



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

AIRFRAME AND ENGINE EXAMINATION

WPR17LA212

This document contains 7 embedded photos.

A. ACCIDENT

Location: Glendale, CA
Date: September 22, 2017
Aircraft: Mooney M20E, Registration N34BE, S/N 1031
NTSB IIC: Elliott Simpson

B. EXAMINATION PARTICIPANTS:

Elliott Simpson
Senior Aviation Accident Investigator
National Transportation Safety Board
Western Pacific Regional Office
Los Angeles, CA

C. SUMMARY

The examination of the airplane was conducted at the accident site on September 22, 2017, with a follow up examination performed at the facilities of Air Transport, in Phoenix, Arizona on November 15, 2017.

D. DETAILS OF THE INVESTIGATION

1.0 Examination

Accident Site

There was no fuel odor, and no fuel was observed in either tank when viewed through their respective filler necks (Photo 1, 2).

Fuel System Examination

The left fuel tank was undamaged. Service Bulletin M20-188A had been complied with, and the sump valve was intact at its fitting, and could be opened and closed freely. The underside of the tank was free of streaks or any indication of fuel leak.

The right tank sustained damage to its underside which caused the lower skin to separate from the inboard rib and lower spar cap in the area adjacent to the sump valve. (Photo 3) Service

Bulletin M20-188A had not been complied with, and the valve appeared to be original. The valve was in the closed position and opened and closed freely when tested. The valve appeared air-tight when blown from the inside of the tank. The sealant around the valve was cracked and degraded and had a dry chalky appearance. (Photo 3). A series of brown streaks were observed on the external underside skins of the tank emanating aft from the area of the sump valve and the inboard wing doubler (Photo 4). Due to the damage, the integrity of the tank at the time of the accident could not be confirmed.

Engine Test Run

An engine test run was performed utilizing fuel fed from a canister connected to both the left and right tank feed lines at the wing roots (Photo 5). The engine was operated through its full speed range, on both selector valve settings, and no fuel leaks were observed anywhere within the airframe or forward of the firewall.

Engine Tachometer

The airplane was equipped with a mechanical cable-driven engine tachometer. The tachometer was removed, and the tachometer cable was examined in place, and no anomalies were noted. The inner drive of the tachometer cable could be rotated freely by hand, and the drive splines at either ended were undamaged (Photo 6, 7).

1.1 Airframe Examination Photos



Photo 1 – Left Fuel Tank Viewed Through Filler Neck at Accident Site

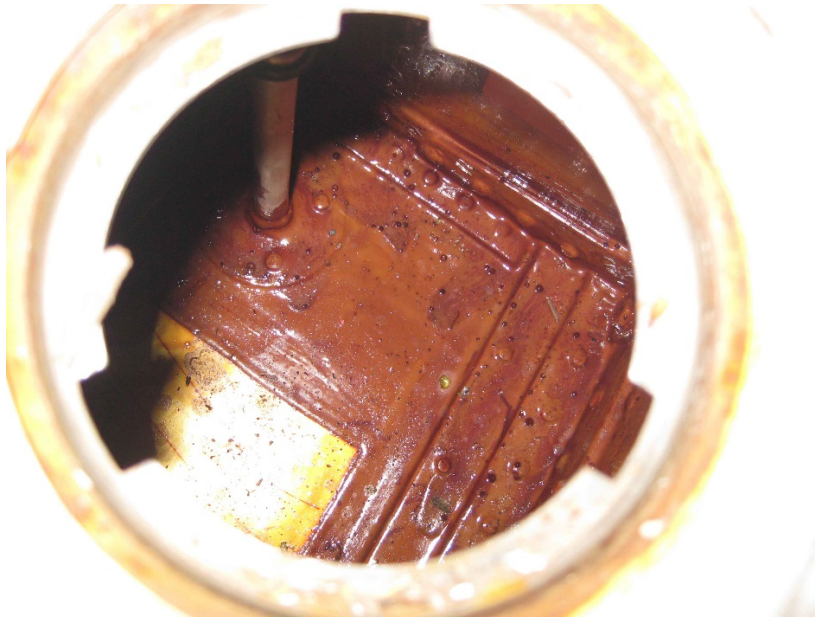


Photo 2 – Right Fuel Tank Viewed Through Filler Neck at Accident Site



Photo 3 – Right Tank Sump Drain



Photo 4 – Right Tank Sump Drain and Fluid Streaks



Photo 5 – Right Tank Fuel Supply for Engine Test Run



Photo 6 – Tachometer Cable (Engine End)



Photo 7 - Tachometer Cable (Instrument End)

Submitted by: Elliott Simpson