APPENDIX B
POTENTIAL TRANSIENT AIRCRAFT

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FACT SHEET

U.S. Air Force Fact Sheet

A-10 THUNDERBOLT II

Mission

The A-10 Thunderbolt II has excellent maneuverability at low air speeds and altitude, and is an highly accurate weapons-delivery platform. The aircraft can loiter near battle areas for extended periods of time and operate under 1,000-foot ceilings (303.3 meters) with 1.5-mile (2.4 kilometers) visibility. The wide combat radius and short takeoff and landing capability permit operations in and out of locations near front lines. Using night vision goggles, A-10 pilots can conduct their missions during darkness.

The Thunderbolt IIs have Night Vision Imaging Systems, or NVIS, goggle compatible single-seat cockpits forward of their wings and a large bubble canopy which provides pilots all-around vision. The pilots are protected by titanium armor that also protects parts of the flight-control system. The redundant primary structural sections allow the aircraft to enjoy better survivability during close air support than did previous aircraft.

The aircraft can survive direct hits from armor-piercing and high explosive projectiles up to 23mm. Their self-sealing fuel cells are protected by internal and external foam. Manual systems back up their redundant hydraulic flight-control systems. This permits pilots to fly and land when hydraulic power is lost.

The Thunderbolt II can be serviced and operated from bases with limited facilities near battle areas. Many of the aircraft's parts are interchangeable left and right, including the engines, main landing gear and vertical stabilizers.

Avionics equipment includes multi-band communications; Global Positioning System and inertial navigations systems; infrared and electronic countermeasures against air-to-air and air-to-surface threats. And, it has a Pave Penny laser spot tracker system; a heads-up display to display flight and weapons delivery information; and a low altitude safety and targeting enhancement system, which provides constantly computed impact and release points for accurate ordnance delivery. There is also a low-altitude autopilot and a ground collision avoidance system.

The A-10 is currently undergoing the precision engagement modification, which adds upgraded cockpit displays, moving map, hands on throttle and stick, digital stores management, LITENING and Sniper advanced targeting pod integration, situational awareness data link or SADL, variable message format, or VMF, GPS-guided weapons, and upgraded DC power. Precision engagement modified aircraft are designated as the A-10C.

The Thunderbolt II can employ a wide variety of conventional munitions, including general purpose bombs, cluster bomb units, laser guided bombs, joint direct attack munitions or JDAM), wind corrected munitions dispenser or WCMD, AGM-65 Maverick and AIM-9 Sidewinder

missiles, rockets, illumination flares, and the GAU-8/A 30mm cannon, capable of firing 3,900 rounds per minute to defeat a wide variety of targets including tanks.

Background
The first production A-10A was delivered to Davis-Monthan Air Force Base, Ariz., in October 1975. It was designed specially for the close air support mission and had the ability to combine large military loads, long loiter and wide combat radius, which proved to be vital assets to the United States and its allies during Operation Desert Storm and Operation Noble Anvil.

The upgraded A-10C reached initial operation capability in September 2007. Specifically designed for close air support, its combination of large and varied ordnance load, long loiter time, accurate weapons delivery, austere field capability, and survivability has proven invaluable to the United States and its allies. The aircraft has participated in operations Desert Storm, Southern Watch, Provide Comfort, Desert Fox, Noble Anvil, Deny Flight, Deliberate Guard, Allied Force, Enduring Freedom and Iraqi Freedom.

General Characteristics
Primary Function: A-10 -- close air support, A-10C - airborne forward air control
Contractor: Fairchild Republic Co.
Power Plant: Two General Electric TF34-GE-100 turbofans
Thrust: 9,065 pounds each engine
Wingspan: 57 feet, 6 inches (17.42 meters)
Length: 53 feet, 4 inches (16.16 meters)
Height: 14 feet, 8 inches (4.42 meters)
Weight: 29,000 pounds (13,154 kilograms)
Maximum Takeoff Weight: 51,000 pounds (22,950 kilograms)
Fuel Capacity: 11,000 pounds (7,257 kilograms)
Payload: 16,000 pounds (7,257 kilograms)
Speed: 420 miles per hour (Mach 0.56)
Range: 800 miles (695 nautical miles)
Ceiling: 45,000 feet (13,636 meters)
Armament: One 30 mm GAU-8/A seven-barrel Gatling gun; up to 16,000 pounds (7,200 kilograms) of mixed ordnance on eight under-wing and three under-fuselage pylon stations, including 500 pound (225 kilograms) Mk-82 and 2,000 pounds (900 kilograms) Mk-84 series low/high drag bombs, incendiary cluster bombs, combined effects munitions, mine dispensing munitions, AGM-65 Maverick missiles and laser-guided/electro-optically guided bombs; infrared countermeasure flares; electronic countermeasure chaff; jammer pods; 2.75-inch (6.99 centimeters) rockets; illumination flares and AIM-9 Sidewinder missiles.
Crew: One
Unit Cost: Not available
Initial operating capability: A-10A, 1977; A-10C, 2007
Inventory: Active force, A-10, 143 and A-10C, 70; Reserve, A-10, 46 and OA-10, 6; ANG, A-10, 84 and OA-10, 18

Point of Contact
Air Combat Command, Public Affairs Office; 130 Andrews St., Suite 202; Langley AFB, VA 23665-1987; DSN 574-5007 or 757-764-5007; e-mail: accpa.operations@langley.af.mil

FACT SHEET

U.S. Air Force Fact Sheet

B-1B LANCER

Mission

Carrying the largest payload of both guided and unguided weapons in the Air Force inventory, the multi-mission B-1 is the backbone of America's long-range bomber force. It can rapidly deliver massive quantities of precision and non-precision weapons against any adversary, anywhere in the world, at any time.

Features

The B-1B's blended wing/body configuration, variable-geometry wings and turbofan afterburning engines, combine to provide long range, maneuverability and high speed while enhancing survivability. Forward wing settings are used for takeoff, landings, air refueling and in some high-altitude weapons employment scenarios. Aft wing sweep settings - the main combat configuration -- are typically used during high subsonic and supersonic flight, enhancing the B-1B's maneuverability in the low- and high-altitude regimes. The B-1B's speed and superior handling characteristics allow it to seamlessly integrate in mixed force packages. These capabilities, when combined with its substantial payload, excellent radar targeting system, long loiter time and survivability, make the B-1B a key element of any joint/composite strike force.

The B-1 is a highly versatile, multi-mission weapon system. The B-1B's synthetic aperture radar is capable of tracking, targeting and engaging moving vehicles as well as self-targeting and terrain-following modes. In addition, an extremely accurate Global Positioning System-aided Inertial Navigation System enables aircrews to navigate without the aid of ground-based navigation aids as well as engage targets with a high level of precision. The Combat Track II radios provide a secure beyond line of sight reach back connectivity until Link-16 is integrated on the aircraft. In a time sensitive targeting environment, the aircrew can use targeting data from the Combined Air Operations Center over Combat Track II, then to strike emerging targets rapidly and efficiently. This capability was effectively demonstrated during operations Enduring Freedom and Iraqi Freedom.

The B-1B's onboard self-protection electronic jamming equipment, radar warning receiver (ALQ-161) and expendable countermeasures (chaff and flare) system and a towed decoy system (ALE-50) complements its low-radar cross-section to form an integrated, robust defense system that supports penetration of hostile airspace. The ALQ-161 electronic countermeasures system detects and identifies the full spectrum of adversary threat emitters then applies the appropriate jamming technique either automatically or through operator inputs.

Current modifications build on this foundation. Radar sustainability and capability upgrades will provide a more reliable system and may be upgraded in the future to include an ultra high-resolution capability and automatic target recognition. The addition of a fully integrated data link, or FIDL, will add Link-16 communications capability. FIDL combined with associated cockpit upgrades will provide the crew with a much more flexible, integrated cockpit, and will

allow the B-1 to operate in the fast-paced integrated battlefield of the future. Several obsolete and hard to maintain electronic systems are also being replaced to improve aircraft reliability.

Background
The B-1A was initially developed in the 1970s as a replacement for the B-52. Four prototypes of this long-range, high speed (Mach 2.2) strategic bomber were developed and tested in the mid-1970s, but the program was canceled in 1977 before going into production. Flight testing continued through 1981.

The B-1B is an improved variant initiated by the Reagan administration in 1981. Major changes included the addition of additional structure to increase payload by 74,000 pounds, an improved radar and reduction of the radar cross section by an order of magnitude. The inlet was extensively modified as part of this RCS reduction, necessitating a reduction in maximum speed to Mach 1.2.

The first production B-1 flew in October 1984, and the first B-1B was delivered to Dyess Air Force Base, Texas, in June 1985. Initial operational capability was achieved on Oct. 1, 1986. The final B-1B was delivered May 2, 1988.

The B-1B holds almost 50 world records for speed, payload, range, and time of climb in its class. The National Aeronautic Association recognized the B-1B for completing one of the 10 most memorable record flights for 1994. The most recent records were made official in 2004.

The B-1B was first used in combat in support of operations against Iraq during Operation Desert Fox in December 1998. In 1999, six B-1s were used in Operation Allied Force, delivering more than 20 percent of the total ordnance while flying less than 2 percent of the combat sorties.

During the first six months of Operation Enduring Freedom, eight B-1s dropped nearly 40 percent of the total tonnage delivered by coalition air forces. This included nearly 3,900 JDAMs, or 67 percent of the total. In Operation Iraqi Freedom, the aircraft has flown less 1 percent of the combat missions while delivering 43 percent of the JDAMs used. The B-1 continues to be deployed today, flying missions daily in suppport of continuing oerations.

General Characteristics
Primary Function: Long-range, multi-role, heavy bomber
Contractor: Boeing, North America (formerly Rockwell International, North American Aircraft); Offensive avionics, Boeing Military Airplane; defensive avionics, EDO Corporation
Power plant: Four General Electric F101-GE-102 turbofan engine with afterburner
Thrust: 30,000-plus pounds with afterburner, per engine
Wingspan: 137 feet (41.8 meters) extended forward, 79 feet (24.1 meters) swept aft
Length: 146 feet (44.5 meters)
Height: 34 feet (10.4 meters)
Weight: approximately 190,000 pounds (86,183 kilograms)
Maximum Takeoff Weight: 477,000 pounds (216,634 kilograms)
Fuel Capacity: 265,274 pounds (120,326 kilograms)
Payload: 75,000 pounds (34,019 kilograms)
Speed: 900-plus mph (Mach 1.2 at sea level)
Range: Intercontinental
Ceiling: More than 30,000 feet (9,144 meters)
Armament: 84 500-pound Mk-82 or 24 2,000-pound Mk-84 general purpose bombs; up to 84 500-pound Mk-62 or 8 2,000-pound Mk-65 Quick Strike naval mines; 30 cluster munitions (CBU-87, -89, -97) or 30 Wind-Corrected Munitions Dispensers (CBU-103, -104, -105); up to 24 2,000-pound GBU-31 or 15 500-pound GBU-38 Joint Direct Attack Munitions; up to 24 AGM-158A Joint Air-to-Surface Standoff Missiles
Crew: Four (aircraft commander, copilot, and two weapon systems officers)
Unit Cost: $283.1 million (fiscal 98 constant dollars)
Initial operating capability: October 1986
Inventory: Active force, 66 (test, 2); ANG, 0; Reserve, 0

Point of Contact

Air Combat Command, Public Affairs Office; 130 Andrews St., Suite 202; Langley AFB, VA 23665-1987; DSN 574-5007 or 757-764-5007; e-mail: accpa.operations@langley.af.mil

FACT SHEET

U.S. Air Force Fact Sheet

B-2 SPIRIT

Mission

The B-2 Spirit is a multi-role bomber capable of delivering both conventional and nuclear munitions. A dramatic leap forward in technology, the bomber represents a major milestone in the U.S. bomber modernization program. The B-2 brings massive firepower to bear, in a short time, anywhere on the globe through previously impenetrable defenses.

Features

Along with the B-52, the B-2 provides the penetrating flexibility and effectiveness inherent in manned bombers. Its low-observable, or "stealth," characteristics give it the unique ability to penetrate an enemy's most sophisticated defenses and threaten its most valued, and heavily defended, targets. Its capability to penetrate air defenses and threaten effective retaliation provides a strong, effective deterrent and combat force well into the 21st century.

The revolutionary blending of low-observable technologies with high aerodynamic efficiency and large payload gives the B-2 important advantages over existing bombers. Its low-observability provides it greater freedom of action at high altitudes, thus increasing its range and a better field of view for the aircraft's sensors. Its unrefueled range is approximately 6,000 nautical miles (9,600 kilometers).

The B-2's low observability is derived from a combination of reduced infrared, acoustic, electromagnetic, visual and radar signatures. These signatures make it difficult for the sophisticated defensive systems to detect, track and engage the B-2. Many aspects of the low-observability process remain classified; however, the B-2's composite materials, special coatings and flying-wing design all contribute to its "stealthiness."

The B-2 has a crew of two pilots, a pilot in the left seat and mission commander in the right, compared to the B-1B's crew of four and the B-52's crew of five.

Background

The first B-2 was publicly displayed on Nov. 22, 1988, when it was rolled out of its hangar at Air Force Plant 42, Palmdale, Calif. Its first flight was July 17, 1989. The B-2 Combined Test Force, Air Force Flight Test Center, Edwards Air Force Base, Calif., is responsible for flight testing the engineering, manufacturing and development aircraft on the B-2.

Whiteman AFB, Mo., is the only operational base for the B-2. The first aircraft, Spirit of Missouri, was delivered Dec. 17, 1993. Depot maintenance responsibility for the B-2 is performed by Air Force contractor support and is managed at the Oklahoma City Air Logistics Center at Tinker AFB, Okla.

The combat effectiveness of the B-2 was proved in Operation Allied Force, where it was responsible for destroying 33 percent of all Serbian targets in the first eight weeks, by flying

nonstop to Kosovo from its home base in Missouri and back. In support of Operation Enduring Freedom, the B-2 flew one of its longest missions to date from Whiteman to Afghanistan and back. The B-2 completed its first-ever combat deployment in support of Operation Iraqi Freedom, flying 22 sorties from a forward operating location as well as 27 sorties from Whiteman AFB and releasing more than 1.5 million pounds of munitions. The aircraft received full operational capability status in December 2003. On Feb. 1, 2009, the Air Force's newest command, Air Force Global Strike Command, assumed responsibility for the B-2 from Air Combat Command.

The prime contractor, responsible for overall system design and integration, is Northrop Grumman Integrated Systems Sector. Boeing Military Airplanes Co., Hughes Radar Systems Group, General Electric Aircraft Engine Group and Vought Aircraft Industries, Inc., are key members of the aircraft contractor team.

General Characteristics
Primary function: Multi-role heavy bomber
Contractor: Northrop Grumman Corp. and **Contractor Team:** Boeing Military Airplanes Co., Hughes Radar Systems Group, General Electric Aircraft Engine Group and Vought Aircraft Industries, Inc.
Power Plant: Four General Electric F118-GE-100 engines
Thrust: 17,300 pounds each engine
Wingspan: 172 feet (52.12 meters)
Length: 69 feet (20.9 meters)
Height: 17 feet (5.1 meters
Weight: 160,000 pounds (72,575 kilograms)
Maximum Takeoff Weight: 336,500 pounds (152,634 kilograms)
Fuel Capacity: 167,000 pounds (75750 kilograms)
Payload: 40,000 pounds (18,144 kilograms)
Speed: High subsonic
Range: Intercontinental
Ceiling: 50,000 feet (15,240 meters)
Armament: Conventional or nuclear weapons
Crew: Two pilots
Unit cost: Approximately $1.157 billion (fiscal 98 constant dollars)
Initial operating capability: April 1997
Inventory: Active force: 20 (1 test); ANG: 0; Reserve: 0

Point of Contact
Air Force Global Strike Command , Public Affairs Office; 245 Davis Ave. E, Room 240; Barksdale AFB, LA 71110; DSN 781-0854/0819; commercial 318-456-0854/0819; afgsc.pa@barksdale.af.mil.

FACT SHEET

U.S. Air Force Fact Sheet

B-52 STRATOFORTRESS

Mission

The B-52 is a long-range, heavy bomber that can perform a variety of missions. The bomber is capable of flying at high subsonic speeds at altitudes up to 50,000 feet (15,166.6 meters). It can carry nuclear or precision guided conventional ordnance with worldwide precision navigation capability.

Features

In a conventional conflict, the B-52 can perform strategic attack, close-air support, air interdiction, offensive counter-air and maritime operations. During Desert Storm, B-52s delivered 40 percent of all the weapons dropped by coalition forces. It is highly effective when used for ocean surveillance, and can assist the U.S. Navy in anti-ship and mine-laying operations. Two B-52s, in two hours, can monitor 140,000 square miles (364,000 square kilometers) of ocean surface.

All B-52s are equipped with two electro-optical viewing sensors, a forward-looking infrared and advanced targeting pods to augment targeting, battle assessment, and flight safety, thus further improving its combat ability.

Pilots wear night vision goggles, or NVG, to enhance their vision during night operations. Night vision goggles provide greater safety during night operations by increasing the pilot's ability to visually clear terrain, avoid enemy radar and see other aircraft in a lights-out environment.

Starting in 1989, on-going modifications incorporate the global positioning system, heavy stores adapter beams for carrying 2,000 pound munitions, and a full array of advance weapons currently under development.

The use of aerial refueling gives the B-52 a range limited only by crew endurance. It has an unrefueled combat range in excess of 8,800 miles (14,080 kilometers).

Background

For more than 40 years B-52 Stratofortresses have been the backbone of the manned strategic bomber force for the United States. The B-52 is capable of dropping or launching the widest array of weapons in the U.S. inventory. This includes gravity bombs, cluster bombs, precision guided missiles and joint direct attack munitions. Updated with modern technology the B-52 will be capable of delivering the full complement of joint developed weapons and will continue into the 21st century as an important element of our nation's defenses. Current engineering analyses show the B-52's life span to extend beyond the year 2040.

The B-52A first flew in 1954, and the B model entered service in 1955. A total of 744 B-52s were built with the last, a B-52H, delivered in October 1962. The first of 102 B-52H's was delivered to Strategic Air Command in May 1961. The H model can carry up to 20 air launched cruise missiles. In addition, it can carry the conventional cruise missile that was launched in

several contingencies during the 1990s, starting with Operation Desert Storm and culminating with Operation Iraqi Freedom.

The aircraft's flexibility was evident in Operation Desert Storm and again during Operations Allied Force. B-52s struck wide-area troop concentrations, fixed installations and bunkers, and decimated the morale of Iraq's Republican Guard. On Sept. 2 to 3, 1996, two B-52H's struck Baghdad power stations and communications facilities with 13 AGM-86C conventional air launched cruise missiles, or CALCMs, as part of Operation Desert Strike. This mission was the longest distance flown for a combat mission involving a 34-hour, 16,000 statute mile round trip from Barksdale Air Force Base, La.

In 2001, the B-52 contributed to the success in Operation Enduring Freedom, providing the ability to loiter high above the battlefield and provide close air support through the use of precision guided munitions.

The B-52 also played a role in Operation Iraqi Freedom. On March 21, 2003, B-52Hs launched approximately 100 CALCMs during a night mission.

Only the H model is still in the Air Force inventory and is assigned to the 5th Bomb Wing at Minot AFB, N.D. and the 2nd Bomb Wing at Barksdale AFB, La., which fall under Air Force Global Strike Command. The aircraft is also assigned to the Air Force Reserve Command's 917th Wing at Barksdale.

General Characteristics
Primary Function: Heavy bomber
Contractor: Boeing Military Airplane Co.
Power plant: Eight Pratt & Whitney engines TF33-P-3/103 turbofan
Thrust: Each engine up to 17,000 pounds
Wingspan: 185 feet (56.4 meters)
Length: 159 feet, 4 inches (48.5 meters)
Height: 40 feet, 8 inches (12.4 meters)
Weight: Approximately 185,000 pounds (83,250 kilograms)
Maximum Takeoff Weight: 488,000 pounds (219,600 kilograms)
Fuel Capacity: 312,197 pounds (141,610 kilograms)
Payload: 70,000 pounds (31,500 kilograms)
Speed: 650 miles per hour (Mach 0.86)
Range: 8,800 miles (7,652 nautical miles)
Ceiling: 50,000 feet (15,151.5 meters)
Armament: Approximately 70,000 pounds (31,500 kilograms) mixed ordnance -- bombs, mines and missiles. (Modified to carry air-launched cruise missiles)
Crew: Five (aircraft commander, pilot, radar navigator, navigator and electronic warfare officer
Unit Cost: $53.4 million (fiscal 98 constant dollars)
Initial operating capability: April 1952
Inventory: Active force, 85; ANG, 0; Reserve, 9

Point of Contact
Air Force Global Strike Command, Public Affairs Office; 245 Davis Ave. E
Room 230; Barksdale AFB, LA 71110; 318- 456-0854/0819; or DSN 781-0854/0819; e-mail: afgsc.pa@barksdale.af.mil

FACT SHEET

U.S. Air Force Fact Sheet

C-130 HERCULES

Mission

The C-130 Hercules primarily performs the tactical portion of the airlift mission. The aircraft is capable of operating from rough, dirt strips and is the prime transport for air dropping troops and equipment into hostile areas. The C-130 operates throughout the U.S. Air Force, serving with Air Mobility Command, Air Force Special Operations Command, Air Combat Command, U.S. Air Forces in Europe, Pacific Air Forces, Air National Guard and the Air Force Reserve Command, fulfilling a wide range of operational missions in both peace and war situations. Basic and specialized versions of the aircraft airframe perform a diverse number of roles, including airlift support, Antarctic ice resupply, aeromedical missions, weather reconnaissance, aerial spray missions, firefighting duties for the U.S. Forest Service and natural disaster relief missions.

Features

Using its aft loading ramp and door the C-130 can accommodate a wide variety of oversized cargo, including everything from utility helicopters and six-wheeled armored vehicles to standard palletized cargo and military personnel. In an aerial delivery role, it can airdrop loads up to 42,000 pounds or use its high-flotation landing gear to land and deliver cargo on rough, dirt strips.

The flexible design of the Hercules enables it to be configured for many different missions, allowing for one aircraft to perform the role of many. Much of the special mission equipment added to the Hercules is removable, allowing the aircraft to revert back to its cargo delivery role if desired. Additionally, the C-130 can be rapidly reconfigured for the various types of cargo such as palletized equipment, floor-loaded material, airdrop platforms, container delivery system bundles, vehicles and personnel or aeromedical evacuation.

The C-130J is the latest addition to the C-130 fleet and will replace aging C-130E's. The C-130J incorporates state-of-the-art technology to reduce manpower requirements, lower operating and support costs, and provides life-cycle cost savings over earlier C-130 models. Compared to older C-130s, the J model climbs faster and higher, flies farther at a higher cruise speed, and takes off and lands in a shorter distance. The C-130J-30 is a stretch version, adding 15 feet to fuselage, increasing usable space in the cargo compartment.

C-130J/J-30 major system improvements include: advanced two-pilot flight station with fully integrated digital avionics; color multifunctional liquid crystal displays and head-up displays; state-of-the-art navigation systems with dual inertial navigation system and global positioning system; fully integrated defensive systems; low-power color radar; digital moving map display; new turboprop engines with six-bladed, all-composite propellers; digital auto pilot; improved fuel, environmental and ice-protection systems; and an enhanced cargo-handling system.

Background
Four decades have elapsed since the Air Force issued its original design specification, yet the remarkable C-130 remains in production. The initial production model was the C-130A, with four Allison T56-A-11 or -9 turboprops. A total of 219 were ordered and deliveries began in December 1956. The C-130B introduced Allison T56-A-7 turboprops and the first of 134 entered Air Force service in May 1959.

Introduced in August of 1962, the 389 C-130E's that were ordered used the same Allison T56-A-7 engine, but added two 1,290 gallon external fuel tanks and an increased maximum takeoff weight capability. June 1974 introduced the first of 308 C-130H's with the more powerful Allison T56-A-15 turboprop engine. Nearly identical to the C-130E externally, the new engine brought major performance improvements to the aircraft.

The latest C-130 to be produced, the C-130J entered the inventory in February 1999. With the noticeable difference of a six-bladed composite propeller coupled to a Rolls-Royce AE2100D3 turboprop engine, the C-130J brings substantial performance improvements over all previous models, and has allowed the introduction of the C-130J-30, a stretch version with a 15-foot fuselage extension. To date, the Air Force has taken delivery of 68 C-130J aircraft from Lockheed Martin Aeronautics Company.

Active-duty locations for the C-130 and its variations are Dyess Air Force Base, Texas; Little Rock AFB, Ark.; Ramstein Air Base, Germany; and Yokota AB, Japan.

Air Force Reserve locations for assigned C-130 models are Dobbins Air Reserve Base, Ga.; Keesler AFB, Miss.; Maxwell AFB, Ala.; Minnesota-St. Paul Joint Air Reserve Station, Minn.; Niagara Falls ARS, N.Y.; Peterson AFB, Colo.; Pittsburgh ARS, Pa.; Pope AFB, N.C. and Youngstown ARS, Ohio.

Air National Guard locations for C-130 and its variations are Baltimore (Martin State Airport), Md.; Boise Air Terminal, Idaho; Joint Reserve Base Carswell, Texas; Channel Island Air National Guard Station, Calif.; Charlotte/Douglas International Airport, N.C.; Cheyenne Municipal Airport, Wyo.; Kulis Air National Guard Base , Alaska; Little Rock AFB, Ark.; Louisville IAP, Ky.; Munoz ANGB, Puerto Rico; Mansfield Lahm Airport, Ohio; Minnesota-St. Paul ARS, Minn.; Nashville IAP, Tenn.; New Castle County ANGB, Del; Greater Peoria Regional Airport, Ill.; Quonset State Airport, R.I.; Reno-Tahoe IAP, Nev.; Savannah IAP, Ga.; Schenectady MAP, N.Y.; Rosecrans Memorial Airport, Mo.; and Yeager Airport, W.V.

General Characteristics
Primary Function: Global airlift
Contractor: Lockheed Martin Aeronautics Company
Power Plant:
C-130E: Four Allison T56-A-7 turboprops; 4,200 prop shaft horsepower
C-130H: Four Allison T56-A-15 turboprops; 4,591prop shaft horsepower
C-130J: Four Rolls-Royce AE 2100D3 turboprops; 4,700 horsepower
Length: C-130E/H/J: 97 feet, 9 inches (29.3 meters)
C-130J-30: 112 feet, 9 inches (34.69 meters)
Height: 38 feet, 10 inches (11. 9 meters)
Wingspan: 132 feet, 7 inches (39.7 meters)
Cargo Compartment:
C-130E/H/J: length, 40 feet (12.31 meters); width, 119 inches (3.12 meters); height, 9 feet (2.74 meters). Rear ramp: length, 123 inches (3.12 meters); width, 119 inches (3.02 meters)
C-130J-30: length, 55 feet (16.9 meters); width, 119 inches (3.12 meters); height, 9 feet (2.74 meters). Rear ramp: length, 123 inches (3.12 meters); width, 119 inches (3.02 meters)
Speed:
C-130E: 345 mph/300 ktas (Mach 0.49) at 20,000 feet (6,060 meters)
C-130H: 366 mph/318 ktas (Mach 0.52) at 20,000 feet (6,060 meters)
C-130J: 417 mph/362 ktas (Mach 0.59) at 22,000 feet (6,706 meters)
C-130J-30: 410 mph/356 ktas (Mach 0.58) at 22,000 feet (6,706 meters)

Ceiling:
C-130J: 28,000 feet (8,615 meters) with 42,000 pounds (19,090 kilograms) payload
C-130J-30: 26,000 feet (8,000 meters) with 44,500 pounds (20,227 kilograms) payload.
C-130H: 23,000 feet (7,077 meters) with 42,000 pounds (19,090 kilograms) payload.
C-130E: 19,000 feet (5,846 meters) with 42,000 pounds (19,090 kilograms) payload
Maximum Takeoff Weight:
C-130E/H/J: 155,000 pounds (69,750 kilograms)
C-130J-30: 164,000 pounds (74,393 kilograms)
Maximum Allowable Payload:
C-130E, 42,000 pounds (19,090 kilograms)
C-130H, 42,000 pounds (19,090 kilograms)
C-130J, 42,000 pounds (19,090 kilograms)
C-130J-30, 44,000 (19,958 kilograms)
Maximum Normal Payload:
C-130E, 36,500 pounds (16,590 kilograms)
C-130H, 36,500 pounds (16,590 kilograms)
C-130J, 34,000 pounds (15,422 kilograms)
C-130J-30, 36,000 pounds (16,329 kilograms)
Range at Maximum Normal Payload:
C-130E, 1,150 miles (1,000 nautical miles)
C-130H, 1,208 miles (1,050 nautical miles)
C-130J, 2,071 miles (1,800 nautical miles)
C-130J-30, 1,956 miles (1,700 nautical miles)
Range with 35,000 pounds of Payload:
C-130E, 1,438 miles (1,250 nautical miles)
C-130H, 1,496 miles (1,300 nautical miles)
C-130J, 1,841 miles (1,600 nautical miles)
C-130J-30, 2,417 miles (2,100 nautical miles)
Maximum Load:
C-130E/H/J: 6 pallets or 74 litters or 16 CDS bundles or 92 combat troops or 64 paratroopers, or a combination of any of these up to the cargo compartment capacity or maximum allowable weight.
C-130J-30: 8 pallets or 97 litters or 24 CDS bundles or 128 combat troops or 92 paratroopers, or a combination of any of these up to the cargo compartment capacity or maximum allowable weight.
Crew: C-130E/H: Five (two pilots, navigator, flight engineer and loadmaster)
C-130J/J-30: Three (two pilots and loadmaster)
Aeromedical Evacuation Role: A basic crew of five (two flight nurses and three medical technicians) is added for aeromedical evacuation missions. Medical crew may be decreased or increased as required by the needs of patients.
Unit Cost: C-130E, $11.9, C-130H, $30.1, C-130J, $48.5 (FY 1998 constant dollars in millions)
Date Deployed: C-130A, Dec 1956; C-130B, May 1959; C-130E, Aug 1962; C-130H, Jun 1974; C-130J, Feb 1999
Inventory: Active force, 145; Air National Guard, 181; Air Force Reserve, 102

Point of Contact
Air Mobility Command, Public Affairs Office; 503 Ward Drive Ste 214, Scott AFB, IL 62225-5335, DSN 779-7821 or 618-229-7821.

FACT SHEET

U.S. Air Force Fact Sheet

F-15 EAGLE

Mission
The F-15 Eagle is an all-weather, extremely maneuverable, tactical fighter designed to permit the Air Force to gain and maintain air supremacy over the battlefield.

Features
The Eagle's air superiority is achieved through a mixture of unprecedented maneuverability and acceleration, range, weapons and avionics. It can penetrate enemy defense and outperform and outfight any current enemy aircraft. The F-15 has electronic systems and weaponry to detect, acquire, track and attack enemy aircraft while operating in friendly or enemy-controlled airspace. The weapons and flight control systems are designed so one person can safely and effectively perform air-to-air combat.

The F-15's superior maneuverability and acceleration are achieved through high engine thrust-to-weight ratio and low wing loading. Low wing-loading (the ratio of aircraft weight to its wing area) is a vital factor in maneuverability and, combined with the high thrust-to-weight ratio, enables the aircraft to turn tightly without losing airspeed.

A multimission avionics system sets the F-15 apart from other fighter aircraft. It includes a head-up display, advanced radar, inertial navigation system, flight instruments, ultrahigh frequency communications, tactical navigation system and instrument landing system. It also has an internally mounted, tactical electronic-warfare system, "identification friend or foe" system, electronic countermeasures set and a central digital computer.

The pilot's head-up display projects on the windscreen all essential flight information gathered by the integrated avionics system. This display, visible in any light condition, provides information necessary to track and destroy an enemy aircraft without having to look down at cockpit instruments.

The F-15's versatile pulse-Doppler radar system can look up at high-flying targets and down at low-flying targets without being confused by ground clutter. It can detect and track aircraft and small high-speed targets at distances beyond visual range down to close range, and at altitudes down to treetop level. The radar feeds target information into the central computer for effective weapons delivery. For close-in dogfights, the radar automatically acquires enemy aircraft, and this information is projected on the head-up display. The F-15's electronic warfare system provides both threat warning and automatic countermeasures against selected threats.

A variety of air-to-air weaponry can be carried by the F-15. An automated weapon system enables the pilot to perform aerial combat safely and effectively, using the head-up display and the avionics and weapons controls located on the engine throttles or control stick. When the pilot changes from one weapon system to another, visual guidance for the required weapon

automatically appears on the head-up display.

The Eagle can be armed with combinations of different air-to-air weapons: AIM-120 advanced medium range air-to-air missiles on its lower fuselage corners, AIM-9L/M Sidewinder or AIM-120 missiles on two pylons under the wings, and an internal 20mm Gatling gun in the right wing root.

The F-15E is a two-seat, dual-role, totally integrated fighter for all-weather, air-to-air and deep interdiction missions. The rear cockpit is upgraded to include four multi-purpose CRT displays for aircraft systems and weapons management. The digital, triple-redundant Lear Siegler flight control system permits coupled automatic terrain following, enhanced by a ring-laser gyro inertial navigation system.

For low-altitude, high-speed penetration and precision attack on tactical targets at night or in adverse weather, the F-15E carries a high-resolution APG-70 radar and low-altitude navigation and targeting infrared for night pods

Background
The first F-15A flight was made in July 1972, and the first flight of the two-seat F-15B (formerly TF-15A) trainer was made in July 1973. The first Eagle (F-15B) was delivered in November 1974. In January 1976, the first Eagle destined for a combat squadron was delivered.

The single-seat F-15C and two-seat F-15D models entered the Air Force inventory beginning in 1979. These new models have Production Eagle Package (PEP 2000) improvements, including 2,000 pounds (900 kilograms) of additional internal fuel, provision for carrying exterior conformal fuel tanks and increased maximum takeoff weight of up to 68,000 pounds (30,600 kilograms).

The F-15 Multistage Improvement Program was initiated in February 1983, with the first production MSIP F-15C produced in 1985. Improvements included an upgraded central computer; a Programmable Armament Control Set, allowing for advanced versions of the AIM-7, AIM-9, and AIM-120A missiles; and an expanded Tactical Electronic Warfare System that provides improvements to the ALR-56C radar warning receiver and ALQ-135 countermeasure set. The final 43 included a Hughes APG-70 radar.

F-15C, D and E models were deployed to the Persian Gulf in 1991 in support of Operation Desert Storm where they proved their superior combat capability. F-15C fighters accounted for 34 of the 37 Air Force air-to-air victories. F-15E's were operated mainly at night, hunting SCUD missile launchers and artillery sites using the LANTIRN system.

They have since been deployed for air expeditionary force deployments and operations Southern Watch (no-fly zone in Southern Iraq), Provide Comfort in Turkey, Allied Force in Bosnia, Enduring Freedom in Afghanistan and Iraqi Freedom in Iraq.

General Characteristics
Primary function: Tactical fighter
Contractor: McDonnell Douglas Corp.
Power plant: Two Pratt & Whitney F100-PW-100, 220 or 229 turbofan engines with afterburners
Thrust: (C/D models) 23,450 pounds each engine
Wingspan: 42.8 feet (13 meters)
Length: 63.8 feet (19.44 meters)
Height: 18.5 feet (5.6 meters)
Weight: 31,700 pounds
Maximum takeoff weight: (C/D models) 68,000 pounds (30,844 kilograms)
Fuel Capacity: 36,200 pounds (three external plus conformal fuel tanks)
Payload: depends on mission
Speed: 1,875 mph (Mach 2 class)
Ceiling: 65,000 feet (19,812 meters)
Range: 3,450 miles (3,000 nautical miles) ferry range with conformal fuel tanks and three

external fuel tanks
Crew: F-15A/C: one. F-15B/D/E: two
Armament: One internally mounted M-61A1 20mm 20-mm, six-barrel cannon with 940 rounds of ammunition; four AIM-9 Sidewinder and four AIM-120 AMRAAMs or eight AIM-120 AMRAAMs, carried externally.
Unit Cost: A/B models - $27.9 million (fiscal 98 constant dollars);**C/D models** - $29.9 million (fiscal 98 constant dollars)
Initial operating capability: September 1975
Inventory: Total force, 522

Point of Contact
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FACT SHEET

U.S. Air Force Fact Sheet

F-16 FIGHTING FALCON

Mission

The F-16 Fighting Falcon is a compact, multi-role fighter aircraft. It is highly maneuverable and has proven itself in air-to-air combat and air-to-surface attack. It provides a relatively low-cost, high-performance weapon system for the United States and allied nations.

Features

In an air combat role, the F-16's maneuverability and combat radius (distance it can fly to enter air combat, stay, fight and return) exceed that of all potential threat fighter aircraft. It can locate targets in all weather conditions and detect low flying aircraft in radar ground clutter. In an air-to-surface role, the F-16 can fly more than 500 miles (860 kilometers), deliver its weapons with superior accuracy, defend itself against enemy aircraft, and return to its starting point. An all-weather capability allows it to accurately deliver ordnance during non-visual bombing conditions.

In designing the F-16, advanced aerospace science and proven reliable systems from other aircraft such as the F-15 and F-111 were selected. These were combined to simplify the airplane and reduce its size, purchase price, maintenance costs and weight. The light weight of the fuselage is achieved without reducing its strength. With a full load of internal fuel, the F-16 can withstand up to nine G's -- nine times the force of gravity -- which exceeds the capability of other current fighter aircraft.

The cockpit and its bubble canopy give the pilot unobstructed forward and upward vision, and greatly improved vision over the side and to the rear. The seat-back angle was expanded from the usual 13 degrees to 30 degrees, increasing pilot comfort and gravity force tolerance. The pilot has excellent flight control of the F-16 through its "fly-by-wire" system. Electrical wires relay commands, replacing the usual cables and linkage controls. For easy and accurate control of the aircraft during high G-force combat maneuvers, a side stick controller is used instead of the conventional center-mounted stick. Hand pressure on the side stick controller sends electrical signals to actuators of flight control surfaces such as ailerons and rudder.

Avionics systems include a highly accurate enhanced global positioning and inertial navigation systems, or EGI, in which computers provide steering information to the pilot. The plane has UHF and VHF radios plus an instrument landing system. It also has a warning system and modular countermeasure pods to be used against airborne or surface electronic threats. The fuselage has space for additional avionics systems.

Background

The F-16A, a single-seat model, first flew in December 1976. The first operational F-16A was delivered in January 1979 to the 388th Tactical Fighter Wing at Hill Air Force Base, Utah.

The F-16B, a two-seat model, has tandem cockpits that are about the same size as the one in the A model. Its bubble canopy extends to cover the second cockpit. To make room for the second cockpit, the forward fuselage fuel tank and avionics growth space were reduced. During training, the forward cockpit is used by a student pilot with an instructor pilot in the rear cockpit.

All F-16s delivered since November 1981 have built-in structural and wiring provisions and systems architecture that permit expansion of the multirole flexibility to perform precision strike, night attack and beyond-visual-range interception missions. This improvement program led to the F-16C and F-16D aircraft, which are the single- and two-place counterparts to the F-16A/B, and incorporate the latest cockpit control and display technology. All active units and many Air National Guard and Air Force Reserve units have converted to the F-16C/D.

The F-16 was built under an unusual agreement creating a consortium between the United States and four NATO countries: Belgium, Denmark, the Netherlands and Norway. These countries jointly produced with the United States an initial 348 F-16s for their air forces. Final airframe assembly lines were located in Belgium and the Netherlands. The consortium's F-16s are assembled from components manufactured in all five countries. Belgium also provides final assembly of the F100 engine used in the European F-16s. Recently, Portugal joined the consortium. The long-term benefits of this program will be technology transfer among the nations producing the F-16, and a common-use aircraft for NATO nations. This program increases the supply and availability of repair parts in Europe and improves the F-16's combat readiness.

USAF F-16 multirole fighters were deployed to the Persian Gulf in 1991 in support of Operation Desert Storm, where more sorties were flown than with any other aircraft. These fighters were used to attack airfields, military production facilities, Scud missiles sites and a variety of other targets.

During Operation Allied Force, USAF F-16 multirole fighters flew a variety of missions to include suppression of enemy air defense, offensive counter air, defensive counter air, close air support and forward air controller missions. Mission results were outstanding as these fighters destroyed radar sites, vehicles, tanks, MiGs and buildings.

Since Sept. 11, 2001, the F-16 has been a major component of the combat forces committed to the Global War on Terrorism flying thousands of sorties in support of operations Noble Eagle (Homeland Defense), Enduring Freedom in Afghanistan and Iraqi Freedom

General Characteristics
Primary Function: Multirole fighter
Contractor: Lockheed Martin Corp.
Power Plant: F-16C/D: one Pratt and Whitney F100-PW-200/220/229 or General Electric F110-GE-100/129
Thrust: F-16C/D, 27,000 pounds
Wingspan: 32 feet, 8 inches (9.8 meters)
Length: 49 feet, 5 inches (14.8 meters)
Height: 16 feet (4.8 meters)
Weight: 19,700 pounds without fuel (8,936 kilograms)
Maximum Takeoff Weight: 37,500 pounds (16,875 kilograms)
Fuel Capacity: 7,000 pounds internal (3,175 kilograms); typical capacity, 12,000 pounds with two external tanks (5443 kilograms)
Payload: Two 2,000-pound bombs, two AIM-9 and 1,040-gallon external tanks
Speed: 1,500 mph (Mach 2 at altitude)
Range: More than 2,002 miles ferry range (1,740 nautical miles)
Ceiling: Above 50,000 feet (15 kilometers)
Armament: One M-61A1 20mm multibarrel cannon with 500 rounds; external stations can carry up to six air-to-air missiles, conventional air-to-air and air-to-surface munitions and electronic countermeasure pods
Crew: F-16C, one; F-16D, one or two
Unit cost: F-16A/B , $14.6 million (fiscal 98 constant dollars); **F-16C/D,**$18.8 million (fiscal 98

constant dollars)
Initial operating capability: F-16A, January 1979; F-16C/D Block 25-32, 1981; F-16C/D Block 40-42, 1989; and F-16C/D Block 50-52, 1994
Inventory: Total force, F-16C/D, 1,280

Point of Contact
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FACT SHEET

U.S. Air Force Fact Sheet

F-22 RAPTOR

Mission

The F-22 Raptor is the Air Force's newest fighter aircraft. Its combination of stealth, supercruise, maneuverability, and integrated avionics, coupled with improved supportability, represents an exponential leap in warfighting capabilities. The Raptor performs both air-to-air and air-to-ground missions allowing full realization of operational concepts vital to the 21st century Air Force.

The F-22, a critical component of the Global Strike Task Force, is designed to project air dominance, rapidly and at great distances and defeat threats attempting to deny access to our nation's Air Force, Army, Navy and Marine Corps. The F-22 cannot be matched by any known or projected fighter aircraft.

Features

A combination of sensor capability, integrated avionics, situational awareness, and weapons provides first-kill opportunity against threats. The F-22 possesses a sophisticated sensor suite allowing the pilot to track, identify, shoot and kill air-to-air threats before being detected. Significant advances in cockpit design and sensor fusion improve the pilot's situational awareness. In the air-to-air configuration the Raptor carries six AIM-120 AMRAAMs and two AIM-9 Sidewinders.

The F-22 has a significant capability to attack surface targets. In the air-to-ground configuration the aircraft can carry two 1,000-pound GBU-32 Joint Direct Attack Munitions internally and will use on-board avionics for navigation and weapons delivery support. In the future air-to-ground capability will be enhanced with the addition of an upgraded radar and up to eight small diameter bombs. The Raptor will also carry two AIM-120s and two AIM-9s in the air-to-ground configuration.

Advances in low-observable technologies provide significantly improved survivability and lethality against air-to-air and surface-to-air threats. The F-22 brings stealth into the day, enabling it not only to protect itself but other assets.

The F-22 engines produce more thrust than any current fighter engine. The combination of sleek aerodynamic design and increased thrust allows the F-22 to cruise at supersonic airspeeds (greater than 1.5 Mach) without using afterburner -- a characteristic known as supercruise. Supercruise greatly expands the F-22 's operating envelope in both speed and range over current fighters, which must use fuel-consuming afterburner to operate at supersonic speeds.

The sophisticated F-22 aerodesign, advanced flight controls, thrust vectoring, and high thrust-to-weight ratio provide the capability to outmaneuver all current and projected aircraft. The F-22 design has been extensively tested and refined aerodynamically during the development

process.

The F-22's characteristics provide a synergistic effect ensuring F-22A lethality against all advanced air threats. The combination of stealth, integrated avionics and supercruise drastically shrinks surface-to-air missile engagement envelopes and minimizes enemy capabilities to track and engage the F-22 . The combination of reduced observability and supercruise accentuates the advantage of surprise in a tactical environment.

The F-22 will have better reliability and maintainability than any fighter aircraft in history. Increased F-22 reliability and maintainability pays off in less manpower required to fix the aircraft and the ability to operate more efficiently.

Background
The Advanced Tactical Fighter entered the Demonstration and Validation phase in 1986. The prototype aircraft (YF-22 and YF-23) both completed their first flights in late 1990. Ultimately the YF-22 was selected as best of the two and the engineering and manufacturing development effort began in 1991 with development contracts to Lockheed/Boeing (airframe) and Pratt & Whitney (engines). EMD included extensive subsystem and system testing as well as flight testing with nine aircraft at Edwards Air Force Base, Calif. The first EMD flight was in 1997 and at the completion of its flight test life this aircraft was used for live-fire testing.

The program received approval to enter low rate initial production in 2001. Initial operational and test evaluation by the Air Force Operational Test and Evaluation Center was successfully completed in 2004. Based on maturity of design and other factors the program received approval for full rate production in 2005. Air Education and Training Command, Air Combat Command and Pacific Air Forces are the primary Air Force organizations flying the F-22. The aircraft designation was the F/A-22 for a short time before being renamed F-22A in December 2005.

General Characteristics
Primary Function: Air dominance, multi-role fighter
Contractor: Lockheed-Martin, Boeing
Power Plant: Two Pratt & Whitney F119-PW-100 turbofan engines with afterburners and two-dimensional thrust vectoring nozzles.
Thrust: 35,000-pound class (each engine)
Wingspan: 44 feet, 6 inches (13.6 meters)
Length: 62 feet, 1 inch (18.9 meters)
Height: 16 feet, 8 inches (5.1 meters)
Weight: 43,340 pounds (19,700 kilograms)
Maximum Takeoff Weight: 83,500 pounds (38,000 kilograms)
Fuel Capacity: Internal: 18,000 pounds (8,200 kilograms); with 2 external wing fuel tanks: 26,000 pounds (11,900 kilograms)
Payload: Same as armament air-to-air or air-to-ground loadouts; with or without 2 external wing fuel tanks.
Speed: Mach 2 class with supercruise capability
Range: More than 1,850 miles ferry range with 2 external wing fuel tanks (1,600 nautical miles)
Ceiling: Above 50,000 feet (15 kilometers)
Armament: One M61A2 20-millimeter cannon with 480 rounds, internal side weapon bays carriage of two AIM-9 infrared (heat seeking) air-to-air missiles and internal main weapon bays carriage of six AIM-120 radar-guided air-to-air missiles (air-to-air loadout) or two 1,000-pound GBU-32 JDAMs and two AIM-120 radar-guided air-to-air missiles (air-to-ground loadout)
Crew: One
Unit Cost: $143 million
Initial operating capability: December 2005
Inventory: Total force, 137

Point of Contact
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