

**Flight details for N966EZ the morning of Saturday, Oct. 7, 2017**

**Provided to Dale Adams of the Scottsdale FAA**

Copy to Officer Mariah Anderson of TAA

Monday, Oct 9, 2017

This is my recollection of the events of morning of Saturday, Oct. 7, 2017.

After finishing a fly-in breakfast at the San Carlos Casino (no alcohol involved) the group of breakfast fliers returned to the ramp to prepare for the return flight home. Mine was the only plane returning to Ryan Field (KRYN). Most of the other aircraft had already departed toward Falcon Field when I called my wife at 9:42AM and notified her that I was preparing for takeoff.

Several minutes later I radioed my intention to San Carlos Apache traffic on frequency 122.80 to take off on runway zero niner and initiated my takeoff roll. I climbed out at 1500 to 2000 ft/min and notified San Carlos Apache traffic of my intention to depart to the south. I established a heading of two-zero-zero and climbed to an appropriate VFR altitude of 6500 ft. With the GPS driven autopilot set for "direct-to" KRYN on a heading of two zero zero, I continued smoothly along my route at a true airspeed of 160 kts.

I monitored traffic on my iPad using ADSB-in from my Stratux. About 16 miles north of Ryan Field I tuned in to ATIS and listened to the field conditions. I then switched my radio to the tower frequency. I ordinarily request a direct-in to Runway 15, but there were several planes in the pattern for active runways six right and six left with some aircraft waiting for takeoff clearance. In addition, the winds had been reported by ATIS to be zero six zero at six, so I chose not to make my usual request for runway one five.

I ceased monitoring my ADSB-in. When I am in contact with the tower and preparing to enter controlled air space, the ADSB-in becomes an unnecessary distraction. I contacted Ryan Tower as November-Niner-Six-Six-Echo-Zulu, experimental LongEZ above Wasson Peak with information \_\_?\_\_ (I don't remember the designation that was active at the time), inbound for landing. Full stop. I learned later that the controller handling my traffic was named "Dee". I was advised to report on entering a 45 for a left downwind for runway six-left. I acknowledged the ATC call. I descended to pattern altitude and called in on entering the 45 as requested. "Dee" then requested that I make a left three-sixty prior to entering a left downwind to allow improved traffic spacing. I acknowledged the request, and began my left three-sixty, which gave me an opportunity to slow down my low-drag, high speed aircraft.

I notified the tower of having completed my three sixty. Tower confirmed my entry to downwind and told me to follow the Cessna on left base for six-left. I slowed my speed to below 120 kts and deployed my nose gear. I was scanning the sky for traffic on left base. When the numbers for six- left were at about my 11 o'clock, I spotted two planes on final one on six-right and one on six-left. I called the tower and advised that I had planes landing on six-right and on six-left in sight and asked, if I was to follow the plane on final on six-left. Evidently there multiple calls and part of my call had been "stepped on". "Dee" asked what aircraft was requesting to land on six right. I replied that the mention of six right had come from me and that I had not seen a plane on left base and wanted to confirm that the plane on final to six-left was

the plane I was to follow. I received the call from the tower - Six-Six-Echo-Zulu, cleared to land on six-left. Number two following the Cessna on final.

I was comfortable that I had all the pattern traffic in sight. Then it happened.

Passing rapidly directly above me from my three o'clock was a Piper. The Piper struck my aircraft. The noise was intense. I was not sure where the impact had occurred, but the engine was still purring and the aircraft was still flying. The pilot of the Piper announced an emergency and was advised by the tower to land on any runway. I did not know the extent of the damage to my plane nor the control authority I had remaining, since I was still flying straight and level on downwind. I also declared an emergency, and received advice to land on any runway. I announced that there were two planes with the advisory to land on any runway. The Piper pilot, who was already on base, announced that he was landing on runway six-left. I announced that I would land on six-right.

I began to turn left base for six-right with the Piper certainly no longer a factor, and experienced some difficulty in control. In hindsight, I recognize that the difficulty in control came from the loss of my left rudder and the drag induced by the shattered upper portion of the left winglet. In spite of that, I was able to set up and control an approach to six-right. Everything was fine until I touched down at 90 kts. With an unexpectedly light left rudder/brake pedal pressure in the absence of the left rudder and its tension spring, I evidently applied too much left brake pedal and the plane jerked left and began to enter a ground loop. Releasing pressure on the left brake pedal and applying the right brake corrected the situation. I regained ground control of the plane and was able to keep the aircraft on the runway, and enter a taxiway. I was advised by the tower to contact ground. I did so, and notified ground that I was OK and that the plane was capable of taxiing. I asked, if I should taxi back to my hangar, with the answer being, yes.

The rest of the morning was taken up in talking to the tower in a conference call with FAA officials from my hangar via cell phone, talking in my hangar with a Ryan Field ground official and with Police Officer Mariah Anderson [REDACTED] of the Tucson Airport Authority. Officer Anderson told me that the pilot of the Piper had told her that he had been cleared to land. I later made a personal visit to the Tower and talked with the controllers and met "Dee". "Dee" told me that the Piper was not even in the picture, and had not been cleared to land until he had declared an emergency after the collision.

Both aircraft survived with repairable damage and with no injuries to any of the three occupants (a pilot in each plane and one passenger in the Piper). The parts for the Piper are commercially available. The parts for the LongEZ have to be reconstructed by hand from plans. Reconstruction of both the upper and lower winglet and the rudder will probably be required since the reconstruction of the rudder is required to be an integral part of the construction of the upper winglet.

The collision: The Piper struck the left winglet of the LongEZ with its left main about 18 inches below the tip of the winglet and destroyed the structure down to more than 24 inches below the tip with compression tearing of the fiberglass at lower leading edge. The collision also extracted the rudder. That means that the nose gear of the Piper passed over the LongEZ canopy with only 16 inches to spare.

**Other scenarios** I will use the altitude of the LongEZ as being constant only as a reference for the separation distance, recognizing that the altitude of both planes could be variable and affect the separation distance.

**A near miss - or incident?:** Had the separation been 24 inches, there would have been no contact between the aircraft.

**A worse-case scenario:** Had the separation been 28 inches less, the pilot of the LongEZ would have been killed by blunt-force trauma from the nose wheel of the Piper when it smashed through the canopy. The left main of the Piper would have smashed the LongEZ's cowling and hit the engine. An engine strike would have been less benign and it is possible that both the Piper and the LongEZ would have been thrown into an uncontrollable dive, possibly also resulting in the death of both occupants of the Piper.

**The worst case:** Had the Piper been 7 feet lower, there would have been a T-bone impact that surely would have killed all on impact and possibly caused a fire and an explosion.

Fortunately the more benign collision is the one that occurred. A bad day, but a survivable one.

Marcus P. Borom, PhD  
more than 1200 hours of Canard flying

See attached photos of damage to the left winglet of the LongEZ.



















