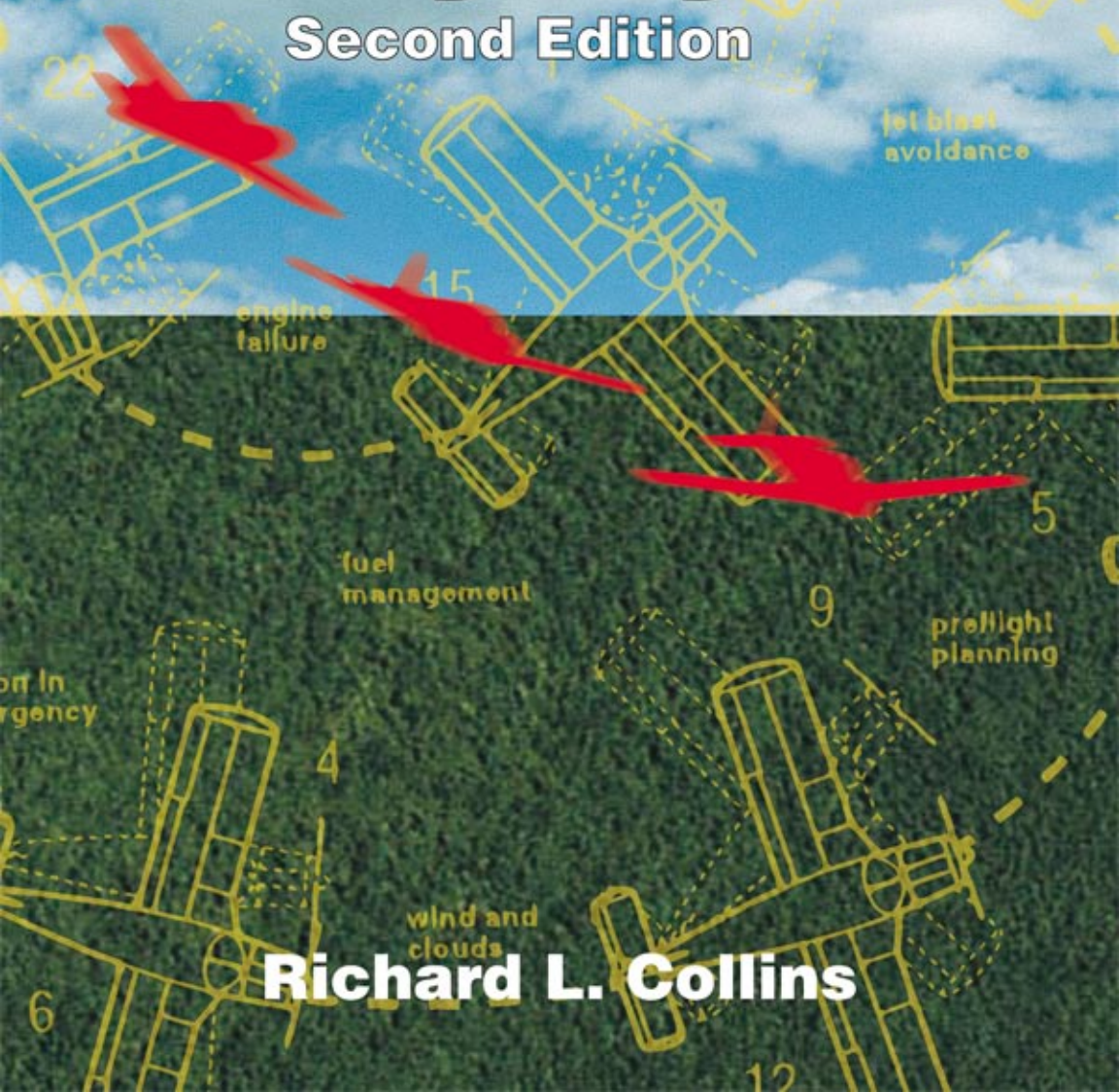




Tips to Fly By

Second Edition

Thousands
of PIC hours'
worth of tips
and tricks of
the trade



Richard L. Collins

Tips to Fly By
Second Edition
by Richard L. Collins

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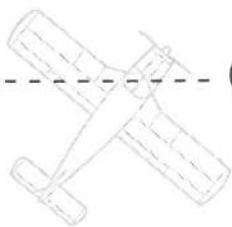
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On the Ground

Virtually everyone who flies also drives a car, and most of us learned to drive before we started flying. Both cars and airplanes are machines used for transportation and recreation, and there is an inevitable tendency to transfer some habits from the car to the airplane—especially the bad habits. In both cases, the problem begins before the start of the trip.

Before driving, a person's prime interest is finding the car keys. With those in hand, most drivers walk straight to the car, open the door, get in, start the engine, and drive away. If there's any "preflight," it likely consists of a glance at the gas gauge. People routinely drive after drinking, after taking medication, and while suffering from any of a wide range of ailments.

Pilots have been known to launch airplanes in much the same manner. Worry not over personal fitness, look the machine over from a distance while walking across the ramp, hop aboard, start up, glance at the gauges, and fly away. There *might* even be a chart under the seat from the last flight.

Such flights usually work out, but they fail often enough to contribute to the long list of needless general aviation accidents. To get off to a good start and progress smoothly, a flight needs a generous dose of planning and thought. It is true that many things often neglected in flight planning are not critical to every flight, but they can be important to an occasional flight. It is also true that wrong decisions are primary factors in over 50 percent of fatal general-aviation accidents. The bad decisions are often made on the ground, and those made in flight are sometimes influenced by something that was or was not done on the ground before takeoff.

**To be smooth,
a flight needs a
generous dose
of planning and
thought.**

----- Preflight Planning

Preflight planning suggests a pilot poring over charts, E-6B at hand, electronic calculator nearby, and the pilot's operating handbook waiting to provide precise information on the capabilities of the airplane. This is an exaggeration, perhaps, but it may explain why pilots shy away from preflight activity. It can seem complicated, and after you fly for a while, the value of thorough preflight planning becomes less apparent. The winds-aloft forecasts used in those careful calculations are usually inaccurate, making wastepaper out of a flight plan. And more often than not, we fly airplanes well within performance and fuel endurance capabilities, so the limits given in the pilot's operating handbook may seem unimportant.

Considering how general aviation pilots drift away from careful planning after leaving the training process, it's no wonder the accident rate is bad. We become complacent, take too many things for granted, and fly without a complete understanding of the airplane's systems and performance. The air carriers have a far better safety record, and meticulous preflight planning has a lot to do with it.

This chapter, on the things done on the ground, will not be an exhortation always to go through the tedious planning often associated with preflight deliberations. It is common knowledge that few pilots continue to work wind problems on a computer after training, for example, so there would be little point in insisting on this before every flight. It would certainly be *best* to make every useful calculation and computation before each flight, but failing that, a pilot does need a preflight system that insures that the essential checks will be made.

The key to a successful preflight is to consider *everything*. Leave no stone unturned. Make your own personal list and go through it before each flight, much as you run the airplane's checklist. Proper use of any such list comes in recognizing the item that needs special consideration, or work, and giving it the attention it requires.

A very simple list:

<i>Pilot</i>	<i>Airplane</i>	<i>Flight Plan</i>
Fit	Airworthy	Route
Licensed	Weight	Paperwork
Current	Balance	Weather
Motivated	Fuel	
	Performance	

----- **The Pilot**

The pilot, the first item on the list, is very important. A lot of pilots kid themselves about their own fitness to fly, and while only a small percentage of accidents are related to a specific physical or mental disorder, a large percentage are influenced by how the pilot feels.

A basic problem is alcohol, with about 6 percent of the fatal accidents in general aviation caused by inebriated pilots. Accidents where the pilot had consumed a small amount of alcohol or was suffering from a hangover probably account for a big slice of the pie. Alcohol in any quantity is a no-go item. Even the FAA's eight-hour bottle-to-throttle rule is inadequate if the bottle was a large one.

Drugs—legal and illegal—are equally debilitating and dangerous. The “don't” list is long. Don't fly if you are taking any medication that affects the way you feel or if for any reason you don't feel up to snuff. The latter is a subjective judgment and might be colored by the relative difficulty of the proposed flight, but remember that an airplane is the wrong place to be when you don't feel well, whether the flight is short or long, or the weather is good or bad.

Some pilots flirt with alcohol, drugs, and flying when not fit because they drive under the same conditions. This is bad enough when driving, but at least a driver can usually pull over to the side when he feels unfit. There is a tremendous difference between flying and driving. When you take off in an airplane, a commitment is made to perform a demanding set of tasks before the airplane can be brought to a safe stop. If, when some miles from an airport, a pilot discovers it was a mistake to fly, the rest of the flight can be a living hell.

Fit to Fly?

Some years ago I set out to satisfy my curiosity once and for all about flying with medication. The flu had wiped me out for a couple of weeks, and the physician I consulted prescribed some pretty potent medicine. I had little confidence in this particular physician even though he was an FAA medical examiner; he actually suggested that I fly myself to Florida to recuperate. His suggestion did get me to the airport, though, where I found a flight instructor to go for a short flight with me.

I hadn't felt too bad driving to the airport, but when I settled into the pilot's seat of my Skylane, I felt out of place. The technique on takeoff wasn't bad, but once the airplane was airborne I started becom-

ing disoriented—and it was a clear day. I had to work very hard to keep the airplane straight and level, and the farther we moved away from the airport, the worse I felt.

Preoccupation with the way I felt, and with the absolutely basic process of keeping the wings level, was all the old brain was good for. About five minutes after takeoff I was sweating profusely and didn't have the slightest idea of where the airport was. I was wiped out, absolutely, and certainly didn't feel like trying to find the airport and land. I turned the airplane over to the instructor; he flew us back to the airport and landed the airplane. I went home with a lesson learned. If you feel poorly—and even if an FAA medical examiner says you're fit to fly—stay on the ground.

When Flying's a State of Mind

Some people say that flying is therapeutic for them because they can forget a multitude of earthly problems while aloft. This is okay if indeed the other thoughts can be driven out and total concentration given to the flight. But it has been suggested—with some verification—that major events foul up a person's ability to concentrate on such a complex task as flying. Whether good news or bad, any emotional excitement should be considered good reason to carefully preflight your state of mind. New riches are a lot more pleasant than bankruptcy, a birth in the family is a world apart from a death in the family, and a big raise is a lot better than getting fired. But if any event, good or bad, is allowed to dominate your thoughts, your flying suffers. I'll always remember the fellow who went out for a therapeutic flight after receiving his draft notice. On return to the airport, he multiplied his problems by landing wheels up.

Licenses and Currency

It goes without saying that the proper licenses and medical certificates should be in hand and appropriate to the airplane and the flight to be flown. Not quite so plain is that this requirement is a *minimum*. Preflight your real relationship with the airplane and the flight.

I fly my airplane on almost a continuous basis, and if a flight is to be in ol' faithful, I know my machine's capabilities. But if I'm to fly a new-to-me airplane, I always consider any special conditions that might be imposed on the flight. For example, it might be best to eschew IFR or stay away from small airports until familiar with the airplane. It is

important to be honest about these things, because a flight that is comfortable in a familiar airplane can be confusing and even hazardous in one that is relatively strange.

I fly a lot of different airplanes in my business and have found many examples of how relatively simple things can add stress to a flight. Automatic pilots are a good example. I learned long ago—after a lot of confused swooping and dipping—never to use an autopilot in IFR conditions until I have thoroughly explored its characteristics in VFR conditions. Even if you are familiar with the airplane, the flight should be VFR or hand-flown IFR until you are familiar with the autopilot. Same goes for the radio system. Most are simple enough once you become used to them, but it can take a while to learn the intricacies. One day a couple of us left an uncontrolled field in a new Mooney loaded with the latest in avionics, and after twenty minutes we had barely figured out how to operate one of the transceivers. Instead of flying along trying to learn how to work the system, we should have worked it out in advance on the ground.

Checkouts in airplanes are often skimpy. The FAA requirement of three takeoffs and landings within the last ninety days in the same category and class (single engine land, for example) before carrying passengers is far from adequate. If a pilot in command doesn't have full knowledge of an airplane and feel comfortable in the pilot's seat, he should not fly it. There are a lot of important pages in the pilot's operating handbook that should be committed to memory; it is amazing how many pilots ignore them.

Pilots aren't perfect and never will be, but being honest with oneself before flying is surely a key to survival. If there is any doubt about pilot ability or physical or mental well-being, flying should not be done.

Motivation: to Fly Hands-On

What are the best ways to provide yourself with the motivation to fly the airplane properly and safely? One important way is to assume the role of pilot before you take off. You might be highly successful as a doctor, lawyer, or businessman—all demanding much thought—but to be a good aviator you have to be 100 percent aviator when flying. The fact that you make a lot of money or are highly esteemed in your field doesn't really matter in the airplane. Up there, all that matters is flying.

Tips to Fly By

Second Edition

The flying savvy
8
most pilots
would have to
log a thousand
or more hours
to learn.

Pilot-in-command experience — thousands of hours at the controls of virtually all types of light aircraft in all flight conditions — is the main ingredient of this book by veteran pilot Dick Collins. He takes you to some of the tight spots in advance and lets you think through them ahead of time. Old hands can compare and add to their own experience; those new to the game can avoid some surprises.

Tips to Fly By offers techniques, performance tips and rules of thumb — for example:

- How to devise a tailor-made preflight checklist for your machine, your flight, and yourself.
- When to change altitude for optimum fuel management; effects of loading on performance.
- What to watch for when flying low and slow; stall/spin avoidance.
- How to move up to higher-performance single- and twin-engine aircraft.
- Why night flying is really IFR flying.
- When, why, and how to practice flying skills; obvious reasons often ignored.

...and much more, including the finer points of flying that make the most of your airplane and make you a better, safer pilot.

Richard Collins has spent his life in aviation, logging over 18,500 flight hours in almost every type of aircraft, and writing about it in 900 magazine articles and 11 books for pilots — plus many video productions. He has been editor-in-chief of *Flying* magazine, and publisher and editor-in-chief of *AOPA Pilot* magazine. Collins has won many aviation awards and continues to do extensive research in aviation safety. He is currently editor-at-large for *Flying* and editorial consultant to Sporty's Academy.



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