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# FAA Handbooks

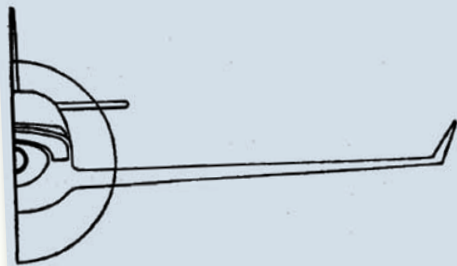
## *for the Aspiring Aviator*

Even for those who harbor no doubts about learning to fly, the necessary commitment of time and resources can still make it a momentous decision. In my case, the decision was additionally complicated by my near-complete ignorance of, well, *everything* involved in the process. I had heard about ground school, whatever that entailed; the need for flight school was obvious enough.



*One of the many FAA resources available, the Airplane Flying Handbook is more of a "how-to" guide that introduces basic pilot skills.*

## AMATEUR-BUILT AIRCRAFT AND ULTRALIGHT FLIGHT TESTING HANDBOOK



Initiated by: AFS-340

I was vaguely familiar with the requirement for some kind of medical clearance. But I was utterly baffled by the jargon that my well-meaning pilot friends used in trying to offer advice. Some urged me to seek a part 141 school. Others noted that part 61 would provide everything I needed. I was embarrassed to ask what those numbers meant. Then, there was chatter about the Fizz-doh, which is where I needed to go back then to take the “written” (now known as the “knowledge test”). How was I supposed to know that Fizz-doh was really FSDO, more properly called the Flight Standards District Office?

### The FAA has a lot of useful material on a wide range of topics.

These days, the Internet (popularized after my beginnings in aviation) provides a wealth of resources for fledgling flyers. What you may not realize — I didn’t — is that the FAA has a lot of useful material on a wide range of topics. Though you can purchase hard copies from a variety of commercial vendors, the FAA’s resources are all available online at no charge other than the paper and printer ink required to print hard copies. Let’s take a look at a few resources you might encounter — or seek to encounter — in the early stages of your flight education and training.

### Student Pilot Guide

Had I known it existed when I was considering flight training, a trip through the FAA’s *Student Pilot Guide* (FAA-H-8083-27A) would have helped clear the clouds of jargon-generated confusion. As stated in the guide’s foreword, this publication is intended to serve

as a guide not only for prospective student pilots, but also for those already engaged in flight training.

The guide outlines the general procedures for obtaining FAA student pilot, sport pilot, recreational pilot, and private pilot certificates. In addition, the *Student Pilot Guide* explains the role of the FAA (including an explanation of those mysterious Fizz-dohs). It describes the requirements for obtaining a pilot certificate, offers guidance on choosing a flight school and a flight instructor, and provides suggestions on studying for the knowledge (“written”) and practical tests. The guide also includes a list of frequently asked questions and answers, along with a handy list of FAA resources.

### Pilot’s Handbook of Aeronautical Knowledge

One of the first FAA documents I did find was the *Pilot’s Handbook of Aeronautical Knowledge* (PHAK – FAA-H-8083-25A), which my private-pilot ground-school instructor assigned as the basic text for our six-week course. Though I have since read and used a number of commercial ground school textbooks, I still keep the latest edition of the PHAK in my personal aviation library. Its purpose, as stated in the preface, is to introduce pilots to the broad spectrum of basic, but essential, aeronautical knowledge they will need in their aviation education and training experience.

After a brief history of aviation, the PHAK launches into that “broad spectrum” of topics: aircraft structure, principles of flight, aerodynamics, flight controls, aircraft systems, flight instruments, flight manuals, weight and balance, aircraft performance, weather theory, aviation weather services, airport operations, airspace, navigation, aeromedical factors, and, last but not least, aeronautical decision-making.

The chapter on aeronautical decision-making includes information on crew and single-pilot resource management (CRM and SRM). It provides models and tips for situational awareness and aeronautical decision-making. Recognizing that automation is increasingly common in the general aviation (GA) fleet, the latest edition of the PHAK also addresses automation and automation management.

### Airplane Flying Handbook

While the PHAK focuses on the conceptual knowledge a pilot needs for safe operation in the National Airspace System (NAS), the *Airplane Flying Handbook* (AFH – FAA-H-8083-3A) is more of a “how-to” guide — a technical manual to introduce basic

pilot skills. Specifically, the AFH provides information and guidance in the performance of procedures and maneuvers required for various levels of pilot certification. Though the AFH recognizes that there are different ways of teaching, as well as of performing flight maneuvers and procedures, its discussion and explanations reflect what the FAA perceives as the most commonly used practices and principles.

Although instructors at the flight school I attended to earn my private pilot and commercial pilot certificates used a commercial flight training syllabus and maneuvers guide, I became very familiar with the AFH when I transitioned to complex, high-performance, and multi-engine aircraft. In addition to providing pilots with a detailed explanation of basic maneuvers and procedures for pilot certification, the AFH offers tips and techniques for transition to other airplanes. For example, the high-performance transition chapter discusses both the theory and mechanical operation of the constant speed (controllable pitch) propeller and the chapter on multi-engine flying introduces the operation of systems found in a typical multi-engine airplane as well as the performance of maneuvers required to earn a multi-engine rating.

## Weight and Balance Handbook

The *Aircraft Weight and Balance Handbook* (AWB - FAA-H-8083-1A) is not widely known, but I found it very helpful in mastering both the concepts and methods for the critical task of calculating the aircraft's center of gravity, or CG. The AWB begins by explaining the basic principles of aircraft weight and balance control, emphasizing its importance and including examples of documentation furnished by the aircraft manufacturer and by the FAA to ensure the aircraft weight and balance records contain the proper data. Also of interest to pilots is a chapter devoted to the range of methods, examples, and tools for determining aircraft weight and balance.


For the mechanically inclined, the AWB provides information an airframe and powerplant (A&P) technician or repairman needs to determine the weight and CG changes resulting from repairs or alterations. And, even though you may never perform the task, it helps to be familiar with the proper procedures for weighing an aircraft and determining its empty-weight center of gravity.

## FAASafety.gov

The FAA offers an ever-growing host of resources for pilots and aviation maintenance technicians

(AMTs) through FAASafety.gov, the web application maintained by the FAA Safety Team (FAASafetyTeam). In addition to online courses developed by a variety of FAA and industry providers, the FAASafety.gov site includes a searchable library, links organized by both topic and pilot certificate level, and a “maintenance hangar” for AMTs.

FAASafety.gov is also the portal to the FAA's WINGS Pilot Proficiency Program, which is based on the premise that pilots who maintain currency and proficiency in the basics will enjoy a safer and more stress-free flying experience. To accomplish this objective, the program guides participants on developing an ongoing training program that encourages regularly flying with an authorized flight instructor. The program is most effective if the training takes place throughout the year, which provides you the opportunity to fly in different seasons and in different flight conditions. The program includes specific subjects and flight maneuvers for each aircraft category and class. (More on the WINGS program can be found on page 20.)

As you'll quickly discover, the handbooks and resources described here are just a small sample of the training and guidance material available on the FAA website. For a complete list of the FAA's training handbooks and manuals, see <http://www.faa.gov/library/manuals/>. 

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## Learn More

### Student Pilot Guide, FAA-H-8083-27A

<http://www.faa.gov/library/manuals/aviation/media/faa-h-8083-27a.pdf>

### Pilot's Handbook of Aeronautical Knowledge, FAA-H-8083-25A

[http://www.faa.gov/library/manuals/aviation/pilot\\_handbook/](http://www.faa.gov/library/manuals/aviation/pilot_handbook/)

### Airplane Flying Handbook, FAA-H-8083-3A

[http://www.faa.gov/library/manuals/aircraft/airplane\\_handbook/](http://www.faa.gov/library/manuals/aircraft/airplane_handbook/)

### Aircraft Weight and Balance Handbook, FAA-H-8083-1A

<http://www.faa.gov/library/manuals/aircraft/media/FAA-H-8083-1A.pdf>