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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2014-0308; Directorate Identifier 2014-CE-012-AD; Amendment 39-17903; AD 2014-15-01]**

**RIN 2120-AA64**

#### **Airworthiness Directives; M7 Aerospace LLC Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for M7 Aerospace LLC Models SA227-AT, SA227-AC, SA227-BC, SA227-CC, and SA227-DC airplanes equipped with a bayonet shear pin main cabin door latching mechanism. This AD was prompted by fatigue cracks found in the internal door surround doubler, the fuselage external skin, and the door corner fittings at the fuselage upper forward corner of the main cabin door cutout. This AD requires repetitively inspecting the four corners of the main cabin door cutout for cracks, making necessary repairs, and reporting inspection results to M7 Aerospace LLC. We are issuing this AD to correct the unsafe condition on these products.

**DATES:** This AD is effective August 27, 2014.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 27, 2014.

**ADDRESSES:** For service information identified in this AD, contact M7 Aerospace LLC, 10823 NE Entrance Road, San Antonio, Texas 78216; phone: (210) 824-9421; fax: (210) 804-7766; Internet: <http://www.elbitsystems-us.com>; email: [MetroTech@M7Aerospace.com](mailto:MetroTech@M7Aerospace.com). You may view this 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.

#### **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-2014-0308; 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 this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket

Office (phone: 800-647-5527) is Document 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 FURTHER INFORMATION CONTACT:** Andrew McAnaul, Aerospace Engineer, FAA, ASW-150 (c/o San Antonio MIDO), 10100 Reunion Place, Suite 650, San Antonio, Texas 78216; phone: (210) 308-3365; fax: (210) 308-3370; email: andrew.mcanaul@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to M7 Aerospace LLC Models SA227-AT, SA227-AC, SA227-BC, SA227-CC, and SA227-DC airplanes equipped with a bayonet shear pin main cabin door latching mechanism. The NPRM published in the Federal Register on May 14, 2014 (79 FR 27505).

The NPRM was prompted by reports of fatigue cracking of the main cabin door surround structure. Investigation revealed that the fatigue cracks are related to a change in loading due to design changes in the door surround structure and the door latching system. We are issuing this AD to correct the unsafe condition on these products.

**Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (79 FR 27505, May 14, 2014) or on the determination of the cost to the public.

**Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 27505, May 14, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 27505, May 14, 2014).

**Costs of Compliance**

We estimate that this AD affects 250 airplanes of U.S. registry.  
We estimate the following costs to comply with this AD:

**Estimated Costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Threshold high frequency eddy current (HFEC)/low frequency eddy current (LFEC)/detailed visual inspection	2.5 work-hours × \$85 per hour = \$212.50	Not Applicable	\$212.50	\$53,125

We estimate the following costs to do any necessary repairs that will be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these repairs:

<b>On-Condition Costs</b>			
<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Repair Installation	48 work-hours × \$85 per hour = \$4,080	\$6,670	\$10,750

**Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. The paperwork cost associated with this AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at 800 Independence Ave. SW., Washington, DC 20591. ATTN: Information Collection Clearance Officer, AES-200.

**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**

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,
- (2) Is not a "significant rule" under 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.

### **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 airworthiness directive (AD):



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**2014-15-01 M7 Aerospace LLC:** Amendment 39-17903; Docket No. FAA-2014-0308; Directorate Identifier 2014-CE-012-AD.

**(a) Effective Date**

This AD is effective August 27, 2014.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the M7 Aerospace LLC airplanes listed in paragraphs (c)(1) through (c)(5) of this AD that are equipped with a bayonet shear pin main cabin door latching mechanism and are certificated in any category. Airplanes equipped with a "click-clack" main cabin door latching mechanism are not affected by this AD. Figure 3 of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, and M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, is a picture showing both styles of latching mechanisms.

- (1) Model SA227-AT airplanes, serial numbers (S/Ns) AT570 through AT631, and AT695.
- (2) Model SA227-AC airplanes, S/Ns AC570 through AC788.
- (3) Model SA227-BC airplanes, S/Ns BC762, BC764, BC766, and BC770 through BC789.
- (4) Model SA227-CC airplanes, S/N CC827, CC829, and CC840 through CC844.
- (5) Model SA227-DC airplanes, S/Ns DC784, DC790 through DC826, DC828, DC830 through DC839, and DC845 through DC904.

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America—Code 5310, Fuselage Main, Structure.

**(e) Unsafe Condition**

This AD was prompted by fatigue cracks found in the internal door surround doubler, the external skin fuselage skin, and the door corner fittings at the fuselage upper forward corner of the main cabin door cutout. We are issuing the AD to prevent decompression failure with possible loss of structural integrity of the cabin structure.

**(f) Compliance**

Comply with this AD within the compliance times specified in paragraph (g) through paragraph (k) of this AD, including all subparagraphs, unless already done.

## **(g) Inspections**

(1) Do the initial inspections of the fuselage upper forward corner and other 3 corners of the main cabin door cutout for cracks following Table 1 in Step 2. ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005 or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable. Do the inspections at the compliance times specified in paragraphs (g)(1)(i) through (g)(1)(iv) of this AD. For the purposes of this AD, owner/operators who do not track total aircraft flight cycles (TAC), use a .5 to 1 conversion, e.g., 35,000 TAC is equivalent to 17,500 hours time-in-service (TIS). For owner/operators who do not track flight cycles, use a 1 to 1 conversion, e.g., 300 flight cycles are equivalent to 300 hours TIS.

(i) For aircraft with more than 35,000 TAC, inspect within the next 300 flight cycles after August 27, 2014 (the effective date of this AD).

(ii) For aircraft with 20,001–35,000 TAC, inspect within the next 600 flight cycles after August 27, 2014 (the effective date of this AD).

(iii) For aircraft with 12,000–20,000 TAC, inspect within the next 1,000 flight cycles after August 27, 2014 (the effective date of this AD).

(iv) For aircraft with less than 12,000 TAC, inspect at 12,000 flight cycles or within the next 1,000 flight cycles after August 27, 2014 (the effective date of this AD), whichever occurs later.

(2) If no cracks are found during the inspections required by paragraph (g)(1) of this AD, repetitively thereafter at intervals not to exceed 2,000 flight cycles do the inspections of the fuselage upper forward corner and other 3 corners of the main cabin door cutout for cracks following Table 1 in Step 2. ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005 or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable.

## **(h) Repair Cracks and Repetitively Inspect**

(1) If any cracks are found during any inspection required in paragraph (g) through paragraph (i) of this AD, before further flight after the inspection in which a crack is found, repair or replace the cracked structure following Step 3. REPAIR OF CRACKED INNER DOUBLE, Step 4. REPAIR OF CRACKED FUSELAGE SKIN, and/or Step 5. REPAIR OF CRACKED CORNER FITTING of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable.

(2) If you made the repairs required in paragraph (h)(1) of this AD by installing repair kit drawing 27K24191-001, do the threshold and repeat inspections following Table 2 in Step 2. ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, dated November 15, 2013; or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, dated November 15, 2013, as applicable.

(3) If you made the repairs required in paragraph (h)(1) of this AD by replacing the fuselage skin by installing repair kit drawing 27K24191-003, or if the corner fitting was replaced and no other cracks are present, repetitively thereafter inspect following Table 1 in Step 2. ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable.

## **(i) Extend Repetitive Inspection Intervals**

After any inspection required in paragraph (g)(1) and (g)(2) of this AD and if no damage, defects, or cracks are found, you may install repair kit drawing 27K24191-001 following Step 6. ADDITION OF KIT DRAWING REPAIR MEMBERS AS PREVENTATIVE ACTION of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, or M7 Aerospace

LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable, to extend the inspection intervals. After installing repair kit drawing 27K24191-001, do the threshold and repeat inspections following Table 3 of Step 2. ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable.

**(j) Reporting Requirement**

Within 30 days after any inspection required by paragraph (g) through paragraph (i) of this AD where a crack or any other damage is found, report the results of that inspection to M7 Aerospace LLC following the instructions specified in Step 2.I. of the ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, dated November 15, 2013; or Step 2.J. of the ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, dated November 15, 2013, as applicable.

**(k) Credit for Previous Repairs**

As of August 27, 2014 (the effective date of this AD), owner/operators who had the an inspection and any resulting repairs done before the effective date of this AD using procedures different from those specified in M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, dated November 15, 2013; and M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, dated November 15, 2013, may apply for an alternative method of compliance (AMOC) following the instructions in paragraph (m) of this AD.

**(l) Paperwork Reduction Act Burden Statement**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW., Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

**(m) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Fort Worth Airplane Certification Office, 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 ACO, send it to the attention of the person identified in the Related Information section of this AD.

(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.

**(n) Related Information**

For more information about this AD, contact Andrew McAnaul, Aerospace Engineer, FAA, ASW-150 (c/o San Antonio MIDO), 10100 Reunion Place, Suite 650, San Antonio, Texas 78216; phone: (210) 308-3365; fax: (210) 308-3370; email: andrew.mcanaul@faa.gov.

**(o) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) 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) M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, dated November 15, 2013.

(ii) M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, dated November 15, 2013.

(3) For M7 Aerospace LLC service information identified in this AD, contact M7 Aerospace LLC, 10823 NE Entrance Road, San Antonio, Texas 78216; phone: (210) 824-9421; fax: (210) 804-7766; Internet: <http://www.m7aerospace.com>; email: MetroTech@M7Aerospace.com.

(4) You may view this service information at 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 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, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Kansas City, Missouri, on July 14, 2014.

Kelly A. Broadway,  
Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.