



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

June 11, 2015

AIRFRAME AND ENGINE EXAMINATION

WPR15LA141

A. ACCIDENT

Location: Santa Maria, California
Date: April 04, 2015
Aircraft: Piper PA-28R-200, N5469T, Serial #: 28R-7235233
NTSB IIC: Albert Nixon

B. EXAMINATION PARTICIPANTS:

Albert Nixon
Aviation Accident Investigator
National Transportation Safety Board
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C. SUMMARY

Examination of the recovered airframe and engine was conducted on June 11, 2015 at the Plain Parts Facility, Grove Station, California. The examination of the engine revealed that an incorrect oil quick drain valve was installed.

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

The airplane was disassembled at the accident site during the recovery procedure. Both of the wings and the horizontal stabilizer were removed for the airplane recovery. Both wings had the ailerons and flaps attached at all their respective points. The flaps appeared to be full down. Both wings exhibited wrinkling about mid span. The left wing trailing edge was bent up about 1 foot from the wingtip. The nose landing gear was partially separated from the fuselage. Several dents and slashes were observed on the right side of the fuselage. Some oil residue was observed on the belly of the fuselage. The pilot's windshield was intact and clean.

The cabin fuel selector handle was found in the "OFF" position.

2.0 Engine Examination

The engine remained attached to the airframe and the engine mounting assembly was intact. The engine firewall exhibited wrinkles on the left bottom portion. The propeller blades and spinner were intact and appeared undamaged. The cowling was removed from the engine prior to the

examination. The bottom left portion of the cowling had some oil residue present. On the top of the engine above the cylinder number, the crank case was cracked in two areas. No oil residue was observed on the upper portion of the engine. Engine control continuity was established from the cabin. The crankshaft was unable to be rotated by hand. A boroscope was not available to examine the interior surfaces of the engine.

The bottom spark plugs were removed from the engine and the electrodes had (Worn-out to Normal) wear conditions when compared to a Champion AV-27 comparison chart. The electrode areas had a light amount of carbon deposits.

All four cylinders were in place but the engine case had two breeches at the top, near the cylinder number two mounting surface. The rocker panels were removed and all valves were lubricated and no anomalies noted. The accessory gear case and associated accessories were intact and no anomalies noted. The engine oil sump was intact. The engine oil filter was removed. During the removal, no oil leaked out of the filter or its attachment fitting. The oil filter was perforated and a small amount of fine metal particles were observed on the filter element.

An oil quick drain valve was observed installed. The muffler was removed in order to better observe quick drain valve. The quick drain valve was removed at its part number was a Curtis CCB-37000. Only a small amount of oil drained out, about two ounces. When the nose gear assembly was retracted near its up and locked position, it would strike the oil quick drain valve with its arms. Witness marks were observed on the oil quick drain valve and on the bolt of the nose-gear strut assembly that were consistent with them striking each other.

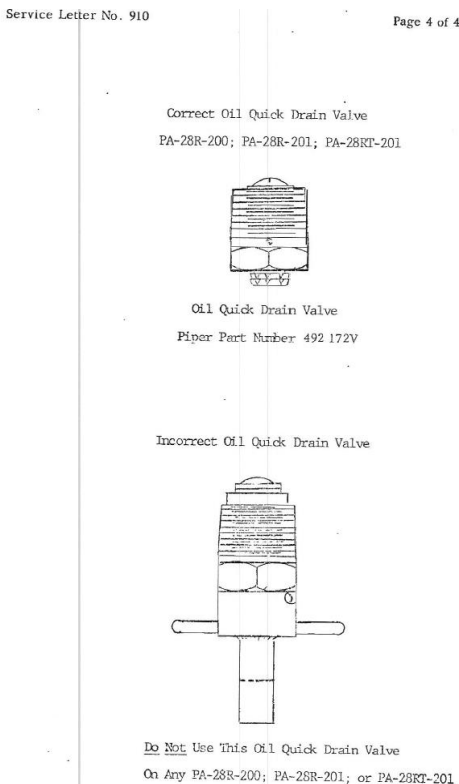


Figure 1: Piper Service Letter 910 pictures of incorrect valve



Figure 2: Installed oil quick drain valve



Figure 3: Installed Oil Quick Drain Valve with part number

Submitted by: Albert Nixon