

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

SUMMARY OF EXAMINATION

-- CEN20LA279 --

A. ACCIDENT

Location: Dalhart, Texas
Date: July 10, 2020
Time: 1455 central daylight time
Aircraft: Air Tractor AT-502B (s/n 502B-0305), N61315

B. PARTICIPANTS

Timothy Sorensen
Aviation Accident Investigator
National Transportation Safety Board
Denver, Colorado

Lee Fisher
Air Safety Investigator
Honeywell Aerospace
South Bend, Indiana

Greg Lafferty
Engineer
Honeywell Aerospace
South Bend, Indiana

C. ACCIDENT SUMMARY

On July 10, 2020, about 1455 central daylight time, an Air Tractor AT-502B airplane, N61315, was substantially damaged when it was involved in an accident near Dalhart, Texas. The pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 137 flight.

Summary of Examination

E. DETAILS OF AIRCRAFT EXAMINATION

The NTSB did not respond to the accident site. The airplane was recovered to George's Aircraft Service in Vernon, Texas, following the accident. The engine was subsequently removed and shipped to R.T. Turbines in Marianna, Arkansas. An engine examination was conducted under oversight of the Federal Aviation Administration -- Flight Standards, Little Rock, Arkansas, on August 4, 2020. The fuel control unit was examined at Honeywell Aerospace, South Bend, Indiana, under supervision of the NTSB on September 29, 2020.

F. SUMMARY OF EXAMINATION¹

Fuel Control Unit – Honeywell 2524440-7-6 (s/n A25034)

The fuel control unit appeared to be intact and undamaged. All safety wire was installed and secure. The ground idle appeared to have been adjusted based on the safety wire installed. All other field adjustments remained undisturbed with the lockwire and seals intact.

The input drive shaft did not rotate. A portion of the sheared adapter coupling remained attached to the drive shaft. The mating portion of the adapter was not shipped with the control unit. The control input arm was free to rotate. All fuel ports were clear. The P_x and P_y ports exhibited an oily residue. The P_y port contained a small piece of black debris. The power lever rotated freely. The power lever stop plate and the P₀ elbow fitting were both identified as non-OEM components.

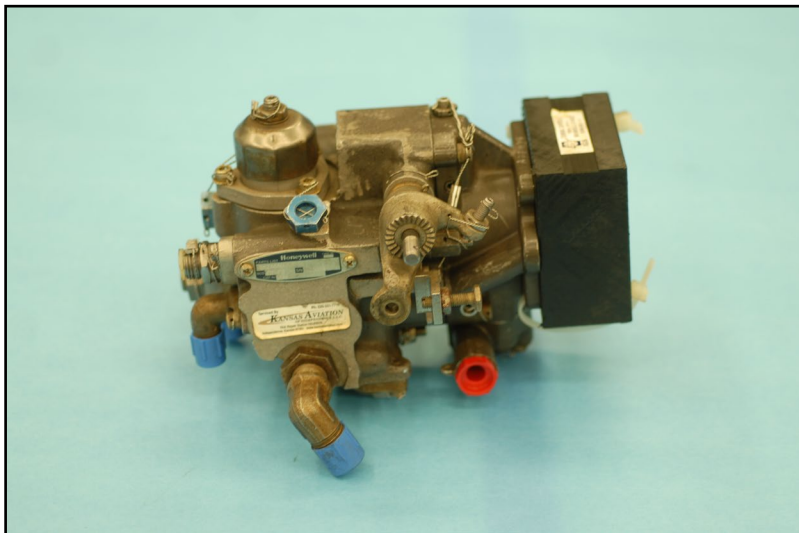


Figure 1 – Fuel Control Unit

¹ Directions related to accident site placement and component damage/deformation are with respect to an intact airframe unless otherwise noted.

Summary of Examination

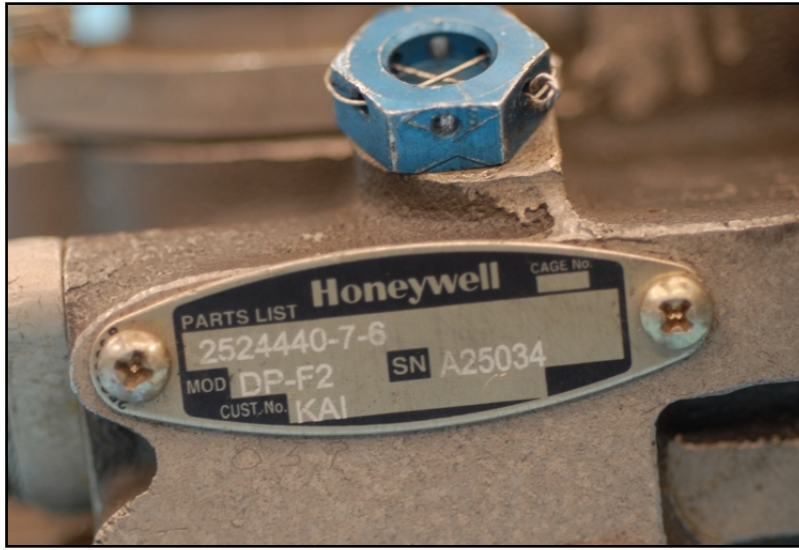


Figure 2 – Data Plate

Partial disassembly of the unit revealed that the spool bearing (installed on the input drive shaft) had seized. Six of the seven ball bearings had been liberated from the bearing assembly and were located within the drive body cavity. The P_x “hat valve” appeared intact. The P_x and P_y springs were intact and appeared undamaged. The cam follower lever rotated normally. The flyweights were free to pivot normally. The top of each flyweight exhibited a contact witness mark. The P_x and P_y levers were both free to pivot normally. The P_y orifice appeared normal.

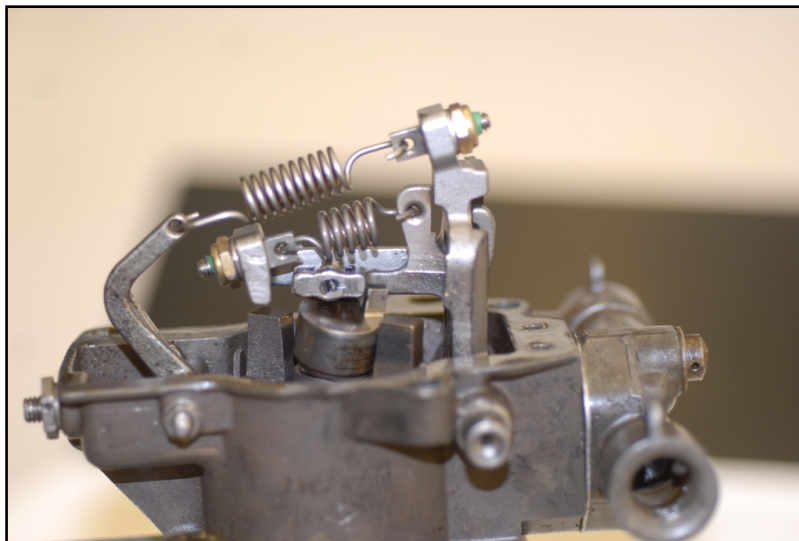


Figure 3 – Drive Body / Spool Bearing Assembly

Summary of Examination

Examination of the spool bearing assembly revealed that the bearing cap was bent and partially separated from the bearing bushing. The inner ring, outer ring, and bearing cage were damaged. The rolling elements (ball bearings) exhibited wear track marks.

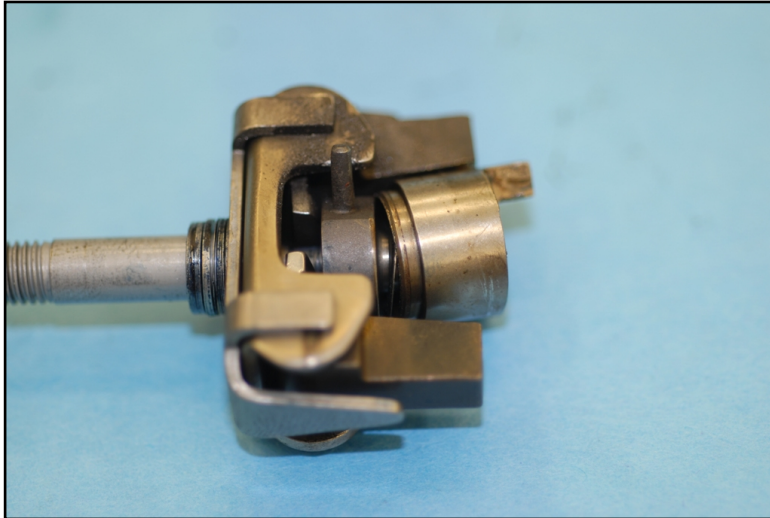


Figure 4 – Spool Bearing Assembly / Drive Shaft



Figure 5 – Spool Bearing Assembly

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