

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN24LA245

EXAMINATION SUMMARY

October 16, 2024

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A. ACCIDENT

Location: Land O' Lakes, Wisconsin
Date: June 30, 2024
Time: 11:15 central daylight time

Airplane: Raytheon Aircraft Company A36, N47RT

B. EXAMINATION SUMMARY

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C. SUMMARY

On June 30, 2024, about 1115 central daylight time, a Raytheon Aircraft Company A36, N47RT, was substantially damaged when it was involved in an accident near Land O' Lakes, Wisconsin. The pilot and passenger sustained minor injuries. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 personal flight. The pilot reported that during the initial climb, the engine suffered a partial loss of engine power. She executed a forced landing into tress off the departure end of the runway which resulted in substantial damage to both wings and the fuselage. The airplane was recovered from the accident site and was transported to a secure location for future examination.

D. DETAILS OF THE EXAMINATION

1.0 Airframe Examination

- The engine remained attached to the fuselage via engine mount, it was shifted forward and bent downward.
- Both wings were removed for recovery.
- Left wing had significant impact damage and the right wing had minor impact damage.
- Left wing tank was ruptured.



Figure 1. Left and Right wings.

1.1 Propeller Examination

- All 3 of the aluminum propeller blades exhibited some rearward bending consistent to little or no power being produced at the time of impact.



Figure 2. Propeller and engine as presented for exam.

1.2 Engine Functional Test Run

The Milwaukee FSDO conducted an initial 100-hour exam and several items needed to be reinstalled. The engine was prepared for a functional test run with the following modifications:

- Propeller was removed and replaced with a serviceable propeller.
- Fuel was plumbed into the engine from the right wing tank main inlet.
- Ignition leads and spark plugs were reinstalled.
- Mechanical fuel pump was reinstalled for engine run.
- Battery was charged in preparation for engine test run.
- The lower cowling was partially cut to remove the air filter that had impact crushing.

- The throttle cable was bent and impinged inside the throttle quadrant and was replaced for engine run.
- 3 quarts of oil was added to a total of 7 quarts and new oil filter was installed.
- The propeller governor was disconnected and tied down to fine pitch position.
- The keys were not with the wreckage, the starter p leads were discounted and rigged for engine start.
- Both exhaust pipes were impact crushed and were removed by cutting the damaged area.

Test run:

The engine was test ran 3 separate times. The first engine run, the engine ran for about a minute. The boost pump was used to prime the engine, the engine started, idled, and accelerated without hesitation. The manifold pressure indicator read 1-2 marks below red line.

The second engine run was for about 2 minutes and 30 seconds. The engine was accelerated and decelerated with several applications of power and no anomalies were noted. The auxiliary fuel pump was placed in both the low and high positions and no changes in engine sound or manifold pressure were observed. When the power was reduced to near idle, and the auxiliary fuel pump was in the low position the engine began to run slightly rough. At near idle and the fuel pump in the high position the engine ran noticeably rougher.

The third test run the engine ran for about a minute and 20 seconds and with a portable optical tachometer, the engine RPM recorded a maximum of 2600 RPM.

1.3 Fuel System

- The left wing fuel tank was ruptured.
- The left wing main supply line was bent and disconnected. When tested with pressurized air, no obstructions were found within the separated line.
- The left wing vent line was tested with pressurized air, no obstructions were noted.
- The right wing supply and vent line were pressure tested, no obstructions were noted.
- All fuel lines including the vapor return lines were tested and free of any blockages.
- The fuel selector valve was tested with pressurized air from the left and right main fuel lines and was consistent with normal operations.



Figure 3. Damaged Left wing fuel supply and vent line.

Submitted by:

Cory Maxon
NTSB