

Repair procedure 00CFL-039-0, dated December 27, 2000.

(2) For engines installed on Boeing 747 airplanes, manage the engine configuration installed on the airplanes in your fleet as follows:

(i) By January 31, 2007 and thereafter, ensure that no more than one non-Configuration I engine is installed on the airplane.

(ii) After January 31, 2007, the non-Configuration I engine installed on the airplane must have incorporated the Haynes-material in the HPC inner case rear hook during the original build or during an HPC overhaul in accordance with SB PW4ENG 72-714, dated June 27, 2000, or Revision 1, dated November 8, 2001, or Revision 2, dated February 28, 2003; or SB PW4ENG 72-749, dated June 17, 2002, or Revision 1, dated January 8, 2003; or Chromalloy Florida Repair procedure 00CFL-039-0, dated December 27, 2000.

(3) Prior to June 30, 2009 or whenever the HPC module is disassembled to a level that fully separates the HPC rear case assembly at H flange from the HPC module, whichever occurs first, incorporate the RCC rear HPC in accordance with PW SB PW4ENG 72-755, Revision 2, dated May 23, 2003. Engines incorporating the RCC rear HPC are Configuration I engines. See paragraph (v)(7) for definition of HPC rear case assembly.

(4) Incorporation of the RCC rear HPC constitutes terminating action to the Testing-21 requirements as specified in paragraph (o) of this AD, and engine stagger limit requirements as specified in paragraphs (c), (d), and (e) of this AD for engines installed on Boeing airplanes.

**Note 2:** Terminating action to this AD for engines installed on Airbus and McDonnell Douglas airplanes is pending RCC rear HPC certification to 14 CFR part 25. Once approved, this AD will be superseded to add terminating action requirements for the Airbus and McDonnell Douglas fleets.

#### Definitions

(v) For the purposes of this AD, the following definitions apply:

(1) An HPC overhaul is defined as restoration of the HPC stages 5 through 15 blade tip clearances to the limits specified in the applicable fits and clearances section of the engine manual.

(2) An HPC overhaul period is defined as the time period between HPC overhauls.

(3) An HPT overhaul is defined as restoration of the HPT stage 1 and 2 blade tip clearances to the limits specified in the applicable fits and clearances section of the engine manual.

(4) A Phase 3 engine is identified by a (-3) suffix after the engine model number on the data plate if incorporated at original manufacture, or a "CN" suffix after the engine serial number if the engine was converted using PW SBs PW4ENG 72-490, PW4ENG 72-504, or PW4ENG 72-572 after original manufacture.

(5) A Group 3 takeoff surge is defined as the occurrence of any of the following engine symptoms that usually occur in combination during an attempted airplane takeoff operation (either at reduced, derated or full rated takeoff power setting) after takeoff power set, which can be attributed to no specific and correctable fault condition after completing airplane-level surge during forward thrust troubleshooting procedures:

(i) Engine noises, including rumblings and loud "bang(s)."

(ii) Unstable engine parameters (EPR, N1, N2, and fuel flow) at a fixed thrust setting.

(iii) Exhaust gas temperature (EGT) increase.

(iv) Flames from the inlet, the exhaust, or both.

(6) Takeoff EPR data is defined as Maximum Takeoff EPR if takeoff with Takeoff-Go-Around (TOGA) is selected or Flex Takeoff EPR if takeoff with Flex Takeoff (FLXTO) is selected. Maximum Takeoff EPR or Flex Takeoff EPR may be recorded using any of the following methods:

(i) Manually recorded by the flight crew read from the Takeoff EPR power management table during flight preparation (see Aircraft Flight Manual (AFM) chapter 5.02.00 and 6.02.01, or Flight Crew Operation Manual (FCOM) chapter 2.09.20) and then adjusted by adding 0.010 to the EPR value recorded; or

(ii) Automatically recorded during Takeoff at 0.18 Mach Number (Mn) (between 0.15 and 0.20 Mn is acceptable) using an aircraft automatic data recording system and then adjusted by subtracting 0.010 from the EPR value recorded; or

(iii) Automatically recorded during takeoff at maximum EGT, which typically occurs at 0.25-0.30 Mn, using an aircraft automatic data recording system.

(7) HPC rear case assembly is defined as the HPC rear case with heat shields and other minor detail parts installed within the HPC

rear case, but not including the HPC rear segmented stators.

#### Alternative Methods of Compliance

(w) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office (ECO). Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

**Note 3:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the ECO.

#### Special Flight Permits and Testing-21 Reports

(x) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be done. Within 60 days of test date, report the results of the cool-engine fuel spike stability assessment tests (Testing-21) and on-wing Testing-21 to the ANE-142 Branch Manager, Engine Certification Office, 12 New England Executive Park, Burlington, MA 01803-5299, or by electronic mail to [9-ane-surge-ad-reporting@faa.gov](mailto:9-ane-surge-ad-reporting@faa.gov). Reporting requirements have been approved by the Office of Management and Budget and assigned OMB control number 2120-0056. Be sure to include the following information:

(1) Engine serial number.

(2) Engine configuration designation per Table 1 of this AD.

(3) Date of the cool-engine fuel spike stability test or on-wing Testing-21, as applicable.

(4) HPC Serial Number, and HPC time and cycles-since-new and since-compressor-overhaul at the time of the test.

(5) Results of the test (Pass or Fail).

#### Documents That Have Been Incorporated By Reference

(y) The actions must be done in accordance with the following Pratt and Whitney (PW) service bulletin (SB), Internal Engineering Notice (IEN), Temporary Revisions, (TR's), Clean, Inspection, and Repair Manual (CIR) repair procedures, engine manual (EM) sections, and Chromalloy Florida Repair Procedure:

Document No.	Pages	Revision	Date
PW SB PW4ENG72-714 .....	1-2 .....	1 .....	Nov. 8, 2001.
	3 .....	Original .....	Jun. 27, 2000.
	4 .....	1 .....	Nov. 8, 2001.
	5-12 .....	Original .....	Jun. 27, 2000.
Total pages: 12			
PW SB PW4ENG72-714 .....	All .....	2 .....	Feb. 28, 2003.
Total pages: 14			
PW SB PW4ENG72-749 .....	All .....	Original .....	Jun. 17, 2002.
Total pages: 14			
PW SB PW4ENG72-749 .....	1 .....	1 .....	Jan. 8, 2003.
	2-4 .....	Original .....	Jun. 17, 2002.
	5-7 .....	1 .....	Jan. 8, 2003.
	8 .....	Original .....	Jun. 17, 2002.
	9-10 .....	1 .....	Jan. 8, 2003.