

National Transportation Safety Board

Office of Aviation Safety

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ANC23LA013

ENGINE EXAMINATION

February 20, 2023

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A. ACCIDENT

Location: Wasilla, AK
Date: January 13, 2023
Time: 1545L
1245Z
Airplane: Taylorcraft BL-65

B. ENGINE EXAMINATION

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C. SUMMARY

On January 13, 2023, about 1545 Alaska daylight time, a Taylorcraft BL-65 airplane, N29886, was substantially damaged when it was involved in an accident near Point Mackenzie, Alaska. The pilot was not injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 personal flight.

According to the pilot, last month after a heavy snow fall, the nose fuel tank cap was found dislodged allowing snow to accumulate into the tank. On the day of the accident, the airplane departed from Lake Hood Airport (LHD) and enroute near Point Mackenzie, the engine began to run rough. The pilot landed on a road and found additional water in the sump drain from the fuel tank. The pilot's mechanic traveled to the airplane, drained fuel from the carburetor and test ran the engine. The pilot departed from the road back to LHD and shortly after departure the engine began to run rough again. The pilot landed back on the road. During the landing roll the right wing impacted a street sign, and the airplane came to rest in a ditch. The airplane sustained substantial damage to the right wing.

D. DETAILS OF THE EXAMINATION

1.0 Engine Examination

A serviceable propeller was installed, and the airplane engine was started. The engine started normally. The engine rpm was limited to 1200 rpm for safety concerns. The engine sounded normal and was left to run outside. (Figure 1)



Figure 1 Accident airplane during engine run test.

About 15 minutes the engine stopped running, it was pulled inside a hangar, and the examination started.



Figure 2 Engine data tag.

Visual inspection of the engine and attaching hardware found no deficiencies. The engine compressions were as follows.

#1 68 psi

#2 76 psi

#3 56 psi - air leaking around piston rings

#4 68 psi

Magneto timing was at 24° for both magnetos, which is correct for this engine. Both Magnetos were securely fastened to the engine. (Figure 3 and 4)



Figure 3 Left engine Magneto.



Figure 4 Right engine Magneto.

The pilot reported that he uses a mixed gas in this engine of 25% aviation grade 100L and 75% automotive gas.

Gascolator was clean with a mixture of gas and water inside.

Engine oil screen was inspected, and no metal found.(Figure 5)



Figure 5 Engine oil screen.

Inlet screen on carburetor was inspected and was clean.

Carburetor was drained and water was found. The fluid from the carburetor was about 1/3 water. (Figure 6)

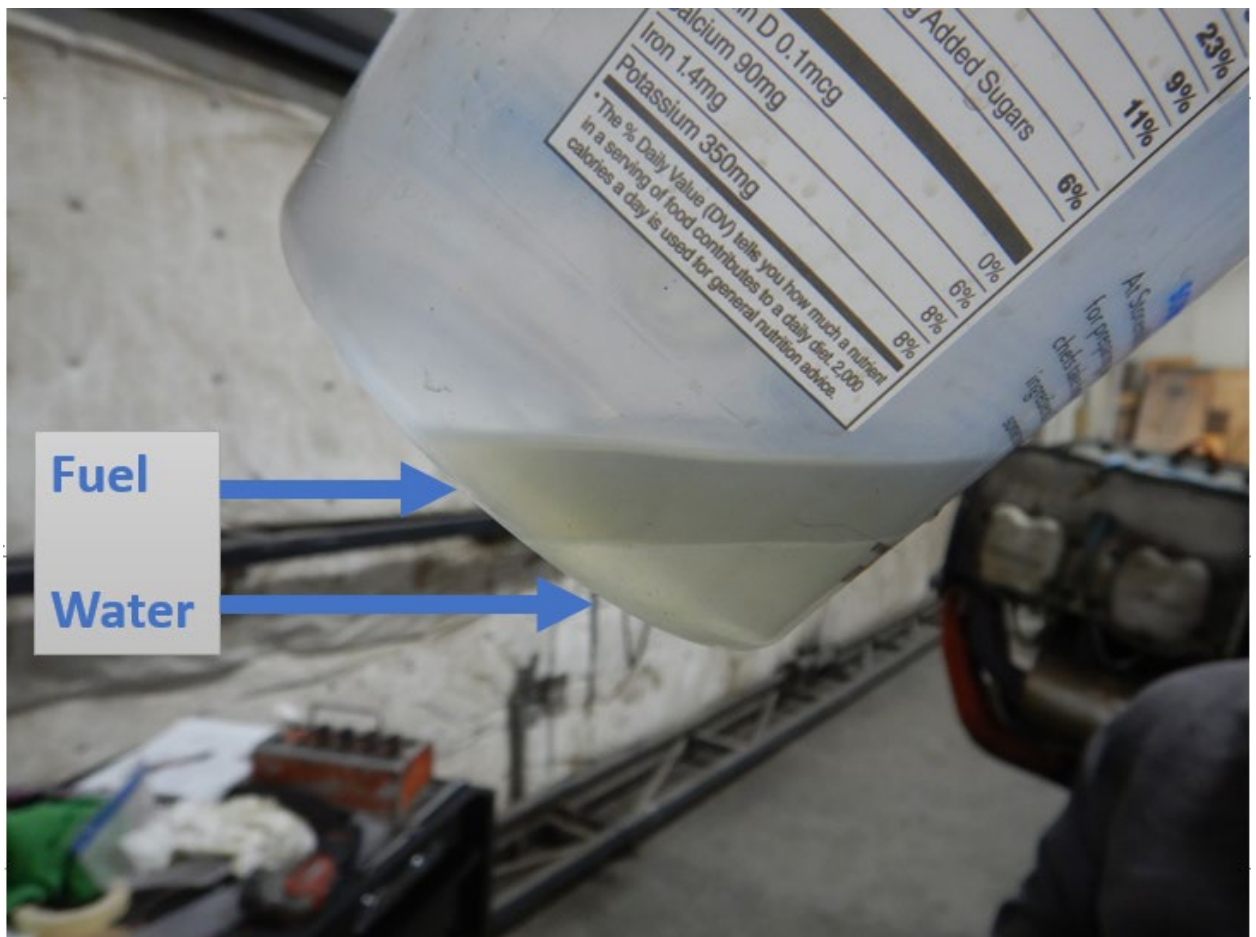


Figure 6 Fluid drained from the Carburetor and Gascolator.

The top spark plugs were inspected and in serviceable condition. (Figure 7)



Figure 7 Top sparkplugs from the engine.

Valve covers were removed. Smooth valve action of equal movement was seen while turning the propeller.(Figure 8)



Figure 8 Left side of engine, valve covers removed.

Removed all exhaust springs and valves, the valves all had varying degrees of valve stem play but no evidence of a possible sticky exhaust valve.

2.0 Propeller Examination

The propeller tips were curved in and rotational scars on both tips. (Figure 9 and 10)



Figure 9 Accident airplane's propeller.



Figure 10 Accident airplane's propeller tip.

Submitted by:

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ASI