

Aerospace Careers: Aviation Maintenance Technician

A Career as an Aviation Maintenance Technician

Introduction

To keep aircraft in peak operating condition, aviation maintenance technicians and aircraft mechanics perform scheduled maintenance for each individual aircraft, troubleshoot problems, make repairs, and complete inspections required by the [Federal Aviation Administration \(FAA\)](#). The FAA is responsible for certification, regulation and compliance in assuring aviation safety. Any person involved in operating or maintaining an aircraft must hold an FAA certificate.



Aircraft mechanics may work on one or many different types of aircraft, such as jets, propeller-driven airplanes, and helicopters. Some mechanics may specialize in one section of a particular type of aircraft, such as the airframe, engine, hydraulic, or electrical system. In small repair shops, mechanics usually work on many types of aircraft. In larger shops, they are more likely to specialize in a particular area. Avionics systems are now an integral part of aircraft design and have vastly increased aircraft capability. As technology advances, mechanics (authorized to work on electronics and avionics) spend an increasing amount of time repairing electronic systems, such as computerized controls. Mechanics also may be required to analyze and develop solutions to complex electronic problems.

Many aircraft mechanics, also called airframe, powerplant, or avionics technicians, specialize in preventive maintenance. They inspect engines (powerplants), landing gear, instruments, brakes, valves, pumps, and other parts of the aircraft, and perform the necessary maintenance and replacement of parts. Inspections may occur after the aircraft has flown a certain number of hours, a specific number of calendar days since the last inspection, cycles of operation, or a combination of these factors. Large, sophisticated planes are equipped with aircraft monitoring systems, consisting of electronic boxes and consoles that monitor the aircraft's basic operations and provide valuable diagnostic information to the mechanic.

To examine an engine, aircraft mechanics work through specially designed openings while standing on ladders or scaffolds, or use hoists or lifts to remove the entire engine from the craft. After taking an engine apart, mechanics use precision instruments to measure parts for wear and use x-ray and magnetic inspection equipment to check for invisible cracks. Worn or defective parts are repaired or replaced. Mechanics may also repair sheet metal or composite surfaces, measure the tension of control cables, and check for corrosion, distortion, and cracks in the fuselage, wings, and tail. After completing all repairs, they must test the equipment to ensure that it works properly.

Mechanics specializing in repair work rely on the pilot's description of a problem to find and fix

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faulty equipment. For example, during a preflight check, a pilot may discover that the aircraft's fuel gauge does not work. To solve the problem, mechanics may troubleshoot the electrical system, using electrical test equipment to make sure that no wires are broken or shorted out, and replace any defective electrical or electronic components.

Education and training:

Although a few people become mechanics through on-the-job training, most learn the skills needed to do their jobs in 1 of about 170 Aviation Maintenance Technician schools certified by the FAA. By law, FAA standards require that certified mechanic schools offer students a minimum of 1,900 class-hours. Coursework in schools normally lasts from 12 to 24 months and provides training with the tools and equipment used on the job. About one-third of these schools award 2-year and 4-year degrees in avionics, aviation technology, or aviation maintenance management.



Aircraft trade schools are placing more emphasis on technologies such as turbine engines, composite materials, and aviation electronics, which are increasingly being used in the construction of new aircraft. Technological advances have also affected aircraft maintenance, meaning mechanics must have an especially strong background in computers and electronics to get or keep jobs in this field.

Courses in mathematics, physics, chemistry, electronics, computer science, and mechanical drawing are helpful because they demonstrate many of the principles involved in the operation of aircraft, and knowledge of these principles is often necessary to make repairs. Courses that develop writing skills also are important because mechanics are often required to submit reports. Mechanics must be able to read, write, and understand English.

A few mechanics are trained on the job by experienced mechanics. Their work must be supervised and documented by certified mechanics until they have FAA certificates.

Links to more Reference Information click below:

http://www.avscholars.com/Aircraft_Mechanic/aviation_maintenance_job_description.htm

<http://www.bls.gov/oco/ocos179.htm>

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