



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-9405; Directorate Identifier 2016-NE-22-AD]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Division Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Pratt & Whitney Division (PW) PW2037, PW2037M, and PW2040 turbofan engines. This proposed AD was prompted by an unrecoverable engine in-flight shutdown (IFSD) after an ice crystal icing event. This proposed AD would require installing a software standard eligible for installation and preclude the use of electronic engine control (EEC) software standards earlier than SCN 5B/I. We are proposing this AD to correct the unsafe condition on these products.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Pratt & Whitney Division, 400 Main St., East Hartford, CT 06118; phone: 800-565-0140; fax: 860-565-5442. You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9405; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Kevin Clark, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7088; fax: 781-238-7199; email: kevin.m.clark@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this NPRM. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-9405; Directorate Identifier 2016-NE-22-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all

comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this NPRM.

Discussion

We propose to adopt an AD for certain PW PW2037, PW2037M, and PW2040 turbofan engines with EEC, model number EEC104-40 or EEC104-60, installed with an EEC software standard earlier than SCN 5B/I. This proposed AD was prompted by a report of an unrecoverable engine IFSD after an ice crystal icing event. The root cause of the event is ice crystal icing causing the engine to flameout. An attempt to restart the engine was made while the active clearance control was on, which caused damage to the HPT and rotor seizure. This condition, if not corrected, could result in failure of the HPT, rotor seizure, failure of one or more engines, loss of thrust control, and loss of the airplane.

Related Service Information under 1 CFR part 51

We reviewed PW Alert Service Bulletin (ASB) PW2000 A73-170, dated July 14, 2016. The ASB describes procedures for modifying or replacing the EEC. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

We are proposing this NPRM because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require modifying or replacing the EEC.

Differences Between this Proposed AD and the Service Information

PW ASB PW2000 A73-170, dated July 14, 2016, specifies compliance for any engine flown, or expected to be flown, in the Asian Pacific latitudes and longitudes, while this proposed AD specifically lists the serial numbers (S/Ns) of certain affected engines. Also, PW ASB PW2000 A73-170, dated July 14, 2016, provides until 2026 to comply, while this proposed AD provides until July 2024 to comply.

Costs of Compliance

We estimate that this NPRM affects 713 engines, installed on airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
EEC software installation	1.8 work-hours X \$85 per hour = \$153.00	0.00	\$153.00	\$109,089.00

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds

necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Pratt & Whitney Division: Docket No. FAA-2016-9405; Directorate Identifier 2016-NE-22-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Pratt & Whitney Division (PW) PW2037, PW2037M, and PW2040 turbofan engines with electronic engine control (EEC), model number EEC104-40 or EEC104-60, installed, with an EEC software standard earlier than SCN 5B/I.

(d) Subject

Joint Aircraft System Component (JASC) of America Code 7321, Fuel Control Turbine Engines.

(e) Unsafe Condition

This AD was prompted by unrecoverable engine in-flight shutdown (IFSD) after an ice crystal icing event. We are issuing this AD to prevent failure of the high-pressure turbine (HPT), rotor seizure, failure of one or more engines, loss of thrust control, and loss of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Action

Remove EEC software standards earlier than SCN 5B/I and install EEC software eligible for installation as follows:

(1) For engines with serial numbers listed in Figure 1, remove the software at next shop visit, or prior to December 2018, whichever occurs first.

(2) For engines with serial numbers not listed in Figure 1, remove the software at next shop visit, or prior to July 2024, whichever occurs first.

Figure 1 to paragraph (g) – Engine S/Ns

716402	727272	728741
727103	727280	728743
727134	727281	728748
727152	727282	728779
727158	727286	728785
727189	727287	728795
727202	727288	728806
727204	728709	728811
727231	728715	728812
727239	728716	728820
727240	728719	728824
727251	728720	728826
727252	728725	728827
727253	728726	728840
727257	728729	728864
727269	728730	728870

(h) Installation Prohibition

After the effective date of this AD, do not install any software standard earlier than SCN 5B/I into any EEC.

(i) Definition

For the purpose of this AD, an “engine shop visit” is the induction of an engine into the shop for maintenance involving the separation of any major mating flange, except that the separation of engine flanges solely for the purposes of transportation without subsequent maintenance does not constitute an engine shop visit.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

(1) For more information about this AD, contact Kevin Clark, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7088; fax: 781-238-7199; email: kevin.m.clark@faa.gov.

(2) PW Alert Service Bulletin PW2000 A73-170, dated July 14, 2016, can be obtained from PW using the contact information in paragraph (k)(3) of this AD.

(3) For service information identified in this AD, contact Pratt & Whitney Division, 400 Main St., East Hartford, CT 06118; phone: 800-565-0140; fax: 860-565-5442.

(4) You may view this referenced service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on December 28, 2016.

Colleen M. D'Alessandro,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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