

Ron Davidson

Inspector James Faughn

Written Statement

23 October 2023

Accident Date: 18 October 2023

Souls On Board: 1

Fuel: 5 hours

Departing Airport: KPUB

Takeoff time: Local 14:47

First Malfunction Indication: Local 14:48

Phase of Flight: Climb out

Emergency Airport of Return: KPUB

Runway: 8R 10,498' x 150' with emergency services

Landing Time: Local 17:34

Accident Time: Local 17:34

Injuries: 0

18 October 2023 N9597X Accident Account (Pilot)

On 18 October 2023, I decided to make a short flight for recreational purposes, with an expected flight time of half an hour in the local area east of KPUB. I checked the weather using the Foreflight app on my EFB device, performed a walk around IAW the checklist, and headed out to the runway, communicating with the appropriate agencies via two-way radio communication. I was given takeoff clearance for a mid-field takeoff on runway 8R at the A2 intersection. I proceeded with a normal takeoff with full power and 10 degrees of flaps.

Once I was airborne, confirmed two positive rates of climb, and had proceeded far enough down the runway that I could no longer make an emergency landing, I reached for the gear handle and placed it in the up position. The gear doors opened, the gear legs retracted, and the doors closed normally. However, at the end of the gear cycle, there was a loud "pop" in the cockpit coming from under the rear passenger area, and the gear handle did not return to the normal center detent. I immediately looked at the hydraulic reservoir sight gauge, suspecting I had blown a hydraulic hose. A bubble of air was already in the top of the sight gauge. I continued my climb out to the East while trying to cycle the gear back to the down position. I placed the gear handle in the down position, but nothing happened. I cycled the gear in each direction several times without gear door or leg movement. I decided to use the emergency gear extension handle. With the gear handle down, I was able to pump the gear doors open. The nose and main gear fell out of the doors. However, only the nose gear fell into a normal position due to airflow. The mains dangled in the airstream, and the hand pump now lacked the fluid to push the legs into the locking position. I was concerned that my flaps would also lose the ability to deploy further down because they are also hydraulic, so once leveled out at an altitude of 10,500' MSL and slowed below 110mph, I hand-pumped in 40 degrees of flaps.

I was now out of KPUB's airspace and above most of the local traffic's altitude, so I turned back to the southwest to troubleshoot south of KPUB. I pulled out the checklist in my POH. I followed the emergency procedures for an unsafe gear indication. I tried various slow-flight maneuvers to try to get the gear to lower without success. I only had the small wing mirror to view the landing gear, but I was confident the nose gear was in position, the mains were hanging behind their locked position, and all gear doors were hanging open. I had no green or red gear lights in the cockpit and no way to know if the nose gear was locked in position, even

though it looked like it visually. The hand pump had zero effect on bringing the mains forward, but it was attempted several more times throughout the flight. The hydraulic sight gauge showed a level around the bottom third of the window, which confirmed the suspected fluid loss.

At this point, I devised a plan to burn down fuel for three hours for multiple reasons. First, I wanted to get the aircraft as light as possible for an unsafe gear situation and reduce the fire risk if a fuel bladder ruptured upon impact. Second, KPUB is an extremely busy airport with several local sorties flown by Air Force training aircraft. I knew they would be landing around 17:00 local, and I could then close the main runway without causing them to divert. I would have about two hours of fuel remaining at 17:30, leaving me the option to find another airport if KPUB suddenly became unusable for another reason (another emergency). I also did not want to go past 17:30 local because of the sun setting behind the mountains and nighttime complicating my approach. So, I contacted KPUB tower on 119.1 and declared an emergency. The proper information was exchanged, and I waited for a lull in the normal radio traffic to further coordinate my plan with the tower.

I explained to the tower that I would circle high above the field, burning down fuel until 17:00 local, when I would do a low approach to get them to confirm everything I saw through the wing mirror. If they saw the same thing, I would climb back up and then execute a VFR pattern to runway 8R with an extended base leg and final approach. I asked to have fire rescue in place. The tower agreed and began coordinating the emergency plan.

While circling at 10,500' MSL above Pueblo, I used my cellphone to call an extremely knowledgeable mechanic about my aircraft. This was the only possible deviation I made from FCC regulation. We discussed my situation and all the emergency procedures. He agreed with

my diagnosis of hydraulic failure and my emergency plan. I monitored 119.1 throughout the entire conversation and always maintained positive control of the aircraft.

I asked the tower to confirm that the USAF trainers would be done flying by 17:30 local, and they confirmed that was true. At 17:00 local, I performed a low approach, and the tower confirmed my mains were not locked, but my nose gear did look like it was in the correct position. I climbed out, but because of my configuration, I could only gain about 100' per minute, so I asked to turn out of the pattern to the south to climb back up. My plan was approved and executed.

At about 17:20 local I was informed that the fire department wanted to call an ambulance and needed time for the ambulance to get to the airport. I agreed. The tower called me and said the ambulance was at the airfield and cleared me to land on runway 8R at about 17:29 local. I entered a right downwind leg for runway 8R. I called the tower, reporting an extended right base leg for runway 8R. They repeated my clearance to land, and I turned on an extended final.

I pulled my seatbelt tight, propped both doors open, and told the tower I had done so. I kept my power up in the draggy configuration, and I lined up on the centerline using the normal aim points and followed VASI guidance. I made a normal approach, but in the flair, once landing was assured, I pulled the mixture lean, killed the engine, and turned the ignition off. The aircraft settled to the ground, gently skidding on the main gear door legs. It hopped off the ground slightly as the main gear tires grabbed the pavement and dangled behind me, but it shortly settled back into the slide. The nose gear remained up but wasn't very steerable with the rudder pedals. I kept the wings level with ailerons until the wing lost lift with the rapid deceleration. The weight of the lost lift caused the left gear door to collapse, and at an approximate speed of

15mph, the aircraft began to slide left. This dragged the left wingtip and horizontal stab along the pavement. The aircraft stopped at the north edge of runway 8R and the intersection of the east edge of runway 17. I turned off the master power switch, removed my headset and seat belt, and egressed the aircraft. I exited to the northeast on the side of the runway and let the fire rescue know that I was uninjured by placing my arms in a circle over my head.

No injuries were incurred, no other personal property was damaged, and aircraft damage was minimal, all things considered.

I have reviewed my actions, and I believe that my actions adhered to FAA regulations, with only one deviation of FCC cellphone usage. I believe this deviation was warranted and was conducted in the safest manner possible, under the watchful eye of the tower, calling out traffic.

There is always room for improvement, and I will gladly accept any feedback you have to offer.

Thanks for your help in this matter and for the help of your Federal brethren at KPUB. They did a great job and should be recognized.

If you have any further questions, feel free to contact me.

Sincerely,

A large black rectangular redaction box covering the signature area.

Ronald A. Davidson # 