

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN21LA176

ENGINE & FUEL SYSTEM EXAM

July 12, 2023

A. ACCIDENT

Location: Pearland, Texas
Date: April 3, 2021
N5240C; Beechcraft B35

SUMMARY

1.0 Engine & Fuel System Examination

The engine was examined on the airframe in a boat and RV storage yard located in Alvin, Texas, on July 12, 2023. The airplane was stored in the yard since shortly after the accident.

- The engine remained attached to the fuselage (Figure 1).
- The foam air filter element was clean and unremarkable.
- No blockages were noted in the exhaust or induction systems.
- There was no oil indicated on the dipstick located on the dry sump oil tank; however, the engine case contained an unknown quantity of oil.
- Pooled oil was present in all cylinders.
- A blue liquid consistent with aviation gasoline was observed at the fuel servo.
- Top spark plugs were removed and when compared to Champion AV-27 Check-a-Plug chart were consistent with “normal” condition. All plugs had surface corrosion on their exterior (Figure 2).
- Champion CH48109-1 spin on oil filter was removed and was full of oil. No date was noted on the filter.
- Oil filter was cut and inspected, nothing remarkable was observed.
- All magneto leads sparked when both magnetos were rotated by the propellor.
- Cylinders 2, 3, 4, 5, and 6 exhibited normal thumb compression and suction when tested.
- Cylinder 1 exhibited little to no thumb compression when the engine was rotated through.
- Cylinder 1 cover was removed, intake and exhaust valves moved as expected when the engine was rotated through.
- Cylinder 1 pushrods were removed, no damage noted.
- Cylinder 1 was removed. Examination revealed corrosion and erosion of the cylinder head and a crack was observed between the cylinder bore and cylinder head (Figure 3 & 4).



Figure 1: The airplane at the storage yard.



Figure 2: Engine condition as found. Note the corrosion on the exterior surface of the spark plugs.



Figure 3. EPH #1 cylinder.



Figure 4: Corrosion of the #1 cylinder head and a crack between the cylinder head and bore.

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