

NATIONAL TRANSPORTATIONS SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594

SUMMARY OF ENGINE EXAMINATION

-- CEN20LA420

A. ACCIDENT

Aircraft: Beechcraft V35B, N3958A

B. PARTICIPANTS

Craig Hatch
Aerospace Engineer
National Transportation Safety Board
Denver, Colorado

C. ACCIDENT SUMMARY

See factual report

D. DETAILS OF ENGINE EXAMINATION

A post-recovery engine examination was conducted at Air Salvage of Dallas, Lancaster, Texas, on November 6, 2020.

E. SUMMARY OF ENGINE EXAMINATION

Airframe – Beech V35B

Engine – Teledyne Continental Motors IO-550- B

Propeller – Hartzell, 3 Bladed

- The engine mount area was damaged during the accident sequence the engine had impacted the firewall area. An engine test run was not able to be performed.
- The fuselage (with engine) was placed on stands; the wings which had been moved for transport, were aside the fuselage.
- The 3-bladed propeller remained attached to the engine crankshaft flange, the tip of one blade was bent aft, another blade had a slight bend aft about mid-span. (see photos for details.
- A visual inspection of the engine did not reveal any obvious reason for a loss of engine power: Throttle and mixture controls were attached to their respective controls, fuel manifold, and fuel lines were connected.

Summary of Engine Examination

- The engine driven fuel pump was removed; the pump turned freely, and the drive shaft was intact.
- The top set of sparkplugs were removed; normal wear on the electrodes was noted.
- The P-leads were disconnected from each of the Bendix magnetos. The engine timing was checked and appeared to be 22-degrees (22 degree is factory setting).
- During engine rotation, each magneto impulse coupling was heard; Spark was observed on each of the top set of ignition leads.
- Thumb compression and suction was noted; on each cylinder when the engine was rotated; using the propeller. Continuity through the valve train and accessory drive was confirmed.
- Oil filter remained attached to its mount and was removed; the filter contained a small amount of engine oil. No contaminants or debris was observed in the oil.
- -The inlet fuel screen for the fuel servo was clear of debris.
- The fuselage fuel gascolator (located on the left side of the fuselage) was removed; the fuel screen was clear of debris or contaminants. However, a blue fuel stain was observed both on the exterior of the bowl and top of the unit.
- The airplane's fuel system had been previously modified with the wing (fuel) tip tanks removed and "standard" wing tips installed. The tip tank fuel line in the wing and the lines at the fuel selector valve had been capped off.
- The tip tank fuel gauge (left side selected) read approximately $\frac{3}{4}$ full. —Neither the (wing tip) fuel gauge or the fuel selector (for the tip tanks) were placarded inop or covered up.
- There were no other preimpact anomalies noted during the engine examination.

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