DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-2207; Directorate Identifier 2015-CE-003-AD]

RIN 2120-AA64

Airworthiness Directives; M7 Aerospace LLC Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede Airworthiness Directive (AD) 97-02-02, which applies to certain Models SA26-AT, SA26-T, SA226-AT, SA226-T, SA226-T(B), SA226-TC, SA227-AC (C-26A), SA227-AT, SA227-BC (C-26A), SA227-CC, SA227-DC (C-26B), and SA227-TT airplanes. AD 97-02-02 currently requires applying torque to the control column pitch bearing attaching nuts, inspecting the bearing assembly, inspecting the elevator control rod end bearing retainer/dust seals, and replacing or installing new parts as necessary. Since we issued AD 97-02-02, an operator experienced a complete loss of elevator control because of failure of the bolt attaching the elevator control rod to the elevator walking beam under the cockpit floor. This proposed AD would prevent loss of pitch control, which if not corrected, could result in loss of airplane control. We are proposing this AD to correct the unsafe condition on these products.

DATES: We must receive comments on this proposed 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 http://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.

For service information identified in this proposed 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. 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-2015-2207; 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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Andrew McAnaul, Aerospace Engineer, FAA, ASW-143 (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:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the **ADDRESSES** section. Include "Docket No. FAA-2015-2207; Directorate Identifier 2015-CE-003-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

On January 6, 1997, we issued AD 97-02-02, Amendment 39-9886 (62 FR 2552, January 17, 1997), ("AD 97-02-02"), for certain M7 Aerospace LLC Models SA26-AT, SA26-T, SA226-AT, SA226-T, SA226-T(B), SA226-TC, SA227-AC (C-26A), SA227-AT, SA227-BC (C-26A), SA227-CC, SA227-DC (C-26B), and SA227-TT airplanes. AD 97-02-02 requires applying torque to check the security of the control column pitch bearing attaching nuts, inspecting for any looseness or movement of the bearing assembly, and inspecting the elevator control rod end bearing retainer/dust seals for creasing. If any of these problems are evident, replace these parts, as well as install a new bolt and washer to the elevator control rod end bearing assembly at the walking beam connection. AD 97-02-02 resulted from reports of Fairchild SA227 series airplanes losing pitch control in-flight. We issued AD 97-02-02 to prevent loss of pitch control, which if not corrected, could result in loss of airplane control.

Actions Since AD 97-02-02 Was Issued

Since we issued AD 97-02-02, an operator experienced complete loss of elevator control due to failure of the bolt attaching the elevator control rod to the elevator walking beam under

the cockpit floor. A follow-on inspection of the operator's fleet revealed a variety of hardware installed. Some hardware matched the illustrated parts catalog (IPC), some matched the AD 97-02-02 configuration, and some matched neither of those configurations.

When AD 97-02-02 was issued, the IPC was never revised to match the hardware configuration called out in AD 97-02-02 or in the service information associated with that AD. Because of the conflict between the AD and the IPC configurations, an airplane that was in compliance with the requirements of AD 97-02-02 could have had an incorrect hardware configuration installed during routine maintenance after complying with the AD. The IPC has been updated and corrected by M7 Aerospace, LLC.

Also, since we issued AD 97-02-02, the manufacturer developed an improved design for the control column pivot bearing and support structure that terminates the repetitive torque check and replacement of control column pivot bearings.

The manufacturer also issued new service information that adds the 10,000-hour time in service (TIS) repetitive replacement of the control column pivot bearing that is in the airworthiness limitations section (ALS) of the airplane maintenance manual (AMM) and (if this revision is mandated) requires the replacement of the pivot bearing with the improved design within 35,000 hours TIS that is in the supplemental inspections document (SID). Issue of the new service information, the revised IPC, and this proposed AD will eliminate the conflicts between AD 97-02-02, the service information, the IPC, the ALS, and the SID.

Relevant Service Information under 1 CFR 51

We reviewed M7 Aerospace SA26 Series Service Bulletin No. 26-27-30-046 R2, dated December 5, 2014; Fairchild Aircraft SA26 Series Service Bulletin No. 26-27-30-047, dated June 16, 1997; M7 Aerospace SA226 Series Service Bulletin No. 226-27-060 R2, dated December 5, 2014; Fairchild Aerospace SA226 Series Service Bulletin No. 226-27-061, dated June 16, 1997; M7 Aerospace SA227 Series Service Bulletin, No. 227-27-041 R2, dated December 5, 2014; Fairchild Aircraft SA227 Series Service Bulletin No. 227-27-042, dated June 16, 1997; M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin No. CC7-27-010 R2, dated December 5, 2014; and Fairchild Aircraft SA227 Series Commuter Category Service Bulletin No. CC7-27-011, dated June 16, 1997. The service information

describes procedures for inspecting for movement and correct torque of the elevator control pivot bearing, inspecting the elevator control rod for damage, and replacing parts as necessary. The service information also adds a repetitive replacement of the control column pivot bearings at 10,000 hours TIS and requires replacement of the control column pivot bearing with the improved design within 35,000 hours TIS. This information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the **ADDRESSES** section of the NPRM.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would retain none of the requirements of AD 97-02-02. This proposed AD would require inspecting for movement and correct torque of the elevator control pivot bearing, inspecting the elevator control rod for damage, and replacing parts as necessary. This proposed AD would also require a 10,000-hour TIS repetitive replacement of the control column pivot bearing and require replacement of the control column pivot bearing with the improved design within 35,000 hours TIS. Replacing the original control column pivot bearing with the improved design terminates the requirement to repetitively replace the original control column pivot bearing every 10,000 hours.

Costs of Compliance

We estimate that this proposed AD affects 360 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection of torque on the control column pivot bearing	2 work-hours X $85 per hour = $170	Not applicable	$170	$61,200
Control column pivot bearing replacement	8 work-hours X $85 per hour = $680	$300	$980	$352,800
New designed control column pivot bearing replacement	20 work-hours X $85 per hour = $1,700	$2,450	$4,150	$1,494,000
Elevator rod end bolt replacement	4 work-hours X $85 per hour = $340	$10	$350	$126,000

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 have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD 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.

For the reasons discussed above, I certify that the proposed regulation:

(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),

(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.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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 Airworthiness Directive (AD) 97-02-02, Amendment 39-9886 (62 FR 2552, January 17, 1997), and adding the following new AD:

M7 Aerospace: Docket No. FAA-2015-2207; Directorate Identifier 2015-CE-003-AD.

(a) **Comments Due Date**

The FAA must receive comments on this AD action by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

(b) **Affected ADs**

This AD supersedes AD 97-02-02, Amendment 39-9886 (62 FR 2552, January 17, 1997).

(c) **Applicability**

This AD applies to M7 Aerospace LLC Models SA26-AT, SA26-T, SA226-AT, SA226-T, SA226-T(B), SA226-TC, SA227-AC (C-26A), SA227-AT, SA227-BC (C-26A), SA227-CC, SA227-DC (C-26B), SA227-TT, all serial numbers, certificated in any category.

(d) **Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 27, Flight Controls.

(e) **Unsafe Condition**

AD 97-02-02 (62 FR 2552, January 17, 1997) ("AD 97-02-02") resulted from reports of Fairchild SA227 series airplanes losing pitch control in-flight. This supersedure was prompted by an operator experiencing complete loss of elevator control because of failure of the bolt attaching the elevator control rod to the elevator walking beam under the cockpit floor. We are issuing this AD to prevent loss of pitch control, which if not corrected, could result in loss of airplane control.

(f) **Compliance**

Comply with this AD within the compliance times specified, unless already done. Models SA227-CC and SA227-DC, serial numbers 892, 893, and 895 and up, have the revised (modified) configuration. Since those airplanes are already in compliance, they do not have to do the actions in paragraphs (h) or (i) of this AD, including all subparagraphs. Those airplanes must still do the actions required in paragraph (j) of this AD, including all subparagraphs.

(g) **Credit for Actions Accomplished in Accordance with Previous Service Information**

This AD allows credit for the control column pivot bearing torque check and initial replacement required in paragraph (i)(2) of this AD and the elevator rod bolt inspection and initial replacement required in paragraphs (j)(1) and (j)(3)(i) of this AD, if done before the effective date of this AD, following the procedures specified in the Accomplishment Instructions of the applicable service information listed in paragraphs (g)(1) through (g)(4) of this AD:

(1) M7 Aerospace SA227 Commuter Category Service Bulletin No. CC7-27-010, original issue or revision 1.

(2) M7 Aerospace SA227 Series Service Bulletin No. 227-27-041, original issue or revision 1.

(3) M7 Aerospace SA226 Series Service Bulletin No. 226-27-060, original issue or revision 1.

(4) M7 Aerospace SA26 Series Service Bulletin No. 26-27-30-046, original issue or revision 1.

(h) **Control Column Pivot Bearing Revised (Modified) Configuration**

(1) On or before the airplane accumulates a total of 35,000 hours time-in-service (TIS) or within the next 1,000 hours TIS after the effective date of this AD, whichever occurs later, you must revise (modify) the control column pivot bearing configuration with the improved design. Use the applicable service information listed in paragraphs (h)(1)(i) through (h)(1)(iv) of this AD. Revising (modifying) the configuration of the control column pivot bearing with the improved design terminates the actions for paragraph (i) of this AD, including all subparagraphs, but you must still complete the required actions in paragraph (j) of this AD, including all subparagraphs.

(i) Fairchild Aircraft SA26 Series Service Bulletin No. 26-27-30-047, dated June 16, 1997;

(ii) Fairchild Aircraft SA226 Series Service Bulletin No. 226-27-061, dated June 16, 1997;

(iii) Fairchild Aircraft SA227 Series Service Bulletin No. 227-27-042, dated June 16, 1997; or

(iv) Fairchild Aircraft SA227 Series Commuter Category No. CC7-27-011, dated June 16, 1997.

(2) You may at any time before 35,000 hours TIS revise (modify) the control column pivot bearing configuration with the improved design to terminate the repetitive replacement of the original control column pivot bearing using the applicable service information listed in paragraphs (h)(1)(i) through (h)(1)(iv) of this AD. This action terminates the requirements of paragraph (i) of this AD, including all subparagraphs, but you must still complete the required actions in pargraph (j) of this AD, including all subparagraphs.

(i) **Torque Check or Replacement of the Control Column Pivot Bearing**

(1) Use the service information, as applicable, listed in paragraphs (i)(1)(i) through (i)(1)(iv) of this AD to do a control column pivot bearing torque check or replacement at the applicable compliance times in paragraph (i)(2) or (i)(3) of this AD, including all subparagraphs:

(i) M7 Aerospace LLC SA26 Series Service Bulletin No. 26-27-30-046 R2, dated December 5, 2014;

(ii) M7 Aerospace LLC SA226 Series Service Bulletin No. 226-27-060 R2, dated December 5, 2014;

(iii) M7 Aerospace LLC SA227 Series Service Bulletin No. 227-27-041 R2, dated December 5, 2014; or

(iv) M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin No. CC7-27-010 R2, December 5, 2014.

(2) For airplanes where the control column pivot bearing has been torque checked or replaced within the last 10,000 hours TIS before the effective date of this AD using the applicable service information listed in paragraph (g)(1) through (g)(4) or (i)(1)(i) through (i)(1)(iv) of this AD, do one of the following actions:

(i) Within the next 10,000 hours TIS after the last control column pivot bearing replacement or within the next 1,000 hours TIS after the effective date of this AD, whichever occurs later, and repetitively thereafter every 10,000 hours TIS, replace the control column pivot bearing following paragraph 2.B. of the Accomplishment Instructions of the applicable service information listed in paragraphs (i)(1)(i) through (i)(1)(iv) of this AD; or

(ii) Within the next 10,000 hours TIS after the last control column pivot bearing replacement or within the next 1,000 hours TIS after the effective date of this AD, whichever occurs later, revise (modify) the control column pivot bearing configuration with the improved design using the applicable service information listed in paragraphs (h)(1)(i) through (h)(1)(iv) of this AD. Revising (modifying) the configuration of the control column pivot bearing with the improved design terminates the repetitive replacement of the original control column pivot bearing. No other actions are required for paragraph (i) of this AD, including all subparagraphs, but you must still complete the actions in paragraph (j) of this AD, including all subparagraphs.

(3) For airplanes where the control column pivot bearing has not been torque checked or replaced within the last 10,000 hours TIS before the effective date of this AD using the applicable service information listed in paragraphs (g)(1) through (g)(4) or (i)(1)(i) through (i)(1)(iv) of this AD, within the next 200 hours TIS after the effective date of this AD, torque check the control column pivot bearing following paragraph 2.A. of the service information listed in paragraphs (i)(1)(i) through (i)(1)(iv) of this AD.

(4) If nut movement occurs during the torque check required in paragraph (i)(3) of this AD, do one of the following actions:

(i) Before further flight and repetitively thereafter at intervals not to exceed every 10,000 hours TIS, replace the control column pivot bearing following paragraph 2.B. of the Accomplishment Instructions of the applicable service information listed in paragraphs (i)(1)(i) through (i)(1)(iv) of this AD; or

(ii) Before further flight, revise (modify) the control column pivot bearing configuration with the improved design using the applicable service information listed in paragraphs (h)(1)(i) through (h)(1)(iv) of this AD. Revising (modifying) the configuration of the control column pivot bearing with the improved design terminates the repetitive replacement of the original control column pivot bearing. No other actions are required for paragraph (i) of this AD, including all subparagraphs, but you must still complete the actions in paragraph (j) of this AD, including all subparagraphs.

(5) If no nut movement occurs during the torque check required in paragraph (i)(3) of this AD, do one of the following actions:

(i) Within the next 1,000 hours TIS after the effective date of this AD, replace the control column pivot bearing following paragraph 2.B. of the Accomplishment Instructions of the applicable service information listed in paragraphs (i)(1)(i) through (i)(1)(iv) of this AD; or

(ii) Within the next 1,000 hours TIS after the effective date of this AD, revise (modify) the control column pivot bearing configuration with the improved design using the applicable service information listed in paragraphs (h)(1)(i) through (h)(1)(iv) of this AD. Revising (modifying) the configuration of the control column pivot bearing with the improved design terminates the repetitive replacement of the original control column pivot bearing.

(j) **Inspect the Elevator Control Rod Ends and Hardware**

(1) Within the next 200 hours TIS after the effective date of this AD, inspect the elevator control rod ends and hardware for wear, creasing, or other damage and verify the elevator rod bolt and attachment hardware for correct configuration following paragraph 2.D. of the Accomplishment Instructions of the applicable service information listed in paragraphs (i)(1)(i) through (i)(1)(iv) of this AD.

(2) If any damage is found during the inspection required in paragraph (j)(1) of this AD or the elevator rod bolt and attachment hardware does not match the correct configuration, before further flight, replace the elevator rod bolt, rod ends, and associated hardware following

paragraph 2.D. of the Accomplishment Instructions of the applicable service information listed in paragraphs (i)(1)(i) through (i)(1)(iv) of this AD.

(3) Replace the elevator rod end bolt and associated hardware following paragraph 2.D. of the Accomplishment Instructions of the applicable service information listed in paragraphs (i)(1)(i) through (i)(1)(iv) of this AD at whichever of the following compliance times applies and repetitively thereafter at intervals not to exceed 10,000 hours TIS:

(i) For airplanes where the elevator rod bolt has been replaced: Within the next 10,000 hours TIS after the last elevator rod bolt replacement or within the next 1,000 hours TIS after the effective date of this AD, whichever occurs later; or

(ii) For airplanes where the elevator rod bolt has never been replaced: Within the next 200 hours TIS after the effective date of this AD.

(k) **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 paragraph (l)(1) 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.

(l) **Related Information**

(1) For more information about this AD, contact Andrew McAnaul, Aerospace Engineer, FAA, ASW-143 (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.

(2) 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. 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.

Issued in Kansas City, Missouri, on June 9, 2015.

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

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