

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR21FA227

ACCIDENT SITE, AIRFRAME, AND ENGINE EXAMINATION REPORT

June 17, 2021

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A. ACCIDENT

Location: Gila Bend, Arizona
Date: June 15, 2021
Time: 0820 mountain standard time
Airplane: Experimental amateur built Covey Tri-Quickie, 8054Y

B. ACCIDENT SITE, AIRFRAME, AND ENGINE EXAMINATION REPORT

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C. DETAILS OF THE INVESTIGATION

1.0 Accident Site

The airplane came to rest about 200 ft to the northwest of runway 040 near the airport perimeter fence on a magnetic heading of 020° and was destroyed in the postcrash fire.



Figure 1: Accident site

The first identified point of impact (FIPC) was 3 divots in the hardpacked desert floor, about a half-mile to the northwest of the runway adjacent to the airport perimeter fence that was likely from the landing gear. The distance between two of the divots was about 8 ft. The debris path continued an additional 140 ft before it a small rise was noted. The airplane wreckage was just forward of the rise. Approximately 8 ft forward, in the debris path was a propeller blade. 24 ft forward of the FIPC was the oil dipstick. A fuel line was identified 30 ft forward of the FIPC in the debris path, and 50 ft beyond that was the oil sump tank. To the right of the main wreckage about 10 ft was the canopy. To the left and behind of the main wreckage

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about 10 ft, but still in the debris path, was a small wash and rise in terrain. The rise had extensive fire damage and it is likely the airplane impacted that during the accident sequence.



Figure 2: Rear View of Main Wreckage

The engine had separated and came to rest upright with no obvious holes in the engine case; it was about 6 ft from the rise. The left side of the engine sustained thermal damage. The exhaust system was deformed with the attach fittings displaced but retained by their hardware in their normal relative positions on the engine. The throttle had separated near the mounting pad with the separation area angular and granular in appearance. All 3 propeller blades separated at the hub. About 10 ft forward of the main wreckage was a portion of the canard, with the remainder thermally destroyed. The wing with the main landing gear was to the left and adjacent to the main wreckage.



Figure 3: Left Side View of the Main Wreckage



Figure 4: View of the Engine

2.0 Airframe Examination

The airframe was thermally destroyed. Flight control cables were identified from the cockpit to each wing and tail section. The instrument panel was thermally destroyed. Flight control hardware was accounted for. Seatbelt hardware was identified.



Figure 5: View of Seatbelts

3.0 Engine Examination

Engine Make: Continental Motors
Engine Model: O-200-A

The engine separated from the airframe and was lying near the main wreckage. The propeller assembly remained attached to the engine; however, all three propeller blades were separated from the hub.

There were no holes in the crankcase. An attempt to rotate the engine was unsuccessful and the engine was disassembled. The entire engine sustained varying degrees of thermal and impact damage that precluded testing of any of the components. The spark plugs showed a worn-out condition when compared to the Champion aviation check-a-plug chart. The magnetos remained attached to their respective mounting pads on the engine and were severely damaged/destroyed by fire. The carburetor remained attached to the engine. The accessory section/gears were intact with a black substance that was attributed to the burning of the internal lubrication and had molten metal in various areas. The cylinder chambers and the internal portion of the crankcase showed thermal discoloration. The oil pump gears were intact with thermal discoloration.



Figure 6: View of the Front of the Engine



Figure 7: Rear View of the Engine



Figure 8: Carburetor



Figure 9: Spark Plugs



Figure 10: Right Magneto



Figure 11: Left Magneto



Figure 12: Accessory Section



Figure 13: Left Side of Engine



Figure 14: No. 2 Cylinder



Figure 15: No. 4 Cylinder



Figure 16: Oil Pump Gears

4.0 Propeller Examination

Propeller was a Warp Drive and all three propeller blades separated at the hub. All three propeller blades had varying degrees of damage and delamination.



Figure 17: Propeller Hub



Figure 18: Propeller Blades

5.0 Meteorological Information

The closest weather reporting station to E63 was located 5 nautical miles southwest at Gila Bend Air Force Auxiliary Airport (GXF), Gila Bend, Arizona. The airport elevation was 883 ft. Reported weather at 0758 was wind from 120° at 04 kts, visibility 10 statute miles, few clouds at 33,000 ft above ground level, temperature 93.2° Fahrenheit, dewpoint 42.8° Fahrenheit, and altimeter setting of 29.81 inches of Mercury.

Reported weather at 0858 was wind from 280° at 03 kts, visibility 10 statute miles, clear skies, temperature 98.6° Fahrenheit, dew point 42.8° Fahrenheit, and altimeter setting of 29.81 inches of Mercury.

The calculated density altitude at 0758 was 3,486 ft

The calculated density altitude at 0858 was 3,810 ft

Submitted by:

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