



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

August 20, 2015

AIRFRAME AND ENGINE EXAMINATION

WPR15FA208

This document contains 2 embedded photos.

A. ACCIDENT

Location: Salem, OR (McNary Airport)
Date: August 20, 2015
Aircraft: Mooney M20E, Registration Number: N5608Q, Serial #: 660
NTSB IIC: Tom Little

B. EXAMINATION PARTICIPANTS:

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C. SUMMARY

Examination of the recovered airframe and engine was conducted on August 20, 2015 at the facilities of Nu Venture Air Services Dallas, OR. Field representatives from Lycoming Engines and Mooney International Corporation provided the NTSB IIC with a detailed notes of their findings, as referenced in this report.

No evidence of preimpact mechanical malfunction was noted during the examination of the recovered airframe and engine.

D. DETAILS OF THE INVESTIGATION

On July 4, 2015, about 0810 Pacific daylight time, Mooney M20E, N5608Q, collided with terrain after an aborted landing and attempted go-around at McNary Field (SLE), Salem, Oregon. The private, who was the sole occupant and part owner of the airplane, was fatally injured. The airplane was substantially damaged from impact forces and a postcrash fire. Visual meteorological conditions prevailed for the flight, which was being operated in accordance with 14 Code of Federal Regulations Part 91, and a flight plan was not filed. The pilot reportedly departed SLE on the local flight about an hour prior to the accident.

E. POSTACCIDENT EXAMINATION

Airframe Examination

The fuselage was severely fire damaged forward of the tailcone, with most of the upper part of the tubular frame missing. The tailcone was salvage cut just aft of the baggage door. The right wing was attached, while the left wing was detached with extensive fire damage at the wing root. The engine and propeller were also both detached.

The right wing showed compression crushing along the leading edge, most severe out toward the wingtip. The right flap and aileron were still attached. About 4 ½ feet of the left wingtip was separated. The left flap and aileron were both detached. The landing gear were presumed to be retracted at the time of impact.

The empennage was mostly intact with all control surfaces attached and movable. The tail skid was intact and undamaged. The bottom of the empennage at the “stinger” showed minimal scraping, but not dents. The “clamshell” at the bottom of the rudder was crushed. By removing the empennage fairing and measuring the distance between the hinge points to be 3 1/8 inch and counting visible threads to be 5, it was determined that the longitudinal trim setting was approximately that for a takeoff trim setting.

The cabin was extensively fire damaged. The throttle cable was pulled out toward the idle position and the propeller control was pushed in toward the “full increase” position. The mixture position could not be verified. The “Johnson Bar” was broken free and loose in the wreckage.

As a result of the examination, no anomalies with the airframe were noted.



Engine Examination

The engine was examined on 8/20/2015 at the facilities of Nu Venture Air Services, LLC. The engine was previously separated from the firewall and sitting on a pallet for the examination. The propeller was broken free from the crankshaft. One propeller blade broken free from hub, it exhibited twisting, leading edge gouges, and cord wise scaring. The other two blades remained in the hub and also exhibited twisting, leading edge gouges, and cord wise scaring. The propeller governor was found broken free from the engine case.



Photo Courtesy of Lycoming

The valve covers, accessories and top sparkplugs were removed for the examination. The sparkplugs appeared normal as compared to the Champion Aviation Check a Plug Chart AV-27.

The cylinders were borescope inspected, and no anomalies were noted.

Both magnetos were removed from the engine. The left magneto flange was broken, it was stiff when rotated by hand, and no spark was observed. It showed signs of heat damage. The right magneto showed no visual signs of damage, and produced spark at all leads when rotated by hand.

The crankshaft was rotated by hand and thumb compression was obtained at all cylinders except number 2. The intake rocker shaft was captured by impact damage to the cylinder head.

Engine drive train continuity was established throughout.

The fuel servo was not available for the exam.

The fuel flow divider was disassembled and found clear debris. The two piece fuel injectors were also found clear of debris.

The engine driven fuel pump was removed and operated by hand and pressure was felt.

The oil pickup screen was also found free of debris.

No evidence was found of a catastrophic in flight engine failure.