

# FLIGHT SCHOOL SECRETS

INSIDER TIPS FOR NEW AVIATORS



JET 7 ACADEMY



# foreword

This book is written to be the book the authors wish they'd read before embarking on a lifelong pursuit of aviation. Even with all the unknowns of hiring, mergers, economic variables, and career paths, it's still the greatest job. We are grateful to the many contributors to the book, all of whom are career pilots with collective experience in airlines, charter companies, private management, ex-military, fixed-wing, and rotorcraft. This book is knowledge accrued around coffee pots at airports, during interviews, at conferences, and from the sage wisdom of the aviators who have gone before us. As is joked, aviation can be a minefield, and not all steps are assured. However, with the career guidance from your trusted peers, and the help of this book, we wish you well on your journey to becoming a professional, well-rounded aviator, who will no doubt navigate the complexities of the industry with confidence.

Enjoy the journey.





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*"The sky is not the limit, it's just the beginning." – Chuck Yeager*

*To all the pilots who learned the hard way...*



# dream job

IF YOU TYPE SOMETHING LIKE, “World’s number one dream job,” in a search engine, you’ll likely find that *Pilot* hovers in the top spot of most lists, if not all. Thanks to movies like *Top Gun*, most of us grew up envisioning ourselves in a 4G inverted dive with a Mig 28, or swaggering around in our epaulets singing *Great Balls of Fire*.

Aviation has inspired our hearts and imaginations for centuries. Like Maverick, the hero’s journey comes with many challenges, exquisite rewards, and epic glory.

For some, it even offers the moon.

*“Prepare for the unknown, unexpected and inconceivable ... after 50 years of flying I’m still learning every time I fly.” — Gene Cernan, American astronaut, eleventh person to walk on the moon.*



Aviation promises no limits to what we can learn or achieve. There is no cap on the knowledge we can amass.

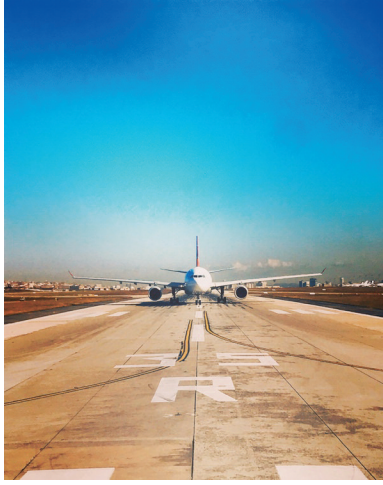
Once you choose a flight school, there are a few ways to get ahead and save money. But *How?* That's where this ebook comes in—how to efficiently fast-track your training, save money, expand your skill and knowledge, and have fun. Think of this as having a conversation with a friend in the know.

This insider ebook is designed with the FAA ratings in mind to guide you on *what* to expect as you embark on your aviation career. No catch. No bull. No cost to you except the time you take to read it. Just free knowledge, safe shortcuts, and good advice from aviation professionals who want to share their expertise with you. We're not saying you won't work hard, but you will work smarter from here on out.

It's a small industry and if this insider guide benefits you, we're happy to be a small part of your success story. We hope that you, in turn, pay it forward by sharing whatever knowledge you earn with all the aspiring aviators you meet along the way.

The most successful people in the world (and most joyful for that matter) are generous with ideas and knowledge, not for the sake of glory but for the pleasure of seeing others thrive.

Let's get started.



# license to learn

WHETHER YOU HAVE recreational goals or career aspirations, a Private Pilot Rating is, essentially, a license to learn.

It's where you will experience all the frustrations of learning to fly an aircraft—doing countless patterns and botched landings, and, for some of us, eating ramen noodles every night just to afford flight time. There's no shortage of frustrating concepts. The learning curves are steep in the beginning, but then come the light bulb moments and things start to make sense.

From there, it gets exciting as your confidence grows.

But we all have to start somewhere.

Let's assume you want an airplane category rating with a single-engine class rating. Everything you need to know about eligibility requirements for the PPL, you'll find in **Part 61** of the FARs (the Federal Aviation Regulations).





As well as getting a third class medical (the duration of which is determined by your age) and a logbook, § 61.103 states that you also...

- ◆ need to be at least 17 years of age,
- ◆ must be able to read, speak, write, and understand the English language,
- ◆ must receive flight training and the necessary logbook endorsements from an authorized instructor,
- ◆ pass your FAA private pilot knowledge test,
- ◆ and log at least 40 hours of flight time that includes at least 20 hours of flight training from an authorized instructor and 10 hours of solo flight training in the areas of operation listed in §61.107(b)(1) of this part.

[Click here for the full requirements.](#)

Get comfortable with the regulations. The next step is finding a flight school. Choosing a good school requires due diligence. We've come up with a few guidelines to help you make that decision.



# choosing a flight school

DON'T GET BURNED by a bad flight school. I think Terry Pratchett said it best—“...*there was a light at the end of the tunnel, and it was a flamethrower.*”

## **Here are some questions to Consider:**

- Is the school using effective teaching methods that are reducing your time? What's the syllabus like?
- What's the culture like?
- Is the maintenance performed by a reputable maintenance shop—there's no owner performing maintenance on the aircraft (conflict of interest, anyone?).
- Is the school really after your success...or just after billable hours on the aircraft?
- Do they offer a Part 141 course outline as well as Part 61? Which is best for you?
- Ask about any accidents, and/or incidents.
- Ask for a tour of the facilities.
- Make sure that all planes are insured.



### **Insurance and lie-ability!**

Some flight instructors own airplanes that they use to do multi-engine ratings, for example. But they might not have insurance. This can be a problem even if you carry the AOPA renter's insurance (which is highly recommended, by the way). As a student, that just further insulates you in the event of an incident or accident. If a person does not have insurance on an aircraft that you are training in solo, you are now personally liable. It's a good idea to see proof of insurance.

AOPA is definitely something you should sign up for—Aircraft Owners and Pilots Association. There you'll find tremendous resources. Their legal team has helped many pilots. They're super informative, and you'll find everything you didn't know you needed. Like for options on renter's insurance through them, which is a very good thing to have in some schools where it isn't required.



### **Do Not Pay Upfront!**

Many student pilots have had their hard-earned dollars evaporate in the revolving door magic show of disappearing (bankrupt) flight schools. Industry-wide, nationwide, it's happening and it'll happen again. It's worth repeating the caveat—never pay upfront. The exception to the rule is if you're tuition-based through a college affiliation. If a flight school goes bankrupt, you're the last to get paid back—if at all.

Whatever you're quoted for a rating, plan on spending extra. Maybe even ask another student what they spent on their rating. Ideally, your estimate from the flight school will reflect what an average student spends. The price list should be transparent! All too often, students are told, "Oh, well, that was just the minimum hours. Now you need an extra 20 hours." Are your spidey senses tingling?

With this book, we hope to help you finish in less than average time.

### **Part 141 vs Part 61—that is the question.**

So what's the difference?

Part 141 follows a stricter course outline (the school and course curriculum are regulated by the FAA). It's a program with

the professional pilot in mind. There are benefits in required hour reduction (FAR Part 141 requires 190 hours total time for a commercial license, Part 61 Requires 250), better financing options, and part 141 is generally preferred by Airlines and Charter Companies. It's going to be a higher-caliber school that offers 141, generally speaking, with higher-caliber instruction.

**Part 61**, however, provides a much more flexible approach. Either way, a good flight school will tailor the curriculum to the needs of the individual student.

✧for the 141 program, you only need 35 hours total to be eligible to take your Private Pilot check ride. If it's part 61, you need 40 hours total. But don't get too excited just yet. The national average for most people is 60 hours. It's rare that pilots get their PPL with the minimum hours under their belts. So expect to spend more than 40 hours whether you're following a part 61 or 141 curriculum.

Overall, Part 141 is a far more attractive option if you plan on being a professional pilot. It offers more structure. If you choose a flight school that offers both, generally their Part 61 program piggybacks the 141 curriculum so that all students are getting that same professional level of instruction. That way you know the instructors follow the syllabus—everything's clearly defined and all the boxes are checked. The student knows what's expected and what he/she needs to work on, what they've passed satisfactorily and what they haven't.

A good honest restaurant doesn't mind you looking in the kitchen. The same should be said of a good flight school. The student can verify and sign the lesson sheets, feeling confident they haven't been milked like a fat cow. Most instructors are only looking to build time and some use their students to do this. In a 141 program, that "milking" behavior is mitigated.

Most 141 programs and good 61 programs have safeguards

in place for *milking*. For example, if you are having trouble passing a certain lesson, and you have to repeat it after a second time, that now gets flagged. Somebody else—a higher level, more experienced instructor, like an assistant chief instructor or the chief instructor himself/herself—is going to go fly with you and assess your progress. That way the school can determine if it's an instructor problem, or if the student needs a little bit more time in this lesson. The school can identify issues sooner and correct problem areas. Sometimes the instructor *and* the student together just aren't a good fit. A good school will act in the best interest of the student.



Once you've chosen a good flight school, there's a lot you can do to accelerate your training cost-effectively.



# the road less traveled

SO YOU'VE CHOSEN a flight school. What now?

An international student has the added step of obtaining an M1 Visa and TSA clearance. A US citizen has to be endorsed by the instructor who's verified their citizenship. After that, time and money factor into your training. It's a general rule that the more time between lessons, the more money it'll cost you in the end.

If you want your training to progress optimally, don't fly part-time. You will spend less on your Private by flying regularly. That said, it would be far more cost-effective to save up and then knock out your rating all in one go than to do a little bit of flying each month.

Fly at least two days a week, preferably three, or else you'll be relearning concepts. This means you'll be reviewing old lessons more than you'll be moving forward. Much of learning to fly is, initially, building your muscle memory. It's fine-tuning those movements in the muscles, learning how the aircraft responds, and having it all come together fluidly.

The more often you fly, and the more consistent you are with your training, the faster your progress will be. That said, it might be worth getting financing.

• • •



### **Financing—the unsexy part.**

There are many companies out there, like Sallie Mae, that will finance you. AOPA, too. But at what rate? What is it truly going to cost you once you pay the interest back? There's a fee for the fee, after all. But that's for you to weigh the pros and cons. If you're young, you may want to consider the military as an option. More on that later.

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### **The Road Less Traveled**

If you have the means, you might consider purchasing your own plane. Then use it through your instrument and commercial rating, too. After you get the commercial rating under the belt, sell the aircraft. In some instances, you might even sell it for what you bought it for, or lease it back to the school.

Generally, if you're younger, you won't have too much credit built up. Maybe you don't have a house or anything that you can borrow against. There are definitely some obstacles to overcome. But if you can wing it, it's especially attractive if you're leasing the aircraft to the school during your training.

### **Here are some MORE questions to Consider:**

- Is it worth leasing back to the school? This all goes back to the school you selected. What kind of insurance do you carry?
- Who will be handling the maintenance?
- Who, apart from you, will be flying your plane?
- What's the caliber of the instructors who will be teaching in your plane?



. . .

Buying and leasing your plane to the school is a risk, sure, but it can be a calculated one. If the questions all have favorable answers, that plane can be cash-flowing for you while you're learning to fly.

The market over the last (let's say five years since COVID) has been very strong for aircraft resale with most aircraft appreciating. That includes the diamonds (DA-40s). Consider a used Cessna 172—there are plenty of people who have bought C172s and have actually managed to make \$20-30k off a plane!

This doesn't mean it's reasonable for most people to buy an aircraft. But if you're able, it can be cost-saving in the long run.

**But let's not ignore the downsides.** *You* are responsible for that aircraft. Say that the aircraft has an engine failure. Well, that's \$30-40k to replace an engine (as of 2024). What if your plane gets nailed by a storm and you have severe hail damage? Now the plane needs to be re-skinned and it's just sitting, dripping oil, while you're still paying insurance for it and unable to use it.

These are serious concerns to think about.

How would your school help you, the owner, in a bad situation? Do they have the connections to help you get your aircraft back flying again? Or will they be slow to act? The nice part about flying the school's airplane is that there's generally more than one. So if one breaks, you're okay. Your training doesn't get interrupted.

Doesn't matter if you're like most student pilots who can't afford a plane. Yet. There are a lot more ways to save money.

# **instrument**

**YOUR INSTRUMENT RATING** is where you really become proficient and more precise at truly handling an aircraft. The fundamental objective is to fly solely by reference to your instruments in adverse weather, low ceiling conditions, low visibility, and in class A airspace (above 18000 ft). Basically, you can fly in conditions that might otherwise ground a pilot who isn't instrument-rated.

By mastering instrument flying and getting your rating, the sky truly opens up and your abilities progress exponentially.



During your instrument training, you'll spend quite a bit of time under the hood. It's initially a steep learning curve, compounded by a lot of frustration, added regulations, and hours without looking out of the window.

It's important to end some of your instrument lessons by taking the hood off and just flying along the coast (if you're near one), or whatever you enjoy looking at from the air, just so you can recall the joy of flying—remember why you're doing this. Maybe end a lesson with an emergency procedure so that you

stay proficient for when you get to the commercial training. As with your instrument training and everything else in aviation, always be thinking ahead.

If you're lucky, you'll have had a good instructor during your private pilot training. One who knew you intended to progress to your instrument and beyond after the PPL. So you'd have logged some extra instrument time wherever possible during your PPL. Every 0.2 helps—an approach here or some unusual attitude there. Just remember that you do have VFR requirements for your PPL Flight Experience, so it's a careful balance in how you legally log that flight time.

When you get around to your commercial training, another great way to log time efficiently is split time. More on that in the commercial chapter. For now, there's a controversial subject to discuss regarding ATDs (Aviation Training Device).

Let's dive into that next. This is where battle lines gets drawn and a lot of different flight schools lock horns on this subject.

# the good, the bad, and the ugly truth

LET'S TALK ABOUT SIMULATORS—THE good, the bad, and the ugly truth.

At the professional level, there are maneuvers and emergency procedures that can't be practiced in a complex jet aircraft. Only simulated.





The simulator responds the same way the aircraft would in certain situations, at high altitudes and heavy weight, etc. The level of detail, the graphics—it's all so realistic and allows pilots to become and stay proficient in emergency procedures.

I'm talking full-motion simulators: level C and level D with large hydraulic actuators, housed in a huge building. These are the simulators that the professional aviator relies on to stay proficient and safe.

What you'll find in your flight school, however, is a completely different type of ATD.

*Redbird®*, and the like, are excellent tools for procedural training. During Private Pilot training, however, the benefits of these simulacrum are not what they're touted to be.

I'm going to say the quiet part out loud: **No pilot has ever been asked in an interview for their sim time.**

Here's why—it is not a factor when you're being hired and is not a factor in insurance decision-making. Insurance is driving much of who companies can hire. And it's not your sim time they're interested in. Actual experience in the aircraft is what matters.

Here's the ugly truth—a lot of Flight schools oversell the necessity for simulator use. There's certainly a benefit to using an ATD, especially with regard to tightening up procedures during your instrument and multi-engine training. But if you want to get down to brass tacks, flight time and simulator time are not equal.

→ You can't press pause in real life when you're about to hit the mountainside.

Let's say that you see a job posting requiring 1200 hours minimum. You think, "Well that's perfect. I went to a 141 school. I have 1200 hours." Of which you've included your sim time. At a 141 school, you can get a commercial with only 190 hours versus 250 hours Part 61. But the posting isn't asking for your sim time—they want your flight time. So you minus the sim time and...you only have 1140 hours. Tough luck, you do *not* meet the

qualifications for that job, and very likely that job posting is an hour minimum required by the hiring company's insurance provider. So no wriggle room, either.

Flight Schools love their simulators and they charge a premium. For you, the student, they're very expensive considering it doesn't affect your total flight time which is the true golden number. Some flight schools like to claim that students will attain a license quicker by using simulators.

This is not necessarily true.

The truth is that just being in an aircraft, getting real-time, is invaluable and irreplaceable.

You may spend less time in an aircraft (therefore less money) having practiced each lesson before going out to fly the aircraft. But make no mistake, it will cost you regardless. The schools are looking to charge you for the simulator *as well as* the aircraft. Simulators generally don't break. They don't require 100-hour inspection intervals (like an aircraft for hire) or annuals. You can fly them in any weather, so it's a great revenue generator for a flight school on a stormy day. This is mainly why it's overused and oversold to students.

Find a program that uses the simulator to the student's benefit. "Well, how do I know this," you ask?

The answer is to pay attention. A school that is going to use a simulator to your benefit will use it where it counts. Instrument procedures, for example, when you're learning to fly by instruments.

During your Part 141 multi-engine training, it makes sense to use the 3-hour sim allotment to count toward the 10-hour requirement. During simulated engine failure, we can tighten up procedures—"Gear up, flaps up, everything full forward. Identify, verify, feather."

But a school should not be looking for you to fly this proficiently in a simulator. It behaves nothing like a multi-engine aircraft. You're better off chair flying (more on that later). That way, you can practice procedures and save yourself money.

Is chair flying as effective as the simulator? No. Is it cheaper? Absolutely.

For the multi training, two hours of procedural training in an ATD makes sense. Three at most.

You're not looking to master a multi-engine aircraft from an AATD (Advanced Aviation Training Device). It's not realistic enough. What you will learn to be safe in a multi-engine aircraft will not be learned in an ATD.



### **Microsoft Flight Simulator.**

Don't underestimate the effectiveness of Microsoft Flight Simulator. As it turns out, many of the level C and D simulators have used graphics from Microsoft Flight Simulator in the past. For example, the snow's falling as you watch, parked at your gate, from the cockpit of an airliner. You can even see your tracks in the snow as you get pushed back from the gate.

The level of realism that can be had for just a few hundred dollars is impressive. With the joystick and throttle setup, it's (dare I say it?) nearly as good as an ATD. You can download so many different aircraft, from fighter jets to helicopters. You can also set up full instrument approaches and fly the whole approach with your at-home-flight-simulator.

But here's the disclaimer: Microsoft Flight Simulator and your home computer (with the joysticks setup) are *not approved*

or endorsed by the FAA. It's simply a tool to familiarize yourself with procedures before going into your aircraft.

Also worth noting, sim time is not a 141 requirement. You're better off having your own at-home Microsoft Flight Simulator set up and using your precious Benjamins for actual flight time. For those with little cash to spare, the paper tiger is very effective, too.

You don't need to be flush in the pockets to be a good pilot. You just have to work hard.

# mastery on the ground

A GOOD WAY to fast track your training in general is by chair flying. It's a great way to work on building muscle memory. The Blue Angels are pretty well known for doing this. It's a technique used by every professional all throughout their career.

## Chair Flying

Otherwise known as the paper tiger. The cheapest “flying” you’ll ever do is flying from your bedroom chair. It sounds ridiculous but bear with me...

You can buy a diamond DA-40 poster, or a Cessna 172—whatever you're learning to fly in. Put it up on the wall and get the aircraft checklist (from the manufacturer). But don't steal the one out of your school's aircraft please—you won't make many friends doing this. Print a checklist, make your coffee, and go through it:

*Battery switch on*—reach up, look and see where the battery switch is, and simulate switching it on.

*Prop High RPM*—physically take your hand up to the pretend prop lever and move your hand forward.



You'll be shocked at how quickly your cockpit familiarization improves. This is how professional pilots learn complex new cockpits. Except, in the airline world, they use something called a flat panel trainer or FPT. And that's just comprised of screens that are set out in front of them to reach up and touch the buttons they'll be using in the real thing. Once you get into that level D or C simulator (or the aircraft itself) that's very expensive time. Same with your private flying—you don't want to be hunting for switches when a \$10 poster (or whatever it costs) could have helped you shortcut that process.

So pull up a chair in front of that poster—your pretend FPT. Just go through your checklist, go through the procedures, and continue to use that throughout each lesson.

Using the poster, go through the maneuvers you intend to do for the lesson planned.

Our Chief Instructor, who used to fly for the regionals, wrote an excellent article called *Tame Your Paper Tiger*. We've included it in this ebook for you here. If you like it and want to read more great industry-related articles, you can check out our website and subscribe to our newsletter.

If you want to master the GPS, Garmin offers FREE simula-

tors to download here. They have G500/G600 series trainers, too. There's also a free GPS 175/GNX 375 Navigator (Garmin Trainer) on the Apple App Store here. I haven't found a free G1000 simulator, but they're not expensive (at the time of writing this, they cost about \$10).



Whether you're using the older Garmin 430s, 750, or G1000, don't waste money using flight time in the airplane learning to use your GPS.

An aircraft is a very stressful place to learn new concepts. Trying to learn something complex on top of all the other things you're required to do in the cockpit is going to make your head spin. You'll be desperately hanging onto the tail of the aircraft (figuratively speaking) just trying to catch up. Do yourself a favor, and keep more cash in your wallet, by mastering these things on the ground.

Let's say you want something more realistic than an online simulator. Or maybe you don't want to cough up \$10 for a G1000 sim. Go sit in the airplane, turn on the battery, and start exploring the GPS. But with a caveat—in the South, that's a miserable experience around June to August. However, it's

imperative that you do this. Suck it up and be uncomfortable. Maybe ask the school if there's a ground power cart; that way you can take your time flipping through the different pages, setting a course, inputting data, etc.

See if you can spend 30 minutes in the aircraft with an instructor. Most instructors are happy to do this, especially those who are truly passionate about teaching and seeing their students succeed. They will applaud your efficiency and effort.

Here's another free tip—don't overestimate the importance of cockpit management. Chair flying with your iPad and checklist and getting competent with your organization will save you so much time and help you progress quicker.





Live ATC is another fantastic resource. There's an app, too. You can listen to different controllers and get comfortable with ATC instructions. Notice the responses? You'll find they're all the same.

During your Private training, ground and tower will be the most applicable to you. That's the majority of who you're going to be working with, so they're the ones you want to eavesdrop on.

Don't necessarily try to read back everything you're instructed by ATC. You'll hear the way professional pilots read back clearances and the numbers. That's it. For example, if ATC gives an advisory like, "Winds are two-thirty at seven. Clear to land, runway three-three," you don't need to repeat back the winds. You simply repeat, "Cleared to land three-three," and you'll learn this conciseness from listening to live ATC.

*"The sharpest captains are the easiest to work with."*

—Len Morgan, *Rules To Fly By*, Flying magazine, March 1983.

# commercial

**"FLYING ISN'T JUST** *about controlling the machine; it's about understanding and controlling yourself.*" – Amelia Earhart

A commercial rating is the gateway for the rest of your professional flying career. At this point, you no longer need to pay for aircraft rental—you're the one being paid to fly!

But you're not hireable yet...

The commercial rating itself is comprised of a lot of time building in the aircraft. There are ways to shortcut this. You can split time with another student. Well, you might ask, "How can two people log time flying simultaneously?"

And the answer is: you can be a safety pilot for another pilot. That means that one pilot is under the hood logging instrument time, and you're the Safety Pilot looking out. This allows you both to log time, and you can swap that time and split the cost of the aircraft in half.



You might also try hanging around airports. If you're learning to fly at a small airport, there are likely quite a few general aviation enthusiasts and small airplane owners just hanging around the airports, too. Start up a conversation—networking is EVERYTHING. Always talk to anybody and everybody. Make yourself useful and available—be their safety pilot when they're ready to do their HIT6 (instrument proficiency). The chances are you will be invited along on flights. maybe join a flying club. Let people know you're working on your commercial rating. See if they'd ever like somebody to ride along with them, and that you'd be happy for the opportunity. Maybe even offer to wash their plane, or chip in for gas—any of these things can reduce the cost of a commercial rating.

#### ➔Part 61 versus Part 141

The 141 commercial rating does have a lower time requirement, with a greater hour allotment in an AATD. However, with insurance restrictions increasing year after year, the lower hour requirement of part 141 as an advantage is quickly dissipating.

Many jobs require a minimum of 250 hours when applying. That includes instructor opportunities. And if you're committed

to flying professionally, you likely already know what comes after your commercial.

That's right, yet another rating (or three). Your CFI, CFII, and MEI.

You've come this far, now just a little farther...

# instructing

**BEFORE YOU START** your Commercial rating, ask your current school if there's a future opportunity to instruct for them. Ask about their CFI (Certified Flight Instructor) total time insurance requirement. It would be a shame to have worked so hard for your 190 hours when the job and the insurance require 250 hours and you're now 60 hours short of a good CFI opportunity.

However, if the school sees potential in you and you've proved yourself useful, competent, and pleasant, they might work with you to help you build those hours.

Building hours as a CFI is the most common route for most professional pilots. This allows you to train private students looking to obtain their first rating. Now you're building hours and getting paid, too!

The best way to go about doing your CFI ratings is to do all of them at once. This is also a good time to do your multi-engine rating. We'll discuss that in depth in the next chapter.

If you haven't done so already, do your multi-engine training and get rated. Then, while you're still fresh, turn right around and train to do your multi-engine instructor (your MEI). The MEI is just another commercial check ride from the right seat

with a few extra multi-engine fundamentals thrown in. You'd probably save money by doing this back-to-back.

Having all your instructor ratings—your CFI, CFII (instrument instructor), and MEI—is the trifecta of ratings to land a job at almost any school of your choice. It also adds credibility later for other opportunities that you might aspire to. Like an airline or charter company when it comes time for an instructor position or check airman position. Having your CFI with actual instructor experience holds weight with all major aviation companies.

Another option that some students opt for after doing the commercial, instead of flight instructing, is to do jobs like pipeline survey, or wildlife survey. They usually have low time requirements but can be fairly unpredictable, seasonal, and require relocation.

It might mean more work, but doing your CFI will serve you better in the future. The best way to master a subject is to teach it. By teaching, you will inevitably learn so much more. Your reactions become quicker. You become more eloquent in the way that you're able to explain aeronautical-related topics, which becomes invaluable one day in the not-so-distant future during an arduous airline interview where you're expected to fire off articulate responses and enumerate your many accomplishments and why you're the man/woman for the job. Humbly, of course.



So, if you're at an airline interview, you didn't get there without a multi-engine rating. Unless your aspirations end at being the best Pilatus pilot known to mankind, you will want to tackle that multi-rating.

But if you're thinking of doing it in a Twin Star with all the impressive whizz-bang avionics, think again, young grasshopper...

# multi-engine

Written by Josh Johnson, Director of  
Operations, Jet 7

DIAMOND TWIN STAR for multi-engine training? You may want to reconsider.

Diamond produces some of the finest general aviation aircraft out there, especially the DA-40 Diamond Star. Beautiful curves, composite, gentle handling, fast... It's a popular trainer for a reason. But should you use the Twin Star for your multi-engine training and ratings?

That depends. Are you on a career track that assures that you will never step foot into a Britten Norman Islander, Navajo, King Air, Twin Otter, Cessna Conquest, etc? The list goes on. Are you assured a career in which you will only ever use FADEC or digital engine control aircraft?

The procedures and practices in a Diamond vary quite a bit from those in a traditional multi. The traditional multi is applicable to just about any piston twin or turbine twin you will fly. *"Engine Fail! Mixtures, Props, Throttles—full forward! Flaps up, gear up, step on the ball! Identify, verify, and feather!"*—you feather with a prop lever, which the Diamond does not have. This callout is the exact same procedure whether you're flying a Baron or a King Air. You gain invaluable muscle memory procedures that serve you many years into your career.



Most instructors begin to get some itch or “burnout” around that 800-1000 hour mark. Banging C172s around the pattern in August, in Miami, for example, one starts to have aspirations of other opportunities.

Here’s a true story for you:

A VFR charter operator was hiring for charters to the Bahamas around 2012. I was fortunate to have the multi hours at the time. Most jobs will have some variation of an evaluation flight. This is generally a one-time flight to determine basic skills and if you are trainable. Even at the airline level (a year or so later), my evaluation was in a CRJ-200 sim—I’d never flown a jet! So for anyone who’s had a peek in a VFR charter Navajo, or Islander in South Florida, one would find the absolute bare minimum instrumentation. Let’s just say I got “Tiki Hut Airline” vibes. I was a practicing MEI and had about 50 hours of multi-engine, enough at the time to get the job with the VFR operator in Miami (thanks to my ex-fighter jet MEI mentor, David Allen, who took pity on broke kid and facilitated a lot of King Air hour building).

That charter operator was one of the most enjoyable experiences in my flying career. Miami to Bahamas flying VFR, clear water, low pay, no air conditioning, horrible schedule—I was in heaven!

But let’s not digress... Could I have gotten that job had my experience and MEI time all been in a Diamond-multi? Absolutely not.

My personal career has varied from the finest FADEC jets to aircraft seemingly held together with bubble gum and bailing wire. Are you 100 percent certain your airline won’t furlough you from your autothrottle/autoland jet? I’ve met pilots from “the lost decade” (from roughly 2001-2010) in the airlines when seniority stopped and furloughs were years long recalling. Some of these guys hit the streets to find King Air jobs or whatever they could, some saying it was the best thing that ever happened

to them for their family lives and careers. The thing to remember is that nothing is certain.

That being said, pick the Baron, Cessna 310, Seminole, Twin Comanche, etc, for your multi-engine rating. Those will teach you more about multi-engine flying and aircraft handling, making you a better pilot. You never know where the aviation path may lead, you may end up ditching the jet bridge for props, flip-flops, and a sunburn.



# military

WE WOULD BE REMISS if we didn't discuss the military route as a prospective option.

Currently, as of 2024, the Air Force requires you to be in pilot training between 18-33 years of age. So it's only an option if you meet the age requirement.

To be eligible as an officer, you need a bachelor's degree, be in good health, and have a desire to serve your country, as most of these commitments are close to 10 years.

- Knowledge of theory of flight, air navigation, meteorology, flying directives, aircraft operating procedures and mission tactics
- Completion of Air Force Specialized Undergraduate Pilot Training
- Completion of a Single Scope Background Investigation (SSBI)
- Additional requirements specific to specialty
- Completion of Officer Training School (OTS), Air Force Academy (AFA) or Air Force Reserve Officer Training Corps (AFROTC)
- Must have begun pilot training between the ages of 18 and not reached your 33rd birthday
- For pilot and aircrew positions, height specifications vary by aircraft and most applicants can successfully pursue a career in aviation with the U.S. Air Force. Applicants who are significantly taller or shorter than average may require special screening to ensure they can safely perform operational duties. Applicants of all heights are encouraged to apply.

The screenshot above is right from the official AIR FORCE website.

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If you're young enough, and just deciding what to do, you can even take the enlisted route. While enlisted, you can pursue your aviation goals by using the GI Bill to go to college and earn your degree while you're in the military. Since 1944, the GI Bill benefits cover all or some of the costs of training.

Aviation Training by the US military is still, bar none, the highest level of training that one can get in the world.

You can go on active duty, or join the reserve squadrons and also the National Guard. They have pilot slots, too.

This is a fairly well-kept secret, that you can have a degree and put your "packets" together to submit to these units. This could be flying everything from an F-16 or F-22 to a C-17 or another 'heavy'. Even helicopters. Which we'll discuss next in a short chapter.

The military pays for your training. Obviously, you spend a few years flying with them in a reserve or guard position. After that, if you want to move on, you're able to obtain a civilian job. It's no secret that most military applicants are first to be picked up at the major airlines and cargo operators, like UPS™ and FEDEX™

In a hiring situation, the airlines already know the high caliber of training involved. If you're able to have an accomplished military career, companies like Delta™ know they will easily be able to train you, and you will be a very good pilot and employee for them, too.

The military opportunities can be quite vast, exceeding the

scope of this book. This is only a guide to offer perspectives you might not have considered yet.

If you're looking to go to the reserve or pursue the Guard route, having your private pilot or instrument rating is almost a requirement and certainly looks good to the unit that you're trying to get a pilot slot with.

When they say, "The world is your oyster," it really is. Especially in aviation—the ocean of opportunity is vast. And you're generally only limited by your imagination.

You have no excuse except the ones you tell yourself. Don't believe me? You might if you'd met a one-legged helicopter pilot named Billy. Ex-military, from the UK—lost his leg serving his country. Having one leg didn't stop him. It didn't prevent him from being an excellent stick, either. Sure, he had a few extra hurdles to overcome, but he ended up becoming a great FAA helicopter instructor. I believe he's flying for the police now in the UK.



And since we're on the subject of helicopters...

# helicopters

Written by Raleigh Burt, Mosquito Control Pilot



WHEN CHOOSING TO BECOME A PILOT, most folks overlook the option for rotary wing. It's not the first thing that comes to mind when choosing a path in aviation but those that end up down the path understand the draw. Overall, the career

path is less standardized, less organized, but has many more options to specialize in. It's very niche and hush-hush. Even career airline pilots will look at helicopter pilots with high admiration.

There's more than one way to enter the industry. The most common avenues are military service or a civilian flight school. There are advantages and disadvantages to both. There is training you will receive in the military that you will not have access to in the civilian sector and there is training required for some jobs that just isn't available in the military. Regardless of what avenue you take to obtain your commercial helicopter license, the biggest advantage you have is networking. Go talk to people.

In the military, you will immediately have access to the best equipment and maintenance programs. There is generally a spare aircraft available if one is in maintenance. Training is very standardized and efficient, you will be given ample time and attention. You will fly with a crew of 2 to 4 depending on what you fly. You will also be building time in turbine engine aircraft immediately—employers will want to see that experience. Night vision goggle experience is very valuable and the military is realistically the only place to get that exposure unless you fly HEMS (Helicopter Emergency Medical Service). However, big aircraft require big money. Big helicopters are not as common in the civilian sector and most operators fly single pilot operations in small aircraft.

Civilian flight training is paid out of pocket and less standardized. It's also a lot more expensive than fixed-wing. You have to be very dedicated to completing the written and prac-



tical portions. No one is going to make you go to class, no one is going to put you on the flight schedule, you have to do it. You will learn to be resourceful and you will train on aircraft that are less forgiving. Your ability to fly a helicopter will be very apparent. Civilian-trained pilots generally get started by teaching others, so keeping up with regulations and emergency procedures comes naturally. Breaking into the industry takes time, though, because most employers want to see turbine experience and most training is conducted in piston helicopters like the R-22.

After completing your training or completing time in military service, you have to start somewhere. That is generally the bottom. Most people get their start flying air tours. It's a fun way to build time, earn some money, and most importantly, meet people. Pilots gravitate to other pilots and love talking about pilot things. Keep in mind that there is not just one way to do things. Even if you don't think you have experience, ask questions, and be interested. Ask different people how they got to where they are. The best thing you can do is just give it a try.



# tame your paper tiger

Jet 7 Academy Blog Post

YOU'VE LANDED your dream job, comfortable if not a bit chilly in the seat of your first jet. Rolling down the runway, the other pilot calls out, "V1." (Decision Speed). There's not enough runway to stop and you're committed to fly, no matter the emergency. Just another day at work. But don't get complacent yet...

The Fire Bell shrills. Master Warning Light flashes urgent red — "Engine 1 Fire!". The jet veers hard to the left. You jam down the right rudder and a cold sweat burst on your lip. The alarm blares on, the panel flashing...

The other pilot calls out, "Engine fire, number one. Number one, rolling back."

You clumsily get it under control and hurriedly call for the other pilot to, "Extinguish number one!" The world stops around you and all goes quiet. Shaken, you turn around in your seat. You're shocked to be alive.

Behind you sits the arbiter of your future—your hawk-eyed sim instructor with his palms up, head shaking. "What Happened, Mike?"

. . .

Mike didn't spend enough time in front of his Paper Tiger. That's what happened. So what is a Paper Tiger? This is simply a cockpit poster of your aircraft. Or, in an advanced setting, an actual model you can sit in with pictorial references. After multiple type ratings, airline stints, and charter experience as the chief pilot, check airman, and instructor, I vehemently proclaim this to be the single most valuable tool you will ever use.

Today, many flight schools have purchased a Redbird® or similar simulators that can be used without maintenance or weather delays, and have announced this to be the industry game changer. While ATDs (Aviation Training Devices) like the Redbird® do have their place, schools are packing away the posters, sadly to the detriment of the students. There's a great chance you could score a free/discarded cockpit poster from your school!

To set up, get creative! I've hung these posters on hotel mirrors with pieces of duct tape. With any luck, you have a desk and chair in your hotel room while at training. Wherever you are, pull up a chair and place it right in front of your poster. Place your Check list and POH at your side. You're ready to fly. Take your time, though, that hobbs isn't turning. Yet.



. . .

1. **Phone a Friend.** Often a friend or another student can be massively beneficial to study with. At the airline level, half of my initial class was dismissed from training. Half! After class each day we gathered in a hotel room. Often past midnight, we went over systems and sat in front of multiple paper tigers going through flows and checklists, not wanting to be the next one to wash out. At any level, a fellow student can be an aid to study, each of you taking turns to come up with scenarios, etc.

2. **Touch your poster.** That's right, checklist says, "Master On," so reach out and press the switch. This is increasing your cockpit awareness and muscle memory, both of which are critical to becoming familiar with different aircraft. Whether its the master switch on your C-172, or the cross bleed air valve switch on your jet—it's the exact same training.

3. **Fly it.** Bring your poster to life using your imagination. For example, in a short-field take off you press the throttle levers up, hold the brakes, get that nose light, rotate, pitch to clear your fifty foot obstacle, reach over and get the flaps up (or whatever your aircraft procedure is). Engine failure? Reach over, mixture full rich, and so on. Run through all checklist items.

4. **The balled up sock technique.** My personal favorite. I've used this for every single type rating. This tip was given to me by a very experienced instructor with more type ratings than a single certificate card would hold! Take a balled up sock, stress ball, or maybe a baseball if you're a difficult learner (kidding, please don't.) Every aircraft has memory items. These are time-critical actions listed in red that do not afford the luxury of a

procedural checklist. In a jet, this is usually about 8-12 different scenarios. For a multi-engine rating, you will hear time and again, *"Everything full forward, Gear up, Flaps Up, Step on the ball, Identify, Verify, Feather."* Get this wrong, or rush and shut down the wrong engine (which is what happened in the tragic Trans-Airways flight 235 in Taiwan), and the consequences can be catastrophic.

So take your balled up sock and sit in front of your paper tiger. Tell yourself, "Left engine Failed." Instead of simply rehearsing what you will do for each memory item, throw the sock against the wall with the goal of catching it on its way back down. As you catch it, throw it again immediately, verbally saying the memory item. Like this:

- Toss the ball and catch it. "Props, mixture, throttle full forward." Reach out to your paper tiger and push them forward.
- Toss the ball and catch it. "Gear up." Reach out to the paper tiger and raise the gear.
- Toss the ball and catch it. "Flaps up." Reach out to the paper tiger and raise flaps.

You get the idea.

This exercise is a collective simulacrum of the mental load and distractions of an emergency or simulated emergency situation. Your brain is now forced to split focus on catching the ball and coordinating muscle movements, all while recalling and prioritizing the memory items. This is useful in ANY aircraft.

The benefits are exponential when you are in a two crew aircraft. It doesn't matter if you're flying a King Air or a Boeing 747. Sit across from your partner, chairs facing each other, tossing the sock back and forth as you practice emergency procedures. Decide who is pilot flying (PF) and who is pilot monitoring (PM). For this example we will use a generic take-off

profile, verbal call outs. This is even more helpful to visualize your muscle movements

- PF tosses to PM—Check Thrust. (Visualize advancing throttles to T.O. Power.)

- PM tosses to PF—Thrust Set, APR armed.

- PF tosses to PM—No call out required

- PM tosses to PF—Airspeed alive both sides

- PF tosses to PM—Check

- PM tosses to PF—80 knots

- PF tosses to PF—Check

- PM tosses to PF—V1.

- PF tosses to PM—No Callout Required (Visualize removing hand from throttle)

- PM tosses to PF—Rotate

- PF-tosses to PM—No Callout Required (Visualize easy back pressure on yoke)

- PM tosses to PF—Positive rate

- PF tosses to PM—Gear Up.

5. **Repeat.** I've seen "Mike" in our example and flown with him, too. We all have tough days in the sim and tough days in the aircraft. We are human. However, preparation is a game changer. Achieving your dream job is not the time to *hope* you do a good job. Competition is stiff, the sim instructors talk amongst one another, and often they are check airmen as well. Insider secret—speaking as a check airman and instructor, yes, we have barstool de-briefings after work. The industry is small and you don't want your name getting around for the wrong reasons.

"Man, my guy Mike just can't seem to get the memory items on these V1 cuts, not sure about his check ride..."

"That sucks, my guy Ken nailed it today, the guy's a machine."

Like it or not, the check airman's already heard about Mike's difficulty long before Mike gets into the cockpit for his checkride.



Do these exercises until you are dreaming about balled-up socks and paper tigers. What's the harm? It's FREE! As is good advice. You're welcome.





# essential reading

From what we've experienced as instructors, the pilot who gets his/her ratings close to the minimum required flight time is going to be the person who READS. The person who self-studies and gets ahead of the lesson plans. The person who watches instructional YouTube™ videos and knows the POH.

All the FAA publications are free to download on the FAA website under the ACS List, *here*. So you don't need to buy them.

And here's where you can grab your Practical Test Standards or *PTS*. To prepare for your practical test with an FAA inspector or designated examiner.

If you think we've left anything out, or you have any questions, please reach out to us! [info@jet7academy.com](mailto:info@jet7academy.com)

or join our Facebook group. All the links and socials are in the *About Us* section.

You don't have to be a part of our school to ask us questions or to get advice.

We have three keywords that underpin our organization:

*Safety. Integrity. Transparency.*

We hope this book has been worth every cent ;) We wish you a long life and many adventures. Fly safe, keep the dirty side down, and enjoy the view. It's the best job in the world.



## about us



Jet 7 Academy, owned and operated by career professional pilots, offers hands-on flight training tailored to each individual student. Our experienced instructors prioritize safety, integrity, and transparency to help pilots achieve their aviation dreams.

For more information, send us an email at [info@jet7academy.com](mailto:info@jet7academy.com) or visit our website.

You can also connect with us more personally by joining our Facebook Group, where you can network with other students, join us for discussions, ask our high-time instructors questions, and get tips from professional pilots.



