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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0948; Directorate Identifier 2010-CE-041-AD; Amendment 39-16575; AD 2011-02-02]

RIN 2120-AA64

Airworthiness Directives; SOCATA Model TBM 700 Airplanes

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

ACTION: Final rule.

SUMMARY: We are superseding an existing 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:

Following the rupture of an alternator and vapour cycle cooling system pulley drive assembly, the AD 2008-0067-E was published to require the replacement of the pulley drive assembly by a new one of an improved design.

Later on, cases of rupture of the alternator and vapour cycle cooling system compressor drive shaft and of cracks on the standby-alternator and compressor support were reportedly found.

Such failures could lead to the loss of the alternator and of the vapour cycle cooling systems, and could also cause mechanical damage inside the power plant compartment.

To address this condition, the AD 2008-0129-E superseded AD 2008-0067-E and mandates the removal, as a temporary measure, of the compressor drive belt and of the torque limiter, the conditional replacement of the pulley drive shear shaft, and repetitive inspections for cracks of the pulley drive assembly and of the alternator/compressor support.

We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective March 1, 2011.

On March 1, 2011, the Director of the Federal Register approved the incorporation by reference of SOCATA Mandatory TBM Aircraft Service Bulletin SB 70-176, amendment 1, dated February, 2010, listed in this AD.

As of October 8, 2008 (73 FR 54067, September 18, 2008), the Director of the Federal Register approved the incorporation by reference of EADS SOCATA Mandatory TBM Aircraft Alert Service Bulletin SB 70-161, amendment 2, dated July 2008, listed in this AD.

ADDRESSES: You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

For service information identified in this AD, contact SOCATA—Direction des Services, 65921 Tarbes Cedex 9, France; telephone: +33 (0)5 62 41 73 00; fax: +33 (0)5 62 41 7-54; or in the United States contact SOCATA North America, Inc., North Perry Airport, 7501 South Airport Road, Pembroke Pines, Florida 33023; telephone: (954) 893-1400; fax: (954) 964-4141. You may review copies of the referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call 816-329-4148.

FOR FURTHER INFORMATION CONTACT: Albert Mercado, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, ACE-112, Kansas City, Missouri 64106; telephone: (816) 329-4119; fax: (816) 329-4090.

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 28, 2010 (75 FR 59658), and proposed to supersede AD 2008-19-06, Amendment 39-15673 (73 FR 54067; September 18, 2008). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states that:

Following the rupture of an alternator and vapour cycle cooling system pulley drive assembly, the AD 2008-0067-E was published to require the replacement of the pulley drive assembly by a new one of an improved design.

Later on, cases of rupture of the alternator and vapour cycle cooling system compressor drive shaft and of cracks on the standby-alternator and compressor support were reportedly found.

Such failures could lead to the loss of the alternator and of the vapour cycle cooling systems, and could also cause mechanical damage inside the power plant compartment.

To address this condition, the AD 2008-0129-E superseded AD 2008-0067-E and mandates the removal, as a temporary measure, of the compressor drive belt and of the torque limiter, the conditional replacement of the pulley drive shear shaft, and repetitive inspections for cracks of the pulley drive assembly and of the alternator/compressor support.

Revision 1 of the AD 2008-0129-E introduced an alternative temporary solution with the aim to restore the capability to make use of the air conditioning system. This solution consists in replacing the original pulley drive assembly by a time-limited assembly of a new design, corresponding to the SOCATA modification MOD 70-0240-21.

A definitive solution has been released to production aeroplanes by implementation of SOCATA modification MOD 70-0243-21 or Service Bulletin (SB) 70-176-21 for in-service aeroplanes.

This AD which supersedes EASA AD 2008-0129R1-E retaining its requirements, limits the AD applicability and requires accomplishment of the terminating action.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

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

Differences Between This AD and the MCAI or Service Information

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow FAA policies. Any such differences are highlighted in a Note within the AD.

Costs of Compliance

We estimate that this AD will affect 66 products of U.S. registry. We also estimate that it will take about 8 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$0 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these parts. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here.

Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$44,880, or \$680 per product.

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 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 Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone (800) 647-5527) is 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, Incorporation by reference, 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 removing Amendment 39-15673 (73 FR 54067; September 18, 2008) and adding the following new AD:



2011-02-02 SOCATA: Amendment 39-16575; Docket No. FAA-2010-0948; Directorate Identifier 2010-CE-041-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective March 1, 2011.

Affected ADs

- (b) This AD supersedes AD 2008-19-06, Amendment 39-15673.

Applicability

- (c) This AD applies to SOCATA TBM 700 airplanes, serial numbers (S/Ns) 434 through 509, 511 through 516, 519, 520, and 522 through 525, certificated in any category.

Subject

- (d) Air Transport Association of America (ATA) Code 21: Air Conditioning.

Reason

- (e) The mandatory continuing airworthiness information (MCAI) states:

Following the rupture of an alternator and vapour cycle cooling system pulley drive assembly, the AD 2008-0067-E was published to require the replacement of the pulley drive assembly by a new one of an improved design.

Later on, cases of rupture of the alternator and vapour cycle cooling system compressor drive shaft and of cracks on the standby-alternator and compressor support were reportedly found.

Such failures could lead to the loss of the alternator and of the vapour cycle cooling systems, and could also cause mechanical damage inside the power plant compartment.

To address this condition, the AD 2008-0129-E superseded AD 2008-0067-E and mandates the removal, as a temporary measure, of the compressor drive belt and of the torque limiter, the conditional replacement of the pulley drive shear shaft, and repetitive inspections for cracks of the pulley drive assembly and of the alternator/compressor support.

Revision 1 of the AD 2008-0129-E introduced an alternative temporary solution with the aim to restore the capability to make use of the air conditioning system. This solution consists in replacing the original pulley drive assembly by a time-limited

assembly of a new design, corresponding to the SOCATA modification MOD 70-0240-21.

A definitive solution has been released to production aeroplanes by implementation of SOCATA modification MOD 70-0243-21 or Service Bulletin (SB) 70-176-21 for in-service aeroplanes.

This AD which supersedes EASA AD 2008-0129R1-E retaining its requirements, limits the AD applicability and requires accomplishment of the terminating action.

Actions and Compliance

(f) For airplanes S/Ns 434 through 459 only, unless already done, before further flight as of September 18, 2008 (the effective date of AD 2008-19-06), do the following actions following EADS SOCATA Mandatory TBM Aircraft Alert Service Bulletin SB 70-161, amendment 2, dated July 2008:

(1) Remove the pulley drive assembly, the torque limiter, the compressor drive belt, and the alternator/compressor support.

(2) Inspect for cracks the pulley drive surfaces and the alternator/compressor support welds.

(i) If any crack is detected, before further flight, replace the pulley drive assembly following the accomplishment instructions in SOCATA Mandatory TBM Aircraft Service Bulletin SB 70-176, amendment 1, dated February 2010.

(ii) Replacement of the assembly incorporates replacement of the pulley drive shear shaft required by paragraph (f)(3) of this AD for airplanes with 30 hours time-in-service (TIS) or more with the torque limiter installed on the pulley drive shear shaft.

(3) Replace any pulley drive shear shaft that has accumulated 30 hours TIS or more with the torque limiter installed. This action is not required if you replaced the whole assembly per paragraph (f)(2)(i) of this AD.

(4) Re-install the pulley drive assembly and the alternator/compressor support, without re-installing the compressor drive belt or the torque limiter.

(5) Insert EADS SOCATA Mandatory TBM Aircraft Alert Service Bulletin SB 70-161, amendment 2, dated July 2008, in the limitations section of the pilot's operating handbook and install on the instrument panel and in the pilot's primary field of vision a placard with the following text:

"AIR COND" INOPERATIVE RECOMMENDED "AIR COND" SWITCH POSITION: "MANUAL"

(g) For all S/N airplanes;

(1) Within 100 hours TIS after September 18, 2008 (the effective date of AD 2008-19-06), and repetitively thereafter at intervals not to exceed 100 hours TIS, inspect for cracks on the pulley drive surfaces and the alternator/compressor support welds, following EADS SOCATA Mandatory TBM Aircraft Alert Service Bulletin SB 70-161, amendment 2, dated July 2008.

(i) For airplanes S/Ns 434 through 459, the inspection required in paragraph (f)(2) of this AD is considered the initial inspection required in paragraph (g)(1) of this AD.

(ii) For accomplishment of the repetitive inspections required by paragraph (g)(1) of this AD, paragraph C.2 of the accomplishment instructions of EADS SOCATA Mandatory TBM Aircraft Alert Service Bulletin SB 70-161, amendment 2, dated July 2008, does not apply since the torque limiter has already been removed.

(2) If cracks are found during any of the inspections required in paragraph (g)(1) of this AD, before further flight, replace the assembly following SOCATA Mandatory TBM Aircraft Service Bulletin SB 70-176, amendment 1, dated February 2010.

(h) At the next annual inspection or within 5 months after March 1, 2011 (the effective date of this AD), whichever occurs first, replace the alternator/compressor support and pulley drive assemblies with P/N T700G215500700100 (alternator/compressor support) and P/N T700G215513500000 (Pulley drive assembly), following the accomplishment instructions of SOCATA Mandatory TBM Aircraft Service Bulletin SB 70-176, amendment 1, dated February, 2010.

(1) After March 1, 2011 (the effective date of this AD), do not install alternator/compressor support P/N T700G215500700000 and a pulley drive assembly P/N T700G215510000000.

(2) Accomplishment of corrective actions as required by paragraph (f)(2)(i), paragraph (g)(2), or paragraph (h) of this AD terminates the actions required in paragraphs (f) and (g) of this AD.

Note 1: SOCATA SB 70-161, amendment 4, dated October 2009, has been published by SOCATA in order to close the range of airplane S/Ns concerned by temporary actions.

FAA AD Differences

Note 2: This AD differs from the MCAI and/or service information as follows: No differences.

Other FAA AD Provisions

(i) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, Standards Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to Attn: Albert Mercado, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4119; fax: (816) 329-4090. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et. seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

Special Flight Permit

(j) We are allowing permission to ferry an airplane to a maintenance location to accomplish actions required by paragraph (1) of this AD provided that the air conditioning is switched off during the entire flight duration.

Related Information

(k) Refer to MCAI EASA AD No.: 2010-0130, dated June 29, 2010; EADS SOCATA Mandatory TBM Aircraft Alert Service Bulletin SB 70-161, amendment 2, dated July 2008; and SOCATA Mandatory TBM Aircraft Service Bulletin SB 70-176, amendment 1, dated February, 2010, for related information.

Material Incorporated by Reference

(h) You must use SOCATA Mandatory TBM Aircraft Service Bulletin Service Bulletin SB 70-176, amendment 1, dated February, 2010, and EADS SOCATA Mandatory TBM Aircraft Alert Service Bulletin SB 70-161, amendment 2, dated July 2008, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of SOCATA Mandatory TBM Aircraft Service Bulletin SB 70-176, amendment 1, dated February, 2010 under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) On October 8, 2008 (73 FR 54067, September 18, 2008), the Director of the Federal Register previously approved the incorporation by reference of EADS SOCATA Mandatory TBM Aircraft Alert Service Bulletin SB 70-161, amendment 2, dated July 2008.

(3) For service information identified in this AD, contact SOCATA–Direction des Services, 65921 Tarbes Cedex 9, France; telephone: +33 (0)5 62 41 73 00; fax: +33 (0)5 62 41 7-54; or in the United States contact SOCATA North America, Inc., North Perry Airport, 7501 South Airport Road, Pembroke Pines, Florida 33023; telephone: (954) 893-1400; fax: (954) 964-4141.

(4) You may review copies of the referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call 816-329-4148.

(5) You may also review copies of the service information incorporated by reference for this AD at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to:
http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(3) You may review copies of the referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call 816-329-4148.

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Issued in Kansas City, Missouri, on January 4, 2011.

Earl Lawrence,
Manager, Small Airplane Directorate,
Aircraft Certification Service.