



SUBJ: Turbine Section

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) alerts you, owners, operators, and certified repair facilities of airplanes equipped with **Pratt & Whitney Division (P&W) PW4000 series turbofan engines** with low pressure turbine (LPT) 4th stage vane cluster, part number (P/N) 51A357 installed, to potential structural degradation due to hot corrosion (sulfidation) of the vane internal passages.

At this time, the airworthiness concern is not an unsafe condition that would warrant airworthiness directive action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

Background

We have received reports of LPT 4th stage vane liberations, which have resulted in two engine failures with low-energy case uncontainment events on PW4000-94 model engines. Both failures resulted in safe landings. Investigations revealed sulfidation of the vane internal passages corroding the parent material, weakening the structure and inducing lean back or liberation of vane clusters.

This SAIB provides information on LPT 4th stage vane fractures and lists service information intended to prevent further occurrences of vane weakening and possible engine failure. PW4000 series engine Clean, Inspect, Repair (CIR) Manual, P/N 51A357, Task No. 72-53-24-200-002, dated January 15, 2015 was issued to inspect the LPT 4th stage vane airfoil dimensions using a magnetoscope. This method is indicated because the material degradation occurs largely from the inside of the vane passages. While general borescope inspection is useful to identify sulfidation of the external airfoil surfaces, it is unable to detect deterioration of internal surfaces prior to failure of the part. Magnetoscope inspection allows for the remainder of the unaffected airfoil material to be measured by nondestructive means.

Recommendation

In addition to LPT module level borescope inspection, the FAA recommends that you perform magnetoscope inspection of the LPT 4th stage vanes per the instructions in PW4000 series engine CIR Manual, P/N 51A357, Task No. 72-53-24-200-002, dated January 15, 2015 and remove the degraded parts.

For Further Information Contact

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