



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

June 30, 2020

ENGINE AND AIRFRAME EXAMINATION SUMMARY

WPR20LA196

This document contains 13 embedded photos.

A. ACCIDENT

Location: Centerville, Utah
Date: June 25, 2020
Aircraft: N9774U, Gumman AA-5A

Preliminary Report not completed as of June 30, 2020.

B. PARTICIPANTS

Andrew Swick-NTSB

C. SUMMARY

Examination of the wreckage was conducted on June 30, 2020, at the facilities of Air Transport, in Phoenix, Arizona. No other parties were present at the time of the examination. (See Figure-1)



Figure 1-Main wreckage displayed on the floor.

DETAILS OF THE INVESTIGATION

1.0 Engine Examination

The AeroVee Turbo Engine Kit, serial number unknown, is rated at 100 hp at 3,400 rpm. Serial number on the magneto timing flywheel structure, read 0833. The engine separated from the main wreckage and had impact damage throughout. The propeller assembly had impact damage and both blades separated near the hub. The engine mounting carriage remained attached to the main wreckage. The crankcase showed impact damage near the crankshaft forward oil seal area. The exhaust remained attached to the engine and had impact damage. The turbocharger had impact damage to its housing and was moved from its original position. The turbocharger compressor blades were visible and undamaged. The compressor turned freely by hand. Heat tape attached to the exhaust stacks was damaged. The induction tubes had impact damage. The induction fitting for the right set of cylinders had impact damage and was loose. The right valve cover separated from the right set of cylinders. The left valve cover was removed, and all cylinder overhead components were undamaged and had a light residue of oil. The magneto timing structure had impact damage and missing material. The upper spark plugs were removed and undamaged.



Figure 2-Engine displayed on a table (inverted).

The crankshaft was rotated at the propeller hub and would only rotate 180°. The forward section of crankshaft was loose near the forward oil seal area. Several cylinder rockers moved during the crankshaft rotation and compression was noted in two cylinders.



Figure 3-Forward crankshaft and propeller hub.

The lower spark plugs were removed and were undamaged. The electrode areas on the upper and lower spark plugs showed normal wear conditions.



Figure 4-Turbocharger compressor blade section.



Figure 5-Turbocharger and induction tube.



Figure 6-Lower spark plugs.



Figure 7-Upper spark plugs.

The vacuum carburetor separated from the engine and was found with the main wreckage. The control cables remained partially attached to the carburetor and had impact damage.



Figure 8-Vacuum carburetor found at the firewall.

2.0 Airframe Examination

The main wreckage consisted the wings, cabin area and separated rear fuselage and empennage. Thermal damage and discoloration was found throughout the main wreckage. The cabin area was mostly consumed by postimpact fire.



Figure 9-Main wreckage.



Figure 10-Empennage and aft fuselage.

The rudder was crushed on the lower side and control cable continuity was attained to the cabin area. The control cables were cut to facilitate the relocation of the wreckage. The elevators were undamaged and control tube continuity was obtained to the cabin area. The center section of the control tube had impact damage at two locations. The right horizontal stabilizer had thermal damage near the outboard end.



Figure 11-Cabin area.

The cabin area was mostly consumed by post-impact fire. The rudder pedal assembly was crushed and had thermal discoloration. Rudder control cables were secured to the rudder pedal assembly. The elevator control tube assembly remained attached to the control stick assembly. The elevator bellcrank located in the midsection of the cabin area had impact damage and separated. The ailerons and flaps on both wings moved during a flight control check.



Figure 12-Left wing.

The left wing remained attached to the fuselage attach points and had leading edge crush damage throughout its length. The aileron and flap remained attached to the wing and were undamaged. Flight control continuity was attained from the cabin area.



Figure 13-Right wing.

The right wing remained attached to the fuselage attach points and had leading edge crush damage. The wing was crushed upwards near the tip. The aileron and flap remained attached to the wing and were undamaged. Flight control continuity was attained from the cabin area.

Submitted by: Andrew Swick