

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA24LA122

WRECKAGE EXAMINATION SUMMARY

April 16, 2024

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A. ACCIDENT

Location: Cape Coral, FL
Date: February 24, 2024
Time: 1003 EST
1503 Z
Airplane: N282SV, BELLANCA 17-30A, SERIAL NUMBER 98-301026

B. WRECKAGE EXAMINATION SUMMARY

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C. SUMMARY

An examination of the engine and airframe was conducted on March 20, 2024, at Florida Air Recovery in Jacksonville, FL. The engine appeared visually undamaged, and a test run was conducted. The fuselage and engine were secured to a flat-bed trailer. Fuel was supplied at the fuel pump inlet from an external source with automotive gasoline. The fuel pump return was re-routed to the external source. The engine would not start, and a fuel leak was observed from the back of the engine. Further inspection revealed that fuel was leaking significantly from the cooling shroud of the fuel metering throttle body. The cooling shroud was removed and the fuel line from the throttle body to the fuel manifold was found to be less than finger tight. The line was tightened. An engine start was attempted, and the engine started immediately. The engine idled smoothly. The throttle was advanced to 1700RPM, and a magneto check was performed. Both magnetos produced an acceptable RPM drop. Throttle was advanced to approximately 2000 RPM. The engine ran smoothly, and oil pressure was documented. The engine was brought back to idle to conclude the test.

D. DETAILS OF THE EXAMINATION

1.0 Accident Site

The airplane made a forced landing on Vogiantzis Parkway in Cape Coral, FL. The airplane contacted powerlines before touching down in the grassy median and

slid to a stop on the parkway. The landing gear collapsed during the accident sequence. A small fuel leak was observed by first responders and the aircraft was doused in a fire suppressing foam. The airplane was subsequently removed from the accident location and transported to a secured facility in Jacksonville, FL.

2.0 Airframe Examination

An airframe examination was conducted on March 20th at Florida Air Recovery in Jacksonville, FL. As first viewed, the wings were removed from the fuselage and the fuselage was supported on top of a metal support dolly. The engine remained attached to the airframe and the propeller remained attached to the crankshaft flange.



Right Side of the Fuselage



Left Side of the Fuselage

2.1 Fuselage

The fuselage sustained substantial damage to the belly, below the cockpit area, as a result of the accident sequence. The remainder of the fuselage was intact and undamaged.



Belly Damage

2.2 Empennage

The empennage was undamaged. Flight control continuity from the cockpit to the rudder, elevator, and elevator trim was established.



Right Side of Empennage



Left Side of Empennage

2.3 Wings

Both wings were removed to facilitate the recovery efforts. The right fuel tank was breached during the accident. The left-wing was not breached. The remaining fuel was drained from the airplane by recovery personnel. Recovery personnel noted that almost no fuel was found in either tank when they attempted to drain the wings. Substantial damage to both wings was present around the retractable landing gear.

The landing gear collapsed during the accident and was partially pushed through both wings. Flight control continuity from the cockpit to the ailerons was visually established.



Left Wing Viewed from the Top



Right Wing Viewed from the Top

2.4 Landing Gear

The retractable tricycle landing gear collapsed during impact sequence and punctured holes in the wing structures. The nose gear extended and locked when the

airframe was hoisted onto a flatbed trailer. The gear position was “down” in the cockpit.



Nose Gear Down and Locked

2.5 Cockpit

Continuity of the throttle, mixture, and propeller controls was confirmed from the cockpit to their respective accessories. Full control travel was observed. As observed, all three controls were in the full forward position. The fuel selector was broken just below the indicator, but the selector was stuck in the right tank orientation. The Garmin accessories were removed by the recovery personnel to prevent damage during storage. The units were undamaged. No SD cards were present in any of the devices. The remaining instrumentation in the cockpit was undamaged. The remained installed in the fuselage and the aircraft powered on when the master switch was activated.



Cockpit Instrumentation Overview



Instrumentation in Front of the Left Seat



Instrumentation in Front of the Right Seat



Instrumentation in Front of the Left Seat



Engine Instrumentation in Front of the Left Seat

2.6 Survivability

The pilot was not injured. The pilot's seat was equipped with a 3-point restraint.

2.7 Fuel/Fuel System

The fuel selector was stuck in the right tank position. The fuel lines appeared to be oriented correctly. The fuel injector lines were tight from the manifold to the cylinder heads.

During the engine run attempt, a substantial fuel leak was observed near the fuel metering throttle body and the engine would not start. The cooling shroud for the fuel metering throttle body was removed and the fuel line from the throttle body

to the fuel manifold was found to be less than finger tight. The line was tightened, and an engine run was attempted. The engine started immediately.



Fuel Selector



Location of the Loose Fuel Line

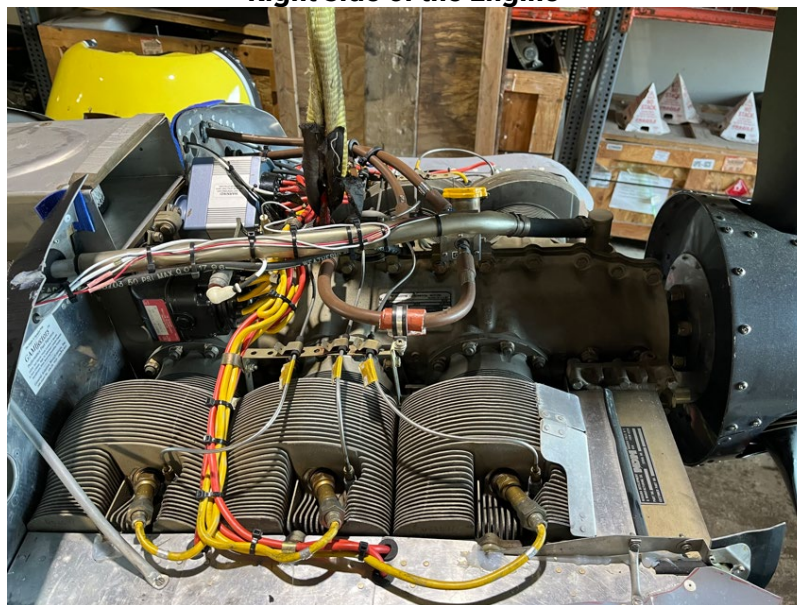
3.0 Engine Examination

The cowling was removed, and the engine appeared to be undamaged. The top spark plugs were removed to facilitate a borescope inspection. The top spark plugs displayed coloration consistent with normal engine operation. The borescope

inspection did not show any discrepancies. The engine rotated 720 degrees when force was applied to the propeller and thumb compressions were observed on all cylinders. Continuity of the crankshaft to the camshaft was confirmed throughout the engine. The spark plugs were re-installed in their respective cylinder heads to facilitate an engine run.



Right Side of the Engine



Top Right Side of the Engine



Top Left Side of the Engine



Left Side of the Engine



Engine Data Plate

4.0 Propeller Examination

The three bladed McCauley propeller displayed damage signatures consistent with little to no engine power. Two blades were damaged at the propeller hub. The propeller was removed and replaced with a test propeller to facilitate the engine test-run. The propeller governor was undamaged.

5.0 Pilot Information

The pilot stated that the purpose of the flight was to test that the newly installed engine mounts, STC electronic magneto, engine fuel pump and engine fuel lines that were satisfactory. The pilot noted that he installed the fuel lines and provided the log book entries.

6.0 Aircraft Information

The airplane is a Bellanca, Inc. Model 17-30A, serial number 98-301026. The airplane was substantially damaged during the accident.



Airplane Data Plate

7.0 Engine Test Run

The fuselage and engine were secured to a flat-bed trailer. Fuel was supplied at the fuel pump inlet from an external source with automotive gasoline. The fuel pump return was re-routed to the external source. The engine would not start, and a fuel leak was observed from the back of the engine. Further inspection revealed that fuel was leaking from the cooling shroud of the fuel metering throttle body. The cooling shroud was removed and the fuel line from the throttle body to the fuel manifold was found to be less than finger tight. The line was tightened. An engine start was attempted, and the engine started immediately. The engine idled smoothly. The throttle was advanced to 1700RPM, and a magneto check was performed. Both magnetos produced an acceptable RPM drop. Throttle was advanced to approximately 2000 RPM. The engine ran smoothly, and oil pressure was documented. The engine was brought back to idle to conclude the test.



Airplane Strapped to Trailer for Testing with Substitute Propeller

Submitted by:

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