

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR22LA268

AIRFRAME AND ENGINE EXAMINATION REPORT

August 17, 2022

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A. ACCIDENT

Location: Huntington Beach, California
Date: July 22, 2022
Time: 1342
2142
Airplane: N3666K

B. AIRFRAME AND ENGINE EXAMINATION REPORT

Specialist Marcus Giordano
Federal Aviation Administration
Long Beach, California

FAA Oversight Jack Vanderman
South West Aircraft Salvage
Corona, California

Specialist Ben O'Con
Corona Aircraft Engines
Corona, California

C. SUMMARY

On August 17, 2022, members from the Federal Aviation Administration, Corona Aircraft Engines, and South West Aircraft Salvage convened at Corona Aircraft Engines, to begin the examination of the engine. At the conclusion of the examination, no anomalies were found that would have precluded normal operation.

D. DETAILS OF THE EXAMINATION

1.0 Accident Site

The airplane impacted the ocean and was recovered to an adjacent beach. The fuselage sustained substantial damage.

2.0 Airframe Examination

2.1 Fuselage

The fuselage sustained substantial damage to the area between the wings and aft of the cabin area. According to the FAA, the airplane had 18-gallon fuel tanks installed.

2.2 Empennage

The empennage exhibited substantial damage at the vertical stabilizer and the rudder. The left and right horizontal stabilizers and elevators remained attached to the empennage and exhibited minor damage.

2.3 Wings

The left and right wings partially separated from the upper fuselage. Both wings exhibited substantial damage to the wing structure.

2.4 Landing Gear

The landing gear remained attached to the lower fuselage and exhibited minor damage.

2.5 Cockpit

The cockpit remained intact with minor damage throughout.

2.6 Survivability

Survivability of the pilot was not compromised. The upper ceiling of the cockpit was damaged but not crushed downward. The seat remained intact.

2.7 Fuel/Fuel System

According to the FAA, the fuel was visually inspected and appeared normal. The FAA used a burn rate to calculate 25 gallons of fuel, 45 miles per hour, and a burn rate for a O-320-B2B engine at 8.0 gallons per hour equaled 140-mile range.

2.8 Other Systems

3.0 Engine Examination

The engine remained attached to the firewall and was shipped to Corona Aircraft Engine for further examination and used oversight from the FAA. The

following examinations were transcribed from a report submitted to the IIC by Corona Aircraft Engines.

Jack Vanderman, South West Aircraft Recovery, Corona, California], had removed the lower spark plugs and attempted to rotate the propeller; the propeller moved 3 inches in each direction and was unable to move further than that.

The sparkplugs removed and sand & saltwater were found lodged on all sparkplugs.

One quart of oil was all that remained in the engine during the draining process. The oil pan strainer screen was removed and inspected no signs of metal damage or debris.

Intake runners were removed no signs of damage or debris.

Exhaust stacks removed no signs of damage or debris.

Removed all cylinder and found evidence of sand and saltwater corrosion built up, but no indications of mechanical failure to any cylinder components. No signs of physical damage in cylinder or valve train assemblies. No metal debris, no signs of overheated bearing, crankshaft spun freely after cylinders removed no external damage on any cylinder.

Both magnetos removed inspected for physical damage none noted. Both magnetos were opened and revealed signs of saltwater corrosion. First attempt to bench test magneto revealed they both spun and had impulse couplings working as designed, however due to salt-water corrosion, the points had to be removed, cleaned, and reinstalled. The results were both magnetos operated normal and produced sparks to all respective ignition leads, magnetos working as designed.

Fuel strainer was full of fuel when removed no signs of water or sand contaminates.

Carburetor removed accelerator pump test performed, pump was able to function normal and expelled fuel.

Air pressure applied to the carburetor, and we witnessed the fuel venturi working as designed.

No determining factor currently. The engine appeared to be running within the design criteria. No mechanical issue could be found to cause the engine to shut down in flight. After eliminating all possible mechanical issues, based on current weather conditions of the day, carburetor icing "may" have been a factor.

4.0 Propeller Examination

The two-blade, fixed-pitch aluminum propeller remained attached to the engine and exhibited no damage.

5.0 PHOTO ARRAY



Figure 1. N3666K during the recovery process. Photo FAA.



Figure 2. Left-side view of the fuselage. Photo FAA.



Figure 3. Left wing damage. Photo FAA.



Figure 4. Right side. Photo FAA.



Figure 5. Aft view. Photo FAA.



Figure 6. Right-side view of engine. Photo FAA.



Figure 7. Left-side view of engine. Photo FAA.



Figure 8. Instrument Panel. Photo FAA.



Figure 9. Front view. Photo FAA.

Submitted by:

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