

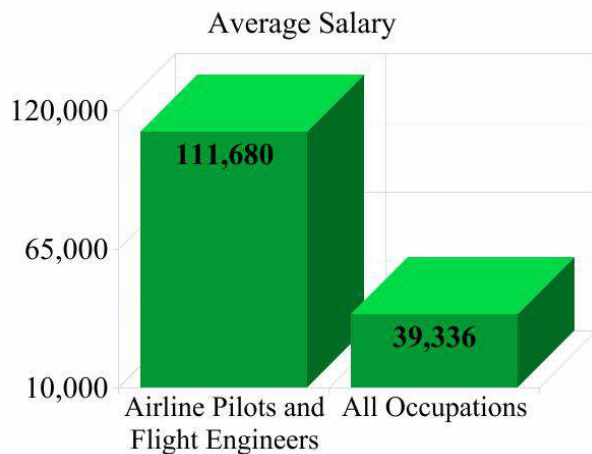
Airline Pilots and Flight Engineers

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WHAT THEY DO

Pilots are highly trained professionals who fly airplanes or helicopters to carry out a wide variety of tasks. Most are airline pilots, copilots, and flight engineers who transport passengers and cargo. However, 34 percent are commercial pilots involved in dusting crops, spreading seed for reforestation, testing aircraft, flying passengers and cargo to areas not served by regular airlines, directing firefighting efforts, tracking criminals, monitoring traffic, and rescuing and evacuating injured persons.

Except on small aircraft, two pilots usually make up the cockpit crew. Generally, the most experienced pilot, the captain, is in command and supervises all other crew members. The pilot and the copilot, often called the first officer, share flying and other duties, such as communicating with air traffic controllers and monitoring the instruments. Some large aircraft have a third crewmember, the flight engineer, who assists the pilots by monitoring and operating many of the instruments and systems, making minor in-flight repairs, and watching for other aircraft. The flight engineer also assists the pilots with the company, air traffic control, and cabin crew communications. New technology can perform many flight tasks, however, and virtually all new aircraft now fly with only two pilots, who rely more heavily on computerized controls.



Before departure, pilots plan their flights carefully. They thoroughly check their aircraft to make sure that the engines, controls, instruments, and other systems are functioning properly. They also make sure that baggage or cargo has been loaded correctly. They confer with flight dispatchers and aviation weather forecasters to find out about weather conditions en route and at their destination. Based on this information, they choose a route, altitude, and speed that will provide the safest, most economical, and smoothest flight. When flying under instrument flight rules—procedures governing the operation of the aircraft when there is poor visibility—the pilot in command, or the company dispatcher, normally files an instrument flight plan with air traffic control so that the flight can be coordinated with other air traffic.

EDUCATION REQUIRED

Although some small airlines hire high school graduates, most airlines require at least 2 years of college and prefer to hire college graduates. In fact, most entrants to this occupation have a college degree. Because the number of college-educated applicants continues to increase, many employers are making a college degree an educational requirement. Preferred courses in preparation for a career as an airline pilot include English, mathematics, physics, and aeronautical engineering.

Pilots also need flight experience to qualify for a license. The U.S. Armed Forces have always been an important source of experienced pilots because of the extensive flying time and experience on jet aircraft and helicopters. However, an increasing number of people are becoming pilots by attending flight schools or by taking lessons from FAA-certified flight instructors. Completing classes at a flight school approved by the FAA can reduce the amount of flight experience required for a pilot's license. In 2009, the FAA certified about 600 civilian flying schools, including some colleges and universities that offer degree credit for pilot training. Initial training for airline pilots typically includes a week of company indoctrination; 3 to 6 weeks of ground school and simulator training; and 25 hours of initial operating experience, including a check-ride with an FAA aviation safety inspector. Once trained, pilots are required to attend recurrent training and simulator checks once or twice a year throughout their career.

CERTIFICATIONS NEEDED

To qualify for FAA licensure, applicants must be at least 18 years old and have at least 250 hours of flight experience. Applicants also must pass a strict physical examination to make sure that they are in good health and have 20/20 vision with or without corrective lenses, good hearing, and no physical handicaps that could impair their performance. They must pass a written test that includes questions on the principles of safe flight, navigation techniques, and FAA regulations, and must demonstrate their flying ability to FAA or designated examiners.

To fly during periods of low visibility, pilots must be rated by the FAA to fly by instruments. Pilots may qualify for this rating by having the required hours of flight experience, including 40 hours of experience in flying by instruments; they also must pass a written examination on procedures and FAA regulations covering instrument flying and demonstrate to an examiner their ability to fly by instruments. Requirements for the instrument rating vary depending on the certification level of flight school.

Airline pilots must fulfill additional requirements. Captains must have an air transport pilot's license. Applicants for this license must be at least 23 years old and have a minimum of 1,500 hours of flying experience, including cross country, night, and instrument flying, and must pass FAA written and flight examinations. Usually, they also have one or more advanced ratings depending on the requirements of their particular job.

Airline Pilots and Flight Engineers - Continued

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OTHER USEFUL SKILLS

Depending on the type of aircraft, new airline pilots start as first officers or flight engineers. Although some airlines favor applicants who already have a flight engineer's license, they may provide flight engineer training for those who have only the commercial license. Many pilots begin with smaller regional or commuter airlines, where they obtain experience flying passengers on scheduled flights into busy airports in all weather conditions. These jobs often lead to higher paying jobs with bigger, national or major airlines. Newly hired pilots at major airlines typically have about 4,000 hours of flight experience.

Companies other than airlines usually require less flying experience. However, a commercial pilot's license is a minimum requirement, and employers prefer applicants who have experience in the type of craft they will be flying. New employees usually start as first officers, or fly less sophisticated equipment.

HOW TO ADVANCE

Advancement for pilots usually is limited to other flying jobs. Many pilots start as flight instructors, building up their flying hours while they earn money teaching. As they become more experienced, these pilots occasionally fly charter planes or perhaps get jobs with small air transportation firms, such as air-taxi companies. Some advance to flying corporate planes. A small number get flight engineer jobs with the airlines.

In the airlines, advancement usually depends on seniority provisions of union contracts. After 1 to 5 years, flight engineers advance according to seniority to first officer and, after 5 to 15 years, to captain. Seniority also determines which pilots get the more desirable routes. In a nonairline job, a first officer may advance to captain and, in large companies, to chief pilot or director of aviation in charge of aircraft scheduling, maintenance, and flight procedures.

WORK ENVIRONMENT

Most pilots spend a considerable amount of time away from home because the majority of flights involve overnight layovers. According to the Airline Pilot's Association, pilots spend approximately 360 hours a month away from their home base. When pilots are away from home, the airlines provide hotel accommodations, transportation between the hotel and airport, and an allowance for meals and other expenses.

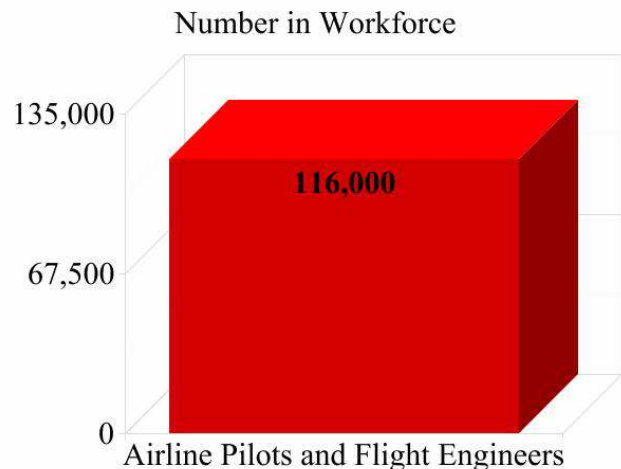
Airline pilots, especially those on international routes, often experience jet lag—fatigue caused by many hours of flying through different time zones. To guard against pilot fatigue, which could result in unsafe flying conditions, the FAA requires airlines to allow pilots at least 8 hours of uninterrupted rest in the 24 hours before finishing their flight duty.

JOB GROWTH

Employment of aircraft pilots and flight engineers is projected to grow 12 percent from 2008 to 2018, which is about as fast as the average for all occupations. Population growth and an expanding economy in the long run are expected to boost the demand for air travel, contributing to job growth. New jobs will be created as airlines expand their capacity to meet this rising demand by increasing the number of planes in operation and the number of flights offered.

Job opportunities are expected to be best for experienced pilots with the regional airlines and low-cost carriers, which are expected to grow faster than the major airlines. Opportunities with air cargo carriers also should arise because of increasing security requirements for shipping freight on passenger airlines, growth in electronic commerce, and increased demand for global freight. Business, commuter, corporate, and on-demand air taxi travel also should provide some new jobs for pilots.

Pilots attempting to get jobs at the major airlines will face strong competition, as those firms tend to attract many more applicants than the number of job openings. Applicants also will have to compete with laid-off pilots for any available jobs. Pilots who have logged the greatest number of flying hours using sophisticated equipment typically have the best prospects. For this reason, military pilots often have an advantage over other applicants.



In addition to job openings arising from employment growth, opportunities will result from the need to replace workers transferring to other occupations or leaving the labor force. Additional openings will result from the mandatory retirement of commercial airline pilots at age 65.