



MEMORANDUM FOR RECORD

Investigator: Brian C. Rayner
Senior Air Safety Investigator
Eastern Region

Date: July 2, 2019

Subject: Engine Examination

Investigator: Harald Reichel – NTSB Senior Powerplants Investigator

NTSB Accident Number: ERA17LA326 Union City, TN

Narrative:

A Pratt & Whitney Canada (PWC) accident investigator performed a field examination of the accident airplane's engine under the supervision of an FAA aviation safety inspector. The examination revealed catastrophic internal damage, and parts of the compressor turbine wheel with blade fragments were harvested and forwarded to the NTSB Materials Laboratory for examination.

An NTSB Senior Powerplants Investigator reviewed the report prepared by Pratt & Whitney following his field examination of the engine and maintenance records. He concurred with the report and commented on some of its findings.

According to Mr. Reichel:

- 1) The engine had two data plates and had been changed from a PWC PT6A-15AG engine to a PWC PT6A-34 engine under an FAA supplemental type certificate (STC). The engine was an assembled compilation of PWC and aftermarket (Parts Manufacturer Approval – PMA) parts. The PMA parts installed were not authorized for the application.
- 2) The compressor turbine blades were PMA blades and not PWC.
- 3) The compressor turbine vane ring was a repaired part.
- 4) The logbook contained "serious" discrepancies, especially in cycles.
- 5) An incorrectly identified compressor turbine disk. The factory original disk was installed while the logbook indicated another disk was installed. The compressor turbine disk was a time-limited item, and the total hours on the installed disk could not be verified.
- 6) Time since last overhaul was approximately 1,200 hours.