THE IMPORTANCE OF FLYING SOLO
BY
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Every pilot remembers his first solo flight. It's a good example of the Law of Intensity we flight instructors use when we train students. That law says that we tend to remember things when they are experienced at times of intense emotion. Think of where you were when you heard that President Kennedy had been killed, or when the twin towers in New York had been destroyed. Because these events evoke such intense feelings in us, they are unforgettable.

I think the events of the first solo flight are memorable because, for most of us, flying an airplane by ourselves for the first time is a very exciting, emotionally intense experience.

Like most others, I remember my first solo flight, but I also remember my second solo flight with just as much intensity. I showed up at the flight school without an appointment, wondering if my instructor were by any chance free to do a lesson with me. The secretary informed me that my instructor was not in that day, but that there was a plane available, if I would care to go by myself.

That was the first time I realized that I was actually free to slip the surly bonds by myself, any time I wanted to. What followed was like one of those scenes from The Bionic Man. I whipped the keys out of the secretary's hand and headed for the door, anxious to get this show on the

road before somebody discovered what I was doing and stopped me.

I untied the plane, got in, and started the engine. There was not the slightest thought of a preflight inspection. I was totally fixated on getting myself and the Cessna into the air and away from the airport before anybody could come to their senses and restrain me.

About the time I got to the edge of the practice area, reality caught up with me. Here I was, all by my little lonesome, with other planes flying around and nobody in the right seat to spot them and warn me of their presence. It was one of those moments of Zenlike clarity when you suddenly realize that your fate is totally in your own hands. Talk about intensity!

Were it not for that experience, I might have learned to get my head on a swivel and my eyeballs outside of the cockpit. Another training plane might have come close, or I might have spotted somebody else, just in time to dodge him. But I learned something valuable from being up there by myself and realizing that there was nobody to pull my irons out of the fire. This learning would not have taken place, at least not that efficiently, if I had had my instructor with me.

A similar episode took place on my second solo cross-country flight. I had worked a long time and saved up a lot of money so that I could fly from New Orleans to Shreveport, about as far as one can travel and stay within the state of Louisiana. It was a very big deal for a 19-year-old pilot with less than 30 hours of total flight time.

My plan was to follow the Airline Highway to Baton Rouge, whereupon I'd hook up with a radial of the Baton Rouge VOR and track it toward Alexandria. About half-way up there, I'd switch over and track the Alexandria VOR until I saw the Red River. I'd then follow the Red River to Shreveport.

In those days instructors didn't go through the formalities of reviewing flight plans, consulting with student pilots about weather, fuel flows and other arcana of flight planning. When you got signed off for solo cross-country on your student certificate, you essentially had a private pilot certificate, without the privilege of carrying passengers.

I passed by the flight school the day before the flight and picked up the key to the airplane I was going to use. My planned departure time was well before the flight school opened for business. To this day, I don't know whether my instructor put me with that airplane on purpose, or whether it just happened that I drew the trainer with the busted VOR receiver. But that's how it turned out. I blasted off for Baton Rouge without worrying about using the radio. As soon as I said adios to the tower, I probably turned the thing off.

I successfully followed the highway to Baton Rouge and visually identified the little white sombrero that was the Baton Rouge VOR station. In vain, I tried to get a signal on their frequency. The nav portion of my radio was totally kaput.

I circled the station several times, trying to decide what to do. I had saved a long time to finance this project. Going back home now would probably mean that I'd have to wait another month or so to make the trip. And my buddy up in Shreveport would be waiting at the airport at our prearranged time.

I looked at my map. I had drawn a course line from the Baton Rouge VOR station to the Alexandria VOR. Two railroad tracks diverged very close to the Baton Rouge station and then converged again as they approached Alexandria. If I took off on a heading toward Alexandria and didn't cross a railroad track, I'd go right where I wanted to go, just like oil passing through a funnel. If the wind did drift me off course, I'd see the track and follow it to my next checkpoint.

So I took off on my planned heading, the tracks giving me enough confidence to do what had to be done. Somewhere along the way, I came upon a great big river. I hadn't noticed that when I had been doing my flight planning. Of course – I would be tracking the VOR radial during that part of the flight and didn't need checkpoints. I looked at my map. Bigger than life, there was the Achaffalya River, exactly where it was supposed to be. And not a railroad track in sight!

I held my heading for another while and what do you know? Alexandria appeared in front of my nose, right on schedule! Don't laugh. At this time I probably had around 20 – 25 hours of flying time. A prominent thing I had been taught about cross-country navigation was that I'd better

keep a check point or a radial in sight at all times, or I might GET LOST.

Look at the power, the ***INTENSITY***, of that experience. I realized that if I aimed my sturdy craft in the right direction and sat there for the right amount of time, I'd arrive just about where I planned to arrive. I headed up the Red River basin and got to Shreveport without further ado.

When a student pilot flies an airplane solo, his mind works differently than it does when he is accompanied by an instructor. He learns from decisions he makes, aided by the intensity of knowing that he, and he alone, will succeed or fail as a result of his own actions.

Another example: An instrument pilot is given a clearance out the 210 radial to the 45 mile fix, then direct FIXXX intersection. He sets up his navigator to track the radial and gets himself established on his assigned route. The next controller up the line tells him to fly direct to FIXXX. He rotates the knob on his navigator to outline the intersection and pushes the button that says, "go to-direct." He then switches the autopilot to "GPS Track" mode, expecting the airplane to turn toward FIXXX. Instead, a light in the autopilot button starts flashing, meaning that the navigator does not recognize the fix, and/or that the autopilot does not understand where the navigator is telling it to go.

If an instructor were sitting in the right seat, he would probably, at this time, call the pilot's attention to the fact that the navigator was still set to the "V/LOC" mode, and

was not working on a GPS signal. The pilot would reset the unit and order would promptly be restored.

But in this example, there is no instructor. The pilot has a problem to solve, and it will not go away until he himself goes through some trouble-shooting and deals with the needs of ATC while he is trying to figure out what's wrong. He will eventually discover his mistake, feel like a prime fender-head, and will never make that mistake again. The intensity of the moment will securely fix the lesson in his memory. There is a good chance that an instructor helping him would have short-circuited the problem-solving experience, preventing this high-level learning from taking place.

Learning is sometimes defined as a behavioral change that takes place as a result of experience. There are some times when having an instructor helping you actually keeps you from having an experience. Oddly enough, at those times, the presence of the instructor sometimes ***prevents*** learning from taking place, just as it would have done in my example.

I recently worked with a gentleman on his instrument rating. He was a newly-rated private pilot when we began our association. I thought he was green as a field of grass. He had no self-confidence when it came to making cross-country flights. I put that problem down to lack of experience. Little did I realize how right I was.

A few months later, I was auditing his logbook as I filled out the recommendation for his instrument practical test. One of the boxes said, "solo cross-country." I flipped

through the pages of his logbook and could find only one of these trips, an hour-and-a-half jaunt over to Gulfport, Mississippi, barely 65 miles from home plate.

"That's the only solo cross-country you made before you got your private?" I asked.

"Yep," he said. "That's the only one I remember doing. Remember you said I was pretty green when you first picked me up as a student? That's why."

You can't get a private ticket with 1.5 hours of solo cross-country, I thought. Actually, it was worse than that. He had two dual cross-country flights, one during the day and one at night. Guess where he had gone on both of those flights. Yep – Gulfport.

So here was a private pilot who had been out of sight of his home airport only 3 times, each time flying north-east along the I-10 highway, parallel to the Gulf Coast, to the same destination.

I called the local FAA office. Surely the examiner who gave him his practical test for the private certificate had made a mistake. My question for the inspector was, "What happens if such a mistake leads to an applicant receiving a certificate or rating by mistake? Is this certificate valid? Can I send him up for an instrument practical test if he does not hold a valid private ticket?

The inspector told me to XEROX the gentleman's logbook and to write a letter to the manager of the FSDO, expressing my concerns. After we hung up, I asked my student if he had gone through an "approved school" curriculum. Yes, he had. He had received a graduation

certificate from this school, a result of his having been trained to the standards of Part 141 of the Federal Aviation Regulations.

I broke out my book of regulations. Part 141.5 gives the solo flight training minimum requirements:

1. **One solo cross-country flight of at least 100 nautical miles with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 50 nautical miles between the takeoff and landing locations…**

That's it, friends and neighbors! By making a flight he had made twice before with his instructor, and by making a secondary landing at an airport about half-way between the two other airports, my man had qualified himself as a cross-country expert fit to fly passengers on cross-country flights to just about anywhere. How would you like your family to be sitting in an airplane piloted by this gentleman the first time he decides to fly from New Orleans to Los Angeles?

Bit by bit, we had nibbled away at his inexperience. He needed 50 hours of cross-country time as pilot-in-command to qualify for his instrument rating, and I insisted that much of this be done without me aboard. By a

fluke in the law, part **or all** of this 50 hours can be flown with an instructor or copilot aboard, as long as the instrument student is the sole manipulator of the controls or is **acting** as pilot-in-command. Remember what I said about learning when you're the guy on the spot? Remember about the law of intensity, that law that makes it more likely that you'll remember and be able to apply what you've learned? I suggest that having a highly experienced pilot aboard who is in fact in charge of the operation lowers the intensity of the situation. It will be more likely that the person who is supposed to be gaining experience is actually coasting, depending on the other pilot's wisdom and experience to keep anything from happening that might produce a dollop of intensity.

As I understand the logic of Part 141, dual time can be substituted for solo time in the curriculum, since that dual instruction is highly proscribed, managed, and supervised so that no opportunity for learning is wasted. According to this twisted logic, a pilot learns nothing from sitting in an airplane by himself for hours at a time, boring holes in the sky. One tiny cross-country is probably going to provide the same experiences as several longer trips, so why should we make students go to the trouble and expense of making longer trips prior to being rated at the private level?

As you may have gathered by now, I strongly disagree with this line of thinking. When I was teaching flying for a living, I would always insist that any student of mine have at least three hours of solo practice before we went on the dual cross-country flight. I felt, and still feel, that getting

used to being in charge is an important transition for a student pilot to make.

As anecdotal evidence of this notion, I offer the story of a student of mine who had been having problems getting to fly. He had a busy schedule, the airplane had been down for maintenance, and the weather had not been cooperating. He talked me into making his dual cross-country the next flight after his first solo.

We flew to Wiggins, Mississippi, our first stop. I refer to this place as a "par 3" airport, meaning that my average student usually takes 3 tries before he gets the bird on the ground successfully. There are several nice things about Wiggins, from a training standpoint. One is that the runway is not even as wide as the average taxiway at our home airport. This gives the optical illusion from the air that we are farther out from the runway than we actually are. Another feature I like is that the runway slopes slightly upward toward the north, whereupon it passes over the crest of a small hill and descends for about the last 300 yards on the north end. In fact, when you're taking off, you won't be able to see the other end of the runway when you begin your takeoff roll. It is beyond the crest of the hill.

This slight slope is not noticeable from the air, if one is not looking for it, especially if one has never landed on a runway less than 3000 feet long and 75 feet wide. Students who have been cruising for the last hour have to slow down, establish key positions, and notice that the sight picture on final approach is not developing as planned. Most of them

look at me quizzically, shrug, and then go around after the first try.

The gentleman who had done his first solo on the previous flight set up his approach to land to the north and came in a little low, as was required to get down before running out of runway. Then the airplane started drifting slightly to the left, until we were lined up with some scrub and dirt between the runway and a very large culvert. I waited for my student to make a correction. The airplane came closer and closer to the weeds, both of us sitting there, watching it happen.

Finally, I couldn't stand it any longer. I grabbed the controls and averted the pending disaster with a last-minute go-around.

Why didn't the student respond to what was developing into a critically unsafe situation? I think it is because he had simply not had enough experience flying by himself. He had not had the opportunity to be an autonomous problem-solver, an aircraft commander. In his mind, he was still a passenger and *I* was the pilot. After that experience I never again violated my rule about having my students do 3 hours of solo before starting on the cross-country phase of their training.

There are two levels of pilot certification students can seek without having to qualify as private pilots. They are the "Sport Pilot" and the "Recreational Pilot." Both of these certificates have limitations on the privileges of the holder because the training requirements at these levels are not as stringent as those required for Private Pilot

certification. One of these certificates, I submit, should be the one earned after a student experiences the truncated Private training syllabus given by Part 141.

Here is a modest proposal that I think would enhance safety and would also increase the proficiency and capability of private pilots. Let us go back to requiring 20 hours of solo flight for private pilots. Let us also return to the practice of requiring 10 hours of solo cross-country experience, including one flight with landings at 3 places, each of which is more than 100 nautical miles from the other 2 places. This sort of task requires a great deal more fuel planning and weather analysis, and might even, from time to time, force a student to abort the mission, an important part of learning to make safe decisions.

Changing plans as a result of encountering unexpected conditions is a valuable source of learning. It is unlikely that anyone setting out on a 100-mile out-and-back journey, lasting only an hour and a half, would have to deal with any unexpected factor. This kind of trip will, most of the time, be flown by rote, the flight going exactly as planned. It is the kind of task that produces a private pilot who may have to deal with the unexpected for the first time when he has passengers on board, after he has initiated a trip without the benefit of review from an instructor.

And instructors should ask themselves the same question I ask myself, before I recommend any pilot for a practical test: "Would you be willing for any member of your family to be a passenger when this pilot is in

command, exercising the privileges of the rating for which you have trained him?