Aircraft Mechanics and Service Technicians

SOC Code 49-3011 • Projected Growth (2020) 0 %

Description

What Aircraft Mechanics and Service Technicians Do

Aircraft and avionics equipment mechanics and technicians repair and perform scheduled maintenance on airplanes and helicopters. They also inspect airplanes and helicopters as required by the Federal Aviation Administration (FAA).

Duties

- Examine aircraft frames and parts for defects
- Diagnose mechanical or electrical problems
- Measure parts for wear, using precision instruments
- Read maintenance manuals to identify methods of repair
- Repair wings, brakes, electrical systems, and other aircraft components
- Replace defective parts, using handtools
- Test aircraft parts with gauges and other diagnostic equipment
- Inspect completed work to ensure that it meets performance standards
- Keep records of maintenance and repair work

Training Opportunities Linked to Those Jobs

(Degree Types and Colleges/Universities)

How to Become an Aircraft Mechanic and Service Technician

Aircraft mechanics and avionic technicians must be certified by the Federal Aviation Administration (FAA). Most mechanics learn their trade at an FAA-Approved Aviation Maintenance Technician School.

Education and Training

Most mechanics and technicians learn their trade at an FAA-Approved Aviation Maintenance Technician School. Coursework normally lasts 18 to 24 months and provides training with the tools and equipment used on the job.

About one-third of these schools award 2- or 4-year degrees in avionics, aviation technology, or aviation maintenance management. Increasingly, employers are looking more favorably on those with a bachelor's degree.

Aircraft trade schools are placing more emphasis on technologies being used in new airplanes, such as turbine engines, composite materials, and aviation electronics. These technical advances require mechanics to have stronger backgrounds in composite materials and electronics.

Courses in mathematics, physics, chemical engineering, electronics, computer science, and mechanical drawing are helpful because they teach the principles involved in operating an airplane. Mechanics often need this knowledge to figure out what is wrong and how to fix it.

Courses that develop writing, communication, and management skills are important for mechanics who want to move into senior positions.

Certification

The FAA requires that aircraft maintenance be done by certified mechanics or under the supervision of a supervised mechanic. The FAA offers separate certifications for airframe mechanics and engine mechanics, but most airlines prefer to hire mechanics with a combined Airframe and Powerplant (A&P) certificate.

To qualify, mechanics must be at least 18 years of age, be fluent in English, and have 30 months of experience working on airframes and engines. However, completion of a program at an FAA-Approved Aviation Maintenance Technician School can substitute for the experience requirement.

In addition to having experience or formal training, applicants must pass written, oral, and practical exams that demonstrate required skills. Candidates take the written tests on a computer at one of many designated testing facilities around the world. An FAA Designated Mechanic Examiner gives the oral and practical tests. To get the certification, candidates must pass all the tests within two years.

To keep their certification, mechanics must do an inspection or repair every 90 days and attend a refresher course every 24 months. To fulfill this requirement, mechanics take classes from their employer or an airplane manufacturer.

The FAA allows certified airframe mechanics to work on avionics equipment. Although there is no avionic-specific certification, avionic technicians must have the required training and tools. Many avionics technicians gain the necessary experience from military training, from a technical school, or by working for an avionics manufacturer. Avionics technicians who work on communications equipment must have a restricted radio-telephone operator license from the Federal Communications Commission (FCC).

Advancement

As aircraft mechanics gain experience, they may advance to lead mechanic, lead inspector, or shop supervisor. Opportunities are best for those who have an aircraft inspector's authorization. To get an inspector's authorization, a mechanic must have held an A&P certificate for at least 3 years, with 24 months of hands-on experience.

In addition, as a bachelor’s degree has become increasingly important for career advancement, some mechanics continue their education.

Mechanics with broad experience in maintenance and repair might become inspectors with the FAA.

With additional business and management training, some may open their own maintenance facility.

Traditionally, mechanics have advanced from general aviation jobs to airline jobs. Because salaries are similar between general aviation and airline companies, however, mechanics also should consider the work environment as they search for jobs. Although airline jobs come with standby travel perks, these mechanics often have to work outside, whereas mechanics at corporations or repair shops often work in climate-controlled buildings.

Important Qualities

***Agility*.** Mechanics should be able to climb on airplanes, balance, and reach with no fear of heights.

***Detail oriented*.** Mechanics should be able to adjust airplane parts to exact specifications. For example, mechanics often use precision tools to tighten wheel bolts to an exact tension.

***Manual dexterity*.** Mechanics should be able to precisely coordinate the movement of their fingers and hands to grasp, manipulate, or assemble parts.

***Technical skills*.** Mechanics should be able to interpret engine noises, gauges, dials, and other technical instruments to determine whether a plane’s mechanical systems are working properly.

***Troubleshooting skills*.** Mechanics should be able to diagnose complex problems and evaluate options to correct those problems.

Postsecondary Education

Texas Southmost College	South Texas College	Texas State Technical College	The University of Texas at Brownsville	The University of Texas – Pan American
		Certificate of Completion in Aviation Maintenance Technology - Airframe		
		Certificate of Completion in Aviation Maintenance Technology - Powerplant		
		Associates of Applied Science in Aviation Maintenance Technology		

Local Employers

Brownsville Air Ctr	Brownsville		Southwest Airlines CO	Harlingen
Continental Express	Harlingen		Taylor Craft Aviation	Brownsville
Gulf Aviation	Harlingen		Valley International Airport	Harlingen

Career Options
(Specific Job Types)

- Aircraft Mechanic
- Aircraft Maintenance Technician
- Aircraft Technician
- Aircraft Restorer
- Aviation Maintenance Technician
- Aircraft Maintenance Supervisor
- Aircraft Maintenance Director
- Helicopter Mechanic

Salary Ranges

Wages for **Aircraft Mechanics and Service Technicians**

Location	Pay Period	2012				
		10%	25%	Median	75%	90%
United States	Hourly	$16.92	$21.96	$26.55	$31.61	$36.86
	Yearly	$35,200	$45,700	$55,200	$65,700	$76,700
Texas	Hourly	$16.62	$21.08	$25.44	$29.67	$39.89
	Yearly	$34,600	$43,800	$52,900	$61,700	$83,000
Brownsville-Harlingen, TX MSA	Hourly	$12.97	$14.84	$37.39	$41.50	$43.96
	Yearly	$27,000	$30,900	$77,800	$86,300	$91,400

Professional Associations linked to the Careers

For more information about aircraft and avionics equipment mechanics and technicians, visit
Federal Aviation Administration
Professional Aviation Maintenance Association
Aviation Maintenance magazine
Aircraft Mechanics Fraternal Association

For additional career information about aircraft mechanics and avionics technicians, see the *Occupational Outlook Quarterly* article "Sky-high careers: jobs related to airlines."

For more information about job opportunities, contact an airline company personnel manager, browse the classified section of aviation trade magazines, or contact employers at local airports.

Sources

The information provided in this document was collected from the following sources:

- Occupational Outlook Handbook (http://www.bls.gov/ooh/)
- O*NET OnLine (http://www.onetonline.org/)
- Texas CARES (http://www.texascaresonline.com/)
- CareerOneStop (http://www.careeronestop.org/)

Aircraft Mechanics and Service Technicians

Transportation, Distribution & Logistics

Course Overview: Focuses on careers in the planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water, and related professional and technical support services.

Career Goal (O*NET Code) - Aircraft and avionics equipment mechanics and technicians repair and perform scheduled maintenance on airplanes and helicopters. They also inspect airplanes and helicopters as required by the Federal Aviation Administration (FAA).

Student Name: _____
Grade: _____
School: _____

SUGGESTED COURSEWORK

Middle School	8th	***HS Courses:***	Exploring Careers		
High School	9th	***Core Courses*:***	English I Algebra I or Geometry Biology	World Geography Foreign Language I Physical Education	Fine Arts
		Career-Related Electives:	Principles of Transportation, Distribution and Logistics		
	10th	***Core Courses:***	English II Geometry or Algebra II Chemistry	World History Foreign Language II Elective	Elective
		Career-Related Electives:	Energy, Power and Transportation Systems or Aircraft Technology		
	11th	***Core Courses:***	English III Algebra II Physics/Principles of Technology	United States History Foreign Language III** Professional Communications or Speech	
		Career-Related Electives:	Transportation Systems Management or Logistics, Planning and Management Systems or Advanced Aircraft Technology		
	12th	***Core Courses:***	English IV AP Calculus 4th Science	Government/Economics Fine Arts Elective	
		Career-Related Electives:	Advanced Aircraft Technology or Advanced Electronics or Practicum in Transportation, Distribution and Logistics		

EXTENDED LEARNING EXPERIENCES

Curricular Experiences:
- Business Professionals of America
- Future Business Leaders of America
- SkillsUSA
- Technology Student Association

Extracurricular Experiences:
- Language Immersion Programs
- School Newspaper
- Student Government
- UIL Academic Competitions
- Yearbook

Career Learning Experiences:
- Career Preparation
- Internship
- Job Shadowing

Service Learning Experiences:
- Campus Service Organizations
- Community Service Volunteer
- Peer Mentoring / Peer Tutoring

COLLEGE CREDIT OPPORTUNITIES -- High School

Students should take Advanced Placement (AP), International Baccalaureate (IB), dual credit, Advanced Technical Credit (ATC), or locally articulated credit courses, if possible. List those courses that count for college credit on your campus.

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Career Options:
- Aircraft Mechanic
- Aircraft Maintenance Technician
- Aircraft Technician
- Aircraft Maintenance Director
- Aircraft Restorer
- Aviation Maintenance Technician
- Aircraft Maintenance Supervisor
- Helicopter Mechanic

Professional Associations:
- Federal Aviation Administration
- Professional Aviation Maintenance Association
- Aviation Maintenance magazine
- Aircraft Mechanics Fraternal Association

Postsecondary

Texas Southmost College | **South Texas College** | **Texas State Technical College**

- Certificate of Completion in Aviation Maintenance Technology - Airframe
- Certificate of Completion in Aviation Maintenance Technology - Powerplant
- Associates of Applied Science in Aviation Maintenance Technology

University of Texas at Brownsville | **University of Texas - Pan American**

***Students must meet local & state graduation requirements. ** Required coursework for Distinguished Graduation Plan (In addition to other measures). *** Based on campus availability. Students may select other elective courses for personal enrichment purposes.**

This plan of study serves as a guide, along with other career planning materials, for pursuing a career path and is based on the most recent information as of 2012. All plans meet high school graduation requirements as well as college entrance requirements.