



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

May 13, 2021

ENGINE EXAMINATION SUMMARY REPORT

WPR20LA131

This document contains 14 embedded photos.

A. ACCIDENT

Location: Currie, NV
Date: April 24, 2020
Aircraft: N8743A
NTSB IIC: Albert Nixon

Preliminary Report:

On April 24, 2020, about 1300 Pacific daylight time, a Beech A35 airplane, N8743A, was destroyed when it was involved in an accident near Currie, Nevada. The private pilot and two passengers were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations (CFR)* Part 91 personal flight.

Preliminary radar data showed the airplane departed runway 4L at Chandler Municipal Airport (CHD), Chandler, Arizona, about 0933 MST. After departure, the airplane flew west bound briefly before turning northwest where it continued to track for the remaining portion of the flight captured by surveillance data. The direction was consistent with a direct heading to the planned destination, as well as the reported accident site. The last track data on the accident flight was about 200 miles southeast of the accident site and showed the airplane at 8,125 ft mean sea level, and about 137 knots.

The airplane was subject of an ALNOT. The airplane wreckage was located early the following day. The airplane struck terrain and came to rest in a mountain valley. Local law enforcement responded to the accident site and all major components of the airplane necessary for flight were located at the accident site. There was no post impact fire.

The airplane was recovered to a secure location for future examination.

B. PARTICIPANTS

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C. SUMMARY

Examination of the Continental Motors E185-E series engine (serial number 20335-D-08) was conducted at Air Transport in Phoenix, Arizona, on May 13, 2021. The examination of the engine revealed no evidence of preaccident mechanical malfunctions or anomalies that would have precluded normal operation.

D. ENGINE EXAMINATION

The engine remained partially attached to the airframe. The upper cowling separated revealing the top side of the engine. The forward cowling was crushed and remained partially attached. The glareshield and firewall had impact damage and covered the aft side of the engine and accessory section. The propeller blades separated from the hub which remained attached to the crankshaft. The pitch change assembly had impact damage. The engine was removed from the airframe and all four engine mount legs were crushed.



Figure 1-Engine and airframe.

The lower cowling and engine mounting assembly were crushed. The carburetor and induction plenum/oil sump were crushed and remained in the lower cowling. The starter and fuel pump separated from the engine and were found near the firewall. The left exhaust muffler and both exhaust pipes were crushed and remained with the main wreckage. The No. 6 cylinder rocker cover had impact damage on its lower forward side. The accessory section had impact damage and was crushed forward. The engine's internal surfaces were visible. The surfaces were covered in residual oil and dark in color.



Figure 2-Lower cowling and engine mounting assembly.



Figure 3-Induction plenum and lower side of engine.

The accessory section had impact damage. A lighted borescope was used to examine the interior of the engine and no anomalies were noted. The accessory section was not removed from the engine during the examination.



Figure 4-Accessory section.

The cylinder rocker covers were removed, and the overhead components were black in color and covered in residual oil. The cylinders were undamaged.



Figure 5-Left cylinder's overhead components.



Figure 6-Right cylinder's overhead components.

The upper sparkplugs and lower Nos. 1, 3, and 5 sparkplugs were removed and displayed in a rack. The sparkplugs had a normal amount of combustion deposits and the electrodes had normal wear. The lower No. 5 sparkplug electrode area was covered in black combustion deposits. The lower Nos. 2, 4, and 6 sparkplugs were not removed due to impact damage to the adjacent exhaust assembly. The sparkplug electrodes were later examined with a lighted borescope.



Figure 7-Sparkplugs.

The cylinders were examined with a lighted borescoped and all cylinder combustion chambers were undamaged. The combustion chambers had a heavy amount of combustion deposits.

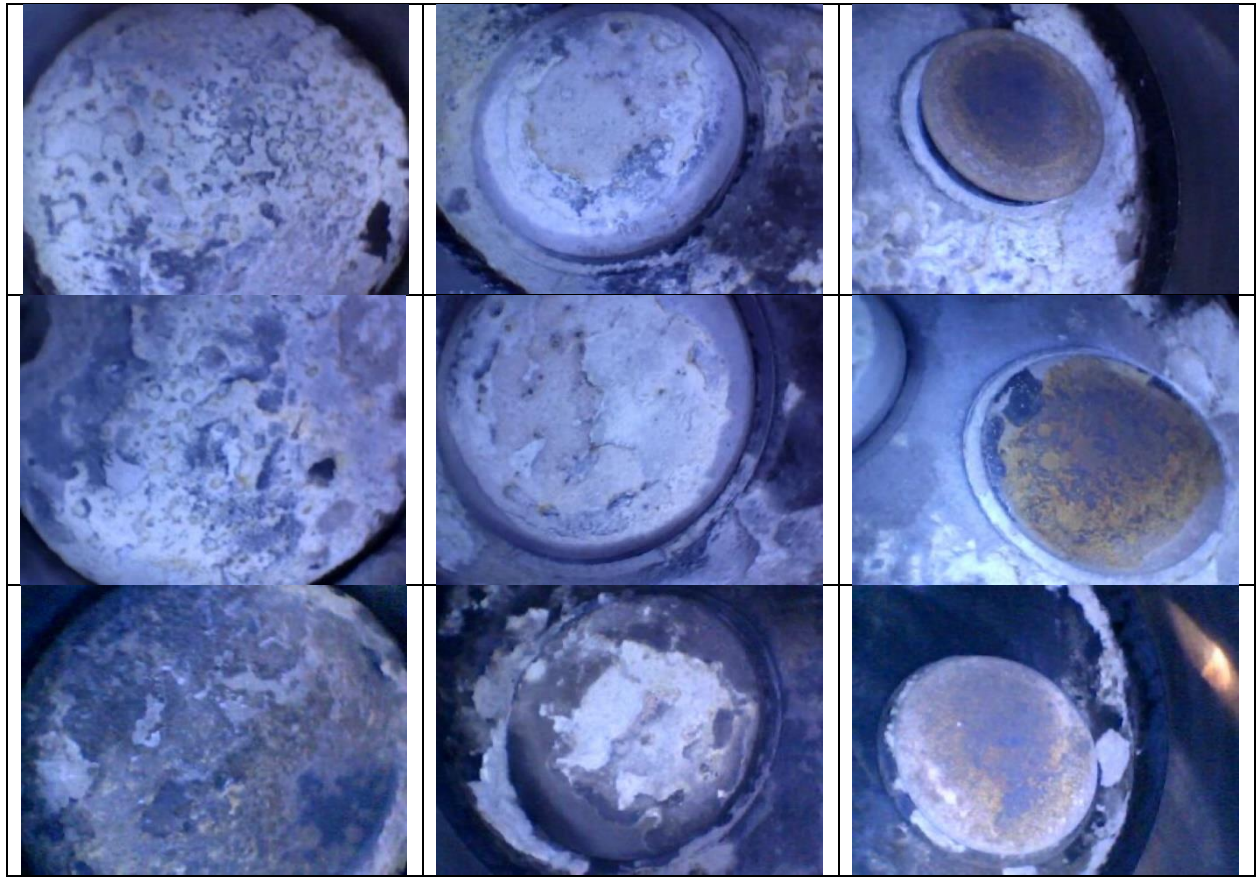


Figure 8-Borescope examination of cylinder Nos. 1, 3, and 5 piston domes and valve heads.

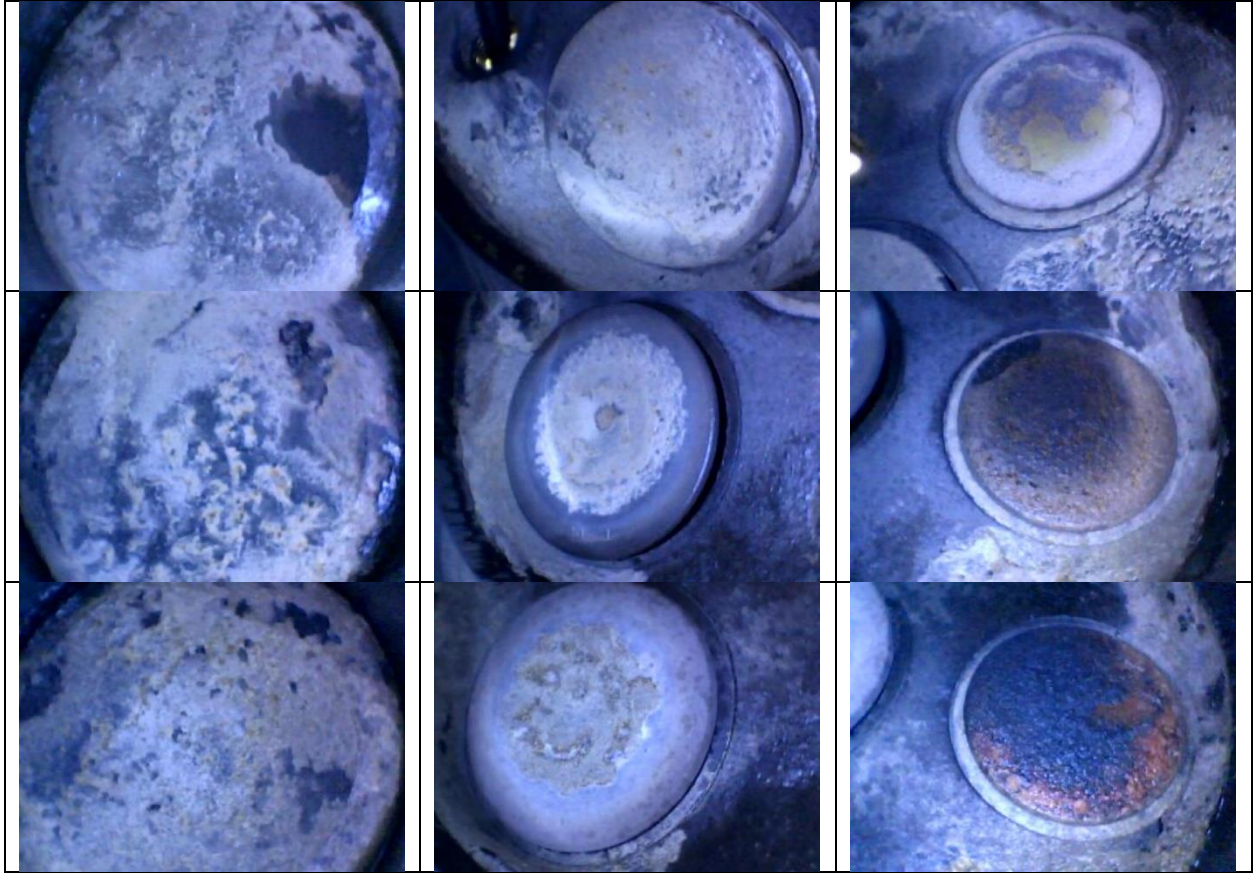


Figure 9-Borescope examination of cylinder Nos. 2, 4, and 6 piston domes and valve heads.

The left magneto had impact damage to its mounting flange and separated from its accessory mount. The right magneto had impact damage to its mounting flange and housing and was partially separated from its accessory mount. The ignition leads had impact damage.

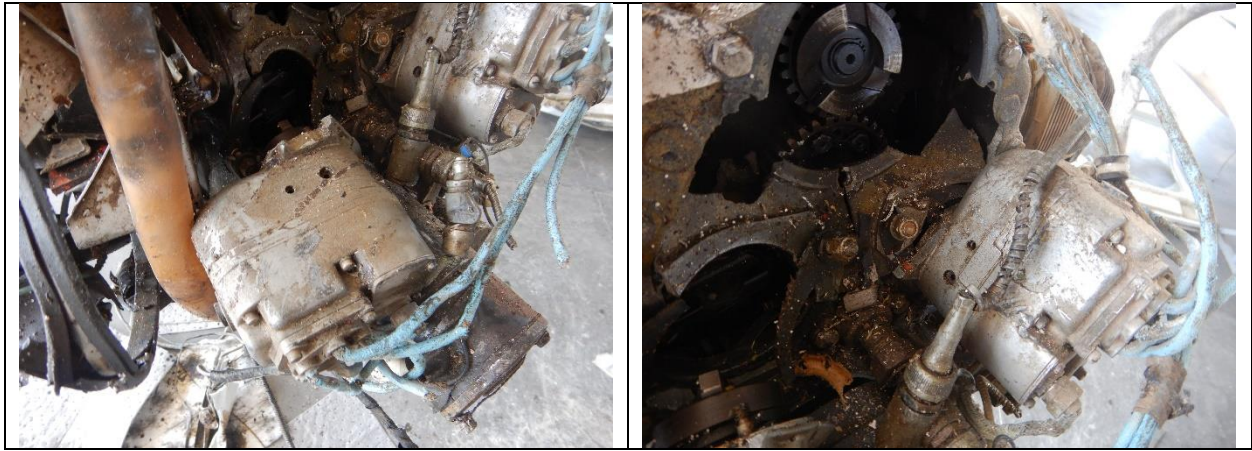


Figure 10-Magnetos.

The magnetos were removed from the engine. The left magneto drive rotated, and spark was obtained from the damaged ignition leads. The right magneto had impact damage to its housing and the drive shaft had resistance when rotated by hand. The magneto was disassembled, and the plastic gear teeth were in contact with the side of the damaged housing. The magneto housing was hammered back, free of the gear, and the magneto was reassembled. The magneto drive rotated, and spark was observed at each of the damaged ignition lead ends.

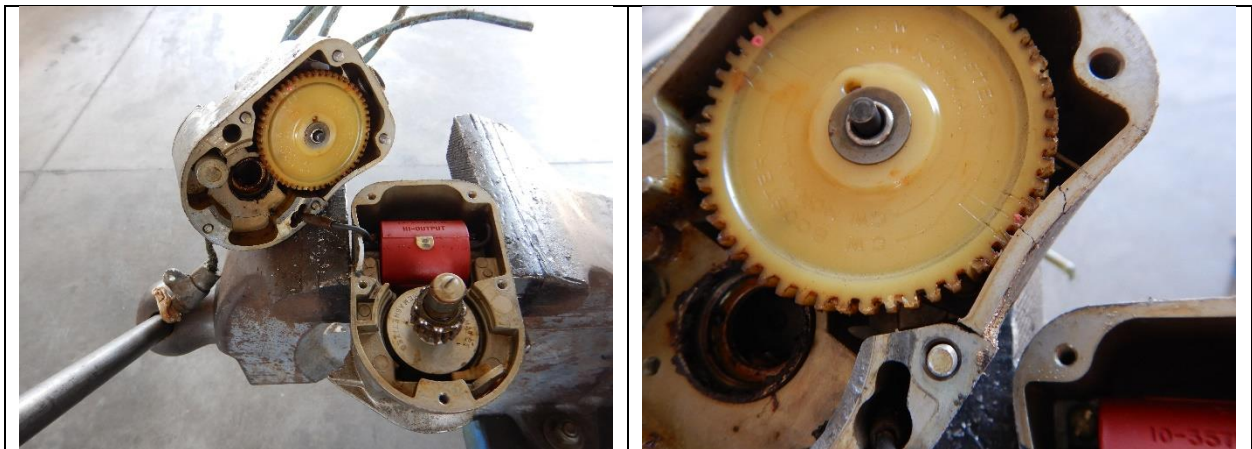


Figure 11-Right magneto disassembly and examination.

The fuel pump was removed from the firewall area and fuel line fittings were tight when removed. The fuel pump was disassembled, and no anomalies were noted.

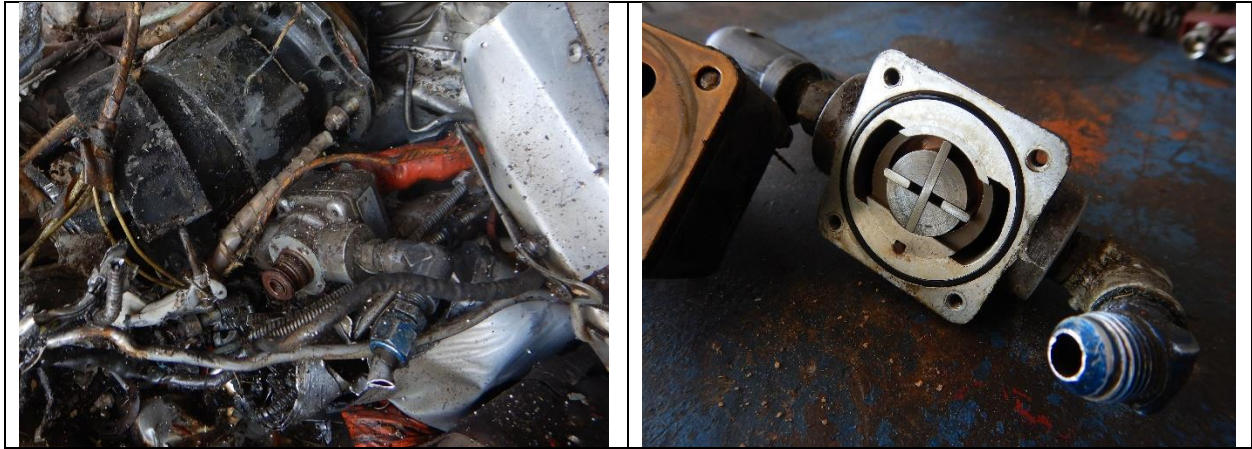


Figure 12-Fuel pump disassembly and examination.

The oil pump gears were visible from the accessory section and no anomalies were noted. The oil filter screen was removed from the accessory section and was clear of debris.



Figure 13-Oil filter housing and screen.

The vacuum pump was removed from the engine and had impact damage to its housing. The vacuum pump drive coupling was damaged.

The starter and generator separated from the accessory section. Both had impact damage to their housings and mounting flanges.

The throttle and mixture cables were cut, and the carburetor was removed from the lower cowl area. The carburetor had impact damage to several of its components and was covered in white corrosion deposits. The fittings attached to the carburetor were tight and secured. The inlet fuel screen was removed and contained a small amount of fibrous material. The carburetor mount fractured and separated from the carburetor. The throttle and mixture linkage remained attached and had impact damage. The throttle linkage moved slightly corresponding with movement from the throttle valve. The mixture linkage had impact damage and had limited movement. The induction air box was partially attached and was crushed.

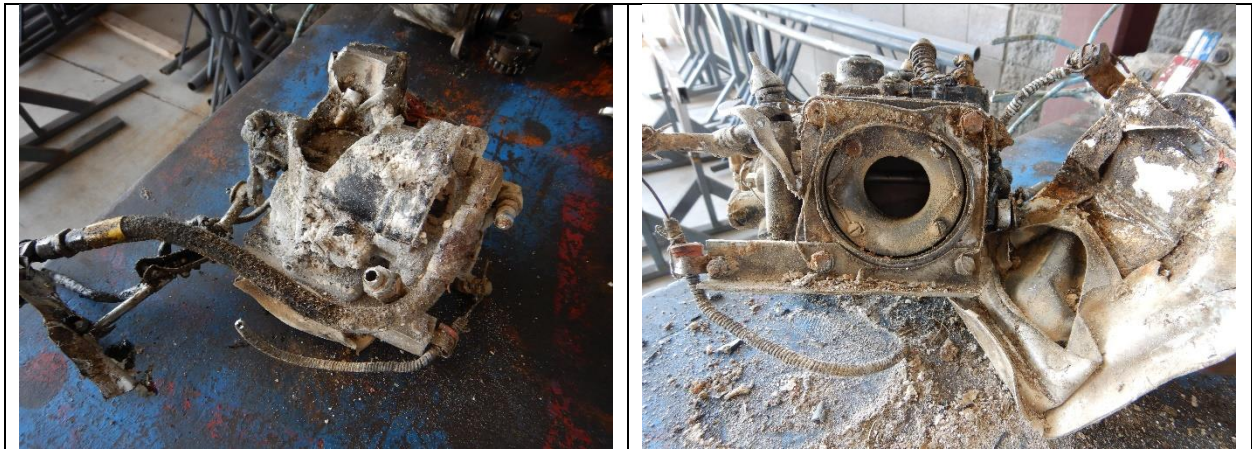


Figure 14-Carburetor.

The propeller hub and pitch change assembly was removed from the engine and had impact damage. The motor's internal gearing was visible and covered in a heavy grease.



Submitted by: Andrew Swick