

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



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ENGINE TEST RUN

November 25, 2024

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A. ACCIDENT

Location: Moore Haven, FL
Date: October 3, 2024
Time: 1314 EDT
1714 UTC
Airplane: N12RD; Piper PA-24-250

B. ENGINE TEST RUN

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C. SUMMARY

The pilot reported a loss of engine power and force landed in a sugar cane field.

D. DETAILS OF THE EXAMINATION

1.0 Engine Examination

The engine was first observed installed on the airframe with the cowling installed. The top and front portions of the cowling were removed to facilitate an engine test run. The throttle and mixture controls in the cockpit were operated and it was observed that the controls on the carburetor moved from stop to stop. The carburetor heat control in the cockpit had minimal movement and the actuator arm had minimal movement.



Photo 1: View of the engine as first observed.

1.1 Induction and Exhaust System

The induction air filter remained installed on the engine and was unobstructed. The induction system was operationally checked, and no discrepancies were noted.

The exhaust system was undamaged and was operationally checked with no discrepancies noted.



Photo 2: View of the unobstructed engine air intake filter.



Photo 3: View of the undamaged exhaust.

1.2 Magnetos

Both magnetos were installed in the accessory housing and were tight when checked by hand. Both magnetos were operationally checked see "Test Run" section for more detail.

1.3 Ignition System

All spark plugs were checked by hand and were tight. The ignition system was operationally checked during the engine test run and operated normally.

1.4 Fuel System

The wings had been removed from the fuselage and subsequently the main left and right wing fuel tanks were checked for breaches by filling them with water. No breaches were noted when the wings were full of water. The fuel selectors in the cockpit were selected to L. Main and R. Main. The airframe fuel strainer was opened and there was no liquid present. The fuel strainer bowl contained a small amount of debris and the fuel strainer screen was unobstructed. For the engine test run a fuel tank was plumbed into the airplane's boost pump which was checked and operated when power was applied using the airplane's battery. All other fuel components were operationally checked and operated normally.



Photo 4: View of the fuel strainer.



Photo 5: View of the fuel strainer bowl.



Photo 6: View of the unobstructed fuel strainer screen.

1.5 Lubrication System

The oil dipstick indicated about 10 quarts of oil. The oil filter remained attached to the engine accessory case and was not removed. The oil cooler remained attached to the engine and was not removed.

2.0 Propeller Examination

The 3 bladed propeller was cut about 12 inches out from the hub to facilitate the engine run. When the propeller control in the cockpit was operated by hand the actuator moved from stop to stop on the propeller governor.

3.0 Test Run

A fuel can with 100 LL aviation fuel was plumbed into the airplane's boost pump. The ignition was set to both, and power was applied to the airplane using the airplane's master switch and master battery. The starter was engaged, and the engine turned. The engine started and was warmed up for about 2 minutes at 1500 RPM. The throttle was then increased to 2000 RPM and a check of the magnetos was conducted. Both the left and right magnetos were checked, and the engine ran on each independent magneto. A drop of about 200 RPM was observed for each

magneto. The engine was then brought to idle and idled at about 750 RPM. The mixture was then reduced to the idle mixture cut off and the engine stopped.

Submitted by:

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