

A Near-Nose Gear Failure

by Rick Tutt



Mangon Repair Crew, Pilots - Rick Tutt, Gordon Heinrich, Eddie De Coito

As a PA-46-310P aircraft co-owner, a former PA-46 corporate pilot and an insurance underwriter-authorized instructor who has provided thousands of hours and hundreds of training events in these aircraft, I have had exposure to problems to include system failures, smoke, fumes & fire, engine failure, forced landings and more.

That said, this was a new one!

My wife, Gail, and I were going to the Pacific Northwest to visit friends in N9125B, a 1989 Malibu I first flew for PMOPA member Ron VandenBerghe before I purchased it with co-owner Gordon Heinrich when Ron moved to flying a Mirage along with a Citation Mustang.

On this day, we were landing at Pearson Field in Vancouver, WA. We prefer VUO over landing at Portland (PDX) due to the exorbitant fee structure at practically the only FBO on that field. Besides that, it reminds me of

the general aviation mentality of the past where everybody wants to see your airplane then tell you about theirs.

Weather was CAVU that day, but the winds were howling down the Columbia River gusting to 28 knots and moving 30° left & right of centerline to Runway 8. Approaching the field, we flew over cranes, tall buildings, and powerlines.

The moment the nosewheel touched down, the aircraft darted wildly left and right. It became nearly uncontrollable and seemed determined to depart runway surface and into a ditch. I immediately pulled back on the yoke to unload the nose wheel and used the rudder to maintain directional control for as long as I had authority.

I learned this technique early in my career taking heavy gear loads and passengers into the Montana wilderness areas during my first flying job in a Cessna 205. There is generally soft ground in the back country and the nose gear wants to dig in.

With the high winds at VUO, I was able to hold the nose wheel off longer than I might normally have been able to do so. When it touched down, the ship did steer and taxi okay. Gail was stunned and could only say, "You always land better than that."

"Generally, I can," I replied, "but that one almost caught me off guard!"

We pushed the aircraft into a transient parking spot, where I looked around as best I could without de-cowling the front. Looking back, I suspect the emergency down spring had forced the nose gear to its forward limit, allowing for normal movement; there was no sensation of anything wrong or loose while guiding the aircraft with a handheld towbar.

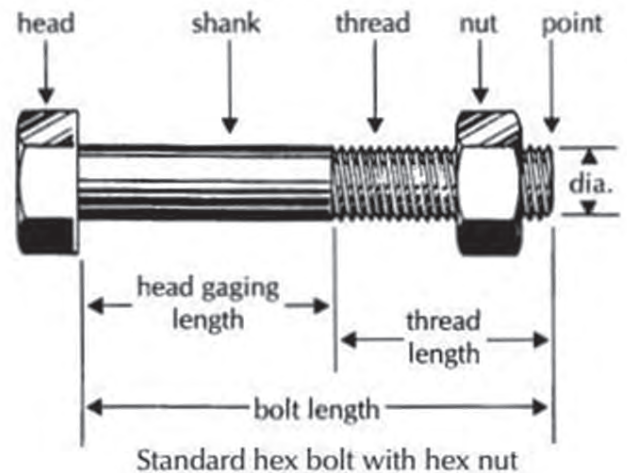
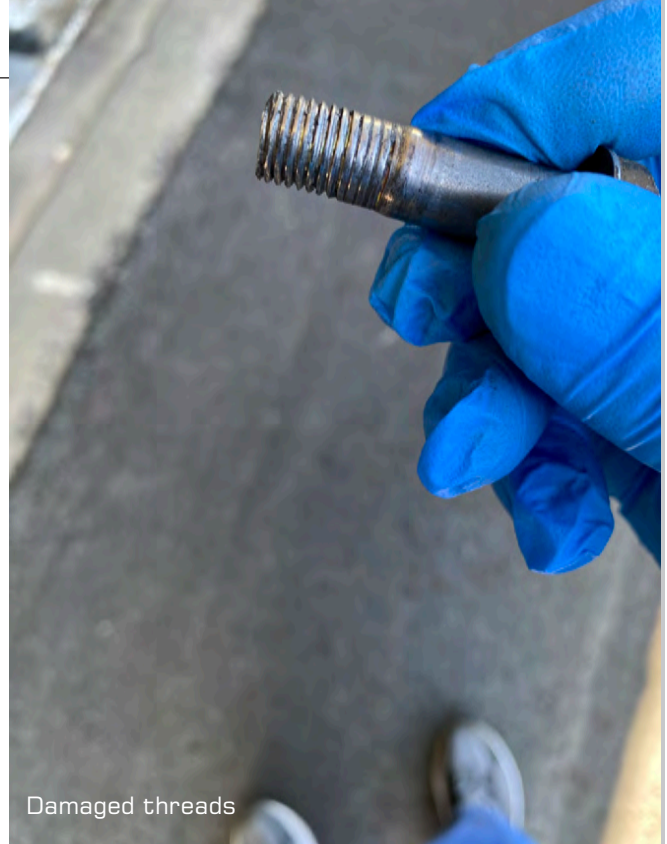
Four days later, we set out to leave and taxied the plane about 1,000' to the fuel island. After gassing-up, we went an additional 2,000' back to the runway for takeoff. We had no problems with either taxiing or on the takeoff roll, or when we touched down at Stockton, CA (SCK) three hours later with virtually no wind.

However, while parking at the hangar and with the motored tug connected to the nose gear, I noticed movement I had not seen before – and quite noticeable at that!

I returned the next day and lifted the plane on a set of jacks so I could wiggle the gear. I discovered that I could physically move the nose gear front to back throughout nearly one inch of travel at the bottom of the tire. I also heard something rattling when doing so.



Bolt inspection missing nut.



The nose trunnion is a long arm and the actual travel at the nose gear hydraulic actuator attach point on the frame is not quite as much. Regardless, it was loose!

Since I could not get my whole body up in there, I used an endoscope to view the attach point (see photo.) The nut holding the bolt in place was missing and the bolt had partially backed out, allowing the actuator to move significantly.

I immediately called Ron Mangon at Mangon Aircraft in Petaluma, CA (O69) who has worked on the plane for many years, sending him a video and several still photos. We had to have it repaired – or, at the minimum, fixed enough to ferry.

Ron offered to come over a couple of days later, on a Sunday, with a crew to inspect the gear and replace the bolt. The timing was rather unfortunate as the plane was due to go to Ron's the following Tuesday for its annual... where they would have found that loose nut if it had not already backed out and fallen off!

Now, looking at the bolt that Ron replaced, we can see it was the wrong one for that application. The bolt shank on which the frame sits was too short, and the threads were deformed due to movement. This frame had been

replaced in 2011 due to a crack in the old one; somewhere between then and now, a wrong bolt got in there. I suspect it was during the replacement (which did NOT occur at Mangon's shop.)

Regardless, I was lucky the whole thing didn't come down on us, and that the hydraulic actuator did not end up through the firewall and in the baggage compartment. Chalk it up to good luck, clean living, just was not my day, et cetera... I will take it regardless!

I now wonder how many loss of directional control incidents and accidents might be attributed to looseness of the nose gear assembly, catching the pilot off guard. Without a thorough investigation, a complete disassembly of the parts & components, then inspection of those members, we will never know!

Keep flying, keep training.  PMOPA

Rick Tutt has been providing PA-46 Initial & Recurrent Flight Training since 1999, beginning under the mentorship of Ron Cox before founding his own company RJ Tutt Aviation at SCK. He has flown 37 years logging 21,000+ total hours with 7,000+ hours in the PA-46 series. He is not retiring yet!





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