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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2005-20947; Directorate Identifier 2004-NM-245-AD; Amendment 39-14364; AD 2005-23-06]

RIN 2120-AA64

Airworthiness Directives; Learjet Model 23, 24, 24A, 24B, 24B-A, 24D, 24D-A, 24E, 24F, 25, 25A, 25B, 25C, 25D, and 25F Airplanes Modified by Supplemental Type Certificate SA1731SW, SA1669SW, or SA1670SW

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Learjet Model 23, 24, 24A, 24B, 24B-A, 24D, 24D-A, 24E, 24F, 25, 25A, 25B, 25C, 25D, and 25F airplanes. This AD requires removing the thrust reverser accumulator, and making the thrust reverser hydraulic system and the thrust reversers inoperable. This AD results from reports of the failure of two thrust reverser accumulators. We are issuing this AD to prevent failure of the thrust reverser accumulators, due to fatigue cracking on the female threads, which could result in the loss of hydraulic power and damage to the surrounding airplane structure.

DATES: This AD becomes effective December 19, 2005.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of December 19, 2005.

ADDRESSES: You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC.

Contact The Nordam Group, Nacelle/Thrust Reverser Systems Division, 6911 North Whirlpool Drive, Tulsa, Oklahoma 74117, for service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Jim Rankin, Aerospace Engineer, Special Certification Office, ASW-190, FAA, Rotorcraft Directorate, 2601 Meacham Boulevard, Fort Worth, Texas 76137-4298; telephone (817) 222-5138; fax (817) 222-5785.

SUPPLEMENTARY INFORMATION:

Examining the Docket

You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the street address stated in the ADDRESSES section.

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to certain Learjet Model 23, 24, 24A, 24B, 24B-A, 24D, 24D-A, 24E, 24F, 25, 25A, 25B, 25C, 25D, and 25F airplanes. That NPRM was published in the Federal Register on April 14, 2005 (70 FR 19718). That NPRM proposed to require removing the thrust reverser accumulator, and making the thrust reverser hydraulic system and the thrust reversers inoperable.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

Request To Withdraw NPRM

One commenter does not support the NPRM. The commenter asserts that deactivating the thrust reversers will cause more accidents, especially under wet or winter runway conditions. The commenter also asserts that one in-flight failure of a thrust reverser does not justify the NPRM given the countless safe operations without thrust reverser failures. The commenter states that "[the FAA] also [has] not looked or measured the increase of accidents that will be caused by this [NPRM]." As further justification for not supporting the NPRM, the commenter states that the NPRM does not account for the cost of brake and tire wear that would be incurred if the thrust reversers are deactivated. We infer that the commenter would like us to withdraw the NPRM.

We do not agree, since we have determined that an unsafe condition exists, and that the interim actions of this AD are necessary to ensure the continued safety of the affected fleet. The one thrust reverser failure on a Learjet Model 25B airplane that occurred in flight led to an emergency landing. A second failure occurred during proof testing and resulted in injury to a person. We acknowledge the commenter's concern with deactivating the thrust reversers; however, the affected Model 23, 24, 24A, 24B, 24B-A, 24D, 24D-A, 24E, 24F, 25, 25A, 25B, 25C, 25D, and 25F airplanes were not originally type certificated with thrust reversers installed. Furthermore, we estimate that half of these Learjet model airplanes in service today are operating without thrust reversers. Therefore, an increase in accidents due to deactivation of the affected thrust reversers is unlikely.

Regarding the cost impact of this AD, we point out that the economic analysis of the AD is limited only to the cost of actions actually required by the AD; it does not include incidental costs. In any case, we have determined that direct and incidental costs are outweighed by the safety benefits of this AD. Therefore, no change to this AD is necessary in this regard.

Request To Revise Requirements of NPRM

Two commenters request that we revise the NPRM to require repetitive nondestructive testing or x-ray inspections of the thrust reverser accumulator, instead of proposing to deactivate the thrust reversers. One of the commenters states that inspection of the suspected point of failure (the female

threads of the accumulator) would be sufficient to prevent failure of the thrust reverser accumulator. The commenter suggests that deactivation of the thrust reversers could be required if damage is found during an inspection.

We do not agree, since the commenters provide no technical justification for revising the requirements of this AD. The history of crack growth on the affected thrust reversers is unknown. In addition, there have been no studies done to determine an appropriate inspection interval for providing an acceptable level of safety. As stated in the NPRM, the parts manufacturer currently is developing a modification that will address the unsafe condition of this AD. Once this modification is developed, approved, and available, we may consider additional rulemaking. Therefore no change to this AD is necessary in this regard.

Request To Expand Applicability

One commenter, the parts manufacturer, requests that we delete reference to Supplemental Type Certificates (STCs) SA1731SW, SA1669SW, and SA1670SW from the applicability of the NPRM. The commenter states this change will ensure that the NPRM is also applicable to other Learjet Model 23, 24, 24A, 24B, 24B-A, 24D, 24D-A, 24E, 24F, 25, 25A, 25B, 25C, 25D, and 25F airplanes equipped with the affected thrust reverser accumulators. As an example, the commenter mentions that Model 24, 24B, 24D, 24F, 25, 25B, 25C, and 25D airplanes modified by STC SA944NW are also equipped with the affected thrust reverser accumulators, but are not included in the applicability of the NPRM.

We do not agree. We have determined that Model 24, 24B, 24D, 24F, 25, 25B, 25C, and 25D airplanes modified by STC SA944NW do not need to be added to the applicability of this AD. The thrust reverser accumulator is an optional installation for STC SA944NW. The current STC holder did not purchase the thrust reverser data, and the thrust reverser accumulators cannot be installed without using the STCs identified in this AD. Furthermore, deleting reference to STCs SA1731SW, SA1669SW, and SA1670SW would expand the applicability of this AD, creating further delay in addressing the unsafe condition. If we become aware of affected thrust reverser accumulators equipped on other Learjet Model 23, 24, 24A, 24B, 24B-A, 24D, 24D-A, 24E, 24F, 25, 25A, 25B, 25C, 25D, and 25F airplanes, we will consider further rulemaking.

Operators should note that on August 12, 2005 we issued an NPRM, Docket No. FAA-2005-22169 (70 FR 49210, August 23, 2005), related to the unsafe condition of this AD. The related NPRM proposes to require replacement of the spherical accumulator for the main hydraulic system with a new cylindrical accumulator. The related NPRM is applicable to certain Learjet Model 23, 24, 24A, 24B, 24B-A, 24C, 24D, 24D-A, 24E, 24F, 24F-A, 25, 25A, 25B, 25C, 25D, and 25F airplanes. The spherical accumulator used for the main airplane hydraulic system on those Learjet model airplanes is similar to the spherical accumulator used for the thrust reverser hydraulic system addressed in this AD. The actions proposed in the related NPRM are intended to prevent failure of the spherical accumulator for the main hydraulic system, due to fatigue cracking on the threads, which could result in the loss of hydraulic power, damage to the surrounding airplane structure, and loss of airplane control. The failure of the accumulator could also result in injury to any persons in the surrounding area. The loss of hydraulic fluid could also leak onto a potential source of ignition and result in a consequent fire.

Request To Include Final Action

One commenter recommends adding information about the final action being developed under FAA project ST8103SC-T. The commenter states that referencing the proposed STC number would provide information to operators about the final action.

We do not agree. As stated in an earlier comment, we may consider additional rulemaking once a modification is developed, approved, and available. Therefore no change to this AD is necessary in this regard.

Request To Eliminate Repetitive Inspections of the Thrust Reverser

One commenter requests that we eliminate repetitive inspections of the thrust reverser (at intervals of 300 and 600 flight hours). The commenter suggests these inspections are unnecessary if a thrust reverser is deactivated.

We do not agree because this AD and the referenced service bulletin do not require repetitive inspections of the thrust reverser. We infer that the commenter is referring to the repetitive inspections of the thrust reversers specified in The Nordam Group TR3000 Service Manual DHP-G-25-1. These repetitive inspections are part of the maintenance program for STCs SA1731SW, SA1669SW, and SA1670SW. After making the thrust reverser accumulator inoperable, operators should do repetitive general visual inspections of the thrust reverser system for cracking, corrosion, loose or missing fasteners, etc., to ensure the structural integrity of the thrust reverser. (The Nordam Group has issued Temporary Revision 78-04, dated July 8, 2005, to the TR3000 Service Manual to add these new repetitive inspections.) Operational checks should no longer be done after the thrust reverser accumulator is inoperable. Operators may contact the Manager, Special Certification Office, ASW-190, Rotorcraft Directorate, for the revised maintenance inspection program. No change to this AD is necessary in this regard.

Change to This AD

In paragraph (c) of the NPRM, we inadvertently omitted the word "accumulators" where the applicability identifies the part numbers of the affected thrust reverser accumulators. We have added "accumulators" before the affected part numbers in paragraph (c) of this AD to clarify the applicability.

Clarification of Alternative Method of Compliance (AMOC) Paragraph

We have revised this action to clarify the appropriate procedure for notifying the principal inspector before using any approved AMOC on any airplane to which the AMOC applies.

Conclusion

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

Interim Action

This is considered to be interim action. The manufacturer has advised that it currently is developing a modification that will address the unsafe condition addressed by this proposed AD. Once this modification is developed, approved, and available, we may consider additional rulemaking.

Costs of Compliance

There are about 321 airplanes of the affected design in the worldwide fleet. This AD affects about 255 airplanes of U.S. registry. The actions in this AD take about 2 work hours per airplane, at

an average labor rate of \$65 per work hour. Based on these figures, the estimated cost of the AD for U.S. operators is \$33,150, or \$130 per airplane.

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 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); 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

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 Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at www.faa.gov/aircraft/safety/alerts/

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2005-23-06 Learjet: Amendment 39-14364. Docket No. FAA-2005-20947; Directorate Identifier 2004-NM-245-AD.

Effective Date

- (a) This AD becomes effective December 19, 2005.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Learjet Model 23, 24, 24A, 24B, 24B-A, 24D, 24D-A, 24E, 24F, 25, 25A, 25B, 25C, 25D, and 25F airplanes; certificated in any category; modified by Supplemental Type Certificate SA1731SW, SA1669SW, or SA1670SW; equipped with Nordam (formerly Dee Howard Company) thrust reverser accumulators having part number (P/N) 25-0570-127-1, -3, -7, -13, or -17.

Unsafe Condition

(d) This AD was prompted by reports of the failure of two thrust reverser accumulators. We are issuing this AD to prevent failure of the thrust reverser accumulators, due to fatigue cracking on the female threads, which could result in the loss of hydraulic power and damage to the surrounding airplane structure.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Remove Thrust Reverser Accumulator

(f) Within 60 days after the effective date of this AD, remove the thrust reverser accumulator, and make the thrust reverser hydraulic system and the thrust reversers inoperable, by doing all of the actions specified in the Accomplishment Instructions of The Nordam Group Alert Service Bulletin A3000 78-21, dated November 25, 2002. Where there are differences between the Master Minimum Equipment List and the AD, the AD prevails. Although the service bulletin referenced in this AD specifies to submit certain information to the manufacturer, this AD does not include that requirement.

Parts Installation

(g) As of the effective date of this AD, no person may install a thrust reverser accumulator having P/N 25-0570-127-1, -3, -7, -13, or -17 on any airplane.

Alternative Methods of Compliance (AMOCs)

(h)(1) The Manager, Special Certification Office, Rotorcraft Directorate, FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) Before using any AMOC approved in accordance with 14 CFR 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards Certificate Holding District Office.

Material Incorporated by Reference

(i) You must use The Nordam Group Alert Service Bulletin A3000 78-21, dated November 25, 2002, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact The Nordam Group, Nacelle/Thrust Reverser Systems Division, 6911 North Whirlpool Drive, Tulsa, Oklahoma 74117, for a copy of this service information. You may review copies at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., room PL-401, Nassif Building, Washington, DC; on the Internet at <http://dms.dot.gov>; or at the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington on October 28, 2005.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 05-22215 Filed 11-10-05; 8:45 am]

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