

Learn to Fly

Live your Dream and Get a Pilot's License!



by Max Trescott

**2008 National Certificated
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Visit the *Max Trescott on General Aviation* blog at www.maxtrescott.com

Cover Photo: Cirrus SR22T with Garmin Perspective glass cockpit at San Carlos, CA Airport and landing at Reno, NV.

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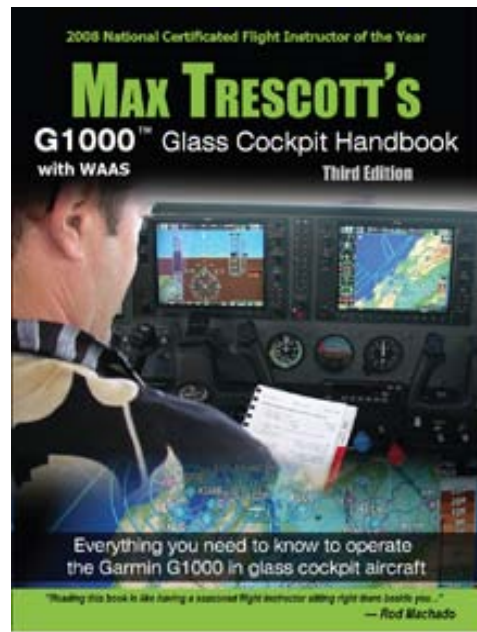
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Chapter 1: Why Learn to Fly?



“Why should I learn to fly?” As you might suspect, the most credible answers come from the mouths of experienced pilots themselves.

Listening to pilots like Joe Campbell, Mary Ann Kawakami, and John Ferrell, you're bound to hear the same theme:

Whether they fly for work or recreation, down deep they'll tell you that the primary reason they're in it is for the thrills and challenge. And they all agree that flying is fun!

Flying has a truly magical quality – if

you've ever flown in a small plane, you know the feeling of freedom that flying gives. In fact, most people learn to fly for the excitement and adventure of doing something wholly amazing and new. Flying is so much fun that not a few people earn a pilot certificate with the eventual goal of earning a living doing what they love.

[Joe Campbell's](#) day job is sales. In his spare time, he flies for pleasure. Joe enjoys flying to meet friends and relatives, and to visit his two daughters in college.

For Mary Ann Kawakami, flying is a full-time profession. Mary Ann briefly worked in real estate, but dreamed of flying every day among the Hawaiian Islands. As a commercial pilot, she's living her dream.

Mary Ann Kawakami is a career pilot who enjoys working in an industry where every one loves their job because they're passionate about aviation. Her dream was to become a commercial pilot working in Hawaii and she now flies cargo and charter operations there in a Shorts SD3-60. She loves the fact that every flight is beautiful and exciting.



After working a few years in real estate, she decided to make her dream come true. Already a Private pilot, she went back to train for the Instrument, Commercial and multi-engine ratings she needed for the job she wanted. Soon after, she was hired and moved to Hawaii.

She feels that other young people should consider the lifestyle, challenge, thrill, exploration, and respect that a flying career offers. "Not only do people tend to have respect for pilots, but first and foremost the pilots must respect the aircraft they fly and respect the skies. I love the challenge of learning about all types of aircrafts, and learning how to use all the awesome avionics." The free travel benefits are a nice perk too!

For [John Ferrell](#) flying is a valued part of his work. A Silicon Valley attorney, John flies to meetings in his own plane, but also enjoys making pleasure trips with his family.

Like Joe, Mary Ann, and John, there's no reason you can't realize the dream of becoming a pilot!

How hard is learning to fly? No doubt, it's more complicated than getting a driver's license. But there's a deep pride, satisfaction, and sense of mastery that comes from learning to fly an airplane. In fact, that's why so many pilots continue to take extra training after they earn their basic pilot's certificate. Aviation offers endless opportunities for acquiring new skills – it's a perfect hobby or career for anyone who loves learning.

Some people learn to fly because they want to travel in comfort to other places for business or vacation. Finally, let's face it, flying is just a lot more enjoyable than being stuck in traffic!

There are many paths to a career in flying, including some you may never have heard of. Pilots are paid to take aerial photos, fly geologists conducting mineralogical surveys, deliver traffic reports, fly executives to meetings, fly search-and-rescue missions, and fly for airlines large or small. The need for experienced pilots is continuing to rise, and there's a growing demand for flight instructors to train the next generation of pilots.

Finally, some people learn to fly just for the satisfaction of learning to fly an airplane—even if they never intend to fly anywhere! Flying is fun and you might decide to learn just because you want to and because you can!

Joe Campbell is a sales representative for a large company that does not allow employees to fly themselves in small planes for business purposes. But that's not a problem for Joe, since it's a short drive to most of his customers, and flying wouldn't help much. Besides, Joe learned to fly strictly for pleasure – like surprising his wife by flying her to dinner on her birthday.



Joe earned his Private certificate six months ago, and already he's made a number of trips up and down California to visit family and friends. He learned in a Cessna 172 with a G1000 glass cockpit and recently completed transition training to fly the more powerful Cessna 182. He's also done a mountain checkout, and can now fly the club airplanes he rents to Lake Tahoe and other high-altitude airports. Now, he's taking a ground school for an instrument rating.

"My grandfather and grandmother received their Private pilot licenses in early 1947 and my Dad also learned how to fly. So while I was late getting started, I've loved the challenge, fun, joy, and freedom of learning to fly. Earning the license turned out to be just the beginning of a new lifetime of learning."

“...all agree that flying is fun!”

What Can I do with a Basic Pilot Certificate?

Once you earn your pilot certificate (what most people call a “pilot’s license”), you’ll be free to do most anything, with only a few exceptions.

Many new pilots initially take family and friends sightseeing. They’ll often begin by making day trips to locations within a few hours flying time. But once you earn your certificate, there’s nothing to prevent you from flying across the country!

Pilots often fly for pure pleasure – for example, they’ll hook up with a friend and take off for a meal at another airport. (Pilots call this “flying for \$100 hamburgers,” because the cost of aircraft rental and a meal may exceed \$100.) Or they’ll fly to an airport near a golf course or aviation museum. Many airports offer camping, and some are located near

national parks and other scenic recreation areas. Pilots may travel to “fly-ins” or air shows to meet and gab with other pilots.

The granddaddy of fly-ins is [AirVenture](#), held in Oshkosh, Wisconsin in late July each year. Many pilots stay for the entire week and visit vendor exhibits, listen to forums given by well-known aviation speakers and watch the daily air show. Pilots can camp next to their airplane or stay at nearby hotels.



As pilots begin taking trips, some may find that they've outgrown their initial training aircraft, particularly if they want to fly faster or carry more passengers. These pilots may choose to take additional training to qualify to fly higher performance aircraft. Pilots may also decide to buy or build their own airplane individually, or in a partnership with other pilots.

You may find that your pilot skills are in demand by charitable organizations. For example, the [Angel Flight](#) and [Angel Flight West](#) volunteer organizations

match pilots with medical patients who need transportation for treatment. (The patients must be able to walk on their own, and are often accompanied by a family member.) The pilots benefit from the flying time, and the patients are spared a long drive or overnight stay.

As I hinted earlier, the basic private pilot certificate does have limitations. For example, without additional training you won't be allowed to fly in the clouds, carry passengers or freight for hire, fly an aircraft with more than one engine or weighing over 12,500 pounds, or fly a jet. (You may, however, share the cost of a flight with your passengers, as long as you pay a percentage of the cost.)

With additional training and an instrument rating, you'll be ready to fly in the clouds. To be paid to fly,



© Max Trescott

Cessna 400—the fastest fixed gear piston aircraft

you can train for a commercial certificate, though you won't be able to set up your own airline! (You'll have to be hired by a company with an FAA certificate for carrying freight or passengers.)

What Kind of Planes Can I Fly

You may not be able to fly the Space Shuttle on your first solo, but with a basic Pilot certificate you'll be legal to fly some sophisticated machines.

Specifically, if you get a Sport Pilot certificate, you'll be allowed to fly planes that qualify as Light Sport Aircraft. LSA's can have no more than two seats, a maximum speed of 120 knots (138 mph), and a total weight of 1,320 pounds. Later, you can train for the Private certificate, which removes these limitations.



As a Private pilot, you'll be able to fly any single-engine aircraft weighing under 12,500 pounds. (Realistically, you won't fly most airplanes in this class unless you meet the insurance requirements, which typically demand a specific number of hours of flight training for each aircraft model, and in some cases a minimum number of total flight hours).

Private pilots usually train in aircraft with two or four seats, the most popular rental models being from Cessna, Diamond, and Piper. Other popular aircraft are made by Cirrus, Beechcraft, and Mooney, though you'll find fewer of these available for rent.

Once you earn your certificate, you can train to fly any single-engine aircraft (most have six or fewer seats, though a few larger aircraft have more).

You can also learn to fly in a modern “glass cockpit” aircraft that has two computer displays that replace some of the traditional “round gauge” instruments. (The name “glass cockpit” refers to the computer screens, which are made of glass and are the largest objects on the instrument panel – hence, “glass cockpit.”)

Most of these aircraft use the popular Garmin G1000 glass cockpit, which includes high-tech safety features that indicate the presence of nearby aircraft, obstacles, and terrain. It's no harder to learn to fly these aircraft – though you'll surely want to read *Max Trescott's G1000 Glass Cockpit Handbook* before you step aboard the airplane!

By the way, all aircraft are limited in the total weight they're allowed to carry. So, depending on the weight of your passengers, you may not be able to fill the seats in the airplane and carry a full load of fuel. However, you can choose to carry less fuel to accommodate more passengers and baggage.

Some student pilots choose to buy an airplane and train for their pilot's certificate in that aircraft. In that case, you can learn in virtually any plane, as you are not limited to what's available for rent.



Cessna 172/G1000

© Max Trescott

“...learn to fly in a modern glass cockpit aircraft”

How Far Can I Fly?

The most popular training aircraft is the four-seat Cessna 172, which flies at around 105 knots (120 mph), depending on the model year. The amount of fuel carried also varies by model year – in most cases you wouldn't be able to fly more than about 3½ or 4 hours before stopping to refuel. That means you could fly about 365 to 420 nautical miles (the measure pilots use) or about 420 to 480 statute miles (the measure used when driving a car) on a tank of gas. Other training aircraft have similar speeds and range.

If you choose to buy an airplane and use it to train for your certificate, you could select a faster model. About the fastest single-engine plane you're likely to buy (even after you get your certificate) is one that can fly at around 200 knots (230 mph), though some are even faster.

Depending on the aircraft, you might be able to fly about 1000 miles on a single tank of gas. At those distances, you might find yourself crossing multiple weather systems, which could prevent a Private pilot from completing the trip (remember – no flying in the clouds). So if you plan on making longer non-stop flights, you'll want to get an instrument rating so you can fly in clouds. Even so, you'll be limited in where and when you can fly compared to the airlines, since jets can handle a broader range of weather conditions.



G1000-equipped Cessna 172

© Max Trescott

How Safe is Flying?

Flying commercial aircraft – for example, passenger or cargo jets – is extremely safe. With two pilot crews, and the ability to climb above most weather, the airlines have improved their safety record to the point where you'd have to fly for about a million hours – every hour for the next 114 years – before you're likely to have an accident. Even with 24 accidents in 2007, the airlines had zero fatalities!

Smaller planes are as safe as the pilots flying them. They do have more accidents than the airlines, but fully 80% are the result of poor pilot decision-making. What this means is that you can eliminate most of the risk by getting the best possible training, exercising good judgment, and making conservative decisions when you fly. If you follow these guidelines, there will be times when you decide not to fly, or land at an airport short of your destination, based on careful evaluation of the risks.

Some studies conclude there's greater risk in flying than driving a car, while other studies conclude just the opposite. Regardless, if you make consistently make good decisions, flying an airplane can be at least as safe as driving a car.

There's a common misconception that whenever there's a problem with an airplane, it always results in a serious accident. But in truth, about 75% of all accidents result in minor or no injuries. In the unlikely event that an engine fails, all of the controls will still work, allowing the airplane to be flown like a glider, so that the pilot can land in a field or other safe location.

Another misconception is that mid-air collisions are frequent, and always fatal. Yet even though pilots fly millions of hours per year, there are only about a dozen mid-air collisions annually, and half the pilots involved usually survive. Modern glass-cockpit aircraft have systems that help prevent such accidents – for example, [displays that clearly indicate the position of nearby aircraft](#). Ultimately, pilots have a great deal of control over how safely they choose to fly.

Pilots need to commit to continuous learning throughout their flying career. Two organizations offer free online safety courses and host local safety seminars nationwide: the Aircraft Owners and Pilots Association's Air Safety Foundation (www.aopa.org), and the FAA (www.faasafety.gov). You can register on their websites to be notified by email about seminars in your local area.

“Smaller planes are as safe as the pilots flying them.”

Can I Really Do it?

Many people assume that flying demands the education and physical conditioning of a jet fighter pilot. Nothing could be further from the truth! Average people *can* learn to fly. In fact, it's fun to experience the respect that earning a pilot certificate commands.

Most people are capable of learning the basic physical and mechanical skills required to operate the controls of an airplane. It's reassuring to remember that during World War II, tens of thousands of pilots completed their training in a few months.

While most people can learn to fly, a small percentage lack the mature judgment to make good decisions during flight. You may enjoy a wild and crazy reputation in your everyday life, but flying demands an ability to make conservative decisions.

Learning to fly will require a high level of involvement – don't expect to show up at the airport and be passively "taught to fly." Flying is a hands-on endeavor that will engage your body and brain – so you must be an "active learner."

Probably the best predictors of whether you'll successfully complete flight training and earn a pilot certificate are:

- You want to do it.
- You have the time and funds.
- You have the drive and enthusiasm.

Flying is fun, so why not try it? Because I'm around pilots constantly, I'm always hearing stories of how people learned to fly. And the most common regret I hear is that people wish they had started learning to fly sooner!

“...people wish they had started learning to fly sooner!”

Chapter 2: What Does It Take to Get a Pilot Certificate?

Here are the major steps you'll need to take to earn your Sport Pilot or Private Pilot Certificate, though you won't complete them in the order they're listed here. (At the end of this e-book, you'll find a separate detailed [checklist](#) of steps that you can follow in order.)

1. Get your student pilot certificate (and a medical exam for a Private certificate).
2. Fly the required hours of flight training.
3. Do sufficient study to pass the FAA's multiple-choice knowledge test.
4. Take a practical flight test (called a "checkride") with an FAA-designated examiner.
5. Meet the citizenship requirements.

Now, doesn't that sound fairly uncomplicated? Here's a breakdown of the steps, with descriptions:

1. Student Pilot Certificate and Medical Exam

Getting started toward earning your pilot certificate is easy! Except for the citizenship requirement (which we'll describe at the end of this section), there's nothing you need to do before starting flight training.

For the Private certificate, when you're halfway through your training and ready to fly the airplane by yourself for the first time (your first "solo"), you'll need to be 16 years old and pass a third-class medical exam administered by an FAA-designated physician or Aviation Medical Examiner (AME). Here's a [list of local AMEs](#).

The medical certificate serves as your student certificate. If you have questions about medical issues that could prevent you from passing the exam, see the FAA's [Guide for Aviation Medical Examiners](#) (or join the Airline Owners and Pilots Association and call their technical staff).

For the Sport Pilot certificate, you won't need a medical exam, only a valid driver's license and a student sport pilot certificate (required to solo) that you can get that from your [local FAA Flight Standards District Office](#) (FSDO), a [local AME](#), a [Designated Pilot Examiner](#) (DPE), or a Sport Pilot Examiner (SPE). Note that if you've previously failed an FAA medical exam (perhaps as a Private pilot), you cannot qualify for the Sport Pilot certificate. (How's that for a "Catch 22"?).

“...there's nothing you need to do before starting flight training.”

2. Required Flight Training:

The Private Pilot Certificate

Before you'll be allowed to take a checkride at the completion of your training for a Private certificate, you must be 17 years old and able to read, write, and speak English fluently. You'll also need a *minimum* of 40 hours of flight training (though the average time in the U.S. is around 60-70 hours). The Private Pilot training must include at least:

20 hours of dual instruction including:

- 3 hours of cross-country flight to airports more than 50 miles away
- 3 hours of flight solely by reference to instruments
- 3 hours of night flight, including a 100-nautical mile round trip and 10 night takeoffs and landings
- 3 hours of instruction within 60 days prior to your practical test

10 hours of solo flight including:

- 5 hours of cross-country, including a 150-nautical mile round trip
- 3 takeoffs and landing at an airfield with a control tower

You must also receive ground instruction from your instructor (to be documented in your pilot logbook) on over a dozen topics specified by the FAA. This is in addition to any study you do in preparation for the knowledge test.



Required Flight Training: The Sport Pilot Certificate

Before you'll be allowed to take a checkride at the completion of your training for a Sport Pilot certificate, you must be 17 years old and able to read, write, and speak English fluently. You'll need a *minimum* of 20 hours of flight training (some flight schools report they've successfully licensed pilots with the minimum time). This training must include at least:

15 hours of dual instruction including:

- 3 hours of cross-country flight to airports more than 50 miles away
- 10 takeoffs and landings to a full stop
- 3 hours of instruction within 60 days prior to your practical test

5 hours of solo flight including:

- 1 solo cross-country flight of at least 75 nautical mile total distance

Note that Sport Pilots are restricted from carrying more than one passenger and from flying at night. They also cannot fly above 10,000 feet or in visibility of less than 3 miles. You can find a [full list of Sport pilot restrictions here.](#)



3. Passing the FAA Knowledge Test

Private pilot candidates must pass the Private pilot knowledge test (sometimes called the “written test”) with a score of 70% or better. The test is 60 multiple-choice questions from the FAA's databank of about 700 questions. A [subset of the questions](#) is available for your review. The Sport Pilot knowledge test has 40 questions and a [subset are published](#).

Many flight schools can administer the test, which you can take any time prior to the checkride. However, you'll probably want to take it at least a month earlier, so you can focus on preparing for your checkride. You can prepare for the tests in many ways, including [home study with books](#) or DVDs, or through a classroom ground school taught at a local college or flying school.

4. The Final Step: The Checkride!

The final step for both the Sport Pilot and Private certificates is to take a practical flight test with a Designated Pilot Examiner. The standards for the checkride are defined by the FAA's Practical Test Standard (PTS). You can download copies of the [Private PTS](#) and the [Sport Pilot PTS](#). Both documents are long (119 and 177 pages) but inexpensive, so rather than print them, you may want to buy a copy.

Checkrides include an oral exam and a flight test. Your flight instructor will help you prepare for both. Often, before the checkride, you'll fly with a different instructor for a “phase check.” This is a simulated checkride designed to spot any deficiencies in your performance. It can also build your confidence to hear that two instructors feel you're ready for the checkride.

When you pass the checkride, the examiner will issue you a temporary airman's certificate, which allows you to immediately begin exercising your new privileges. A lot of work goes into getting a pilot certificate, so after the checkride, be sure to go out and celebrate this significant milestone – which only one in every 500 people achieves!



5. Citizenship Requirements

For U.S. Citizens

The Transportation Security Administration (TSA) announced new rules in October 2004 that require student pilots to show proof of citizenship before they begin flight training. If you're a U.S. citizen, you'll need to show a birth certificate or passport to your flight school or flight instructor, who will record that they've seen it. You can then immediately start flight training.

For Non-US. Citizens

Resident aliens seeking flight training are required to apply to the TSA for approval, though you can take a demo flight before you apply to the TSA, to decide whether you want to learn to fly. If you decide to continue, you should create an account online at www.flightschoolcandidates.gov and specify your flight school or instructor as the "training provider." For details of the TSA rules, see www.aopa.org/tsa_rule



“...you'll need to show a birth certificate or passport”

What Will it Cost?

There's no way to know exactly how much it will cost to get your pilot certificate, unless you sign up at a fixed-priced flight academy. Most of these schools are located in Florida, Arizona, and Southern California. Many are geared for career pilots who can stay in residence for a year or longer to earn the ratings they'll need in order to be hired to fly for a living. Even then, the exact costs may vary – for example, if you need more than the minimum required training, or if you have to pay fuel surcharges.

If you're learning to fly for fun, you'll probably learn at a flight school at a local airport and “pay as you go.” The cost will depend on the type of plane you learn in, and the total hours you take to earn a Sport Pilot or Private certificate.

In the past, some flight schools have quoted a Sport Pilot certificate for as little as \$3,000, and a Private pilot certificate for as little as \$5,000. These rates are usually based on the bare minimum hours required by the FAA. But most pilots require more than the minimum hours to complete their certificate. With the rising price of fuel, you'll almost certainly pay more than the quoted minimum price.

Realistically, you should expect a Private certificate to cost at least \$7,000, perhaps over \$10,000 if you train in a new aircraft in a metropolitan area. (Training costs are generally higher near large cities and lower at rural airports.) If you're worried that [you don't have enough money](#), you may be better off waiting until you have enough funds set aside to complete your training, or you can ask about scholarships and loans.

Ultimately, the issue is not what it costs, but what it's worth to you. Pilots sometimes justify the cost of flight training by explaining how “practical” it is, or how it will save travel time or money. While that can be true, most people learn to fly for the same reason they choose any sport, hobby, or pleasurable activity—because it's fun!

“...the issue is not what it costs, but what it's worth to you.”

How Long Will it Take?

How long it will take to earn your pilot certificate depends on how often you take lessons, and how quickly you can learn the required skills to pass the checkride.

For the Private certificate, if you fly once a week, I expect it will take you 11-12 months to complete your training. If you fly twice a week, you might earn your certificate in 4-5 months. I visited a school in Florida where the students fly 3 or 4 times a week and are told they'll complete their Private certificate in 90 days.

You can reduce the hours to get your certificate by flying more often – because you'll retain more information between lessons and spend less time relearning. I suggest people fly at least once a week, though 2-3 times a week is probably optimal. However, flying 4 or 5 times a week can cause information overload, unless you're in residence at a professional flight academy to become a commercial pilot.

Some people learn faster than others. I've noticed that people who've parachuted and flown radio-controlled airplanes learn faster. Is it because they're used to flaring an airfoil prior to touchdown? I'm not sure.

Older people tend to require more hours, yet I know people in their seventies who're learning to fly. So don't be discouraged, whatever your age. You can keep flying for as long as you're able to pass the FAA medical exam. I occasionally fly with a woman in her eighties who does a great job as a pilot – in her own airplane!



“...depends upon how often you take lessons”

Do I Need to Take a Ground School?

There's no requirement to take an in-classroom ground school. However, you do need to take the FAA knowledge test, and you need to prepare for it. There are several ways to study for the test:

- From books
- With a computer-based pilot ground school
- By enrolling in a classroom ground school at a flight school or local college

The Private knowledge test has 60 multiple-choice questions selected from the FAA's databank of about 700 questions. A [subset of the questions](#) is available publicly. The Sport Pilot knowledge test has 40 questions, and a [subset are published](#).

You must pass the knowledge exam with a score of 70% or better. You then have two years to take the final checkride. If more than two years elapse, you'll need to take the knowledge test again.

You shouldn't study with a goal of merely passing the knowledge test. You'll be far better off if you acquire a broad knowledge of aviation subjects, because it will help you not only pass the written test, but the oral portion of the checkride. More important, it will help you become a safe, proficient pilot.

Books

Here are links to lists of recommended books for student pilots:

- [Books for all student pilots](#)
- [Additional book for pilots learning in glass cockpits](#) like the Garmin G1000.

Computer-based Study Courses

If you prefer to learn from computer-based videos, several aviation training companies now offer courses that cover essentially the same ground you'll find in the books listed above.

In-Classroom Ground Schools

There's no nationwide list of ground schools, so you'll have to do a bit of research. Try calling local flight schools and community colleges to see if they offer a Private Pilot ground school.

“...acquire a broad knowledge of aviation subjects.”

What if I Can't Afford it?

If you're worried that you don't have enough money for flight training, you may be better off waiting until you have enough funds set aside to complete your certificate. If you start learning and run out of money, you'll ultimately spend more, because you'll forget many skills and need to relearn them.

Consider applying for a scholarship. The [*Aviation Scholarship Directory*](#) costs under \$25 and lists hundreds of scholarships. You might also consider borrowing money to complete your training. Do an Internet search for "flight training loans" to find lenders.

If cost is a concern, I suggest that you find the least-expensive plane for rent, and hire the *best* (not the least-expensive) instructor you can afford. A good instructor will save you time and money – because you'll learn more efficiently – even if they charge more per hour.

The best approach to minimize the total cost is to fly twice a week or more, especially in the early phase of your training. If you fly less than once a week, you'll spend more total hours earning your certificate, because you'll spend more time relearning what you forget between lessons.

Don't give up on your dream of flying! Like thousands of pilots, you can find a way to make it happen.

“Don't give up on your dream of flying!”

Chapter 3: How Do I Get Started Now?

The philosopher Confucius said, “A journey of a thousand miles begins with a single step.” To understand the steps of learning to fly and help keep you on track, we’ve provided a handy [checklist](#). The list includes a column where you can add your target date for completing each step.

The first step is to find a [flight school](#) or an [independent flight instructor](#). If you choose a flight school, they’ll most likely recommend an instructor. And if you hire a flight instructor, they’ll have suggestions for where you can rent an airplane. In either case, you’ll want to [interview one or more instructors](#), to ask about their experience and decide if their style matches yours.

Next, schedule a demo flight. Remember to bring your passport or birth certificate. If you aren’t a U.S. citizen, you’ll need to complete the [TSA application](#) and get prior approval for anything beyond an initial demo flight.

Next, decide whether you want to train for the Private or Sport Pilot certificate. The Sport Pilot certificate is relatively new and some flight schools may not have a light sport aircraft (LSA) for rent, so you may need to call other schools to find one that can help.

You’ll also need to [choose the type of aircraft you want to train in](#). For example, you might decide on a modern G1000-equipped glass cockpit aircraft, or a less-expensive two- or four-seat aircraft with traditional “round gauges.” If you’re training for the Sport Pilot certificate, you’ll have to choose an LSA.

Be sure to [order study materials](#) to help you prepare for the FAA knowledge test and your flight training. Also, schedule your first flight lesson. Your flight instructor will guide you through the other required steps to complete your certificate.



“A journey of a thousand miles begins with a single step.”

Where Can I Learn to Fly?

There are two ways to find a place to learn to fly. One is to find a flight school at a nearby airport, which will usually assign you an instructor that works for them. The other is to find an independent flight instructor, who will either rent you a plane, or tell you which flight schools he/she teaches for.

To locate a flight school, first find a nearby airport. If you don't find a listing in the Yellow Pages, you can ask a pilot, or call or drive to the nearest airport. If it's a large commercial airport, you'll need to visit the "General Aviation" (GA) side of the field, which is usually separate from the passenger terminals. They are often well-hidden and sometimes lack good signage.

Here is a [list of flight schools](#) in the U.S. with which I've worked closely. Any of them can rent you a modern aircraft of various types. The list includes links to many flight school websites where you can get more information.

These websites offer information about [instructors](#) and [Master Instructors](#). All are members of [NAFI](#), the National Association of Flight Instructors, the only professional flight instructors' association. The NAFI members take flight instruction and their own professional development seriously. Some are independent, while others work for flight schools. All can help you find a place to learn to fly.



How Do I Choose an Instructor?

Many flight schools will assign you a flight instructor. If they have more than one instructor, you may be able to interview several before choosing one. Or you can hire an independent flight instructor. In fact, independent flight instructors often have more experience, and there are more of them to choose from.

You should choose an instructor with whom you fell compatible. You'll spend many hours sitting close to this person, and you want the training to be enjoyable. If you don't feel that the instructor's style is a good fit, trust your feelings and keep looking. Consider taking a demo flight with two instructors to find out what it will be like to learn from them.

In general, you'll want the most experienced instructor you can find, even if he/she charges a bit more, because you'll probably learn faster. Find out how many hours of instruction they've given, and how many ratings they hold. For example, are they a [NAFI Master Instructor](#)? An [FAA Gold Seal Instructor](#)? You might also ask if you can talk to one or two students they've taught.

Here are some other questions you might ask:

- What is their schedule and availability?
- Are they working toward a job with the airlines? (If so, the instructor may leave before you complete your training. Ask how they would transfer you to another instructor.)
- How many students have they sent for checkrides?
- What is their training philosophy?

If you feel that things aren't working out after a few lessons, decide what needs to change. If it's your instructor, find out if they'll help resolve the issue; if not, consider switching instructors. It's your money. You have a right to be satisfied with the service you're paying for.

“A good instructor can save you time and money...”

Can I Fly with Max Trescott?



Of course! Particularly if you're looking to train in any type of glass cockpit aircraft, such as the Avidyne, Garmin G1000, or Garmin Perspective. I teach primarily at the Palo Alto Airport, south of San Francisco. You can rent some of the most popular glass cockpit aircraft here, including Cessna, Cirrus, Beechcraft, Mooney, and Bonanza. I also fly with owners in their aircraft. Often, I'll accompany a buyer to an aircraft factory and fly home with them in their new airplane. I can also fly to the area where an airplane owner lives, and train them in their aircraft at their home airport.

I've trained at the Cirrus, Cessna, and Columbia (now Cessna) factories, and am a Cessna FITS instructor, Cirrus CSIP instructor, and a Columbia/Cessna C350 and C400 instructor. I also teach in the Cessna Advanced Aircraft Recurrent Training (CAART) program as a Cessna 350 and 400 instructor. I've also completing training at Flight Safety in the Cessna 208 Caravan.

My teaching philosophy is that adults learn best when they're having fun, so you can count on jokes and good-natured ribbing in the cockpit. Naturally, this won't happen during critical phases of flight, such as landing, or when flying an instrument approach. I always try to understand the client's objectives and create a plan that will help them reach their goals in a safe, efficient manner. People tell me I'm patient and easy-going. You won't hear me yelling in the cockpit. (If you have an instructor who does, you may want to look for a new one.)

I was named the 2008 National Certificated Flight Instructor of the Year and received this award from the FAA Administrator at AirVenture 2008 in Oshkosh, WI. I'm an [NAFI Master CFI](#) and a Master Ground Instructor (only 18 people in the world hold both designations). I'm an FAA [Gold Seal Flight Instructor](#) and hold a multi-engine Airline Transport Pilot certificate.

If you'd like to hire me to fly in a glass cockpit aircraft, please [email](#) me. If we're unable to fly together, I invite you to purchase one of the [Max Trescott training courses](#), or hire another Master CFI.

“...named the 2008 National CFI of the Year”

How Do I Choose an Aircraft?

If you're pursuing a Sport Pilot certificate, you'll have to learn in an LSA (Light Sport Aircraft). Your flight school or instructor will let you know which LSA choices are available.

For a Private Pilot certificate, you can train in most single-engine aircraft. You'll probably learn to fly in a two- or four-seat training aircraft, the most popular model being the Cessna 172. You might learn to fly in a brand-new 172, or one that's 40 years old! As you may imagine, the older ones cost less to rent, but show lots of wear and tear. Try flying a newer glass cockpit aircraft if you can.

Learn to Fly in a Glass Cockpit aircraft

Since 2003, many new aircraft have shipped with two computer displays that replace the round gauges found in older aircraft. Most of these aircraft utilize the Garmin G1000 avionics suite, which is loaded with safety features. If your flight school has one of these airplanes available, and you can afford the slightly higher cost, I recommend that you learn to fly in one. Virtually all of [these flight schools](#) rent G1000-equipped aircraft.

The safety features of the G1000 include a display of nearby aircraft on the computer screen. Spotting other aircraft from the air is always difficult, and having a computer display that shows you where to look makes it much easier. Unless you train in a deserted area with few other airplanes, you'll quickly appreciate this feature, which will enhance your safety.

Other G1000 safety features include the ability to display obstacles such as tall antennas, and the height of nearby terrain. The latter is particularly useful at night, when it may be impossible to see hills or mountains outside the cockpit. If you want to learn to fly in a G1000-equipped plane, but your instructor discourages you, it's probably because he/she is inexperienced in flying them. You may also be told that you'll learn more in a round-gauge airplane – but the opposite is true! When learning in a glass cockpit airplane, your instructor will at times shut off all the computer displays, forcing you to fly with the three round gauges used for backup. So you'll also learn to fly with round gauges if you train in a glass cockpit aircraft.



What Do I Need to Buy Now?

Technically, nothing! You can show up to your first flight lesson with little more than a passport or birth certificate to establish your citizenship. You'll probably want to use an aviation headset for the flight, and your instructor or flight school may have headsets available to lend or rent. Your instructor will also guide you about any necessary purchases at various points in your flight training. Here are a few things you might want to start considering:

Aviation Headset

Rather than buy the cheapest headset, I recommend that you spend more and get one with automatic noise reduction (ANR) technology. These headsets use electronic technology to block low-frequency engine noise, which can be fatiguing to listen to for hours on end. The most important factor for choosing a headset is that it's comfortable and fits. Many airports and some flight schools have pilot shops where you can try on headsets.

Ground School Training Materials

To get a head start on learning before your first lesson, you might consider purchasing some of the books we recommend in the [Ground School Page](#).

If you're considering flying a G1000-equipped glass cockpit aircraft, we also recommend:

[Max Trescott's G1000 Glass Cockpit Handbook](#)

[Max Trescott's Garmin G1000 CD-ROM Course](#)

Renter's Insurance

When choosing a place to rent aircraft, be sure to ask about insurance. You'll most likely have to pay the insurance deductible for any damage to aircraft you rent, even for events such as a bird strike that are out of your control. Renter's insurance will mitigate your out-of-pocket costs for any damage.

“You can show up to your first flight lesson with little more than a passport...”

How Can I Meet and Network with Other Pilots?

Nearly all pilots love to share their experiences and learn from other pilots. Here are some ways to connect with experienced pilots and other students:

Find a local mentor.

Student pilots who regularly talk with experienced pilots as mentors are more likely to complete flight training. Fortunately, the Airline Owners and Pilots Association wants to help:

- Find a local pilot mentor through the [AOPA Project Pilot](#).

More ways to meet local pilots:

- Attend a ground school at a local flight school or college.
- Attend local flight safety seminars. You can register at www.faasafety.gov to be notified by email about upcoming seminars in your area.
- You can find more local seminars at the [Air Safety Foundation](#) website.
- Attend a meeting of your local [Experimental Aviation Association \(EAA\)](#) chapter.
- Call or email a nearby [Women in Aviation](#) chapter.
- Another excellent local resource for women pilots: [The Ninety-Nines](#).

Internet Forums

- [StudentPilot.com](#)
- [Aircraft Owners and Pilots Association](#) (AOPA members) forum

Other Resources

The FAA sponsors many seminars at local airports. You'll find a schedule of local events and other safety-related information at www.FAASafety.gov. You can register to be notified by email about seminars in your area.

The AOPA offers a [free six-month membership](#) which includes AOPA's Flight Training magazine.

To receive the latest aviation news daily, visit www.aero-news.net. To subscribe to Aero-cast podcasts and view daily video interviews, see www.aero-tv.net.

**“Student pilots with mentors...
are more likely to complete flight training.”**

Chapter 4: Can I Earn a Living Flying?

Probably – it all depends on your goals, how hard you're willing to work to achieve them, and whether you can make the necessary sacrifices along the way. You'll definitely need to earn [additional certificates and ratings](#). Generally, pilot jobs that require the least experience pay the least, so you might have a few lean years before you can find higher-paying work. New copilots at regional airlines often take a second job to make ends meet.

The following flying jobs require a Commercial certificate and relatively few total hours of flying time. Many of these are lower-paying jobs that allow pilots to build the required hours to apply to the airlines.

- Fly traffic watch for a local radio or television station.
- Taking aerial photos or flying patrols over natural gas or oil pipelines
- Fly freight (often at night) in single- or twin-engine aircraft

The following jobs require more experience (often 1000 hours or more):

- Flying for a company's corporate aviation department
- Flying for a fractional (shared) jet ownership company
- Flying for a regional airline

You'll need even more experience (probably over 2000 hours) and a college degree to qualify for the following:

- Flying for a major airline
- Flying jets for a major freight company

You can also earn a living as a Certificated Flight Instructor. While many CFIs teach temporarily while they log flight hours for better-paying jobs, there are also many flight instructors who make teaching a career (like me!). Recently, a shortage of CFIs has caused pay to rise. In many cases, CFIs earn more than copilots starting out at regional airlines.

Regardless of your goal, be sure to research your dream job to find out what experience is required and how much you'll be able to earn.



Chapter 5: Should I Buy an Airplane?

You can, certainly, but whether you *should* will depend on your goals. There are many good reasons to own an airplane. For example, some people want to fly a particular aircraft after they earn their certificate. If the model isn't available for rent, they may buy one for their training.

Depending on the aircraft, it may take longer to get your certificate than in a standard training airplane like the Cessna 172. However, when you're finished, you'll be far more knowledgeable and proficient in the airplane than if you trained in a different aircraft.

Some people purchase an airplane to try to lower the cost of earning a pilot certificate. This can work, particularly when the value of used, single-engine aircraft is increasing, as they were during the 1980's and 1990's. In recent years, used, single-engine aircraft prices have leveled or declined, making it harder to meet this objective.

Most people wait until they earn their pilot certificate to purchase a plane. Some join other pilots and share the cost of an airplane. Some owners reduce their costs by entering a "leaseback" agreement with a local flight school that rents the plane to other pilots. Most pilots don't own their planes, but continue to rent whenever they want to fly.

John Ferrell is an intellectual property attorney and co-founder of the Silicon Valley law firm of [Carr & Ferrell](#) LLP. His non-flying passion is helping entrepreneurs grow the value of their companies by leveraging their patents, trademarks and other intellectual property assets. With clients across the U.S., John mixes his passion for entrepreneurship with his love of flying.



John took a demonstration flight in 2005 and was immediately hooked. He completed his Private pilot certificate in 2006 and continued to train, earning an instrument rating, commercial single engine, multiengine and seaplane ratings. He enjoys the satisfaction of continual training, as he feels it makes him a safer, more skilled pilot.

In 2006, John purchased a 2006 Cessna 182 and his business use of the plane began on the trip home from the factory, as he stopped at multiple locations for meetings and to interview potential new hires. Looking for more speed, he upgraded to a Cirrus SR22T in 2007.

John flies two or three times a week (about 350 hours per year) for business and pleasure, and especially enjoys flying medical patients as a volunteer pilot for Angel Flight. "Flying is such a unique human experience. It allows you to add a complete third dimension to your view of the world. For me this third physical dimension is a metaphor for the indescribable richness that flying has added to my life. Completely apart from the increased business efficiencies, profits and opportunities that flying has made possible; the riches in friendships and experiences that flying has provided me and my family is way beyond what I could have imagined when I took my first discovery flight a few short years ago."

Should I Build an Airplane?

Building an airplane is a major undertaking. Even if you buy a kit airplane, the FAA requirements dictate that you must perform at least 51% of the work. It's not unusual for people to spend 2000 hours or more building an aircraft. In fact, the vast majority of builders spend more hours building the airplane than they ever will flying it. And a significant number never complete the project.

The best resource for homebuilders is the [Experimental Aircraft Association](#). In addition to an excellent magazine and website, the EAA has many local chapters where you can meet other like-minded homebuilders. These people are passionate about building airplanes. Many can offer training and help out while you build your airplane.



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Chapter 6: Learn to Fly Checklist

Activity	Target Completion Date
___ Identify a Flight School	_____
OR	
___ Identify an Independent Flight Instructor	_____
___ Schedule a Demo Flight (bring Passport or birth certificate)	_____
___ Complete TSA Application (non U.S. citizens)	_____
___ Decide on Private or Sport Pilot Certificate	_____
___ Choose type of airplane in which to train	_____
Order Study Materials	_____
___ Online Ground School	
___ Glass Cockpit Study Materials	
___ FAA Books	
___ Schedule First Flight Lesson	_____
Schedule Appointment for one:	_____
___ Student Certificate (Sport Pilot)	
___ FAA Medical/Student Certificate (Private)	
___ Schedule FAA Knowledge Exam	_____
___ Schedule Checkride	_____

Chapter 7: Additional Certificates and Ratings

After earning an initial pilot certificate, many pilots train for additional certificates and ratings. Pilots who plan to fly for a living have no choice, since pilots aren't allowed to engage in any commercial activities with only a Private certificate.

Instrument Rating: Teaches greater mastery of aircraft control and permits a pilot to fly in the clouds. Note that small airplanes are less capable than jets, so you still won't be able to fly in all weather conditions. It requires:

- Holding at least a Private pilot certificate
- A minimum of 15 hours of instrument flight training
- Passing a knowledge test and a practical test

Commercial Certificate: Required for any pilot compensated for their services. Requirements include:

- Being at least 18 years old
- A minimum of 250 hours total flight time and 20 hours of flight training for the Commercial
- Passing a knowledge test and a practical test
- A third-class medical for the practical test, and a second class medical to exercise the privileges of the certificate

Multi-Engine Rating: Lets a pilot control an aircraft with more than one engine. Requirements include:

- Holding at least a Private pilot certificate
- Holding at least a third-class medical certificate
- No minimum number of hours of flight training (though it typically takes 10 to 15 hours)
- Passing a practical test

Flight Instructor Certificate: Lets a pilot teach others how to fly. Requirements include:

- Being at least 18 years old
- Holding at least a Commercial certificate and, to teach in airplanes, an instrument rating
- No minimum number of hours of flight training
- Passing two knowledge tests and a practical test

Airline Transport Certificate: Often required to fly for the major airlines. Requirements include:

- Being at least 23 years old
- Holding a Commercial certificate and instrument rating
- A minimum of 1500 hours of flight time and 350 hours of pilot in command time
- Passing a knowledge test and a practical test
- A third-class medical for the practical test, and a first class medical to exercise the privileges of the certificate



About the Author

Max Trescott began learning to fly at age 15. He became a part-time flight instructor during his years at Hewlett-Packard. He left HP in 2004 to found Glass Cockpit Publishing, which publishes aviation training materials. Max is an active flight instructor and is recognized as an authority on glass cockpit aircraft.

Max is an enthusiastic general aviation advocate. He is particularly passionate about preserving and growing general aviation in the U.S., so that future generations will continue to be able to fly. He is President of [SiliconValleyGA](#), which protects and promotes General Aviation in California's Silicon Valley.

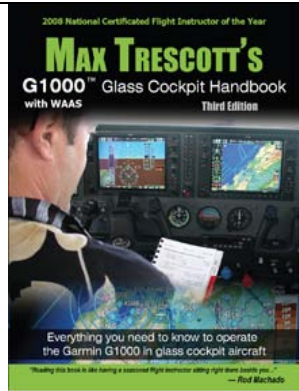
Max graduated from Swarthmore College in 1978 with a BA in Psychology, and in 1979 with a B.S. in Electrical Engineering. In 1983 he received an MBA in Management Strategy and Marketing from New York University's Stern School of Business. In 1979, he began a 25-year career at Hewlett-Packard in marketing, sales, and management. During his last eight years at HP he was in Enterprise Computing, where he managed HP's relations with billion-dollar companies in Silicon Valley. He has lived in Germany, Austria, New York City, and California.

Max is a frequent invited speaker on aviation topics. For example, he speaks annually to capacity audiences at AirVenture, Sun 'n Fun, and other aviation conferences. (Watch a [video of Max's commencement address](#) to the 2008 graduating class at San Jose State University.) To book Max to speak at your event, please send an [email](#).

[Max Trescott on Wikipedia](#)

Also, check out the *Max Trescott on General Aviation* blog at www.maxtrescott.com

Books and CD-ROM Courses by Max Trescott



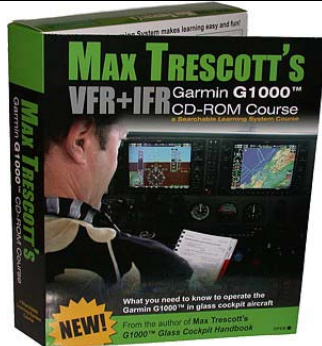
Max Trescott's G1000 Glass Cockpit Handbook with WAAS 3rd Edition

Everything you need to know to operate the Garmin G1000.

This book helps you learn the G1000 before you step into the cockpit. Add it to your flight bag so you can look up G1000 features in flight.

[Learn more](#)

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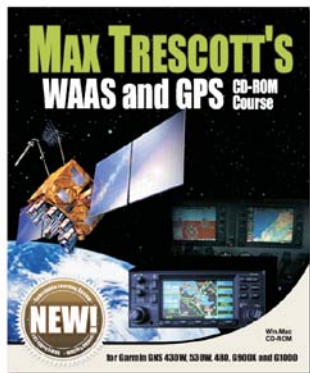


Max Trescott's Garmin G1000 CD-ROM Course

Award winning course includes simulations that help you build your proficiency at home, so that you'll fly with greater confidence and increased safety.

[Learn more](#)

\$99.95



Max Trescott's WAAS and GPS CD-ROM Course

WAAS, the FAA's Wide Area Augmentation System, lets you fly more than 1,700 LPV and LNAV/VNAV instrument approaches to as low as 200 feet. Whether you are a GPS expert or beginner, there is lots to know about flying the new WAAS approaches. This new course teaches you to fly these approaches step-by-step.

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Max Trescott's Online Internet Training Courses

Online internet courses let you get instant access to training courses. They are less expensive, though access is limited to 30 days, when courses expire.

VFR G1000 Transition Training Course	\$59.95	Learn More
IFR G1000 Transition Training Course	\$59.95	Learn More
Garmin Perspective VFR Course	\$79.95	Learn More

Free Podcasts featuring Max Trescott

VLJ Accidents and Training	5/22/08	www.Aero-news.net
Urging FAA for more aggressive GA Safety Goals	5/13/08	www.Aero-news.net
FAA's ADS-B proposal	5/9/08	www.Aero-news.net
Becoming CFI of the Year	April, 2008	www.Aero-news.net
G1000, User Fees, Growing Pilot Population	February, 2008	www.thefinerpoints.net
G1000 Book Introduction	March, 2006	www.thefinerpoints.net

Free Videos featuring Max Trescott

Interview: 2008 CFI of the Year (Part 1)	8/20/08	www.Aero-tv.net
Interview: 2008 CFI of the Year (Part 2)	8/21/08	www.Aero-tv.net
Commencement Address: San Jose State University	May, 2008	www.Youtube.com
WAAS CD-ROM Course Sample		www.Youtube.com