

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Part 39**

[Docket No. 96-CE-25-AD; Amendment 39-10170; AD 97-22-01]

RIN 2120-AA64

Airworthiness Directives; Pilatus Britten-Norman Ltd. (Formerly Britten-Norman) BN-2A, BN-2B, and BN-2T Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive that applies to Pilatus Britten-Norman Ltd. (Pilatus Britten-Norman) BN-2A, BN-2B, and BN-2T series airplanes. This AD requires repetitively inspecting the junction of the torque link lug and upper case of the main landing gear (MLG) torque link assemblies for cracks, and replacing any MLG torque link assembly with a Modification A39 MLG torque link assembly, either immediately when cracks are found or after a certain period of time if cracks are not found. Replacing all MLG torque link assemblies with Modification A39 MLG torque link assemblies eliminates the need for the repetitive inspections. These repetitive inspections are currently required by AD 86-07-02 for the BN-2A, BN-2B, and BN-2T series airplanes, as well as the BN2A MK. 111 series airplanes. There are no improved design parts for the BN2A MK. 111 series airplanes. The Federal Aviation Administration (FAA) is issuing in a separate action a revision to AD 86-07-02 to retain the repetitive inspection and replacement (if necessary) requirements for the BN2A MK. 111 series airplanes. The actions specified in this AD are intended to prevent failure of the main landing gear caused by cracks in the torque link area, which could lead to loss of control of the airplane during landing operations.

DATES: Effective November 28, 1997.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of November 28, 1997.

ADDRESSES: Service information that applies to this AD may be obtained from Fairey Hydraulics Limited, Claverham, Bristol, England; or Pilatus Britten-Norman Limited, Bembridge, Isle of Wight, United Kingdom PO35 5PR; telephone 44-1983 872511; facsimile 44-1983 873246. This information may

also be examined at the FAA, Central Region, Office of the Regional Counsel, Attention: Rules Docket 96-CE-25-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. S.M. Nagarajan, Aerospace Engineer, Small Airplane Directorate, Airplane Certification Service, FAA, 1201 Walnut, suite 900, Kansas City, Missouri 64106; telephone (816) 426-6932; facsimile (816) 426-2169.

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 Pilatus Britten-Norman BN-2A, BN-2B, and BN-2T series airplanes was published in the **Federal Register** as a notice of proposed rulemaking (NPRM) on May 27, 1997 (62 FR 28646). The NPRM proposed to require repetitively inspecting the junction of the torque link lug and upper case of the MLG torque link assemblies for cracks, and replacing any MLG torque link assembly with a Modification A39 MLG torque link assembly, either immediately when cracks are found or at a certain period of time if cracks are not found. Installation of the improved part would eliminate the need for the repetitive inspections. Accomplishment of the proposed inspections and installation as specified in the NPRM would be in accordance with Fairey Hydraulics Limited SB 32-4, Issue 4, dated January 30, 1990.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposed rule or the FAA's determination of the cost to the public.

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 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.

The FAA's Aging Commuter-Class Airplane Policy

This AD applies to the FAA's aging commuter-class airplane policy. This

policy simply states that reliance on repetitive inspections of critical areas on commuter-class airplanes 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 issuing this AD would be to rely on repetitive inspections to detect failure of the MLG torque link assemblies on the affected airplanes.

The intent of the FAA's aging commuter airplane program is to ensure safe operation of commuter-class airplanes that are in commercial service without adversely impacting private operators. Of the approximately 112 airplanes in the U.S. registry that would be affected by this AD, the FAA has determined that approximately 25 percent are operated in scheduled passenger service by 11 different operators. A significant number of the remaining 75 percent are operated in other forms of air transportation such as air cargo and air taxi.

This AD allows at least 1,000 hours TIS after the effective date of the AD before mandatory accomplishment of the design modification (upon the accumulation of 5,000 hours TIS or within the next 1,000 hours TIS after the effective date of the AD, whichever is later). The average utilization of the fleet for those airplanes in commercial commuter service is approximately 25 to 50 hours TIS per week. Based on these figures, operators of commuter airplanes involved in commercial operation will have to accomplish the replacement within 5 to 10 calendar months (at the least) after this AD becomes effective. For private owners, who typically operate between 100 to 200 hours TIS per year, this will allow 5 to 10 years (at the least) before the replacement becomes mandatory. The time it would take those in air cargo/air taxi operations before the replacement becomes mandatory is unknown because of the wide variation between each airplane used in this service. The exact numbers would fall somewhere between the average for commuter operators and private operators.

Cost Impact

The FAA estimates that 112 airplanes in the U.S. registry will be affected by this AD, that it will take approximately 13 workhours per airplane to accomplish this AD (1 workhour per inspection and 12 workhours for the installation), and that the average labor rate is approximately \$60 an hour. Parts cost approximately \$6,200 per airplane. Based on these figures, the total cost impact of this AD on U.S. operators is

estimated to be \$781,760 or \$6,980 per airplane.

The inspections are currently required on the 112 affected airplanes by AD 86-07-02. This AD would not require any additional inspection requirements over that already required by AD 86-07-02. In addition, the cost figures referenced above are based on the presumption that no affected airplane operator has incorporated the inspection-terminating installation. Pilatus Britten-Norman does not know the number of parts distributed to the affected airplane owners/operators. Numerous sets of parts were sent out to the owners/operators of the affected airplanes, but over the years Pilatus Britten-Norman has not retained these records.

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 would have a "significant economic impact on a substantial number of small entities," and, in cases where they would, 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 and 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.

The entities that would be affected by this AD are mostly in the portion of Standard Industrial Classification (SIC) 4512, Operators of Aircraft for Hire, classified as "unscheduled." FAA Order 2100.14A sets the size threshold for small entities operating aircraft in this category at nine or fewer aircraft owned and the annualized cost thresholds of at least \$4,975 (1996 dollars) for unscheduled operators. A four-year life for the torque link assembly and capital cost of 15-percent would establish an annualized cost of \$2,445 (1996 dollars). This is less than 50-percent of the

threshold cost of \$4,975 per year. In order to incur costs of at least \$4,975, an entity would have to operate three or more of the airplanes referenced in this AD. FAA data shows that only five small entities operate three or more of these airplanes. In addition, this data shows that approximately 60 entities operate the airplanes referenced in this AD, but that only 15 of these entities (one-fourth) operate two or more of these airplanes.

Based on this information, less than one-third of the entities will incur significant operating costs under FAA Order 2100.14A. Therefore, this AD will not significantly affect a number of small entities.

A copy of the full Cost Analysis and Regulatory Flexibility Determination for this AD may be examined at the FAA, Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 96-CE-25-AD, Room 1558, 601 E. 12th Street, Kansas City, Missouri.

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 U.S.C. 106(g), 40113, 44701.

§39.13 [Amended]

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

97-22-01 Pilatus Britten-Norman:

Amendment 39-10170; Docket No. 96-CE-25-AD.

Applicability: Models BN-2, BN-2A, BN-2A-2, BN-2A-3, BN-2A-6, BN-2A-8, BN-2A-9, BN-2A-20, BN-2A-21, BN-2A-26, BN-2A-27, BN-2B-20, BN-2B-21, BN-2B-26, BN-2B-27, and BN-2T airplanes (all serial numbers), certificated in any category.

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 (f) of this AD. The request should include an assessment of the effect of the replacement, 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 after the effective date of this AD, unless already accomplished.

To prevent failure of the main landing gear caused by cracks in the torque link assembly area, which could lead to loss of control of the airplane during landing operations, accomplish the following:

(a) Prior to further flight after the effective date of this AD or within the next 100 hours time-in-service (TIS) after the last inspection required by AD 86-07-02, whichever occurs later, and thereafter at intervals not to exceed 100 hours TIS until the installations required by paragraph (c) of this AD are accomplished, inspect the junction of the torque link lug and upper case of all main landing gear (MLG) torque link assemblies for cracks (using a 10-power magnifying glass or by dye penetrant methods). Accomplish these inspections in accordance with the ACCOMPLISHMENT INSTRUCTIONS section of Fairey Hydraulics Limited Service Bulletin (SB) 32-4, Issue 4, dated January 30, 1990. Pilatus Britten-Norman SB BN-2/SB.170, Issue 4, November 16, 1990, references this service bulletin.

Note 2: The inspections required by paragraph (a) of this AD were initially a part of AD 86-07-02, which applied to the BN2A MK. 111 series airplanes as well as the airplanes affected by this AD. The "prior to further flight after the effective date of this AD" compliance time was the original initial compliance time of AD 86-07-02, and is being retained to provide credit and continuity for already-accomplished and future inspections.

(b) If any cracks are found during any of the inspections required by this AD, prior to further flight, replace the MLG torque link assembly with a Modification A39 MLG torque link assembly in accordance with the ACCOMPLISHMENT INSTRUCTIONS section of Fairey Hydraulics Limited SB No. 32-4, Issue 4, dated January 30, 1990.

(1) Repetitive inspections are no longer required when all MLG torque assemblies are replaced with Modification A39 MLG torque link assemblies.

(2) Repetitive inspections may no longer be required on one MLG torque assembly, but still be required on another if all haven't been replaced with a Modification A39 MLG torque link assembly.

(c) Upon the accumulation of 5,000 hours TIS or within the next 1,000 hours TIS after the effective date of this AD, whichever occurs later, unless already accomplished as specified in paragraph (b) of this AD, replace each MLG torque link assembly with a Modification A39 MLG torque link assembly in accordance with the ACCOMPLISHMENT INSTRUCTIONS section of Fairey Hydraulics Limited SB No. 32-4, Issue 4, dated January 30, 1990.

(d) The intervals between the repetitive inspections required by this AD may be adjusted up to 10 percent of the specified interval to allow accomplishing these actions along with other scheduled maintenance on the airplane.

(e) 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 inspection requirements of this AD can be accomplished.

(f) 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, Small Airplane Directorate, 1201 Walnut, suite 900, Kansas City, Missouri 64106. The request should be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Small Airplane Directorate.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Small Airplane Directorate.

(g) The inspections and replacement required by this AD shall be done in accordance with Fairey Hydraulics Limited Service Bulletin (SB) 32-4, Issue 4, dated January 30, 1990. 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 Fairey Hydraulics Limited, Claverham, Bristol, England; or Pilatus Britten-Norman Limited, Bembridge, Isle of Wight, United Kingdom PO35 5PR. 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.

(h) This amendment (39-10170) becomes effective on November 28, 1997.

Issued in Kansas City, Missouri, on October 14, 1997.

Mary Ellen Schutt,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 97-27795 Filed 10-20-97; 8:45 am]

BILLING CODE 4910-13-U

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 97-NM-246-AD; Amendment 39-10169; AD 97-19-16]

RIN 2120-AA64

Airworthiness Directives; Fokker Model F28 Mark 0100 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This document publishes in the **Federal Register** an amendment adopting airworthiness directive (AD) 97-19-16, that was sent previously to all known U.S. owners and operators of Fokker Model F28 Mark 0100 series airplanes equipped with Rolls-Royce Tay 650-15 engines, by individual notices. This AD requires a revision to the FAA-approved Airplane Flight Manual (AFM) to include procedures to prohibit use of reverse engine thrust power settings between idle and emergency maximum; and submission of a report to the airplane manufacturer. This action is prompted by a report that, during preparation for takeoff, an engine fan blade failure occurred, followed by an engine fire. The actions specified by this AD are intended to prevent uncontained engine fan blade failure due to high cycle fatigue cracking, which could result in loss of thrust from the affected engine and secondary damage to aircraft and/or fire.

DATES: Effective October 27, 1997, to all persons except those persons to whom it was made immediately effective by emergency AD 97-19-16, issued on September 12, 1997, which contained the requirements of this amendment.

Comments for inclusion in the Rules Docket must be received on or before November 20, 1997.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 97-NM-246-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

FOR FURTHER INFORMATION CONTACT: Tim Dulin, Aerospace Engineer,

Standardization Branch, ANM-113, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2141; fax (425) 227-1320.

SUPPLEMENTARY INFORMATION: On September 12, 1997, the FAA issued emergency AD 97-19-16, which is applicable to Fokker Model F28 Mark 0100 series airplanes equipped with Rolls-Royce (RR) Tay 650-15 engines.

That action was prompted by a report that during preparation for takeoff, a Fokker Model F28 Mark 0100 series airplane equipped with Rolls-Royce Tay 650-15 engines sustained an engine fan blade failure, followed by an engine fire. Investigation revealed that five fan blades failed at the root area, three fan blades failed at mid-height, and the remainder were severely damaged.

Further investigation revealed that all five fan blades failed due to rapid high cycle fatigue cracking with low cycle fatigue cracking origin. Evidence of rapid high cycle fatigue cracking indicates that an operational effect is causing high vibratory stresses. Rolls Royce considers that the high cycle fatigue cracking was caused by vibration during previous thrust reverser applications. This condition, if not corrected, could result in uncontained engine fan blade failure due to high cycle fatigue cracking, which could result in loss of thrust from the affected engine and secondary damage to aircraft and/or fire.

FAA's Conclusions

This airplane model is manufactured in the Netherlands and is type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Pursuant to this bilateral airworthiness agreement, the Rijksluchtvaartdienst (RLD), which is the airworthiness authority for the Netherlands, has kept the FAA informed of the situation described above. The FAA has examined the findings of the RLD, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

Explanation of the Requirements of the Rule

Since the unsafe condition described is likely to exist or develop on other airplanes of the same type design registered in the United States, the FAA issued emergency AD 97-19-16 to require a revision to the FAA-approved Airplane Flight Manual (AFM). The