

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA23LA272

ENGINE EXAMINATION

August 23, 2023

A. ACCIDENT

Location: Wellington, Florida
Date: June 20, 2023
Time: 1445 EDT

A: Air Tractor AT802, N3096S

B. ENGINE EXAMINATION

NTSB: Leah D. Read, Sr. ASI
NTSB
Alton Bay, NH

Party Member James Frost
FAA/FSDO
Miramar, Florida

Technical Advisor Brian Lingis
PWC
Port St. Lucie, Florida

SUMMARY

Examination Location: Florida Air Recovery, Fort Pierce, FL

The propeller was visually examined and removed from the engine by a mechanic under the supervision of the NTSB on August 17, 2023. The 5-bladed metal propeller rotated freely, and no mechanical anomalies were noted with the propeller system (prop governor, etc.) or the installation of the propeller prior to removal. No damage (accept for operational nicks to the leading edges) were noted to all five blades.



A cursory engine examination was conducted on August 22, 2023, under the supervision of the NTSB. The side cowlings had been removed prior to NTSB arrival. Visual examination of the engine revealed debris (pine needles and small sticks) jammed in the air intake. According to salvage personnel, the airplane impacted pine trees during the forced landing. Vegetation was also observed in the ram-air intake for the oil cooler. The lower engine cowling and air intake covers were removed to better view the engine air filter and the engine. The sponge-like air filter appeared dark and numerous small (1 to 2-inches long) bird feathers were observed embedded in the filter throughout. However, the feathers did not cover or block the entire air filter and were mainly scattered throughout. A small amount of bird carcass was noted on the bottom right-front of the air filter, and a section of bird wing (@ 9 x 4-inches) was observed on the left-side of the filter. A few larger feathers were also noted on the left side of the filter. The section of wing and one of the larger feathers was collected by the NTSB for further analysis. No feathers or bird remains were observed beyond the air filter or in the oil cooler ram-air inlet. The manual air filter bypass was closed. There was no evidence that the engine ingested any type of bird or debris. The engine inlet screen was absent of debris, and it was removed to observe the compressor section. The compressor rotated freely, and there was no evidence of FOD, or damage to the blades.







Other items examined included:

The fuel control unit (FCU): All engine control linkages were secure and moved freely when controls manipulated in the cockpit. The emergency override lever was safety-tied as to not allow it to be used by the pilot.

P3 filter: The filter was properly safety-tied and removed. Pneumatic lines to the fuel filter were secure. The P3 filter bowl and screen were absent of debris.

PY line: The line was properly secured to the propeller governor.

Oil filter: The filter was properly safety-tied, and the cap was removed. The filter could not be removed from its casing, but a finger rub of the screen revealed oil but not debris.

Fuel Filter: The filter was properly safety-tied and removed. The filter was absent of debris and about a ¼-cup of wheat-colored fuel was observed in the filter bowl. The fuel was absent of water and debris.

Reduction Gear-Box Chip Detector: Was removed and covered in oil. No debris noted.

Accessory Gear-Box Chip Detector: Removed and about 5 quarts of oil drained from the engine. Some debris (possibly carbon deposits) were observed. The detector was placed back in the AGB for further exam at PWC.

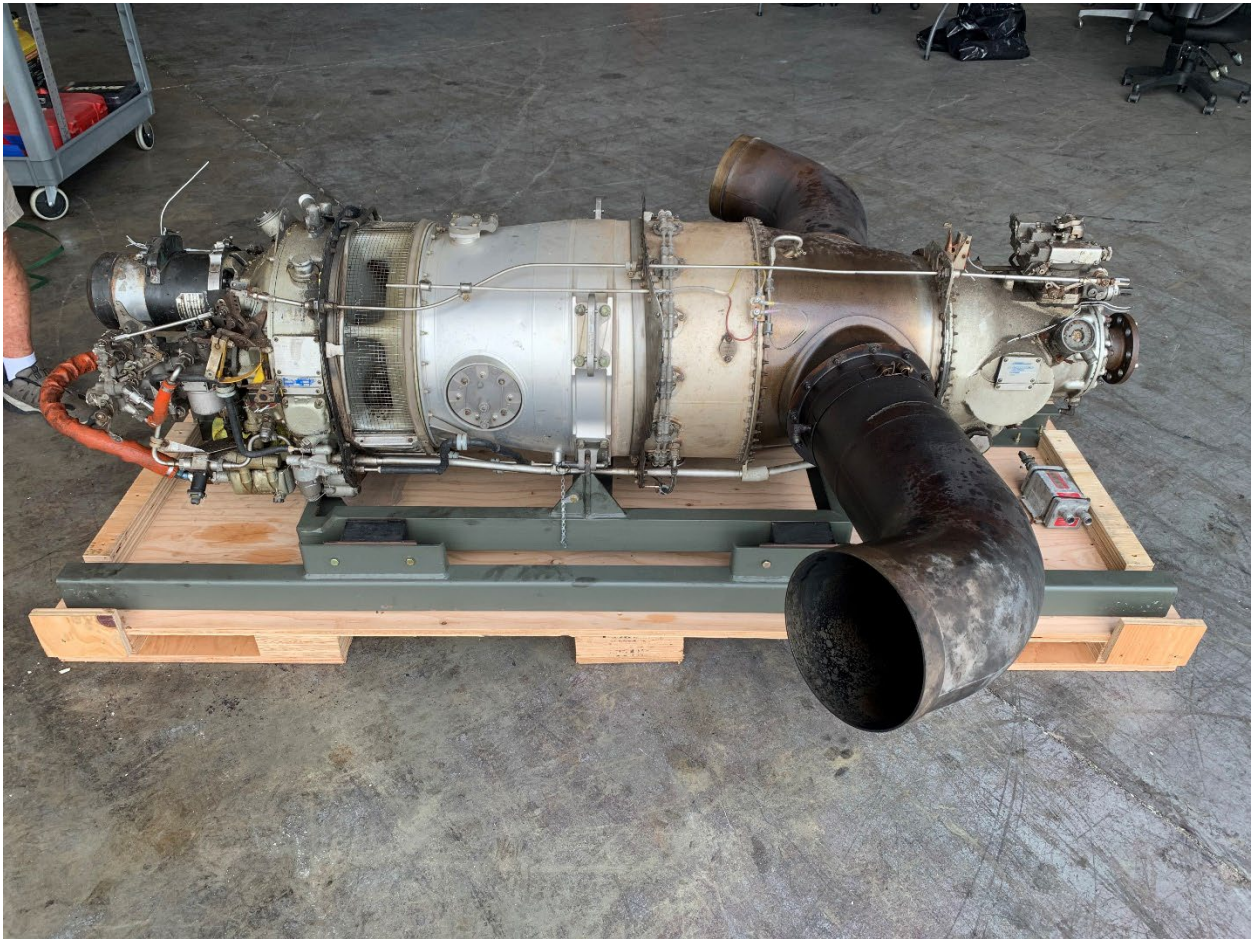


Ignitor Plug: Two were installed on the engine; however, only one was pulled. The plug appeared to show normal wear.

Fuel Oil Heat Exchanger: No anomalies noted.

No blue dye was observed in the fuel pump and no wash-out observed.

The engine was removed from the airframe on August 23, 2023, under the supervision of the NTSB. The engine was placed in a crate that had been shipped to Florida Air Recovery by PWC. The engine will be shipped back to PWC for further examination.



Leah D. Read, Sr. ASI
NTSB - Eastern Region