



# Educational Topic

## Research Pilot

### Related Job Titles:

Aeronautical Flight Research, Test Pilot, Research Test Pilot, Experimental Test Pilot

### Job Description:

As a general rule, Research Pilots are experienced Pilots and Aeronautical Engineers with an excellent mechanical knowledge of aircraft. Their flying and engineering skills are used in a broad range of projects from the development of new aircraft ("X" planes) to the writing of regulations and aircraft specifications that govern the operations and design of all aircraft. They combine knowledge from years of varied flight experiences with their insight into human-cockpit interactions and aeronautical engineering to help researchers and aircraft designers develop safe and efficient aircraft. In flight, the research pilot performs precise maneuvers and makes careful observations of how the aircraft reacts. The pilot also observes the pilot's ability to interact with the machine. For each hour in the air, the research pilot spends many more hours on the ground assessing the aircraft's performance and drafting detailed reports. Some of this ground time is spent in flight simulators testing everything from software programs to new cockpit controls. The Research Pilot must routinely confer with a team of researchers and relay important information that can be critical to the success of a new design. Once a project is completed, the test pilot will participate in drafting technical papers presented to government agencies, private industry, and aeronautical engineers.

### Interests / Abilities:

- Can you think clearly and make good decisions when under stress?
- Are you detail-oriented and capable of following a step-by-step procedure completely?
- Do you enjoy taking things apart and putting them back together to figure out how they work?
- Do you like to take risks by trying out new sports or recreational activities while remembering safety first?
- When you drive different types of vehicles do you take note of how each one handles?

### Education / Training Needed:

Private to commercial pilot's license with instrument rating preference given to military flight training is required. Intense training in a variety of aircraft over an extended period of time and a bachelor's degree through Ph.D. in Aeronautics, Aeronautical Engineering or Mechanical Engineering is necessary. Graduate from a military or civilian test pilot course is also helpful.

### Suggested School Subjects / Courses:

- Mathematics (algebra, geometry, trigonometry, calculus)
- Physics
- Aeronautics (the science of flight)
- Technical drawing
- Auto shop/basic mechanics
- Computer science
- English composition

### Areas of expertise:

- *Flying skills that can easily and quickly adapt to all types of aircraft and flight scenarios*
- *Aeronautics*
- *Structure and function as it relates to aircraft design and performance*

