



NATIONAL TRANSPORTATION SAFETY BOARD

**Office of Aviation Safety
Western Pacific Region**

AIRPLANE INFORMATION

**NTSB Accident: WPR14LA179
Accident Date: April 30, 2014**

This document contains 9 embedded images
(Images 1 & 2 courtesy PWT; Remainder courtesy FAA)

A. ACCIDENT

Location: Bremerton, WA
Date: April 30, 2014
Aircraft: Pulsar XP, N452PC, Serial # 452
NTSB IIC: Michael Huhn

B. SUMMARY

On April 30, 2014, about 1055 Pacific daylight time, an experimental amateur-built Pulsar XP, N452PC, sustained substantial damage on landing at Bremerton National airport (PWT), Bremerton, Washington. Examination of the wreckage by FAA personnel revealed that the pivot shaft that enabled the nose landing gear (NLG) wheel and tire assembly to caster for directional control had fractured, and that fracture allowed the NLG fork to depart the airplane during takeoff. Examination of photographs of the fracture end of the pivot shaft by the investigator in charge and a metallurgist at the NTSB materials laboratory indicated that the fracture patterns were consistent with reversed bending (bi-directional) fatigue.

According to the builder/owner/pilot, the shaft was a solid 4130 steel rod that nested in, and was welded to, the tubular steel nose gear leg, and on which the NLG fork assembly pivoted. The shaft fractured just inside the lower end of the NLG leg tube.

C. COMPONENT IMAGES



Figure 1 - Airplane on Runway



Figure 2 - Cowl and Nose Gear Leg



Figure 3 - Fractured Firewall

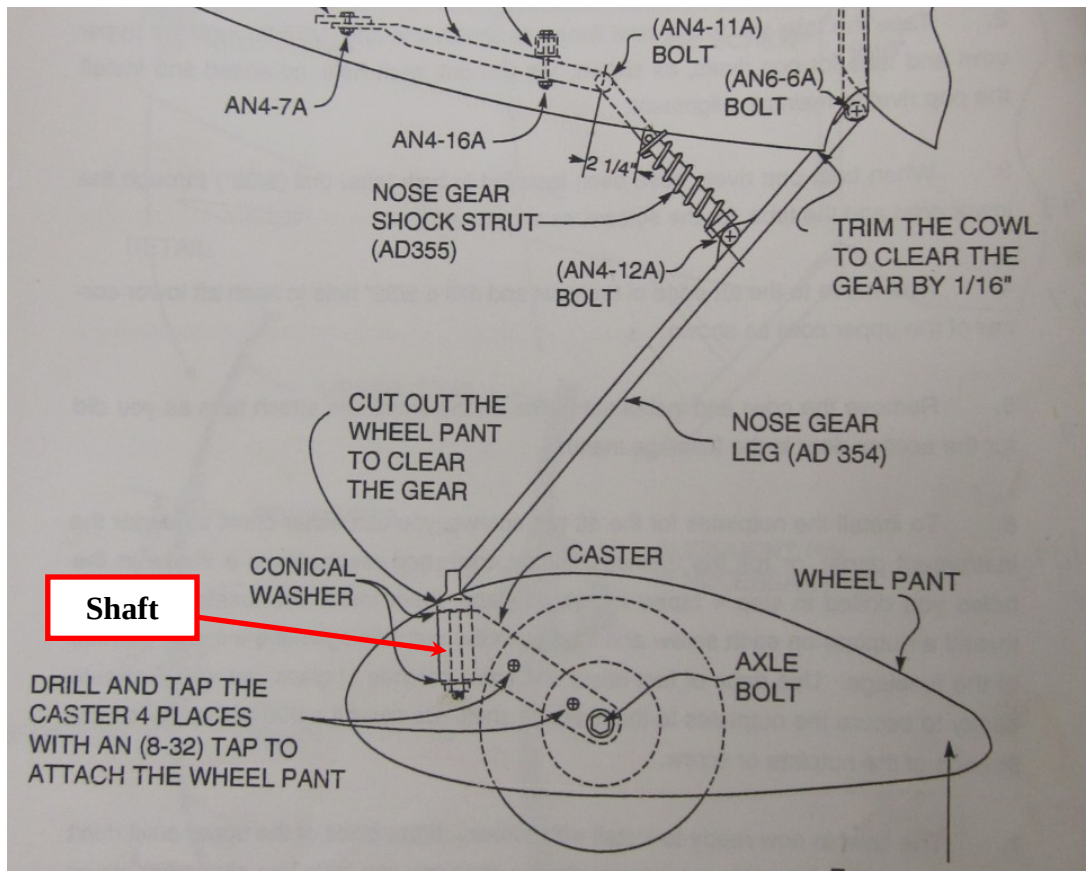


Figure 4 - Nose Gear General Arrangement



Figure 5 - End of Nose Gear Leg



Figure 6 - Fractured Shaft



Figure 7 - Shaft Fracture



Figure 8 - Shaft Diameter Measurement (Note incorrect location of shaft in micrometer)



Figure 9 - Shaft Diameter Measurement (Note incorrect location of shaft in micrometer)