



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety

Western Pacific Region

April 11, 2022

AIRPLANE EXAMINATION

WPR19LA098

This document contains 9 embedded photos.

(10 Pages)

WPR19LA098
Reno, Nevada
March 17, 2019
0815 PT
Piper PA-24 – N5028P

EXAMINATION PARTICIPANTS

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HISTORY OF FLIGHT

On March 17, 2019, about 0810 Pacific daylight time, a Piper PA-24 airplane, N5028P, was substantially damaged during a landing roll near Reno/Stead Airport (RTS), Reno, Nevada. The private pilot and two passengers were not injured. The airplane was registered to and operated by the pilot as a personal flight, conducted under the provisions of Title *14 Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed and a flight plan was not filed for the local flight, which departed Carson City, Nevada at 0745.

According to the pilot, after an uneventful flight he descended the airplane from his cruise altitude and entered the right downwind leg of the RTS traffic pattern to land on runway 26. The pilot deployed the landing gear shortly after entering the pattern and observed a green indication that confirmed the landing gear was down and locked. The airplane touched down normally on the main landing gear, but after the nose landing gear contacted the runway surface, the airplane

veered to the left. The pilot overcorrected for the deviation, which caused the airplane to veer right of the runway centerline. He used the airplane's hand brake to decelerate while he attempted to return the airplane to the runway centerline, and the airplane veered to the left again, but departed the left runway edge. The center left wing impacted a runway distance remaining sign and the airplane spun to the left. As the airplane began to slide on its right side in gravel the nose landing gear and right main landing gear collapsed before the airplane came to rest near the edge of a taxiway.

A review of photographs furnished by airport personnel revealed substantial damage to the left wing and stabilator. Photographs provided by the Federal Aviation Administration showed that the engine truss mount, which attaches to the nose landing gear, had fractured.

The wreckage was retained for further examination.

PERSONNEL INFORMATION

The pilot, age 65, held a private pilot certificate with a rating for single-engine land. The pilot's most recent third class medical certificate was issued on January 2, 2019, which included the limitation, "corrective lenses." According to the pilot, his flight time included 304 hours of total flight time in all aircraft of which 14 hours had been accumulated in the accident airplane make and model.

AIRCRAFT INFORMATION

According to FAA records, the airplane was manufactured in 1958 and registered to the pilot on September 25, 2018. The airplane was powered by a Lycoming O-360-A1A, air cooled, 200 horsepower engine. According to logbook records, the airplane's most recent annual inspection was completed on October 23, 2018 at a total time of 3,563 flight hours. The preceding annual inspection was performed on March 3, 2011, at which time the airplane had accrued 3,545 flight hours. The airplane had accumulated about 15 total flight hours since its most recent inspection.

The mechanic who serviced the accident airplane reported that his father had owned the airplane since the 1980s. After 1991 the airplane was parked, likely outside, until 2010 when it received an annual inspection and completed a round-trip flight to Los Angeles, California. The airplane was then parked outside and did not fly again until October 2018 when the accident pilot purchased it.

METEOROLOGICAL INFORMATION

The 0815 recorded weather observation at RTS included calm wind, visibility 10 statute miles, clear skies, temperature -02° C, dew point -05C, and an altimeter setting of 30.20 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The airplane came to rest about 50 ft forward of a runway distance remaining sign. Photographs furnished by Reno/Stead Airport showed that the nose landing gear and right main landing gear collapsed. The left wing was crushed aft about midspan and the right wing showed a vertical protrusion through the top wing skin at the right main landing gear. Additionally, the right side stabilator displayed compression wrinkles.

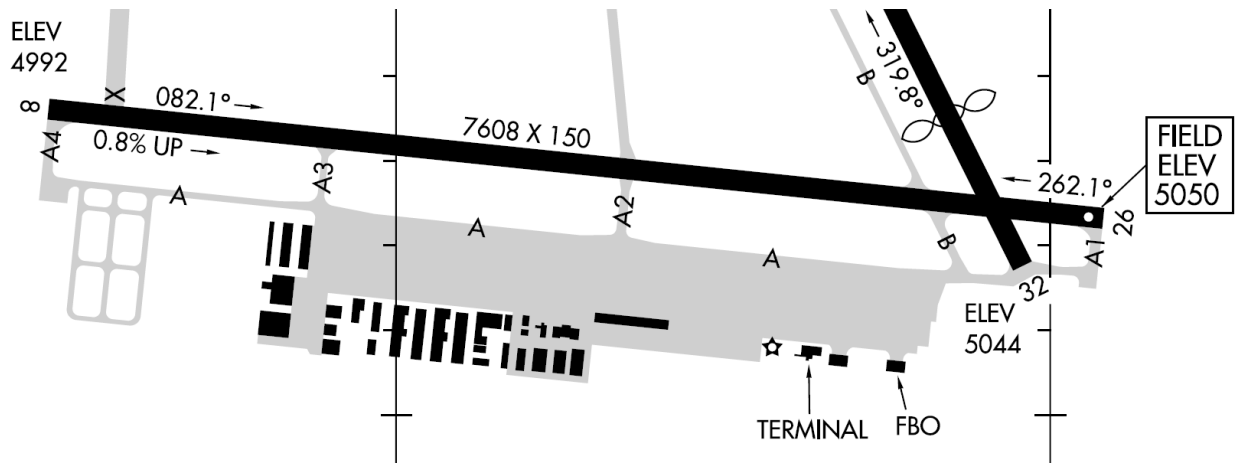
Runway tire markings were displayed along the left side of the runway centerline about taxiway B. Main landing gear tire marks arced to the right of the runway centerline and continued to the left of centerline and terminated at the left side runway edge in the direction of the runway distance remaining sign that was impacted adjacent to taxiway A2 (photograph 1).

ADDITIONAL INFORMATION

The examination was performed by the NTSB Investigator-in-Charge and a Federal Aviation Administration Inspector. The airplane was placed on jack stands before any inspections were completed. An initial visual inspection of the exterior airplane showed two wasp nests along the aft edge of the vertical stabilizer. Additionally, abrasion boots were absent from the stabilator leading edges.

The engine mount/truss displayed multiple fractures at various tubes and both the left and right trunnions. The left NLG trunnion and engine mount tubes, marked as I, II, III, and IV (the trunnion) are shown in photograph 3 and show patchwork along tubes I and II. Tubes I, II, and III fractured at the LH NLG trunnion. Photographs 4-7 show fractures to various tubes and the NLG trunnion on the RH side.

The inboard right wing exhibited a large vertical protrusion originating at the landing gear well and terminating at the right wing top skin (photograph 8). Examination of the right main landing gear revealed that the landing gear strut was secured to its respective connections. Part of the RMLG assembly had separated from its mount and moved freely within the gear well (photograph 9).



Photograph 1: Reno/Stead Airport Diagram (Airnav)



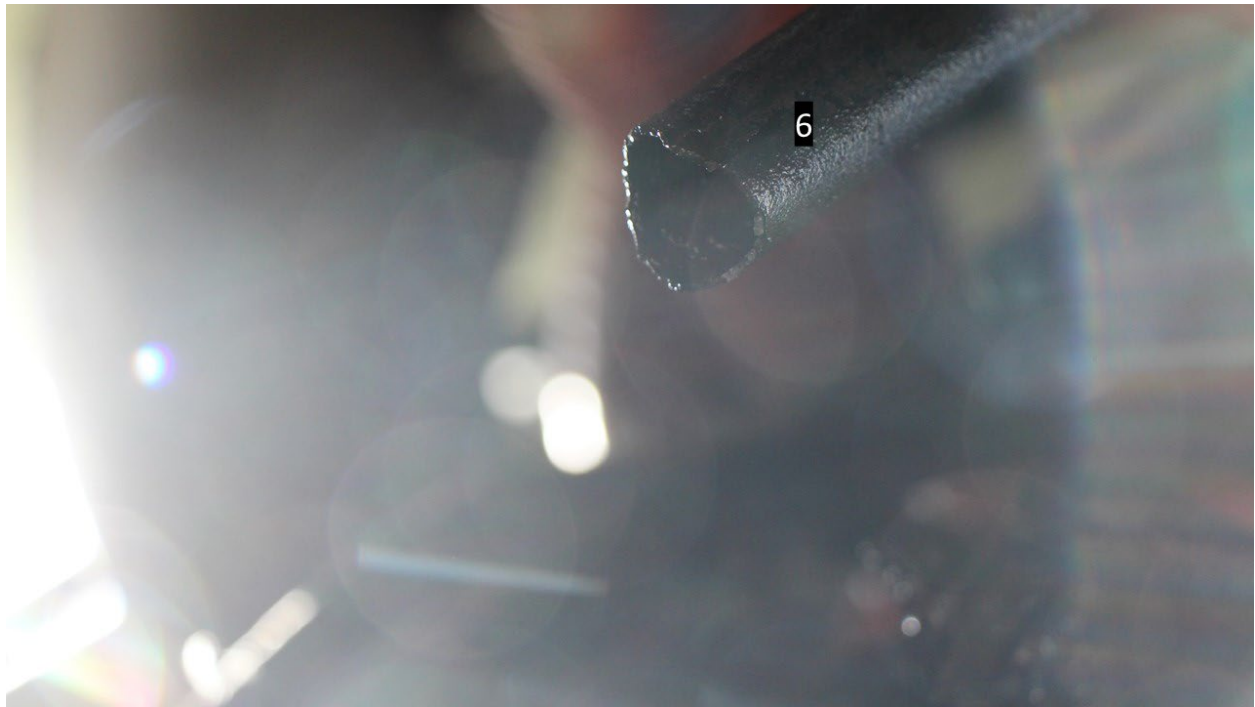
Photograph 2: Tread Marks on Runway Originating at Taxiway B (Airport Manager)



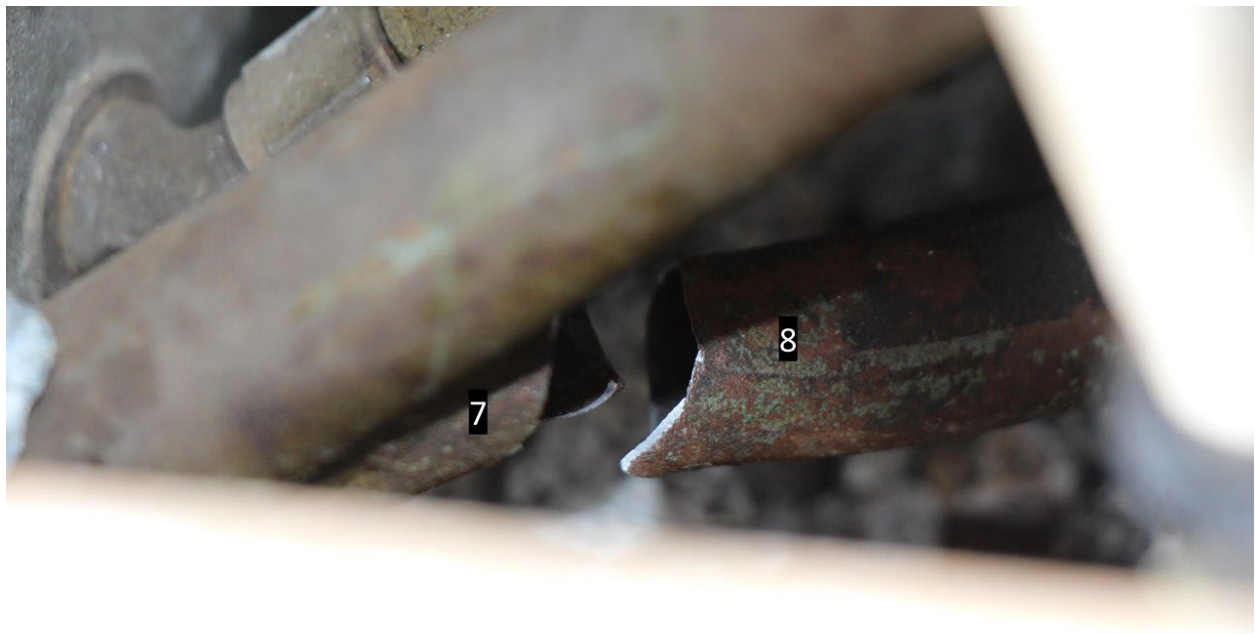
Photograph 3: LH Engine Mount Tubes and NLG Trunnion (Nos. 1 – 4) (NTSB)



Photograph 4: RH Engine Mount and NLG Trunnion (No. 5) (NTSB)



Photograph 5: RH Engine Mount Tube No. 6 (NTSB)



Photograph 6: RH Engine Mount at Engine Firewall; Tube Nos. 7 and 8 (NTSB)



Photograph 7: RH Engine Mount Tube at Engine Firewall; No. 6 (NTSB)



Photograph 8: Right Wing with Protrusion Through Top Skin (NTSB)



Photograph 9: Right Main Landing Gear Strut and Assembly (NTSB)