[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0916; Product Identifier 2018-NE-33-AD]

RIN 2120-AA64

Airworthiness Directives; BRP-Rotax GmbH & Co KG 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 BRP-Rotax GmbH & Co KG (Rotax) 912 and 914 model engines. This proposed AD was prompted by power loss and engine revolutions per minute (RPM) drop on Rotax 912 and 914 model engines due to a quality control deficiency in the manufacturing process of certain valve push-rod assemblies resulting in partial wear on the rocker arm ball socket and possible malfunction of the valve. This proposed AD would require a one-time inspection and, depending on the findings, replacement of the affected parts with parts eligible for installation. We are proposing this AD to address 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 BRP-Rotax GmbH & Co KG, Rotaxstrasse 1, A-4623 Gunskirchen, Austria; phone: +43 7246 601 0; fax: +43 7246 601 9130; email: airworthiness@brp.com; internet: www.flyrotax.com. You may view this service information at the FAA, Engine & Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

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-2018-0916; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), the regulatory evaluation, any comments received, and other information. The street address for Docket Operations (phone: 800-647-5527) is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Wego Wang, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7134; fax: 781-238-7199; email: wego.wang@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section.

Include "Docket No. FAA-2018-0916; Product Identifier 2018-NE-33-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

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2017-0208, dated October 13, 2017 (referred to after this as "the MCAI"), to address the unsafe condition on these products. The MCAI states:

> Power loss and engine RPM drop have been reported on Rotax 912/914 engines in service. It has been determined that, due to a quality control deficiency in the manufacturing process of certain valve push-rod assemblies, manufactured between 08 June 2016 and 02 October 2017 inclusive, partial wear on the rocker arm ball socket may occur, which may lead to malfunction of the valve train.
>
> This condition, if not detected and corrected, may lead to rough engine operation and loss of power, possibly resulting in a forced landing, with consequent damage to the aeroplane and injury to occupants.

> To address this potential unsafe condition, BRP-Rotax issued Service Bulletin (SB) SB-912 i-008 / SB-912-070 / SB-914-052 (single document), providing applicable instructions.
>
> For the reason described above, this [EASA] AD requires a one-time inspection and, depending on findings, replacement of affected parts. This [EASA] AD also prohibits installation of affected parts on an engine.

You may obtain further information by examining the MCAI in the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2018-0916.

Related Service Information under 1 CFR Part 51

We reviewed Rotax Service Bulletin (SB) SB-912 i-008 R1/SB-912-070 R1/SB-914-052 R1 (single document), Revision 1, dated October 12, 2017. The SB describes procedures for inspection and replacement of the valve push-rod assembly and the left and right rocker arms. 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

This product has been approved by EASA, and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all the relevant information provided by EASA 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 a one-time inspection and, depending on the findings, replacement of the affected parts with parts eligible for installation.

Costs of Compliance

We estimate that this proposed AD affects 150 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
Inspect the push-rod rocker arm ball sockets	1 work-hour X $85 per hour = $85	$0	$85	$12,750

We estimate the following costs to do any necessary replacements that would be required based on the results of the proposed inspection. We estimate that 50 engines will need this replacement.

On-condition costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replace the valve push-rod assembly and rocker arm ball sockets	0.5 work-hours X $85 per hour = $42.50	$3,000	$3,042.50	$152,125

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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

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):

BRP-Rotax GmbH & Co KG (formerly BRP-Powertrain GmbH & Co KG; Bombardier-Rotax GmbH & Co KG; Bombardier-Rotax GmbH): Docket No. FAA-2018-0916; Product Identifier 2018-NE-33-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:

(1) BRP-Rotax GmbH & Co KG (Rotax) 912 F2, 912 F3, and 912 F4 engines, with serial number (S/N) 4 413 066 to 4 413 067, inclusive; and S/N 4 413 101 to 4 413 111, inclusive;

(2) Rotax 912 S2, 912 S3, and 912 S4 engines, with S/Ns 9 563 826 to 9 563 849, inclusive; S/Ns 9 564 301 to 9 564 508, inclusive; and S/N 9 564 510 to 9 564 534, inclusive;

(3) Rotax 914 F2, 914 F3, and 914 F4 engines, with S/Ns 4 421 581 to 4 421 597, inclusive; and S/N 4 421 701 to 4 421 833, inclusive; and

(4) Rotax 912 F2, 912 F3, 912 F4, 912 S2, 912 S3, 912 S4, 914 F2, 914 F3, and 914 F4 engines (all S/Ns) on which a valve push-rod assembly has been replaced between June 8, 2016 and the effective date of this AD.

(d) Subject Condition

Joint Aircraft System Component (JASC) Code 8530, Reciprocating Engine Cylinder Section.

(e) Unsafe Condition

This AD was prompted by power loss and engine revolutions per minute drop on Rotax 912 and 914 model engines due to a quality control deficiency in the manufacturing process of certain valve push-rod assemblies resulting in partial wear on the rocker arm ball socket and possible malfunction of the valve. We are issuing this AD to prevent failure of the valve push-rod assembly and the left and right rocker arms. The unsafe condition, if not addressed, could result in loss of engine thrust control and reduced control of the airplane.

(f) Compliance

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

(g) Required Actions

(1) Visually inspect the push-rod ball sockets of each valve push-rod assembly in accordance with paragraph 3.1.2. of BRP-Rotax Service Bulletin (SB) SB-912 i-008 R1/ SB-912-070 R1/ SB-914-052 R1 (single document), Revision 1, dated October 12, 2017, and within the following compliance times.

(i) For engines with 160 engine flight hours (FHs) or fewer since new, inspect before exceeding 170 FHs since new, or within three months after the effective date of this AD, whichever occurs first.

(ii) For engines with greater than 160 engine FHs since new, inspect within 10 FHs, or three months after the effective date of this AD, whichever occurs first.

(2) If the inspection required by paragraph (g)(1) of this AD finds a black surface color on a valve push-rod assembly, part number (P/N) 854861, then before further flight, remove the valve push-rod assembly and the left and right rocker arm ball sockets, P/Ns 854383 and 854393, from service, and replace with parts eligible for installation.

(h) Installation Prohibition

After the effective date of this AD, do not install a valve push-rod assembly, P/N 854861, that was manufactured between June 8, 2016, and October 2, 2017, on any engine, or that exhibits a black surface color on the push-rod rocker arm ball sockets.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ECO Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD. 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.

(j) Related Information

(1) For more information about this AD, contact Wego Wang, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7134; fax: 781-238-7199; email: wego.wang@faa.gov.

(2) Refer to European Aviation Safety Agency AD 2017-0208, dated October 13, 2017, for more information. You may examine the EASA AD in the AD docket on the Internet at http://www.regulations.gov by searching for and locating it in Docket No. FAA-2018-0916.

(3) For service information identified in this AD, contact BRP-Rotax GmbH & Co KG, Rotaxstrasse 1, A-4623 Gunskirchen, Austria; phone: +43 7246 601 0; fax: +43 7246 601 9130; email: airworthiness@brp.com; internet: www.flyrotax.com. You may view this referenced service information at the FAA, Engine & Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Issued in Burlington, Massachusetts, on October 30, 2018.

Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.
[FR Doc. 2018-24044 Filed: 11/5/2018 8:45 am; Publication Date: 11/6/2018]