

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ANC23LA070

ENGINE EXAMINATION

January 11, 2024

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A. ACCIDENT

Location: Delta Junction, AK
Date: August 24, 2023
Time: 1600

Airplane: Oliver Robert K (Kitfox) Series 6 airplane, N151RF

B. ENGINE EXAMINATION

FAA IIC Timothy R. Kirkendall
FAA
Fairbanks Ak

FAA Dan Foster
FAA
Fairbanks AK

IA A&P Mechanic Keith Warren
Delta Junction, AK

C. SUMMARY

On August 24, 2023, about 1600 Alaska Daylight time, a Oliver Robert K (Kitfox) Series 6 airplane, N151RF sustained substantial damage when it was involved in an accident near Delta Junction, Alaska. The pilot and passenger received minor injuries. The airplane was operated by the pilot as a Title 14 Code of Federal Regulations Part 91 personal flight.

Pilot reported that he was flying around the Salcha River and decided to fly to Charley River. About 10 to 15 minutes from his destination the engine loss partial power. He pulled carburetor heat on with no change. He moved the throttle control from idle to full power and the engine responded by reducing power to idle but would only increase to about 25% with full throttle. The pilot decided to make a force landing along a mountain ridge. During landing a strong gust of wind lifted the airplane's right wing and subsequently the left wing and engine impacted terrain and the airplane nosed over. The airplane sustained substantial damage to the fuselage and wings.

D. DETAILS OF THE EXAMINATION

1.0 Engine Examination

The FAA oversaw the engine examination conducted by an IA Airframe and Powerplant certified mechanic. The below statement was provided by the FAA inspector that oversaw the examination.

Witness of Engine inspection of N151RF 01/11/2024

This is a narrative of the inspection of the engine installed on N151RF at the time of an accident on 08/24/2023.

01/11/2024 met with Keith Warren at his hanger in Delta Junction, 6192 Remington Road Delta Junction Alaska 99737. The aircraft wreckage had been slung to Aurora Aviation hangar and was loaded on a trailer. The trailer was inside the hangar, and Keith was contracted to inspect the Bombardier Rotax 912 ULS engine in a "100 hour" type inspection to determine if, or what, might have caused the engine to lose power, as reported. The aircraft was very badly damaged and disassembled to allow for transport from the accident site. The control panel and forward portion of the fuselage and engine assembly was still in mostly one piece except the engine cowlings that were damaged and removed. The prop was completely shattered. The controls were still connected to the carburetors. There was a throttle control that moved the carburetor correctly, and a choke control that moved the carb correctly. There was a cowl flap control that was detached because the cowlings were damaged and the pieces removed. The carb heat was attached but would not move, the intake where the carb heat control cable was attached was badly damaged. The engine does not require a mixture control as this is an experimental type aircraft. Keith removed both carburetor bowls and they were both empty, except the left had an oil residue. Keith stated that when he disconnected the fuel line, that fuel had drained from both sides of the disconnection, indicating that at the time of operation fuel was being fed to the engine. The engine had been moved in different angles and attitudes, so it was not surprising to see no fuel as it could have drained back and out.

Keith checked to see if the engine had any compression. The top spark plugs were removed, being a non standard engine he didn't have a proper compression tester adaptor, so he just put his finger in the spark plug hole to see if there was any compression while rotating the prop. There was some compression for all 4 cylinders. The forward R/H cylinder built pressure and blew a large amount of oil out of the plug hole. He pulled the bottom spark plugs out and the rest of the oil drained out of the forward R/H cylinder. An estimated total, 1 cup of oil came out of the cylinder. A small amount of oil came from the back R/H cylinder. Small amounts of water drained from the two L/H cylinders. The plugs were examined and looked normal except the lower plugs installed in the two R/H cylinder that had oil in them.

Many pictures were taken. The engine was examined thoroughly, but the damage from the accident was too severe to determine the cause. Nothing was found that would have prevented normal engine operations.

Timothy R Kirkendall
Aviation Safety Inspector
4419 Airport Way
Fairbanks, AK 99709



2.0 Examination pictures



Figure 1 View of engine before examination.

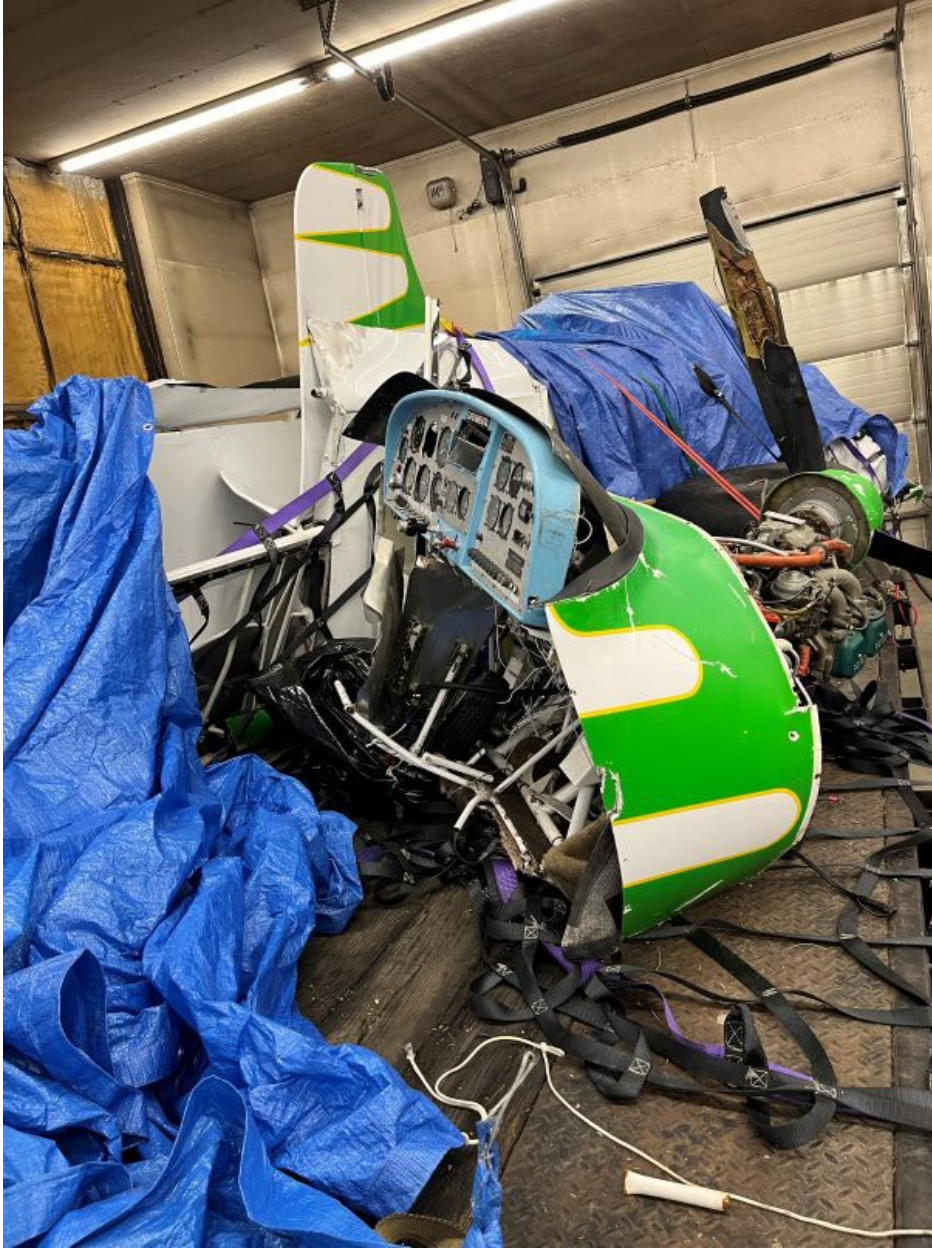


Figure 2 Right side view of cockpit area and engine.

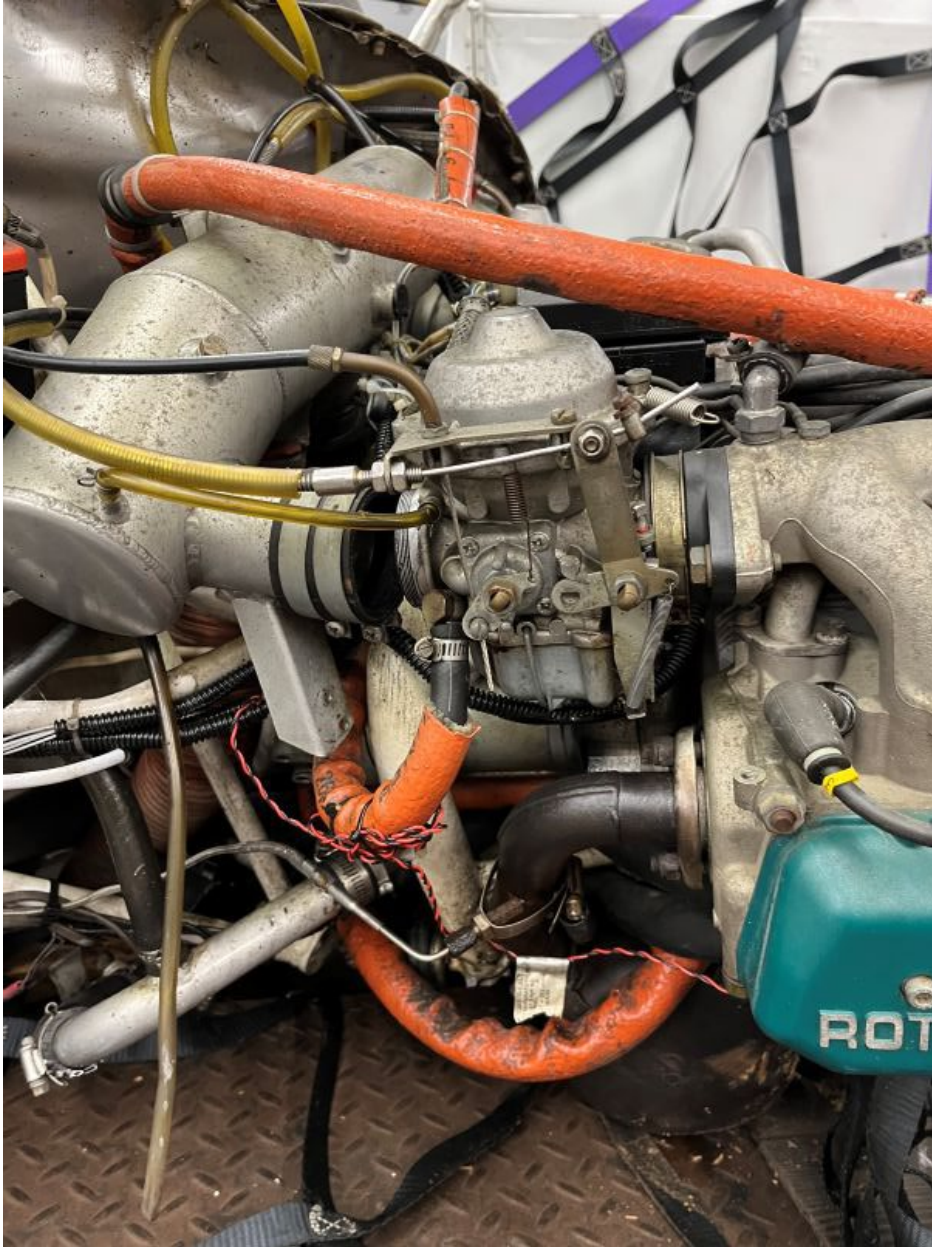


Figure 3. Right side view of right carburetor.



Figure 4 View of the right side of the engine.



Figure 5 View of sparkplugs from the top of the cylinder.



Figure 6 View of sparkplugs from the bottom of the cylinder.

Submitted by:

Mark Ward
ASI