

9/22/2021

Re: Tail #3965S

Dear Patrick:

Below you will find a narration of the events leading up to the accident with our C-172 and what I believe happened. Much of the content is similar to what is found in the NTSB 6120.1 form. I have also attached the text received from the Cessna Pilots Association about the upper torque link on Cessna tricycle gear airplanes.

Contact me if you have any questions.

Sincerely,
William R Jepsen

My wife and I left 8S4 around 7:00 AM PDT for a trip to OR8, Dug Bar, on the Snake River for a morning of bass fishing. The 33.3 nautical mile trip was uneventful. After fishing, we left OR8 at approximately 11:30 AM PDT. Because the dried grass runway is a little rough, I kept the nose in a high position throughout the take-off roll to protect the nose wheel. About 5 knots before lift off, I felt a bump that was a little different from the normal sounds made by a grass strip. There was nothing in my view that was out of the normal, such as a rock or badger hole in the runway. Within a few seconds from the noise I was airborne. After becoming airborne, I looked at my main gear and asked my wife to do the same on the right side. They looked normal. I have landed at OR8 many times in the last year, and it is not uncommon to hear some bumps and thumps as you travel over the runway surface, just as it is with any back country airstrip. The flight to 8S4 was also uneventful. I entered left downwind for 30 after looking at the sock (no wind) and turned left base and final. The plane touched down lightly in a full stall landing just after the numbers in the center of the runway. The plane rolled smoothly on its main wheels for a couple seconds. As the aircraft slowed and the nose wheel engaged the ground, the landing suddenly went terribly wrong. I was pulled hard to the left. I pushed the right rudder in and applied full brakes to the right wheel. At this point there was no controlling the plane. The plane continued to veer to the left and the nose wheel then fully collapsed. There were several prop strikes and the right wing tip engaged the runway. The plane exited the runway and flipped forward onto its back. My wife and I were not injured. A person living near the airport heard the noise, saw the wreckage and called 911. Emergency services arrived and looked over the crash site, visited with us, took statements, and finally left. I called the NTSB and received permission to remove the plane. The owner of the airport brought his crane truck over, and we righted the plane and moved it to the hangar. The next morning, the owner of the airport and I flew to OR8 to look at the runway for problems with the runway surface that could have caused the accident. There were none. We also looked at my tracks from take-off. They were easy to see in the dry dusty conditions, and we think only one plane had been there since I took off the day before. My nose gear and main wheel track rolled down the runway in a normal way for the first half of the runway. Just after the half way mark, the nose wheel tracks changed to a scuffing dragging track with no tread showing. The airplane was almost airborne by this time. There were about 8 short scuff marks over a distance of approximately 100 feet, then one last final scuff mark. From that point the plane was in the air. Upon examination of the collapsed nose gear, I found the upper torque link completely broken. I

believe the torque link broke during the take off at OR8. When the torque link breaks, it allows the gear to extend fully, and the nose wheel is free to rotate 360 degrees. Fortunately, I had a nose high attitude and was just about airborne when the torque link failure occurred. There was very little weight on the nose of the plane, and it just scooted along without trying to dig into the ground. When I landed at 8S4, the nose gear was extended as far as the cylinder would allow and the wheel was rotated far to the left, possibly almost at a right angle to the flight path of the plane. After landing, as the aircraft settled onto the nose, the plane quickly changed course to the left and there was no way to control the airplane's course from that point on.

Below is a copy of the text I received from the Cessna Pilot's Association concerning the upper torque link.

Hello William Jepsen,

An agent just replied to your ticket: **Failure of the upper torque link**. Here is what they said on ticket [REDACTED]

Hi William

Thank you for the photos of your poor little Cessna. I hate to see them damaged like that.

Unfortunately, the upper torque link on all the Cessna models have enormous stresses imposed upon them and Cessna didn't do a great job on the manufacture of this part. I have heard stories that operators in countries where the aircraft are operated out of rough dirt/grass strips have taken to machining up a replacement torque link out of steel (illegal) to stop incidents caused by breaking torque links.

Cessna recommends in their maintenance manual (chapter 2A of the SID - 32.20.01) that the upper torque link and fork be inspected both visually and by eddy current every three thousand hours or five years.

If you purchase another aircraft, or have yours repaired, it would be a great idea to inspect the torque link even more often than recommended if you operate off unimproved strips a lot.

Kind regards

Garth Bartlett