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TRAINING

A SPECIAL
ISSUE
FOR THE
NEW PILOT

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A good pilot is always learning

2020

YOU CAN FLY

YOUR PATH TO BECOME A PILOT

**CRUSH YOUR
GOALS**
INSIDER'S GUIDE
TO TRAINING **P. 8**

YOUR NEW RIDE
AIRCRAFT YOU'LL
FIND AT THE
FLIGHT SCHOOL **P. 28**



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FLIGHT TRAINING

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08

GETTING STARTED IN FLIGHT TRAINING

A SPECIAL ISSUE FOR THE NEW PILOT



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YOU CAN FLY

Reaping the rewards of flight training

My first flight in a small airplane was one of the most memorable experiences of my life.

On a whim, I stopped by my local airport and asked for a lesson. I was thrilled that the answer was, “Sure, we have a Cessna 150 and an instructor available right now.” It surprised me that the instructor let me start the engine and taxi the airplane to the runway. When he asked if I wanted to perform the takeoff I was blown away. I could feel my heart rate increasing. “I’ll talk you through it and I have a duplicate set of controls, just in case,” he said.

The takeoff was exhilarating and nerve-racking at the same time. We flew to the practice area where we met up with another of the school’s trainer airplanes; the two instructors had arranged a treat for me. My instructor took the controls and the two airplanes played a game of follow the leader, perhaps a half mile in trail. We playfully climbed and dove and made wide, graceful turns in the cloudless blue sky. I could hear the two instructors in my headset talking to each other to coordinate their movements, and we all laughed and had a great time. I learned a little about how to fly an airplane that day, but I learned a lot about the pure joy of flying and the camaraderie of the general aviation (GA) community. That instructor hooked me by making flying fun, in addition to demonstrating how to safely operate an aircraft. Never again would a day go by without me thinking about flying an airplane.

Filled with passion and a sense of mission, I launched into flight training with intensity. Every lesson filled me with feelings of immense awe and accomplishment combined with traces of confusion and fear. But I had found a seasoned instructor and I could count on his advice to get me through training plateaus. As I ticked off milestones—first solo, night flight, long-distance flights over cities and mountains and water—I increasingly felt the goal of becoming a private pilot was within reach.

And then unforeseen circumstances conspired to derail my progress: a move to another state, change of instructor, new type of aircraft to learn, and scarce financial resources. Each setback tested my resolve. Ultimately, I found encouragement and support from the GA community, persevered, and earned my private pilot certificate.

Today I feel like I’m living the GA dream. I’ve continued flight training so now I can fly in the clouds, fly faster and more complex airplanes, and earn money while flying. I can even share my love of aviation by teaching others the aeronautical knowledge required to become pilots. But my greatest joy still comes from flying my basic two-passenger airplane low and slow over the countryside with my son, relishing the view and confident in my command of the aircraft.

THAT INSTRUCTOR HOOKED ME BY MAKING FLYING FUN, IN ADDITION TO DEMONSTRATING HOW TO SAFELY OPERATE AN AIRCRAFT.





If you are flipping through the pages of this magazine, we hope you're dreaming of becoming a pilot. Our simple message to you is: You can fly! And, yes, it can be as amazing and rewarding as you've always imagined. We are so enthusiastic that you are taking the first steps toward your pilot certificate, we dedicated this special issue of *Flight Training* to explaining what you can expect—from that first introductory flight in a small airplane through initial training. As your training gets more advanced, you'll be searching for more in-depth resources, and we're here to help with that, as well.

OK, now let's get practical. Your joy of aviation may never cease, but learning to fly takes time, is complicated, and requires every student to persevere all the way through the flight test if you want to earn those wings. You'll most likely need a support group—a group of

**OUR SIMPLE MESSAGE TO YOU IS:
YOU CAN FLY! AND, YES, IT CAN BE AS
AMAZING AND REWARDING AS YOU'VE
ALWAYS IMAGINED.**

people who believe in you and will do anything they can to help you succeed. It may be your instructor and the great folks who run your flight school. Maybe it's a family member or friend. It could be the pilots who hang out at your

airport. And, it's definitely every one of us here at AOPA.

AOPA is so committed to helping you become a pilot, we offer student pilots free six-month access to all of the training resources we have—and there are plenty. We provide flight training tips and techniques online, in our weekly newsletter, and in a print magazine (a digital option is available). Our flight school database and comprehensive list of scholarships can provide a solid foundation for your training. And, the AOPA website is a treasure trove of information for the student pilot. We suggest you start by exploring the Training & Safety tab at aopa.org. If you can't find the answer to your question anywhere, the ultimate source of knowledge is our Pilot Information Center. This is a team of pilots and flight instructors waiting to answer your call (or chat or email or question at pic.aopa.org) about any conceivable aviation topic—from flying techniques to FAA regulations or medical requirements. They field hundreds of thousands of questions each year, and love helping beginning pilots.

Whether you are learning to fly for fun, as a business tool, or to pursue a career, we are cheering for you. You are the future of aviation, and we welcome you to the community of pilots. If you are already a pilot, consider passing this special edition of *Flight Training* on to someone you think might be interested in learning to fly. 🧭



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TOP 10

Essential Student Pilot Products



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TOP 10 student pilot essentials

Sporty's is much more than just a pilot shop. From the very beginning, our company was based on teaching people how to fly. Today, our successful flight school has hundreds of students and is solely responsible for The University of Cincinnati Professional Pilot Program. The plethora of pilot supplies out there can be overwhelming, so students often look to us for advice on what you really need for flight training. Here is our top 10 list of products that will help make your flight training successful.

1 TRAINING COURSE



Sporty's Learn to Fly Course Our award-winning courses have helped over 50,000 pilots learn to fly or add a rating, but we're never standing still. The Sporty's Academy team is constantly adding new content and innovative features to make our Learn to Fly Course the best training product in aviation. For 2020, we're proud to offer a full suite of upgrades that make flying safer, easier and more fun. Includes online, iOS app, Android app, and smart TV apps. **E1753A \$249.00**

2 E6B

Sporty's Electronic E6B Flight Computer Over 240,000 pilots have trusted Sporty's Electronic E6Bs over the years for fast flight planning and accurate FAA test calculations. Its pilot-friendly design makes quick work of any navigational, weight and balance, or fuel problem, and it also performs conventional arithmetic calculations. It's invaluable for students and experienced pilots alike. You will never need another aviation computer. **7095A \$69.95**

APPROVED FOR USE ON FAA TESTS!



5 KNEEBOARD



Flight Gear HP Tri-Fold Kneeboard Trying to keep charts, timers, notes, calculators, and cables organized in the cockpit can be an impossible task. The solid clipboard is great for copying weather and doubles as a quick reference tool. **7004A \$29.95**



Sporty's Classic Kneeboard These durable aluminum kneeboards have become standard issue for most pilots. Simple design will withstand decades of abuse. Extra-thick aluminum board with foam backing and elastic strap with Velcro® closure. Includes a placard. **7054A \$12.95**

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Pilot's Flight Log	8120A	\$11.95
Senior Pilot's Flight Log	8114A	\$19.95
Optional Engraving	1628A	\$6.95

4 FLIGHT BAG



Flight Gear HP Crosswind Bag
5515A \$49.95



Flight Gear HP Tailwind Backpack
9950A \$99.95



Flight Gear HP iPad Kneeboard Holds the iPad right where you need it - secure on your leg but easily within reach. An integrated kickstand means you can tilt the iPad towards you, which helps to reduce glare. A simple hook-and-loop rotation mechanism allows for portrait or landscape viewing. **810A \$34.95**

6 HEADSET



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8255A \$249.95



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2472A \$650.00



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3490A \$1095.95

7 FLASHLIGHT



Smith & Wesson Captain's
Flashlight
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8 RADIO



PJ2 Handheld COM Radio
With built-in headset jacks
1812A \$199.00



Sporty's SP-400 Handheld
NAV/COM Radio
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7758A \$299.00

9 FUEL TESTER



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2788A \$10.95



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16 oz. Gats Jar
4685A \$19.95

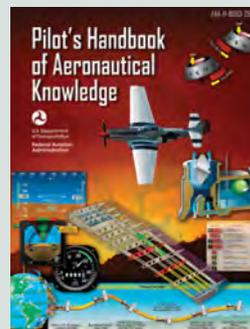
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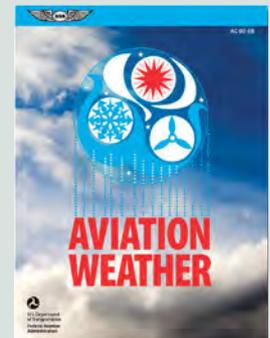
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Quiz: Mastering The Airplane Pitot-Static System

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1. Which instrument(s) will become inoperative if the static vents become clogged?

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If you're wanting to fly or thinking about it, the variable can be overwhelming. How do you determine a flight career? How many hours do you need to earn a pilot's license? How do you stay motivated and on budget? In this webinar, we'll discuss the importance of flight training and how to create a successful flight training plan.

High Wing vs. Low Wing

FREE FAA PRACTICE TESTS



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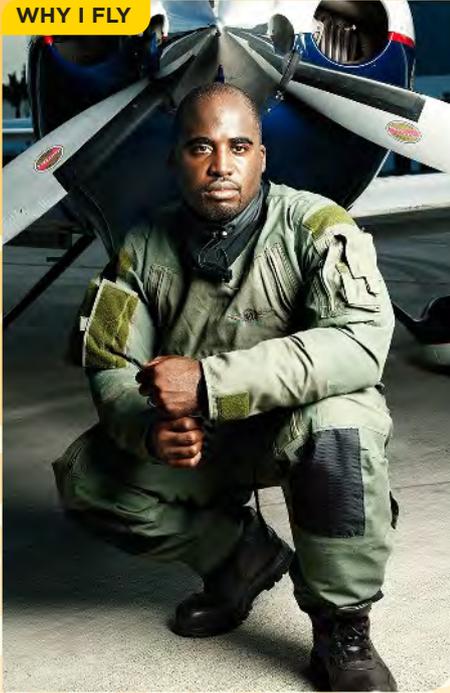
The Cessna 172 is the most popular training aircraft of all time. Docile and predictable, the airplane makes a wonderful introduction to aviation.

LET THE FUN BEGIN

Your path to the sky

By Ian J. Twombly

WHY I FLY



BARRINGTON IRVING

“I just want to prove to other kids that the aviation industry needs young people. My flight was just one example of what happens when a student is focused and has the support of family, sponsors, and volunteers.”

At 23, Irving was the youngest pilot and first African American to fly solo around the world; he now heads a STEM program for kids.

CONGRATULATIONS!

By walking into a flight school or signing up for *Flight Training* you've made the first step toward the life-changing experience of becoming a pilot. Your goal may be to fly for a career, for recreation, or to improve your life or business. Whatever your motivation, learning to fly is a rewarding, challenging, and fulfilling experience that will change your life and propel you into a community unlike any other.

GETTING STARTED

Now, where do you begin? The short answer is at the airport. If you haven't yet visited a local flight school, go to aopa.org/schools and search your area for a list of schools and their airport locations. Then either call or stop in and tell them you want to learn to fly. Do this at a few schools so you can find the place that's right for you. Then you can meet with an instructor, take an introductory flight, and get started. But before you do, it can be helpful to set out a list of goals and priorities. Doing this begins with asking yourself some basic questions.

1. Why am I learning to fly?

Clearly identifying why you want to learn to fly can be a great way to set your training on the right path. Learning to fly in pursuit of a career can be a very different experience from learning to fly purely for enjoyment. Have this discussion with your instructor so she can tailor your experience.

2. What will I do with a pilot certificate?

Knowing what you want to do with a pilot certificate can be helpful for many reasons. It sets proper expectations of both you and your instructor, it can help your instructor tailor your training, and it is the first step toward setting goals.

3. How much am I willing to spend?

It can be devastating to go most of the way through training, only to have to stop before earning a certificate because of lack of resources. Plan to spend anywhere between \$8,000 and \$15,000 to earn a certificate. Most students pay as they go, which can help. A shortage of money prolongs training, which costs more money in the long run.



TAKE THE KNOWLEDGE TEST EARLY.



SCHEDULE LESSONS AT LEAST TWICE A WEEK. THREE TIMES IS BETTER.



HOW TO CHOOSE THE RIGHT FLIGHT SCHOOL

Finding your flying family

The most important decision you will make when learning to fly is your instructor. The second most important is the flight school. Pick the right flight school and your odds of having a positive experience increase greatly.

Flight schools are very diverse. Maybe it's one instructor incorporated as a business with one airplane, or a collegiate flight training program with corporate backing, an alumni network, and 100 brand-new Cessnas.

Whatever the size of the school, the most important attribute should be how it feels to you. A school can have the best reviews,

but if you don't feel like it's the right place for you, keep searching.

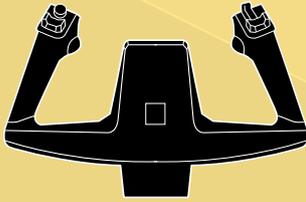
Getting the feel of the school is the first step. Do you feel comfortable there? Is the staff friendly and helpful? Do you feel like a valued customer?

Assuming the feel is right, consider some of the factors that might be important to you. Can they accommodate your schedule? Are the airplanes well maintained? Do they have a good safety record? Are the airplanes clean and well cared for? Do the students seem happy and engaged?

A few years ago, AOPA researched the ideal flight training experience. The project revealed a

model where students felt like they were valued, the training was organized, there was transparency, the instructors were experienced, and everyone felt a sense of community. That research helped inform AOPA's annual Flight Training Experience Awards, which recognize the best flight training providers in the country, as rated by students.

Take introductory flights at a few schools and the differences will start to shine through. Then have a chat with the owner or chief instructor, ask pointed questions, and consider all the factors before making a commitment. —IJT



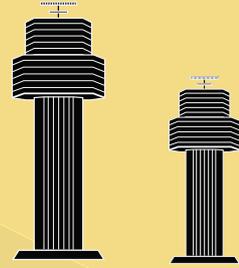
Fly with an instructor

You'll be taking the controls from Day 1. Many students take off, fly, and even land the aircraft during their introductory flight lesson.



Solo flight

During the first solo flight, students typically perform three takeoffs and landings while the instructor watches from the ground. This exciting accomplishment showcases the hard work you've done up to this point.

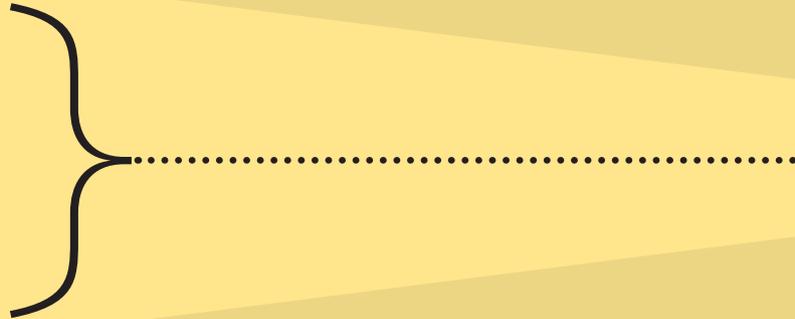


Fly to other airports

On cross-country flights, you will learn how to navigate to, communicate with, and land at other airports.

IN THE AIR

The process of learning to fly can be mystifying. Flying is a mix of knowledge and skill, some learned on the ground and some in the air. You will study, take tests, and practice. In the air, the process is broken into large segments that make it easy to track your progress.

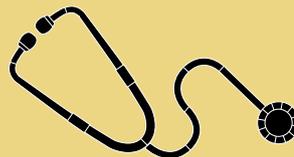


ON THE GROUND



Learn, practice, study

You will start building your aviation knowledge during the first part of your training experience. As you learn new skills and theories, it's helpful to review these techniques frequently, and bring them into your flight training practice.



Medical exam

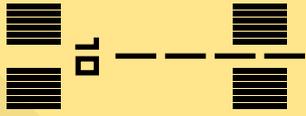
As a prerequisite for solo flight, students pursuing a private or recreational pilot certificate must pass a basic medical exam and obtain a medical certificate. Students pursuing a sport pilot certificate don't need to pass the medical exam, but all students need a plastic student pilot certificate.



Simulator use

Simulators can help you practice your training skills and techniques on the ground—whether you use a computer program at home or a simulator at your flight school.

PATH TO THE SKY



Practice flying maneuvers and landing

Once you've done your solo and cross-country flights, you'll spend time practicing your maneuvers in preparation for your checkride. During this time, your flights will be a mix of solos and flight lessons with your instructor.



Checkride (practical test)

The "checkride" is an oral and practical test of your aviation skills—and it brings together elements from every aspect of your training. During your checkride you'll fly with an FAA designated examiner who will measure your skills against standards for pilot certification. In addition to observing your technique as a pilot, the examiner will ask you questions to evaluate your knowledge of aviation theory.



Go explore; keep learning

Pilot certification is just the beginning of your journey as an aviator. Whether you continue your training to earn other ratings and certificates or share your passion for flying with friends and family, there are countless ways to engage with aviation beyond your initial training.



Knowledge test

Once you've completed your ground school training, you will take the "written" test—a computer-based multiple choice exam created by the FAA (Federal Aviation Administration). It will test your knowledge of the theories covered in ground school.

The relationship between the instructor and student is critical. Your instructor will serve as teacher, mentor, counselor, and friend. Make sure you have a good relationship built on trust and respect.



THE STUDENT EXPERIENCE

Remember: You're the boss

OK, you know you want to learn to fly. And you understand that to earn a certificate there is some training involved. Now what? The process to transition from earthbound to soaring in the heavens can be mysterious when you first begin. Here are some of the basics.

The first thing to remember is that you are the boss. You are the customer, the person in charge, and the learner. How you go about the training process is largely up to you. The schedule, type of airplane you fly, and with whom you fly are all your decisions, from day one to the day you earn a certificate.

Learning to fly requires mastering some knowledge and skills. The knowledge can and should be obtained mostly through ground-based study, while the skills will be honed in the aircraft and sometimes simulators. Studying can happen on your own, in a group, through an online course, or with your instructor. Developing skills will take time, and usually happens one-on-one with you and the instructor in the airplane.

You can expect each lesson to take around two hours, sometimes more. Just like in college, add in some out-of-class study time before and after each lesson.

During the lesson you will discuss the objectives with the instructor in advance, go fly, and then discuss progress afterwards. Even on more challenging days this should be a fun, enriching experience.

But, most important, remember the first rule: You are the boss. Make the process what you want it to be. Hang around the school if you're looking for a social group, meet up with other students, offer to help out in the shop if you are interested in learning about mechanical things, or just pop in and out for lessons as you can. —*IJT*

! DOES THE SCHOOL YOU ARE INTERESTED IN HAVE A SIMULATOR? USE IT.

4. How much time can I invest?

Do you have time to fly a few times a week and study for a few additional hours? If so, you are ready to learn. If not, consider whether now is the right time in your life to begin training. You can still hang out at the airport, take intro flights, and make friends in aviation. But if you aren't ready to commit time, it may make sense to wait until you can.

5. Do I have the support?

Support at home is a huge factor in aviation. An encouraging spouse, parents, children, and other people close to you is critical. Be honest with your family about the time and resources required, and make sure you have their support before you begin. If possible, involve them in the training process by helping you study.

6. How do I learn?

Do you learn best by reading? Maybe you absorb information better by watching videos, or chatting with others. Whatever the method, think about your other experiences learning skills as an adult and mimic that for flying. Every method of teaching is available. It's up to you to find what works best.

7. What am I afraid of?

Some learners struggle for months in silence, only to later admit that their lack of progress is because of a fear of motion sickness, or bumpy weather, or failure. It may be hard to pinpoint until after training begins, but be honest with yourself and express any reservations to your instructor. He has seen it all before and can offer help to get you beyond apprehensions or fears. Everyone has been there, so don't be shy about admitting it.

8. Am I committed?

Learning to fly will change your life. But as with most things that make us grow and improve, it's not without challenges. There will be plateaus in your progress and sometimes the material is confusing, and the skills are not easy. A sense of commitment, and of being able to see the final goal, can be a great motivator during the more challenging times.

PICK YOUR PART

Structure and oversight distinguish school types

Instructors at flight schools love to talk about Part 61 versus Part 141. Consider it your first introduction to aviation jargon. These terms refer to sections of the federal aviation regulations that detail training requirements. Part 61 covers basic pilot training; pilot and medical certificate requirements; and much more. Part 141 details FAA-approved flight training programs.

You are doubtlessly asking yourself, aren't all training programs approved? Sort of. Instructors are FAA certificated, and their students must train to an established standard. But how the training progresses is completely up to the instructor. In Part 141 programs, the FAA has approved the school's training syllabus, its operating procedures, and the experience of the person running the program. The upshot is that you are eligible to earn a certificate in fewer hours while training at a Part 141 program.

That said, few students earn a certificate in the minimum hours, and each school should be evaluated on how it best fits in with your goals and values. —JJT



CAROLINA ANDERSON

"I love being in a country where you can feel safe, can own your own aircraft, where there is the freedom to fly. I fell in love with general aviation in the United States—and the opportunity for women is better in the U.S."

Anderson, who is from Colombia, is the first woman to earn a doctorate in aviation and is a professor at Embry-Riddle Aeronautical University in Florida.



WHAT'S A LESSON?

Getting the most from your training

Soon you'll settle into the routine of a typical flight lesson. It will go something like this:

First the instructor will greet you and discuss the lesson's objectives. After checking the weather, you will make a plan. Early in training, you'll both go to the airplane to do preflight checks and make sure it is ready to fly. Later you will perform the preflight on your own under your instructor's supervision.

During the flight you will practice various skills, much as baseball players take fly balls or musicians practice scales. Typically, you will fly between an hour and 90 minutes. Initially the instructor will demonstrate the skill and then give you a chance to practice. Repetition is key to learning, so don't be surprised when you perform a skill multiple times.

Finally, once you've landed and the airplane is secured, the instructor will discuss your progress and make a plan for the next lesson.

It can be a lot to do in two hours, and each lesson will leave you feeling both tired and excited for the next challenge.

—*JT*

WHAT'S NEXT?

Now that you have a clear set of purpose and goals, and you've made a commitment to move forward, it's time to get started.

Before you can officially become a pilot, you must fulfill a few requirements. For private pilot Part 61 airplane training (see "Pick Your Part," page 15), these include:

- Be 17 years old (but you can solo an airplane at 16). There is no minimum age to start taking lessons.
- Be able to read, write, and understand English.
- Obtain a medical certificate.
- Obtain a student pilot certificate.
- Pass a knowledge exam.
- Fly a minimum of 40 hours, including 20 hours with an instructor, and 10 hours solo in the airplane. Among those 40 hours are a series of sub-requirements, including night and long-distance flying.
- Pass a practical and oral exam.

Keep in mind that most students do not take the practical test at the minimum time requirement. The test only occurs when the student is proficient, and every student is different. Talk to your flight school for a better idea of the average training time at their location.

FROM A TO Z

In the deluge of information coming at you early in the process it can be helpful to understand what it takes to get from zero to hero. Although it's important to keep in mind that learning to fly is a flexible and student-driven endeavor, there are some basic steps that must be accomplished along the way.

Step 1: Take an introductory flight

Is flying right for you? A great way to find out, and to evaluate a potential flight school, is to take an introductory flight. Almost every school offers some form of intro flight. Typically, you'll meet an instructor, chat about why you're there, and then fly for around 30 minutes. The best part? You get to actually fly the airplane!

DID YOU KNOW you can earn your private pilot certificate in a glider, helicopter, or hot air balloon? Students can solo a glider or balloon at 14 and earn a private pilot certificate at 16.

Learning to fly will open up opportunities you never knew existed. This Aviat Husky with big, soft tires can take off and land everywhere from international airports to small patches of dirt in the mountains.



Small light sport aircraft are a faster and less-expensive path to a pilot certificate. If you only ever plan to fly you and a friend or loved one for fun, it's a great option. Even if your dreams include large jet aircraft, LSA can be a good first step.



SCHEDULING TIPS

How to keep your training on track

Flight lessons are scheduled individually, at your own pace, and usually via a website. Scheduling an aircraft and instructor can be a challenge at some of today's busy flight schools. Here are some tips to make sure your training stays on track.

Make it regular. Find a regular time in your personal schedule, and keep that time open for flying. Maybe it's before work, during lunch, or on the weekend. Whatever the time, making it a regular appointment can help keep you focused on progressing.

Schedule early. Schedules can fill up fast. Grab your chosen time with an aircraft and instructor as far in advance as possible.

Schedule often. Don't feel bad about filling up a regular schedule a month in advance. Grab that time and make it



SAMMY MASON

“I really don’t think much about my age because the racing itself requires all my focus. It’s unreal to do the stuff air racing allows us to do. Flying fast means flying coordinated, especially at low level. A Cub, a Stearman, and a Pitts obviously can’t go nearly as fast or pull as much G as an Edge—but they teach you a lot about coordination.”

Mason is one of the youngest aerobatic performers at EAA AirVenture in Oshkosh, Wisconsin, and competed in the Red Bull Air Races.

Step 2: Choose a school and instructor

This is a critical step. Find a school and instructor you like, and with whom you feel comfortable. You are the boss here, and it is in your best interest to ensure you are secure in the training environment (see “How to Choose the Right Flight School,” page 11, for more information).

Step 3: Start flying

Schedule lessons as often as you can. Flying more frequently generally encourages more efficient learning. Although you may hear the journey of learning to fly described as a course, it is a series of independent lessons scheduled on your terms and with the instructor you choose.

Step 4: Get a medical certificate

Every private pilot must obtain an FAA medical certificate at least once (see “Fit to Fly?” page 25). Get this out of the way early in your training to avoid potential delays later on.

Step 5: Study

Nothing saves more time and money than studying between lessons. Some people say that flying an airplane is 10 percent skill and 90 percent knowledge and judgment. Much of the latter can be learned on the ground in books, videos, and online courses.

Step 6: Take the tests

To earn a pilot certificate you must take three tests: the knowledge exam, oral exam, and practical exam. The knowledge exam is a computer-based multiple-choice test based on the studying you will do throughout your training. You can take it any time during the learning process. Earlier is better, as it avoids cramming at the end of training. The oral and practical exams come at the very end, and are conducted by an FAA designee near you. If you have studied hard and feel confident in your flying, the tests will be a formality.

Study hard, commit to your training, and you will find the journey of learning to fly as fulfilling as the destination. Remember that all pilots have been through it, and you are joining a community that is ready and eager to help newcomers. Soon you’ll look skyward not with envy, but with anticipation. 🧐

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yours on the flight school’s and instructor’s schedules.

Love the one you’re with.

It can be tempting to schedule other instructors when yours isn’t free. Try to avoid it. Unless your school is highly standardized, jumping from one instructor to another often adds time to your training.

Think creatively. Weather will keep you on the ground at some point. While it is more likely in Pennsylvania than it is Arizona, it will happen regardless of where you are training. Don’t take that day off. Study, do a ground lesson with the instructor, fly the simulator, or go to the maintenance shop. Whatever you do, don’t take

the opportunity to bag out and go back to work.

Be your own advocate.

If scheduling challenges are a regular occurrence at your school, talk to your instructor, the chief instructor, or the owner. If you can’t regularly schedule lessons, consider switching schools. Regular training is essential to progress. —JT

DIFFERENT PATHS TO THE SKY

Personal flying, or professional?

Are you interested in learning to fly for personal reasons, or as a potential career? (“Fun” is a perfectly valid personal reason.) Either way you eventually have to pass the same tests, and demonstrate your flying skills to the same standard for an initial pilot certificate. But there are two paths to that destination, and one might offer benefits to aspiring career pilots.

A new pilot can choose from several pilot certificates. Sport pilot and recreational pilot offer lower training requirements, but there are limits on the privileges they grant. The private pilot certificate is the gateway to additional aviation credentials—like the instrument and multiengine ratings, and commercial pilot certificate—that will be required for most flying jobs.

Some flight schools are certified under Part 141 of the federal aviation regulations—often called “Part 141 schools”—and others operate under Part 61. Although performance standards are the same, Part 141 is more prescriptive, with a more structured curriculum and other requirements. The benefit is that the minimum number of flight hours required for a certificate or rating is lower for Part 141 training. And many find the more structured Part 141 environment to be good preparation for airline or other commercial flying.

Almost all colleges and universities that offer aviation degree programs, and many large commercial flight training operations, choose to operate under Part 141. Part 141 pilot schools must use a structured training program and syllabus. The curriculum must be FAA-approved. These schools must provide flight instructor oversight and dedicated training facilities, and may provide a greater variety of training aids.



TAYLOR DEEN

“I’ll chat with someone at a party, and then mention I fly blimps. They immediately ask how to get a ride. Everybody is happy and excited. There’s no other flying like it. It’s very hands-on, and there’s a lot of physical work to fly it.”



Deen, a Goodyear senior airship pilot, is one of only 22 blimp pilots in the United States.

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PRIVATE	SPORT	RECREATIONAL
<p>REQUIREMENTS: Include an FAA medical certificate and a minimum of 40 hours of flight training.</p> <p>RESTRICTIONS: High-performance, tailwheel, retractable-gear, and certain other airplanes require additional training; no flight for compensation.</p> <p>PROS: Training aircraft are widely available, offers pilots the most privileges of initial pilot certificates.</p>	<p>REQUIREMENTS: Driver's license accepted in lieu of an FAA medical certificate; minimum 20 hours of flight training required.</p> <p>RESTRICTIONS: No night flight, aircraft no more than 1,320 pounds maximum gross weight, up to two seats (light sport aircraft only); to fly in airspace that requires communication with air traffic control, you must receive extra training and a logbook endorsement from an instructor; no flight for compensation.</p> <p>PROS: Shortest training requirement; aircraft rentals generally less expensive than comparably equipped four-seat aircraft; no FAA medical required.</p>	<p>REQUIREMENTS: Include an FAA medical certificate and a minimum of 30 hours of flight training.</p> <p>RESTRICTIONS: Only one passenger, no night flights; maximum four seats, 180 horsepower; to fly cross-country or in airspace that requires communication with air traffic control, you must receive extra training and a logbook endorsement from an instructor; no flight for compensation.</p> <p>PROS: Less training required than for private; more aircraft available to fly than for sport.</p>

How much training time can you save by attending a Part 141 school? The private pilot certificate can be obtained in as few as 35 hours, compared to a minimum of 40 at a Part 61 school; the instrument rating in 35, compared to 40; and a Part 141 student can qualify for the commercial certificate 120 hours later, at 190 total hours—compared to 250 hours under Part 61.

MANY FIND THE MORE STRUCTURED PART 141 ENVIRONMENT TO BE GOOD PREPARATION FOR AIRLINE OR OTHER COMMERCIAL FLYING.

Remember, however, that these are the minimum required hours, and many students will require more time in the cockpit—whether they're training at a Part 61 or Part 141 school.

The best thing you can do to keep your training progressing quickly, regardless of what type of school you're attending, is to

fly consistently. Schedule three lessons per week if you can; then, even if you miss one from time to time—because of weather or any other complication—you'll still progress in an efficient manner. You can still earn a pilot certificate if you only fly once

every few weeks, but it will take longer because you'll spend more time repeating tasks, getting back to where you were at the end of the previous lesson. 🧐

mike.collins@aopa.org



Choosing a school Career track versus recreational training paths

Created by California Aeronautical University

One of the initial challenges in flight training is deciding what type of flying you want to do. Do you see yourself as a career pilot flying for an airline, flight instructing, in the armed forces, or flying for a charter company, or do you see yourself flying for recreational purposes? What you love to do as a hobby may not be what you see yourself doing as a career. Understanding your goals is the first step to executing the most efficient and cost-effective path to becoming the pilot you have always wanted to be.

When choosing a flight training path in pursuit of a career, timing is a significant consideration. The goal of most career-track pilots is to complete training in the most efficient manner with the most cost-effective options so that you can start working as quickly as possible. Flight training providers like universities and flight training academies conduct their flight training with the goal of preparing you to work as a pilot. One of the benefits of these flight training providers may be the reduction of the minimum flight hour requirements for ratings and certificates.

GETTING STARTED

Everyone has to start somewhere. Whether they aspire to fly heavy iron for a career or take a friend on weekend breakfast runs, pilots all start by earning an initial FAA certificate. The private pilot certificate is the most common, and it makes the most sense for students who intend to move on with advanced ratings or fly for a living. But sport or recreational pilot certificates may be the best fit for pilots who intend to fly only for fun or personal use. The main restriction on these three certificates is that you may not fly for compensation or hire. Here's what you can do:

- Fly to the beach—or the mountains. Bring a friend.
- Travel for business, to small airports close to your destination.
- See your hometown from the air.
- Fly to Oshkosh, Wisconsin, for the massive annual EAA AirVenture fly-in.
- Or to Lakeland, Florida, for Sun 'n Fun. Or to one of AOPA's regional fly-ins (aopa.org/fly-ins).
- Fly across the country, for no particular reason.
- And more! —*Sarah Deener*



CONTINUING EDUCATION

A good pilot is always learning. After the initial pilot certificate, pilots may decide to pursue additional qualifications to expand their horizons and increase their pilot privileges. Pilots may barrel through most of these endorsements, ratings, and certificates on their way to an airline career, or they may choose a sampling based on how they want to fly.

- Instrument rating: Fly in clouds.
- Multiengine: Fly airplanes with more than one engine.
- Commercial: Fly for pay.
- Flight instructor: Teach others to fly.
- Ground instructor: Teach others about flying.
- Airline transport pilot: Fly for an airline.
- Add-on ratings: Seaplanes, gliders, helicopters, hot air balloons.
- Endorsements: High-altitude, faster airplanes, tail-wheel airplanes, retractable-gear airplanes. Approved by instructor sign-off—no checkride required.
- Type ratings: Fly specific models, required for jets and large turboprops. — *Sarah Deener*



JOHN SAUER

Some universities, depending on their approvals, can reduce the air transport pilot (ATP) certificate age and flight hour requirements for students who complete their degree and flight training programs. This is referred to as a restricted air transport pilot or R-ATP, which may be earned at age 21 versus the standard minimum age of 23. Another advantage is the partnerships that these flight training providers may have with regional airlines and aviation companies. These partnerships create an opportunity for someone to transition into cadet programs with attractive benefits, further increasing the probability of gainful employment.

When choosing a flight training path for recreational flying, time may not be as significant a consideration. Those who are training as hobbyists tend to fly when they have the time and the money to do so. The time it takes to obtain certificates and ratings can vary depending on how frequently someone flies. Recreational-track pilots tend to focus on obtaining their private pilot certificate and instrument training, whereas pilots training to fly as a career are obtaining a commercial certificate or greater.

One of the benefits of recreational flying is the welcoming general aviation community. Local flying clubs and chapter-based organizations such as the Experimental Aircraft Association, Civil Air Patrol, or The Ninety-Nines can support you in your training and can make what may seem to be an intimidating venture more attainable. Whether you decide on the career or recreational track, one thing is certain: You will be amazed at the support you receive from the aviation community.

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FIT TO FLY?

What you must know about medical certification

A pilot certificate, once earned, is generally yours for life. To exercise the privileges of a pilot certificate in a powered aircraft, however, you also must have a current medical certification, obtained after a physical examination by an aviation medical examiner (AME, simply an FAA-designated physician). The only exception is for sport pilots, who with a valid driver's license can self-assess that they are medically safe to fly. Three levels of medical certification correlate to the privileges granted by different pilot certificates.

Pilots who exercise airline transport pilot (ATP) privileges—airline and certain other professional pilots—require a first class medical, valid for ATP privileges for six calendar months for pilots age 40 and over. If under 40, the first class is valid for 12 months.

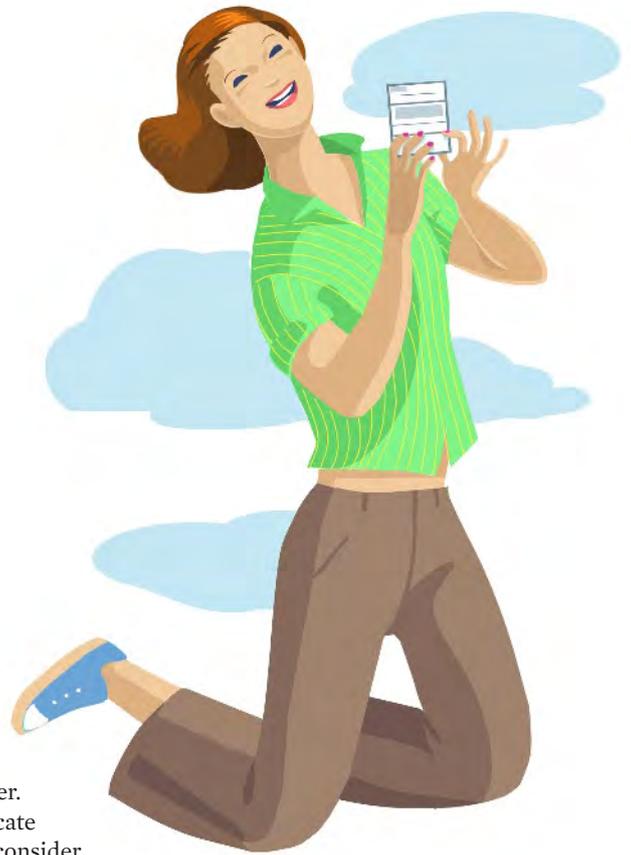
Pilots flying commercially—charter flights, crop dusting, and similar activities—must have a second class medical, valid for commercial privileges for 12 months.

Private and recreational pilots—flying for pleasure or personal business, but not for hire—need only a third class medical. This certificate is valid for 24 months for holders over age 40, and 60 months if 40 or younger.

Before soloing, a student pilot must obtain a third class medical certificate from a designated AME. Students who aspire to fly professionally should consider obtaining a first class medical instead, to ensure there's no unforeseen health issue that might prevent them from landing that airline job. After obtaining an initial FAA medical certificate, most private pilots have the option of transitioning to BasicMed, a simpler process requiring a physical exam at least every 48 months by any state-licensed physician.

Perfect vision is not required, although you must be able to see 20/20 or better in each eye, with or without correction, for a first or second class medical; 20/40 or better in each eye for third class.

There are 15 specific disqualifying conditions, including severe personality disorder, psychosis, substance dependence/abuse, epilepsy, and a variety of heart conditions (myocardial infarction, angina pectoris, coronary heart disease, cardiac valve replacement, permanent cardiac pacemaker implant, or heart replacement).



However, even some of these can qualify for medical certification if health has improved and enough time has passed. Under some circumstances strokes and “ministrokes” can be reconsidered after one to two years of recovery. And recent FAA rule changes have made it possible for people with insulin-treated diabetes to qualify for commercial flying opportunities.

MEDICAL CERTIFICATION STANDARDS

MEDICAL CERTIFICATE	FIRST CLASS	SECOND CLASS	THIRD CLASS
TYPE OF FLYING	AIRLINE TRANSPORT	COMMERCIAL	PRIVATE, STUDENT, RECREATIONAL
DURATION	6 MONTHS IF AGE 40 OR OLDER; 12 MONTHS IF UNDER AGE 40	12 MONTHS	2 YEARS IF AGE 40 OR OLDER; 5 YEARS IF LESS THAN 40 AT EXAM
DISTANT VISION	20/20 IN EACH EYE, WITH OR WITHOUT GLASSES/CONTACTS		20/40 IN EACH EYE WITH OR WITHOUT GLASSES/CONTACTS
NEAR VISION	20/40 IN EACH EYE, WITH OR WITHOUT GLASSES/CONTACTS		
COLOR VISION	COLORS NECESSARY FOR SAFE PERFORMANCE OF AIRMAN DUTIES		
HEARING	CONVERSATIONAL VOICE AT 6 FEET WITH BOTH EARS, OR AUDIOMETRY		

MEDICAL CERTIFICATION OPTIONS

WHAT TO EXPECT AT THE AME

Hopefully you'll walk out with medical in hand

A visit to an aviation medical examiner (AME) to get your FAA medical certificate can be a quick process, with the wait to see the doctor often longer than the actual exam. The exam typically starts with you providing a urine sample, after which the doctor's assistant will record your height, weight, and blood pressure. Next, you'll be asked to take a vision test, including near, distant, peripheral, and color—don't forget to bring your glasses. At this point the doctor usually comes in and does his part. The doctor might whisper behind you to check your hearing and you'll do some basic exercises to check your balance. He'll check your reflexes and listen to your heart and lungs. Finally, you'll both review the application you completed on the FAA MedXPress website prior to the exam. If the AME has no concerns, he'll print out a paper medical certificate that you both sign immediately, and that's all there is to it. —*Kollin Stagnito*



Many young people have been diagnosed with attention deficit hyperactivity disorder (ADHD), previously called attention deficit disorder (ADD), or been treated for associated symptoms without a diagnosis. If an applicant for medical certification has been diagnosed with this condition or is taking one of the medications used to treat it, the FAA requires an extensive evaluation. Any medications must be discontinued for at least 90 days before a neuropsychological evaluation with a clinical psychologist or neuropsychologist. If the indi-

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vidual really does have ADHD as determined by the evaluation, medical certification is less likely.

The FAA can deny a medical certificate to anyone with an established history of substance dependence or abuse. Even a single alcohol-related motor vehicle conviction in one's driving history could negatively affect an application for a medical certificate. A history of multiple DUI/DWIs further complicates the process. You will be asked to provide extensive additional information about your past and current use of alcohol.

Once you have a medical certificate, you're responsible for monitoring your health and temporarily grounding yourself when you're under the weather. Sinus congestion on the ground can become a debilitating headache if you hop in an airplane and climb several thousand feet.

AOPA employs a team of medical certification specialists to help pilots through the certification process, which can be complicated. If you're concerned about a condition or have questions, call them at 800-USA-AOPA (872-2672) or visit aopa.org. 

mike.collins@aopa.org

BEFORE YOUR FIRST VISIT

AOPA can help set you up for success

The FAA requires specific documentation for certain medical conditions before it will grant a medical certificate. Gathering that information before you arrive at the aviation medical examiner's office can spare you the long wait time of a deferral, and may even allow the AME to grant the certificate in the office. If you have questions about a health condition that could delay the processing of your medical certificate, call AOPA medical certification specialists at 800-USA-AOPA (872-2672) or go online (aopa.org/medical). This phone service is free to members. For more complicated medical situations, enrollment in AOPA's Pilot Protection Services includes a status check with the FAA and personal advocacy in the medical certification process (Basic) and a review of your medical records prior to submission (Plus).

—Sarah Deener



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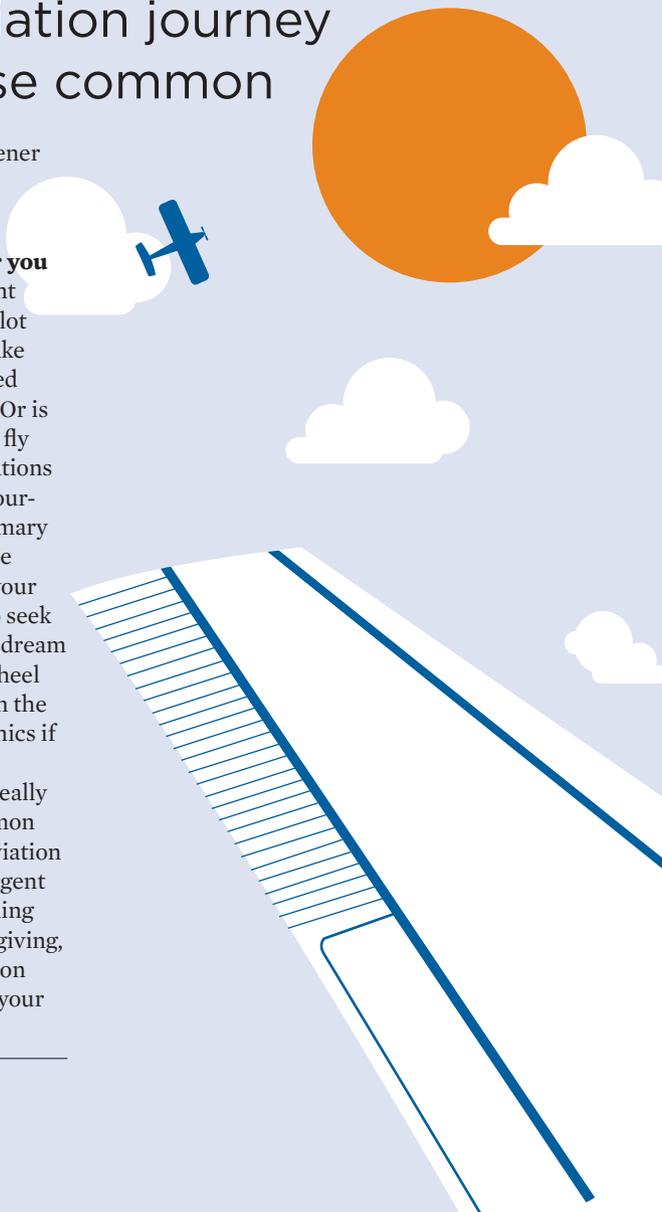
Start your aviation journey in one of these common trainers

By Sarah Deener

The right training airplane for you depends in part on what you want to do once you've earned your pilot certificate. Splash from lake to lake in Florida? Touch down on ragged gravel bars in the Alaskan bush? Or is your goal to fly an airliner—or to fly corporate clients to their destinations in sleek, new jets? The two- or four-seat aircraft you use for your primary training will help you develop the skills and habits you'll need for your flying future, so you may want to seek out an aircraft that mirrors your dream airplane in some way—say, tailwheel configuration if you want to fly in the backcountry, or glass-panel avionics if you want to fly a jet.

The good news is, there are really no bad answers among the common training models in the general aviation fleet. All aircraft must meet stringent certification standards, and training aircraft are built to be stable, forgiving, and tough. Here are some common trainers you might encounter at your local airport. 

sarah.deener@aopa.org





Cessna 172

Introduced in 1956, this four-seat, high-wing, all-metal airplane is probably the reason most of your friends call every small aircraft they see a “Cessna.” Part of Cessna’s line of high-wing piston single-engine airplanes that dominated the flying boom of the 1960s and 1970s, the 172 is the most-produced aircraft of all time—and a large part of its success has been earned on the line at flight schools. It’s stable and predictable, and Cessna pilots can easily transition to models up and down the piston single line. Today, Skyhawks are still in production—but they roll off the assembly line with glass-cockpit avionics and other updates.

Also consider: [Cessna 152](#), [DA20](#), [Vulcanair V1.0](#).



Cirrus SR20

Sleek, carbon fiber construction? Check. Thoughtful, automotive-style interiors and modern avionics? Check. Oh—and the parachute. The Cirrus SR20 stormed onto the scene in the late 1990s with an innovative feature that helped send Cirrus skyrocketing to the top of the piston aircraft industry in the twenty-first century: a whole-airframe parachute that could lower the airplane safely to the ground in the event of in-flight emergency. Although the Cirrus brand has luxury connotations, basic models of the SR20 are becoming more popular among flight schools and university programs for their modern features reminiscent of airline cockpits.

Also consider: [Diamond DA40](#).



Piper Pilot 100

The Piper PA-28 line—a series of low-wing, all-metal aircraft including models such as the Warrior, Arrow, Archer, and Pilot 100—began with the Cherokee, introduced in 1961 as an economical replacement for Piper’s high-wing Tri-Pacer. The stable four-seater and its successors are forgiving airplanes with docile handling, contributing to their popularity as personal and training aircraft. PA-28s today come standard with glass-panel avionics, and the Pilot 100 variant, tailored to flight schools, cuts costs by eliminating features such as sun visors and the baggage door while retaining useful training features such as glass avionics.

Also consider: [Beechcraft Skipper](#), [Ercoupe](#), [Grumman Cheetah](#), [Piper Tomahawk](#).



Piper Cub

The Piper J-3 Cub is one of the most iconic aircraft of all time. This tandem-seat, fabric-covered two-seater brought aviation to the masses in 1938 and became the fastest-produced trainer of the World War II era. The J-3 was affordable and easy to fly, and the basic Cub design lived on with successive improvements in performance and payload. The PA-18 Super Cub is still a favorite among backcountry pilots and tailwheel enthusiasts, and Cubs make good tailwheel trainers for their simplicity and docile handling characteristics. Although Piper no longer manufactures Cubs, others have taken up the mantle with modern takes on this aviation classic.

Also consider: [Aeronca Champ](#), [American Champion Citabria](#), [American Legend Cub](#), [CubCrafters Carbon Cub](#).



Van's RV-12

Responsive handling, good visibility, and modern avionics have helped this low-wing, aluminum two-seater climb to the top of the light sport aircraft market since its introduction in 2006. Available as a factory-built aircraft or as a kit, the RV-12's simple construction is an advantage for both sport pilots learning stick-and-rudder skills and builders who choose to assemble the model themselves. But don't rule it out for advanced training: Glass-panel avionics, a sophisticated autopilot, and low operating costs contribute to its value as a trainer. And, it's just plain fun.

Also consider: [Bristell LSA](#), [Magnus Fusion 212](#), [Sling](#), [Sportcruiser](#).



Icon A5

Speaking of fun: Icon's sporty A5 amphibious light sport aircraft is designed for adventurous hops between runways and waterways. With an automotive-inspired instrument panel and interior, the A5 has a motorsports vibe to it that Icon hopes will draw non-pilots into aviation. Although other seaplane models are more widely available to non-owners for training, Icon's focus is on training new owners: Purchase of an A5 comes with factory training that emphasizes angle of attack, an important aerodynamic concept that improves pilots' intuitive understanding of the airplane.

Also consider: [Progressive Aerodyne SeaRey](#); [Aviat Husky](#), [Piper J-3 Cub](#), [Piper PA-18 floatplanes](#).



Vashon Ranger

This high-wing, metal light sport airplane plays dual roles as rugged, utilitarian traveler and economical trainer. With a surprisingly roomy interior for the weight-limited LSA category, responsive handling, and docile stall characteristics, the Ranger has had broad appeal since it was introduced in 2018. Standard on the Ranger is a glass panel from Dynon Avionics, a maker of innovative avionics for light sport and amateur-built aircraft that is co-located with the Vashon factory.

Also consider: [Flight Design CTLS](#), [Tecnam P2008](#), [Texas Colt](#).

WHY I FLY



LUKE LYSEN

"The experience of flying internationally is what you make of it. It's not all sunshine and roses. But you find good people everywhere, and I'm interested in learning about them and hearing their stories. That's the part I really love about this kind of flying—and that's why I find it so fascinating."

Lysen ferries aircraft to customers around the world and leads group flights in Alaska, California, Europe, and New England.



Robinson R22

An affordable helicopter? The R22 is as close as it gets. This light, piston-powered helicopter has dominated the civilian helicopter training market since the 1980s because it could be owned and operated for a fraction of the cost of other helicopters of the day. Add reliability, maneuverability, and manufacturer support, and this two-seat model is the trainer of choice for helicopter flight schools around the world.

Also consider: Enstrom F-28, Guimbal Cabri G2, Schweizer S300.



Schleicher ASK 21

With its docile flight characteristics, a track record of reliability, good visibility from the cockpit, and a roomy interior, this two-seat glider is a popular choice for soaring instruction, from primary training through competitions. Earning a private pilot certificate in a glider is a fun way to get started in flying and teaches valuable skills that translate to powered airplanes if you decide to add that rating. Plus, it can be accomplished at age 16 instead of 17—and for less cost.

Also consider: Blanik L-23, Grob 103, Schweizer SGS 2-33.

Don't be surprised if some aircraft on the flightline are decades old; this doesn't mean they're run-down or unsafe. Aircraft are inspected every year by licensed aviation mechanics, and those rented out for training must be inspected after every 100 hours in use. Certain important parts must be overhauled or replaced at given intervals, and owners often invest in their aircraft with upgrades to the navigation equipment or instruments. As long as they are maintained properly, aircraft can thrive well into their golden years.



WHY I FLY



JESSICA COX

“I pulled up this picture of an airplane, and I put it on the backdrop of my computer, and I just remember looking at that airplane. It was the airplane that I eventually became certified in. But pulling up that picture during those moments of doubt, and just envisioning flying an airplane, even though it wasn't reality at the moment, it made the reality happen.”

Cox is the world's first certificated armless pilot, as well as the first armless black-belt in the American Taekwondo Association.





The gear you'll need

You can spend a little—or you can spend a lot

By Jill W. Tallman

Top Gun and YouTube aside, a student pilot needs just a few basic items to get by in the cockpit. You'll find fancy—read: “expensive”—versions of pilot gear aplenty, but almost everything has its less-expensive counterpart. Here's what we think should be in every student's bag, with fancy and basic versions to suit just about everyone's budget.

HEADSET: Protects your hearing from the drumbeat of a piston engine; allows you to hear what's transmitted on the airplane's communication radio.

Fancy: Active noise reduction (ANR) headsets use technology to dampen ambient noise (\$400 to \$1,200).

▶ bose.com; davidclark.com; faro.com;



lightspeedaviation.com; telex.com

Basic: Passive noise reduction headsets use earcups to block out noise (\$75 to \$400).

▶ davidclark.com; faro.com; sigtronics.com

Dirt cheap: Some flight schools allow students to borrow headsets (free).

KNEEBOARD: Keeps your chart, pen, and flight planning form in place and within reach on your leg with an elastic strap. Provides a personal desk to use while you write down radio frequencies, weather, or taxi instructions.

Fancy: Flight Outfitters iPad Kneeboard (\$75); Lift Aviation Navigator L-1 kneeboard (\$80); MyGoFlight iPad Pro Universal Kneeboard Folio (\$144).

▶ flightoutfitters.com; pilotmall.com; mgfproducts.com

Basic: ASA VFR aluminum kneeboard (\$14.95); Sporty's Classic (\$12.95).

▶ aircraftspruce.com; sportys.com

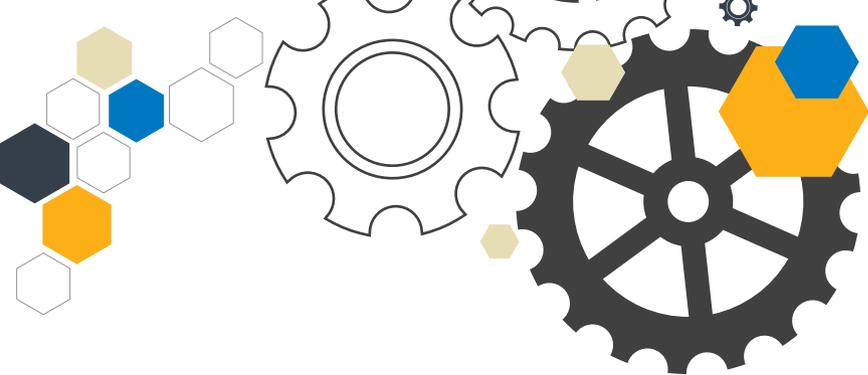
Dirt cheap: Clipboard purchased from an office supply store, leg strap not included (\$2.99).

▶ officedepot.com

FLIGHT BAG: Protects your gear from rattling around loose in the airplane; keeps everything in one place. Flight bags come in a wide variety of sizes and price ranges, with leather bags topping \$500 or more.

Fancy: Club Glove AOPA backpack (\$159);





MyGoFlight PLC Pro (\$299); Brightline preconfigured bag (\$389).

▶ aircraftspruce.com; sportys.com

Basic: Flight Outfitters Sling Pack (\$59.95); AirClassics flight bag from ASA (\$79.95); Sporty's Flight Gear HP iPad bag (\$69.95); Jeppesen book/student bag (\$31.50).

▶ flightoutfitters.com; asa2fly.com; sportys.com; aircraftspruce.com

Dirt cheap: Literally any bag—including your child's outgrown backpack—can be a flight bag (free).

E6B FLIGHT COMPUTER: Use this slide wheel to calculate fuel burn, wind correction, time en route, and more.

Fancy: Electronic version can do the same calculations as the analog version, plus additional functions such as timers and more robust conversions. ASA CX-3 flight computer (\$124.95); Sporty's Electronic E6B (\$69.95).

▶ asa2fly.com; sportys.com

Basic: Analog aluminum slide rule (\$24.95).

▶ asa2fly.com

Dirt cheap: Nearly every pilot has an analog E6B that hasn't seen the light of day in years. Could be yours for the asking (free; offer to pay for shipping).



endorsements, and a notation of every hour and every milestone you'll achieve in flight training. While many pilots move to electronic versions as they progress, most students start with a simple paper book.

Fancy: Leather pilot log, Rustico (\$62); includes ASA standard logbook.

▶ rustico.com

Basic: ASA standard logbook (\$10.95).

▶ asa2fly.com

Dirt cheap: Flight schools often package logbooks as part of an introductory flight (free, sort of).



PLOTTER: Use this tool to determine true course, measure the length of a course, and measure the distance between checkpoints on a sectional chart.

Fancy: There really isn't a fancy version of a plotter.

Basic: Forever sectional plotter (\$5.95).

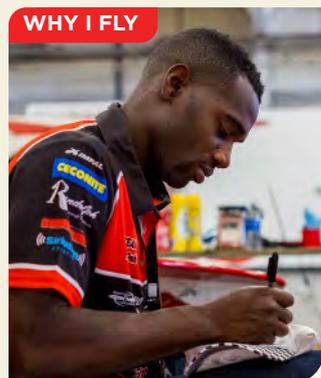
▶ sportys.com

Dirt cheap: As with the E6B, nearly every pilot has a plotter. Could be yours for the asking (free; offer to pay for shipping).

LOGBOOK: The official record of your flight time. It will hold instructor signoffs,

FLASHLIGHT: Handy for checking the dark recesses of an engine compartment, a brake assembly, or a tailcone during the preflight. A required piece of equipment for night flight. Should have multicolored lenses to preserve your night vision. Also: batteries.

Fancy: Flight Gear flashlight/headlamp bundle (\$49.95).



WHY I FLY

ANTHONY OSHINUGA

"You chose this road—it's not going to be easy. There will be speed bumps along the way—you know this is true. Don't get down if things don't go your way. When you're stuck in a rut, utilize the many resources that are out there."

Oshinuga is the first African American pilot to compete and podium-finish in the National Championship Air Races in Reno, Nevada. He performs in airshows across the United States in his aerobatic Pitts SIS.

▶ sportys.com

Basic: Four-color flashlight (\$39.95); iProtec Chameleon II Flashlight (\$19.99).

▶ sportys.com, cabelas.com

Dirt cheap: Promote one of your many household flashlights to aviation duty or use the flashlight on your smartphone; but we suggest you do this only as a backup (free). 🔍

jill.tallman@aopa.org



WHY I FLY



MARK BROWN

“Aviation is a very small community and we’ve all shared similar struggles during training. Aviators are keen to share our passion, and we are always trying to help the next generation. I wouldn’t have been able to get where I am today without the help of numerous people. Also, don’t forget to return the favor—and always stay humble.”

Brown is chief demo pilot and sales director for Daher Kodiak.

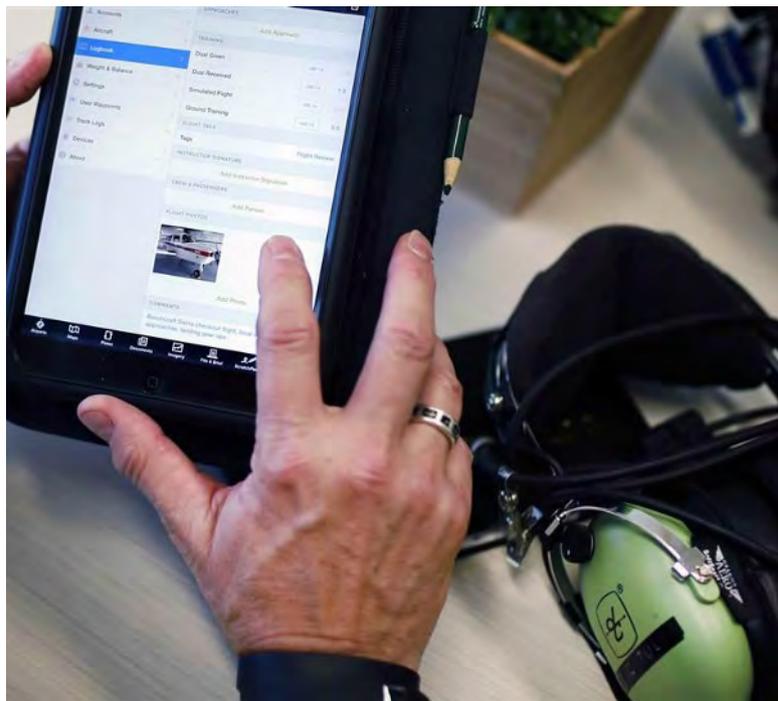
FOR THE RECORD

Electronic logbooks store memories in the cloud

Logbooks are more than just a legal record of each flight. While marking hour totals, landings, and other data they’ll need to reference for currency or to complete a certificate or rating, many pilots take the opportunity to record meaningful personal details with each entry:

- First passenger!
- Watched the sunset.
- Weekend at the beach.

Electronic logbooks such as the standalone LogTen Pro (individual pricing from free for student pilots, up to \$129.99 for a multiplatform subscription) and the integrated logbook in ForeFlight Mobile (\$99.99 for Basic to \$299.99 for Performance Plus) take that personal role to another level, with features such as the ability to attach photos and share flights. In addition to these personal touches, electronic logbooks can help you track currency, eliminate manual calculation errors you might see with a paper logbook, and view the GPS overlay of your flight on a map. And there’s no risk of losing all record of your flight hours if the logbook is lost or stolen: All your data is backed up in the cloud. —Sarah Deener





Revolutionary

TECHNOLOGY

Flight training has better tools than ever

By Dave Hirschman



schedules, checklists, aircraft documents, and even geo-referenced approach plates for flying in the clouds.

Each flight lesson can be recorded on tiny point-of-view cameras, and the images can be stored, edited, and reviewed on a big screen later.

Different strengths (and weaknesses)

Over-reliance on instant access to digital information can be a weakness, however. If the global positioning system is ever blocked, the avionics fail, or the aircraft electrical system dies, pilots have to know how to aviate and navigate by other means. That's why reading a compass and navigating by VOR radio navigation systems and dead reckoning are still part of flight training.

And as good as avionics technology has become, it hasn't made pilots infallible. We just make different mistakes.

For example, before GPS, it was common for pilots to get lost in the air. Now, with moving-map displays, that's rare. But it's not unheard of for pilots to load an incorrect airport code into a GPS and fly to the wrong airport. Those kinds of data entry errors happen to professional pilots, too.

At Atlanta's Hartsfield International Airport, one of the busiest in the world, pilots are required to read back the first waypoint in their departure procedure to ensure they're following the proper route. Those readbacks exist to catch such errors before they become critical—and they catch lots of them.

Data entry and programming mistakes can be frustrating and embarrassing, but usually less so than being lost.

Unintended side effect

Teaching and learning fast-changing avionics during initial flight training has had an unintended side effect: de-emphasizing stick-and-rudder flying and subtracting from the general storehouse of aeronautical knowledge and skills known as airmanship.

Veteran instructors and examiners often complain that new pilots today aren't as adept at rudder coordination as previous generations; they're no good at taking off or landing



WHY I FLY



SUSAN BELL

"I enjoy doing outreach to other pilots interested in the sport, as well as encouraging girls and women to pursue aviation as a hobby or career. It is so empowering when you achieve your goal of becoming a pilot, then continue on to accomplish other ratings and certificates, and learn to fly different types of aircraft."

Bell works at NASA's Jet Propulsion Laboratory and flies competitive aerobatics in her pink Extra 300.

WHY I FLY



CHRIS PALMER

“I also have a background in social media, photography, video, podcasts, and more. I can’t help but want to share aviation through all those avenues. That said, my passion is forever with the student, one on one, doing flight training. It speaks to everything I love about aviation, and I get to capture and share those experiences with others. It also helps keep me sharp at teaching others.”

Palmer, a CFI, owns a flight school in Homer, Alaska.



in crosswinds; and they can’t navigate without GPS. These kinds of criticisms are anecdotal and somewhat generational—but they shouldn’t be dismissed out of hand.

A generation ago, similar aspersions were cast on pilots who learned to fly in airplanes with tricycle (not tailwheel) landing gear and navigated by VOR (not NDB, a navigational aid that is now rare). Charles Lindbergh famously said in the 1950s that flying no longer interested him because it had become too easy. The man who became the first to fly solo across the Atlantic Ocean in 1927 with only a compass and a clock (and had no idea where he was for long portions of the 33-hour flight) thought radio navigation took the challenge out of navigation.

Never obsolete

Student pilots today have the luxury of learning best practices from more than a century of powered flight.

So, when you learn to fly, be a sponge. Learn all you can, wherever you can, and recognize your debt to the aviators who came before you for advancing the art and providing you with better tools than they ever had.

And as you progress, pay particular attention to the stick-and-rudder skills your predecessors prided themselves on mastering—and defy their expectations by getting good at it. Back up your GPS with old-school practices of terrestrial navigation and dead reckoning.

Consider these low-tech flying skills a silent way of saying thanks to those who came before you for making aviation better and safer than it’s ever been. 🕒

dave.hirschman@aopa.org

ALPHABET SOUP

UNDERSTANDING AVIATION'S ABBREVIATIONS

One of the first things you'll learn about flying—if you haven't already—is that the aviation community loves abbreviations and acronyms. Here are some frequently used ones to help you get off to a good start.

100LL One hundred octane low lead fuel, which most piston-powered aircraft use. Also called avgas.

A&P Airframe and powerplant mechanic, the person who repairs your airplane.

AD Airworthiness directive, this requires repair to an aircraft.

ADS-B Automatic Dependent Surveillance-Broadcast, a technology for tracking aircraft and helping to avoid collisions.

AGL Above ground level, your height above the Earth's surface.

AOPA Aircraft Owners and Pilots Association. The largest aviation community in the world.

ATC Air traffic control.

ATIS Automatic Terminal Information Service, which broadcasts runway and weather information at larger airports.

AWOS/ASOS Automated Weather Observing System or Automated Surface Observing System; these broadcast weather information at many airports.

CAP Civil Air Patrol, the civilian auxiliary of the U.S. Air Force.

CFI Certificated flight instructor, this is the person who will teach you to fly.

CTAF Common traffic advisory frequency, which you'll use to communicate with other pilots at airports without a control tower.

E6B A manual flight computer; today most are electronic.

EFB Electronic flight bag; for many pilots this means using an iPad app.

FAA Federal Aviation Administration, regulates aviation.

FAR Federal aviation regulations, a reference to Title 14 of the Code of Federal Regulations, which govern aviation.

FBO Fixed base operator, airport business that services aircraft. Similar to a gas station for your car.

FSS Flight service station, provides weather and airport information to pilots.

ILS Instrument landing system, helps qualified pilots land in poor visibility.

IFR Instrument flight rules, allow pilots with an instrument rating to fly in the clouds.

KIAS Knots indicated airspeed, how fast you're going in nautical miles per hour, as read from an airspeed indicator.

METAR Aviation routine weather report, this is the current weather at an airport.

MSL Mean sea level, your height above a constant reference.

PAPI/VASI Precision approach path indicator/visual approach slope indicator, shows if you're too high or low nearing a runway.

PIC Pilot in command, the aviator responsible for a flight.

POH Pilot's operating handbook, the user's guide for your aircraft.

TAF Terminal aerodrome forecast, the weather forecast for an airport.

TFR Temporary flight restriction, a place and time you should not fly.

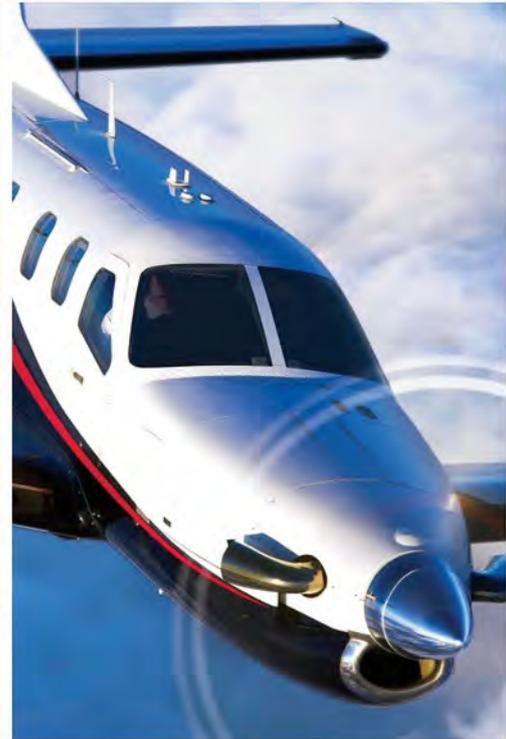
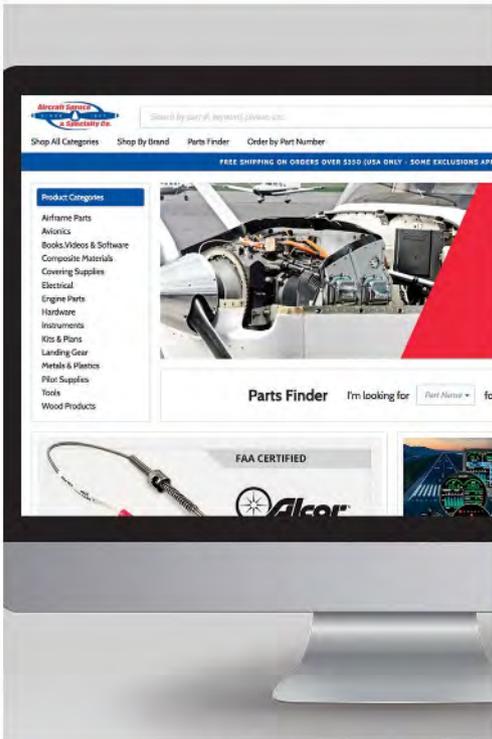
VFR Visual flight rules, flying with visual reference to the horizon.

VOR VHF omnidirectional range, a ground-based radio station many aircraft can use for navigation. 



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FINANCING YOUR TRAINING

8 ways to get your ticket

There is a lot of confusion over how much time and how much money it will/should take to complete flight training. A flight instructor recently congratulated a student on completing his checkride with a backhanded compliment: it was “annoying,” he said, the small amount of time the student took and how he “soaked up the knowledge practically overnight.”

Conservatively, expect to pay between \$8,000 and \$10,000 to obtain your private pilot certificate. But it is possible to spend \$15,000 or more. Variables such as your time, your instructor’s time, weather, ability, and proficiency all will affect the cost. Students “usually” solo by their twentieth hour of instruction and may be eligible to take their checkride by their fortieth hour. However, it is normal for a student to take 60 to 70 hours, or even more.

So, where’s that money to come from? Here are eight ways:

Take out a loan. Financing your training may allow you to fly more frequently and progress more quickly than paying as you go, which could help you finish the certificate in fewer hours. And, yes, we’re going to recommend an AOPA Aviation Finance flight training loan. Our service can help you get your private pilot certificate for between \$150 and \$300 per month (loan repayment). It’s a non-secured loan so it will be at a higher interest rate. You could get a traditional loan from a bank if you have the collateral (house, car, or other property) and obtain a slightly lower interest rate, but aviation financing is usually the better option—you are earmarking the money only for flight training and investing in yourself.

Apply for scholarships. Listen up: There are tons of scholarships available. You don’t have to be an Einstein or live in poverty to qualify. Sometimes you need to write a nice essay or report to your local Lions Club, but often these scholarships are begging to be won. Recently California Aeronautical University awarded a nearly \$150,000 scholarship to one student! Find out more about scholarships, including AOPA scholarships, online (aopa.org/aviationscholarships).

Work it off. It’s not 1940 and you might not hop rides after washing airplanes, but you can work at the airport or get a part-time job to finance your training.

Employ the barter system. Are you a great web designer? Know your way around home repairs? Maybe there’s something your CFI needs that he or she can’t do themselves and you can trade off. An hour of design for an hour of instruction. It’s worth asking.



FINANCING YOUR TRAINING MAY ALLOW YOU TO FLY MORE FREQUENTLY AND PROGRESS MORE QUICKLY THAN PAYING AS YOU GO.

Join the military. Serve your country, get a vocation. Military pilot training programs provide “free” flight training, and veterans may use Post-9/11 GI Bill benefits toward flight training at qualifying schools.

Load up the credit card. If you’re disciplined or use a card such as American Express and pay it off as you go, you won’t incur those monstrous annual percentage rates (APR), which can top 26 percent if you’re not careful.

Borrow from your family. If Mom and Dad were willing and could afford to help you with college, maybe they will help with flight training. Take them with you on an intro flight to help assuage their fears—make sure it’s a benign weather day and your instructor is personable.

Buy block hours from a flight school, and get a discount by prepaying. It’s common for flight schools to provide significant discounts to students who pay in advance, and doing so can reduce your total cost—especially if you fly regularly and make progress quickly. 

julie.walker@aopa.org



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AOPA FOUNDATION

BY SARAH DEENER



YES, YOU CAN

You Can Fly helps pilots take to the sky

You can fly. At AOPA, we believe so firmly in this axiom that we dedicated an entire initiative by this name to getting—and keeping—people flying.

The AOPA You Can Fly program comprises four initiatives designed to make aviation more accessible and affordable: Flight Training, High Schools, Flying Clubs, and Rusty Pilots. You Can Fly is improving flight training by gathering feedback on flight schools and instructors, recognizing the best in the annual Flight Training Experience Survey and Awards, and sharing best practices; giving out millions of dollars in scholarships to high school students, teachers, and pilots in training; and developing tools to help students and instructors make the most of their time in the air. It's exposing high school students to careers in aviation by sharing a high-quality aviation-based science, technology, engineering, and math (STEM) curriculum with schools nationwide and providing continuing teacher support.

It's helping pilots save money, fly more, and connect with fellow aviation enthusiasts through flying clubs with resources for those who want to start a club and club leadership, and an online tool to help pilots connect with a club near them. And, for lapsed pilots who long to get back in the air, it hosts Rusty Pilots seminars that have kick-started a return to flying for more than 30,000 aviators. Learn more about the You Can Fly program at youcanfly.aopa.org.

These initiatives are funded by charitable donations to the AOPA Foundation, a 501(c)(3) nonprofit organization. And, in 2020, for the fifth year, donors have an opportunity to double their impact: For every dollar the AOPA Foundation raises to fund the You Can Fly program by August 31, the Ray Foundation will match it up to \$2.5 million, for a potential total of \$5 million. The You Can Fly Challenge grant honors the memory of James C. Ray, a pilot and entrepreneur who believed personal flight training develops skills that help students succeed not only in aviation, but in many other aspects of life. 🧐

aopafoundation.org/challenge

"WE ARE INCREDIBLY GRATEFUL FOR THE RAY FOUNDATION'S CONTINUED SUPPORT OF THE AOPA FOUNDATION. IT IS OUR HONOR TO HELP CONTINUE JAMES' LEGACY THROUGH THE YOU CAN FLY PROGRAM'S FOUR INITIATIVES, WHICH EMBODY HIS VALUES OF HARD WORK AND DISCIPLINE." —AOPA FOUNDATION EXECUTIVE DIRECTOR MELISSA RUDINGER.



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*CERTAIN POINTS AND PURCHASES RESTRICTIONS APPLY. SEE FULL REWARDS TERMS AND CONDITIONS FOR FULL DETAILS AT AOPA.ORG/CREDITCARD. 1. REWARDS POINTS CAN BE REDEEMED FOR CASH BACK OR OTHER REDEMPTION ITEMS PROVIDED THROUGH AOPA PILOT REWARDS. A CASH BACK REDEMPTION IS APPLIED AS A STATEMENT CREDIT. THE STATEMENT CREDIT WILL REDUCE YOUR BALANCE BUT YOU ARE STILL REQUIRED TO MAKE AT LEAST YOUR MINIMUM PAYMENT. A MINIMUM OF 2,500 POINTS IS NEEDED TO REDEEM FOR CASH BACK. VALUES FOR NON-CASH BACK REDEMPTION ITEMS SUCH AS MERCHANDISE, GIFT CARDS, AND TRAVEL MAY VARY. 2. ADVERTISING, AVIATION INSURANCE, PAC DONATIONS AND AFI DONATIONS ARE EXCLUDED. VISIT WWW.COMMERCEBANK.COM/AOPAPILOTREWARDS FOR COMPLETE DETAILS ON EXCLUSIONS AND BONUS POINT CATEGORIES. 3. PARTICIPATING AOPA PARTNERS INCLUDE: AERO-SPACE REPORTS, AIRCRAFT SPRUCE & SPECIALTY CO., JEPPESEN, PILOT WORKSHOPS, SIRIUSXM, SPORTY'S, PILOT SHOP. THE LISTED AOPA PARTNERS ARE IN NO WAY AFFILIATED WITH COMMERCE BANK, NOR ARE THE LISTED MERCHANTS TO BE CONSIDERED SPONSORS OR CO-SPONSORS OF THIS PROGRAM. USE OF MERCHANT NAMES AND/OR LOGOS IS BY THE PERMISSION OF EACH RESPECTIVE MERCHANT AND ALL TRADEMARKS ARE THE PROPERTY OF THEIR RESPECTIVE OWNERS. 4. PLEASE NOTE THAT MERCHANTS SELF-SELECT THE CATEGORY IN WHICH TRANSACTIONS WILL BE LISTED AND SOME MERCHANTS MAY BE OWNED BY OTHER COMPANIES, THEREFORE TRANSACTIONS MAY NOT BE COUNTED IN THE CATEGORY YOU MIGHT EXPECT. PURCHASES MADE USING NEAR FIELD COMMUNICATION (NFC), VIRTUAL WALLETS, OR SIMILAR TECHNOLOGY MAY NOT BE ELIGIBLE FOR BONUS POINTS. 5. YOU WILL EARN 4% CASH BACK (1 REGULAR POINT + 3 BONUS POINTS = 4%) FOR EVERY \$1 OF NET MERCHANDISE PURCHASES ON SELECT AOPA PURCHASES. 3% CASH BACK (1 REGULAR POINT + 2 BONUS POINTS = 3%) FOR EVERY \$1 OF NET MERCHANDISE PURCHASES MADE AT SELECT AOPA PARTNERS. 2% CASH BACK (1 REGULAR POINT + 1 BONUS POINT = 2%) FOR EVERY \$1 OF NET MERCHANDISE PURCHASES MADE AT FBO'S (FIXED BASED OPERATORS), AVIATION AND AUTO FUEL, AND FLIGHT SCHOOLS, AND 1% CASH BACK (OR 1 POINT) FOR EVERY \$1 OF OTHER NET MERCHANDISE PURCHASES. FOR EXAMPLE, IF YOU SPEND \$100, YOU WILL EARN 100 POINTS WHICH IS EQUAL TO \$1 IN CASH BACK REWARDS. A MAXIMUM OF 2,500 BONUS POINTS WILL BE AWARDED PER CALENDAR QUARTER, PER REWARDS ACCOUNT. PLEASE ALLOW UP TO FIVE BUSINESS DAYS AFTER THE TRANSACTION POSTS TO YOUR ACCOUNT FOR BONUS POINTS TO BE AWARDED.





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OH, THE PLACES YOU'LL GO

A private pilot certificate is just the beginning

By Julie Summers Walker

You've done it. You're a newly minted private pilot. You've taken your family and friends flying, you've flown over your home, and out to the best \$100 hamburger you could find. Now what? We call this your license to learn, your ticket to ride, your certificate to adventure. With your private pilot certificate, you can do so much; here are a few ideas:



More ratings. It seems crazy—you just finished studying and learning, but the opportunities to make your certificate go farther are so incredibly cool. Skim over the water in a seaplane. Master the art of flying taildraggers. Blow your friends and family away by flying a balloon. Get vertical in a helicopter. Or get your instrument rating to fly confidently in all weather and most conditions. Earn a commercial pilot certificate to get paid for flying, or a multiengine rating to build experience for a professional career. And the ultimate? The instructor certificate to share learning to fly with others.

Give back. General aviation serves America by providing transportation to those in need or less fortunate. Join Angel Flight and transport patients to much-needed medical care. Pack on the puppies and fly



WHY I FLY



BRAD PIERCE

“Flying the Cirrus has truly changed my life. It’s expanded the business, allowed me to get to see more customers, but most of all I don’t have to choose between personal and business.”

Pierce and his family own a restaurant supply and consulting company in Orlando that serves customers throughout the country. Pierce spends more time with his business and his family because of his Cirrus SR22, which he laughingly calls one of his best employees.





WHY I FLY



KELLEE EDWARDS

“When I was able to sit in that cockpit there was an adrenaline rush and I was hooked. As a frequent traveler, I figured why not take it to the next level by being in the captain’s seat? I just want everyone to know there’s a whole world to see. And that, as a black woman, I can do anything.”

Edwards is a host on the Travel Channel television network.

for Pilots N Paws, taking animals to their forever homes. Take government officials on flights over their constituencies to show conservation, erosion, and other social-economic issues in their communities. Move turtles—or fish, or penguins, or (yuck) snakes—to better habitats.

Have fun. Join the largest community of pilots at AOPA, connect with women pilots in The Ninety-Nines, bond over a passion for a type of aircraft in a type club, or find your niche in another aviation group—and plan fun events such as pancake breakfasts, fly-ins, fly-outs, contests, races, and spot-dropping contests. Joining others in the aviation community is more fun than flying alone.

Make it special. No one can impress like a pilot can. Fly on your first date. Go visit long-distance relatives. Take your grandfather on his first flight (maybe he hasn’t flown since his days in the service). Make a statement: Ask her to marry you from the air.

Get a cool job. Pilots get to do the coolest things. Fly along the coast towing banners. Assist medical relief such as air ambulances. Be a missionary pilot in remote corners of the world. Take doctors and dentists into impoverished countries. Be a corporate pilot and fly rock stars and CEOs. Or live the dream: Become an airline pilot and fly the world (or to Dayton, Detroit, or Denver).

Fly on vacation. Go to cool spots such as Hawaii, Europe, or Iceland and use your private pilot certificate to check out with a local flight school and rent your own airplane or fly with an instructor. Seeing exotic or fantastic vacation spots from the vantage of a GA aircraft is unparalleled. 🛩️

julie.walker@aopa.org

Looking for more ideas on how to put your new certificate to good use? Check out AOPA’s e-book *Aerial Adventures* (aopa.org/ebooks).



WHY BE AN AOPA PILOT?

We're here to support you in your training. Join our community. With AOPA, the sky is limitless.

The Aircraft Owners and Pilots Association represents the largest general aviation community in the world—from student pilots and aviation enthusiasts to airline pilots and astronauts. The AOPA team, operating out of offices in Frederick, Maryland, and Washington, D.C., exists to protect and to grow the incredible privilege that we call general aviation. Here are a few of our members' favorite resources, tools, and support used to inspire, sharpen skills, provide information, and keep one another connected with the GA community.

ENHANCE YOUR TRAINING

A good pilot is always learning, so we offer many resources to help you be a safer pilot:

- AOPA Air Safety Institute's free safety and education resources for all skill levels.
- Interactive courses, quizzes, webinars, videos, podcasts, and more to put your flying skills and knowledge to the test.
- Continuing education opportunities to build your proficiency as a pilot.

PROTECT YOUR FREEDOM TO FLY

We're committed at the state, local, and national levels in defending your freedom to fly:

- Educating and informing public policy makers with our knowledge and expertise.
- Electing a pro-general aviation majority in Congress, AOPA PAC support.
- Preserving and protecting airports and airspace across the United States.

BE IN TOUCH WITH THE AVIATION WORLD

Written by pilots for pilots, our print and digital content is your complete source for "staying in the know," including:

- Award-winning magazines. *AOPA Pilot* has been published for more than 62 years and *Flight Training* for more than 30 years.
- Informative newsletters.
- Engaging videos to educate and entertain.
- Access to premium online content that brings aviation stories to life.

HAVE US IN YOUR CORNER

Take advantage of our great rates on quality aviation products and services to keep you flying:

- Pilot Protection Services (PPS)*—a member option to help safeguard your pilot and medical certificates.
- Aviation Finance—experience aircraft ownership with the most comprehensive options for owner-flown aircraft.

LEARN MORE

All the tools and resources you need to navigate your way to the best and safest flying experience possible, with access to:

- The AOPA Pilot Information Center helpline to answer your aviation questions.
- AOPA Travel—get ideas, travel discounts, information on how to fly in and what to do, and planning tools for your next adventure.
- A robust suite of online and mobile tools to help you efficiently plan your next flight.

BE A FRUGAL FLIER

AOPA members enjoy exclusive savings, programs, and special offers, including:

- AOPA World Mastercard—top off your wallet with aviation-focused rewards.
- Your chance to win the AOPA sweepstakes airplane—members are automatically entered!
- AOPA Pilot Gear—Enjoy up to 20 percent members-only savings on top-quality products.
- Discount programs—save money on a variety of services such as rental cars and hotels.

BE A PART OF A MOVEMENT

Connect with other pilots and GA enthusiasts from around the world. Meet new people at:

- AOPA Fly-ins—our popular two-day regional fly-ins have something for everyone.
- Flying clubs—join a club to fly more, spend less, and have more fun in the process!
- Social media and online community—meet fellow pilots and other AOPA members around the world.

*Pilot Protection Services available with certain membership levels

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The Training & Safety section on **aopa.org** provides a wealth of information for aspiring pilots, including those who dream of taking their passion for aviation and making it into a career.

AirSafetyInstitute

AOPA's Air Safety Institute has hundreds of brief educational videos on YouTube that touch on a wide range of safety and training topics. Find more free educational resources from ASI at airsafetyinstitute.org.

AOPALive

AOPA videos focus on the fun, unusual, and emerging topics in the aviation community.



YOU CAN FLY



Summer solstice in Alaska means 24 hours of light every day in some areas. Glacier Bay isn't in the Arctic Circle, but there was plenty of sunshine at 10:30 p.m. when AOPA Senior Photographer Chris Rose captured this image of a Cirrus SR22 over the shoreline. Rose was shooting from the open baggage compartment of another SR22 at the time.



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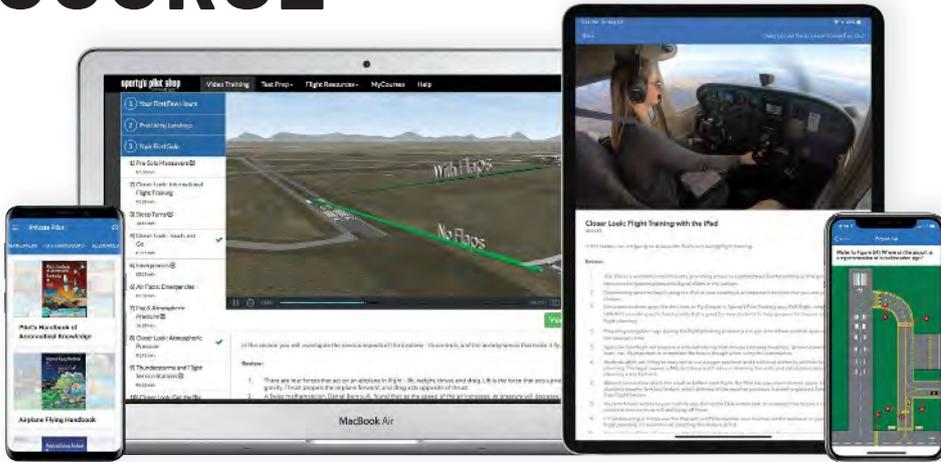
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