

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2002-NE-33-AD; Amendment 39-12923; AD 2002-21-16]

RIN 2120-AA64

Airworthiness Directives; Bombardier-Rotax GmbH Type 912 F, 912 S and 914 F Series Reciprocating Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to Bombardier-Rotax GmbH Type 912 F, 912 S and 914 F series reciprocating engines. This action requires venting of the lubrication system and inspection of the valve train on all engines. This action also requires venting of the lubrication system of all engines on which the lubrication system has been opened, and any engine on which the propeller has been rotated one full turn in the reverse direction. This amendment is prompted by reports of several in-flight engine failures, all of which resulted in forced landings. The actions specified in this AD are intended to prevent damage to the engine valve train due to inadequate venting of the lubrication system which can result in an in-flight engine failure and forced landing.

DATES: Effective October 28, 2002. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of October 28, 2002.

Comments for inclusion in the Rules Docket must be received on or before December 23, 2002.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2002-NE-33-AD, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may be inspected at this location, by appointment, between 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. Comments may also be sent via the Internet using the following address: "9-ane-adcomment@faa.gov". Comments sent via the Internet must contain the docket number in the subject line.

The service information referenced in this AD may be obtained from Bombardier-Rotax GmbH, Welser Strasse 32, A-4623 Günskirchen, Austria; telephone 7246-601-232; fax 7246-601-370. This information may be examined, by appointment, at the FAA, New England Region, Office of the

Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park; Burlington, MA 01803-5299; telephone (781) 238-7176; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: Austro Control, which is the airworthiness authority for Austria, notified the FAA that an unsafe condition may exist on Bombardier-Rotax GmbH 912 F, 912 S and 914 F series reciprocating engines. Austro Control advises that there have been seven in-flight engine failures that occurred within 50 hours time-in-service (TIS) after installation of a new or overhauled engine. Investigations by Austro Control have indicated that the failures were due to inadequate venting of the lubrication systems. Inadequate venting of the lubrication system can cause damage to the engine valve train as a result of low-pressure compression of trapped air while at maximum camshaft speed resulting in high impact stresses to valve train components.

Manufacturer's Service Information

Bombardier-Rotax GmbH has issued Mandatory Service Bulletin (MSB) No. SB-912-036/SB-914-022, Revision 1, dated August 2002, and Service Instruction SI-04-1997, Revision 3, dated September 2002. MSB No. SB SB-912-036/SB-914-022, Revision 1, dated August 2002, provides procedures for inspecting engines for correct venting of the oil system and procedures for inspecting the valve train for damage caused by inadequate venting. Austro Control has classified this service bulletin as mandatory and issued AD No.113R1 in order to assure the airworthiness of these Bombardier-Rotax GmbH engines in Austria. The manufacturer has also issued Service Instruction SI-04-1997 that provides instructions for venting the oil lubrication system after installation of the engine, after the lubrication system has been opened or drained during maintenance work, and after turning the propeller one full turn in the wrong direction of rotation.

Differences Between This AD and the Manufacturer's Service Information

Bombardier-Rotax GmbH MSB SB-912-036/SB-914-022 allows up to 5 hours TIS before venting and inspecting for correct venting of the oil system on engines with less than 50 TIS since the lubrication system has been opened and drained, since an oil change was performed, or since the propeller was rotated one full turn in the wrong direction of rotation. The FAA has determined that the venting and inspecting of the valve train must be done before further flight.

Bilateral Airworthiness Agreement

This engine model is manufactured in Austria and is type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Pursuant to this bilateral airworthiness agreement, Austro Control has kept the FAA informed of the situation described above. The FAA has examined the findings of Austro Control, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

FAA's Determination of an Unsafe Condition and Required Actions

Since an unsafe condition has been identified that is likely to exist or develop on other Bombardier-Rotax GmbH 912 F, 912 S and 914 F series reciprocating engines of the same type design, this AD is being issued to prevent damage to the engine valve train due to inadequate venting

of the lubrication system which can result in an in-flight engine failure and forced landing. This AD requires:

- Before further flight, venting the lubrication system and inspecting for the correct venting of the oil system.
- Thereafter, before engine start, properly venting the lubrication system after initial installation of a new or overhauled engine, after opening the oil system, after an engine oil change, and after the propeller was rotated one full turn in the wrong direction of rotation.

The actions must be done in accordance with the mandatory service bulletin and service instruction described previously.

Immediate Adoption of This AD

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption ADDRESSES. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this action must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2002-NE-33-AD." The postcard will be date stamped and returned to the commenter.

Regulatory Analysis

This final rule does not have federalism implications, as defined in Executive Order 13132, because it 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. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory

Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

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

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.airweb.faa.gov/rgl"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2002-21-16 Bombardier-Rotax GmbH: Amendment 39-12923. Docket No. 2002-NE-33-AD.

Applicability: This airworthiness directive (AD) is applicable to Bombardier-Rotax GmbH 912 F, 912 S and 914 F series reciprocating engines. These engines are installed on, but not limited to, Diamond Aircraft Industries, DA20-A1, Diamond Aircraft Industries GmbH Model HK 36 TTS, Model HK 36TTC, and Model HK 36 TTC-ECO, Iniziative Industriali Italiane S.p.A. Sky Arrow 650 TC and Sky Arrow 650 TCN, Aeromot-Industria Meccanico Metalurgica Ltda., Models AMT-300 and AMT-200S, and Stemme S10-VT aircraft.

Note 1: This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Compliance with this AD is required as indicated, unless already done.

To prevent damage to the engine valve train due to inadequate venting of the lubrication system which can result in an in-flight engine failure and forced landing, do the following:

Initial Venting and Inspection for Correct Venting

(a) Before further flight, for all Bombardier-Rotax GmbH 912 F, 912 S and 914 F series reciprocating engines, do the following:

(1) Perform venting and inspection for venting of the hydraulic valve tappets in accordance with section 3.1.1 through section 3.1.4 of the Accomplishment Instructions of Rotax Mandatory Service Bulletin (MSB) SB-912-036/SB-914-022, Revision 1, dated August 2002.

(2) Inspect the engine valve train in accordance with section 3.1.5 through section 3.2 of the Accomplishment Instructions of Rotax MSB SB-912-036/SB-914-022, Revision 1, dated August 2002.

Repetitive Venting of the Lubrication System

(b) Thereafter, for all Bombardier-Rotax GmbH 912 F, 912 S and 914 F series reciprocating engines, before starting the engine, vent the lubrication system in accordance with section 3 Accomplishment Instructions of Rotax Service Instruction, No. SI-04-1997, Revision 3, dated September 2002, after any of the following:

- (1) The installation of a new or overhauled engine.
- (2) The oil system has been opened allowing air to be ingested into the valve train (e.g. an oil change, or the oil pump, oil cooler, or suction line was removed and oil drained from the oil galleries).
- (3) The engine oil was changed.
- (4) The propeller was rotated one full turn in the wrong direction of rotation.

Alternative Methods of Compliance

(c) 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 requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the ECO.

Special Flight Permits

- (d) Special flight permits are not permitted.

Manufacture's Service Information that has been Incorporated by Reference

(e) The venting and inspection must be done in accordance with the following Rotax mandatory service bulletin (MSB) and service instruction (SI):

Document No.	Pages	Revision	Date
MSB SB-912-036/SB-914-022	All	1	August 2002.
Total pages: 6			
SI SI-04-1997	All	3	September 2002.
Total pages: 6			

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Bombardier-Rotax GmbH, Welser Strasse 32, A-4623 Gunskirchen, Austria; telephone 7246-601-232; fax 7246-601-370. Copies may be inspected at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Note 3: The subject of this AD is addressed in Austro Control airworthiness directive No. 113R1.

Effective Date

- (f) This amendment becomes effective on October 28, 2002.

Issued in Burlington, Massachusetts, on October 17, 2002.

Jay J. Pardee,
Manager, Engine and Propeller Directorate, Aircraft Certification Service.
[FR Doc. 02-26912 Filed 10-18-02; 2:39 pm]
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