



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-1809; Project Identifier MCAI-2023-00945-E; Amendment 39-22539; AD 2023-17-13]

RIN 2120-AA64

Airworthiness Directives; BRP-Rotax GmbH & Co KG (formerly BRP-POWERTRAIN GMBH & CO KG and Bombardier-Rotax GmbH) Engines and Various Aircraft

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all BRP-Rotax GmbH & Co KG (Rotax) Model 912 F2, 912 F3, 912 F4, 912 iSc2 Sport, 912 iSc3 Sport, 912 S2, 912 S3, 912 S4, 914 F2, 914 F3, and 914 F4 engines; and Model 912 A, 912 A2, and 912 A3 engines included as part of the type certificated aircraft type design for various aircraft. This AD was prompted by a report of surface abnormalities on the affected propeller shaft, which could lead to increased wear of the propeller shaft bearings. This AD requires initial and repetitive inspections of the magnetic plug for the accumulation of metal chips to assess the condition of the propeller gearbox for wear of the propeller shaft bearings and removal of the affected propeller shaft from service and replacement with a part eligible for installation as a terminating action either immediately or at a certain time depending on inspection findings. This AD also prohibits installation of the affected propeller shaft on any engine. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The FAA must receive comments on this 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 [regulations.gov](https://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.

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-1809; 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 final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

- For service information identified in this final rule, contact BRP-Rotax GmbH & Co KG, Rotaxstrasse 1, A-4623 Gunskirchen, Austria; phone: +43 7246 601 0; website: [flyrotax.com](https://www.flyrotax.com).

- You may view this service information at the FAA Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-1809.

FOR FURTHER INFORMATION CONTACT: Barbara Caufield, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (781) 238-7146; email: barbara.caufield@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2023-1809; Project Identifier MCAI-2023-00945-E” at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this AD. Submissions containing CBI should be sent to Barbara Caufield, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Emergency

AD 2023-0156-E, dated August 2, 2023 (referred to after this as the MCAI), to address an unsafe condition on Rotax 912 A, 912 F, 912 S and 912 iSc Sport (series) engines, all models, all serial numbers; and Rotax 914 F (series) engines, all models, all serial numbers. The MCAI states that the manufacturer reported an occurrence of surface abnormalities on certain propeller shafts. Further investigation by the manufacturer revealed that this abnormality was caused by a deviation in the machining process. The manufacturer determined on which engines the affected propeller shafts were initially installed and that several of the affected propeller shafts were delivered as spare parts. The manufacturer published service information that identifies the affected propeller shafts and specifies instructions for inspection and replacement of the propeller shaft. This condition, if not addressed, could lead to increased wear of the propeller shaft bearings, which could lead to failure of the propeller shaft bearings, propeller shaft, and engine. This could result in engine in-flight shutdown, and (for a single-engine airplane) consequent emergency landing or loss of control of the airplane.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-1809.

Related Service Information under 1 CFR Part 51

The FAA reviewed Rotax Service Bulletin (SB) SB-912-078/SB-914-059/SB-912 i-014, dated July 25, 2023 (published as a single document). This service information identifies the serial numbers of the affected engines and spare parts and specifies procedures for inspecting the magnetic plug and replacing the propeller shaft with a part eligible for installation.

The FAA also reviewed Rotax SB SB-912-078UL/SB-914-059UL/SB-912 i-014iS, dated July 25, 2023 (published as a single document). This service information identifies the serial numbers of the affected engines and spare parts.

These documents are distinct since they apply to different engine models. 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 ADDRESSES.

FAA's Determination

These products have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI and service information referenced above. The FAA is issuing this AD after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

AD Requirements

This AD requires initial and repetitive inspections of the magnetic plug for the accumulation of metal chips to assess the condition of the propeller gearbox for wear of the propeller shaft bearings and removal of the affected propeller shaft from service and replacing it with a part eligible for installation as a terminating action either immediately or at a certain time depending on inspection findings. This AD also prohibits the installation of the affected propeller shaft on any engine.

Differences Between this AD and the MCAI

The MCAI applies to all Rotax 912 A, 912 F, 912 S and 912 iSc Sport (series) engines, all models, all serial numbers; and Rotax 914 F (series) engines, all models, all serial numbers. Rotax Model 912 A, 912 A2, and 912 A3 engines are not type certificated in the United States but are part of the type design for certain aircraft. This AD applies to all Rotax Model 912 F2, 912 F3, 912 F4, 912 iSc2 Sport, 912 iSc3 Sport, 912 S2, 912 S3, 912 S4, 914 F2, 914 F3, and 914 F4 engines; and Model 912 A, 912 A2, and 912 A3 engines included as part of the type design for Aeromot-Indústria Mecânico-Metalúrgica Ltda Model AMT-200 (Super Ximango); Diamond Aircraft Industries Model HK 36 R "SUPER DIMONA"; Diamond Aircraft Industries GmbH Models HK 36 TC and HK 36 TS; Diamond Aircraft Industries Inc. Model DA20-A1; HOAC-Austria Model DV 20 KATANA; Magnaghi Aeronautica S.p.A Model Sky Arrow 650 TC; and SCHEIBE-Flugzeugbau GmbH Model SF 25C aircraft, as applicable.

Justification for Immediate Adoption and Determination of the Effective Date

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when

the agency, for “good cause,” finds that those procedures are “impracticable, unnecessary, or contrary to the public interest.” Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies forgoing notice and comment prior to adoption of this rule because the presence of material anomalies on the propeller shaft could lead to wear of the propeller shaft bearings, which could lead to failure of the propeller shaft bearings, propeller shaft, and engine, which could result in engine in-flight shutdown, and (for a single-engine airplane) consequent emergency landing or loss of control of the airplane. Since this condition happens rapidly and without warning, the initial inspection must be done before further flight with repetitive inspections done every 10 flight hours (FHs) with terminating replacement before further flight if wear of the propeller shaft bearings is found or 50 FHs if no wear is found. These compliance times are shorter than the time necessary for the public to comment and for publication of the final rule.

Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b)(3)(B).

In addition, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forgo notice and comment.

Regulatory Flexibility Act

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because the FAA has determined that it has good cause to adopt this rule without prior notice and comment, RFA analysis is not required.

Costs of Compliance

The FAA estimates that this AD affects 287 engines installed on aircraft of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Inspection	1 work-hour x \$85 per hour = \$85	\$0	\$85	\$24,395
Replace propeller shaft	3 work-hours x \$85 per hour = \$255	\$1,437	\$1,692	\$485,604

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.

The FAA is 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

This AD will not have federalism implications under Executive Order 13132. This AD will 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 that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866, and
- (2) Will not affect intrastate aviation in Alaska.

List of Subjects in 14 CFR Part 39

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

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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:

2023-17-13 BRP-Rotax GmbH & Co KG (formerly BRP-POWERTRAIN GMBH & CO KG and Bombardier-Rotax GmbH) and Various Aircraft: Amendment 39-22539; Docket No. FAA-2023-1809; Project Identifier MCAI-2023-00945-E.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to BRP-Rotax GmbH & Co KG (formerly BRP-POWERTRAIN GMBH & CO KG and Bombardier-Rotax GmbH) (Rotax) Model 912 F2, 912 F3, 912 F4, 912 iSc2 Sport, 912 iSc3 Sport, 912 S2, 912 S3, 912 S4, 914 F2, 914 F3, and 914 F4 engines; and Model 912 A, 912 A2, and 912 A3 engines installed on the aircraft identified in Table 1 to paragraph (c) of this AD that were included as part of the aircraft’s type certification basis; with a propeller shaft having part number (P/N) 937047 and meeting at least one of the criteria of paragraphs (c)(1) or (2) of this AD.

Table 1 to paragraph (c) – Airplanes with Affected Engines

Type Certificate Holder	Aircraft Model	Engine Model
Aeromot-Industria Mecanico-Metalurgica Ltda.	AMT-200 (Super Ximango)	912 A2
Diamond Aircraft Industries	HK 36 R “SUPER DIMONA”	912 A
Diamond Aircraft Industries GmbH	HK 36 TC & HK 36 TS	912 A3
Diamond Aircraft Industries Inc.	DA20-A1	912 A3
HOAC-Austria	DV 20 KATANA	912 A3
Magnaghi Aeronautica S.p.A.	Sky Arrow 650 TC	912 A2
SCHEIBE-AIRCRAFT-GMBH	SF 25C	912 A2 or 912 A3

(1) Installed initially (on delivery) on engines having a serial number identified in paragraph 1.1) Applicability, Criterion A) Engine Serial number, of Rotax Service Bulletin (SB) SB-912-078/SB-914-059/SB-912 i-014, dated July 25, 2023 (published as a single document) (Rotax SB SB-912-078/SB-914-059/SB-912 i-014); or paragraph 1.1) Applicability, Criterion A) Engine Serial number, of Rotax SB SB-912-078UL/SB-914-059UL/SB-912 i-014iS, dated July 25, 2023 (published as a single document) (SB-912-078UL/SB-914-059UL/SB-912 i-014iS); or

(2) Delivered as a spare part and having a serial number identified in paragraph 1.1) Applicability, Criterion B) Spare parts, of Rotax SB SB-912-078/SB-914-059/SB-912 i-014; or paragraph 1.1) Applicability, Criterion B) Spare parts, of Rotax SB SB-912-078UL/SB-914-059UL/SB-912 i-014iS.

(d) Subject

Joint Aircraft System Component (JASC) Code 8510, Reciprocating Engine Front Section.

(e) Unsafe Condition

This AD was prompted by a report of surface abnormalities on the affected propeller shaft, which could lead to increased wear of the propeller shaft bearings. The FAA is issuing this AD to prevent failure of the propeller shaft bearings. The unsafe condition, if not addressed, could result in failure of the propeller shaft, failure of the

engine, engine in-flight shutdown, and (for a single-engine airplane) consequent emergency landing of the airplane or loss of control of the airplane.

(f) Compliance

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

(g) Required Actions

(1) Before further flight after the effective date of this AD and thereafter at intervals not to exceed 10 flight hours (FHs), inspect the magnetic plug on the crankcase for the accumulation of metal chips. If the accumulation of metal chips is 3mm or greater, before further flight, remove the affected propeller shaft from service and replace with a part eligible for installation.

(2) Before exceeding 50 FHs since engine first operation or since first installation of the affected propeller shaft on an engine, as applicable; or within 10 days after the effective date of this AD, whichever occurs later; remove the affected propeller shaft from service and replace with a part eligible for installation.

(3) Replacement of the affected propeller shaft with a part eligible for installation constitutes terminating action for any inspection required by paragraph (g)(1) of this AD.

(h) Installation Prohibition

After the effective date of this AD, do not install a propeller shaft having P/N 937047 on any engine.

(i) No Return of Parts

Where Rotax SB SB-912-078/SB-914-059/SB-912 i-014 specifies returning certain parts to the manufacturer, this AD does not include that requirement.

(j) Definition

For the purpose of this AD, a “part eligible for installation” is any propeller shaft that does not have P/N 937047.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation 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 International Validation Branch, send it to the attention of the person identified in paragraph (1)(2) of this AD and email 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.

(l) Additional Information

(1) Refer to European Union Aviation Safety Agency (EASA) Emergency AD 2023-0156-E, dated August 2, 2023, for related information. This EASA Emergency AD may be found in the AD docket at regulations.gov under Docket No. FAA-2023-1809.

(2) For more information about this AD, contact Barbara Caufield, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (781) 238-7146; email: barbara.caufield@faa.gov.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) BRP-Rotax GmbH & Co KG Service Bulletin SB-912-078/SB-914-059/SB-912 i-014, dated July 25, 2023 (published as a single document).

(ii) BRP-Rotax GmbH & Co KG Service Bulletin SB-912-078UL/SB-914-059UL/SB-912 i-014iS, dated July 25, 2023 (published as a single document).

(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; website: flyrotax.com.

(4) You may view this service information at the FAA Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on August 25, 2023.

Victor Wicklund, Deputy Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2023-19162 Filed: 8/31/2023 4:15 pm; Publication Date: 9/5/2023]