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Subject: Engine Examination

The engine was examined at Bemeidji Aviation Services, INC by an inspector with the Federal Aviation Administration and an investigator with Lycoming Engines.

- The propeller remained attached to the engine at the propeller flange. The propeller was straight with no impact damage to either blade.
- The carburetor was not damaged. The carburetor heat box was impact damaged. The carburetor heat flapper valve was impact damaged. The carburetor heat cable was pulled from the arm at the carburetor heat box. The carburetor heat control on the instrument panel was found in the "on" position. There were no mechanical anomalies with the carburetor.
- The engine was rotated through at the propeller. Tactile compression was noted on all cylinders. Engine drive train continuity was confirmed through the entire engine. Valve movement was observed at all cylinders.
- Both magnetos were rotated by hand, and a blue spark was observed at each lead.
- The top bank of sparkplugs was removed. Signatures were normal when compared to the Champion Aviation Check-A-Plug Chart.
- The vacuum pump rotated when actuated by hand without issue or binding.
- Engine controls were impact damaged and could not be manipulated to confirm range of motion.
- There were no preimpact mechanical anomalies with the engine that would have precluded normal operations.