

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR23LA341

AIRFRAME AND ENGINE EXAMINATION SUMMARY

Factual Report

November 13, 2023

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A. ACCIDENT

Location: San Diego, CA
Date: 07/30/2023
Time: 1055 MDT
1755 UTC
Airplane: N57679, Bellanca

B. AIRFRAME AND ENGINE EXAMINATION SUMMARY PARTICIPANTS

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 NTSB, AS-WPR
 Phoenix, Arizona

C. SUMMARY

Examination of the airplane wreckage was conducted on November 13, 2023, at the facilities of Air Transport, in Phoenix, Arizona. The engine would not initially run continuously or at a high power setting. Additionally, the fuel selector handle was difficult to move to each position and separated, but the anomaly did not affect the selected valve position. No additional evidence of pre-impact mechanical failures or malfunctions that would have precluded normal operation were noted.

D. DETAILS OF THE EXAMINATION

1.0 Airframe Examination

The wings were separated for recovery. Additionally, the left elevator was removed for recovery.

The left wing sustained damage to the middle portion of the leading-edge and on the trailing edge, in front of the aileron, about midspan. The left aileron was attached. The wing struts were removed for recovery.

The right wing sustained damage to the outboard leading-edge about 3 ft from the wing tip. The damage sustained to the leading edge, damaged the main spar. The right aileron was attached. The right aileron sustained damage about mid span through-out the width of the aileron. The wing struts were removed for recovery.

Flight control continuity was confirmed to the elevator and rudder. Aileron control

was confirmed from the wing root to the ailerons. Additionally, cable continuity was established to the cockpit controls to the wing root. The elevator trim was attached and was cut during recovery.

The fuel selector was selected to the vertical position (OFF). The fuel strainer was clear of debris and the fuel tested negative for water contamination.

The front bottom and the side of the fuselage sustained impact damage. The main landing gear and tail wheel appeared intact.

The fuel cap seals were intact and in good condition.

The empennage remained attached to the fuselage. The rudder was attached and was intact. The rudder trim tab was about in the neutral position. The left and right stabilizer were attached. The left elevator was separated from the stabilizer for recovery and was intact.

The right cockpit entry door was attached and secured closed.

The following instruments were observed. The hour meter indicated 1956.9 hours. The throttle and mixture levers were fully closed. The altimeter had 30.17 selected. The Tach time was 1904.20. The carburetor heat was cold. The ignition switches and master were off. The primer was in and locked. The circuit breakers were in. All other switches were in the off position.

3.0 Engine Examination

The engine was attached to the fuselage. The exhaust tubing was intact. The two-bladed propeller remained attached to the crankshaft propeller flange.

One blade tip was bent aft, and the blade exhibited leading edge damage and chordwise markings. The other blade was relatively intact. The spinner was attached and exhibited impact markings.

The sparkplugs and the rocker covers were removed from the cylinders. All the sparkplug electrodes showed normal-worn out wear conditions and were slightly dark in color when compared to the Champion Check-A-Plug chart. The bottom spark plug to the No. 1 cylinder gaps were measured to be out of tolerance. 22/1000s). The engine was manually rotated through the propeller and thumb compression was established at each cylinder and appropriate valve movement was noted. The cylinder overhead components were lubricated and undamaged.

The cylinders were borescoped and the piston and valve heads were undamaged and showed normal operational signatures with the exception of some carbon built up that was noticed in the cylinders.

The oil quantity dip stick showed about 7 quarts of oil quantity.

The fuel and oil lines to the engine were secure and intact. The fuel selector handle was difficult to move and was also difficult to positively confirm the fuel valve movement, but the anomaly did not affect the selected valve position. The engine control continuity was established from the cockpit controls to the engine.

The engine was determined to be safely run. A fuel source was secured to the tanks at the wing root inlet fuel lines and the battery charged. The engine was started and ran for a few minutes and at idle and then shut itself off. Fuel continuity was ensured to the carburetor.

During activation of the fuel selector on subsequent engine run attempts, the handle separated at the attachment point to the fuel selector valve. The fuel selector valve was removed for further examination. The fuel selector universal attachment that separated, had a new universal attachment part taped to the fuel selector handle, consistent with awareness of a known issue with it. The separation did not affect the fuel valve position.

The carburetor was also removed and examined by a third party vendor at a later date. No anomalies were noted in the examination.

After the carburetor was examined, it was re-installed, and another engine run was accomplished. The engine was started and ran continuously at all power settings for several minutes with no anomalies noted.

The examination of the engine and the airframe revealed the following anomalies: the engine would not initially run continuously or at a high power setting, additionally, the fuel selector handle was difficult to move to each position and separated, but the anomaly did not affect the selected valve position. No additional evidence of pre-impact mechanical failures or malfunctions that would have precluded normal operation were noted.

Submitted by:

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