

## AIRCRAFT PILOTS

### WHAT DOES AN AIRCRAFT PILOT DO?

AIRCRAFT PILOTS are trained professionals who fly airplanes carrying passengers, cargo, and mail. Some Pilots dust crops or take photographs of the earth.

All Aircraft Pilots perform the following tasks:

- Conduct preflight check to ensure that all gauges and equipment are in working order.
- Confer with flight dispatchers and weather forecasters.
- Plot flight plan and file it with appropriate officials.
- Operate radio equipment to contact control tower for takeoff, clearance, and arrival instructions.
- Operate plane during takeoff, flight, and landing.

**Commercial Airline Pilots** transport passengers and cargo, normally on fixed routes and schedules. They have full responsibility for the safety of passengers and crew. Generally, two professional Pilots are needed to operate the aircraft. The most experienced Pilot (called captain) is in command and supervises other crewmembers. The copilot (or first officer) helps and relieves the captain. A flight engineer (second officer) is rarely used because new technology eliminates the need for many of the flight tasks they perform. When the plane is in the air, it is often being flown on automatic pilot.

**Agricultural Pilots** fly airplanes or helicopters over farmlands at low altitude to dust or spray fields with fertilizers, fungicides, or pesticides. Agricultural Pilots also plant small fish in streams or lakes, fight forest fires, and spread seeds over fields. Precision seeding by these pilots contributes greatly to higher crop yields. Many Agricultural Pilots use Global Positioning Satellite System technology enabling them to place spray within a yard of their target.

**Helicopter Pilots** fly rotor-blade aircraft providing a variety of services for business, industry, and government. Specialty areas of helicopter services include agriculture, logging, utilities, law enforcement, oil and gas exploration, construction, air medical and safety, electronic news gathering, and personnel transportation for corporate, charter, or tour operations.

**Photogrammetry Pilots** are aerial photographers who fly at specified altitudes and speed to photograph areas of the earth's surface for mapping and other photogrammetric purposes. Photogrammetry Pilots must map their flights in detail to achieve their photographic objectives. Most often, there is a two-person crew of Pilot and photographer. Some Pilots may perform both tasks, piloting the plane and taking photographs.

## **WHAT SKILLS ARE IMPORTANT?**

Aircraft Pilots frequently use the following skills, knowledge, and abilities:

- Transportation - Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including their relative costs, advantages, and limitations.
- Operation and Control - Controlling operations of equipment or systems.
- Control Precision - Able to quickly and repeatedly make precise adjustments to controls.
- Far Vision - The ability to see details at a distance.
- Night Vision - The ability to see under low light conditions.
- Spatial Orientation - Able to know one's location in relation to the environment or to know where other objects are in relation to one's self.

Most flying done by Agricultural Pilots is in highly maneuverable aircraft at slow speeds. Spraying must be done within a few feet of the plants or trees and only when wind velocity is low. Often the Agricultural Pilots sit in an open cockpit, vulnerable to both summer heat and winter cold and sometimes to toxic chemicals. Agricultural Pilots may travel to other parts of the country to extend their work year. Because of their comparatively low flying altitudes, Helicopter Pilots also must be continually alert for power lines, trees, bridges, and other hazards.

## **WHAT DOES THE JOB PAY?**

### ***Hours***

By federal law, Airline Pilots cannot fly more than 100 hours a month or 1,000 hours a year. Most Pilots average 80 flying hours a month. However, total duty hours including time for preflight and post-flight duties, repairs, and terminal delays can exceed 150 hours a month. The work hours of Agricultural Pilots vary during the year according to seasons, weather, cycles of insects and weeds, the number of daylight hours, and wind velocity. Pilots who seed small grains fly from early morning until dusk seven days a week for periods of several weeks or months. Pilots dusting crops with hazardous chemicals normally fly the first two or three daylight hours each morning. Some Pilots have equipped their aircraft with lights and work at night.

### ***Benefits***

Usual benefits include medical and dental insurance, retirement programs, vacation, and free or reduced rates on personal and family airline travel. Many Agricultural Pilots get sick leave and health insurance but seldom receive paid vacations since their work is seasonal.

According to the ALPA, most airlines require at least 1,500 flight hours in multi-engine aircraft. Newly hired Pilots for regional airlines average over 2,000 hours. The average multi-engine flight hours for new hires at major airlines is 4,000.

Helicopter Pilots need about 1,000 hours of helicopter flight time to be competitive for jobs. Most earn those hours as flying instructors after obtaining their own Helicopter Pilot's certification.

### ***Licensing and Certification***

All Pilots paid to fly passengers or cargo must have a commercial Pilot's license with instrument ratings from the Federal Aviation Administration. Candidates must be at least 18 years old and have 250 hours or more of flying experience. They must pass a practical flight test, two written tests, and a medical examination. Airline Pilots must have an Airline Transport Pilot's license which requires 1500 hours of flying experience including instrument and night flights. Applicants must pass a written and flight test and be 23 years of age.

Agricultural Pilots must pass a written test given by the State Department of Food and Agriculture to obtain needed State licenses: Apprentice Pest Control Aircraft Pilot Certificate or Journeyman Pest Control Aircraft Pilot Certificate. They must also register with the country agricultural commissioner in each county where aerial pest control is performed. They must also serve a minimum of one year as an apprentice.

### ***Continuing Education***

Certificates and ratings for all Pilots are valid as long as they continue to pass periodic checks of their physical condition and flying skills.

Pest Control Aircraft Pilots must complete 20 hours of continuing education every two years.

### **WHERE CAN THIS JOB LEAD?**

Advancement for Airline Pilots may involve moving from a small airline to a major carrier. Advancement within the same company depends largely on seniority. Flight engineers may become copilots within two to seven years and captains within 5 to 15 years. Some Pilots become check pilots, chief pilots, or self-employed. A few Pilots transfer to managerial jobs. Experienced Pilots move up the seniority list and become eligible to bid for larger aircraft, more desirable schedules, routes, or their own home base. Promotional opportunities for Agricultural Pilots include advancing to managerial positions or purchasing their own aircraft to become independent contractors or pest control operators.

### **OTHER SOURCES OF INFORMATION**

Airline Pilots Association, International  
535 Herndon Parkway  
Herndon, VA 20170  
(703) 689-2270  
[www.alpa.org](http://www.alpa.org)

The American Society for Photogrammetry and  
Remote Sensing  
5410 Grosvenor Lane, Suite 210  
Bethesda, MD 20814  
(301) 493-0290  
[www.asprs.org/career/career\\_frame.html](http://www.asprs.org/career/career_frame.html)

California Agricultural Aircraft Association  
2100 Flightline Drive, #3  
Lincoln, CA 95648-9443  
(916) 645-9747

Federal Aviation Administration  
FAA Western Pacific Region  
15000 Aviation Boulevard  
Lawndale, CA 90261  
[www.awp.faa.gov](http://www.awp.faa.gov)

Helicopter Association International  
1635 Prince Street  
Alexandria, VA 22314  
(703) 683-4646  
[www.rotor.com](http://www.rotor.com)

The International Society of Women Airline Pilots  
2250-E Tropicana Avenue, Suite 19-395  
Las Vegas, NV 89119-6594  
[www.iswap.org](http://www.iswap.org)

Professional Helicopter Pilots Association  
of California (PHPA)  
P. O. Box 7059  
Burbank, CA 91510-7059  
(213) 891-3636  
[www.phpa.org](http://www.phpa.org)

## **RELATED OCCUPATIONAL GUIDES**

[Air Traffic Controllers](#)

No. 230

**OCCUPATIONAL CODE REFERENCES****SOC** (*Standard Occupational Classification*)

|  |         |
|--|---------|
| Airline Pilots, Copilots, and Flight Engineers | 53-2011 |
| Commercial Pilots                              | 53-2012 |

**O\*NET** (*Occupational Information Network*)

|  |            |
|--|------------|
| Airline Pilots, Copilots, and Flight Engineers | 53-2011.00 |
|--|------------|

**OES** (*Occupational Employment Statistics*)

|                                      |       |
|--------------------------------------|-------|
| Aircraft Pilots and Flight Engineers | 97702 |
|--------------------------------------|-------|

**DOT** (*Dictionary of Occupational Titles*)

|                                |             |
|--------------------------------|-------------|
|                                | 196.263-010 |
| Agricultural Aircraft Pilot    | 196.263-014 |
| Airline Pilot, Commercial      | 196.263-018 |
| Airplane Pilot, Photogrammetry |             |

***External links***

- Federal Aviation Administration
  - How to Become a Pilot
  - Types of Licenses
  - How to Get Your Commercial Pilot License
  - FAA regulation library — pilot certification regulations can be found at Parts 61 and 141.
  - Aircraft Owners and Pilots Association
  - AOPA page describing the basics of obtaining a pilot certificate
  - AOPA aviation statistics page
- US Private Pilot Knowledge Test Preparation Sites
  - Sporty's Online FAA Knowledge Tests

- [PrepareToTest.com Pilot and Aviation Maintenance Technician test prep](#)
- [Gleim's Online Ground school](#)

1. Be at least 18 years of age.
2. Be able to read, write, and converse fluently in English.
3. Hold a commercial or airline transport pilot (ATP) certificate with an aircraft rating appropriate to the flight instructor rating sought (e.g., airplane, glider).
  - a. You must also hold an instrument rating to be a flight instructor in an airplane.
4. Receive and log ground training (such as using Fundamentals of Instructing FAA Knowledge Test, Flight Instructor Flight Maneuvers and Practical Test Prep, and Pilot Handbook to learn
  - a. Fundamentals of instructing (FOI)
  - b. All other subject areas in which ground training is required for recreational, private, and commercial pilot certificates and for an instrument rating
5. Pass both the FOI and the flight instructor knowledge tests with scores of 70% or better.
  - a. You are not required to take the FOI knowledge test if you
    1. Hold an FAA flight or ground instructor certificate
    2. Hold a current teacher's certificate authorizing you to teach at an educational level of the 7th grade or higher
    3. Are employed as a teacher at an accredited college or university
6. Demonstrate flight proficiency (FAR 61.187).
  - a. You must receive and log flight and ground training and obtain a logbook endorsement from an authorized instructor on the following areas of operations for an airplane category rating with a single-engine class rating.
    1. Fundamentals of instructing
    2. Technical support areas
    3. Preflight preparation
    4. Preflight lesson on a maneuver to be performed in flight
    5. Preflight procedures
    6. Airport and seaplane base operations
    7. Takeoffs, landings, and go-arounds
    8. Fundamentals of flight
    9. Performance maneuvers
    10. Ground reference maneuvers
    11. Slow flight, stalls, and spins
    12. Basic instrument maneuvers
    13. Emergency operations
    14. Postflight procedures
  - b. The flight instruction must be given by a person who has held a

- flight instructor certificate during the 24 months immediately preceding the date the instruction is given and who has given at least 200 hr. of flight instruction as a CFI.
- c. You must also obtain a logbook endorsement by an appropriately certificated and rated flight instructor who has provided you with spin entry, spin, and spin recovery training in an airplane that is certificated for spins and has found you instruction ally competent and proficient in those training areas, i.e., so you can teach spins.
  - d. Use of Flight Instructor Flight Maneuvers and Practical Test Prep book from your first flight instructor lesson to your practical test. We outline and illustrate each flight maneuver you will perform during y our flight training.
7. Successfully complete the flight instructor practical test, which will be conducted as specified in Gleim's *Flight Instructor Flight Maneuvers and Practical Test Prep*.

The price of instruction varies nationwide and also from flight school to flight school. Fuel, maintenance, and airplane expenses play a major role in determining airplane rental rates. Shop around to make sure you are buying what you want at a fair price. Your total cost will depend on the FBO, equipment, local cost factors, competition, etc., and the amount of training in excess of 40 hours. Many flight schools allow payments as time progresses, lesson by lesson, instead of all at once. Some flight schools offer discounts for purchasing a block of time.

|                                    |                           |
|------------------------------------|---------------------------|
| Medical Exam                       | \$ 70                     |
| Books and Supplies (a)             | 370 (assuming self-study) |
| Knowledge Test Fee (b)             | 80                        |
| 30 Hours of Dual (c)               | 3,000 *                   |
| 10 Hours of Solo (d)               | 700 *                     |
| Rental of Aircraft for Flight Test | 100                       |
| Practical Test Fee                 | 250                       |
| TOTAL \$ 4,570                     |                           |

**\*Note: This is the low end of the cost range. Most pilots require about 55 hours. The Gleim *Private Pilot Syllabus and Logbook* will assist you and your CFI in completing in less than 55 hours!**

(a) **Books and Supplies, \$370.** Use the **Gleim Private Pilot Kit**. [ORDER IT TODAY!](#) It has everything you need except a headset(\$120), an aeronautical sectional chart (\$7) and an Airport/Facility Directory (\$4) for your local area. Additionally, you will need to purchase a copy of the Pilot's Operating Handbook (POH) (\$20) for the airplane you will use for training. If you want a hand-held electronic aviation computer rather than a slide rule computer, you will spend about \$70 more.

(b) **Knowledge Test Fee, \$70.** This fee is the typical charge by the FAA-designated computer testing centers to administer the FAA pilot knowledge test.

(c) **30 Hours of Dual, \$3,000.** This is based on \$70 per hour for the aircraft and \$30 per hour for the instructor. Aircraft rental can range from \$35 to \$125 per hour depending on airplane, age, type and equipment installed. Age of the aircraft does NOT imply less reliability.

(d) **10 Hours of Solo, \$700.** This is based on \$70 per hour for airplane rental.

While only 40 hours of *flight* time is required for the private pilot certificate, the *total* process usually takes several months and hundreds of hours due to commuting, ground training, aircraft preflight, canceled lessons due to bad weather, airplane maintenance, etc.

A typical chronological order of flying time follows. The numbers on the left are the minimum using our ***Private Pilot Syllabus and Logbook***, under Part 61.

|                  |  |
|------------------|--|
| 14.5 to 16 hours | -- Presolo (dual)  |
| 2.0 to 5 hours   | -- Solo  |
| 5.0 to 7 hours   | -- Pre-cross-country (dual)                                |
| 5.5 to 9 hours   | -- Cross-country and night flying (dual)                   |
| 7.0 to 8 hours   | -- Cross-country (solo)                                    |
| 7.0 to 10 hours  | -- Preparation for practical (flight) test (dual and solo) |
| ----             | ---  |
| 41.0             | 55   |

Your pilot certificate can be obtained in as little as a month with near full-time effort. A more realistic timetable is 3 to 4 months. The ideal situation is to fly **at least** 1 to 2 times per week to maintain a higher level of proficiency.





## Aviation Web Links

Take off into the exciting world of General Aviation by visiting other virtual aerodromes on the Web offered by these supporters of the BE A PILOT program.

### Aircraft and Equipment

- [Aircraft Manufacturers](#)
- [Equipment/Engine Manufacturers](#)
- [Communications / Navigation Equipment](#)
- [Suppliers, Others](#)

### Pilot Training and Supplies

- [Training / Courses and Equipment / Pilot Testing](#)
- [Pilot Supplies](#)

### Scholarships

### Services

- [Fuel / Aircraft Services](#)
- [Insurance / Financing](#)
- [Weather Services](#)

### Aviation Organizations / Pilot Associations

### Aviation Publications

### Opportunities

- [Airlines / Aircraft Charter / Pilot Hiring / Military and Space](#)

### For Young People and Their Teachers

- [AvKids](#)
- [National Coalition for Aviation Education](#)

### Colleges and Universities

- [Cincinnati State Aviation Maintenance Technology](#)
- [Collegiate Aviation Guide](#)
- [University Aviation Association](#)
- [University of Cincinnati](#)

<http://www.beapilot.com/indexfl.html>

<http://www.airforce.com/>

<http://preparetotest.com/>

<http://learntofly.com/cessna/cbi.html>

**Cessna.com**

Take your Cessna Discovery Flight

Start your lessons, with the Computer-Based Instruction (CBI) kit

Get your aviation medical certificate

Make your first solo flight (after about 15 flight hours)

Fine-tune your skills, and build time and experience

Take your written exam

Take your check ride

## Intro Flight Coupon

Experience for yourself the thrill and adventure of flight - with a Discovery Flight Coupon, good for your first lesson, for only US \$59. You'll learn how airplanes fly, conduct a preflight of a light aircraft, and actually take the controls, all under the guidance of a top-quality instructor. Complete the form, press Submit when you're finished, and get started today!

## Computer-Based Instruction

There's an easier way to [learn to fly](#). One that doesn't involve lugging around a book. Or hurrying to class. Or cramming before your written exam.

It's Cessna's Computer-Based Instruction. You'll learn [everything](#) you need to know – not only to pass your exam, but also to be a knowledgeable, competent pilot. And thanks to CBI's CD-ROM format, you'll do it without ever opening a book or stepping into a classroom. Study wherever you go. At home. At the office. Even while traveling.

You'll watch presentations by top aviation educators, see dramatic, enlightening in-flight footage, take interactive quizzes, learn interesting trivia, and prepare for [upcoming lessons](#) before you ever climb into the airplane.

Cessna's CBI program is the only integrated flight-training system in existence. Integrated means that both the ground and flight training segments are "paired" so that retention rates are higher and learning is faster.

That means you'll learn quickly and efficiently – while [having fun](#).

## What is a CPC?

A Cessna Pilot Center (CPC) is a specially selected flight school that represents top-quality, professional flight training. You'd have to look long and hard to find schools this good. We know, because we did.

Each CPC has state-of-the-art training facilities incorporating the only integrated flight-training system available. CPCs also have clean, quiet study areas and classrooms, and new aircraft with strict maintenance requirements and modern components. And, each CPC carries \$1 million in aviation insurance to protect you throughout your training.

Cessna Pilot Centers are associated with The Cessna Aircraft Company. We ensure that they maintain the standards that have helped Cessna remain successful for over 75 years.

We require all CPCs to excel in customer service, with well-trained, professional instructors. They're able to answer your questions and provide guidance throughout your aviation adventure, from [Discovery Flight](#) through buying your [first airplane](#).