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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0842; Directorate Identifier 2008-NE-24-AD; Amendment 39-15771; AD 2008-26-05]

RIN 2120-AA64

Airworthiness Directives; Bombardier-Rotax GmbH 914 F Series Reciprocating Engines

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

Occurrence of cracks in the exhaust muffler in the area of the exhaust bottom and exhaust flange were reported, which could lead to toxic contamination inside the cabin.

We are issuing this AD to require actions to correct the unsafe condition on these products, which could result in carbon monoxide contamination in the cockpit, which can adversely affect the pilot, and possibly result in loss of control of the aircraft.

DATES: This AD becomes effective January 26, 2009.

ADDRESSES: The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

FOR FURTHER INFORMATION CONTACT: Richard Woldan, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park; Burlington, MA 01803; e-mail: Richard.woldan@faa.gov; telephone (781) 238-7136; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on September 12, 2008 (73 FR 52932). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states that:

Occurrence of cracks in the exhaust muffler in the area of the exhaust bottom and exhaust flange were reported, which could lead to toxic contamination inside the cabin.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

Suggestion To Pressurize the Muffler With Air To Detect Leaks

One commenter, a private citizen, suggests that we change the proposed AD to inspect for cracks by pressurizing the muffler with air and using a soap solution to detect leaks. The commenter states that this method would detect finer cracks than just a visual inspection would find.

We partially agree. The suggested inspection is likely more sensitive, but the visual inspections specified in the proposed AD are sensitive enough to detect an exhaust leak that could create an unsafe condition. However, operators can request approval to use another inspection method instead of using the method specified in the AD, by requesting approval of an alternative method of compliance (AMOC). We did not change the AD.

Request To Allow Repair of a Cracked Muffler

The same commenter requests that we change the proposed AD to allow the repair of a cracked muffler instead of replacing the muffler. The commenter infers that this would be more cost effective.

We disagree. The cracks occurring in the mufflers are in weld areas that were part of the original manufacturing process. The muffler manufacturing process was changed to correct the cracking problem. A repair in the area of the original weld might not correct the unsafe condition and could make the muffler more susceptible to future cracking, thereby requiring continued inspections. However, operators can request approval of an AMOC for a muffler repair method, but operators would have to address the repair concerns mentioned previously. We did not change the AD.

Suggestion To Install a Carbon Monoxide (CO) Detector in the Cockpit

The same commenter suggests that operators install a CO detector in the cockpit to identify presence of harmful levels of CO. The commenter infers that this would provide an additional level of protection.

We disagree. The inspections specified in the proposed AD are adequate to detect an exhaust leak that could create an unsafe condition. Also, maintenance checks of the CO detector would be required to ensure its correct operation, if it was being relied on as a method to prevent the unsafe condition. We did not change the AD.

Conclusion

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

Based on the service information, we estimate that this AD will affect about 75 products of U.S. registry. We also estimate that it will take about 2 work-hours per product to comply with this AD. The average labor rate is \$80 per work-hour. Required parts will cost about \$1,674 per product. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$137,550. Our cost estimate is exclusive of possible warranty coverage.

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 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 this AD:

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); and
3. 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of 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 AD:



2008-26-05 Bombardier-Rotax GmbH: (Formerly Rotax GmbH): Amendment 39-15771. Docket No. FAA-2008-0842; Directorate Identifier 2008-NE-24-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective January 26, 2009.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Bombardier-Rotax GmbH 914 F series reciprocating engines with engine exhaust muffler, part number (P/N) 979402 or 979404, with serial numbers (SNs) listed in Table 1 of this AD, installed. These engines are installed on, but not limited to, Aeromot-Industria Mecanico Metalurgica, AMT-300 (Turbo Ximango Shark), Diamond Aircraft Industries, HK 36 TTS, HK 36 TTC, HK 36 TTC-ECO, and Stemme GmbH & Co. KG, S10-VT series powered sailplanes.

Table 1—Affected Exhaust Mufflers by Group, P/N, and SN

Group	P/N	SN
(1) A	979402	02.0001 through 02.0322, 03.0002, 03.0005, 03.0011, 03.0015, 03.0017, 03.0028, 03.0029, 03.0037, 03.0038, 03.0040, 03.0050, 03.0069, 03.0072, 03.0073, 03.0078, 03.0080 through 03.0086, 03.0088 through 03.0090, 03.0092 through 03.0101, 03.0103, and 03.0108.
(2) B	979402	03.0001, 03.0003, 03.0004, 03.0006, 03.0007 through 03.0010, 03.0012 through 03.0014, 03.0016, 03.0018 through 03.0027, 03.0030 through 03.0036, 03.0039, 03.0041 through 03.0049, 03.0051 through 03.0068, 03.0070, 03.0071, 03.0074 through 03.0077, 03.0079, 03.0087, 03.0091, 03.0102, and 03.0104 through 03.0107.
	979404	03.0200 through 04.0799.

Reason

(d) Occurrence of cracks in the exhaust muffler in the area of the exhaust bottom and exhaust flange were reported, which could lead to toxic contamination inside the cabin.

We are issuing this AD to prevent carbon monoxide contamination in the cockpit, which can adversely affect the pilot, and possibly result in loss of control of the aircraft.

Actions and Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

Initial Visual Inspection

Group A Exhaust Mufflers

(f) For exhaust mufflers specified in Group A of Table 1 of this AD, within 50 hours of operation after the effective date of this AD, do the following:

(1) Perform a visual inspection around the fillet weld of the exhaust inlet flange and around the weld of the exhaust outlet for evidence of leakage or cracks. Information on inspecting the exhaust muffler can be found in Bombardier-Rotax GmbH 914 F Service Bulletin (SB) No. SB-914-028 R1, dated November 8, 2004.

(2) If you see evidence of an exhaust leak or cracks, replace the exhaust muffler.

Group B Exhaust Mufflers

(g) For exhaust mufflers specified in Group B of Table 1 of this AD, within 50 hours of operation after the effective date of this AD, do the following:

(1) Perform a visual inspection around the weld of the exhaust outlet for evidence of leakage or cracks. Information on inspecting the exhaust muffler can be found in Bombardier-Rotax GmbH 914 F Service Bulletin No. SB-914-028 R1, dated November 8, 2004.

(2) If you see evidence of an exhaust leak or cracks, replace the exhaust muffler.

Repetitive Visual Inspections

(h) Within 50 hours of operation since the last inspection, perform the actions specified in paragraphs (f)(1) through (f)(2) and (g)(1) through (g)(2) of this AD.

FAA AD Differences

(i) None.

Alternative Methods of Compliance (AMOCs)

(j) The Manager, Engine Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

Related Information

(k) Refer to MCAI EASA Airworthiness Directive 2006-0127, dated May 18, 2006, and Bombardier-Rotax GmbH 914 F Service Bulletin No. SB-914-028 R1, dated November 8, 2004, for related information. Contact Bombardier-Rotax GmbH, Gunskirchen, Austria; telephone: 7246-601-423; fax: 7246-601-760, or go to: <http://www.rotax-aircraft-engines.com>, for a copy of this service bulletin.

(l) Contact Richard Woldan, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park; Burlington, MA 01803; telephone (781) 238-7136; fax (781) 238-7199, for more information about this AD.

Material Incorporated by Reference

(m) None.

Issued in Burlington, Massachusetts, on December 11, 2008.
Peter A. White,
Assistant Manager, Engine and Propeller Directorate,
Aircraft Certification Service.