

## DEPARTMENT OF TRANSPORTATION

## Federal Aviation Administration

## 14 CFR Part 39

[Docket No. 96-CE-58-AD; Amendment 39-10318; AD 98-04-05]

RIN 2120-AA64

**Airworthiness Directives; Fairchild Aircraft Incorporated Models SA226-TC, SA226-T, SA226-T(B), and SA226-AT Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD) that applies to certain Fairchild Aircraft Incorporated (Fairchild) Models SA226-TC, SA226-T, SA226-T(B), and SA226-AT airplanes. This action requires inspecting the center flap hinge and wing trailing edge ribs at the flap actuator attach brackets for cracks and if no cracks are found, installing a doubler on the rib, or replacing a cracked rib with a new rib assembly that is reinforced with a doubler. This action is the result of high local stress concentration, which led to fatigue cracking of the wing trailing edge ribs. The actions specified by this AD are intended to prevent asymmetrical flap deflection, which could force the airplane into an uncommanded roll with possible loss of control of the airplane.

**DATES:** Effective March 10, 1998.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 10, 1998.

**ADDRESSES:** Service information that applies to this AD may be obtained from Fairchild Aircraft Inc., P. O. Box 32486, San Antonio, Texas, 78284; telephone (210) 824-9421. This information may also be examined at the Federal Aviation Administration (FAA), Central Region, Office of the Regional Counsel, Attention: Rules Docket 96-CE-58-AD, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Mr. Hung Viet Nguyen, Aerospace Engineer, FAA, Fort Worth Airplane Certification Office, 2601 Meacham Boulevard, Fort Worth, Texas 76193-0150; telephone (817) 222-5155; facsimile (817) 222-5960.

**SUPPLEMENTARY INFORMATION:**

**Events Leading to the Issuance of This AD**

A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to Fairchild Models SA226-TC, SA226-T, SA226-T(B), and SA226-AT airplanes was published in the **Federal Register** on June 11, 1997 (62 FR 31766). The action proposed to require:

- Inspecting the wing trailing edge ribs at wing stations (WS) 98.385 and 100.635 for cracks,
- Replacing any cracked rib with a new rib assembly (part number (P/N) 27-31085-1/2 or 27-31086-1/2 or an FAA-approved equivalent part number), and
- Installing a reinforcement doubler (P/N 27K36075-7 or an FAA-approved equivalent part number), whether or not cracks are found.

Accomplishment of the proposed action would be in accordance with Fairchild Aircraft SA226 Series Service Bulletin SB 57-016, Issued: June 25, 1981; Revised: December 9, 1981.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comment received.

The commenter agrees with the proposed action and also notes a mistake in the serial numbers listed for the Model SA226-T(B) airplane in the applicability section of the proposed action. Instead of Model SA226-T(B), serial numbers T(B)275, and T(B)292 through T(B)378, the applicability section should read Model SA226-T(B), serial numbers T(B)276, and T(B)292 through T(B)378.

The FAA concurs with this comment and will change the applicability in the AD to reflect the changed serial numbers for Model SA226-T(B) airplanes.

**The FAA's Determination**

After careful review of all available information related to the subject presented above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed except for the serial number change noted above and any minor editorial corrections. The FAA has determined that these minor corrections will not change the meaning of the AD and will not add any additional burden upon the public than was already proposed.

**Cost Impact**

The FAA estimates that 240 airplanes in the U.S. registry will be affected by this AD, that it will take approximately

100 workhours per airplane to accomplish the installation of the doubler and 180 workhours per airplane to accomplish the installation of the new rib assembly and doubler, and that the average labor rate is approximately \$60 an hour. Parts cost approximately \$133 for both wing rib assemblies per airplane. The doubler can be manufactured from locally supplied materials. Based on these figures, the total cost impact of this AD on U.S. operators is estimated to be \$2,623,920 for the U.S. fleet or \$10,933 per airplane for the rib assembly and doubler installations. The labor cost for the doubler installation is \$6,000 per airplane and the doubler can be manufactured from locally supplied materials.

**Regulatory Flexibility Determination and Analysis**

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily or disproportionately burdened by government regulations. The RFA requires government agencies to determine whether rules will have a "significant economic impact on a substantial number of small entities," and, in cases where the rule will have an economic impact, the agency making the rule is obligated to conduct a Regulatory Flexibility Analysis in which alternatives to the rule are considered. FAA Order 2100.14A, Regulatory Flexibility Criteria and Guidance, outlines FAA procedures and criteria for complying with the RFA. Small entities are defined as small businesses, small not-for-profit organizations that are independently owned and operated, or airports operated by small governmental jurisdictions. A "substantial number" is defined as a number that is not less than 11 and that is more than one-third of the small entities subject to a rule, or any number of small entities judged to be substantial by the rulemaking official. A "significant economic impact" is defined by an annualized net compliance cost, adjusted for inflation, which is greater than a threshold cost level for defined entity types.

There are an estimated 240 Fairchild SA226 series airplanes in the U.S. registry that will be affected by this action. For many of these airplanes, it is believed that the actions have already been completed. The entities affected by this AD are largely grouped in the Standard Industrial Classification (SIC) 4512, Operators of Aircraft for Hire, classified as "Unscheduled." FAA Order 2100.14A, Regulatory Flexibility Criteria and Guidance, defines a small

entity in this classification as one that owns or operates nine or fewer aircraft.

In order to experience a significant economic impact under Order 2100.14A, an operator of aircraft for hire, unscheduled, will have to incur annualized costs of \$4975 (1996 dollars) or more. Costs are estimated to be approximately \$6,000 per airplane if only the doubler plates are installed, or as much as \$10,933 per airplane if any ribs are found cracked and a rib assembly replacement is required, in addition to installing the doubler plate. Annualized costs are dependent on the required work, the cost of capital for airplane owners/operators, and the expected length of time that the required changes are expected to be in use. Since the changes are assumed to be permanent, the service life of the changes is the remaining life of the airplane. The cost of capital for the airplane owners/operators is assumed to be 15 percent. Under these conditions, no owner/operator of a single airplane will be subject to significant costs if the expected remaining service life of the aircraft is more than:

(a) 1.43 years (approximately 17 months), if the doubler plate installation is required; or

(b) 2.9 years (approximately 35 months) if both the doubler plate installation and rib replacement is required.

Ownership of the Model SA226 series airplanes (i.e.: the airplanes other than the Model SA226-TC) is very widely dispersed. There are five separate entities (excluding Swearingen) that show ownership of Model SA226 series airplanes in the U.S. Registry, each of which owns two Model SA226 series airplanes. According to the manufacturer, these airplanes typically have less than 10,000 hours total time-in-service (TIS), and are employed primarily as corporate aircraft with usage rates at approximately 400 hours TIS per year. Allocating a nominal remaining service life of 25,000 hours total TIS (out of a total service life of 35,000 hours) at the rate of 500 hours TIS per year, suggests remaining lives on the order of 50 years. Even with a remaining service life of half of this, or 25 years, annualized costs for both doubler plate installation and rib replacement would be on the order of \$1,715. Thus, an owner of two such airplanes will experience annualized costs for the action of approximately \$3,430, which is a figure less than 70 percent of threshold value for significant cost.

The manufacturer indicates that most of the Fairchild Model SA226-TC airplanes (80 of which were listed in the

U.S. Registry records), have probably been modified under the 1981 service bulletin that will be made mandatory by this AD. Fairchild Model SA226-TC airplanes in service have average cumulative usage of approximately 25,000 to 30,000 hours total TIS, with a likely average annual usage in cargo service of 1,000 to 1,500 hours TIS, and an economic life of 35,000 hours total TIS. This suggests that most Fairchild Model SA226-TC airplanes have remaining lives of about five years (even without the modifications that are likely to extend the life of the aircraft). A five-year life for an airplane required to carry out both modifications implies that annualized costs will be approximately \$3,300. Thus, an owner of a single aging unmodified Fairchild Model SA226-TC airplane will not experience a significant economic impact.

According to U.S. Registry records, there are 12 entities (excluding Swearingen) that own 2 or more Fairchild Model SA226-TC airplanes, accounting for a total of 49 airplanes. Because of the age of the aircraft and the likelihood of compliance with the original service bulletin (dated 1981), the FAA believes that significant impacts will not be felt by most owners of these airplanes. In addition, the eight owners of two or more of these airplanes account for less than one-tenth of the affected entities. For these reasons, the FAA has determined that this AD will not have a significant economic impact on a substantial number of small aircraft operators. The FAA solicited comments concerning the impact of this action on small entity owners of affected airplanes. Based on the possibility that the AD could have a significant impact on a substantial number of small entities, the FAA conducted a regulatory flexibility analysis.

A copy of the full Cost Analysis and Regulatory Flexibility Determination for this action may be examined at the FAA, Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 96-CE-58-AD, Room 1558, 601 E. 12th Street, Kansas City, Missouri.

#### FAA's Aging Commuter Aircraft Policy

This action is consistent with the FAA's aging commuter airplane policy. This policy simply states that reliance on repetitive inspections of critical areas on airplanes utilized in commuter service carries an unnecessary safety risk when a design change exists that could eliminate or, in certain instances, reduce the number of those critical inspections. The alternative to installing the doubler or the new rib assembly would be relying on repetitive

inspections to detect damaged wing ribs.

#### 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) 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 final evaluation prepared for this action is contained 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.

##### § 39.13 [Amended]

2. Section 39.13 is amended by adding a new airworthiness directive (AD) to read as follows:

##### 98-04-05 Fairchild Aircraft Inc.:

Amendment 39-10318; Docket No. 96-CE-58-AD.

**Applicability:** The following Models and serial numbered airplanes, certificated in any category.

Models	Serial Nos.
SA226-TC .....	TC201 through TC379;
SA226-T .....	T201 through T275, and T277 through T291;

Models	Serial Nos.
SA226-T(B) .....	T(B)276, and T(B)292 through T(B)378;
SA226-AT .....	AT001 through AT069.

**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 (c) 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 within the next 500 hours time-in-service (TIS) after the effective date of this AD, unless already accomplished.

**Note 2:** The compliance time of this AD takes precedence over the compliance time in the Fairchild Service Bulletin referenced below.

To prevent asymmetrical flap deflection, which could force the airplane into an uncommanded roll with possible loss of control of the airplane, accomplish the following:

(a) Inspect both wing trailing edge ribs at the center flap actuator attach brackets, wing stations (WS) 98.385 and 100.635, for cracks in accordance with the ACCOMPLISHMENT INSTRUCTIONS section, PART A, of Fairchild Aircraft Service Bulletin (SB) 57-016, Issued: June 25, 1981; Revised: December 9, 1981.

(1) If no cracks are found, prior to further flight, install the reinforcement doubler, part number(P/N) 27K36075-7, or an FAA-approved equivalent part number, in accordance with the ACCOMPLISHMENT INSTRUCTIONS section, PART B of Fairchild SB 57-016, Issued: June 25, 1981; Revised: December 9, 1981.

(2) If any cracks are found, prior to further flight, replace any cracked rib with a new rib assembly (P/N 27-31085-1/2 or 27-31086-1/2 or an FAA-approved equivalent part number) and install the new reinforcement doubler (P/N 27K36075-7 or an FAA-approved equivalent part number) in accordance with the ACCOMPLISHMENT INSTRUCTIONS section, PART B and PART C of Fairchild SB 57-016, Issued: June 25, 1981; Revised: December 9, 1981.

(b) 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.

(c) An alternative method of compliance or adjustment of the compliance time that provides an equivalent level of safety may be approved by the Manager, Fort Worth Airplane Certification Office, 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 Airplane Certification Office.

**Note 3:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from Fort Worth Airplane Certification Office.

(d) The inspection, installation, and replacement required by this AD shall be done in accordance with Fairchild Service Bulletin SA226 Series SB 57-016, Issued: June 25, 1981; Revised: December 9, 1981. This incorporation by reference was 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 Fairchild Aircraft Inc., P.O. Box 32486, San Antonio, Texas, 78284. Copies may be inspected at the FAA, Central Region, Office of the Regional 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.

(e) This amendment (39-10318) becomes effective on March 10, 1998.

Issued in Kansas City, Missouri, on February 2, 1998.

**Carolanne L. Cabrini,**

*Acting Manager, Small Airplane Directorate, Aircraft Certification Service.*

[FR Doc. 98-3397 Filed 2-13-98; 8:45 am]

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 94-ANE-43; Amendment 39-10325; AD 98-04-13]

RIN 2120-AA64

### Airworthiness Directives; Rolls-Royce Limited Dart Series Turboprop Engines

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment supersedes an existing airworthiness directive (AD), applicable to Rolls-Royce Limited (R-R) Dart series turboprop engines, that currently establishes a life limit for propeller low torque switches. This amendment adds two propeller low torque switch part numbers and two R-R Dart engine models that were omitted from the current AD, and establishes a calendar end-date for removal of propeller low torque switches from service. This amendment is prompted by the need to add omitted part numbers and engine models to the AD. The actions specified by this AD are intended to prevent cracking of the snap diaphragm in the propeller low torque

switch, which could delay propeller auto-feathering and thereby adversely affect aircraft controllability.

**DATES:** Effective March 24, 1998.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 24, 1998.

**ADDRESSES:** The service information referenced in this AD may be obtained from Rolls-Royce plc, Attn: Dart Engine Service Manager, East Kilbride, Glasgow G74 4PY, Scotland. This information may be examined at the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA 01803-5299; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Jason Yang, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7747, fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding Airworthiness Directive (AD) 90-08-12, Amendment 39-6473 (55 FR 12477, April 4, 1990), which is applicable to Rolls-Royce Limited (R-R) Dart series turboprop engines, was published in the **Federal Register** on October 2, 1995 (60 FR 51377). That action proposed to add two propeller low torque switch part numbers and two R-R Dart engine models that were omitted from AD 90-08-12. In addition, the proposed AD establishes 30 days after the effective date of the AD as a calendar end-date for removal of propeller low torque switches.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposal or the FAA's determination of the cost to the public. The manufacturer has confirmed that since the issuance of the NPRM, all affected engines have had the low torque switch removed. Therefore, there are no affected engines installed on aircraft of U.S. registry and further opportunity for comment is unnecessary.

The FAA has made some changes to the applicability paragraph of this AD to reflect the lack of affected engines installed on aircraft of U.S. registry and changes from Mk. to Mk. series.

There are approximately 2,880 engines of the affected design in the worldwide fleet. The FAA estimates that