



# UNITED STATES AIR FORCE

MECHANICAL CAREERS



DIGITAL EDITION

# SPECIALIZED SKILLS

The Air Force flies thousands of missions around the world each day and also uses a vast array of vehicles to meet its global mission. To maintain its fleet of aircraft and vehicles, the Air Force relies on Airmen with specialized mechanical skills to perform critical work on anything from engines and transmissions to airframes and flight control systems.

Their skills are also needed to help keep bases operating at peak performance. Buildings, infrastructure and utilities all require experts to ensure the safety and welfare of personnel.

When you choose a mechanical career in the Air Force, you'll receive extensive training and experience on some of the most sophisticated equipment in the world.

## AEROSPACE GROUND EQUIPMENT

For every hour a plane spends in the air, it spends dozens of hours on the ground being maintained and prepped. Aerospace Ground Equipment specialists maintain the equipment that supplies electricity as well as hydraulic pressure and air pressure, as planes undergo maintenance.





## **AEROSPACE PROPULSION**

It's the job of Aerospace Propulsion specialists to keep Air Force aircraft engines in first-rate operational condition. Work includes diagnosing problems in the engine systems, removing and installing new components and performing tests using sophisticated engine test equipment.

## **AIR TRANSPORTATION**

From food, water and medical supplies to aircraft and heavy equipment, the Air Force transports cargo of all sizes to locations around the world. Air Transportation specialists are responsible for securely packing that cargo so it can be loaded and transported safely and quickly.

## **AIRCRAFT ARMAMENT SYSTEMS**

As a pilot locks on an enemy target, arms a missile and fires, it's the work of the highly trained Aircraft Armament Systems specialist that helps make the mission a success. From testing and evaluating new weapons systems to inspecting, repairing and loading ordnance, these specialists make sure all systems are go.

## **AIRCRAFT ELECTRICAL AND ENVIRONMENTAL SYSTEMS**

Every aircraft in the Air Force is loaded with miles of wire and thousands of sensors, dials, switches and indicators. Aircraft Electrical and Environmental Systems specialists maintain and repair everything from the cockpit instrument panel and ejection seat to the weapons system cooling equipment.

## **AIRCRAFT FUEL SYSTEMS**

Aircraft fuel systems are extremely complex with valves, connectors, lines, gauges, controls, pumps and other attachments. It takes Aircraft Fuel Systems specialists to maintain, trouble shoot and repair them. Duties also include installing and modifying aircraft fuel systems.

## **AIRCRAFT HYDRAULIC SYSTEMS**

Aircraft Hydraulic Systems specialists are experts in everything dealing with hydraulic and pneumatic systems including landing gear, brakes, flight controls, weapons and cargo door systems.







## **AIRCRAFT METALS TECHNOLOGY**

From the airframe and cockpit to the engine and landing gear, Air Force aircraft are comprised of a sophisticated combination of metals and alloys. Aircraft Metals Technology specialists are essential for designing, welding, fabricating and precision tool cutting operations to keep our aircraft flying.

## **AIRCRAFT STRUCTURAL MAINTENANCE**

When a plane is grounded due to physical damage, it's the job of Aircraft Structural Maintenance specialists to get it repaired and back in the air. This could mean installing a replacement part or building a replacement from scratch using welding, metalworking tools and everything from steel to synthetic polymers.

## **AIRCREW EGRESS SYSTEMS**

If a pilot has to eject from an aircraft, the emergency escape (egress) system is his or her lifeline. Aircrew Egress Systems specialists learn every aspect of the system from fixing the lap belts to replacing the explosive charges that blast the canopy and launch the pilot's flight seat.

## **CREW FLIGHT EQUIPMENT**

Aircrew Flight Equipment specialists are in charge of ensuring all flight equipment is in perfect working order — from flight helmets and oxygen masks to parachutes and flotation devices. They're also responsible for ensuring all aircrews are weapons-qualified and prepared to deploy.

## **AIRFIELD MANAGEMENT**

Since Air Force aircraft must be able to launch at a moment's notice, Airfield Management specialists must ensure runways are safe and well maintained at all times. They also respond to ground emergencies and communicate hazards to pilots.

## **AIRLIFT/SPECIAL MISSION AIRCRAFT MAINTENANCE**

Aircraft such as the C-17 Globemaster III, C-130 Hercules and C-5 Galaxy are the backbone heavy lifters of the Air Force. It's the job of Airlift/Special Mission Aircraft Maintenance specialists to make sure these aircraft are operationally ready at all times.





## **BIOMEDICAL EQUIPMENT**

All high-tech medical equipment requires extensive and precise maintenance support. Biomedical Equipment specialists are trained to operate, inspect and maintain a variety of medical devices and systems used in all Air Force medical facilities and deployed locations.

## **CABLE AND ANTENNA SYSTEMS**

Cable and Antenna Systems specialists ensure Air Force communications systems are functioning clearly and securely. They're trained to install and maintain a variety of equipment.

## **ELECTRICAL POWER PRODUCTION**

To sustain its operational readiness, the Air Force needs electric power 24/7. From backup generators to power production stations, Electrical Power Production specialists ensure power is always available wherever and whenever needed.

## **EXPLOSIVE ORDNANCE DISPOSAL**

Explosive Ordnance Disposal Airmen are known as the Air Force's bomb squad. They're called upon to safely handle live explosives including conventional military ordnance, criminal and terrorist homemade items, and chemical, biological and nuclear weapons.

## **FUELS**

Fuels specialists make sure our aircraft and vehicles have the fuel they need to successfully operate and complete their missions. Duties include receiving, storing and tracking all petroleum products.

## **GROUND TRANSPORTATION**

Ground Transportation specialists coordinate and manage all aspects of ground transportation —from planning routes and dispatching vehicles to driving utility trucks, buses and 18-wheelers. They also participate in convoy operations and movements of supplies, munitions and expeditionary forces.

## **HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION**

Air Force bases are located in all sorts of climatic conditions ranging from 100-plus degree heat to sub-zero temperatures. Heating, Ventilation, Air Conditioning and Refrigeration specialists help keep personnel and equipment safe from extreme temperatures by installing, maintaining, repairing and operating HVAC systems.

## **HELICOPTER/TILTROTOR AIRCRAFT MAINTENANCE**

From rescue operations to landing special forces behind enemy lines, helicopters play a large role in today's Air Force mission. Helicopter Maintenance specialists repair, maintain and perform operational checks of all systems such as the rotor, transmission and drive, landing gear, fuel, hydraulic and electrical components.



## **LOW OBSERVABLE AIRCRAFT STRUCTURAL MAINTENANCE**

Our stealth fighter and bomber aircraft need to fly their missions completely undetected. Low Observable Aircraft Structural Maintenance specialists ensure that happens by maintaining and repairing the aircraft using unique metals and materials that create the stealth effect.

## **MISSION GENERATION VEHICULAR EQUIPMENT MAINTENANCE**

The Air Force has thousands of vehicles in all sizes that require the expertise of Mission Generation Vehicular Equipment Maintenance specialists. They work on everything from forklifts and dump trucks to cranes and snow removal equipment with gas or diesel engines.

## **MUNITIONS SYSTEMS**

Loading an A-10 Thunderbolt with 30mm high-explosive incendiary rounds or assembling bombs for the B-2 Spirit stealth bomber are all in a day's work for Munitions Systems specialists. They work with the most advanced munitions in the world.



## **NONDESTRUCTIVE INSPECTION**

Nondestructive Inspection specialists use X-rays and ultrasound to inspect jets, missiles, ground vehicles, structures and more. They're proficient in identifying metals, detecting metal flaws, radiological safety and radiation monitoring procedures, and interpreting technical orders and directives.

## **NUCLEAR WEAPONS**

From warheads to bomb racks, Nuclear Weapons specialists inspect, maintain, repair, modify and test every part of the Air Force nuclear arsenal. They're trained on the air launch cruise missile, short-range attack missile and various gravity weapons systems.

## **PAVEMENTS AND CONSTRUCTION EQUIPMENT**

When the Air Force needs a runway, buildings or security fence constructed it relies on Pavements and Construction Equipment specialists to get the job done. They can operate heavy construction equipment including dump trucks, bulldozers and backhoes, as well as operate tractor-trailer rigs to transport construction equipment and materials.

## **REFUEL/BOMBER AIRCRAFT MAINTENANCE**

Refuel/Bomber Aircraft Maintenance specialists make sure the KC-135 Stratotanker and KC-10 Extender are able to provide aerial refueling support and bombers such as the B-1B Lancer and B-2 Spirit can deliver their arsenal over enemy targets.



## **REMOTELY PILOTED AIRCRAFT MAINTENANCE**

Remotely piloted aircraft play a vital role in intelligence gathering, surveillance, reconnaissance, close air support, combat search and rescue, and precision air strikes. Remotely Piloted Aircraft Maintenance specialists conduct scheduled inspections, functional checks and preventive maintenance on the aircraft and installed equipment.

## **SCIENTIFIC APPLICATIONS**

If an adversary uses any kind of weapon of mass destruction, Scientific Applications specialists can detect, gather, analyze and report on clues using a host of classified techniques and tools. The information is used to help shape U.S. policies and responses to nuclear proliferation.

## **SPECIAL MISSIONS AVIATION**

Manning the guns on HH-60 Pave Hawk helicopter and AC-130 Gunship is the responsibility of Special Missions Aviation specialists. They ensure the safety of passengers and equipment and are trained in weapon operations, weapon repair, night vision goggle use and combat techniques.





## **STRUCTURAL**

Structural specialists master the skills and tools associated with masonry, wood, metal, tile and welding equipment. They work closely with engineers to help build structures according to blueprints, building plans and other directives.

## **TACTICAL AIRCRAFT MAINTENANCE**

The F-35 Lightning II and F-22 Raptor are two of the most feared fighter aircraft in the world. With integrated avionics and sophisticated weapons capabilities their lethal firepower is unmatched. Tactical Aircraft Maintenance specialists maintain and repair all parts of these and other fighter aircraft and perform general mechanical work.

## **WATER AND FUEL SYSTEMS MAINTENANCE**

The Air Force uses water and highly flammable liquids that require precision handling by Water and Fuel Systems Maintenance specialists. They ensure everything that's used for storing, distributing and dispensing is operational and safe.



# READY FOR YOU

If you're ready to roll up your sleeves and use your mechanical skills in the Air Force, then we're ready for you. Contact your local Air Force recruiter or call **1-800-423-USAF**. Also visit **AIRFORCE.COM**.



**U.S. AIR FORCE**

# AIM HIGH

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