

So, You Want To Be A Pilot

Clayton Davis

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PREFACE

This is a book about being a pilot. It takes you from the ground up, after telling you what an airplane is like.

You will go through the lessons, then learn about the medical examination all pilots must have, and something about pilot certificates.

The last half of this book is a collection of stories about my life as a pilot. Every one of them teaches you something to be learned from the adventure.

Photographs and diagrams are by the author.

I dedicate this book to all my students. They taught me about being a pilot, while I helped them grow wings.

It's there, in the air. Go find it.

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Table of Contents

I. WHAT AN AIRPLANE IS LIKE 9

An airplane is similar to many other things you see and use.

II. BEING A PILOT 13

Being a pilot is the most fun you can have in life, right there in the sky, midway between earth and heaven.

III. OWNING AN AIRPLANE 17

Owning your airplane is a very practical way to learn about aviation.

IV. FLYING LESSONS 23

Step-by-step lessons that will make you a Private Pilot.

V. FLYING WORDS 44

Some high-flying words and their down-to-earth meanings.

Table of Contents

- VI. AUTHORITY TO
FLY AIRPLANES 59
Certificates are sequential and
based on accumulated experience.
- VII. MEDICAL REQUIREMENTS 61

FAA regulations require
periodic medical examinations.
- VIII. BASIC AIRCRAFT CONTROL .. 62

Instructional techniques for teaching
the student how to handle the controls
properly.
- IX. WHEN THE AIRPLANE FALLS .. 72

When air is not flowing properly over
both wings, the airplane will fall. This
is sometimes called a "Tailspin."
- X. THE BIENNIAL
FLIGHT REVIEW 76

Every two years all pilots have to
be evaluated by a Flight Instructor.
It is called the Biennial Flight Review.

Table of Contents

XI. FIRST FLIGHT IN A CLASSIC AIRPLANE	84
---	----

They don't build airplanes the way they used to. Those beautiful airplanes out of the past are a joy to fly.

XII. DOG SAVES MAN IN AIRPLANE	97
---	----

Always check your fuel first.
Don't just start the engine and go flying.

XIII. HOW TO FIND A LOST SAILBOAT	102
--	-----

Pilots are always willing to help a friend in need.

XIV. INSTRUMENT FLYING LESSON	107
--	-----

Techniques for making instrument approaches and some good advice.

Table of Contents

XV. FLIGHT INTO KNOWN ICING	117
--------------------------------------	-----

Don't ever let the reason for making a flight become more important than the flight itself. Getting there is the most important part. If you can't, you can't.

XVI. HEART TRANSPLANT FLIGHT	128
---------------------------------------	-----

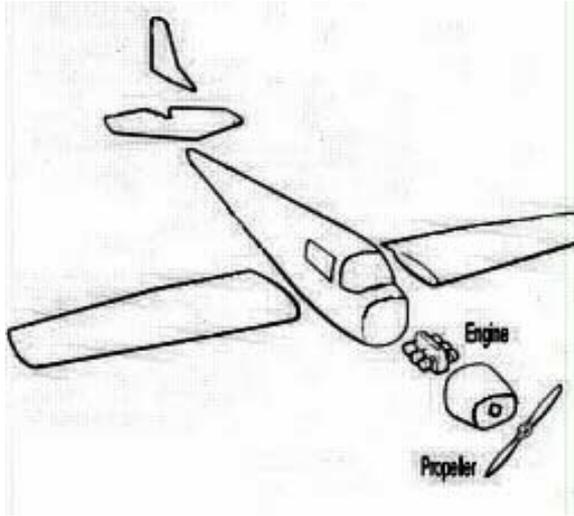
Knowledge is power. Know what is causing the weather you will fly through.

I. WHAT AN AIRPLANE IS LIKE

An airplane is similar to many other things you see and use.



This Piper PA-34 Seneca airplane has about the same seating room as a five-passenger automobile.



Just like a model airplane, the full-size version has unique names for its different parts.

Look, there in the sky. It's an airplane. You know they can fly and probably wonder why.

It's easy. Air does it, the way it pushes. Air pushes on you, fourteen pounds upon every square inch of your body. If it pushed more on the bottom of something, or less on the top, that object would fly, or go through the air.

Let's think about it. Air is pushing on everything all at once, everywhere.

Look at a playing card. Hold it up. It is about three by four inches. That's twelve inches of square space being pushed on by air. Fourteen pounds times twelve is one hundred and sixty eight pounds, on both sides of the card.

Drop the card. It falls. Make air push more on the bottom and the card will rise. Sure, it will.

Go out to the airport and look at an airplane wing. It looks more flat on the bottom, and curved on the top. The front of the wing is round, much larger than the rear, which comes to a sharp edge.

Take a tape measure and find out how far it is from front to back on the bottom of the wing. Say it is about three feet. The top will curve and measure more than three feet from front to rear.

As the wing goes forward, it pushes air up and down. The part moving along the bottom wants to join the air moving over the top of the wing. You measured the wing and know air over the top goes a greater distance.

Air over the top goes farther and faster than the air along the bottom of the wing. Going faster, it pushes down less than fourteen pounds per square inch.

Air moving along the bottom is still pushing fourteen pounds every square inch. Remember what we said at the beginning, about pushing more on the bottom of something. That object would fly, or go through the air.

You agree. Airplanes do fly. And their wings are curved on the top.

Think about what an airplane is like. It is shaped sort of like a bird. And it's like a fish too. Steering it is like steering a bicycle. Tilt over to the right and you go that way.

The two young people who invented the airplane knew about bicycles. It was Wilbur and Orville Wright. They had a bicycle repair shop.

These two brothers started their experiments about a hundred years ago in Dayton, Ohio. Orville flew the first powered airplane December 17, 1903, at Kitty Hawk, North Carolina.

They had an idea and the vision to see beyond the

next hill. Their experiments allowed mankind to fly over mountains and all the oceans, and around the world.

The Wright brothers might have thought about flying when they rode their bicycles really fast. They were experiencing something very thrilling. The air felt thick. It was thick like the water feels when you swim. The Wright brothers used this information to let us fly today.

You've seen it in the swimming pool. Your arms work like a bird's wings. You push water downward. You push it down enough to keep you up. And that's what a bird's wings do too.

You will believe an airplane is like a fish when I tell you this. Air touches the airplane everywhere, like water touching a fish. And when you are watching beautiful fish swimming in a tank, you'll see them barely move their fins and tails. That turns the fish a little bit.

The same thing happens to an airplane. Very small places on an airplane's tail and wings move, to make the airplane turn, or go up and down.

During your first flying lesson you'll see the instructor make the airplane turn. It will seem like you're leaning way over to one side, like a bicycle does when you want it to turn.

After a few lessons you will know how to fly the airplane. It will remind you of a bird and a fish, and a bicycle too. Then you'll loose the bonds of gravity and be able to soar into the heavens, like a bird, free as a fish.

* * *

II. BEING A PILOT

Being a pilot is the most fun you can have in life, right there in the sky, midway between earth and heaven.

You've done it. Got up one morning, looked out the window and thought it was the best day of your life. But there's something missing. You've always wanted to take flying lessons. Whenever an airplane passed over, especially a small one, you imagined yourself flying it. Being a pilot is not difficult. It is just like anything else. You find out where to start, go there and begin.

You probably want to know what is expected of you and how long it takes. Be seventeen years of age, in good health, and able to speak and read English. You log at least forty hours of flying time and pass a flight test.

The flying is not done eight hours a day, all day long, five days a week. And two weeks later you are a pilot. Your flying is combined with book learning. You may think books are not exciting. But books about flying really are, especially while you're learning how to fly. Here's why. While you're practicing and perfecting your aviation skills, the books are explaining what's happening.

Maybe you've taken a trip on the airlines. Maybe not, but anyhow, your first ride in a small airplane is something else. First there is the sound, and two other things.

When the engine first starts, you think it sounds somewhere between a motorcycle and a lawnmower engine. That's because they're all air-cooled, no radiator. No anti-freeze to check. And you may think it is loud.

As you begin your first takeoff, you have a sensation of speed. In fact, you have to move faster than the normal highway speed limit of fifty-five. You get up to around seventy or eighty miles an hour, then up comes the nose.

But the sensation of speed soon disappears. You seem to be hanging there, things on the ground getting smaller. Then when you make that first turn to leave the traffic pattern, it's like the earth tilted. There, out the window, you can see the ground.

There are no frightening lurches, nothing like a roller coaster. But what a view! You can see forever. Houses and cars, people and things, they look like little crawling toys.

All your apprehension and fear of the unknown disappears as you begin to control the airplane. It's a magic carpet. You could just point it anywhere and there's where you'd go.

You can't believe it. Your first lesson is over. That couldn't have been an hour. But, yes it was. Time really goes by when you're having fun.

You're on your way. You'll be certified as a Private Pilot. All you must do is log forty hours of flying time, pass a written test and a flight test. And how exciting those hours will be. It is something you always wanted to do.

Nothing is scary about it. The way you do certain things, what the activity is called, how to pronounce words, it is all new and exciting. Very soon you'll be talking like a pilot.

The purpose of this book is to tell you about being a pilot. After 10,000 hours flying time, I still have trouble answering these questions, "How do you learn to fly? How long does it take?"

The last part of the question is easiest. It'll take you the rest of your life. You'll always learn something new. And you'll never want to do anything else but fly.

The part about "How To" stops some people. Anyone can tell you "Where To." Just go to the nearest airport. When you get there, you will find new and mysterious things going on. You need a guide to escort you, a Flight Instructor.

Well, go ahead. Explore this aviation activity we call "Being A Pilot." At small airports we can find our way to a flying school with no problem. But at those huge airports with airliners, we have to find where the private and corporate airplanes are parked. It's a place called the "FBO."

And right there you encountered a strange name, the "FBO." It is pronounced "Eff Bee Oh." FBO is the Fixed Base Operation. That is where you will find General Aviation, the all-inclusive name for everything not associated with the scheduled airlines.

Look in chapter V., FLYING WORDS. There is a list of definitions.

You might wonder why a place is called "FBO," or "Fixed Base Operations." In aviation many things have the names given to them not too long ago when the airplane was invented, right after Wilbur and Orville Wright first defied gravity.

Let's imagine aviation activity is starting to bloom. Fuel and mechanics are hard to find. Then somebody goes into business providing services to other pilots and stays with it for more than a few days. They become known as the "Fixed Base Operation."

It is called "Fixed," because a "Mobile Operation" might not be too dependable. Leave your propeller or engine with such an operation and the next morning it could be gone. They might escape in the darkness with your property. A good name for them might be "Fly-by-night."

Your airport FBO can be compared to those automobile gas stations forty years ago. That was a place

where you bought gas and could have almost anything on your car fixed while you waited. And in addition to fuel and repairs, your local airport FBO will have Flying Schools and Air Charter services available.

Let's walk into the FBO. Go up to the counter and announce, "I want to learn how to fly airplanes."

You will be met by some very courteous and friendly people. Pilots and others who work around airplanes are a happy band of folks. They know the joy that awaits you, right up there with the clouds.

There are three ways to take flying lessons:

- A. Enroll in a flying school.
- B. Privately with freelance Flight Instructor.
- C. Buy yourself an airplane.

If you buy an airplane, you'll need a freelance Flight Instructor to teach you.

To find a flight school, you can use the publication, "Career Pilot Training and Upgrading." It lists all fifty states and the schools available. Contact them:

1-800-JET-JOBS
FAX: (404) 997-1111
FAPA,
4959 Massachusetts Blvd.,
Atlanta, GA 30337

III. OWNING AN AIRPLANE

Owning your airplane is a very practical way to learn about aviation.

WHY OWN YOUR AIRPLANE

Doesn't make much sense to get your hunting license then have to go rent a shotgun. Being a pilot is like that. You want your own airplane. It is an investment and ready to fly when you are, total freedom from scheduling worries. The investment angle is there because airplanes go up in price, unlike automobiles.

* * *

SHOPPING FOR THAT PERFECT AIRPLANE

You want to know where to start looking for an airplane. My recommendation is to buy a previously owned airplane. Because of mandatory inspections, older airplanes are not like used cars. Every year an airplane is inspected and certified as airworthy. You can fly a classic airplane built thirty or forty years ago and find it is mechanically sound.

All pursuits of happiness have books and magazines devoted to them. The performing arts follow the publication *Variety*. The music industry reads *Billboard*. Pilots like to read TRADE-A-PLANE®.

Your local newspaper may occasionally list airplanes for sale. The weekly publication TRADE-A-PLANE® is full of them. You may subscribe to it by contacting:

TRADE-A-PLANE® 800-337-5236
P.O. Box 509
410 West 4th Street,
Crossville, TN 38557
On line at: <http://www.tradeairplane.com>

You will be more comfortable looking for an airplane to buy if someone is with you who knows aviation, a freelance Flight Instructor, or certified aircraft and engine mechanic perhaps.

Every airplane has many, many options that can be installed, from navigation equipment to air conditioning. Radios used for communications and navigation are called "Avionics," combining two words, aviation and electronics. All these add-ons make the price of your airplane different from all the others on the flight line.

Software is available that makes your shopping easier. *Aeroprice*™ comes with a template that works inside Lotus 1-2-3, Microsoft Excel, and Quattro Pro.

What you do is ask the seller for an equipment list. Enter the data on your *Aeroprice*™ template, starting with the aircraft serial number. At the bottom will be a suggested selling price for the specific airplane you're thinking about buying.

You may contact them:

Aeroprice Software
215 South Street,
Kingston MA 02364
(610) 582-2107
Fax: (617) 582-2107
On line at: <http://www.aeroprice.com>

The Cessna 150 is a very popular training airplane. They can be purchased in the price range \$8,500-\$14,000. That's about the cost of a good used automobile. And you'll agree that almost any airplane is much more classy than the finest sports car.

Three years ago you could have paid \$30,000 for a new car. Today it is probably worth only half that. In 1981 a Cessna 172 sold for \$28,000 and may cost around \$41,000 today.

At least one pilot I heard about bought a plane to log time toward his commercial certificate. He sold it later and used the profit to attend college.

* * *

INSURANCE

It will cost you about \$800 a year for aviation insurance. You can negotiate how much liability coverage you want. It should be in the range of one to three million dollars, depending on your personal worth and circumstances.

Hull insurance covers smashing, crashing, denting and dinging. You can, however, get "not in motion" coverage, but probably not if you have the airplane mortgaged.

* * *

MAINTENANCE

Plan to spend about \$800 minimum annually for maintenance and inspections. There is a mandatory, once-a-year inspection called the "Annual." You can reduce much of this cost by doing the work yourself. Unless you hold the

aircraft and engine maintenance certificate you must do the work under the supervision of someone who has that rating. I traded flying time in my airplane for those services for a couple of years.

* * *

THE LITTLE THINGS

You may not consider it a “little” thing, but fuel is \$8-\$10 per flying hour. These costs are about like owning a boat, a really nice one. Most things that move under their own power use some kind of fuel, so it is a given.

Keeping your airplane looking nice will make it sell for more when it goes back on the market. Consider this, you wouldn’t leave your good silverware out on the picnic table in the backyard week after week. And neither should you leave your precious flying machine exposed to the elements when you’re not up in the air with it.

Hangar — Locking your wonderful aircraft under a roof and between four walls will keep it clean, no dirt and gravel thrown by other airplanes taxiing nearby. Electronic parts and radios do not like being cooked in the hot sun all day long. And sunlight will eventually fade your nice seat covers and interior. Besides, your insurance company might give you a break on hull coverage if the aircraft is kept in a hangar.

Trying to start a cold engine on an airplane left outside in the winter will convince you that a warm hangar is best. All that grinding away while waiting for the first plug to fire is guaranteed to shorten the life of the starter. And just think about the poor chilled parts not being lubricated by oil when the engine is that cold.

Outside Tiedown — If you are forced to leave your airplane outside for prolonged lengths of time you should get

some inside window covers. They will keep out that dreadful sunlight and lower cabin temperature.

Window covers are for sale most anyplace you can buy pilot supplies. Making your own is cheaper.

A blanket that covers the engine will keep it warm longer than you might expect. Wing, elevator and windshield covers that are cut to fit can be bought, or created by you. They will be appreciated right after the first snowfall.

Wheel Chocks — Sure they are available at your home base. You take them for granted. The big surprise comes on that first flight to a small airport you always wanted to see. They do not have any wheel chocks available for visiting aircraft.

Make your own. Take a couple of two foot pieces of 2 X 4 lumber. Cut them into one foot lengths. These will become your wheel chocks after you saw them lengthwise on a forty-five degree angle. Now fasten each pair with eighteen inches of small rope. Find one, you find the other.

Gust Locks — Another aircraft taxiing nearby can severely bang the control surfaces (rudder, etc.) against the stops. You need gust locks and can buy them, but it is much more fun to make your own. You have both ailerons, the rudder and elevator that should be locked every time you park the airplane.

Two pieces of plywood about one foot square for each control surface will do just fine. Drill through the center and place a bolt. They slide on and off nicely. But first, pad them with something like carpet material. Nail brightly colored ribbons on each of the control locks. About three feet long will make you remember them before you fly.

Step Ladder — With all the cleaning and grooming supplies you own, be sure to get a small step ladder.

Checking the gas caps on high wing airplanes is much easier with a ladder.

Change The Oil — Right after you buy your first airplane, look at the price of a replacement engine. This high-cost item can be pushed farther into the future by simply changing the oil regularly. All the time the engine is not running it is collecting acid from the old oil. Change it yourself. It is cheaper. Ask to watch a mechanic do it and learn how the filter comes off and goes back on.

CONCLUSION

Many people buy an economical trainer, learn to fly, then trade up. By the time you have the Private Pilot Certificate, you'll know what kind of airplane fits your needs.

But learning to fly is something you don't go out some summer and try, like you might do scuba diving or skiing. Being a pilot completely changes your life. Think about all those exotic places you never visited, way over there, just beyond the horizon. What's more, you'll always have the front seat now. You can look out the windshield and fly the airplane yourself.

You'll meet people who think nothing of going to the Bahamas on the weekend, or to Alaska for a whole week. All your free time can be spent exploring places many people only dream of seeing once in a lifetime.

* * *

IV. FLYING LESSONS

Step-by-step lessons that
will make you a Private Pilot.

All your lessons start at an airport. There are two kinds of airports, large international airports like New York's JFK and Chicago's O'Hare, and the small airports.

Away from large metropolitan areas you will find almost every town and county has an airport. Some are public, but some are private. If you have bought your own airplane, you might decide it is less expensive to park it at a county field, some distance from large airports.

You will find that everything costs more at airports with Control Towers. Learning to fly at an airport with a Control Tower uses up a lot of time taxiing the airplane and waiting in line for takeoff.

Most of your practice flying will be done over open country, at a place flight schools and instructors refer to as the Practice Area. The Practice Area will be depicted on a chart in the planning room at the flight school.

Navigation to and from the Practice Area is usually along a well-defined highway, or some other large landmark such as a river.

The Practice Area will probably have several large and inviting flat places to practice forced landings. You will probably never have to actually land on one of them, but practicing the technique makes you ready in case it happens.

While you are flying in circles and practicing to become perfect at controlling the airplane, remember a very important fact. Other students may be in the same area.

They might not be looking for you as hard as you should be looking for them. A near-miss between airplanes is discouraging and has caused many students to be extremely cautious forever after it happened.

The day will come very soon when you are authorized to perform cross-country flights for training. As you climb to your cruise altitude, you may fly over the Practice Area. Don't get overconfident and forget to keep track of the landmarks. Compare them with your chart.

Being lost and disoriented happens. Don't let it discourage you. Many times when you think you are lost, everything becomes surrealistic. Things don't seem to be the right shape and size. It is like being on a street in a familiar neighborhood, but not exactly sure where you are.

There was a student once at my flight school who thought he was lost. He kept making circles, all the while talking to Air Traffic Control. They had his airplane identified on radar. The Controllers kept telling the pilot to look out the window and there would be the airport.

The problem was simple. There he was, directly above the airport. But the pilot failed to look down. Fortunately for everyone concerned, the Controller was also a pilot and figured out what the problem was.

After directing the pilot to fly straight and level away from the airport for one minute, the Controller gave him a turn in the opposite direction. Then the pilot flew back toward the airport. And discovered it was right there below him.

A landing was completed with no more problems. The point is simple. When you think you are lost, you probably are, or will be very soon. Keep a sharp lookout.

Let's say you're now an airplane owner, or you've enrolled in a flight school. Perhaps you made other arrangements to start being a pilot. Into the cockpit we go

for our lessons.

Here is the training given by many flight schools and freelance Flight Instructors. It is listed by Lesson Number. A flying lesson usually takes about an hour, because that's probably all your muscles and bones can endure. This curriculum is arranged in logical steps that end with the Flight Test.

PRIVATE PILOT CURRICULUM

Pre-Solo

LESSON

ONE Before every flight you do a pre-flight inspection.