

On Dec 5, 2018 at approximately 3:40 pm while on a training flight practicing landings, the plane, a Piper Archer N839AL ended up off in a ravine on the left side of runway 6 at the Habersham County Airport KAJR. After a touch and go the plane drifted to the left of the runway upon takeoff and then plane came into contact with some tall brush that prevented the plane from continuing to climb. The plane came in contact with the side of a bank and came to a stop in a ravine. The plane received substantial damage. There were no injuries and the FAA was notified and this is my written account of the event.

On December 5, 2018 my day started just as any other day. I woke up after a good night's sleep, had breakfast, took my kids to school, showered and dressed and made some phone calls and did some computer work. I had three training flights scheduled for the day. My weather briefing consisted of using ForeFlight where I checked NOTAMS, the METAR for KAJR, The TAF at KAHN, and the MOS at KGV. There were to be gusty winds from the Northwest all day.

My first lesson was scheduled for 10:30AM. It lasted for 1.4 hours and consisted of upper air work. The air was bumpy but we were able to practice crosswind taxi techniques, cross wind takeoff, slow flight, power off stalls with and without bank, a demo of a power on stall, and then we practiced TAP and S-Turns across a road. We came back in to land on runway 24 at KAJR, I did the landing as this was a very low time new student and we had a very smooth uneventful landing crosswind landing. The second flight was scheduled for 1:00PM and lasted for .6 hours and consisted of touch and goes on runway 24 with a higher time pre-solo student that could have soloed that day had the conditions been favorable. We may have done four landings and one go around. The winds were still out of the northwest but becoming variable from around 290 to 350 at 12-14 kts gusting to around 16-18 kts. That was this student's second time practicing landings in these types of conditions. He was able to successfully complete the landings without assistance. We stopped the lesson early as we wanted to end on a high note and the student was tiring due to the challenging conditions but left elated as to his progress in mastering the landings in max crosswind conditions. My final lesson was scheduled for 3:00PM. At this time the AWOS was reporting steady winds from 330-340@12-14G17-20. Due to the position of sun in the sky and the fact that there was pretty much a direct crosswind, we chose to use runway 6 at KAJR so as to not have to take off directly into the sun. For this student, he also could have made his first solo flight that day had conditions been favorable. This was his first flight in these types of conditions. The air was getting less bumpy than the previous flight but still challenging conditions. We reviewed, discussed, and demonstrated how to do the crosswind takeoff with aileron all the way into the wind and gradually taking it out on the takeoff roll. We discussed that you need to establish a crab into the wind to track the runway centerline and that using a slightly shallower climb with a few knots of extra speed on the climb would allow you to have more positive control of the plane and a more comfortable climb in those conditions. We discussed drift and all of the elements of a rectangular course. I also said that you need to make sure that you don't bank steeply in the pattern in those conditions. Normally, no more than 30 degrees of bank in the pattern but that I prefer no more than 20 degrees of bank when it's gusty and bumpy. He was doing a good job of paralleling the runway on downwind. He was getting pushed wide on the base and overshooting final due to the push of the tailwind on the base. We were working on leading

the turns to final so as to not bank too steeply and letting the wind push you around while rounding the corners of the pattern. We also discussed how depending on from which side you have a crosswind that you need to be careful about lifting the wing too high into the wind in gusty conditions so you don't get any uninvited roll. We discussed how YOU have to be in control of the plane and not let the wind control you. We discussed how you may need to "man-handle" the plane a bit more in those types of conditions to make the plane do what you want it to do and react quickly especially when you are on final and getting close to the ground and slowing down. We discussed how low and slow was not where you want to be in these conditions and ALWAYS be prepared for a go around; especially with a gusty crosswind because that's when you are the most vulnerable. We reviewed the definition of gust factor and determining how much speed you may want to add to your final approach speed and that you have to be patient in the roundout and flare because you have to bleed off that extra speed. We were making approaches at 80-85kts. Normal approaches are usually 70-75kts. We discussed how you will likely use less than full flaps on approach and had done some landings with only one notch of flaps and some he used two. I told him to try it both ways and use what felt the most comfortable. We discussed how you will crab into the wind and track the runway centerline and then at some point before you land that you have to use rudder to straighten the nose and get the plane aligned with the runway centerline and that you will also need aileron into the wind to control the drift. And, that you will need to keep the aileron into the wind as you flare because your flight controls are only as effective as the air that you have that flow over them. We had discussed all of this before but everything was very apparent with the winds that day. He made three landings with assistance.

By the fourth approach, he was making a very good turn to final. On short final, I took over the throttle to allow him to focus on the rudder and aileron. The approach was good and as steady as could be expected for the conditions. The touchdown was on centerline, but not with perfect longitudinal alignment. When we touched down, the nose pulled slightly to the left. At this time, I took over full controls and added full power, I did not retract any flaps as we were only partial flaps, carburetor heat was not a factor as the carburetor heat had not been applied. I maintained the slightly offset direction on the takeoff roll due to fact that I did not want to overcorrect with a left crosswind in a low wing plane and wanted to gain the extra speed and more shallow climb angle due to the winds. We became airborne as we exited the side of the runway. Post incident, this to me is supported by the fact that there was only one tire mark that I assumed to be from my plane and it was likely the left main that did leave a mark on the grass that disappeared very shortly (see photo). Then approximately another 80 feet further down the runway past the end of the tire mark and approximately 30-35 feet to the left side of the runway, my left wing came in contact with some very tall, tree-like scrub brush (see photos of where the left wing and possibly left side of stabilator sheared off the top 2-3 feet and subsequent left leading edge wing and stabilator damage). I believe my wing sheared off the brush and not the prop because it was sheared and due to the fact that I didn't recollect the plane being that far to the left of the runway. I don't believe that I saw the brush out my side (right) of the plane. I experimented by whacking it and it sheared. Also, I noted that further down when the plane came closer to the ground that the damage to the brush was more shredded in areas and I suspect that may have been the prop. The brush was over 10 feet tall from the ground but was growing on the side of a bank. The brush was approximately 5-6

feet tall above runway elevation and varied in diameter up to 1 ¼". My first thought was, "Will this scratch the bottom of my plane?" The plane struggled to climb and was resisting my attempt to gradually pull the plane back to the right. I believe this was due to the left wing and left side of the stabilator was being slowed down by the drag of going through the brush. I felt that we were tracking straight and the brush damage shows a straight path until it goes left down the bank. I continued to plow through the scrub brush for another 190 feet before the plane finally lost enough lift that the plane came back down to the ground. During this time, I had enough time to verbalize to my student, "This stuff isn't going to crash my plane is it?" About the time the words came out of my mouth, the plane came back to the ground. At the point where it came to the ground the plane may have jerked somewhat before going down the sharp drop off down to the bottom of a ravine and that is where the plane came to rest with the engine abruptly stopping when the prop hit the ground. We sat for a couple of minutes, made a phone call for assistance, and gathered our belongings and left without a bang, bruise, or a scratch.

How could this have been avoided is a question that I have asked myself repeatedly. Let me just say that I am very comfortable in very windy and gusty conditions. I have flown this plane in 30kt winds and maximum crosswinds. My personal preference is a left crosswind. The conditions of the day were windy and challenging to a beginner but were not such that training would be unsafe. There were at least two other planes that I heard myself on the radio landing at Habersham over the course of the day during my training flights. Habersham isn't a very busy airport. The student didn't have perfect longitudinal alignment. I didn't feel that the crab was substantial. This is not unusual in the grand scheme of training environments; not an everyday occurrence but not unusual. My feet were on the rudder pedals, my right hand on the yoke and my left hand on the throttle. I was very prepared and ready. As I already had mentioned, I just went with the direction the plane was pointed. I didn't feel as if there was any reason to do anything differently. Smooth and steady is the way I approach crosswinds, especially gusty direct crosswinds. I was straightening out the plane when we hit the brush. At no point did I feel that we didn't have positive control of the plane until I couldn't climb out of the brush. I have no training or experience with bush flying. Perhaps there are some techniques that I do not know about that could have helped. If we had touched down sooner or had a plane with a high wing, this likely wouldn't have happened because we would have missed the brush. Unfortunately, we did come into contact with the brush and I continued to fly the plane but I think there was just too much drag on left wing, stabilator, and the gear dragging through a ticket of briars that I could not gain speed to climb out of it and it ultimately brought us to the ground.

This is my honest and factual account of the event. I have tried to be as thorough as possible. My personal takeaways are that I now understand and firmly believe the importance of flying the plane to the ground and being more aware of my surroundings. What if I had pulled up hard to climb out? Could I have stalled the plane and had a worse outcome? What if I tried to bank it harder? Could the wind have gotten a hold of me then? I've been flying out of Habersham for four years now. It has not been the best maintained airport around. I will be more vocal in addressing those types of issues in the future. I told my student that afternoon that I would do everything the same. I would do it the same yesterday, today, or

tomorrow. Let me know if you have any further questions and I welcome any other insights, thoughts, or opinions about my handling of flight that day.

Michelle Curcio

