,042 tons of cargo. In June 1948, ATC and the Naval Air Transport Service merged, becoming the Military Air Transport Service (MATS), and Tunner assumed command of its Atlantic Division.

On 24 June 1948, the Soviet Union blockaded the surface routes between Berlin and the Western occupation zones in Germany. Allied leaders ordered an airlift to supply Berlin, 26 June. On 28 July, Tunner assumed command of the airlift, Operation Vittles. Tunner developed an intricate bridge of aircraft that flowed in a steady stream through narrow corridors in and out of Berlin. The Soviet Union lifted the blockade 12 May 1949. Operation Vittles delivered 2.3 million tons of cargo to Berlin. Under Tunner, the Berlin Airlift emerged as an epic enterprise, demonstrating the peaceful use of airpower as a political instrument.

When the Korean War broke out in June 1950, General Tunner took command of Combat Cargo Command (Provisional). Tunner illustrated how a fleet of cargo aircraft was sufficiently flexible to handle airborne assault while airdropping supplies, and moving cargo and personnel through a combat theater. In the mid-1950s, Tunner commanded U.S. Air Forces in Europe.

His 1958, assumption of command of MATS provided the platform from which he advocated large, jet-powered transports to support the global mission. General Tunner retired in May 1960 and died 6 April 1983.

General Charles P. Cabell

General Cabell was a pioneer in the field of air intelligence. He was born in Dallas, TX, in 1903, graduated from the U.S. Military Academy, 12 June 1925, and accepted a commission in the Field Artillery. Five years later he transferred to the Air Corps Primary Flying School at Brooks Field, TX, graduating in February 1931. He then completed the observation course at Kelly Field, TX, where he remained as a flying instructor.

A lieutenant at the time, Cabell joined the 7th Observation Squadron at France Field, Panama Canal Zone, as adjutant in October 1931. He subsequently served as commanding officer of the 44th Observation Squadron, the 24th Pursuit Squadron, and the 74th Pursuit Squadron, successively, at Albrook Field, Panama.

In September 1938 he entered the Air Corps Tactical School at Maxwell Field, AL, graduating in June 1939. The following June, Cabell, a major, was assigned to the Photographic Laboratory at Wright Field, OH. After a period as an observer with the Royal Air Force, he transferred to Washington, DC, in April 1941, to command the Office of the Chief of Air Corps photo unit.

In February 1942, Cabell, a lieutenant colonel, was named assistant executive for technical planning and coordination. The following month, he became chief of the advisory council to the commanding general of the Army Air Forces.

From June to October 1943, Cabell attended the first Army and Navy Staff College course. He was assigned to the 8th Air Force in the European Theater in October, and in December, assumed command of the 45th Combat Bombardment Wing. In April 1944, he became director of plans for the U.S. Strategic Air Force in Europe, and 3 months later was named director of operations and intelligence for the Mediterranean Allied Air Forces, headquartered at Caserta, Italy.

General Cabell was later assigned to Air Force headquarters, where he served as chief of the Strategy and Policy Division, Office of the Assistant Chief of Air Staff for Plans. In December 1945, he was assigned to the Military Staff Committee of the United Nations, followed by a promotion to Chief, Air Intelligence Requirements Division, Office of the Director of Intelligence in November 1947. On 15 May 1948, he was appointed Director of Intelligence. On 1 November 1951 he was named director of the Joint Staff. He and was appointed deputy director of the Central Intelligence Agency (CIA) on 23 April 1953. Gen Cabell retired 31 January 1962; he died 25 May 1971.

General Bernard A. Schriever

Born in Germany, 14 September 1910, General Schriever is recognized as the architect of Air Force ballistic missile and military space programs. He came to America in 1917 and was naturalized in 1923. Raised in San Antonio, TX, he graduated from Texas A&M in 1931 with a bachelor of science degree in engineering. He was commissioned in the Field Artillery, but in July 1932 began flight training at Randolph Field, earning his Air Corps wings and commission at Kelly Field in June 1933. He was a bomber pilot at March and Hamilton Fields, CA.

He participated in the ill-fated Army airmail program during the winter of 1934. He served at Albrook Field but in September 1937, he resigned from the Air Corps to become a commercial pilot. Schriever returned to active duty in October 1938, serving with the 7th Bomb Group at Hamilton, and a year later became a test pilot at Wright Field. While there, he also attended the Air Corps Engineering School, graduating in July 1941. He then earned his master of science degree in aeronautical engineering at Stanford University.

Schriever distinguished himself during World War II flying combat missions in the Pacific theater. He took part in the Bismarck Archipelago, Leyte, Luzon, Papua, North Solomon, South Philippine, and Ryukyu campaigns. After the war, Schriever, a colonel, transferred to Headquarters

Army Air Forces to serve as chief scientific liaison in the Materiel directorate. In June 1950, he graduated from the National War College and returned to the Pentagon. In June 1953 he was promoted to brigadier general. Schriever began his long association with Air Research and Development Command, later Systems Command, in June 1954 as assistant to the commander.He was later appointed to head the Western Development Division to organize and form what would become the ballistic missile and space divisions that produced the Atlas, Titan, Thor, and Minuteman. He also produced the launchers and space systems that supported National Aeronautics and Space Administration (NASA) and other government agencies.

In April 1959, Schriever was named to head Air Research and Development Command. Two years later, he was promoted to four-star general, and named to head the new Air Force Systems Command (AFSC).

He brought his systems approach to AFSC and applied it to major aeronautics and space programs. Schriever established 437L, an antisatellite system, as part of his efforts to extend the Air Force mission to include space, and personally headed the Manned Orbiting Laboratory Project. He retired in August 1966 and died 20 June 2005.

Colonel Jacqueline "Jackie" Cochran

Colonel Cochran was born in 1910 in Pensacola, FL. She was the first female pilot to break the sound barrier, doing so 18 May 1953.

After flying lessons at Roosevelt Field, Long Island, in 1932, she obtained her license in 2 1/2 weeks, bought a plane, and began taking additional flying lessons from Ted Marshall, a Navy pilot.

In 1934, after obtaining a commercial pilot's license, she entered the MacRobertson Trophy Air Race from London to Melbourne, Australia. Although she didn't win the 12,000-mile race, she won the first leg.

In 1935, she founded a cosmetic company and used the business to help finance the races she entered. Next, she entered the Bendix Trophy Transcontinental Race (the Bendy), a crosscountry race from Los Angeles to Cleveland. No woman had ever competed in this prestigious race, and Cochran's and Amelia Earhart's applications were initially denied because of their gender. But they protested and were allowed to compete. Cochran's plane had mechanical problems, but Earhart came in fifth. Cochran won first place in the women's division and third place overall, in 1937 and took first place in 1938. In 1938, Cochran flew from New York to Miami in a record-breaking 4 hours, 12 minutes.

In 1939, she set a new altitude and international speed record and became the first woman to make a blind landing. In 1940, she broke the 2,000-kilometer international speed record. She received the Clifford Burke Harmon Trophy as the outstanding woman flier in the world in 1938, 1939, and 1940.

During World War II, she organized 25 women to fly for Great Britain and became the first woman to fly a bomber across the Atlantic. She received the Distinguished Service Medal for her services during the War.

In 1943, she was appointed to the staff of the U.S. Army Air Forces and director of the Women's Air Force Service Pilots (WASP). She also set nine international speed, distance, and altitude jet records.

In 1971, she was inducted into the National Aviation Hall of Fame, "for outstanding contributions to aviation by her devotion to the advancement of the role of women in all of its aspects, and by establishing new performance records that advanced aeronautics."

In 1975, she was the first woman to be honored with a permanent display of her memorabilia at the U.S. Air Force Academy. Colonel Cochran died 7 August 1980.

General Benjamin O. Davis, Jr.

General Davis was the commander of the famed World War II Tuskegee Airmen. At the time of his retirement in 1970, General Davis was the senior black officer in the armed forces. He was born in Washington, DC, 18 December 1912, the son of Benjamin O. Davis, Sr., the first black general in the U.S. Army.

After attending Case Western Reserve University and the University of Chicago, General Davis graduated from West Point in 1936. Commissioned an infantry officer, Davis was an Reserve Officer Training Corp instructor at Tuskegee Institute from 1938 to 1941, when he became one of the first blacks admitted to pilot training.

Davis advanced rapidly in rank, making first lieutenant in June 1939, captain in September 1940, and major and lieutenant colonel in the same month, May 1942. In early 1942, soon after the U.S. entered the war, Davis organized the 19th Fighter Squadron, an all black unit that saw action over North Africa, Sicily, and Italy. The following year, he organized the 332d Fighter Group, which flew in Italy, Germany, and the Balkans. In May 1944, Davis was promoted to colonel.

After World War II, he commanded Dogman Field, KY, from 1945 to 1946, and the 332d Fighter Wing at Lockbourne Field, OH.

After graduating from the Air War College in 1950, he was named Chief, Fighter Development Branch, Headquarters USAF.

Davis transferred to the Far East in 1953 to command the 51st Fighter Interceptor Wing in Korea. He pinned on his first star in October 1954, after which he was named Director of Operations, Headquarters, Far East Air Forces, Tokyo.

The general transferred to Ramstein, Germany, in 1957 serving as Chief of Staff, 12th Air Force. In June 1959, he became the first black officer in any service to hold the rank of major general. From 1959 to 1961, he was Deputy Chief for Operations, USAFE. In 1961, Davis became Director of Manpower and Organization at Headquarters USAF, where he served until 1965. Following promotion to lieutenant general, he was named Chief of Staff for U.S. Forces and the United Nations Command in Korea. From 1968 until his retirement in 1970, General Davis was Deputy Commander, U.S. Strike Command, at McDill AFB, FL.

General Davis remained active after retirement. In 1970, he organized a special force of sky marshals to help combat aircraft hijacking. In July 1971, he was appointed Assistant Secretary of Transportation, a position he held until he retired in 1975. In an 8 December 1998 White House ceremony, President Clinton promoted him to the rank of four-star general. General Davis died 4 July 2002.

General Daniel "Chappie" James, Jr.

General James distinguished himself as a combat leader in three wars: World War II, Korea, and Vietnam. General James was born in Pensacola, FL, in 1920. After graduating from high school in 1937, James continued his studies at Tuskegee Institute, AL. With war looming, James enrolled in the Civilian Pilot Training Program, which opened for the first time to African Americans.

From the beginning of World War II until 1943, James served as a civilian flight instructor at Tuskegee Army Airfield. In July 1943, following completion of flight training, he accepted a commission as a second lieutenant, and joined the ranks of the famed Tuskegee Airmen. James completed fighter pilot training at Selfridge Field, MI, transferring to various stateside bases through the war's end. He did not see combat during World War II. In September 1949, became an 18th Fighter Wing, 12th Fighter Bomber Squadron flight commander, stationed at Clark Field, the Philippines.

In the skies over Korea, James faced his first combat experience while piloting F-51 and F-80 aircraft. He flew more than 100 combat missions during the war. In mid-1951, James was reassigned stateside as the flight operations officer, 58th Fighter Interceptor Squadron, Otis AFB, MA, flying fighter jets.

In April 1953, he assumed command of the 60th Fighter-Interceptor Squadron in Massachussetts.

James' career continued to rise when he was assigned to Air Force headquarters as a staff officer, Air Defense Division, Office of the Deputy Chief of Staff (DCS) for Operations. In July 1960, James transferred to Great Britain, where he held numerous leadership positions in the 81st Tactical Fighter Wing (TFW), including commander of the 92d Tactical Fighter Squadron, Royal Air Force, Bentwaters, England. He later became the deputy commander for operations of the 81st TFW.

James saw combat during the Vietnam War, as well. In June 1967, he became the vice commander, 8th TFW, flying 80 combat missions over North Vietnam. In the summer of 1969, James accepted command of the 7272d Fighter Training Wing, Wheelus AB, Libya.

In September 1974, he served as the vice commander, Military Airlift Command, and in 1975, was promoted to four-star general, assuming command of the North American Air Defense Command (NORAD) and U.S. Air Defense Command (ADCOM) in September. James served as special assistant to the CSAF in December 1977.

After a long and distinguished career, he retired 1 February 1978 and died 25 February 1978.

Airman First Class John Lee Levitow

Airman Levitow, an AC-47 gunship loadmaster, is the lowest ranking Airman ever to receive the Medal of Honor for exceptional heroism during wartime. Born in Hartford, CT, Levitow attended Glastonbury High School. He was trained in the civil engineering career field and later retrained into the loadmaster field. After flying on C-130s out of McGuire AFB, NJ, he was deployed to Vietnam.

On 24 February 1969, Airman Levitow was handling Mark 24 magnesium flares aboard "Spooky 71" when his pilot threw the AC-47 and its 8-man crew into a turn to engage Viet Cong whose muzzle flashes were visible outside the U.S. Army Depot at Long Binh. The aircraft, an armed version of the C-47 Skytrain transport, had been flying a night mission in the Tan Son Nhut AB area when Long Binh came under attack.

Suddenly, Spooky 71 was jarred by a tremendous explosion and bathed in a blinding flash of light. A North Vietnamese Army 82-millimeter mortar shell had landed on top of the right wing and exploded inside the wing frame. The blast raked the fuselage with flying shrapnel. Everyone in the back of Spooky 71 was wounded. Despite his wounds, Levitow rescued a fellow crewmember who was perilously close to the open cargo door. As he dragged his buddy toward the center of the cabin, Levitow saw a loose, burning, 27-pound magnesium flare rolling amid ammunition cans that contained 19,000 live rounds.

Through a haze of pain and shock, Levitow, with 40 shrapnel wounds in his legs, side, and back, fighting a 30–degree bank, crawled to the flare, but was unable to grasp it to pick it up. He threw himself on the burning flare, hugging it to his body, and dragged himself to the rear of the aircraft, leaving a trail of blood behind. He hurled it through the open cargo door, and at that instant, the flare separated and ignited in the air, fortunately clear of the aircraft. When the aircraft returned to the base, the extent of the danger was apparent: The AC-47 had more than 3,500 holes in the wings and fuselage, one measuring more than 3 feet long. Levitow spent 2 1/2 months in a hospital and upon his recovery, returned to Vietnam for another tour. He returned to the United States to receive the Medal of Honor from President Nixon during a 14 May 1970 Armed Forces Day ceremony at the White House.

Levitow was promoted to sergeant before his honorable discharge 4 years later. On 22 January 1998, Air Mobility Command struck a resounding chord with the Air Force enlisted corps when it named a C-17 Globemaster II "The Spirit of John Levitow."

Levitow designed veterans programs for the state of Connecticut until his 8 November 2000 death after a lengthy battle with cancer. He was buried with military honors 17 November 2000 at Arlington National Cemetery.

In his memory, the Levitow Honor Graduate Award is presented to the top Air Force Airman Leadership School graduate from each class. The Headquarters Building, 737th Training Group, Lackland AFB, TX, was also dedicated in his honor.

Staff Sergeant William H. Pitsenbarger

On 11 April 1966, a 21-year-old known as "Pits" to his friends was killed while defending wounded comrades. For his bravery and sacrifice, Pararescueman Pitsenbarger was posthumously awarded the nation's highest military decorations: the Medal of Honor and the Air Force Cross. He was the first enlisted Airman to receive both medals posthumously.

Pitsenbarger was born in 1945 and grew up in Piqua, OH, a small town near Dayton. He joined the Air Force on New Year's Eve 1962, and after pararescue training in 1965, reported to Detachment 6, 38th Air Rescue and Recovery Squadron, Bien Hoa AB, near Saigon, Republic of South Vietnam. His unit, composed of five aircrews, flew three HH-43F Kaman "Huskie" helicopters. His commander, Major Maurice Kessler, referred to Pitsenbarger as "one of a special breed; alert and always ready to go on any mission." Pitsenbarger flew almost 300 rescue missions in Vietnam, routinely risking his life to rescue downed soldiers and Airmen.

On 11 April 1966, Airman Pitsenbarger was aboard a rescue helicopter responding to a call to evacuate casualties from an ongoing firefight approximately 35 miles east of Saigon. When he arrived at the site, he descended from the helicopter to organize and coordinate rescue efforts, care for the wounded, prepare casualties for evacuation, and insure the recovery operation was smooth and orderly. Several times he refused to evacuate.

Rescue helicopters transported wounded to an aid station, returning to evacuate more injured. One helicopter was hit by enemy fire as it lowered a litter basket to Pitsenbarger. When its engine began to lose power, the pilot realized he had to get it away from the area. Pitsenbarger chose to remain with the Army troops on the ground, waving off the helicopter. Because of the heavy mortar and small-arms fire, the helicopters couldn't return to the site.

As the battle raged, Pitsenbarger repeatedly exposed himself to enemy fire in order to pull wounded to safety and care for them, returning fire when possible. During the fight, he was wounded three times. When others ran low on ammunition, he gathered ammo clips from the dead and distributed them to the living. Having administered aid, he picked up a rifle, joining the soldiers to help hold off the Viet Cong. Pitsenbarger was killed by Viet Cong snipers later that night. When his body was recovered the next day, one hand still held a rifle and the other clutched a medical kit.

Although Pitsenbarger didn't escape alive, nine men did, thanks to his courage and devotion to duty. On 8 December 2000, Pitsenbarger's parents, William and Alice, accepted the Medal of Honor from Secretary of the Air Force Whit Peters. The audience included battle survivors, hundreds of pararescue airmen, a Congressional representative, and the Air Force Chief of Staff. Pitsenbarger was posthumously promoted to staff sergeant, and the Navy named an Air Force munitions preposition ship the "MV A1C William H. Pitsenbarger" in his honor.

Colonel Eileen M. Collins

Colonel Collins was the first woman to command a space shuttle mission. An Air Force officer and NASA astronaut, Col Collins was born 19 November 1956, in Elmira, NY. She earned a bachelor of arts degree in mathematics and economics at Syracuse University in 1978; a master of science degree in operations research from Stanford University in 1986; and a master of arts degree in space systems management from Webster University in 1989. Collins graduated from Air Force Undergraduate Pilot Training at Vance AFB, OK, in 1979, served as a T-38 instructor pilot at Vance, and in 1983 became a C-141 aircraft commander and instructor pilot at Travis AFB, CA. From 1986 to 1989, she was an assistant professor of mathematics and a T-41 instructor pilot at the U.S. Air Force Academy. By the time she retired from the Air Force in 2005, Colonel Collins logged more than 6,750 hours in 30 different types of aircraft.

In January 1990, NASA selected Colonel Collins for the astronaut program while she was attending the Air Force Test Pilot School at Edwards AFB, CA. She became an astronaut in July 1991, initially assigned to orbiter engineering support. She served on the astronaut support team responsible for orbiter prelaunch checkout, final launch configuration, crew ingress/egress, and landing/recovery, and also worked as a mission control

spacecraft communicator. She also served as the astronaut office spacecraft systems branch chief, chief information officer, shuttle branch chief, and astronaut safety branch chief.

A veteran of four space flights, Collins logged over 872 hours in space. STS-63 was the first flight of the new joint Russian-American Space Program. Mission highlights included the rendezvous with the Russian Space Station Mir, an astronomy shuttle deployment and retrieval, and a space walk. On this mission, Colonel Collins became the first female pilot of a space shuttle.

She flew on STS-84 aboard the Atlantis 15-24 May 1997. It was NASA's sixth Shuttle mission to rendezvous and dock with the Russian Space Station Mir. During the flight, the crew transferred nearly 4 tons of supplies and experimental equipment.

During STS-93, flown by the Columbia, 22-27 July 1999, she became the first woman to command a shuttle mission. This mission featured deployment of the Chandra X-Ray Observatory.

STS -114 Discovery, 26 July-9 August 2005, was the return to flight mission during which the shuttle docked with the International Space Station and the crew tested and evaluated new procedures for flight safety and shuttle inspection and repair techniques. After a 2-week, 5.8 million-mile-journey in space, the orbiter and its 7-astronaut crew returned, landing at Edwards AFB, CA.

Colonel Collins retired from NASA in May 2006.

Senior Airman Jason D. Cunningham

Born 27 March 1975, SrA Cunningham earned the Air Force Cross for extraordinary heroism in military operations, presented posthumously by the President of the United States, against an opposing armed force while serving as a pararescueman near the village of Marzak, Paktia Province, Afghanistan, 4 March 2002.

That day, SrA Cunningham was the primary Air Force combat search and rescue medic assigned to a quick reaction force that had been tasked to rescue two American servicemen from austere terrain occupied by Al Qaida and Taliban forces.

Shortly before landing, his MH-47E helicopter took rocket-propelled grenade and small arms fire, severely disabling the aircraft. The assault force formed a hasty defense and immediately suffered three fatalities and five critical casualties.

Facing enemy fire, risking his own life, SrA Cunningham remained in the burning fuselage in order to treat the wounded. He moved his patients to a more secure location under mortar attack, disregarding the extreme danger, exposing himself to enemy fire on seven separate occasions.

When the second casualty collection point was also compromised, SrA Cunningham braved intense small

arms and rocket-propelled grenade attack to reposition the wounded to a third collection point. Mortally wounded and quickly fading, he continued to direct patient movement, transferring care to another medic. His selfless efforts resulted to the delivery of 10 gravely wounded Americans to life-saving medical treatment.

Chief Master Sergeant Richard L. Etchberger

Chief Etchberger was serving in Laos when Peoples Army of Vietnam forces overran his radar site 11 March 1968. Under heavy fire, he continued to defend his comrades, called in air strikes, and directed an air evacuation. When a rescue helicopter arrived, the chief put himself in the line of fire to load three other Airmen in rescue slings. He was fatally wounded by enemy ground fire as he was being rescued. His fierce defense prevented the enemy from closing on his position, which saved his comrades lives, although he lost his own. For extraordinary heroism and superb leadership, Chief Etchberger was posthumously awarded the Air Force Cross. Chief Etchberger was awarded the Medal of Honor on 21 September 2010; he was the first E-9 to receive this award.

Medal of Honor Recipients

Bleckley, 2d Lt
Erwin R.
Wichita, KS
6 Oct 1918

Goetller, 1st Lt
Harold E.
Chicago, IL
6 Oct 1918

Luke, 2d Lt
Frank Jr.
Phoenix, AZ
29 Sep 1918

Rickenbacker, 1st Lt
Edward V.
Columbus, OH
25 Sep 1918

Baker, Lt Col
Addison E.
Chicago, IL
1 Aug 1943

Bong, Maj
Richard I.
Poplar, WI
10 Oct - 15 Nov
1944

Carswell, Maj
Horace S. Jr.
Fort Worth, TX
26 Oct 1944

Castle, Brig Gen
Frederick W.
Manila,
Philippines
24 Dec 1944

Cheli, Maj Ralph
San Francisco, CA
18 Aug 1943

Craw, Col
Demas T.
Traverse City, MI
8 Nov 1942

Doolittle, Lt Col
James H.
Alameda, CA
18 Apr 1942

Erwin, SSgt
Henry E.
Adamsville, AL
12 Apr 1945

Femoyer, 2d Lt
Robert E.
Huntington, WV
2 Nov 1944

Gott, 1st Lt
Donald J.
Arnett, OK
9 Nov 1944

Hamilton, Maj
Pierpont M.
Tuxedo Park, NY
8 Nov 1942

Howard, Lt Col
James H.
Canton, China
11 Jan 1944

Hughes, 2d Lt
Lloyd H.
Alexandria, LA
1 Aug 1943

Jerstad, Maj
John L.
Racine, WI
1 Aug 1943

Johnson, Col
Leon W.
Columbia, MO
1 Aug 1943

Kane, Col.
John R.
McGregor, TX
1 Aug 1943

Kearby, Col Neel E.
Wichita Falls, TX
11 Oct 1943

Kingsley, 2d Lt
David R.
Portland, OR
23 Jun 1944

Knight, 1st Lt
Raymond L.
Houston, TX
25 Apr 1945

Lawley, 1st Lt
William R. Jr.
Leeds, AL
20 Feb 1944

Lindsey, Capt
Darrell R.
Jefferson, IA
9 Aug 1944

Mathies, Sgt
Archibald
Scotland
20 Feb 1944

Mathis, 1st Lt
Jack W.
San Angelo, TX
18 Mar 1943

McGuire. Maj
Thomas B. Jr.
Ridgewood, NJ
25-26 Dec 1944

Metzger, 2d Lt
William E. Jr.
Lima, OH
9 Nov 1944

Michael, 1st Lt
Edward S.
Chicago, IL
11 Apr 1944

Morgan, 2d Lt
John C.
Vernon, TX
28 Jul 1943

Pease, Capt
Harl Jr.
Plymouth, NH
7 Aug 1942

Pucket, 1st Lt
Donald D.
Longmont, CO
9 Jul 1944

Sarnoski, 2d Lt
Joseph R.
Simpson, PA
16 Jun 1943

Shomo, Maj
William A.
Jeannette, PA
11 Jan 1945

Smith, Sgt
Maynard H.
Garo, MI
1 May 1943

Truemper, 2d Lt
Walter E.
Aurora, IL
20 Feb 1944

Vance, Lt Col
Leon R. Jr.
Enid, OK
5 Jun 1944

Vosler, TSgt
Forrest L.
Lyndonville, NY
20 Dec 1943

Walker, Brig Gen
Kenneth N.
Cerritos, NM
5 Jan 1943

Wilkins, Maj
Raymond H.
Portsmouth, Va.
2 Nov 1943

Zeamer, Maj
Jay Jr.
Carlisle, PA
16 Jun 1943

Davis, Maj
George A. Jr.
Dublin, TX
10 Feb 1952

Loring, Maj
Charles J. Jr.
Portland, ME
22 Nov 1952

Sebille, Maj
Louis J.
Harbor Beach, MI
5 Aug 1950

Walmsley, Capt
John S. Jr.
Baltimore, MD
14 Sep 1951

Bennett, Capt
Steven L.
Palestine, TX
29 Jun 1972

Day, Maj George E.
Sioux City, IA
Conspicuous gallantry
while POW
26 Aug 1967

Dethlefsen, Maj
Merlyn H.
Greenville, IA
10 Mar 1967

Fisher, Maj
Bernard F.
San Bernardino, CA
10 Mar 1966

Fleming, 1st Lt
James P.
Sedalia, MO
26 Nov 1968

Jackson Lt Col
Joe M.
Newman, GA
12 May 1968

Jones, Col
William A. III
Warsaw, VA
1 Sep 1968

Levitow, A1C
John L.
South Windsor, CT
24 Feb 1969

Pitsenbarger, A1C
William H
Piqua, OH
11 Apr 1966

Sijan, Capt Lance P.
Milwaukee, WI
Conspicuous gallantry
while POW
9 Nov 1967

Thorsness, Maj
Leo K.
Walnut Grove, MN
19 Apr 1967

Wilbanks, Capt
Hilliard A.
Cornelia, GA
24 Feb 1967

Young, Capt
Gerald O.
Chicago, IL
9 Nov 1967

Etchberger,
CMSgt Richard L.
Hamburg, PA
11 Mar 1968

Special Medal of Honor Recipients

Col Charles A.
Lindbergh
4 Feb 1902
Detroit, MI
...for
displaying
heroic
courage and
skill as pilot
and navigator
of the first
nonstop,
transatlantic
flight...
Special Gold
4 May 1928

Col W.C.
"Billy"
Mitchell
29 Dec 1879
Nice, France
...for
outstanding
pioneer service
and foresight
in the field
of American
military
aviation...
Special Gold
8 Aug 1946
Posthumus Award

Lt Gen Ira C.
Eaker
13 Apr 1896
Field Creek, TX
...for
contributing
immeasurably
to the
development
of aviation
and to the
security of his
country...

Special Gold
10 Oct 1978

Brig Gen
Charles Elwood
Yeager
13 Feb 1923
Myra, WV
...for conspicuous
gallantry and total
disregard for his
personal safety as
pilot of the first
faster-than-sound
flight.
Broke sound
barrier
14 Oct 1947...
Special Silver
23 Dec 1975

Air Force Top 10 Aces

World War I Aces

Name	Rank	Victories
Rickenbacker, Edward V.	Capt	26
Luke, Frank Jr.	2d Lt	18
Vaughn, George A.	1st Lt	13
Kindley, Field E.	1st Lt	12
Springs, Elliott W.	1st Lt	12
Landis, Reed G.	1st Lt	10
Swaab, Jacques M.	1st Lt	10
Baer, Paul P.	1st Lt	9
Cassady, Thomas G.	1st Lt	9
Hamilton, Lloyd A.	1st Lt	9

World War II Aces

Bong, Richard I.	Maj	40
McGuire, Thomas B., Jr.	Maj	38
Gabreski, Francis S.	Lt Col	28
Johnson, Robert S.	Capt	27
MacDonald, Charles H.	Col	27
Preddy, George E.	Maj	26.83
Meyer, John C.	Lt Col	24
Schilling, David C.	Col	22.5
Johnson, Gerald R.	Lt Col	22
Kearby, Neel E.	Col	22

Korean War Aces

McConnell, Joseph C., Jr.	Capt	16
Jabara, James	Maj	15
Fernandez, Manuel J.	Capt	14.5
Davis, George A., Jr.	Maj	14
Baker, Royal N.	Col	13
Blesse, Frederick C.	Maj	10
Fischer, Harold E.	1st Lt	10
Garrison, Vermont	Lt Col	10
Johnson, James K.	Col	10
Moore, Lonnie R.	Capt	10

Vietnam War Aces

DeBellevue, Charles B.	Capt	6
Feinstein, Jeffrey S.	Capt	5
Ritchie, Richard S.	Capt	5

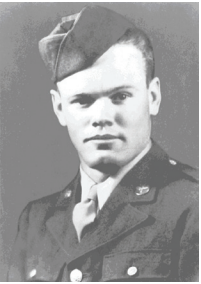
The Enlisted Force

Total Force enlisted members represent the backbone of the Air Force. The Senior Noncomissioned Officers (SNCO), Non Comissioned Officers (NCO) and Airmen who comprise the enlisted force have made and continue to make invaluable contributions to the success of America's Air Force. The stories that follow are representative of the dedication, courage, and valor with which enlisted members serve each and every day.

Staff Sergeant Archibald "Archie" Mathies

The final Medal of Honor earned by a USAAF enlisted man in the European Theater was awarded posthumously to Scotland native Sergeant Mathies, 351st Bomber Group engineer and ball turret gunner. On 20 February 1944, Mathies' aircraft was severely damaged in a frontal attack by enemy fighters over Leipzig, Germany. The attack killed the copilot and wounded the pilot, rendering him unconscious. Sergeant Carl Moore, the plane's top turret gunner, managed to pull the aircraft from its spin, and he and Mathies were able to fly the aircraft back to England. Surviving crewmembers were ordered to bailout. All but Mathies and the navigator, Lieutenant Walter Truemper, complied. Demonstrating unsurpassed courage and heroism, the pair refused to abandon their unconscious crewmate. On the third attempt to land, the aircraft crashed, killing all aboard.

Staff Sergeant Henry E. Erwin



On 12 April 1945, Sergeant Erwin, 29th Bombardment Group radio operation, earned the USAAF enlisted corps' final Medal of Honor in the Pacific Theater, for action during World War II. The 23-year old Adamsville, AL, native was aboard a B-29 attacking a chemical plant at Koriyama, Japan. As the aircraft began its bomb run and encountered enemy fighter opposition, the phosphorescent flare Erwin prepared to release ignited prematurely and began to burn through the floor of the aircraft. Already blinded and badly injured by the flare, he cradled the 1300-degree Fahrenheit flare and hurled it through the copilot's window. Badly burned and not expected to survive, Erwin received the Medal of Honor from General Curtis LeMay just over a week after the Koriyama mission. Erwin did survive the incident, as well as dozens of subsequent operations.

Chief Master Sergeant Wayne L. Fisk

Chief Fisk served four tours of duty in southeast Asia as a pararescueman (PJ). As the last American serviceman to engage Communist forces in ground combat in Southeast Asia, he earned his second Silver Star during the USS Mayaguez rescue operation in May 1975. Fisk was a member of the assault force that successfully recovered the merchant ship Mayaguez (which had been seized by Cambodian forces), its crew, and U.S. Marines trapped on the island of Koh Tang. Chief Fisk earned his first Silver Star earlier as a participant in the attempted rescue of

prisoners of war (POW) who were thought to be held at the Son Tay prison camp. He was also a member of the USAF primary recovery team for Apollo space missions VIII, IX, and X.

Technical Sergeant Timothy A. Wilkinson

Sergeant Wilkinson, 24th Special Tactics Squadron Pararescueman, was awarded the Air Force Cross for extraordinary heroism in military operations against an opposing armed force near the Olympic Hotel, Mogadishu, Somalia, 3-4 October 1993. When a U.S. UH-60 helicopter had been shot down, Sergeant Wilkinson conducted a fast rope insertion into the crash site and came under extremely heavy enemy fire from three directions. He repeatedly exposed himself to intense small arms fire and grenades to clear debris, provide emergency medical treatment to survivors, and extract dead and wounded members from the downed helicopter. On his own initiative, he broke cover three times while under intense fire to locate and treat U.S. Army Rangers. Sergeant Wilkinson's medical skills and uncommon valor saved the lives of multiple gravely wounded American soldiers during the longest sustained fire fight (18 hours) involving United States combat forces in more than 20 years.

Chief Master Sergeant of the Air Force (CMSAF) Paul W. Airey

During World War II, Airey served as an aerial gunner on B-24 bombers and is credited with 28 combat missions in Europe. While a prisoner in a German POW camp, he and 6,000 other POWs were forced to march 400 miles to camp near Berlin. He was liberated by British forces in May 1945. During the next 14 years, he would hold first

sergeant assignments at five bases, setting him up for the ultimate enlisted job as the first Chief Master Sergeant of the Air Force. To aid in retention efforts, Airey worked with a team of Air Force specialists that helped produce the Weighted Airman Promotion System, which he considered his most important contribution as CMSAF.

Chief of Staff's Reading List

The Chief of Staff provides a list of recommended reading that promotes a broad understanding of where we've been as an Air Force, the challenges and demands we face today, and a clear vision to the future.

The reading list is dynamic in order to remain relevant to changing times and situations. This selection does not imply the Chief of Staff or the U.S. Air Force endorsement of authors' views or interpretations.

These books are available to you through our institutional schools at Air University, each Air Force library, bookstores, and through on-line services. For the most recent reading list, go to: www.af.mil/information/csafreading/

All Airmen should develop strong reading habits to further their intellectual development. One of the best ways we can serve our nation is to continue to grow so that we are ready for increased responsibility and the leadership challenges that come with it. We owe it to ourselves to use professional development tools to hone our quality edge.

Quotations

CHARACTER

"Duty then is the sublimest word in the English language. You should do your duty in all things. You can never do more. You should never wish to do less."

General Robert E. Lee

"The discipline which makes the soldiers of a free country reliable in battle is not to be gained by harsh or tyrannical treatment. On the contrary, such treatment is far more likely to destroy than to make an army. It is possible to impart instruction and to give commands in such a manner and such a tone of voice as to inspire in the soldier no feeling but an intense desire to obey, while the opposite manner and tone of voice cannot fail to excite strong resentment and a desire to disobey. The one mode or the other of dealing with subordinates springs from a corresponding spirit in the breast of the commander. He who feels the respect which is due to others cannot fail to inspire in them respect for himself, while he who feels and hence manifests, disrespect toward others, especially his subordinates, cannot fail to inspire hatred against himself."

Maj Gen John M. Schofield,
to the graduating class of 1879 at West Point

"Character is much easier kept than recovered."

Thomas Paine, 1783

"The foundation of leadership is character."

General Alexander M. Patch

"Boldness governed by superior intellect is the mark of a hero."

Karl Von Clausewitz, On War

"The most important thing I learned is that soldiers watch what their leaders do. You give them classes and lecture them forever, but it is your personal example they will follow."

General Colin J. Powell, Chairman, JCS

"Of all manifestations of power, restraint impresses men most."

Greek Historian Thucydides

"Discipline is that trait of character which renders punishment unnecessary."

Anonymous

HONOR

"Nobody can acquire honor by doing what is wrong."

President Thomas Jefferson

"You may have to fight when there is no hope of victory, because it is better to perish than live as slaves."

Winston Churchill, after the Battle of Britain

"If I lose mine honor, I lose myself."

William Shakespeare,
1607 Anthony & Cleopatra

PERSONAL INTEGRITY

"He who permits himself to tell a lie once finds it much easier to do it a second and third time, till at length it becomes habitual; he tells a lie without attending to it, and truths without the world believing it."

President Thomas Jefferson

"Integrity is the fundamental premise for military service in a free society. Without integrity, the moral pillars of our military strength, public trust, and self-respect are lost."

General Charles A. Gabriel,
Chief of Staff, USAF

"A [person] has integrity if his interest in the good of the service is at all times greater than his personal pride, and when he holds himself to the same line of duty when unobserved as he would follow if his superiors were present."

General S.L.A. Marshall

PATRIOTISM

"Duty, honor, country: Those three hallowed words reverently dictate what you ought to be, what you can be, what you will be. They are your rallying point to build courage when courage seems to fail, to regain faith when there seems to be little cause for faith, to create hope when hope becomes forlorn."

General of the Army Douglas MacArthur

"What you have chosen to do for your country by devoting your life to the service of your country is the greatest contribution that any[one] can make."

President John F. Kennedy

"An officer's ultimate commanding loyalty at all times is to his country, and to his service or to his superiors."

General of the Army George C. Marshall


DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

Air Force Senior Leadership

President of the
United States of America

Barack Obama

Secretary of Defense

Leon E. Panetta

Secretary of the Air Force

Michael B. Donley

Air Force Chief of Staff
General Norton A. Schwartz


SEAL OF THE PRESIDENT OF THE UNITED STATES

Barack H. Obama is the 44th President of the United States. He was sworn into office 20 January 2009. As the President, he serves as the Commander-In-Chief,U.S. Armed Forces.

After working his way through college with the help of scholarships and student loans, President Obama moved to Chicago. As a law school student, he became the first African-American president of the Harvard Law Review. Upon graduation, he returned to Chicago and taught constitutional law at the University of Chicago. President Obama's years of public service are based upon his unwavering belief in the ability to unite people around a common cause.

In the Illinois State Senate, he passed the first major ethics reform in 25 years, cut taxes for working families and expand health care for children and their parents. As a U.S. Senator, he reached across the aisle to pass lobbying reform, lock up the world's most dangerous weapons, and bring transparency to government. President Obama and his wife, Michelle, have two daughters: Malia and Sasha.

Leon Edward Panetta was sworn in as the 23d secretary of defense on July 1, 2011. Mr. Panetta was the director of the Central Intelligence Agency from February 2009 to June 2011. He has dedicated much of his life to public service. He was chosen as a member of the Iraq Study Group. From July 1994 to January 1997, Mr. Panetta was chief of staff to President Clinton. Prior to that, he was director of the Office of Management and Budget. Mr. Panetta was a special assistant to the Secretary of Health, Education and Welfare; director of the U.S. Office for Civil Rights. He served as an Army intelligence officer from 1964 to 1966 and received the Army Commendation Medal. Mr. Panetta holds a Bachelor of Arts degree in political science and a law degree, both from Santa Clara University. He was born on June 28, 1938, in Monterey, CA. Mr. Panetta and his wife Sylvia have three grown sons and six grandchildren.


DEPARTMENT OF DEFENSE

Oath of Office

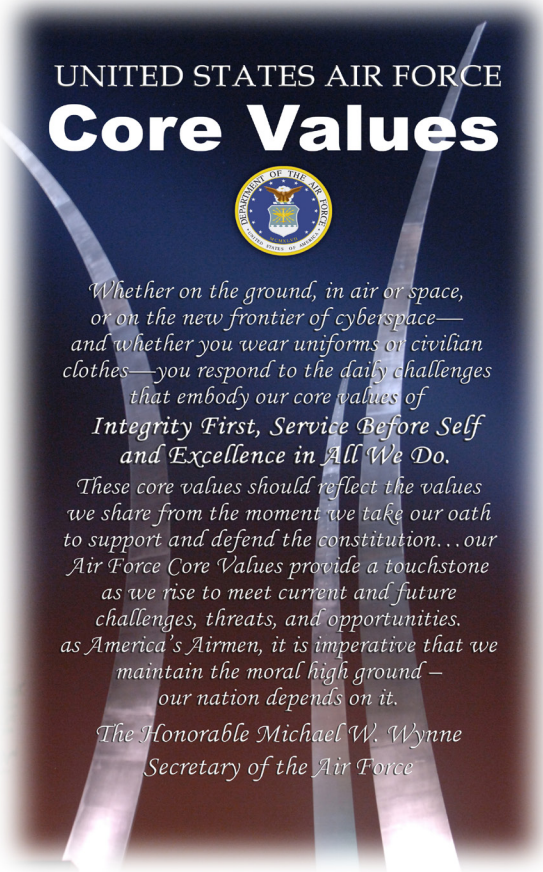
I, (*Full Name*), having been appointed a (*Rank*) in the United States Air Force, do solemnly swear (or affirm) that I will support and defend the Constitution of the United States against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same; that I take this obligation freely, without any mental reservation or purpose of evasion; and that I will well and faithfully discharge the duties of the office upon which I am about to enter, SO HELP ME GOD.

Oath of Enlistment

I, (*state your full name*), do solemnly swear (or affirm) that I will support and defend the Constitution of the United States against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same, and that I will obey the orders of the President of the United States and the orders of the officers appointed over me according to regulations and the Uniform Code of Military Justice, SO HELP ME GOD.

Civilian Oath

I do solemnly swear (or affirm) that I will support and defend the Constitution of the United States against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same; that I take this obligation freely, without any mental reservation or purpose of evasion; and that I will well and faithfully discharge the duties of the office on which I am about to enter: SO HELP ME GOD.


UNITED STATES AIR FORCE
Core Values
Whether on the ground, in air or space, or on the new frontier of cyberspace—and whether you wear uniforms or civilian clothes—you respond to the daily challenges that embody our core values of
Integrity First, Service Before Self and Excellence in All We Do.
These core values should reflect the values we share from the moment we take our oath to support and defend the constitution. . . our Air Force Core Values provide a touchstone as we rise to meet current and future challenges, threats, and opportunities. as America's Airmen, it is imperative that we maintain the moral high ground – our nation depends on it.
The Honorable Michael W. Wynne
Secretary of the Air Force

USAF Mission Statement

Fly, Fight, and Win...in Air, Space, and Cyberspace.

USAF Vision Statement

The United States Air Force will be a trusted and reliable joint partner with our sister services known for integrity in all of our activities, including supporting the joint mission first and foremost. We will provide compelling air, space, and cyber capabilities for use by the Combatant Commanders. We will excel as stewards of all Air Force resources in service to the American people, while providing precise and reliable Global Vigilance, Reach, and Power for the Nation.

Air Force Priorities

- *Continue to Strengthen the Air Force Nuclear Enterprise*
- *Partner with the Joint and Coalition Team to Win Today's Fight*
- *Develop and Care for Airmen and their families*
- *Modernize our Air and Space Inventories, Organizations, and Training*
- *Recapture Acquisition Excellence*

Core Values

Integrity First
Service Before Self
Excellence in All We Do

The Air Force core values are the bedrock of the Air Force. Together, they are a statement of the institutional values, principles, and moral framework within which military activities take place. The professional Air Force ethic consists of three fundamental and enduring values: integrity, service, and excellence. This ethic guides our lives and daily performance. Success hinges on incorporating these values. In today's time-compressed, dynamic, and dangerous battlespace, we do not have the luxury of examining each issue at leisure. We must fully internalize these values so that it will be second nature, in every situation, to maintain integrity first, service before self, and perform with excellence in all we do.

Living the Core Values

The Air Force core values are universal and unchanging beacons that vector individual personal and professional conduct, and represent the highest ideals of the United States. Incorporating these values into each Airman's consciousness, and through them into every unit, organization, and the Air Force, will enable us to successfully achieve the Air Force mission.

Integrity First - is the single most important aspect of character, and the essential element and foundation upon which the other core values are built. It is the willingness to do what is right even when no one is looking, a moral compass, an inner voice imposing self-discipline, and the basis for trust -- imperative in today's Air Force.

"We're entrusted with the security of our nation. The tools of our trade are lethal, and we engage in operations that involve risk to human life and untold national treasure. Because of what we do our standards must be higher than those of society."

General Ronald R. Fogleman
15th CSAF

Servive Before Self - is enduring commitment and dedication; an age-old military virtue evident in the willingness to set aside personal needs, and make personal sacrifices; willingness to lay one's life on the line if called upon to do so. It means more than service to our nation, but service to family as well, evident when we prepare and provide for them, whether we are at home station or deployed.

"Service before self is that virtue within us all which elevates the human spirit; compels us to reach beyond our meager selves to attach our spirit to something bigger than we are."

General John P. Jumper
17th CSAF

Excellence In All We Do - is the commitment to high standards and daily reaffirmation to unimpeachable performance by Airmen who understand that they have been entrusted with the security of a nation. It is a professional obligation and a moral responsibility, as well.

"That commitment to excellence is more than desirable; in the profession of arms, it's essential. Lives depend on the fact that we maintain high standards."

General Michael E. Ryan
16th CSAF

The Warrior Ethos

As members of the profession of arms, when we take an oath and accept the Air Force core values, we are accepting a life commitment. We must develop the professional mindset, confidence, and abilities necessary to shape the warrior in each of us. Internalizing the warrior ethos allows us to work within the team environment to accomplish the Air Force mission and defend our nation. Our core values define expected characteristics and provide a moral guidepost for all Airmen. The warrior ethos provides a motivational environment where we can apply our core values to mission accomplishment.

Acting with Valor, Courage, and Sacrifice.
Airmen firmly grounded in the core values and ingrained with the warrior ethos will react to combat stress, deployment pressure, operational demands, and daily demands at home with valor, courage, and sacrifice. While these characteristics are latent within each of us, they usually surface in times of great difficulty or unforeseen circumstances. It can happen in the workplace, on the way home from work, during a humanitarian operation, or on the battlefield.

Valor - is the ability to face danger or hardship in a determined and resolute manner. It is the willingness to step out of one's comfort zone to deal with an unexpected situation. When acting with valor, one exhibits heroic qualities.

Courage - is evident in three areas: personal, physical, and moral. You exhibit personal courage when you do the right thing, even at personal risk (such as to your career). Physical courage is the ability to overcome fear of bodily harm to get the job done or to risk yourself for someone else. Moral courage is the ability to stand by the core values and your convictions when it may not be the popular thing to do.

Sacrifice – is the willingness to give your life, time, or comfort to meet others' needs. Battlefield acts of heroism are not the only examples of personal sacrifice. Day-to-day activities – at your home base or while deployed - may result in opportunities to put others' needs ahead of your own in support of mission accomplishment.

The Airman's Perspective

An Airman is any Air Force member -- officer or enlisted; regular, reserve, or guard; or Air Force civilian employee -- who supports and defends the Constitution of the United States and whose professional and personal life exemplifies Air Force core values. The application of air, space, and cyberspace power is fundamentally unique to the Air Force. The Air Force perspective has always varied from the other services because air power is inherently flexible. Air Force flexibility means air, space, and cyberspace power can be applied independently or in concert with other military powers. To be effective, air power must be applied for the right reasons, in the right concentrations, and at the right time and place. Because air power is employed in a variety of environments, at higher speeds and closure rates, and over greater distances than ground or sea power is employed, air power must be employed by those who truly embrace its depth and scope of application.

Department of the Air Force

OVERVIEW

The Department of the Air Force is comprised of the Office of the Secretary of the Air Force (SECAF), the Air Staff, and field units.

Primary Functions

The Department of the Air Force is organized under the Secretary of the Air Force. It operates under the authority, direction, and control of the Secretary of Defense. In general, the Air Force includes aviation forces (combat and those not otherwise assigned to other services). It is organized, trained, and equipped primarily for prompt and sustained offensive and defensive air and space operations. It is responsible for preparing the air forces necessary to effectively prosecute war, except as otherwise assigned and, in accordance with integrated joint mobilization plans, to expand peacetime Air Force components to meet the needs of war. The total force includes regular Air Force, Air National Guard while in the service of the United States, Air Force Reserve, and civilian employees.

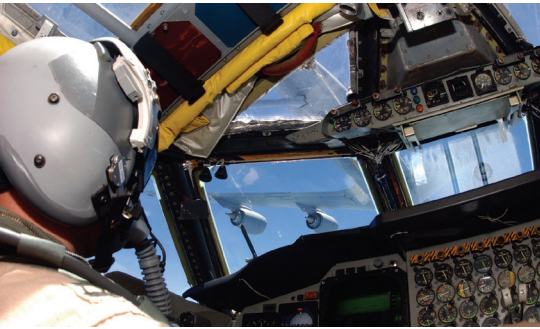
Major Functions

- Organize, train, equip, and provide forces to conduct prompt, sustained air and space combat operations; specifically, defend the United States against air attack, gain and maintain general air supremacy, defeat enemy air forces, conduct space operations, control vital air space, and establish local air superiority.
- Organize, train, equip, and provide forces for appropriate air and missile defense and space control operations, including forces for the strategic defense of the United States, in accordance with joint doctrine.
- Organize, train, equip, and provide forces for strategic air and missile warfare; organize, equip, and provide forces for joint amphibious, space, and airborne operations.
- Organize, train, equip, and provide forces for close air support and air logistic support of the Army and other forces, including airlift, air support, resupply of airborne operations, aerial photography, tactical air reconnaissance, and air interdiction of enemy land forces and communications.
- Organize, train, equip, and provide forces for armed forces air transport.
- Develop doctrine, procedures, and equipment for land-based air defense.
- Furnish launch and space support for the Department of Defense.
- Organize, train, equip, and furnish land-based tanker forces for strategic and tactical in-flight refueling support.

- Organize, train, equip, and furnish forces to operate air lines of communications.
- Organize, train, equip, and furnish forces to support and conduct special operations.

Collateral Functions

- Surface sea surveillance and antisurface ship warfare through air operations.
- Antisubmarine warfare and antiair warfare operations to protect sea lines of communications.
- Aerial minelaying operations.
- Air-to-air refueling in support of naval campaigns.



AIR FORCE ORGANIZATIONS

Department of the Air Force

Secretary of the Air Force (SECAF)

The Office of the SECAF includes the Secretary, Under Secretary, Assistant Secretaries, General Counsel, Inspector General, Air Reserve Forces Policy Committee, and other offices and positions established by law or the SECAF. The Office of the SECAF has responsibility for acquisition and auditing, comptroller issues (including financial management), inspector general matters, legislative affairs, and public affairs.

Air Staff

The Air Staff primarily consists of military advisors to the CSAF and the SECAF. This includes the CSAF, Vice CSAF, and Assistant Vice CSAF, the CMSAF, five deputy chiefs of staff (DCS), the U.S. Air Force Surgeon General, the Judge Advocate General, the Chief of the Air Force Reserve, and additional military and civilian personnel as the SECAF deems necessary.

Field Units

The Department of the Air Force field units are major commands (MAJCOMs), field operating agencies, and direct reporting units.

MAJCOMs

The Air Force is organized functionally in the United States and geographically overseas. A MAJCOM represents a major Air Force subdivision, responsible for a specific portion of the Air Force mission. Each MAJCOM is directly subordinate to HQ USAF. MAJCOMs are interrelated and complementary, providing offensive, defensive, and support elements. An operational command consists (in whole or in part) of strategic, tactical, space, or defense forces; or of flying forces that directly support such forces. A support command may provide supplies, weapon systems, support systems, operational support equipment, combat materiel, maintenance, surface transportation, education and training, or special services and other supported organizations. The MAJCOMs in the U.S. Air Force are as follows:

Air Combat Command (ACC), headquartered at Langley AFB, VA, was created 1 June 1992. ACC is the primary provider of air combat forces to America's warfighting commanders.

ACC is the primary force provider of combat airpower to America's warfighting commands. To support global implementation of national security strategy, ACC operates fighter, bomber, reconnaissance, battle-management, and electronic-combat aircraft. It also provides command, control, communications, and intelligence systems, and conducts global information operations.

ACC organizes, trains, equips, and maintains combat-ready forces for rapid deployment and employment, esuring strategic air defense forces are ready to meet the challenges of peacetime air sovereignty and wartime air defense.

Air Education and Training Command (AETC), headquartered at Randolph AFB, TX, was created 1 July 1993, with the realignment of Air Training Command and Air University. AETC is the first command to touch the life of nearly every Air Force member.

The AETC mission is to develop America's Airmen today... for tomorrow. AETC's vision is to deliver unrivaled air, space, and cyberspace education and training. More than 56,000 active duty members, 4,000 Air National Guard and Air Force Reserve personnel, and 14,000 civilian personnel make up AETC. The command also has more than 11,700 contractors assigned. AETC is responsible for approximately 1,500 aircraft. The command includes Air Force Recruiting Service, two numbered air forces, and the Air University.

Air Force Global Strike Command (AFGSC), headquartered at Barksdale AFB, LA. **was** created 7 August 2009. AFGSC is responsible for the nation's three intercontinental ballistic missile wings, two B-52 Stratofortress wings, and the only B-2 Spirit wing.

AFGSC's mission is to develop and provide combat-ready forces for nuclear deterrence and global strike operations--safe, secure, effective--to support the president of the United States and combatant commanders.

Air Force Materiel Command (AFMC), headquartered at Wright-Patterson AFB, OH, was created 1 July 1992. The command conducts research, development, test and evaluation, and provides acquisition management services and logistics support necessary to keep Air Force weapon systems ready for war.

AFMC's mission: Deliver war-winning ... Technology - Acquisition - Test - Sustainment ... expeditionary capabilities to the warfighter.

AFMC delivers war-winning expeditionary capabilities to the warfighter through development and transition of technology, professional acquisition management, exacting test and evaluation, and world-class sustainment of all Air Force weapon systems. From cradle-to-grave, AFMC provides the workforce and infrastructure necessary to ensure the U.S. remains the world's most respected air and space force.

Air Force Special Operations Command (AFSOC), headquartered at Hurlburt Field, FL, was created 22 May 1990. AFSOC is the Air Force component of U.S. Special Operations Command.

AFSOC provides special operations forces (SOF) for worldwide deployment and assignment to regional unified commands. The command's SOF are composed of highly trained, rapidly deployable Airmen. These forces conduct global special operations missions ranging from precision application of firepower, to infiltration, exfiltration, resupply and refueling of SOF operational elements.

AFSOC's unique capabilities include airborne radio and television broadcast for psychological operations, as well as aviation foreign internal defense instructors to provide other governments military expertise for their internal development. The command's special tactics squadrons combine combat controllers, special operations weathermen, and pararescuemen with other

service SOF to form versatile joint special operations teams. The command's core missions include battlefield air operations; agile combat support; aviation foreign internal defense; information operations; precision aerospace fires; psychological operations; specialized air mobility; specialized refueling; and intelligence, surveillance, and reconnaissance.

Air Force Space Command (AFSPC), headquartered at Peterson Air Force Base, CO. was created 1 September 1982. AFSPC provides military-focused space and cyberspace capabilities with a global perspective to the joint warfighting team.

AFSPC's mission is to provide an integrated constellation of space and cyberspace capabilities at the speed of need.

Air Mobility Command (AMC), headquartered at Scott AFB, IL, was created 1 June 1992. AMC provides global reach. Rapid, flexible, and responsive air mobility promotes global stability and keeps U.S. capability and character visible.

AMC's mission is to provide global air mobility ... right effects, right place, right time. The command also plays a crucial role in providing humanitarian support at home and around the world. AMC Airmen--active duty, Air National Guard, Air Force Reserve, and civilians—provide airlift and aerial refueling for all of America's armed forces. Many special duty and

operational support aircraft and stateside aeromedical evacuation missions are also assigned to AMC.

Pacific Air Forces (PACAF), headquartered at Hickam AFB, HI, organizes, trains, and equips combat-ready forces to meet wartime and contingency taskings as the principle air, space, and information component of U.S. Pacific Command.

PACAF's primary mission is to provide U.S. Pacific Command integrated expeditionary Air Force capabilities to defend the homeland, promote stability, dissuade/deter aggression, and swiftly defeat enemies. PACAF's area of responsibility extends from the west coast of the United States to the east coast of Africa and from the Arctic to the Antarctic, covering more than 100 million square miles. The area is home to 50 percent of the world's population in 36 nations.

U.S. Air Forces in Europe (USAFE), headquartered at Ramstein Air Base, Germany. It is the air component of the U.S. European Command, a Department of Defense unified command, and the U.S. component of the North Atlantic Treaty Organization (NATO).

Equipment assets include about 220 fighter, attack, tanker, and transport aircraft and a full complement of conventional weapons.

USAFE's mission: as the air component for U.S. European Command (EUCOM), USAFE directs air operations in a theater spanning 3 continents, covering more than 8 million square miles, containing 51 independent states, and possessing 1/8th of the world's population.

USAFE is an Air Expeditionary Force with a mobile and deployable mix of people and resources that can simultaneously operate in multiple locations.

Its role in Europe and Africa has expanded from warfighting, to include humanitarian and peacekeeping operations, as well as other nontraditional contingencies throughout its area of responsibility. In peacetime, USAFE trains and equips U.S. Air Force units pledged to the North Atlantic Treaty Organization (NATO).

Air Force Reserve Command (AFRC), headquartered at Robins AFB, GA, became a MAJCOM of the Air Force on 17 February 1997. Previously, the Air Force Reserve was a field operating agency.

AFRC's mission is the same as that of the United States Air Force–to fly, fight, and win…in air, space, and cyberspace.

AFRC's vision is straightforward and enduring–to provide the world's best mutual support to the Air Force and our joint partners–flying and fighting as an unrivaled wingman.

AFRC provides the U.S. Air Force about 20 percent of their capability supporting space, flight test, special operations, aerial port operations, civil engineer, security forces, intelligence, military training, communications, mobility support, transportation, and services missions.

Air National Guard (ANG) is administered by the National Guard Bureau, a joint bureau of the Departments of the Army and Air Force, located in the Pentagon, Washington, DC. It is one of the seven Reserve components of the U. S. Armed Forces that augment the regular components in the performance of their missions.

NOTE: The ANG is not a MAJCOM, but is a very important component of the Total Force in offensive, defensive, and relief operations.

The ANG has both a federal and state mission. The dual mission, a provision of the U.S. Constitution and the statute, results in each guardsman holding membership in his or her state National Guard and in the National Guard of the United States.

Federal Mission. The ANG's federal mission is to maintain well-trained and well-equipped units available for prompt mobilization during war and to provide assistance during national emergencies (such as natural disasters or civil disturbances). During peacetime, the combat ready units and support units are assigned to most Air Force MAJCOMs to carry out missions compatible with training, mobilization readiness, and contingency operations. The ANG provides almost half of the Air Force's tactical airlift support, combat communications

functions, aeromedical evacuations, and aerial refueling. In addition, the ANG has total responsibility for air defense of the entire United States.

State Mission. When ANG units are not mobilized or under federal control, they report to the governor of their respective state, territory (Puerto Rico, Guam, Virgin Islands), or the commanding general of the District of Columbia National Guard. The adjutant general of the state or territory supervises each of the 54 National Guard organizations. Under state law, the ANG provides protection of life and property and preserves peace, order, and public safety.

Field Operating Agency

Field operating agencies are subdivisions of the Air Force directly subordinate to a headquarters U.S. Air Force functional manager. A field operating agency performs field activities beyond MAJCOM scope. The activities are specialized or associated with an Air Force-wide mission and do not include functions performed in management headquarters (such as AMC), unless specifically directed by a DoD authority. Two examples are the Air Force Personnel Center (AFPC) under the DCS, Personnel, and the Air Force Office of Special Investigations (AFOSI) under the Inspector General. Similar organizations at MAJCOM level are called MAJCOM field operating agencies.

Direct Reporting Unit

Direct reporting units are Air Force subdivisions directly subordinate to the CSAF. A direct reporting unit performs a mission that does not fit into any of the MAJCOMs. A DRU has many of the same administrative and organizational responsibilities as a MAJCOM. Two examples are the USAF Academy and the Air Force Doctrine Center.

Lower Command Levels

Below the MAJCOMs are the following levels, in descending order: numbered Air Force, wing, group, squadron, and flight.

Numbered Air Force (NAF)

The NAF falls directly under a MAJCOM. NAFs are tactical echelons that provide operational leadership and supervision. They are not management headquarters and do not have complete functional staffs. Many NAFs are responsible for MAJCOM operations in a specific geographic region or theater of operations. The number of personnel assigned varies, but should not exceed 99 manpower authorizations (except with Air Staff waiver). A NAF is assigned subordinate units such as wings, groups, and squadrons.

Wing

The wing falls below the NAF. A wing has approximately 1,000 to 5,000 personnel and a distinct mission with significant scope. It is responsible for maintaining the installation and may have several squadrons in more than one dependent group. A wing may be an operational wing, an air base wing, or a specialized mission wing.

Operational Wing. An operational wing is one that has an operations group and related operational mission activity. When an operational wing performs the primary base mission, it usually maintains and operates the base. In addition, an operational wing is capable of self-support in functional areas like maintenance, supply, and munitions, as needed. When an operational wing is a tenant organization, the host command provides varying degrees of support.

Air Base Wing. An air base wing performs a support function rather than an operational mission. It maintains and operates a base. An air base wing often provides functional support to a MAJCOM headquarters.

Specialized Mission Wing. A specialized mission wing performs a specialized mission and usually does not have aircraft or missiles assigned to it. Examples include intelligence wings, training wings, and so on. This wing may be either a host or a tenant wing, depending on whether it maintains and operates the base.

Group

A group is a level of command below the wing. Like the NAF, it is a tactical echelon with minimal staff support. A group usually has two or more subordinate units. A dependent group is a mission, logistics, support, medical, or large functional unit, such as a civil engineering group. Such groups may possess small supporting staff elements, such as standardization and evaluation or quality control, that are organized as sections. An independent group has the same functions and responsibilities as a like-type wing, but its scope and size do not warrant wing-level designation. A group has approximately 500 to 2,000 personnel.

Squadron

The squadron is the basic unit in the Air Force. A squadron may be a mission unit, such as an operational flying squadron, or a functional unit, such as a civil engineering, services, security forces, or logistics readiness squadron. Squadrons vary in size according to responsibility. A squadron has approximately 50 to 750 personnel.

Flight

If internal subdivision is required, a flight may consist of sections, then elements. There are numbered, alpha, or functional flights.

Numbered Flight. A numbered flight is the lowest level unit in the Air Force. A flight incorporates smaller elements into an organized unit. Its administrative characteristics, such as strength reporting, are like those of a squadron.

Alpha Flight. Alpha flights are part of a squadron (usually a mission squadron) and composed of several elements that perform identical missions. Because an alpha flight is not a unit, it is not subject to unit reporting.

Functional Flight. Functional flights are usually part of a squadron and composed of elements that perform specific missions. Because a functional flight is not a unit, it is not subject to unit reporting.

Air Reserve Components (ARC)

The Air National Guard (ANG) and Air Force Reserve (AFR) form a significant part of USAF air and space capability. Together they are called the ARC. Forces are drawn from the ARC when circumstances require the active force to rapidly expand. The purpose of each reserve component is to provide trained units and qualified persons for duty in time of war or national emergency, and at such other times as the national security may require, to fill the needs of the armed forces whenever more units and persons are needed than are in the regular components.

Staffing and Equipping

ARC forces are staffed and trained to meet the same training standards and readiness levels as the regular component

forces, and are supplied with the same equipment on an equal priority. Equipment may not be withdrawn, diverted, or reassigned to the regular force for other commitments without Secretary of Defense written approval.

Use

Under the total force policy established by DoD in 1973, both regular and reserve assets are considered parts of a single U.S. military resource. All aspects of regular and reserve forces are considered when determining an appropriate force mix. Factors include contribution of forces to national security, availability of forces in view of time, statutory or regulatory constraints, and the cost to equip and maintain forces. Considerations unique to ANG units include their dual state and federal missions.

Organization

ANG and AFR units are organized parallel to similar regular force units with one exception. ARC units are sometimes separated to take advantage of state or regional demographics and cannot be centralized at major, multisquadron bases, as would be the case with regular resources. This exception is beneficial because it implements a strong relationship with the civilian community and builds public support for the Air Force as a whole.

Jurisdiction

Command jurisdiction for nonmobilized ANG units is vested in the governor of the state, commonwealth, or possession, or in the President, who in essence is the governor of the District of Columbia. The President delegates authority to the Secretary of the Army to carry out the powers of the President as "governor" of the District of Columbia. Command of nonmobilized AFR units is exercised through the Commander, Air Force Reserve,

who, in turn, is responsible to the CSAF. The Readiness Management Group (RMG) is the Air Force Reserve Command's agency responsible for shared administrative control (ADCON) of individual reservists (IR). IR members are assigned or attached to an organization that is responsible for training and equipping. The regular Air Force (RegAF) commander is responsible for operational control (OPCON) and specified ADCON for IR. Some RegAF commander responsibilities include performance evaluations, organizational, and deployment uniform requirements, mobilization training, and member Air Force specialty code skill training. The RMG maintains IR mobilization readiness responsibility and reports to the AFRC vice commander at Robins AFB, GA.

Air Force Auxiliary (Civil Air Patrol)

The Air Force Auxiliary, also known as the Civil Air Patrol (CAP), serves in a dual capacity as both a federally chartered, nonprofit corporation and the volunteer civilian auxiliary of the United States Air Force established under public law.

CAP is made up of more than 64,500 members who volunteer their time, services, and resources to conduct three primary missions: flight operations, cadet programs, and aerospace education.

CAP is referred to as the auxiliary only when employed

by the Air Force; a distinction currently being incorporated into policy and doctrine.

In accordance with public law, the auxiliary accomplishes missions in support of local, state and federal agencies on behalf of the Air Force. These include search and rescue initiatives, disaster response, and homeland security operations that provide an Air Force presence in communities across the nation. CAP is a vital link between the Air Force and the population at large.

The Air Force Auxiliary is an official part of the Air Force team and is considered an instrumental part of our Air Force family. Although auxiliary uniforms are similar to Air Force uniforms, the displayed rank does not confer officer or NCO status, or any Air Force protocol requirements. However, all Air Force personnel are responsible for developing and maintaining a strong, positive relationship between the Air Force and Auxiliary. Plans are underway to expand the role that CAP plays in homeland security.

Flying Minute Men

After the German surrender, one of Hitler's high-ranking naval officers was asked why the Nazi U-boats had been withdrawn from U.S. coastal waters early in 1943. The answer was exploded in a curt guttural: 'It was because of those damned little red and yellow planes!'

Robert E. Neprud, Flying Minute Men: The Story of the Civil Air Patrol

The U.S. Air Force Thunderbirds are an air demonstration squadron. The Thunderbirds demonstrate to the American taxpayer and people around the world the awesome capabilities of the United States Air Force and the quality and professionalism of the people who make up the most dominant air and space force in the world. Representing more than half a million regular Air Force, Guard, and Reserve men and women, the Thunderbirds are America's Ambassadors in blue; the face of America's Air Force. When the Thunderbirds perform, they showcase the vigilance, talent, and spirit found in Airmen who have accepted a noble call to duty. The 130 Airmen team brings together 29 career fields working in unison to accomplish one mission. The organization's goal is to elicit pride in this great nation's armed forces, and to inspire the next generation to become Airmen.

A Thunderbird performance highlights the skills and training representative of all Air Force members. The hour-long demonstration brings together years of training and a lifetime of dreaming to show off what the Air Force is all about. The ground ceremony, along with the sharp movements and rhythm of the crew

The Thunderbirds

chiefs, showcases the utmost professionalism and esprit shared by the enlisted corps. As the jets take to the skies, the maneuvers demonstrate the full spectrum of fighter pilot skills, from the loops, rolls, and formation flight required of a novice pilot to the advanced maneuvers of a fully-qualified combat aviator. A Thunderbirds air demonstration is a mix of six Lockheed Martin F-16 Fighting Falcon aircraft performing formation flying and solo routines. The four-aircraft Diamond Formation demonstrates the training and precision mastered by all Air Force pilots, as well as the gracefulness of the F-16. The two solos highlight the maximum capabilities and sheer power of the Air Force's frontline fighters.

Human Relations Principles

All Air Force members are entitled to a positive work environment free from any form of harassment. As a matter of policy and tradition, Air Force leaders promote an environment free from personal, social, or institutional barriers that prevent service members from rising to the highest possible level of responsibility. Service members shall be evaluated only on individual merit, fitness, and capability. Unlawful discrimination against persons or groups based on race, color, religion, sex, or national origin is contrary to good order and discipline and is counterproductive to combat readiness and mission accomplishment. The Air Force standard is zero tolerance for any form of unlawful discriminatory behavior, sexual harassment, or sexual violence.

Developing Airmen. We encourage talented and motivated people to join the Air Force team. The Air Force needs the collective talents inherent in the American people. A diverse talent pool provides a team capable of coping with virtually any situation anywhere on the globe. Unless we inclusively develop and mentor all of our Airmen, over time we could lose the heart of our combat capability.

Technology-to-Warfighting. Technological realities require us to constantly seek Airmen who are innovative, out-of-the-box thinkers, and problem solvers. We must continuously attract talented Americans to become Airmen able to apply practical principles in a complex and dynamic environment. Our Airmen must be able to translate technical tools into combat capability. Cutting edge technology alone is not enough to win America's wars. It takes dedicated Airmen to exploit any new technology.

Integrating Operations. Cultural competence refers to the skills, knowledge, and experiences that enable individuals to understand and appreciate cultural differences, and similarities within, among, and between individuals, groups, organizations, and functional communities. Warfighting in the 21st century will increasingly involve joint and coalition operations requiring multicultural relations. Airmen who can operate outside their own cultural perspective will be the most successful in our diverse Air Force.

Applying human relations principles begins with individual willingness. Airmen must be aware of their personal assumptions, values, biases, capabilities, and limitations. They must be intentionally open-minded, and work to learn and understand other cultures. Air Force members must demonstrate that they understand and value different perspectives and approaches to pursuing mission excellence.

The Air Force expects its Airmen to:

- Bring members of diverse backgrounds and experiences together in ways that improve all members' performance.
- Encourage and facilitate diverse ideas and perspectives in team interactions.
- Challenge the policies, practices, and processes that limit leader growth and development.
- Expect high performance standards from all members.
- Stimulate personal development to leverage the

members' maximum abilities.

- Be equipped and equip others with the ability to understand and use all members' unique strengths and perspectives.
- Share responsibility and opportunity with all members.

To achieve these goals, Airmen adhere to these human relations principles:

Respect. Consideration and appreciation for others' beliefs, opinions, and feelings.

Dignity. Treating all people in a manner that reflects their worth as human beings.

Courage. Willingness to do the right thing for the right reason, whatever the internal or external pressures.

We must be a diverse team, representative of the society we serve and defend. America's Air Force must have a culturally skilled and knowledgeable workforce capable of executing the Air Force mission globally. Our Air Force team needs leaders and followers equipped with language skills, international expertise, and cultural awareness to meet this objective. The 21st century air expeditionary force requires all Airmen apply and adhere to these principles.


Total Force

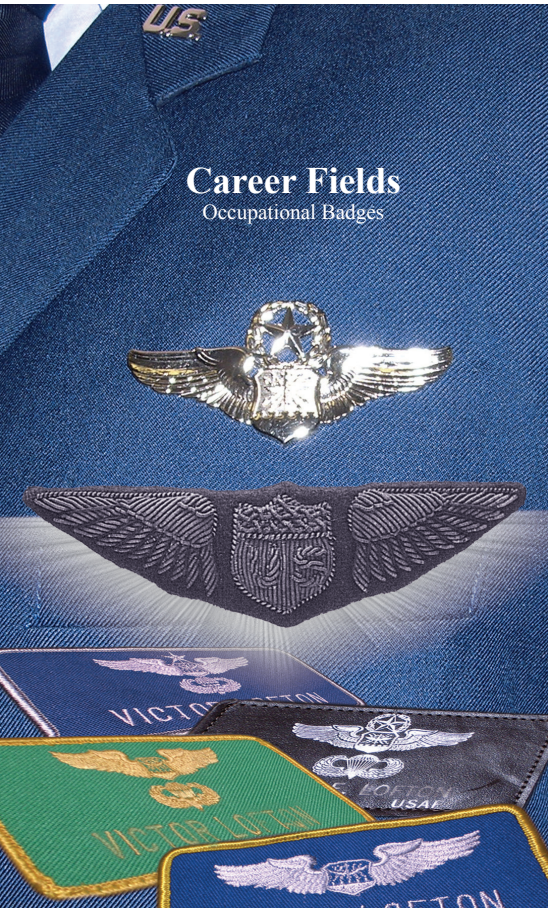
The total force includes seamlessly integrated regular Air Force, Air National Guard, and Air Force Reserve military and civilian members who work side-by-side to accomplish the Air Force mission. Integrated total force units consist of personnel from the same wing or squadron but in different work status. An integrated unit is two or more components of regular Air Force, Guard, Reserve, and civilian members. One example is the 116th Air Control Wing (ACW) which operates the Joint Surveillance and Target Attack Radar System (JSTARS) aircraft at Robins AFB, GA. The 116 ACW is an integrated wing of Air Force and Air National Guard personnel. The Air National Guard director, headquartered in Arlington, VA, leads more than 104,000 Guard members, in 88 flying units and 200

geographically separated units, throughout the United States, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands.

The Chief, Air Force Reserve is headquartered at the Pentagon, and is the CSAF's principal adviser on Reserve matters. As Commander of Air Force Reserve Command, located at Robins AFB, GA, he has full responsibility for the supervision of all U.S. Air Force Reserve units around the world. The Air Force Reserve Command is comprised of over 67,400 personnel, in 33 flying wings, equipped with 348 assigned aircraft, and more than 620 mission support units. There are also 7 groups and 1 space wing with 10 space-associated units that share the satellite control mission with the regular force.

"I encourage you, the men and women of today's Air Force-Active, Guard, Reserve and civilian to think creatively, to develop new efforts and new approaches. Together we can enhance the efficiency, the flexibility, and the capability of our 21st Century Air Force."

General John P. Jumper, USAF


Career Fields
Occupational Badges

Astronaut

Enlisted Aircrew

Flight Nurse

Flight Surgeon

Navigator/Observer

Officer Aircrew Member

Pilot

Remotely Piloted Aircraft (RPA)

Sensor Operator

Air Battle Manager

Weapons Director

Acquisition & Financial Management

Air Traffic Control

Band

Chaplain Service Support

Civil Engineer

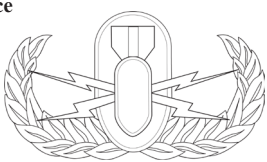
Command & Control

Commander

Cyberspace

Cyberspace Support

Explosive Ordnance Disposal

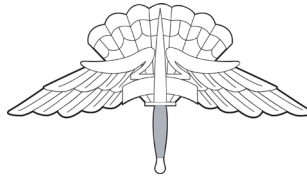


Firefighter

Force Protection

Force Support

High Altitude Low Opening (HALO)



Historian

Intelligence

Judge Advocate

Logistics Plans

Logistics Readiness

Maintenance

Manpower & Personnel

Meteorologist

Missle

Missle

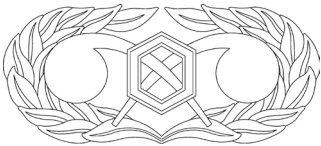
Operations Support

Parachutist

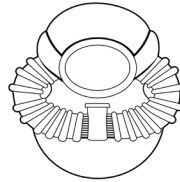
Paralegal

Public Affairs

Readiness



SCUBA



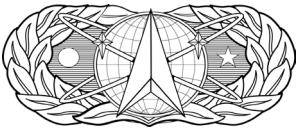
Security Police

Services

Special Operations Weather (SOWT)

Space

Space/Missile



Supply Fuels

Transportation

Biomedical Science Corps

Dental Corps

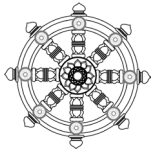
Nurse Corps

Enlisted Medical

Medical Service Corps

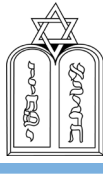
Medical Corps

Chaplain Buddhist



Chaplain Christian

Chaplain Jewish



Chaplain Muslim

Specialized Headgear

Berets

Combat Control Team

Weather Parachutist

Security Forces

Tactical Air Control Party

Pararescue

Civilian Idenitfiers

Senior Executive Service (SES)

Air Force Civilian Pin

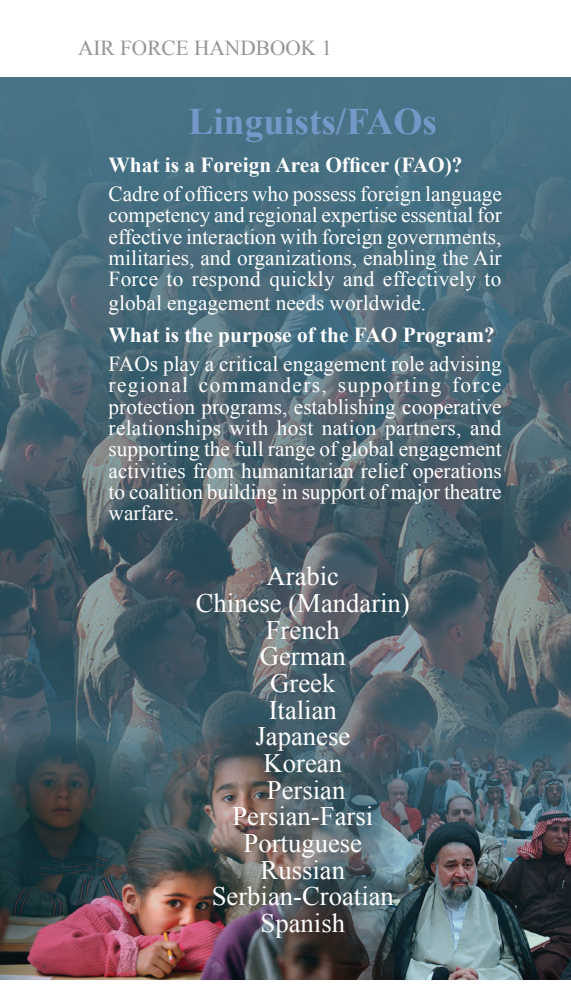
Linguists/FAOs

What is a Foreign Area Officer (FAO)?

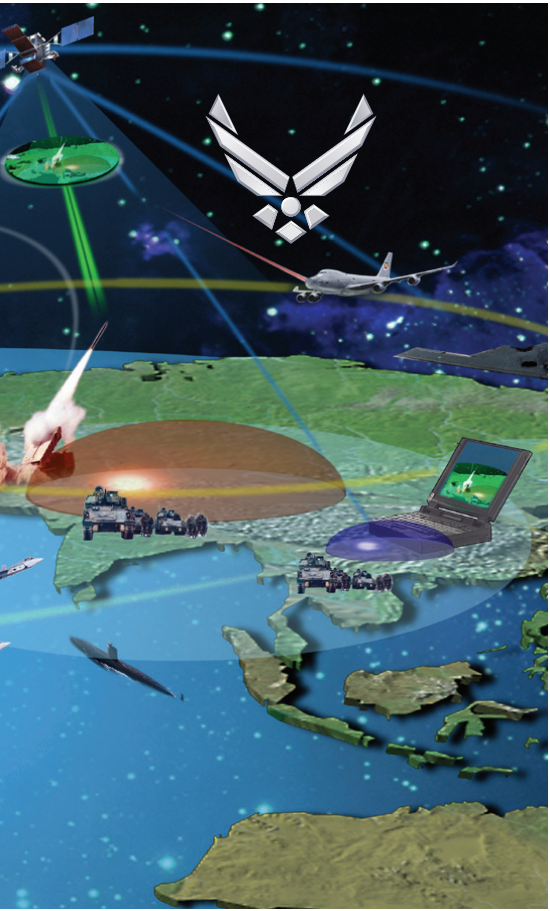
Cadre of officers who possess foreign language competency and regional expertise essential for effective interaction with foreign governments, militaries, and organizations, enabling the Air Force to respond quickly and effectively to global engagement needs worldwide.

What is the purpose of the FAO Program?

FAOs play a critical engagement role advising regional commanders, supporting force protection programs, establishing cooperative relationships with host nation partners, and supporting the full range of global engagement activities from humanitarian relief operations to coalition building in support of major theatre warfare.



Arabic
Chinese (Mandarin)
French
German
Greek
Italian
Japanese
Korean
Persian
Persian-Farsi
Portuguese
Russian
Serbian-Croatian
Spanish



Air and Space Expeditionary Force

Air and Space Expeditionary Force (AEF)

We have a history of expeditionary operations dating back to the Wright Flyer and the Mexican campaigns of 1916-1917. Even a cursory look at General Kenney's operations in the Pacific or WWII allied campaigns across Europe and Africa illustrate the nature of our agile, expeditionary mind set. Korea followed the same model, as deployed forces fought up and down the peninsula In fact the period from Vietnam through the end of the Cold War was an aberration. Large, fixed main operating bases (MOB) with set piece reinforcement plans were the reality then. America won the Cold War and prepared for a peace dividend that never materialized. Instead, global events like the Gulf War and Allied Force, and Operations Noble Eagle, Enduring Freedom, and Iraqi Freedom forced us to return to our roots. Expeditionary operations are again a way of life for America's armed forces. Deployments have quadrupled since the Cold War, while manpower and installations dropped by one-third and two-thirds, respectively.

Air and Space Expeditionary Force (AEF) Concept

Today's basic AEF concept was born of necessity after years of rotations between Operations Northern Watch and Southern Watch. A high operations tempo (OPSTEMPO) drove development of an Air Force-wide system to to organize, schedule, and present forces to combatant commanders (CCDR). Launched in 1998 by CSAF Gen Michael Ryan, AEF Cycle 1 was 15 months long and included approximately 60,000 Airmen. Today the AEF operates on a 24-month schedule and includes over 300,000 Airmen. It remains flexible to accommodate CCDR needs, whether for 4 months, 6 months, or 365 days.

Every Airman is in the AEF. Some are deployed to an area of responsibility (AOR), while others are employed in place, perhaps executing 24/7 satellite command and control to provide instantaneous combat effects halfway around the world. Regardless of AFSC, rank, staff, or line duty, everyone is considered an expeditionary Airman and must be trained and ready to fight. It is a given that the mission comes first and is the reason the Air Force exists. But, Air Force leaders also realize that people are at the heart of combat capability, and meeting their needs improves their mission effectiveness.

the DoD requirements necessary to support it becomes more complex, fiscal and force structure constraints continue to limit options. AEF tempo bands align capabilities that have been accomplishing the mission with their actual deploy-to-dwell ratios. Under the tempo band construct, Airmen are vulnerable for deployment/deployed based on the need for their capabilities by CCDRs. In turn, Airmen, their commanders, and their families are provided more predictable schedules for realistic planning purposes.

Headquarters Air Force (HAF) functional area managers (FAM) assess each capability's true deploy-to-dwell rate and place it in the appropriate tempo band. Tempo band B has been established as the AEF baseline, with five pairs of 6-month blocks. The other four Active Component (AC) tempo bands consist of four 6-month blocks (Band C), three 6-month blocks (Band D), and two 6-month blocks (Band E). The two ARC mobilization Tempo Bands consist of nine 6-month blocks (Band M) and eight 6-month blocks (Band N), respectively. The blocks in Bands M and N are predicated on a 6-month employment period within a nine-month mobilization period. Unit Task Codes (UTC) are then postured in blocks within each band. A block is a deployment vulnerability period. As Airmen are assigned to postured UTCs, their AEF Indicator (AEFI) represents their band and block assignment (B3,

C2, D3, etc.)

AEF Key Principles

The AEF is the Air Force method for presenting forces to CCDRs, founded on three main principles: predictability, equitability, and transparency.

Predictability

The AEF battle rhythm allows us to maintain a high state of readiness for all of our forces all of the time. Alignment of forces in tempo bands across AEF blocks defines our battle rhythm and allows our Air Force to address the question, "Who goes next?" This methodology provides a logically organized structure during periods of surge in order to supply near seamless support of CCDR requirements.

During rotational operations, the AEF supplies a level of predictability so our Airmen can plan for the future. Predictability varies during surge operations, occasionally necessitating higher deploy-to-dwell ratios. This is the cost the Air Force must accept in supporting CCDRs' increased needs. CCDRs' needs determine which capabilities are needed, and supporting commanders determine how we organize, train, equip, and posture our forces to meet their needs.

skills training up-to-date at all times and have their equipment needs and Tier 2B (just-in-time) predeployment training identified and prioritized.

The expectation should be perfectly clear to all: There is no such thing as a "short notice" deployment during your vulnerability period Your bags should be packed as if you had a "prepare to deploy order" (PTDO) in hand! You need to be ready to deploy during your entire vulnerability period. This is due to the possibility that if you're not called in the beginning of your vulnerability period, you could be called any time during your vulnerability period.

We have always had key parts of our Air Force that do not neatly align with our AEF schedule. Strategic capabilities, often referred to as enabler units, such as Joint Surveillance Targeting Attack Radar System (JSTARS) or B-2 squadrons, are always considered "on call." Key Mobility Air Forces (MAF) enabler units such as contingency response groups (CRG) have similar requirements. This part of our Air Force has an OPSTEMPO that may be unique, but that doesn't mean they're not in the AEF or that commanders are not responsible for providing a "predictable" schedule for their Airmen.

The dynamics of wartime missions create significant challenges in providing predictability and the commander's vigilance is key to providing that predictability.

The burden is heavy on commanders. As your unit's OPSTEMPO increases or decreases, your plan must be updated and changed to reflect new mission assignments. If you cannot project 12 months out, plan and disseminate a 6- or 9-month look ahead instead. If you were able to answer the questions: "Who goes first?", "Who goes next?" before, then reset the process to provide whatever predictability you can. The Air Force believes mission comes first and that one size does not fit all regarding AEF--but every commander should provide as much predictability as possible. Our Airmen deserve no less!

Equitability

The Air Force's AEF tempo banding concept allows us to look across our entire Air Force and deploy Airmen at the same rate within the same skill set. For example, if you are a security forces (SF) member of a 13-person squad performing routine duty on a base, the deployment rates between similar teams in USAFE, AMC, ACC, and other MAJCOMs are essentially the same. Likewise, the deployment requirements for command post personnel are very evenly spread across all of our units Air Force-wide. Under normal AEF rules, the end result of sourcing CCDR taskings is an "equitable" share of these taskings between similarly skilled/coded units throughout our Air Force.

Expeditionary taskings exist in a dynamic world so there will always be varying rates of deployment throughout your wing and across our Air Force. If you have high demand/low supply (HD/LS) assets, they might be on a 60-day deploy/60-day recover and training/60-day deploy rotation, depending on the current tasking and overall OPSTEMPO. Some expeditionary combat support (ECS) or aviation units may deploy only a portion of a postured skill set in a given AEF period, while another unit may be tasked to provide all the UTCs postured in the same tempo band/block.

The end result is that as a commander or wing leader, you need to understand there will always be different levels of taskings.

The key take away is that if one of your units is operating at a higher deploy to dwell rate, then every other unit of similarly coded skill sets in our Air Force will be under the same level of stress.

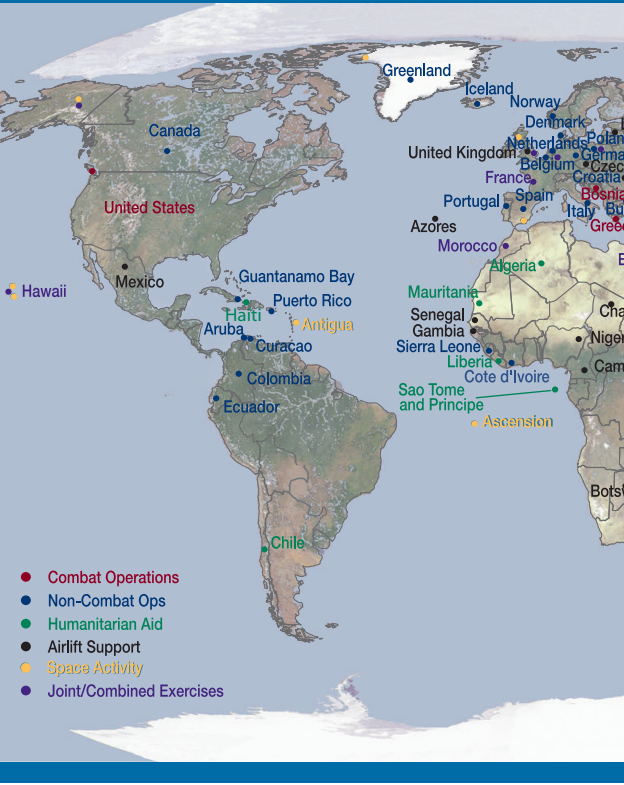
Transparency

As our process and systems mature, we will see an ever increasing transparency in the day-to-day operation of the AEF providing confidence from the ground up. Transparent in the sense that there is no mystery to the process: The when, why, and how should be visible and understood by every Airman. The goal is for every commander and senior enlisted leader to fully understand the "when, why, and how" a tasking is levied. Everyone is held accountable for how the AEF rotation was executed.

AEF Online

AEF Online is the portal to all things AEF. The CAC-enabled web site provides information to deployers, force providers, and active/reserve component members. The web site provides tools to assist in planning/tracking/maintaining unit and personnel readiness and AEF execution applications such as ART and the Reclama Processing Tool (RPT). Online (https://aef.afpc.randolph.af.mil).

Operations


Greenland
Iceland
Norway
Canada
Denmark
United Kingdom
Netherlands
Belgium
France
Portugal
Spain
United States
Azores
Morocco
Algeria
Hawaii
Mexico
Guantanamo Bay
Puerto Rico
Haiti
Antigua
Aruba
Curacao
Mauritania
Senegal
Gambia
Sierra Leone
Liberia
Cote d'Ivoire
Sao Tome
and Principe
Ascension
Colombia
Ecuador
Chile
Combat Operations
Non-Combat Ops
Humanitarian Aid
Airlift Support
Space Activity
Joint/Combined Exercises

Worldwide


Russia
Ukraine
Republic
Romania
Kosovo
Georgia
Kyrgyzstan
Turkey
Uzbekistan
Iraq
Iran
Afghanistan
Kuwait
Cyprus
Bahrain
Pakistan
Saudi Arabia
Qatar
United Arab Emirates
Oman
Djibouti
Uganda
Diego Garcia
Zambia
Mozambique
South Africa
Korea
Japan
Hong Kong
Guam
Thailand
Philippines
Malaysia
Singapore
Australia
Antarctica

Concepts of Operations

The Air Force has written six concepts of operations (CONOPS) that support capabilities-based planning and the joint combat operations vision. The CONOPS help analyze the span of joint tasks the Air Force might be asked to perform and define the effects the Air Force can produce. Most important, they help the Air Force identify the capabilities an expeditionary force will need to accomplish its mission, creating a framework that enables us to shape our portfolio.

- Homeland Security CONOPS leverages Air Force capabilities with joint and interagency efforts to prevent, protect, and respond to threats against our homeland, within or beyond U.S. territories.

- Space and Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance CONOPS (Space and C4ISR) harnesses the integration of manned, unmanned, and space systems to provide persistent situational awareness and executable, decision-quality information to the joint force commander (JFC).

CONOPS

- Global Mobility CONOPS provides combatant commanders with the planning, command and control, and operations capabilities to enable timely and effective projection, employment, and sustainment of U.S. power in support of U.S. global interests; precision delivery for operational effect.
- Global Strike CONOPS employs joint power projection capabilities to engage anti-access and high-value targets, gain access to denied battlespace, and maintain battlespace access for required joint/coalition follow-on operations.

- Global Persistent Attack CONOPS provides a spectrum of capabilities from major combat to peacekeeping and sustainment operations. Global Persistent Attack assumes that once access conditions are established (i.e., through Global Strike), there will be a need for persistent and sustained operations to maintain air, space, and information dominance.
- Nuclear Response CONOPS provides the deterrent umbrella under which conventional forces operate, and if deterrence fails, avails a scalable response.

This effects-based focus and capabilities-based CONOPS provides:

- Articulation of operational capabilities that will prevail in conflicts and avert technological surprises.
- An operational risk and capabilities-based programmatic decision-making focus.
- MAJCOM budgeting guidance for capabilities-based solutions to satisfy war-fighter requirements.
- Warfighter risk management insights for long-range planning.

Doctrine

Air Force Doctrine is a statement of officially sanctioned beliefs, warfighting principles, and terminology that describes and guides the proper use of air power in military operations. It is a common frame of reference on the best way to prepare and employ USAF forces. Subsequently, doctrine shapes the manner in which the Air Force organizes, trains, equips, and sustains its forces.

Doctrine prepares us for future uncertainties and provides a common foundation upon which to base decisions. Doctrine is the fundamental principle that guides our actions in support of national objectives; it is the linchpin of successful military operations. It also provides us with common terminology, allowing us to precisely express our ideas.

Use sound judgment when applying doctrine. It must never be dismissed out of hand or through ignorance of its principles; nor should it be employed blindly without due regard for the mission and situation at hand. Following doctrine to the letter is not the fundamental intent. Good doctrine provides sufficient information on what to do, but does not specifically say how to do it.

Good doctrine informs, provides a sound departure point, and allows flexibility; bad doctrine overly bounds and restricts creativity. If not properly developed, and especially if parochialism is allowed to creep in, doctrine will point to suboptimal solutions. Parochialism and other

biases can come from within a service as well as between services. Professionals will have honest differences of opinions, and if those opinions are not based on sound warfighting practices, inefficiency and ineffectiveness result. Good doctrine can help, but it must be intelligently applied. Airmen should strive to be doctrinally sound but not doctrinally bound.

Know the enemy and know yourself; in a hundred battles you will never be in peril.

SunTzu

Offensive Strategy

Air Force doctrine explains why air power is different from other forms of military power, how it should be organized and employed, and why it's best to do things certain ways. Doctrine is also an educational tool that captures handed-down wisdom, as well as recent thinking on expeditionary organization and emerging operational concepts. By bringing all these ideas together in a coherent fashion, doctrine captures our service identity.

Joint doctrine, as it applies to air power in joint operations, describes the best way to integrate and employ air, space, and cyberspace forces with land/maritime forces in military action. Joint doctrine is published in the joint publication system.

In the current turbulent environment, doctrine provides an informed starting point for the many decisions Airmen must make in what seems to be a continuous series of deployments. We no longer face the challenge of starting with a blank sheet of paper. With doctrine, Airmen have a good basic issue outline:

What is my mission?

How should I approach it?

How should my organization look, and why?

What are the lines of authority within my organization and within the joint force?

What degree of control do I have over my forces?

How am I supported?
Who do I call for more support ?

How should I articulate what the Air Force provides to the joint force?

From one operation to the next, many things remain constant. Doctrine, properly applied, often can provide a 70-, 80-, or even 90-percent solution to most questions, allowing leaders to focus on the remainder, which usually involves tailoring for the specific operation.

Levels of Air Force Doctrine

Basic Doctrine

The most fundamental and enduring beliefs that describe and guide the proper use, presentation, and organization in military action. It describes the elemental properties of airpower and provides the Airman's perspective. Because it expresses broad, enduring fundamentals, basic doctrine changes relatively slowly compared to the other levels of doctrine. As the foundation of all doctrine, basic doctrine also sets the tone and vision for future doctrine development. Air Force Doctrine Document (AFDD) 1 is the Airman's basic doctrine.

Operational Doctrine

Contained in subordinate AFDDs, operational doctrine guides the proper organization and employment of air, space, and cyberspace forces in the context of distinct objectives, force capabilities, broad functional areas, and operational environments. Operational doctrine provides the focus for developing the missions and tasks that must be executed through tactical doctrine. Doctrine at this level changes a bit more rapidly than basic doctrine, but usually only after deliberate internal service debate.

Tactical Doctrine

Describes the proper employment of specific Air Force systems and capabilities, individually or in concert with other assets, to accomplish detailed objectives. Tactical doctrine is codified as tactics,

techniques, and procedures (TTP) in Air Force TTP-3 series manuals. Because tactical doctrine is closely associated with employment of technology, change may occur more rapidly than to the other levels of doctrine. Also, due to their sensitive nature, these documents are usually classified.

Summary

Doctrine is an accumulation of knowledge gained primarily from the study and analysis of experience, which may include actual combat or contingency operations, as well as experiments or exercises. It should be based in critical analysis and the lessons of warfare rather than driven by rapidly changing policies, promising technologies, individual personalities, budget battles, and politically trendy catch-phrases. Doctrine should not be written to backwards justify a policy position or codify a uniquely tailored organization. As such, doctrine reflects what has worked best with full consideration of what has worked poorly. In those less frequent instances in which experience is lacking or difficult to acquire, doctrine may be developed through analysis of exercises, wargames, and experiments. The military experience of other nations should also be considered.

Doctrine development is never complete. Any given doctrine document is a snapshot in time, a reflection of the thinking at the time of its creation. Innovation has always been key to sound doctrinal development and must continue to play a central role. Doctrine will evolve as

new experiences and advances in technology point the way to the operations of the future.

At the very heart of warfare lies doctrine.
General Curtis E. LeMay

War is a matter of vital importance to the State; a matter of life or death, the road either to survival or to ruin. Hence, it is imperative that it be studied thoroughly. SunTzu

NATURE OF WAR

Three enduring truths describe the nature of war:

War is an instrument of policy.

War is a complex and chaotic human endeavor.

War is a clash of opposing wills.

PRINCIPLES OF JOINT OPERATIONS

In conducting contemporary operations, commanders generally consider 13 broad principles collectively known as the Principles of Joint Operations. They combine the longstanding Principles of War and four additional principles developed through recent experience. The Principles of War are "those aspects of warfare that are universally true and relevant." As members of the joint team, it is imperative that all Airmen appreciate how these principles apply to all forces and fully understand how they pertain to airpower.

The nine Principles of War are guidelines that Airmen can use to form and select courses of action and concepts of operation.

1. Unity of Command. Ensure unity of effort for every objective under one responsible commander.
2. Objective. Direct military operations toward a defined and attainable goal that contributes to strategic, operational, or tactical aims.
3. Offensive. Act rather than react and dictate the time, place, purpose, scope, intensity, and pace of operations. The initiative must be seized, retained, and fully exploited.
4. Mass. Concentrate combat power at the decisive time and place.
5. Maneuver. Place the enemy in a position of disadvantage through the flexible application of combat power.
6. Economy of Force. Create usable mass by using minimum combat power on secondary objectives. Make fullest use of all forces available; the best mix of combat power.
7. Security. Protect friendly forces and their operations from enemy actions which could provide the enemy with unexpected advantage.
8. Surprise. Strike the enemy at a time or place or in a manner for which he is unprepared.
9. Simplicity. Avoid unnecessary complexity in preparing, planning, and conducting military operations.

In addition to the nine traditionally-held Principles of War, an additional four principles have been developed as a result of experience in contingency and stability operations.

1. Unity of Effort. Often the military will not be the sole, or even the lead, agency in contingency operations. While unity of command is critical within the military forces, most of these operations will demand unity of effort among a wide range of agencies to ensure that they coordinate their resources and focus on the same goal.

2. Restraint. Restraint is the disciplined application of military force appropriate to the situation. Excessive use of force may lead to escalation to a higher intensity conflict; could adversely affect efforts to gain or maintain legitimacy; and may impede the attainment of both short- and long-term goals.

3. Perseverance. Many missions may require a long-term commitment. The U.S. must be prepared to stay involved in a region for a protracted time in order to achieve its strategic goals.

4. Legitimacy. To reduce the threat to U.S. forces and enable them to work toward their objective, the U.S. must be viewed as a legitimate actor in the mission, working towards international interests rather than just its own.

TENETS OF AIRPOWER

While the Principles of Joint Operations provide general guidance on the application of military forces, the tenets provide specific considerations for airpower. They reflect the specific lessons of air, space, and cyberspace operations over history. As with the Principles of Joint Operations, these tenets require informed judgment in application.

Airpower:

Should be centrally controlled and decentrally executed.

Is flexible and versatile.

Produces synergistic effects.

Offers a unique form of persistence.

Must achieve concentration of purpose.

Must be prioritized.

Must be balanced.

As with the principles of war, these tenets require informed judgement in application.

Over the last 2 years, the Air Force has refined its understanding of the core duties and responsibilities it performs as a service. It has streamlined doctrine from 6 distinctive capabilities and 17 operational functions to 12 service core functions used across the doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) spectrum to define how the Air Force is particularly and appropriately suited to contribute to national security.

The Air Force's core functions are:

1. Nuclear Deterrence Operations. Operate, maintain, and secure nuclear forces to deter an adversary from taking action against vital U.S. interests. In the event deterrence fails, be able to appropriately respond with nuclear options.

2. Air Superiority. Air battle dominance that allows the USAF to conduct operations, and enables related land, sea, air, and special operations forces to operate without prohibitive interference.

3. Space Superiority. A degree of space dominance over U.S. adversaries that permits U.S. and allied land, sea, air, space, and special operations forces to conduct operations.

4. Cyberspace Superiority. A degree of cyberspace dominance that permits U.S. cyber forces and related land, air, sea, space, and special operations forces to conduct operations without prohibitive

interference by an opposing force.

5. Command and Control. A commander's ability to integrate operations in multiple theaters at multiple levels through planning, coordinating, tasking, executing, monitoring, and assessing air, space, and cyberspace operations across the range of military operations.

6. Global Integrated ISR. Conducting and synchronizing surveillance and reconnaissance across all domains--principally in air, space, and cyberspace-- to produce essential intelligence used to achieve decision superiority through planning, collecting, processing, analyzing, and rapidly disseminating critical information to decisionmakers across the spectrum of worldwide military operations.

7. Global Precision Attack. The ability to use a wide range of munitions to hold at risk or strike rapidly and persistently any target, and to create swift, decisive, and precise effects across multiple domains.

8. Special Operations. Employing military capabilities, for which there is no broad conventional force requirement, to conduct specialized airpower operations in hostile, denied, or politically sensitive environments, and achieve military, diplomatic, informational, and/or economic objectives. These operations often require covert, clandestine, or low-visibility capabilities. Special operations are applicable across the range of military operations. They can be conducted independently, or in

conjunction with conventional force operations,or with other government agencies and may include operations through, with, or by indigenous or surrogate forces. Special operations differ from conventional operations in the degree of physical and political risk, operational techniques, mode of employment, independence from friendly support, and dependence on detailed operational intelligence and indigenous assets.

9. Rapid Global Mobility. The time-sensitive, integrated global planning, execution, and command and control of deployment, positioning, decisive operational maneuver/ support, and sustainment of U.S./coalition military forces, capabilities, and government agencies through air and space, and across the spectrum of conflict and the range of military operations.

10. Personnel Recovery Operations. The ability of the U.S. government and its international partners to effect the recovery of isolated personnel across the full range of military activity and return those personnel to duty. Personnel recovery operations also enhance the development of an effective, global capacity to protect and recover isolated personnel at risk; deny an adversary‘s ability to exploit a nation through propaganda; and develop joint, interagency, and international capabilities that contribute to crisis response and regional stability.

11. Agile Combat Support. The ability

to create, protect, and sustain United States Air Forces across the full range of military operations. The foundational, crosscutting, distinctive Air Force system of support that enables Air Force operational air, space, and cyberspace power concepts and the capabilities: speed, flexibility, and global perspective.

12. Building Partnerships. Strengthening and broadening the training, advisory, military-to-military, and operational relationships that enhance U.S. ability to achieve objectives while simultaneously aiding our allies and partners to achieve theirs.


DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

The Enlisted Force Structure

The enlisted force is a diverse group of functionally and operationally specialized Airmen. Despite the natural differences found across functional and operational lines, there is a compelling need for a deliberate and common approach to enlisted force development, career progression, and the assumption of increased supervisory and leadership responsibilities. To best leverage our resources, we must have a consistent, well-defined set of expectations, standards, and opportunities for growth for all Airmen, regardless of specialty. This is accomplished through the enlisted force structure and force development construct which relies on a common language--the Air Force institutional competencies.

The institutional competencies are the leadership, management, and warrior ethos qualities required by all Airmen. They provide a common language and set of priorities, with varying levels of proficiency, based on the Airman's rank and position. The enlisted force structure and institutional competencies describe what makes us Airmen, not just specialists. We are Airmen first; specialists second.

All elements of force development—the institutional competencies and the enlisted force structure—are grounded in Air Force core values (Integrity First, Service Before Self, and

Excellence in All We Do). The core values are the framework within which military activities take place and are the basis for Air Force policies, guidance, and focus**.**

Purpose of the Enlisted Force Structure:

Provide an enlisted force structure that best meets mission requirements, developing institutional and occupational competencies.

Provide all Airmen the opportunity for professional growth.

Define:

The three tiers of the enlisted force structure.

The three levels of enlisted leadership and development.

The roles, responsibilities, expectations, and official terms of address for each enlisted rank.

Special senior noncommissioned officer positions.

The official duty titles for the enlisted force.

Three Enlisted Force Structure Tiers

The enlisted force structure is comprised of three distinct and separate tiers. Each tier correlates to increased levels of education, training, and experience which build increasing levels of proficiency in the institutional competencies. The three tiers also correlate to increased leadership and managerial responsibilities. These tiers

are Junior Enlisted Airman, Noncommissioned Officer (NCO), and Senior Noncommissioned Officer (Senior NCO).

Junior Enlisted Airman Tier

This tier includes Airman Basic (AB), Airman (Amn), Airman First Class (A1C), and Senior Airman (SrA). Junior enlisted Airmen initially focus on adapting to military requirements, achieving occupational proficiency, and learning to be productive members of the Air Force. In this tier, Airman prepare for increased responsibilities and must ensure they are trained, qualified, and ready to deploy and operate in an expeditionary environment while maintaining home station readiness. Junior enlisted Airmen also continue to broaden technical skills and pursue professional development through on- and off-duty education.

NCO Tier

This tier includes Staff Sergeant (SSgt) and Technical Sergeant (TSgt). The primary focus in this tier is mission accomplishment. NCOs continue occupational growth and become expert technicians. At the same time, NCOs develop as leaders, supervisors, managers, and mentors. Additionally, NCOs must ensure they keep themselves and subordinate personnel trained, qualified, and ready to deploy and operate in an expeditionary environment while maintaining home station readiness. In this tier, NCOs also

continue to develop institutional competencies in preparation for increased responsibilities while continuing to broaden technical skills and pursuing professional development through on- and off-duty education.

Senior NCO Tier

This tier includes Master Sergeant (MSgt), Senior Master Sergeant (SMSgt), and Chief Master Sergeant (CMSgt). The primary focus in this tier is mission accomplishment. Senior NCOs serve as leaders, supervisors, managers, and mentors to further develop junior enlisted Airmen and NCOs under their charge to maximize their leadership abilities. In this tier, senior NCOs continue building institutional competencies. Additionally, senior NCOs must ensure they keep themselves and subordinate personnel trained, qualified, and ready to deploy and operate in an expeditionary environment while maintaining home station readiness. Senior NCOs have a great deal of experience and leadership ability that can be used to leverage resources and personnel against a variety of mission requirements. Senior NCOs participate in decisionmaking processes on a variety of technical, operational, and organizational issues.

Three Enlisted Leadership and Development Levels

The three levels of leadership in the Air Force are tactical expertise, operational competence, and strategic vision. These levels emphasize a different mix of qualities and experience. The nature and scope of leadership challenges as well as the methods by which leadership is exercised, differs based on the level of leadership and duties. These levels apply across the entire spectrum of the enlisted force structure.

Tactical Expertise Level

This level of leadership is predominantly direct and face-to-face. It normally applies to Airman Basic through Technical Sergeant. At the tactical expertise level, junior enlisted Airmen and NCOs perfect their primary occupational skills and develop their knowledge of Air Force institutional competencies. They are trained, complete Professional Military Education (PME), earn their 5- and 7-skill levels, and often complete their Community College of the Air Force (CCAF) degree. They strive to become the best technicians and team members possible. As they increase in rank, they also begin to train others and serve as first line supervisors and section leaders. The primary focus at the tactical expertise level is accomplishing the mission as effectively and efficiently as possible using available personnel and resources.

Operational Competence Level

This level of leadership involves tasks that become more complex and sophisticated. It normally applies to Master Sergeant through Chief Master Sergeant. At the operational competence level, senior NCOs typically work below the MAJCOM or Headquarters Air Force (HAF) levels. This is where senior NCOs transition from being expert technicians and first line supervisors to leaders who have broader operational leadership, supervisory, and managerial responsibilities. They use their expertise and experience as well as their management and leadership skills to convert direction from their superiors into mission accomplishment. They continue to develop their knowledge of Air Force institutional competencies and complete PME, earn their 9-skill level (after promotion to Senior Master Sergeant), and complete their CCAF degree, if not already earned. The majority of the enlisted force will spend most, if not all, their careers at the tactical expertise and operational competence levels. This is where their developed strengths, experience, and day-to-day mission focus are most required.

Strategic Vision Level

This level of leadership involves responsibility for large organizations or systems. Leaders deal with issues requiring more interorganizational cooperation and longer timelines. While this level normally applies to the Chief Master Sergeant, it sometimes includes the Senior Master Sergeant

assigned to higher headquarters positions. These include the Department of Defense (DOD), combatant commands, HAF, MAJCOM, direct reporting units, field operating agencies, and select agencies and headquarters. Strategic vision level leaders continue to develop their knowledge of Air Force institutional competencies to improve their ability to advise senior leaders, participate in top-level decisionmaking, draft policies, manage career fields, and lead far-reaching programs. The primary focus at this level is the strategic leadership and management of the force to best meet current and future mission requirements.

General Junior Enlisted Airman Responsibilities

Junior enlisted Airmen must:

Accept and execute all duties, instructions, responsibilities, and lawful orders in a timely and efficient manner. Complete assigned tasks and accomplish the mission. Place the requirements of official duties and responsibilities ahead of personal desires. Issue lawful orders when placed in charge of a work activity or other junior enlisted Airmen to complete assigned tasks.

Detect and correct conduct and behavior that may place themselves or others at risk.

Understand and demonstrate the institutional and occupational competencies required to accomplish the mission as outlined in AFDD 1-1, *Leadership and Force Development*; AFPD 36-26, *Total Force Development*; AFI 36-2640,

Executing Total Force Development; and the appropriate Career Field Education and Training Plan (CFETP). These competencies are gained through a combination of education (Airman Leadership School [ALS] and CCAF), training (for example, basic military training and career development courses), and experience (serving in special duty positions, actively participating in professional organizations, and having a thorough understanding of this Air Force instruction (AFI) to ensure proper mentoring is received and provided). All Air Force formal education programs, training, and experiences are designed and synchronized to provide increasing proficiency in institutional and occupational competencies.

Maintain the highest level of personal readiness to meet mission requirements.

Be technically ready to accomplish the mission. Attain and maintain a skill level commensurate with rank and maintain a high degree of duty proficiency as outlined in the CFETP. Junior enlisted Airmen should earn a CCAF degree to further expand their professional development and technical expertise.

Be physically ready to accomplish the mission. Attain and maintain excellent physical conditioning and always meet Air Force fitness standards. Actively participate in the Air Force fitness program.

Be mentally ready to accomplish the mission. Issues that can affect and detract from mental readiness include quality of life, financial

problems, sexual harassment, discrimination, stress, marital problems, and substance abuse. Such issues can prevent individuals from focusing on the mission, diminish motivation, erode a positive attitude, reduce the quality of work, and negatively impact mission accomplishment. Take positive steps to resolve mental readiness issues in a responsible manner.

Be alert for signs of substance abuse in yourself and others. Substance abuse not only involves the use of illegal drugs, but more commonly, involves excessive or irresponsible consumption of alcohol or over-the-counter medications. All must be aware of the warning signs of substance abuse and seek appropriate assistance through the chain of command, chaplain, or other appropriate referral agency.

Be alert for signs of depression or suicide in yourself and others. If severely depressed or suicidal, immediately seek assistance through the chain of command, chaplain, or other appropriate referral agency. Remain with a potentially suicidal person until relieved by the proper authority. Junior enlisted Airmen have a very important role in suicide prevention.

Be alert for signs of post-combat stress in yourself and others. As more Airmen serve in combat zones, or other high-threat environments, we must all be aware of the warning signs of post-combat stress and seek the appropriate assistance through the chain of command, chaplain, or other appropriate referral agency.

Be spiritually ready to accomplish the mission. Spiritual readiness is the development of those personal qualities needed to help a person through times of stress, hardship, and tragedy. Spiritual readiness may or may not include religious activities.

Meet all predeployment requirements.

Exhibit professional behavior, military bearing, respect for authority, and high standards of dress and personal appearance on- and off-duty.

Correct other Airmen who violate standards.

Understand, accept, and demonstrate the Air Force Core Values and The Airman's Creed. Know and understand the Air Force Symbol.

Be a knowledge-enabled Airman; use various media sources (such as www.af.mil and Aim Points) to stay informed on issues affecting the Air Force. Ensure you do not bring discredit to the Air Force or compromise operational security through use of personal and government information systems.

Actively support and enforce the Air Force zero tolerance policy for discrimination, sexual harassment, and sexual assault. Understand the sexual assault response coordinator's role and sexual assault reporting requirements. Help maintain an environment free of any behaviors that hinder other Airmen's ability to achieve their full potential and maximize their contribution.

Know and understand the Wingman concept: Airmen take care of other fellow Airmen. Being

a good wingman means you share a bond with other Airmen. You can be counted on to support each other, in all situations, both on- and off-duty.

Demonstrate effective followership by enthusiastically supporting, explaining, and promoting leaders' decisions. Develop innovative ways to improve processes and provide suggestions up the chain of command that will directly contribute to unit and mission success.

Continue professional development through on- and off-duty education. Join professional organizations (for example, base advisory and enlisted councils) and participate in organization and community events by volunteering.

Specific Junior Enlisted Airman Responsibilities:

Airman Basic (AB). AB are primarily adapting to the requirements of the military profession, acquiring knowledge of military customs, courtesies, and Air Force standards, and striving to attain occupational proficiency. Once at their first duty station, they perform basic tasks under close supervision. AB operate at the tactical expertise level of leadership. The official term of address is Airman Basic or Airman.

Airman (Amn). Amn, while still learning and adapting to the military profession, are expected to understand and conform to military standards, customs, and courtesies. Amn begin to show job proficiency at basic tasks and still require significant supervision and support.

Amn operate at the tactical expertise level of leadership. The official term of address is Airman.

Airman First Class (A1C). A1C fully comply with Air Force standards and devote their efforts to the mastery of skills required in their career fields and the military profession while becoming effective team members. After a short time at their first duty station, they are often skilled on numerous tasks. Continued supervision is essential to the A1C's ongoing technical and professional growth. They typically earn their 5-skill level at this grade. A1C operate at the tactical expertise level of leadership. The official term of address is Airman First Class or Airman.

Senior Airman (SrA). SrA commonly perform as skilled technicians and trainers. It is essential for SrA to begin developing supervisory and leadership skills through progressive responsibility on the job, completion of ALS, individual study, and mentoring by their supervisors and others. When they perform as trainers and supervisors, SrA strive to establish themselves as effective first-line supervisors, accepting NCO and Senior NCO guidance and assistance. SrA may serve as reporting officials upon completion of ALS. SrA operate at the tactical expertise level of leadership. The official term of address is Senior Airman or Airman.

General NCO Responsibilities. NCOs must:

Accept and execute all duties, instructions, responsibilities, and lawful orders in a timely and efficient manner. Lead and develop subordinates and exercise effective followership in mission accomplishment. Place the requirements of their official duties and responsibilities ahead of their personal desires. NCOs have the authority to issue lawful orders appropriate for the completion of their assigned tasks.

Detect and correct conduct and behavior that may place themselves or others at risk.

Understand and demonstrate the institutional and occupational competencies required to accomplish the mission as outlined in AFDD 1-1, AFPD 36-26, AFI 36-2640, and the appropriate CFETP. These competencies are gained through a combination of education (such as PME and academic degree programs), training (on-the-job training and distance learning classes), and experience (mentoring and active participation in professional organizations). All Air Force formal education programs, training, and experiences are designed and synchronized to provide NCOs with increasing proficiency in institutional and occupational competencies.

Maintain the highest level of readiness to meet mission requirements.

Be technically ready to accomplish the mission. Attain and maintain a skill level commensurate with their rank and maintain a high degree of proficiency in their duties as outlined in their CFETP. Additionally, they must train and develop

subordinates to ensure they are also technically ready to accomplish the mission. NCOs should earn a CCAF degree, if not already earned, to further expand their professional development and technical expertise.

Be physically ready to accomplish the mission. Attain and maintain excellent physical conditioning, meet Air Force fitness standards, and set a positive example for subordinates. Lead the way by promoting, supporting, and participating in unit physical training activities and the Air Force fitness program. Incorporate physical training into their teams' duty schedules as the mission allows.

Be mentally ready to accomplish the mission. Issues that can affect and detract from mental readiness are quality of life, financial problems, sexual harassment, discrimination, stress, marital problems, and substance abuse. Such issues can prevent individuals from focusing on the mission, diminish motivation, erode a positive attitude, and reduce the quality of work. This negatively impacts mission accomplishment. NCOs must also monitor and address issues negatively impacting subordinates' mental readiness. NCOs must take positive steps to resolve mental readiness issues in a responsible manner and ensure subordinates do the same.

Be alert for signs of substance abuse in yourself and others. Substance abuse not only involves the use of illegal drugs, but more commonly, involves excessive or irresponsible consumption of alcohol or over-the-counter medications. All must be

aware of the warning signs of substance abuse and seek the appropriate assistance through the chain of command, chaplain, or other appropriate referral agency.

Be alert for signs of depression or suicide in yourself and others. If severely depressed or suicidal, immediately seek assistance through your chain of command, chaplain, or other appropriate referral agency. Supervisors are often in the best position to detect early signs of depression or suicidal behavior. Remain with a potentially suicidal person until relieved by the proper authority. Follow-up and monitor the situation to ensure the issue is properly addressed and resolved. NCOs have a very important role in suicide prevention.

Be alert for signs of post-combat stress in yourself and others. As more Airmen serve in combat zones, or other high-threat environments, we must all be aware of the warning signs of post-combat stress and seek the appropriate assistance through the chain of command, chaplain, or other appropriate referral agency.

Be spiritually ready to accomplish the mission. Spiritual readiness is the development of those personal qualities needed to help a person through times of stress, hardship, and tragedy. Also, for those subordinates who may be struggling with their spiritual readiness, provide assistance through the chaplain, or other appropriate support agencies. Spiritual readiness may or may not include religious activities.

Meet all predeployment requirements. Also, ensure they educate and assist subordinates with deployment preparation actions. Correct and counsel subordinates who do not meet deployment readiness standards.

Clearly meet, and strive to exceed, the standards and expectations levied upon junior enlisted Airmen. Epitomize excellence and lead by example; exhibit professional behavior, military bearing, respect for authority, and the highest standards of dress and appearance. Instill professional behaviors in subordinates. Correct those who violate standards.

Adopt, internalize, and demonstrate the Air Force Core Values and The Airman's Creed. Know and understand the Air Force Symbol.

Be a knowledge-enabled NCO by keeping accurately informed on issues affecting the Air Force using Air Force media sources (for example, www.af.mil and "Aim Points"),while ensuring no discredit to the Air Force or compromise of operational security through the use of personal and government information systems.

Remain keenly aware of individual and group dynamics affecting readiness and safety. Identify those exhibiting high-risk behaviors and deter further unsafe practices.

Actively support and enforce the Air Force's "zero tolerance" policy for discrimination, sexual harassment, and sexual assault. Understand the

sexual assault response coordinator's role, and sexual assault reporting requirements. NCOs must maintain an environment free of behaviors that hinder others' ability to achieve their full potential and maximize their contribution.

Know and understand the Wingman concept: Airmen take care of other fellow Airmen. Being a good wingman means you share a bond with other Airmen. You can be counted on to support each other, in all situations, on- and off-duty.

Demonstrate effective followership by enthusiastically supporting, explaining, and promoting leaders' decisions. Develop innovative ways to improve processes and provide suggestions up the chain of command that will directly contribute to unit and mission success.

Continue professional development through on- and off-duty education. Join professional organizations (such as base advisory and enlisted councils) and volunteer for and participate in organization and community events.

Frequently visit dining facilities, chapel centers, recreation facilities, dormitories, and enlisted clubs to be familiar with subordinates' off-duty opportunities and living conditions.

Appropriately recognize and reward those individuals whose military conduct and duty performance clearly exceed established standards. Also, hold subordinates accountable when they do not meet established standards.

If senior in grade, accept responsibility for

assuming the role of leader. Responsibility and accountability increase commensurate with grade. This policy stems from time-honored military customs and traditions. Within enlisted grades, NCOs take rank and precedence over all junior enlisted Airmen and other NCOs according to rank. Within the same grade, in this order, to determine seniority: date of rank, total active federal military service date, pay date, and date of birth. **NOTE**: In some circumstances, commanders may place NCOs who are lower in rank in charge of other NCOs of the same grade (i.e., A technical sergeant with a date of rank of 1 April 2008 is placed in charge of a fellow technical sergeant with a date of rank of 1 April 2007). When placed in charge by commanders, these NCOs have the authority to issue lawful orders appropriate for mission accomplishment.

Promote organizational esprit de corps and foster good community relations by actively participating in and supporting professional organizations as well as unit, base, and Air Force events. Also, encourage subordinates to do the same.

Take an active leadership and supervisory role by staying involved with subordinates on a daily basis. Use their own experiences and knowledge to mentor others. Guide and instruct subordinates to ensure they are prepared to accept increased levels of authority and responsibility. Assist subordinates in reaching their full potential.

Provide career counseling to subordinates on

benefits, entitlements, and opportunities available during an Air Force career. Ensure subordinates understand what is expected to be competitive for promotion and what types of career opportunities exist. At a minimum, counseling occurs in conjunction with performance feedback counseling or during a quality review under the selective reenlistment program. Review and provide a copy of the Air Force Benefits Fact Sheet.

Promote a culture of Airmen who are capable of mastering multiple tasks to better support mission requirements. Pursue opportunities and encourage subordinates to retrain into Air Force shortage career fields and serve in special duties (i.e., military training and PME instructor, and recruiter), when appropriate. This will assist in balancing the force, enabling the Air Force to meet mission requirements.

Secure and promote PME and professional enhancement courses for themselves and subordinates to develop and cultivate leadership skills and military professionalism. NCOs should enroll in and complete the CCAF degree, if not already earned, and encourage completion by subordinates. They should also continue to development themselves and subordinates through available professional enhancement courses, on- and off-duty education, leadership lectures and seminars, and the CSAF reading program.

Seek ways to reduce costs and improve efficiency.

Specific NCO Responsibilities:

Staff Sergeant (SSgt). SSgts are highly skilled technicians with supervisory and training responsibilities. They must continuously strive to further their development as technicians, supervisors, and leaders through on- and off-duty professional development opportunities. They are responsible for subordinates' development and effective accomplishment of all assigned tasks. They must ensure proper and effective use of all resources under their control to ensure the mission is effectively and efficiently accomplished. SSgts operate at the tactical expertise level of leadership. The official term of address is Staff Sergeant or Sergeant.

Technical Sergeant (TSgt). TSgts are often their organizations' technical experts. They must continuously strive to further their development as technicians, supervisors, and leaders through on- and off-duty professional development opportunities. They are responsible for subordinates' development and the effective accomplishment of all assigned tasks. They must ensure proper and effective use of all resources under their control to ensure the mission is effectively and efficiently accomplished. TSgts operate at the tactical expertise level of leadership. The official term of address is Technical Sergeant or Sergeant.

General Senior NCO Responsibilities. In addition to meeting all NCO responsibilities, SNCOs must:

Provide highly effective leadership. A senior NCO's primary purpose is mission accomplishment. They must lead and manage teams while maintaining the highest level of readiness to ensure mission success.

Evaluate and assume responsibility for the institutional competencies required to accomplish the mission as outlined in AFDD 1-1, AFPD 36-26, and AFI 36-2640. These competencies are gained through a combination of education (such as, Air Force Senior NCO Academy and academic degree programs), training (distance learning classes and web-based resources), and experience (mentoring and active participation in professional organizations). All Air Force formal education programs, training, and experiences are designed and synchronized to provide senior NCOs with increasing proficiency in institutional competencies.

Translate leaders' direction into specific tasks and responsibilities their teams can understand and execute. Support and explain leaders' decisions. Senior NCOs should study the decisions to understand their rationale and goals, so they can fully leverage their personal experience and knowledge to more effectively accomplish the mission.

Demonstrate, inspire, and develop in others an internalized understanding of Air Force Core Values and The Airman's Creed. Know and understand the Air Force Symbol.

Help leaders make informed decisions. Senior NCOs must draw upon their knowledge and experience to provide constructive input to best meet the challenges facing their organizations.

Be an active, visible leader. Deliberately develop junior enlisted Airmen, NCOs, and fellow senior NCOs into better followers, leaders, and supervisors.

Secure and promote PME and professional enhancement courses to develop and cultivate leadership skills and military professionalism. Senior NCOs should complete their CCAF degree, if not already earned, and continue development for self and subordinates through available on- and off-duty education, leadership lectures and seminars, and the CSAF reading program.

Support commissioned officers' continued development by sharing knowledge and experience to best meet their organization's mission requirements. Build and maintain professional relationships with commissioned officers, striving to create effective leadership teams.

Clearly meet, and strive to exceed, the standards and expectations levied upon all junior enlisted Airmen and NCOs. Epitomize excellence, professionalism, pride, and competence, serving

as a role model for all Airmen to emulate.

Attain and maintain excellent physical conditioning, always meet Air Force fitness standards, and set a positive example for subordinates. Lead the way by promoting, supporting, and participating in unit physical training activities and the Air Force fitness program. Incorporate physical training into their teams' duty schedules as the mission allows.

Promote a culture of Airmen capable of adapting to evolving Air Force requirements throughout a career. Pursue opportunities and encourage retraining, as needed, or serve in special duties such as first sergeant, military training and PME instructor, or recruiter to balance the force and enable our Air Force to meet mission requirements.

Ensure money, facilities, and other resources are utilized in an effective and efficient manner and in the best interest of the Air Force. Plan resource utilization, replenishment, and budget allocation to ensure personnel are provided the equipment and resources needed to effectively accomplish the mission.

Promote responsible behaviors within all Airmen. Readily detect and correct unsafe and/or irresponsible behaviors that negatively impact unit or individual readiness. Promote peer involvement in detecting and correcting unsafe and irresponsible behaviors. Recognize and reward Airmen who properly employ operational risk management philosophies.

Specific Senior NCO Responsibilities:

Master Sergeant (MSgt). MSgts are transitioning from being technical experts and first line supervisors to leaders of operational competence. They are skilled at merging subordinates' talents, skills, and resources with other teams' functions to most effectively accomplish the mission. MSgts continue to develop their leadership and management skills to carry significantly increased responsibilities with a broad technical and managerial perspective.

MSgt-selects should immediately enroll in, and complete, the AFSNCOA by distance learning in preparation for their new roles. The Senior NCO Joint PME is also recommended for those preparing for joint assignments. MSgts should complete the CCAF degree in their current Air Force Specialty Code (AFSC), if not already earned. As senior enlisted leaders, they must reflect the highest qualities of a leader and professional. MSgts normally operate at the operational competence level of leadership. The official term of address is Master Sergeant or Sergeant.

Senior Master Sergeant (SMSgt). SMSgts are key, experienced, operational leaders skilled at merging their subordinates' talents, skills, and resources with other teams' functions to most effectively accomplish the mission. SMSgts continue to develop their leadership and management skills in preparation for expanded

responsibilities and higher leadership positions. SMSgts should complete the AFSNCOA if not already completed. Senior NCO Joint PME is also recommended for those preparing for joint assignments. SMSgts should complete the CCAF degree in their current AFSC, if not already earned. As senior enlisted leaders, SMSgts must reflect the highest qualities of a leader and professional. SMSgts normally operate at the operational competence or strategic vision level of leadership. The official term of address is Senior Master Sergeant or Sergeant. NOTE: "Senior" is not an appropriate term of address for SMSgts.

Chief Master Sergeant (CMSgt). CMSgt is the highest enlisted rank. Within this grade, the Chief Master Sergeant of the Air Force (CMSAF) is the most senior ranking. Since its inception, the grade of CMSgt has evolved to hold a very distinctive role in the force. CMSgts serve as key leaders at all levels in the Air Force from flight-level to Air Staff. They serve as commandants, superintendents, program managers, command chief master sergeants, functional managers, and career field managers. CMSgts must epitomize the finest qualities of a military leader. CMSgts bring substantial operational and occupational experience as well as strong institutional skills to their organizations and all assigned tasks. They must strive to further develop their leadership and management skills to better prepare them for future roles. As key mentors, they must deliberately develop subordinates into enlisted

leaders of the future. CMSgts are assigned a chief enlisted manager code upon selection to CMSgt and may be selected to fill leadership or managerial positions in a variety of duties not prohibited by law or directive. All newly selected, active duty CMSgts are designated to attend the CMSgt Leadership Course. AFRC and ANG CMSgts apply for attendance through their commands. CMSgts normally operate at the operational competence and strategic vision levels of leadership, depending on assignment. The official term of address is Chief Master Sergeant or Chief.

Special Senior NCO Positions:

Chief Master Sergeant of the Air Force (CMSAF). The CMSAF is the senior enlisted leader of the Air Force and takes precedence over all enlisted members while serving in the position. The CMSAF provides leadership to the enlisted force and advises the CSAF, Secretary of the Air Force (SECAF), Chairman of the Joint Chiefs of Staff (CJCS), and the Secretary of Defense (SECDEF) on enlisted matters. The CMSAF communicates with the force, testifies before Congress, and is the Air Force career field manager for command chief master sergeants and group superintendents. The official term of address is Chief Master Sergeant of the Air Force or Chief.

Command Chief Master Sergeant (CCM). The CCM is the senior enlisted leader in a wing, NAF, MAJCOM, direct reporting unit, field

operating agency, or other similar organization. The CCM advises commanders and staff on mission effectiveness, professional development, military readiness, training, utilization, health, morale, and welfare of the command's enlisted Airmen and takes action to address shortfalls or challenges. The CCM provides leadership to the enlisted force and is the functional manager for their organization's group superintendents and first sergeants.

Air Force Career Field Manager (AFCFM). Enlisted AFCFMs are typically CMSgts. Normally these positions are located at HAF and are responsible for organizing and managing one or more enlisted career fields. Their responsibilities include establishing career field entry requirements, managing trained personnel requirements, and developing and managing career-long training plans' requirements and programs. They also construct viable career paths, evaluate training effectiveness, monitor career field health and manning, and provide input on manning and personnel policies and programs. Additionally, they implement and advise on changes to force management policies and programs, develop contingency planning actions, validate deployment requirements, and verify workforce availability. As functional experts, they ensure their career fields are responsive to both current and future needs of the Air Force. They rely heavily on collaboration and communicate directly with other HAF offices

on issues impacting their career field, with their respective MAJCOM and field operating agency enlisted career field representatives, and with the Air Education and Training Command training managers to disseminate Air Force and career field policies and program requirements.

MAJCOM Functional Manager (MFM). Enlisted MFMs are senior NCOs who manage designated enlisted career fields for a MAJCOM and serve as the MAJCOM liaisons for their respective AFCFMs. MFMs monitor the health and manning of their career fields within their command and elevate concerns to the AFCFMs. They manage command training for their career field and coordinate command training and personnel issues across their MAJCOM staff with AFCFMs. They disseminate Air Force and career field policies and program requirements affecting their career field throughout the MAJCOM. They coordinate with the Air Force Personnel Center, through their MAJCOM/A1, to distribute personnel throughout the MAJCOM to ensure proper command prioritization of allocated/assigned personnel resources. They provide functional and subject matter expertise to Air Education and Training Command training managers to develop new or modify/improve existing training programs.

Commandants. Enlisted commandants are senior NCOs who lead the enlisted PME schools and academies. There are commandants at each Airman Leadership School (ALS), NCO Academy,

the Air Force Senior NCO Academy, and the First Sergeants' Academy. Enlisted commandants implement and enforce policies, procedures, and directives directly related to the accomplishment of the school's courses of instruction. They analyze data and provide direction and vision regarding the effectiveness of their school's efforts via curriculum evaluations, faculty assessment and development, student achievement criteria and feedback, and contact with senior leadership. Additionally, they coordinate frequent visits from high-ranking military and civilian leadership. The Vice Commandant, Thomas N. Barnes Center for Enlisted Education (Barnes Center), provides leadership, guidance, and direction to PME faculty support staff as well as short- and long-term strategic planning and policy formulation and implementation for Barnes Center schools.

Group Superintendent. Group superintendents provide leadership, management, and guidance in organizing, equipping, training, and mobilizing the group to meet home station and expeditionary mission requirements. Group superintendents work closely with their commander and command chief master sergeant to prepare the enlisted force to best execute mission requirements. They manage and direct resource activities as well as interpret and enforce policies and applicable directives. They also establish control procedures to meet mission goals and standards. Additionally, they recommend or initiate actions to improve organizational effectiveness and efficiency, as well as ensure

the management of personnel and resources are consistent with current practices and procedures in support of the wing's mission. They resolve issues between subordinate squadrons, other groups, wing staff, and outside agencies as well as perform other duties as directed by the group commander.

First Sergeant. First sergeants provide a dedicated focal point for all readiness, health, morale, welfare, and quality of life issues within their organizations. At home station and in expeditionary environments, their primary responsibility is to build and maintain a mission-ready force to execute home station and expeditionary mission requirements. First sergeants derive their authority from the unit commander and advise commanders, command chiefs, and other enlisted Airmen on morale, discipline, mentoring, well-being, recognition, and the professional development of enlisted Airmen. They ensure the enlisted force understands the commanders' policies, goals, and objectives. They ensure support agencies are responsive to Airmen's needs. They conduct quality force reviews on all enlisted performance reports, decoration recommendations, and other personnel actions. Working with their fellow senior NCOs and supervisors, first sergeants ensure equitable and effective discipline and the highest level of esprit de corps. First sergeants work closely with the command chief master sergeant to prepare the organization's enlisted force to best execute all assigned tasks. They participate in the first sergeants council and other activities that support the total needs of the military community.

Enlisted Duty Titles. When properly applied, duty titles facilitate a quick understanding of a person's role and level of responsibility. Enlisted duty titles are assigned based on the scope of responsibility and the duties being performed. A consistent, standard approach is important to ensure the terms are meaningful. The following duty titles are the official, authorized duty titles in the enlisted force. The only exceptions are the special senior NCO duty positions listed in AFI 36-2618, *Enlisted Force Structure*, and limited instances when a person's position or duties don't meet the criteria listed below. In such circumstances, enlisted personnel will have a duty title that most accurately reflects their day-to-day duties (for example, Ground Safety Technician, Career Assistance Advisor, and Dedicated Crew Chief). When published, duty titles specified in functional directives will be utilized.

Supervisor. Used for junior enlisted Airmen and NCOs who are first line supervisors (for example, Heavy Equipment Supervisor and Shift Supervisor). Junior enlisted Airmen will not have the duty title "Supervisor" unless they are at least a SrA, an ALS graduate, and supervise the work of others.

Noncommissioned Officer in Charge (NCOIC). Used only for NCOs and senior NCOs in charge of a workcenter or element. NCOICs typically have subordinate supervisors (for example; NCOIC, Installation Security; NCOIC, Outbound

Assignments). NCOIC is also used for those whose primary duty is program or functional management (for example; NCOIC, Unit Training Management and NCOIC, Resource Management) even if they do not directly supervise personnel.

Section Chief. Used for NCOs and senior NCOs in charge of a section with at least two subordinate workcenters or elements (for example; Section Chief, Network Control Center). Section chiefs are typically senior NCOs and the rank will vary depending on the size of the section (number of enlisted personnel, number of workcenters, and scope of responsibilities).

Flight Chief. Used for NCOs and senior NCOs who are the enlisted leaders of a flight (for example; Flight Chief, Information Systems Flight and Flight Chief, Operations Flight). Flight chiefs are typically senior NCOs and the rank will vary depending upon the size of the flight (number of enlisted personnel, number of workcenters, and scope of responsibilities).

Squadron Superintendent. Used for a CMSgt, and occasionally a SMSgt or MSgt, who is the enlisted leader of a squadron (for example; Squadron Superintendent, 19th Maintenance Squadron). Only senior NCOs will hold the duty title of Squadron Superintendent.

Superintendent. Used for senior NCOs in charge of group- or wing-level functions or in a squadron when having either oversight of functions within other squadrons or within the same squadron (for example, Aircraft

Maintenance Unit Superintendent and Command Post Superintendent). Only senior NCOs will hold the duty title of Superintendent.

Manager. Senior NCOs may or may not have personnel working for them and may be the enlisted leader of the branch, division, or directorate (for example; Manager, Intelligence Systems Integration and Manager, Joint Operations Analysis and Planning). In addition to special senior NCO positions of AFCFM and MAJCOM Functional Manager (MFM), used for NCOs and senior NCOs who are program, project, and policy managers at NAF, MAJCOM, direct reporting unit, field operating agency, Joint Staff, or Air Staff levels.

Chief. Used for CMSgts who are program, project, or policy managers at NAF, MAJCOM, direct reporting unit, field operating agency, Joint Staff, or Air Staff levels. They may or may not have personnel working for them and may be the enlisted leader of the branch, division, or directorate (for example; Chief, Air Force Enlisted Force Development and Chief, Airmen Assignments). NOTE: Senior Enlisted Advisor and Chief Enlisted Manager duty titles may only be used when holding those specifically-designated and approved positions.

Code of Conduct for Members of the Armed Forces of the United States

The Articles of the Code.

President Dwight D. Eisenhower first published the Code of Conduct for members of the Armed Forces of the United States on 17 August 1955. In March 1988, President Ronald Reagan amended the code with gender-neutral language.

ARTICLE I.

I am an American, fighting in the forces which guard my country and our way of life. I am prepared to give my life in their defense.

ARTICLE II.

I will never surrender of my own free will. If in command, I will never surrender the members of my command while they still have the means to resist.

ARTICLE III.

If I am captured, I will continue to resist by all means available. I will make every effort to escape and aid others to escape. I will accept neither parole nor special favors from the enemy.

ARTICLE IV.

If I become a prisoner of war, I will keep faith with my fellow prisoners. I will give no information or take part in any action which might be harmful to my comrades. If I am senior, I will take command. If not, I will obey the lawful orders of those appointed over me and will back them up in every way.

ARTICLE V.

When questioned, should I become a prisoner of war, I am required to give name, rank, service number, and date of birth. I will evade answering further questions to the utmost of my ability. I will make no oral or written statements disloyal to my country and its allies or harmful to their cause.

ARTICLE VI.

I will never forget that I am an American, fighting for freedom, responsible for my actions, and dedicated to the principles which made my country free. I will trust in my God and in the United States of America.

Combatant Commands

Unified and specified combatant commands were first described in the National Security Act (NSA) of 1947. The statutory definition of the combatant commands has not changed since then.

- Unified Combatant Command. A military command which has a broad, continuing mission under a single commander and which is composed of forces from two or more military departments.
- Specified Combatant Command. A military command which has a broad, continuing mission and which is normally composed of forces from one military department. There are currently no specified commands, but the option to create such a command still exists.
- The term combatant command means a unified or specified command. Its commander is known as a combatant commander (COCOM).

Operational Control of U.S. combat forces is assigned to the nation's unified combatant commands. The chain of command runs from the President to the Secretary of Defense to the Unified Commanders. Orders and other communications from the President or Secretary are transmitted through the Chairman of the Joint Chiefs of Staff.

A unified combatant command is normally organized on a geographical basis, although there are two organized by function. The number of unified combatant commands is not fixed by law or regulation and may vary from time to time.

Operational Chain of Command

REGIONAL COMBATANT COMMANDS

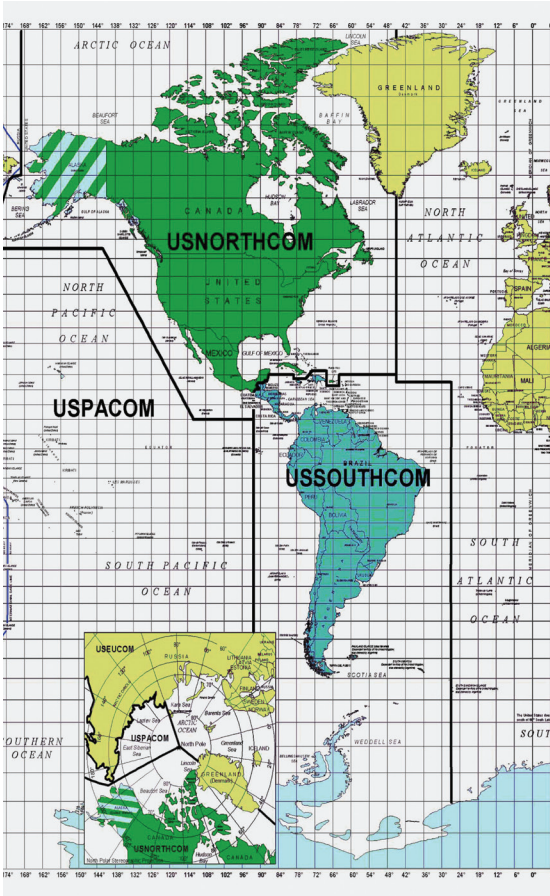
U.S. European Command (EUCOM)
Stuttgart-Vaihingen, Germany
U.S. Pacific Command (PACOM)
Honolulu, Hawaii
U.S. Southern Command (SOUTHCOM)
Miami, Florida
U.S. Central Command (CENTCOM)
MacDill Air Force Base, Florida
U.S. Northern Command (NORTHCOM)
Peterson Air Force Base, Colorado

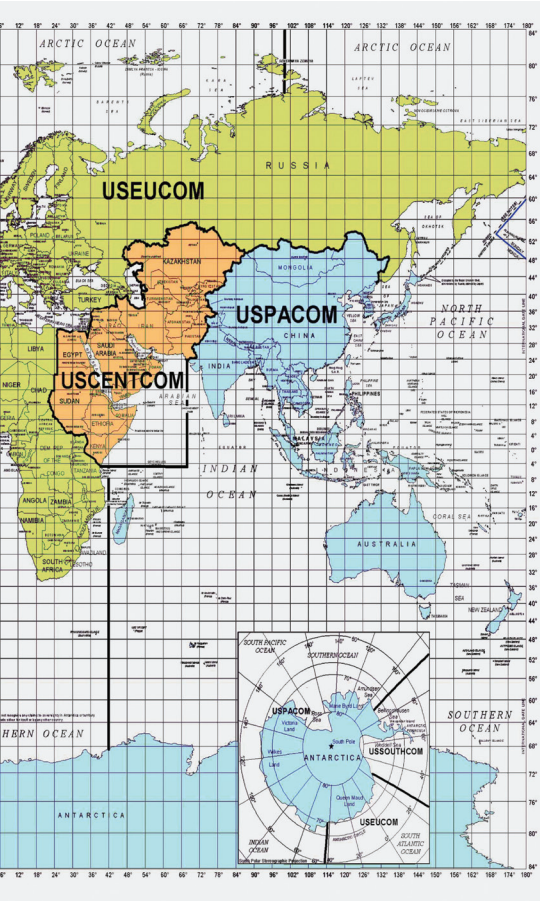
FUNCTIONAL COMMANDS

U.S. Joint Forces Command (JFCOM)
Norfolk, Virginia
U.S. Special Operations Command (SOCOM)
MacDill Air Force Base, Florida
U.S. Transportation Command (TRANSCOM)
Scott Air Force Base, Illinois
U.S. Strategic Command (STRATCOM)
Offutt Air Force Base, Nebraska

Joint Staff - Air Force Staff Directorates

J-1	Manpower & Personnel Manpower, Personnel, & Services	A-1
J-2	Joint Staff Intelligence Intelligence, Surveillance, Reconnaissance	A-2
J-3	**Operations**	A-3
J-4	**Logistics**	A-4
J-5	Strategic Plans & Policy Plans & Requirements (except ACC)	A-5
J-6	C4CS Communications (AF MAJCOMs) CIO & Information Dominance (Air Staff)	A-6
J-7	Operational Plans & Joint Force Development Installations & Mission Support	A-7
J-8	Force Structure Resources & Assessment Strategic Plans & Programs	A-8
	Studies & Analyses, Assessments & Lessons Learned	A-9
	Strategic Deterrence & Nuclear Integration	A-10


ARCTIC OCEAN
GREENLAND
BEAUFORT SEA
BERING SEA
BAFFIN BAY
HUDSON BAY
LABRADOR SEA
CANADA
USNORTHCOM
NORTH ATLANTIC OCEAN
UNITED STATES
NORTH PACIFIC OCEAN
MEXICO
GULF OF MEXICO
USPACOM
BRAZIL
USSOUTHCOM
SOUTH ATLANTIC OCEAN
SOUTH PACIFIC OCEAN
SCOTIA SEA
WEDDELL SEA
SOUTHERN OCEAN
USEUCOM
RUSSIA
ICELAND
USPACOM
USNORTHCOM
CANADA


ARCTIC OCEAN
ARCTIC OCEAN
RUSSIA
USEUCOM
KAZAKHSTAN
MONGOLIA
USPACOM
CHINA
NORTH PACIFIC OCEAN
TURKEY
EGYPT
SAUDI ARABIA
LIBYA
INDIA
USCENTCOM
NIGER
CHAD
SUDAN
ARABIAN SEA
ETHIOPIA
PHILIPPINES
INDIAN OCEAN
ANGOLA
ZAMBIA
NAMIBIA
SOUTH AFRICA
AUSTRALIA
CORAL SEA
NEW ZEALAND
SOUTHERN OCEAN
ANTARCTICA
SOUTH PACIFIC OCEAN
SOUTHERN OCEAN
USPACOM
USSOUTHCOM
USEUCOM
ANTARCTICA
INDIAN OCEAN
SOUTH ATLANTIC OCEAN

Functions of Other Services

The Department of the Army is responsible for the preparation of land forces necessary for the effective prosecution of war and military operations short of war, and, in accordance with integrated joint mobilization plans, for the expansion of the peacetime components of the Army to meet the needs of war. Within the Department of the Army, this includes land combat and service forces and any organic aviation and water transport assigned.

Some of the major functions of the ARMY are to:

- organize, train, and equip forces for the conduct of prompt and sustained combat operations on land; specifically, forces to defeat enemy land forces and to seize, occupy, and defend land areas.
- organize, train, equip, and provide forces for appropriate air and missile defense and space control operations, and for the support and conduct of special operations.

- develop airborne doctrine, procedures, and equipment that are of common interest to the Army and Marine Corps.
- organize, equip, and provide Army forces for joint amphibious, airborne, and space operations and train such forces, in accordance with joint doctrine.
- organize, equip, and provide forces for the support and conduct of special operations.
- organize, equip, and provide forces for the support and conduct of psychological operations.
- furnish forces for the occupation of territories abroad.
- conduct the authorized civil works program, including projects for improvement of navigation, flood control, beach erosion control, and other water resource developments in the United States.

A collateral function of the Army is to train forces to interdict enemy sea and air power and communications through operations on or from land.

The Department of the Navy is responsible for preparing the Navy and Marine Corps forces for the effective prosecution of war and military operations short of war and, under the integrated joint mobilization plans, for the expansion of the peacetime component of the Navy and Marine Corps to meet the needs of war. Within the Department of the Navy, this includes naval combat and service forces and such aviation as may be organic.

Some of the major functions of the NAVY and MARINE CORPS are to:

- organize, equip, and furnish naval forces, including naval close air support and space forces, for the conduct of joint amphibious operations.
- organize, train, equip, and provide forces for strategic nuclear warfare to support strategic deterrence.
- organize, train, equip, and provide forces for reconnaissance, antisubmarine warfare, protection of shipping, aerial refueling and minelaying, controlled minefield operations, and furnish the afloat forces for strategic sealift.

- furnish air support essential for naval operations.
- organize, train, equip, and provide forces for appropriate air and missile defense and space control operations, including forces required for the strategic defense of the United States under joint doctrine.
- organize, train, equip, and furnish forces to operate sea lines of communication.
- organize, train, equip, and furnish forces for the support and conduct of special operations.

Some collateral functions of the Navy and Marine Corps are to:

- interdict enemy land power, airpower, and communications through operations at sea.
- furnish close air and naval support for land operations.
- prepare to participate in the overall air and space effort.
- establish military government pending transfer of this responsibility.

Specific responsibilities of the Department of the Navy toward the Marine Corps include the maintenance of not less than three combat divisions and three air wings and such other land combat, aviation, and other services as may be organic therein.

Some of the major functions of the MARINE CORPS are to:

- organize, train, and equip Fleet Marine Forces of combined arms, together with supporting air components, for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign.
- furnish security detachments and organizations for service on naval vessels of the Navy.
- furnish security detachments for protection of naval property at naval stations and bases.
- perform other duties as the President directs.
- develop landing force doctrines, tactics, techniques, and equipment that are of common interest to the Army and Marine Corps.

The Coast Guard is a military service and a branch of the Armed Forces of the United States at all times. It is a service in the Department of Homeland Security except when operating as part of the Navy on declaration of war or when the President directs.

Some of the major functions of the COAST GUARD are to:

- enforce or assist in enforcement of the law with power to arrest, search, and seize persons and property suspected of violations of Federal law, including drug interdiction.
- administer laws and enforce regulations for the promotion of safety of life and property on and under the high seas and waters subject to U.S. jurisdiction.
- coordinate marine environmental protection response.
- enforce port safety and security.
- enforce commercial vessel safety standards and regulations.
- regulate and control ship movement and anchorage.
- acquire, maintain, and repair short-range aids to navigation.
- establish, operate, and maintain radio navigation.

- develop, establish, maintain, and operate polar and U.S. icebreaking facilities.
- organize, equip, and furnish forces for maritime search and rescue.
- engage in oceanographic research.
- maintain a state of readiness to function as a specialized service in the Navy.

Some of the major wartime functions of the COAST GUARD are to:

- continue peacetime missions.
- plan and coordinate U.S. coastal defense for the Fleet Commanders through assignment as commanders of U.S. Maritime Defense Zone Atlantic and Pacific.
- perform naval wartime missions of inshore undersea warfare, mine countermeasures, harbor defense, ocean escort, etc., occurring in the U.S. littoral sea.
- enforce or assist in enforcement of the law with power to arrest, search, and seize persons and property suspected of violations of Federal law, including drug interdiction.
- administer laws and enforce regulations for the promotion of safety of life and property on and under the high seas and waters subject to U.S. jurisdiction.
- coordinate marine environmental protection response.
- enforce port safety and security.
- enforce commercial vessel safety standards and regulations.
- regulate and control ship movement and anchorage.
- acquire, maintain, and repair short-range aids to

navigation.
- establish, operate, and maintain radio navigation;
- develop, establish, maintain, and operate polar and U.S. icebreaking facilities.
- organize, equip, and furnish forces for maritime search and rescue.
- engage in oceanographic research.
- maintain a state of readiness to function as a specialized service in the Navy.


DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

DoD Military Rank and Insignia

Air Force Ranks

ENLISTED

NO INSIGNIA

E-1
AIRMAN BASIC (AB)

E-2
AIRMAN (AMN)

E-3
AIRMAN FIRST CLASS (A1C)

E-4
SENIOR AIRMAN (SrA)

E-5
STAFF SERGEANT (SSgt)

E-6
TECHNICAL SERGEANT (TSgt)

E-7
MASTER SERGEANT (MSgt)

E-7
FIRST SERGEANT (MSgt)

E-8
SENIOR MASTER SERGEANT (SMSgt)

E-8
FIRST SERGEANT (SMSgt)

E-9
CHIEF MASTER SERGEANT (CMSgt)

E-9
FIRST SERGEANT (CMSgt)

E-9
COMMAND CHIEF MASTER SERGEANT (CCM)

CHIEF MASTER SERGEANT OF THE AIR FORCE (CMSAF)

OFFICER

O-1
SECOND
LIEUTENANT
(2ndLt)

O-2
FIRST
LIEUTENANT
(1stLt)

O-3
CAPTAIN
(Capt)

O-4
MAJOR
(Maj)

O-5
LIEUTENANT
COLONEL
(LtCol)

O-6
COLONEL
(Col)

O-7
BRIGADIER
GENERAL
(Brig Gen)

O-8
MAJOR
GENERAL
(Maj Gen)

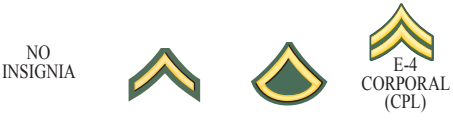
O-9
LIEUTENANT
GENERAL
(Lt Gen)

O-10
GENERAL
(Gen)

GENERAL
OF THE
AIR
FORCE

Army Ranks

ENLISTED



NO INSIGNIA

E-1
PRIVATE (PV1)

E-2
PRIVATE (PV2)

E-3
PRIVATE FIRST CLASS (PFC)

E-4
CORPORAL (CPL)

E-4
SPECIALIST (SPC)

E-5
SERGEANT (SGT)

E-6
STAFF SERGEANT (SSG)

E-7
SERGEANT FIRST CLASS (SFC)

E-8
MASTER SERGEANT (MSG)

E-8
FIRST SERGEANT (1SG)

E-9
SERGEANT MAJOR (SGM)

E-9
COMMAND SERGEANT MAJOR (CSM)

SERGEANT MAJOR OF THE ARMY (SMA)

OFFICER

O-1 SECOND LIEUTENANT (2LT)

O-2 FIRST LIEUTENANT (1LT)

O-3 CAPTAIN (CPT)

O-4 MAJOR (MAJ)

O-5 LIEUTENANT COLONEL (LTC)

O-6 COLONEL (COL)

O-7 BRIGADIER GENERAL (BG)

O-8 MAJOR GENERAL (MG)

O-9 LIEUTENANT GENERAL (LTG)

O-10 GENERAL (Gen)

GENERAL OF THE ARMY (GA)

W-1 Warrant Officer (W01)

W-2 Chief Warrant Officer (CW2)

W-3 Chief Warrant Officer (CW3)

W-4 Chief Warrant Officer (CW4)

W-5 Chief Warrant Officer (CW5)

Navy Ranks

ENLISTED

NO INSIGNIA

E-1
SEAMAN RECRUIT (SR)

E-2
SEAMAN APPRENTICE (SA)

E-3
SEAMAN (SN)

E-4
PETTY OFFICER THIRD CLASS (PO3)

E-5
PETTY OFFICER SECOND CLASS (PO2)

E-6
PETTY OFFICER FIRST CLASS (PO1)

E-7
CHIEF PETTY OFFICER (CPO)

E-8
SENIOR CHIEF PETTY OFFICER (SCPO)

E-9
MASTER CHIEF PETTY OFFICER (MCPO)

E-9
FORCE or FLEET COMMAND MASTER CHIEF PETTY OFFICER (FORMC) (FLTMC)

MASTER CHIEF PETTY OFFICER OF THE NAVY (MCPON)

OFFICER

O-1
ENSIGN
(ENS)

O-2
LIEUTENANT
JUNIOR GRADE
(LTJG)

O-3
LIEUTENANT
(LT)

O-4
LIEUTENANT
COMMANDER
(LCDR)

O-5
COM-
MANDER
(CDR)

O-6
CAPTAIN
(CAPT)

O-7
REAR ADMIRAL
LOWER HALF
(RDML)

O-8
REAR ADMIRAL
UPPER HALF
(RADM)

O-9
VICE ADMIRAL
(VADM)

O-10
ADMIRAL
(ADM)

FLEET
ADMIRAL
(FADM)

W-2
Chief Warrant Officer
(CWO2)

W-3
Chief Warrant Officer
(CWO3)

W-4
Chief Warrant Officer
(CWO4)

Marine Corps Ranks

ENLISTED

E-1
PRIVATE
(Pvt)

E-2
PRIVATE
FIRST
(PFC)

E-3
LANCE
CORPORAL
(LCpl)

E-4
CORPORAL
(Cpl)

E-5
SERGEANT
(Sgt)

E-6
STAFF
SERGEANT
(SSgt)

E-7
GUNNERY
SERGEANT
(GySgt)

E-8
MASTER
SERGEANT
(MSgt)

E-8
FIRST
SERGEANT
(1stSgt)

E-9
MASTER
GUNNERY
SERGEANT
(MGySgt)

E-9
SERGEANT
MAJOR
(SgtMaj)

SERGEANT
MAJOR OF
THE MARINE
CORPS
(SgtMajMC)

OFFICER

O-1

SECOND LIEUTENANT (2ndLt)

O-2

FIRST LIEUTENANT (1stLt)

O-3

CAPTAIN (Capt)

O-4

MAJOR (Maj)

O-5

LIEUTENANT COLONEL (LtCol)

O-6

COLONEL (Col)

O-7

BRIGADIER GENERAL (BGen)

O-8

MAJOR GENERAL (MajGen)

O-9

LIEUTENANT GENERAL (LtGen)

O-10

GENERAL (Gen)

W-1
WARRANT OFFICER (WO)

W-2
CHIEF WARRANT OFFICER (CWO2)

W-3
CHIEF WARRANT OFFICER (CWO3)

W-4
CHIEF WARRANT OFFICER (CWO4)

W-5
CHIEF WARRANT OFFICER (CWO5)

Coast Guard Ranks

ENLISTED

E-1
SEAMAN
RECRUIT
(SR)

E-2
SEAMAN
APPRENTICE
(SA)

E-3
SEAMAN
(SN)

E-4
PETTY
OFFICER
THIRD
CLASS
(PO3)

E-5
PETTY
OFFICER
SECOND
CLASS
(PO2)

E-6
PETTY
OFFICER
FIRST CLASS
(PO1)

E-7
CHIEF
PETTY
OFFICER
(CPO)

E-8
SENIOR
CHIEF
PETTY
OFFICER
(SCPO)

E-9
MASTER
CHIEF
PETTY
OFFICER
(MCPO)

E-9
COMMAND
MASTER CHIEF
(CMC)

MASTER CHIEF
PETTY OFFICER OF
THE COAST GUARD
(MCPOCG)

OFFICER

O-1
ENSIGN
(ENS)

O-2
LIEUTENANT
JUNIOR GRADE
(LTJG)

O-3
LIEUTENANT
(LT)

O-4
LIEUTENANT
COMMANDER
(LCDR)

O-5
COMMANDER
(CDR)

O-6
CAPTAIN
(CAPT)

O-7
REAR
ADMIRAL
LOWER HALF
(RDML)

O-8
REAR
ADMIRAL
UPPER HALF
(RADM)

O-9
VICE
ADMIRAL
(VADM)

O-10
ADMIRAL
(ADM)

Air Force Junior ROTC, ROTC, Officer Training School, and Cadet Rank

Cadet 2d Lt | Cadet 1st Lt | Cadet Capt | Cadet Major | Cadet LtCol | Cadet Colonel

Cadet Amn | Cadet Amn1C | Cadet SrAmn | Cadet SSgt

Cadet TSgt | Cadet MSgt | Cadet SMSgt | Cadet CMSgt

OT Rank Insignia

OT 4th Class | OT 3d Class | OT 2 Lt | OT 1 Lt | OT Capt | OT Major | OT Lt Col | OT Col

Air Force Academy Cadet Badges and Rank

Cadet Solo

Cadet Sr. Aviation Instructor

Cadet Flight

Cadet Soaring Instructor Pilot

Parachutist

Air Assault

Commandant's Pin

Comm/Athletic Pin

Comm/Dean's Pin

Superintendent's Pin

Athletic Pin

Dean's Pin

Dean/Athletic Pin

Bulldog Badge

Recondo Badge

Basic Cadet
No Shoulder Board

Cadet 4th Class
Freshman

Cadet 3d Class-Sophmore

Cadet SSgt-Sophmore

Cadet SSgt-Sophmore
Flag Bearer-Color Bearer

Cadet SSgt
Group Color Bearer-
Sophmore

Cadet 2d Class-Junior

Cadet TSgt-Junior

Cadet MSgt-Junior

Cadet MSgt
Group Staff-Junior

Cadet MSgt
Wing Staff-Junior

Cadet SMSgt-
Superintendent

Cadet CMSgt
Group Staff-Junior

Cadet CMSgt-Group Superintendent-Junior

Cadet CMSgt-Wing Superintendent-Junior

Cadet 1st Class-Senior

Cadet Major-Athletic Team Captain-Senior

Cadet 2dLt-Senior

Cadet LtCol-Senior

Cadet 1st Lt-Senior

Cadet LtCol-Wing Honor Chairman-Senior

Cadet Capt-Senior

Cadet Col-Group/CC-Senior

Cadet Capt-Flight/CC-Senior

Cadet Col-Vice Wing Commander-Senior

Cadet Major-Senior

Cadet Col-Wing Commander-Senior

CUSTOMS AND COURTESY

Respect for the Flag

To show respect for the flag and the national anthem:

All personnel in uniform and outside must face the flag and salute during the raising and lowering of the flag. Upon the first note of the national anthem or "To the Colors," all personnel in uniform who are not in formation should stand and face the flag (or the sound of the music if the flag is not visible) and salute. Hold the salute until the last note of the music is played.

All vehicles in motion should come to a stop at the first note of the music and the occupants should sit quietly until the music ends.

When in civilian clothes, face the flag (or the sound of the music if the flag is not visible) and stand at attention with the right hand over the heart.

If indoors during retreat or reveille, there's no need to stand or salute. However, everyone must stand during the playing of the national anthem before a showing of a movie while in the base theater. When listening to a radio or watching television, no specific action is necessary. Additionally, a folded flag is considered cased; therefore, it is not necessary to salute or continue saluting.

Saluting

The salute is a courteous exchange of greetings, with the junior member always saluting the senior member or Medal of Honor recipient first. A salute is also rendered to the flag as a sign of respect. Any Airman, noncommissioned officer, or officer recognizing a need to salute or a need to return one may do so anywhere at any time. When returning or rendering an individual salute, the head and eyes are turned toward the flag or person saluted. When in ranks, the position of attention is maintained unless otherwise directed. The following guidance is offered on exchanging salutes:

Outdoors. Salutes are exchanged upon recognition between officers or warrant officers and enlisted members of the Armed Forces when they are in uniform. Saluting outdoors means salutes are exchanged when the persons involved are outside of a building. For example, if a person is on a porch, a covered sidewalk, a bus stop, a covered or open entryway, or a reviewing stand, the salute will be exchanged with a person on the sidewalk outside of the structure or with a person approaching or in the same structure. This applies both on and off military installations. The junior member should initiate the salute in time to allow the senior officer to return it. To prescribe an exact distance

for all circumstances is not practical; however, good judgment should dictate when salutes are exchanged. A superior carrying articles in both hands need not return the salute, but he or she should nod in return or verbally acknowledge the salute. If the junior member is carrying articles in both hands, verbal greetings should be exchanged. Also, use the same procedures when greeting an officer of a foreign nation.

In Formation. Members do not salute or return a salute unless given the command to do so. Normally the person in charge salutes and acknowledges salutes for the whole formation.

In Groups—Not in Formation. When a senior officer approaches, the first individual noticing the officer calls the group to attention. All members face the officer and salute. If the officer addresses an individual or the group, all remain at attention (unless otherwise ordered) until the end of the conversation, at which time they salute the officer.

In Public Gatherings. Salutes between individuals are not required in public gatherings, such as sporting events or meetings, or when a salute would be inappropriate or impractical.

In Moving Military Vehicles. Exchange of salutes between military pedestrians (including gate sentries) and officers in moving military vehicles is not mandatory. However, when officer passengers are readily identifiable (for example, officers in appropriately marked vehicles), the salute must be rendered.

In the Presence of Civilians. Persons in uniform

may salute civilians. The President of the United States, as Commander in Chief of the Armed Forces, is always accorded the honor of a salute.

In a Work Detail. In a work detail, individual workers do not salute. The person in charge salutes for the entire detail.

Indoors. Except for formal reporting, salutes are not rendered.

Military Etiquette

Etiquette is defined as common, everyday courtesy. The military world, like the civilian world, functions more smoothly and pleasantly when members practice good manners.

Simple things like saying "please"and "thank you" help the organization run smoother because people respond more enthusiastically when asked in a courteous manner to do something. They also appreciate knowing their efforts are recognized when told "thank you."

One of the most valuable habits anyone can develop is to be on time. Granted, there are times when a person cannot avoid being late. If this happens, it is best to call ahead to let the people know you'll be late or to reschedule the appointment. Do not keep others waiting.

Address civil service employees properly. As a rule, address them appropriately as "Mr," "Mrs," "Miss," or "Ms" and a last name, unless requested to do otherwise. Always address a superior formally. This is especially important in most foreign countries where use of first names on the job is much more limited than in the United States.

Do not gossip. A discussion of others' personal habits, problems, and activities, real or rumored, often results in quarrels and disputes among people who work together. The morale of any unit may suffer because of feuds that arise from gossip. The best policy is to not gossip and to discourage others from gossiping. Use proper telephone etiquette. Always be polite and identify yourself and your organization. When an individual is not available to take a call, ask: "May I take a message?" or "Is there something I may help you with?" If a call is to be returned, write down the individual's name, organization, telephone number, the message, date, and time. Then pass this information along to the intended recipient.

Do not lean or sit on desks. Also, do not lean back in a chair or put feet on desks. This type of conduct does not present a professional military image.

In general, use common sense, be considerate of other people, and insist your subordinates do the same.

Courtesies to Other Services. The collective efforts of the Air Force, Army, Navy, Marines, and Coast Guard provide for the defense of the country

against aggression. All services are part of the military team; therefore, extend the same military courtesies to members of the other services. While it is natural that friendly rivalries exist between the services, military courtesies among services remain the same. Thus, the members of the other services are as much comrades-in-arms as are any Airmen.

This is equally true of the friendly armed forces of the United Nations. Salute all commissioned officers and pay the same respect to the national anthems and flags of other nations as rendered the U.S. national anthem and flag. While it is not necessary to learn the identifying insignia of the military grades of all nations, you should learn the insignia of the most frequently contacted nations, particularly during an overseas assignment.

Respect and Recognition

Common Acts of Courtesy. Common acts of courtesy among all Air Force personnel aid in maintaining discipline and promoting the smooth conduct of affairs in the military establishment. When courtesy falters within a unit, discipline ceases to function and accomplishing the mission is endangered. Many of the Air Force courtesies involve the salute. However, many other courtesies are commonly extended to superiors, subordinates, and working associates. The following paragraphs list some of these courtesies.

Always give the senior person, enlisted or commissioned, the position of honor when

walking, riding, or sitting with him or her. The junior person should take the position to the senior's left.

When reporting to an officer indoors, if not under arms, knock once and enter when told to do so. Upon entering, march to approximately two paces from the officer or desk, halt, salute, and report in this manner: "Sir (Ma'am), Airman Smith reports as ordered," or "Sir (Ma'am), Airman Smith reports." When the conversation is completed, execute a sharp salute and hold it until the officer acknowledges it. Then perform the appropriate facing movements and depart.

Unless told otherwise, rise and stand at attention when a senior official enters or departs a room. If more than one person is present, the person who first sees the officer calls the group to attention. However, if there is an officer already in the room equal to or higher in rank than the officer entering the room, do not call the room to attention.

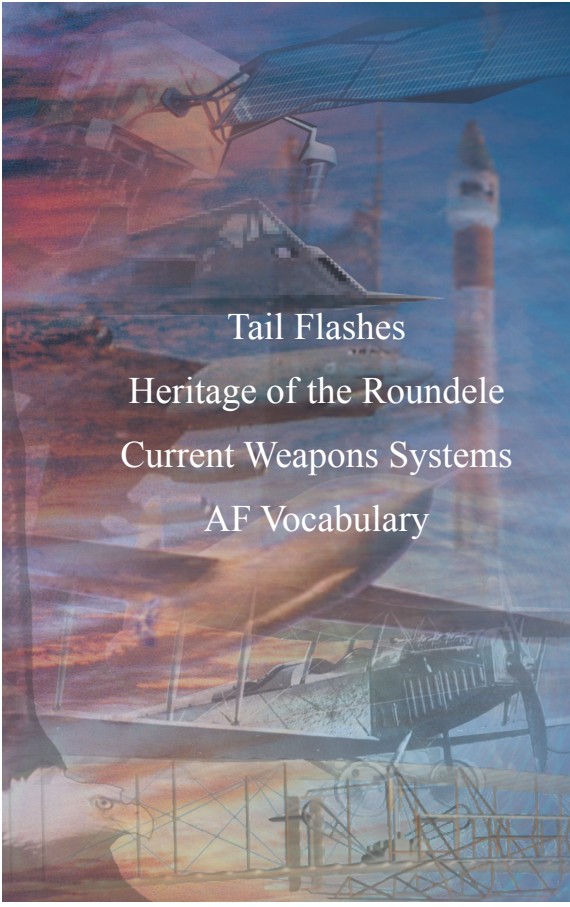
Except in the field under campaign or simulated campaign conditions, observe certain personal courtesies in association with officers. Unless the

officer directs otherwise, stand at attention when speaking to an officer. If in a parked vehicle, always get out before speaking to or replying to a senior who is not in the vehicle.

Military personnel enter automobiles and small boats in reverse order of rank. Juniors will enter a vehicle first (and take their appropriate seat on the senior's left). The senior officer will be the last to enter the vehicle and the first to leave it.

Upon entering or leaving transport aircraft, the senior officer enters last and exits first. This procedure only applies to passengers, not to crewmembers of the aircraft who must be free to carry out their normal duties.

Proper Addresses. Senior service members frequently address juniors by their first names, but this practice does not give junior members the privilege of addressing seniors in any way other than by proper titles. If Airmen are present, senior service members should address junior service members by their titles. Service members of the same grade, when among themselves, may address one another by their given names. Increasingly, service members use first names. Formality, however, is the best policy. Junior service members should always be conservative until they can sense what is appropriate. It is wiser to err by being too formal, rather than too familiar.


Tail Flashes
Heritage of the Roundele
Current Weapons Systems
AF Vocabulary

Tail Flashes

USAF Aircraft Tail Markings

Compiled data provided from the Air Force Association and Airman magazine

AC **F-16C/D**
177th FW (ANG)
Atlantic City Airport NJ

AF **TG-10B/C/D, TG-14, TG-15A/B**
C-150, T-41, UV-18 DA-20-C1
34th OG, USAF Academy, CO

AK **C-12J, C-130H, F-15C/D/E**
3d Wing, Elmendorf AFB AK

AK **A/OA-10, F-16C/D**
354th FW, Eielson AFB AK
C-130H, HC-130N
168th Air RefuelingWing

AL **F-16C/D**
187th FW (ANG),
Dannelly Fld AL

AL **KC-135**
117th ARW (ANG) Birmingham Airport AL

AN **C-130H, HC-130N, HH-60G**
176th Wing (ANG)
Kulis ANGB AK

AV **F-16C/D**
31st FW, Aviano AB Italy

AZ **F-16A/B/C/D**
162d FW (ANG), Tucson IAP AZ

BB **T-38A, RQ-4A,TU-2S, U-2S**
9th RW, Beale AFB CA

BC **A/OA-10A**
110th FW (ANG)
W.K. Kellogg Airport MI

BD **B-52H, A/OA-10A**
917th Wing (AFRC)
Barksdale AFB La.

CA **HC-130P, HH-60G**
129th-RQW (ANG)
Moffett Fed Air field CA

CB **T-1A,T-37B,T-38C**
14th FTW, Columbus AFB MS

CC **F-16C/D**
27th FW, Cannon AFB NM

CI **C-130E**
146th AW
Channel Islands ANGS CA

CO **F-16C/D**
140th Wing, BuckleyAFB CO

CR **C-130E/H**
302d AW (AFRC),
Peterson AFB CO

CT **A/OA-10A**
103d FW (ANG)
Bradley Airport CN

D **KC-135R**
100th ARW (ANG)
RAF Mildenhall, England

DC **F-16C/D**
113th Wing (ANG),
Andrews AFB MD

DE **C-130H**
166th AW (ANG)
New Castle Co. Airport DE

DM **A/OA-10A, EC-130E/H**
355th Wing
Davis-Monthan AFB AZ

DR **HH-60G**
305th RQS (AFRC)
Davis-Monthan AFB AZ

DY **B-1B**
7th BW, Dyess AFB TX

ED **Various**
412th TW, Edwards AFB CA

EF **F-16C/D**
147th FW (ANG)
Ellington Field TX

EG **F-15C/D**
33rd FW, Eglin AFB FL

EL **B-1B**
28th BW, Ellsworth AFB SD

EN **AT-38B, T-37B, T-38A**
80th FTW, Sheppard AFB TX

ET **A-1 OA, F-15A/B/C/D/E,**
F-16A/B/C/D, UH-1N
46th TW, Eglin AFB FL

FC **UH-1N**
336th Training Group
Fairchild AFB, WA.

FE **UH-1N**
90th SPW, F.E. Warren AFB WY

FF **F-15C/D**
1st FW, Langley AFB VA

FL **C-130E, HC-130P/N, HH-60G**
920th RQG (AFRC)
Patrick AFB FL

FM **F-16C/D**
482nd FW (AFRC)
Homestead ARB FL

FS **F-16C/D**
188th FW (ANG)
Fort Smith Airport AR

FT **A/OA-10A**
23rd FG, Pope AFB NC

FW **F-16C/D**
122nd FW (ANG)
Fort Wayne Airport IN

GA **E-8C, TE-8A**
116th ACW (ANG)
Robins AFB GA

GA **C-130H**
165th AW (ANG)
Savannah Airport GA

HD **QF-4**
53rd WEG, Holloman AFB NM

HH **C-130H, F-15A/B, KC-135R**
154th Wing, Hickam AFB HI

HI **F-16C/D**
419th FW (AFRC), Hill AFB UT

HL **F-16C/D**
388th FW, Hill AFB UT

HO **T-38A, MQ-1/9, QF-4**
49th FW, Holloman AFB NM

HO **F-4F, Tornado**
Luftwaffe RTU
Holloman AFB, NM

HT **AT-38B, C-12, F-15**
46th TG, Holloman AFB NM

HV **UH-1N**
30th SPW, Vandenberg AFB CA

IA **F-16 C/D**
132nd FW Des Moines IAP, IA

ID **A/OA-10A, C-130E**
124th Wing (ANG)
Boise Air Term. ID

IL **C-130E**
182d AW (ANG)
Greater Peoria Airport IL

IS **HH-60G**
85th Group, NAS Keflavik Iceland

JZ **F-15A/B**
159th FW (ANG)
NAS JRB, New Orleans LA

KC **A/OA-10**
442d FW (AFRC)
Whiteman AFB MO

KC **A/OA-10**
442d FW (AFRC)
Whiteman AFB MO

KY **C-130H**
123rd AW Louisville KY

LA **B-52H**
2d BW, Barksdale AFB LA

LD **Lackland** AFB, TX

LF **F-16C/D**
56th FW Luke AFB AZ

LI **HC-130P, HH-60G**
106th RW (ANG,)
F.S. Gabreski Airport NY

LK **C-130-15C/D/E**
314th AW, Little Rock AFB AK

LN **F-15C/D/E**
48th FW, RAF Lakenheath UK

LR **F-16C/D**
944th FW (AFRC), Luke AFB AZ

MA **F-15A/B**
102d FW (ANG), Otis ANGB MA

MA **A/OA-10A**
104th FW (ANG), Barnes Art. MA

MD **A/OA-10A, C-130J**
175th Wing, Warfield ANGB MD

MI **F-16C/D, C-130E**
127th Wing (ANG)
KC-135E
927th ARW (AFRC),
Selfridge ANGB MI

MK **C-130H**
440th AW, General Mitchell ARS, WI. (AFRC)

MM **UH-1N**
341st SPW, Malmstrom AFB MT

MN **C-130H**
133d AW (ANG),
Minn.-St. Paul Airport/ARS

MN **F-16 C**
148th FW (ANG), Duluth Airport MN

MO **F-15C/D/E, F-16C/D, KC-135R**
366th FW, Mountain Home AFB ID

MS **KC-135R**
186th ARW, Key Field
Meridian, MS (ANG)

MS **C-17**
172nd AW, Thompson Field, MS (ANG)

MT **B-52H**
5th BW, Minot AFB ND

MT **UH-1N**
91st SPW, Minot AFB ND

MY **HC-130P, HH-60G**
347th Rescue Wing, Moody AFB GA

MY **AT-38B, T-6A, T-38C**
479th FTG (AETC), Moody AFB GA

NC **C-130H**
145th AW (ANG), Charlotte, NC

ND **F-16A/B**
119th FW (ANG), Fargo IAP ND

NJ **KC-135E**
108th ARW (ANG), McGuire AFB, NJ

NM **F-16C/D**
150th FW (ANG), Kirtland AFB NM

NO **A/OA-10A**
926th FW (AFRC)
NAS JRB, New Orleans LA

NV **C-130E**
152d AW (ANG)
Reno/Tahoe Airport. NV

NY **F-16C/D**
174th FW (ANG), Hancock Field. NY

OF **Various**
55th Wing, Offutt AFB NE

OH **F-16C/D**
178th FW (ANG)
Springfield-Beckley Airport OH

OH **C-130H**
179th AG (ANG)
Mansfield Lahm Arpt OH

OH **F-16C/D**
180th FW (ANG)
Toledo Exp. Airport. OH

OH **KC-135**
121st ARW Rickenbacker ANGB OH

OK **C-130H**
137th AW (ANG)
Will Rogers World Airport. OK

OK **F-16C/D**
138th FW (ANG), Tulsa Airport OK

OK **E-3B/C.TC-18E**
552nd ACW, Tinker AFB OK

OS **A/OA-10A, C-12, F-16C/D**
51st FW, Osan AB South Korea

OT **B-1. B-2. B-52, F/A-22, F-15A/C/D/E, F-16C/D,RQ-1A, RQ-4A**
85th TES. 53d Wing (ACC)
Eglin AFB FL

OT **F/A-22, F-15, F-16A/C**
422d TES, 53d Wing
Nellis AFB NV

OT **F-117**
Del 1. 53d WEG
Holloman AFB NM

PA **A/OA-10A**
111th FW (ANG)
NAS JRB Willow Grove PA

PC **UH-1N**
336th TG, Fairchild AFB WA

PD HH-60G, C-130E, HC-130P
939th RW (AFRC)
Portland Airport, OR

PR C-130E
156th AW (ANG), Luis Munoz Marin Arpt, Puerto Rico

RA T-1A, T-6A, T-37B, T-38A, T-43A
12th FTW, Randolph AFB
Hondo Airport, TX

RI C-130E/J-30
143rd AW (ANG)
Quonset State Airport, RI

RS C-9, C-20,C-21, C-37, C-130E
86th AW, Ramstein AB, Germany

SA F-16C/D
149th FW (ANG)
Lackland AFB, TX

SC F-16C/D
169th FW (ANG)
McEntire ANGS, SC

SD F-16C/D
114th FW (ANG), Joe Foss Fid.SD

SI F-16C/D
183rd FW(ANG) Capital Airport IL

SJ F-15E
4th FW, Seymour Johnson AFB NC

SL F-15A/B
131st FW (ANG), Lambert-St Louis Airport, MO

SP A/OA-10A, F-16CJ/D
52nd FW, Spangdahlem AB, Germany

ST Various
82nd TW, Sheppard AFB, TX

SW F-16C/J
20th FW, Shaw AFB, SC

TD QF-4
53rd Wing, Tyndall AFB, FL

TH F-16C/D
181st FW (ANG), Hulman Arpt, IN

TX C-130H
136th AW (ANG)
NAS JRB Ft Worth, TX

TX F-16C/D
301st FW (AFRC)
NAS JRB Ft Worth, TX

TY F-15C/D, F/A-22
325th FW, Tyndall AFB, FL

VA F-16C/D
192nd FW (ANG)
Richmond IAP, VA

VN T-1A. T-37B, T-38A
71st FTW, Vance AFB, OK

VT F-16C/D
158th FW, Burlington IAP VT

WA A-10, F-15C/D/E. F-16A/B/C/D, HH-60, RQ-1
57th Wing, Nellis AFB, NV

WE E-9A
53rd WEG, Tyndall AFB, FL

WG C-130E
913th AW
Willow Grove ARS PA

WI F-16C/D
115th FW (ANG),
Truax Field WI

WM B-2A, T-38A
509th BW, Whiteman AFB, MO

WP F-16C/D
8th FW
Kunsan AB, South Korea

WV C-130H
130th AW (ANG)
Yeager Airport, WV

WV C-130E
167th AW (ANG), Eastern WV.

WW F-16C/D
35th FW, Misawa AB, Japan

WY C-130H
153rd AW (ANG)
Cheyenne Airport., WY

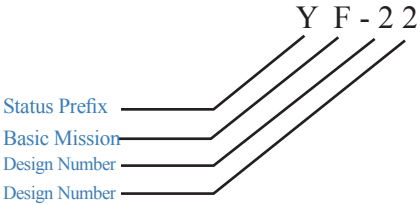
XL T-1A, T-6A, T-37B, T-38A
47th FTW, Laughlin AFB, TX

XP C-130H
139th AW (ANG)
Rosecrans Airport, MOJ

C-21A, C-130E/H, UH-1N
374th AW, Yokota AB, Japan

ZZ F-3B, F-15C/D, KC-135R, HH-60G
18th Wing, Kadena AB, Japan

Aerospace Vehicle Mission Design Series (MDS) Designators for Aircraft



STATUS PREFIX	MODIFIED MISSION	BASIC MISSION	VEHICLE TYPE
G- Permanently Grounded	A- Attack	A- Attack	G- Glider
J- Special test (temporary)	C- Cargo/Transport	B- Bomber	H- Helicopter
N- Special test (permanent)	D- Director	C- Cargo/Transport	S- Spaceplane
X- Experimental	E- Special Electronic installation	E- Special Electronic installation	V- VTOL/STOL
Y- Prototype	F- Fighter	F- Fighter	Z- Lighter-than-air
Z- Planning	H- Search/Rescue	O- Observation	
	K- Aerial Refueling	P- Patrol	
	L- Cold Weather	R- Reconnaissance	
	M- Multimission	S- Antisubmarine	
	O- Observation	T- Trainer	
	P- Patrol	U- Utility	
	Q- Drone	X- Research	
	R- Reconnaissance		
	S- Antisubmarine		
	T- Trainer		
	U- Utility		
	V- Staff		
	W- Weather		

Heritage of the Roundele

1906-1916

Used with and without white background circle. In use at the time of the Mexican Border Campaign.

1918-1920

The official American insignia during World War I. It began to be phased out in 1919.

1917, 1921-1941

Introduced prior to the American entry into World War I and officially readopted after the war.

1942-1943

The red center of the 1921-1941 insignia was removed unofficially in December 1941 and officially in May 1942 to avoid confusion with Japanese insignia.

1942-1943

Some aircraft in the European and Mediterranean theaters unofficially incorporated a yellow surround in the British style.

1943

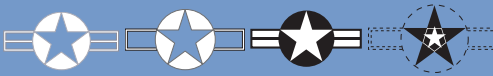
Between 29 June and 14 August, the official national insignia incorporated white sidebars and an overall red surround.

1943-1947

The red surround of the official insignia was quickly changed to a blue surround. During its 4 years of use, this insignia appeared on more aircraft than all its predecessors combined.

1947-Present

With the reorganization of the Defense Department and the creation of the USAF, red bars were added to the official national insignia. A variation of this insignia appears officially without the blue surround on F-15 aircraft.



Low Visibility

Beginning in the late seventies low visibility markings have been introduced officially and unofficially on the aircraft of the USAF and other services. The grey insignia on the far left is the only insignia used on operational F-16s. It is followed by a more standard low visibility mark, used on A-10s and other aircraft. The stencil marks are becoming increasingly common on Air Mobility Command, Air Force Reserve and Air National Guard aircraft.

Current Weapons Systems

F-15 Eagle

Air Superiority Fighter
F-15A-D is a dual engine, all weather, extremely maneuverable fighter designed to gain and maintain air superiority.

F-15E Strike Eagle

Dual Role Fighter
F-15E is a dual engine, air-to-ground, air-to-air, all weather, fighter designed for close air support, strategic attack, and interdiction roles.

F-16 Fighting Falcon

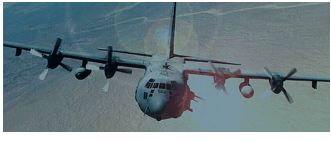
Multi-role Fighter
F-16 A-D is a single engine multi-role tactical fighter with full air-to-air and air-to-ground combat capabilities.

F/A-22 Raptor

F/A-22 is a low observable, highly maneuverable airframe, advanced integrated avionics, and aerodynamic performance allowing supersonic cruise without afterburner.

A-10/OA-10 Thunderbolt II

A/OA-10 is a close air support (CAS) platform used to support troops in contact with enemy forces. The A/OA-10 performs secondary roles of Air Interdiction, Airborne Forward Air Control (FAC), and Combat Search and Rescue (CSAR) and Special Operations (SPECOPs) Support.



AC-130 Spectre Gunship

The AC-130H Spectre and AC-130U gunships' primary missions are close air support, air interdiction, and armed reconnaissance. Other missions include perimeter and point defense, escort, landing, drop and extraction zone support, forward air control, Combat Search and Rescue (CSAR).

B-1B Lancer

The B-1B is a long-range, all-weather, deepstrike, day-night, high speed, large payload Global Attack bomber.

B-2 Spirit

Stealth, multi-role bomber. The B-2 is able to deliver both nuclear and conventional munitions, and is capable of attacking an enemy's war-making potential, in the first critical hours of a conflict. It is the Air Force's only all-weather hard/deeply buried conventional strike capability.

B-52 Stratofortress

The B-52 is the center-piece of the bomber fleet, supporting both nuclear and conventional operations plans. It is the only long range bomber capable of employing the long range Advanced Cruise Missile (ACM), Air Launched Cruise Missile (ALCM), and Conventional Air Launched Cruise Missile (CALCM); the Harpoon anti-ship missile; and the HAVE NAP precision guided missile.

C-5 Galaxy

The C-5 is used for strategic intertheater delivery of outsized and oversized cargo and passengers.

C-17 Globemaster III

An intertheater and intratheater, refuelable, wide-body aircraft capable of airlifting outsized and oversized payloads over intercontinental ranges for direct delivery.

C-21 Learjet

A cargo and passenger airlift aircraft employed for short ranges and into short fields. This aircraft can be configured to transport litters during medical evacuations.

VC-25 Air Force One

Air Force One provides worldwide transportation for the President of the United States.

C-130J

C-130J provides immediate movement of combat troops and supplies within theaters of operation.

C-130E/H
Hercules

The C-130E/H provides rapid intertheater transportation of personnel or cargo for delivery day or night by parachute or landings. Adverse Weather Aerial Delivery System (AWADS) -equipped aircraft have the additional capability of performing airdrops without external assistance in adverse weather.

EC-130E/J
Commando Solo

Commando Solo aircraft conduct psychological operations and civil affairs broadcast in the AM, FM, HG, TV, and military communications bands.

HC-130P/N
King

The HC-130P/N is the Combat Search and Rescue (CSAR) configured extended-range version of the C-130 Hercules. It provides in-flight refueling to rescue and Special Operations helicopters and performs tactical delivery of Pararescue specialists in permissive or hostile environments.

E-3 Sentry AWACS

The E-3 is a deployable airborne command and control (C2) battle management (BM) platform employed at the tactical level of war. Airborne Warning and Control System (AWACS) provides all altitude surveillance, warning, and battle management for worldwide air combat operations. It directs, coordinates, and controls joint and combined forces and operations.

E-4B NAOC

The National Airborne Operations Center is designed as a highly survivable node of the National Military Command System (NMCS). The E-4 provides SECDEF OCONUS C2 mission support and provides support to the Federal Emergency Management Agency (FEMA) during crisis response.

E-8C Joint STARS

Joint Surveillance and Target Attack Radar System (Joint STARS) is a joint Army/Air Force program designed to enhance battle management by providing air/land component commanders with near real-time wide-area surveillance and targeting information on moving and stationary ground targets, slow-moving rotary and fixed wing aircraft, rotating antennas, and Theater Missile Defense targets of interest.

HH-60G
Pave Hawk

The HH-60G is the primary operational Combat Search and Rescue (CSAR) aircraft. It is rapidly deployable and has day/night, marginal weather combat capability employed for CSAR, NEO, counter-drug, disaster relief, civil search and rescue, and Space Shuttle support operations.

KC-10
Extender

The KC-10 provides global in-flight refueling and airlift support for deployment, employment, redeployment, and joint/combined special operations.

KC-135E/R
Stratotanker

The KC-135 fleet principally provides global refueling to Air Force, sister service, and allied aircraft. The KC-135 is also used to conduct airlift missions on a limited basis.

RC-135
U/V/W

Rivet Joint, Combat Sent, and COBRA BALL are reconnaissance and surveillance platforms employed all over the world to increase battlespace awareness.

MC-130E/H Combat Talon I/II

The MC-130E/H Combat Talon II provides global, day, night, and adverse weather capability to airdrop and airland personnel and equipment in support of U.S. and allied special operations forces.

MC-130P Combat Shadow

The Combat Shadow flies clandestine or low visibility, low-level missions into politically sensitive or hostile territory to provide air refueling for special operations helicopters. It can also airdrop small special operations teams, small resupply bundles, and zodiac and combat rubber raiding craft, as well as night vision goggle operations.

MH-53J/M Pave Low

Pave Low helicopters provide covert low-level, long-range, undetected penetration into denied areas, day or night in adverse weather for infiltration, exfiltration, and resupply of Special Operation Forces.

T-1 Jayhawk

The T-1A is an advanced trainer for student pilots designated for duty flying airlift, bomber, or tanker aircraft and student navigators who will fly airlift or tanker aircraft.

T-6A Texan II

The T-6A is an entry-level flight and ground training aircraft for future USAF and U.S. Navy pilots. It replaces the USAF T-37B and U.S. Navy T-34C trainers.

T-38A/C Talon

The T-38 is used by advanced undergraduate pilot training. Air Combat Command, Air Mobility Command, and the National Aeronautics and Space Administration also use T-38 variants in their training programs.

T-43A

The T-43A is a basic flight trainer for undergraduate navigator training students.

U-2S/TU-2S
Dragon Lady

The U-2 conducts high-altitude, deep-look, multi-INT reconnaissance and surveillance utilizing state-of-the-art IMINT and SIGINT sensors to provide near real-time worldwide battlespace awareness.

UH-1N
Iroquois

The UH-1N provides Special Air Mission support for the National Capital Region, VIP airlift, airlift of emergency security and disaster response forces, nuclear weapons security and surveillance, search and rescue, and missile launch support.

UV-18
Twin Otter

The UV-18 is used to support parachute and airmanship training at the United States Air Force Academy.

RQ/MQ-1 Predator

The Predator is a long endurance remotely piloted aircraft (RPA) providing persistent airborne reconnaissance. The MQ version may be armed with Hellfire missiles.

RQ-4 Global Hawk

Global Hawk provides continuous, all-weather, day/night, wide area surveillance to support the tactical warfighter.

SPACE AND MISSILE SYSTEMS

GPS Global Positioning System

A constellation of 24 satellites provides highly accurate time and three dimensional position and velocity information to an unlimited number of users anywhere on or above the surface of the Earth, in any weather.

GBS Global Broadcast System

Provides efficient global high data rate broadcast capability between many distributed information sources simultaneously to warfighters using small, inexpensive terminals.

Milstar

A constellation of four satellites that provide the President, Secretary of Defense, and Combatant Commanders with assured, worldwide command and control (C2) for tactical and strategic forces.

DSCS III

This constellation of satellites provide worldwide, responsive wideband and anti-jam satellite communications supporting strategic and tactical C3I requirements.

DSP

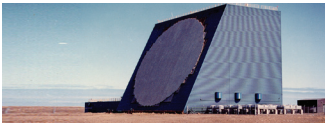
The Defense Support Program (DSP) is a space based infrared satellite system providing global coverage and warning of ballistic missiles launches, nuclear detonations, and other events.

PAVE PAWS

PAVE PAWS: Detects, tracks and warns of incoming sea-launched or intercontinental ballistic launched.

BMEWS

Ballistic Missile Early Warning System: Detects, tracks and warns of ballistic missile launches, launches of new space systems, and provides data on foreign ballistic missile events.



PARCS

Perimeter Attack Radar Characterization System: Provides tactical warning and attack characterization of sea-launched and intercontinental ballistic missile attacks against the continental United States. Supports the space surveillance network by providing space surveillance data, tracking, reporting and space object identification.

AFSCN

Air Force Satellite Control Network: A worldwide network of satellite control stations which uses satellite and terrestrial communication links providing connectivity to over 145 DoD, National, Allied and Civil satellites.

DMSP

Defense Meteorological Satellites Program (DMSP) provides an enduring and survivable capability, through all levels of conflict, to collect and disseminate global visible and infrared cloud data and other specialized meteorological, oceanographic, and space environment data required to support worldwide DoD operations and high-priority national programs.

EELV

The Boeing Delta IV and Lockheed Martin Atlas V Evolved Expendable Launch Vehicle (EELV) provide the Air Force and the nation rapid and reliable access to space with a standardized launch capability.

LGM-30G Minuteman III

The Minuteman III is an inertially guided, intercontinental ballistic missile. Minuteman III is capable of delivering up to 3 multiple independently targetable reentry vehicles (MIRVs). It provides a highly survivable, quick-reaction component to the nuclear Triad.

LGM-118A Peacekeeper

Peacekeeper is a strategic weapon system using a ballistic missile of intercontinental range, capable of delivering up to 10 independently targetable re-entry vehicles with very hard target kill capability.

SELECT AIR WEAPONS

AIM-7 Sparrow

The AIM-7 is a supersonic, medium range, semi-active radar-guided air-to-air missile with a high explosive warhead. The AIM-7 is an all-weather, all-altitude, and all-aspect offensive missile carried by fighter aircraft.

AIM-9 Sidewinder

The AIM-9M is a fighter-borne supersonic, short range, passive infrared-guided air-to-air missile with a high explosive warhead.

AIM-120 AMRAAM

The AIM-120 Advanced Medium Range Air-to-Air Missile (AMRAAM) is a supersonic, medium range, active radar guided air-to-air missile with a high explosive warhead.

AGM-65 Maverick

The AGM 65 is an air to surface launch and leave tactical missile. Electro-optical or infrared (IR) guided these standoff missiles are used in close air support (CAS), interdiction, and enemy defense suppression missions.

AGM-86 ALCM Air-Launched Cruise Missile

The Air Launched Cruise Missile is a subsonic, highly accurate, long range, air-to-surface strategic nuclear missile designed to evade air- and ground-based defenses in order to strike targets at any location within any enemy's territory.

AGM-86C
CALCM
Conventional Air-Launched Cruise Missile

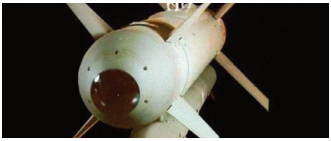
CALCM provides the warfighter with an adverse weather, day or night, air-to-surface, accurate, long-range stand off strike capability against deep and hardened targets.

AGM-88
HARM
High Speed Anti-Radiation Missile

The AGM-88 is an air-to-surface tactical antiradiation missile used to destroy or suppress enemy radar threats at standoff range homing in on source radar emissions.

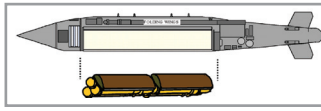
AGM-129A
Advanced Cruise Missile

The AGM-129A is a subsonic, low-observable air-to-surface strategic nuclear missile with significant range and accuracy.



AGM-130
Missile

The AGM-130 is a solid rocket-powered GBU-15 equipped with autonomous INS/GPS mid-course guidance for adverse weather capability and electro-optical or infrared terminal guidance to standoff strike heavily defended targets.



AGM-154 JSOW

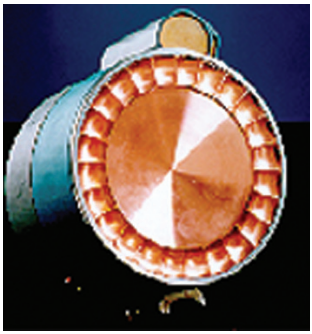
Joint Standoff Weapon (JSOW) is the Air Force and Navy built long range, INS/GPS guided, standoff, air-to-ground weapon designed to attack a variety of soft and armored area targets beyond the range of point defenses.

CBU-87 Combined Effects Munition

The CBU-87 is an area munition, dispensing bomblets in a rectangular pattern, used against armor, materiel, and personnel targets. It is employed by Air Force and Navy fighters and incorporates wind corrected muntions dispensers (WCMD).

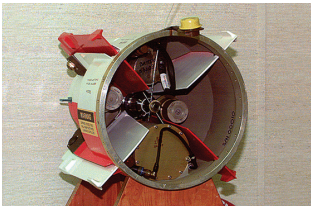
CBU-89 Gator

The CBU-89 (mixed system) disperses 94 mines: 72 anti-tank and 22 anti-personnel mines. The mines are dispensed from Air Force and Navy aircraft in a rectangular pattern and have three selectable self destruct times. INS guided wind corrected munition dispenser (WCMD) enhances the weapons accuracy.



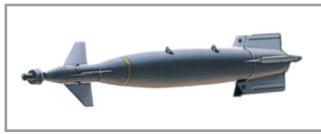
CBU-97/B

The weapon achieves multiple kills per pass against moving and stationary land targets. The CBU-97/B is employed by fighters and bombers primarily against tanks, Armored Personnel Carriers (APCs), and propelled targets.



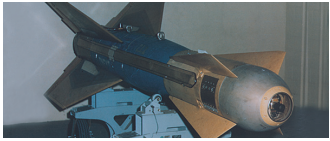
WCMD

Wind Corrected Munition Dispenser
WCMD provides accurate dispenser weapon capability when delivered from medium to high altitudes. WCMD kits are used on inventory cluster weapons (CEM, Gator, Sensor Fused Weapon (SFW)).



GBU-10

The Glide Bomb Unit (GBU) series are laser-guided, air-to-ground glide bombs used for precision targeting of soft and hardened targets. Guidance systems are Paveway II and Paveway III.



GBU-15

The GBU-15 is unpowered and employs elecro-optical or infrared terminal seeker for a standoff attack of high value ground targets.

GBU-31/32/38 JDAM

Joint Direct Attack Munition (JDAM) is a joint Air Force and Navy system used to upgrade the existing inventory of general purpose bombs by integrating them with a GPS/INS guidance kit to provide accurate adverse weather delivery from medium altitudes.

DARRELL D. JONES, Lt General, USAF
DCS, Manpower, Personnel and Services

AF Vocabulary

A

ABORT: (v) to discontinue or abandon a takeoff, mission or action; (n.) an abandoned take-off (i.e. ground abort) or mission.

ADMINISTRATIVE CONTROL: (n) direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations. Also called ADCON. *JT Pub 1-02.*

AGILE COMBAT SUPPORT (ACS): (n) an Air Force distinctive capability that provides a base support system that is highly mobile, flexible, and fully integrated with air and space operations. Contingency response groups (CRG) and Expeditionary Medical System (EMEDS) are examples of ACS capability.

AIR AND SPACE EXPEDITIONARY FORCE (AEF): (n) an organizational structure composed of force packages of capabilities that provide warfighting commanders with rapid and responsive air and space power. These force packages are tailored to meet specific needs across the spectrum of response options and will deploy within an Air and Space Expeditionary Task Force as air expeditionary wings (AEW), groups (AEG), or squadrons (AES).

AIR AND SPACE POWER: (n) the use of lethal and non-lethal means by air and space forces to achieve strategic, operational, and tactical objectives.

AIR AND SPACE SUPERIORITY: (n) that degree of dominance in the air and space battle of one force over another that permits the conducts of operations by the former and its related land, sea, air and space forces at a given time and place without prohibitive interference by the opposing force.

AIR CAMPAIGN: (n) a connected series of operations conducted by air forces to achieve joint force objectives within a given time and area.

AIRCRAFT COMMANDER : (n) the aircrew member designated by competent authority as being in command of an aircraft and responsible for its safe operation and accomplishment of the assigned mission. Also called AC.

AIR INTERDICTION: (n) air operations conducted to destroy, neutralize, or delay the enemy's military potential before it can be brought to bear effectively against friendly forces at such distance from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required. [Includes both lethal and nonlethal systems, is employed to destroy, disrupt, divert, or delay the enemy's surface military potential before it can effectively engage friendly forces, or otherwise achieve its objectives.]

AIRMAN (n) [always capital A]: any person who understands and appreciates the full range of air, space, and cyberspace power capabilities and can employ or support some aspect of air and space

power capabilities. As one Airman put it, an Airman is "one who exercises and believes in the fundamental truths regarding aerospace power. Not all who wear the blue suit are Airmen; not all Airmen wear the blue suit."

AIRPOWER: (n) [always one word] the fundamental ability to use aircraft to create military and political effects through the air and space.

AIRSPEED: (n) the speed of an aircraft relative to its surrounding air mass. The unqualified term "airspeed" can mean any one of the following: a. *calibrated airspeed*—indicated airspeed corrected for instrument installation error; b. *equivalent airspeed*—calibrated airspeed corrected for compressibility error; c. *indicated airspeed*—the airspeed shown by an airspeed indicator; d. *true airspeed*—equivalent airspeed corrected for error due to air density (altitude and temperature).

AIR SUPERIORITY: (n) that degree of dominance in the air battle of one force over another that permits the conduct of operations by the former and its related land, sea, and air forces at a given time and place without prohibitive interference by the opposing force.

AIR SUPREMACY: (n) that degree of air superiority wherein the opposing air force is incapable of effective interference.

AIR TASKING ORDER: (n) a method used to task and disseminate to components, subordinate units, and command and control agencies projected sorties, capabilities and/or forces to targets and specific missions. Normally provides specific instructions to include call signs, targets, controlling agencies, etc., as well as general instructions. Also called ATO.

AIRWAY: (n) a control area or portion thereof established in the form of a corridor marked with radio navigational aids.

ALTITUDE: (n) the vertical distance of a level, a point or an object considered as a point, measured from mean sea level.

AOC: (n) air and space operations center.

APOGEE (n): the point of greatest distance from Earth (or the Moon, a planet, etc.) achieved by a body in elliptical orbit. Usually expressed as distance from Earth's surface.

AREA OF OPERATIONS: (n) an operational area defined by the joint force commander for land and naval forces. Areas of operation do not typically encompass the entire operational area of the joint force commander, but should be large enough for component commanders to accomplish their missions and protect their forces. Also called AO.

AREA OF RESPONSIBILITY: (n) the geographical area associated with a combatant command within which a combatant commander has authority to plan and conduct operations. Also called AOR.

ASBC: (n) the Air and Space Basic Course

B

BANDIT: (n) an aircraft identified as an enemy in accordance with theater identification criteria

BARE BASE: (n) a base having minimum essential facilities to house, sustain, and support operations to include, if required, a stabilized runway, taxiways, and aircraft parking areas. A bare base must have a source of water that can be made

potable. Other requirements to operate under bare base conditions form a necessary part of the force package deployed to the bare base.

BATTLE DAMAGE ASSESSMENT: (n) the timely and accurate estimate of damage resulting from the application of military force, either lethal or nonlethal, against a predetermined objective.

BATTLESPACE: (n) the environment, factors, and conditions that must be understood to successfully apply combat power, protect the force, or complete the mission. This includes the air, land, sea, space, and the included enemy and friendly forces; facilities; weather; terrain; the electromagnetic spectrum; and the information environment within the operational areas and areas of interest.

BOGEY: (n) an unidentified flying object or radar target.

BRAT: (n) a son or daughter of a military family.

BREAK: (v or n) steep (usually aggressive) turn either from a formation or in a traffic pattern.

BREVITY CODE: (n) a code that provides no security but has as its sole purpose the shortening of messages rather than the concealment of their content.

C

CALL SIGN: (n) any combination of characters or pronounceable words, that identifies a communication facility, a command, an authority, an activity, or a unit; used primarily for establishing and maintaining communications.

Informal: an individual's nickname given by his or her unit and approved by the unit commander. Also called CS.

CANNIBALIZE: (n) to remove serviceable parts from one item of equipment in order to install them on another item of equipment.

CAOC: (n) combined air and space operations center.

CENTERS OF GRAVITY: (n) those characteristics, capabilities, or sources of power from which a military force derives its freedom of action, physical strength, or will to fight. Also called COG.

CFACC: (n) the combined force air and space component commander.

CLEARED HOT: (n) authorization to engage a target. Also permission to complete an action or mission.

COMAFFOR (n): Commander, Air Force Forces. The senior Air Force warfighter in command of Air Force forces presented to a Joint Force Commander, either as a permanently assigned force or attached as an AETF. The COMAFFOR is the senior Air Force officer directly subordinate to the Joint Force Commander. As the COMAFFOR, he/she exercises operational control (OPCON) over assigned and attached Air Force forces (if so delegated by the JFC) and administrative control (ADCON) over assigned Air Force forces and specified elements of ADCON over attached Air Force forces.

CONTRAILS: (n) condensation trails, a visible trail of water droplets or ice crystals forced in the wake of an aircraft flying at high altitude.

CORE VALUES: (n) the Air Force core values are values for service, values for life, and must be

reflected in everything that we do. The core values are integrity first, service before self, and excellence in all we do.

D

DACT: (n) Dissimilar Air Combat Training.

DCA: (n) defensive counterair.

DECISIVE: (n) having the power or quality to bring about a conclusion. It may refer to the deciding factor among multiple factors.

DEFENSIVE COUNTER SPACE: Operations to preserve U.S./friendly ability to exploit space to its advantage via active and passive actions to protect friendly space-related capabilities from adversary attack or interference.

DIRSPACEFOR: The DIRSPACEFOR serves as the senior space advisory to the COMAFFOR or COMAFFOR/JFACC. The DIRSPACEFOR conducts coordination, integration, and staffing activities to tailor space support for the COMAFFOR/JFACC. The DIRSPACEFOR is a senior Air Force officer with space expertise and theater familiarity, nominated by AFSPC/CC and appointed by the theater COMAFFOR. The DIRSPACEFOR is attached to the COMAFFOR, and should be part of the COMAFFOR's or COMAFFOR/JFACC/s special staff.

E

EFFECTS: (n) physical and/or psychological outcomes, events, or consequences that result from a specific military action. They may occur at all levels of war and can produce follow-on outcomes.

EFFECTS-BASED OPERATIONS: (n) military actions, such as operations, targeting, or strategy, that are designed to produce distinctive and desired results. Also called EBO.

F

FORCE PROTECTION: (n) actions taken to prevent or mitigate hostile actions against DoD personnel (including family members), resources, facilities, and critical information. These actions conserve the force's fighting potential so it can be applied at the decisive time and place and incorporate the coordinated and synchronized offensive and defensive measures to enable the effective employment of the Joint Force while degrading the opportunities of the enemy. Force protection does not include actions to defeat the enemy or protect against accidents, weather, or disease.

I

INTEGRATION: (n) 1. in force protection, the synchronized transfer of units into an operational commander's force prior to mission execution.

2. the arrangement of military forces and their actions to create a force that operates by engaging as a whole.

INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (ISR): (n) integrated capabilities to collect, process, exploit and disseminate accurate and timely information that provides the battlespace awareness necessary to successfully plan and conduct operations.

INTERTHEATER AIRLIFT: (n) The common-user airlift linking theaters to the continental United States and to other theaters as well as the airlift within the continental United States.

INTRATHEATER AIRLIFT: (n) airlift conducted within a theater. Assets assigned to a geographic combatant commander or attached to a subordinate joint force commander normally conduct intratheater airlift operations. Intratheater airlift provides air movement and delivery of personnel and equipment directly into objective areas through air landing, airdrop, extraction, or other delivery techniques as well as the air logistic support of all theater forces, including those engaged in combat operations, to meet specific theater objectives and requirements. During large-scale operations, U.S. Transportation Command assets may be tasked to augment intratheater airlift operations, and may be temporarily attached to a joint force commander.

J

JOINT FORCE AIR COMPONENT COMMANDER: (n) the joint force air component commander derives authority to execute air operations from the joint force commander who has the authority to exercise operational control, assign missions, direct coordination among subordinate commanders, and redirect and organize forces to ensure unity of effort in the accomplishment of the overall mission. Also known as the JFACC.

O

OBJECTIVE: (n) 1) the clearly defined, decisive, and attainable goals toward which every military operation should be directed. 2) the specific target of the action taken (for example, a definite terrain feature, the seizure or holding of which is essential to the commander's plan, or, an enemy force or capability without regard to terrain features). a specific statement of a desired end.

OFFENSIVE COUNTER SPACE: Operations to preclude an adversary from exploiting space to their advantage.

OODA Loop: (n) a theory developed by Col John Boyd (USAF, Ret.) contending that one can depict all rational human behavior, individual and organizational, as a continual cycling through four distinct tasks: observation, orientation, decision, and action.

OPERATIONAL ART: (n) the employment of military forces to attain strategic and/or operational objectives through the design, organization, integration, and conduct of strategies, campaigns, major operations, and battles. Operational art translates the joint force commander's strategy into operational design and, ultimately, tactical action, by integrating the key activities at all levels of war.

OPERATIONAL CONTROL: (n) command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority) and may be delegated within the command. When forces are transferred between combatant commands, the command relationship the gaining commander will exercise (and the losing commander will relinquish) over these forces must be specified by the Secretary of Defense. Operational control is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces

and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions; it does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit. *JT Pub 1-02.*

OPERATIONS SECURITY: (n) a process of identifying critical information and subsequently analyzing friendly actions attendant to military operations and other activities to: 1) identify those actions that can be observed by adversary intelligence systems; 2) determine indicators that hostile intelligence systems might obtain that could be interpreted or pieced together to derive critical information in time to be useful to adversaries; and 3) select and execute measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions to adversary exploitation. Also called OPSEC.

ORDER OF BATTLE: (n) the identification, strength, command structure, and disposition of the personnel, units, and equipment of any military force. Also called OB or OOB.

P

PARALLEL OPERATIONS: (n) describes the idea that air and space operations are most effective when they create effects that help achieve different levels of objectives at the same time. The notion of simultaneous attack is imbedded in the idea of parallel operations.

PERIGEE: (n) the point of minimum altitude above Earth (or the Moon, a planet, etc.) maintained by a body in elliptical orbit.

POLICY: (n) an official statement of intentions. It is, for the Air Force, directive in nature. Policy is the answer to the question, "What do we want to do?" Policy primarily outlines broad goals and may articulate certain procedures or objectives. Policy is not doctrine.

S

SORTIE: (n) an operational flight by one aircraft.

STRATEGIC ATTACK: (n) offensive action conducted by command authorities aimed at generating effects that most directly achieve our national security objectives by affecting an adversary's leadership, conflict sustaining resources, and/or strategy.

SUPPORTED COMMANDER: (n) 1. the commander having primary responsibility for all aspects of a task assigned by the Joint Strategic Capabilities Plan or other joint operation planning authority. In the context of joint operation planning, this term refers to the commander who prepares operation plans or operation orders in response to requirements of the Chairman of the Joint Chiefs of Staff. 2. in the context of a support command relationship, the commander who receives assistance from another commander's force or capabilities, and who is responsible for ensuring that the supporting commander understands the assistance required. *JT Pub 1-02.*

SUPPORTING COMMANDER: (n) 1. a commander who provides augmentation forces or other support to a supported commander or who develops a supporting plan. Includes the designated combatant commands and Defense agencies as appropriate. 2. in the context of a support command relationship, the commander who aids, protects, complements, or sustains another commander's force, and who is responsible for providing the assistance required by the supported commander. *JT Pub 1-02.*

SYNCHRONIZATION: (n) 1. the arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time. 2. in the intelligence context, application of intelligence sources and methods in concert with the operation plan.

SYNERGY: (n) the principle that different capabilities in combination create more powerful effects—exponential, not linear growth—than when used by themselves. Synergy from air, space and cyberspace power capabilities have the potential to create secondary, tertiary, and succeeding effects—often described as "cascading" effects. Each one of our core competencies results from the synergistic nature of air and space power.

T

TACTICAL CONTROL: (n) command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed direction and control of movements or maneuvers within the operational area necessary to accomplish missions

or tasks assigned. Tactical control is inherent in operational control. Tactical control may be delegated to, and exercised, at any level at or below the level of combatant command. When forces are transferred between combatant commands, the command relationship the gaining commander will exercise (and the losing commander will relinquish) over these forces must be specified by the Secretary of Defense. Tactical control provides sufficient authority for controlling and directing the application of force or tactical use of combat support assets within the assigned mission or task. Also called TACON. *JT Pub 1-02.*

TARGET: (n) 1) an area, complex, installation, force, equipment, capability, function, or behavior identified for possible action to support the commander's objectives, guidance, and intent. Targets fall into two general categories: planned and immediate. 2) in intelligence usage, a country, area, installation, agency, or person against which intelligence operations are directed. 3) an area designated and numbered for future firing. 4) in gunfire support usage, an impact burst that hits the target. Also called TGT.

TASK: (n or v) a discrete event or action, not specific to a single unit, weapon system, or individual, that enables a mission or function to be accomplished by individuals or organizations. The act of assigning responsibility to accomplish a task to an individual or unit.

TWO-PERSON CONCEPT: (n) prohibition of access by an individual to nuclear weapons and certain designated components without the presence at all times of at least two authorized persons, each capable of detecting an incorrect act or unauthorized procedure with respect to the task to be performed.

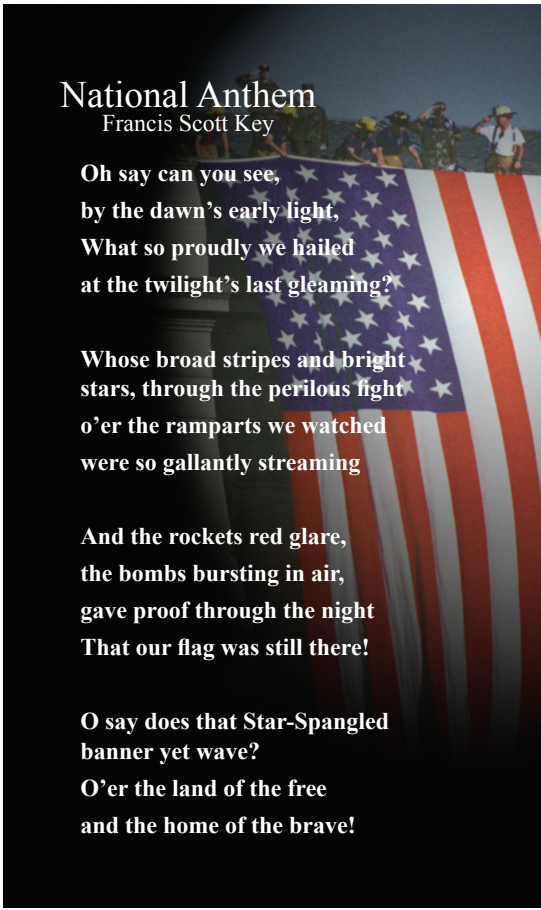
U

UNITY OF COMMAND: (n) the principle and practice of making a single person legally and morally responsible for a particular military activity or organization. In practice, unity of command helps ensure coherent, orchestrated purpose and action. The principle of unity of command, which puts all aerospace forces under a single Airman, is the principle that allows aerospace forces to mass effects at the strategic and operational levels.

Phonetic Alphabet

A.....	Alpha	O.....	Oscar
B.....	Bravo	P	Papa
C.....	Charlie	Q.....	Quebec
D.....	Delta		(Kay-beck)
E	Echo	R.....	Romeo
F	Foxtrot	S	Sierra
G.....	Golf	T	Tango
H.....	Hotel	U.....	Uniform
I	India	V.....	Victor
J.....	Juliet	W.....	Whiskey
K.....	Kilo	X.....	X-ray
L	Lima	Y.....	Yankee
M	Mike	Z	Zulu
N.....	November		

I Pledge Allegiance to the flag of the United States of America and to the Republic for which it stands, one Nation under God, indivisible, with liberty and justice for all.



National Anthem

Francis Scott Key

Oh say can you see,
by the dawn's early light,
What so proudly we hailed
at the twilight's last gleaming?

Whose broad stripes and bright
stars, through the perilous fight
o'er the ramparts we watched
were so gallantly streaming

And the rockets red glare,
the bombs bursting in air,
gave proof through the night
That our flag was still there!

O say does that Star-Spangled
banner yet wave?
O'er the land of the free
and the home of the brave!

The U.S. Air Force Hymn

Music by Henry Baker • Lyrics by Mary Hamilton

Lord, guard and guide the men who fly
Through the great spaces of the sky;
Be with them traversing the air
In darkening storms or sunshine fair

Thou who dost keep with tender might
The balanced birds in all their flight
Thou of the tempered winds be near
That, having thee, they know no fear

Control their minds with instinct fit
What time adventuring, they quit
The firm security of land;
Grant steadfast eye and skillful hand

Aloft in solitudes of space
Uphold them with Thy saving grace.
O God, protect the men who fly
Thru lonely ways beneath the sky.

The Air Force Song

Captain Robert Crawford

Off we go into the wild blue yonder,
Climbing high into the sun
Here they come zooming to meet our thunder
At'm boys, giv'r the gun!
Down we dive spouting our flame from under
Off with one helluva roar!
We live in fame or go down in flame
Hey! Nothing'll stop the U.S. Air Force!

•

Minds of men fashioned a crate of thunder
Sent it high into the blue;
Hands of men blasted the world asunder,
How they lived God only knew!
Souls of men dreaming of skies to conquer
Gave us wings, ever to soar.
With Scouts before and bombers galore,
Nothing can stop the U.S. Air Force!

•

Here's a toast to the host of those who
Love the vastness of the sky,
To a friend we send the message of his
Brother men who fly.
We drink to those who gave their all of old
Then down we roar to score the rainbow's
Pot of gold.

A toast to the host of the men we boast
The U.S. Air Force!
Off we go into the wild sky yonder
Keep the wings level and true
If you live to be a gray-haired wonder
Keep the nose out of the blue
Flying men, guarding our nations's borders
We'll be there, followed by more
In echelon, we'll carry on
Nothing can stop the U.S. Air Force!

History of the Air Force Song

The only official history of the Air Force Song can be found in a copy of a script which was used on radio station WRC broadcast on 23 Feb 1944. Captain Alf Heiburg, leader of the Army Air Corps Band, interviewed Captain Robert Crawford, composer of the "Army Air Corps Song," during this broadcast. Captain Crawford related the story, retold here:

In 1939, when he was a civilian pilot, Robert Crawford was asked by a friend to enter a song contest. While flying his plane to Philadelphia, he composed a simple tune. The next day he wrote lyrics that, when combined with the tune, became what was known as the "Army Air Corps Song." The United States Army Band made the first recordings of the song in 1939. It was later renamed the Army Air Forces Song, and eventually the Air Force Song.

HIGH FLIGHT

by Royal Canadian Pilot Officer
John Gillespie Magee, Jr.

Oh, I have slipped the surly bonds of earth
And danced the skies on
laughter-silvered wings;
Sunward I've climbed, and joined
the tumbling mirth of sun-split clouds
and done a hundred things
You have not dreamed of —
wheeled and soared and swung
High in the sunlit silence.
Hov'ring there,
I've chased the shouting wind along, and flung
My eager craft through footless halls of air.
Up, up the long, delirious, burning blue
I've topped the windswept heights
with easy grace
Where never lark, or even eagle flew.
And, while with silent, lifting mind I've trod
The high untrespassed sanctity of space,
Put out my hand, and touched the face
of God.