

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [61 FR 36817 NO. 136 07/15/96]

[Docket No. 93-CE-35-AD; Amendment 39-9689; AD 93-15-02 R2]

RIN 2120-AA64

Airworthiness Directives; Fairchild Aircraft SA226 and SA227 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment revises Airworthiness Directive (AD) 93-15-02 R1, which requires the following on Fairchild Aircraft SA226 and SA227 series airplanes that are equipped with a certain Simmonds-Precision pitch trim actuator: repetitively measuring the freeplay of the pitch trim actuator and repetitively inspecting the actuator for rod slippage; immediately replacing any actuator if certain freeplay limitations are exceeded or rod slippage is evident; and eventually replacing the actuator regardless of the inspection results. The compliance times for the first inspection of an actuator that is installed in accordance with AD 93-15-02 R1 was inadvertently referenced incorrectly. This action retains the repetitive inspection and replacement requirements of the current AD, corrects the above-referenced compliance times, and adds an additional replacement actuator option that will then require repetitive inspections and replacements of that actuator. The actions specified by this AD are intended to prevent the horizontal stabilizer from going nose-down or jamming because of pitch trim actuator failure, which could result in loss of control of the airplane.

DATES: Effective July 25, 1996.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of July 25, 1996.

Comments for inclusion in the Rules Docket must be received on or before August 30, 1996.

ADDRESSES: Service information that applies to this AD may be obtained from Field Support Engineering, Fairchild Aircraft, P.O. Box 790490, San Antonio, Texas 78279-0490; telephone (210) 824-9421; facsimile (210) 820-8609. This information may also be examined at the FAA, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

FOR FURTHER INFORMATION CONTACT: Mr. Werner Koch, Aerospace Engineer, FAA, Airplane Certification Office, 2601 Meacham Boulevard, Fort Worth, Texas 76193-0150; telephone (817) 222-5133; facsimile (817) 222-5960.

SUPPLEMENTARY INFORMATION:

Events Leading to This Action

On July 20, 1993, the FAA issued AD 93-15-02, Amendment 39-8648 (59 FR 40734, July 30, 1993), to require the following on Fairchild Aircraft SA226 and SA227 series airplanes that are equipped with a Simmonds-Precision pitch trim actuator, part number (P/N) DL5040M5:

- repetitively measuring the freeplay of the pitch trim actuator and repetitively inspecting the actuator for rod slippage; and,
- if certain freeplay limitations are exceeded or rod slippage is evident, replacing any actuator with a new actuator of the same part number or with a part of improved design, P/N 27-19008-001 or P/N 27-19008-002.

The requirements of the AD will no longer apply when an actuator of improved design, P/N 27-19008-001 or P/N 27-19008-002, is installed. AD 93-15-02 specified accomplishment of the freeplay measurements and inspections in accordance with the instructions in Fairchild Aircraft SA226 Series Service Letter (SL) 226-SL-005, and Fairchild Aircraft SA227 Series SL 227-SL-011, both Issued: April 8, 1993, Revised: April 28, 1993, as applicable; and specified accomplishment of the pitch trim actuator replacement in accordance with the applicable maintenance manual.

AD 93-15-02 was issued based on reports of two in-flight incidents where the above-referenced pitch trim actuator failed on Fairchild Aircraft SA226 and SA227 series airplanes. In one case, the horizontal stabilizer went full-nose down, and in the other instance, the horizontal stabilizer jammed. Fortunately, the pilots were able to safely land in both of these instances. Upon removal and inspection of each of these pitch trim actuators, fatigued barrel nuts were found and the actuator usage time was well over 5,000 hours time-in-service (TIS).

After AD 93-15-02 became effective, the FAA received a report of an in-flight incident where the referenced actuator on one of the affected airplanes failed. The airplane operator had accomplished the 5,000-hour TIS initial inspection (with satisfactory results), but had not reached the 6,500-hour TIS mandatory replacement threshold.

This prompted the FAA to revise AD 93-15-02 (to the R1 level, Amendment 39-9180, 60 FR 15667, March 27, 1995) to require the same repetitive inspections and actuator replacement as AD 93-15-02, but changes the compliance times by (1) reducing the number of hours time-in-service (TIS) before the initial inspection is required; and (2) shortening both the time period between repetitive inspections and the actuator replacement compliance time, unless the replacement actuator is new or if the tube nut assemblies have been replaced during overhaul. Fairchild Aircraft revised the applicable service bulletins to reflect the inspection time changes. Accomplishment of the inspections required by AD 93-15-02 R1 is in accordance with the instructions in Fairchild Aircraft SA226 Series Service Letter (SL) 226-SL-005, and Fairchild Aircraft SA227 Series SL 227-SL-011, both Issued: April 8, 1993, Revised: March 2, 1995, as applicable.

AD 93-15-02 R1 inadvertently referenced incorrect compliance times for the first inspection for an actuator that is installed in accordance with AD 93-15-02 R1. That AD specifies repetitively inspecting the actuator at either 250 or 300-hour TIS intervals after replacing the actuator. The intent was to initially inspect upon accumulating 3,000, 5,000, or 7,500 hours TIS (depending on the type of actuator replacement) after installing the actuator, and repetitively inspecting every 250 or 300 hours TIS thereafter.

In addition, the FAA has become aware of an additional replacement actuator that should be incorporated into the existing AD. This replacement actuator is a modified P/N DL5040M5 actuator that is re-identified as P/N DL5040M6. Installation of this actuator would then require repetitive inspections and replacements.

After examining all available information related to the subject discussed above, the FAA has determined that further AD action should be taken to correct these compliance times of AD 93-15-02 R1 and to prevent the horizontal stabilizer from going nose-down or jamming because of pitch trim actuator failure, which could result in loss of control of the airplane.

Fairchild Aircraft has revised (dated May 22, 1996) SA226 Series SL 226-SL-005 and SA227 Series 227-SL-011, to reflect the information discussed above.

Explanation of the Provisions of the AD

Since an unsafe condition has been identified that is likely to exist or develop in other Fairchild Aircraft SA226 and SA227 series airplanes of the same type design that are equipped with a Simmonds-Precision pitch trim actuator, P/N DL5040M5 or P/N DL5040M6, this AD requires the same repetitive inspections and actuator replacement as AD 93-15-02 R1, but revises the initial inspection compliance times after installing the actuator as previously specified. This action incorporates Simmonds-Precision pitch trim actuator, P/N DL5040M6, as a replacement option that will then require repetitive inspections and replacements. The P/N DL5040M6 actuator can consist of a new part or a modified DL5040M5 actuator, both of which can be obtained from Simmonds-Precision.

This action revises a previous action to correct an error in a final rule by changing the compliance time for the initial inspection after installing the actuator, and incorporates the additional replacement option. This change in the compliance time reduces the burden upon the public. The replacement option imposes the same burden that is currently required. Since this action does not impose any additional burden (financial or otherwise) upon the public than is already required by AD 93-15-02 R1 or than was previously required by AD 93-15-02, it is found that notice and prior public comment hereon are unnecessary.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting immediate flight safety and, thus, was not preceded by notice and opportunity to 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 above.

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.

Regulatory Impact

The regulations adopted herein will not have substantial direct effects 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. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (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) if promulgated, 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. A copy of the draft regulatory evaluation prepared for this action has been placed in the Rules Docket. A copy of it may be obtained by contacting 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 USC 106(g), 40113, 44701.

Section 39.13 - [AMENDED]

2. Section 39.13 is amended by removing Amendment 39-9180 (60 FR 15667, March 27, 1995), and by adding a new airworthiness directive to read as follows:

93-15-02 R2 FAIRCHILD AIRCRAFT : Amendment 39-9689; Docket No. 93-CE-35-AD. Revises AD 93-15-02 R1, Amendment 39-9180.

Applicability: All SA226 and SA227 series airplanes (all models and serial numbers), certificated in any category, that are equipped with a Simmonds-Precision pitch trim actuator, part number (P/N) DL5040M5 or P/N DL5040M6.

NOTE 1: This AD applies to each airplane 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 airplanes 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 (d) 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: Required as indicated in the body of this AD, unless already accomplished.

To prevent failure of the pitch trim actuator, which could result in the horizontal stabilizer going nose-down or jamming, accomplish the following:

NOTE 2: The paragraph structure of this AD is as follows:

Level 1: (a), (b), (c), etc.

Level 2: (1), (2), (3), etc.

Level 3: (i), (ii), (iii), etc.

Level 2 and Level 3 structures are designations of the Level 1 paragraph they immediately follow.

(a) Accomplish the following at the times specified in the chart in paragraph (b) of this AD:

(1) Initial and repetitive inspections : Measure the freeplay (inspection) of the pitch trim actuator and inspect the actuator for rod slippage in accordance with the

INSTRUCTIONS section of Fairchild Aircraft SA226 Series Service Letter (SL) 226-SL-005, and Fairchild Aircraft SA227 Series SL 227-SL-011, both Issued: April 8, 1993, Revised: May 22, 1996, as applicable.

(2) Initial and repetitive replacements : Replace the pitch trim actuator with one of the following in accordance with the instructions in the applicable maintenance manual at the times specified in the Initial Inspection and Repetitive Inspection columns of the chart in paragraph (b) of this AD and, replace the pitch trim actuator prior to further flight if certain freeplay limitations that are specified in the service letters are exceeded or if rod slippage is found.

(i) A new Simmonds-Precision actuator, P/N DL5040M5 or DL5040M6.

(ii) A pitch trim actuator with an overhauled, zero-timed part of the same design and part number.

(iii) A new actuator of improved design, P/N 27-19008-001 or 27-19008-002.

This replacement eliminates the repetitive inspection and replacement requirements of this AD, and may be accomplished at any time to eliminate the inspection requirement of this AD.

(b) The following chart presents the initial and repetitive inspection and replacement compliance times of this AD:

<u>Condition</u>	<u>Initial Inspection</u>	<u>Repetitive Inspection</u>	<u>Repetitive Replacement</u>
With an original Simmonds-Precision actuator, P/N DL5040M5, installed.	Upon accumulating 3,000 hours TIS on a Simmonds-Precision P/N DL5040M5 actuator or within 50 hours TIS after April 17, 1995 (the effective date of AD 93-15-02 R1), whichever occurs later.	Every 250 hours TIS after initial inspection until accumulating 5,000 hours TIS on the actuator or 500 hours TIS after the last inspection required by AD 93-15-02 R1, whichever occurs later.	Initially upon accumulating 5,000 hours TIS on the actuator or 500 hours TIS after the initial inspection, whichever occurs later, and thereafter as indicated below.

<u>Condition</u>	<u>Initial Inspection</u>	<u>Repetitive Inspection</u>	<u>Repetitive Replacement</u>
With a replacement Simmonds-Precision actuator, P/N DL5040M5, installed.	Initially upon accumulating 5,000 hours TIS on the new actuator.	Every 300 hours TIS after the initial inspection until accumulating 6,500 hours TIS on the actuator.	Upon accumulating 6,500 hours TIS on the actuator.
With a replacement Simmonds-Precision actuator, P/N DL5040M6, installed. This part can be new, modified from a P/N DL5040M5 actuator or overhauled and zero-timed.	Initially upon accumulating 7,500 hours TIS on the new or modified actuator.	Every 300 hours TIS after the initial inspection until accumulating 9,900 hours TIS on the actuator.	Upon accumulating 9,900 hours TIS on the actuator.

<u>Condition</u>	<u>Initial Inspection</u>	<u>Repetitive Inspection</u>	<u>Repetitive Replacement</u>
<p>With a replacement P/N DL5040M5 actuator installed that was overhauled and zero-timed where both nut assemblies, P/N AA56142, were replaced with new assemblies during overhaul.</p>	<p>Initially upon accumulating 5,000 hours TIS on the overhauled actuator.</p>	<p>Every 300 hours TIS after the initial inspection until accumulating 6,500 hours TIS on the actuator.</p>	<p>Upon accumulating 6,500 hours TIS on the actuator.</p>

<u>Condition</u>	<u>Initial Inspection</u>	<u>Repetitive Inspection</u>	<u>Repetitive Replacement</u>
With a replacement P/N DL5040M5 actuator installed that was overhauled and zero-timed where both nut assemblies, P/N AA56142, were not replaced with new assemblies during overhaul.	Initially upon accumulating 3,000 hours TIS on the overhauled actuator.	Every 250 hours TIS after the initial inspection until accumulating 5,000 hours TIS on the actuator.	Upon accumulating 5,000 hours TIS on the actuator.
With a pitch trim actuator of improved design installed, P/N 27-19008-001 or 27-19008-002.	No action necessary	No action necessary	No action necessary

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(d) An alternative method of compliance or adjustment of the initial or repetitive compliance times that provides an equivalent level of safety may be approved by the Manager, Airplane Certification Office (ACO), FAA, 2601 Meacham Boulevard, Fort Worth, Texas 76193-0150. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Fort Worth ACO.

NOTE 4: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Fort Worth ACO.

(e) The inspections and modification required by this AD shall be done in accordance with Fairchild Aircraft SA226 Series Service Letter 226-SL-005, and Fairchild Aircraft SA227 Series Service Letter 227-SL-011, both Issued: April 8, 1993, Revised: May 22, 1996, as applicable. This incorporation by reference is 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 Field Support Engineering, Fairchild Aircraft, P.O. Box 790490, San Antonio, Texas 78279-0490. Copies may be inspected at the FAA, Central Region, Office of the Assistant Chief Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(f) This amendment (39-9689) revises AD 93-15-02 R1, Amendment 39-9180.

(g) This amendment becomes effective on July 25, 1996.

FOR FURTHER INFORMATION CONTACT:

Mr. Werner Koch, Aerospace Engineer, FAA, Airplane Certification Office, 2601 Meacham Boulevard, Fort Worth, Texas 76193-0150; telephone (817) 222-5133; facsimile (817) 222-5960.