

On Tuesday March 1st, I departed from KOPF about 5:20 PM local time in my Cirrus SR22T, a plane I purchased new and took delivery of in June 2021. Two friends were visiting from out of town and I was taking them on a sightseeing sunset flight around Miami.

The intended flight path was to head west from KOPF, turn south to fly over the Everglades, then turn southeast toward Ocean Reef Club, followed by a turn to the north to fly along the east side of Miami Beach to see the sunset and finally turning west to complete the loop and head back to KOPF landing shortly after sunset. There were a few clouds in the sky, winds calm and VMC conditions, the flight was going to be under VFR.

This was my second time taking Maria flying and the first with her friend, so I wanted to make sure they both felt comfortable in the plane. As we were flying, they were having a great time, enjoying the beauty of the Everglades and felt excited by the beauty of flying low to the ground (we were between 500 and 1,000 AGL so “low” in this case means relative to a commercial jet at 35,000 feet.)

In a nearly unbelievable bit of foreshadowing that only happens in the movies, we had a conversation about the ins and outs of flying low. I explained that legally you have to be 500 feet above the ground and objects in unpopulated areas and that the real risk is hitting something, telling them that birds are the danger because you can't control their movement and anything stationary you would be able to see.

Shortly thereafter, we were flying south at about 700' AGL and see a manmade water channel, the north side of the channel starting just west of the Hacinada Pinar Recreation Center (14050 SW 202nd Avenue, Miami, 33196.) I told my friends that we can fly lower along the channel with the intent of going down to 500'. As, I descended from 700' I didn't look at my altimeter, but I quickly realized that in my excitement I've descended well below 500' by the sight picture out the window. I see Pump Station S357 directly ahead with power lines crossing the water way and I'm too low. It's about 2.5 miles from the recreation center and we're traveling approximately 170 knots so the entire sequence happened in under a minute.

As I began to pull back and climb, I heard a thud. I checked the engine data and everything was normal and no warning messages appeared. I

performed a complete system check and everything appeared normal, there were no cast messages. The only anomaly was that I had limited rudder control.

At this point we were about 30 miles southwest of KOPF. I turned the plane around and headed back to the airport. I continued to look over all the systems and everything was still normal except the rudder. I then noticed the pedals felt loose. The brake pressure on the upper portion of the pedal felt normal. At this point, my thought was I had hit a bird and my primary concern was did the impact affect the wheels and tires. It never entered my mind that the rudder had been knocked off the plane. It also didn't occur to me that I might have hit a wire, thinking I didn't see any wires and if I hit one, I would have immediately lost control of the plane and crashed.

About 10 miles from KOPF I contacted the tower and gave them a quick summary. The summary I gave was I was flying and hit something, everything is nominal except my rudder control. I expressed my concern about my landing gear and asked if there was a way that I could fly by the tower for someone to take a look to see if my landing gear was damaged. Because my Cirrus has the CAPS system I was trying to determine if it was safe to land or do I need to pull the parachute.

The tower informed me that there was a Miami Dade County police helicopter in the air nearby and they would encircle me to take a look. I heard the helicopter on the radio and we coordinated an interception. After taking a look with their camera they told me that everything appeared okay. I double-checked and asked them about the rudder. They confirmed that everything looked normal. Looking back I now see why it wasn't so obvious that the rudder was missing as the tail section was intact and unless you happen to be familiar with a Cirrus airframe it's not obvious from the side view that anything was askew.

From my training, I realized that deploying the parachute has its own risks. With over 100 deployments I know that everyone has survived if it's done within spec (i.e. less than 150 kts and greater than 600 feet AGL.) However, if pulled, you're going to hit the ground hard, perhaps break a bone or two, destroy the plane and if you pick the wrong location going to hit something or someone on the ground. The information from the helicopter pushed me in the direction that landing is a safer option to parachute deployment.

I made a visual approach for runway 9L, landed, skewed a bit right of centerline, got on the brakes hard and stopped without incident. I taxied to my parking spot, shut down and got out to take a look.

When I saw my rudder missing, I was in a complete state of shock and disbelief. Time froze, I stood there and stared at the plane for what seemed like an eternity. After a few minutes the two gentlemen who were in the helicopter stopped by to check-in. When they saw the missing rudder, they were as surprised as me given they had just taken a look at it from the air and everything seemed normal. I asked them if they needed any information and they said no, wished me well and left. A few minutes after that a another gentleman from the airport stopped by, asked for my pilot's license, wrote down some information. I asked if he needed anything from me and he said no. I didn't get either of their names or contact information.

The next couple days happened to be busy days on my calendar and I was honestly still in a fog thinking about what happened. I put out calls to my mechanic and flight instructor. At the time I was thinking my options are; do nothing, file a NASA report, file a NTSB report. I refreshed my memory from my private pilot training that I have ten days to file a NTSB report so I didn't act with a sense of urgency. I now realize that this type of incident should be reported immediately.

I was in the Bahamas over the weekend and returned to Miami Sunday March 6th. This was the first day I sat down and retraced the flight. I was able to find Pump Station S357 on Google Maps and drove out to the site. Starting at the pump station I walked about a mile northward along the water way and found my rudder lying in the grass. For the second time in a week, I couldn't believe what I was seeing. A few hundred feet north of the rudder location I saw a few wires crossing the water channel (I was flying southbound so I was walking in the opposite direction of flight.) I looked at the poles and wires (three I believe) and none seem to be damaged, missing or recently repaired. While it's possible I could have hit anything, my sense tells me I hit a wire. How the wire didn't break and how I didn't crash is beyond me.

By Monday March 7th, it was clear to me this needs to be reported so I hired an attorney to help me navigate through the process.

I'm writing this summary on Tuesday March 8th and while I feel humbled and embarrassed at allowing myself to get so low my overwhelming feeling is gratitude. Gratitude that I'm alive to be able to write these words. My flight instructor always said that the FAR AIM was written in blood, it seemed so trite at the time. I often watch aviation accident reports on YouTube and generally think "it's ashamed that guy crashed but he made a dumb decision or had poor skill, that would never happen to me" And, then I did.

I started flying two years ago and it's become a passion, I love everything about flying and since purchasing my plane have flown about 30 hours a month, a lot for a private pilot. I was planning on getting my tail wheel endorsement, learning to fly an acrobatic plane and perhaps a helicopter. I obviously haven't flown since the accident and still get a knot in my stomach when I think about this flight.

Between this investigation and my own feelings, I'm not sure what my future is in aviation but I know that I want to maintain my ability to fly. I have a lot of pondering to do before I get back in the cockpit. If I do fly again, it will be with an abundance of appreciation and caution.