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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2014-0010; Directorate Identifier 2012-NM-218-AD; Amendment 39-17882; AD 2014-13-06]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Learjet Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Learjet Inc. Model 45 airplanes. This AD was prompted by a report of two cases of premature corrosion found on the structural support flange for the engine thrust reverser. This AD requires inspecting for any corrosion, and damage to the sealant; installing sealants and gaskets; and related investigative and corrective actions as necessary. We are issuing this AD to prevent failure of the thrust reverser structural support, which could result in departure of the thrust reverser from the engine that could subsequently result in damage to the adjacent support structure and engine controls, airframe structure, and control surfaces. Departing thrust reversers could also result in injury to persons on the ground.

**DATES:** This AD is effective August 19, 2014.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 19, 2014.

**ADDRESSES:** For service information identified in this AD, contact Learjet, Inc., One Learjet Way, Wichita, KS 67209-2942; telephone 316-946-2000; fax 316-946-2220; email [ac.ict@aero.bombardier.com](mailto:ac.ict@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate; 1601 Lind Avenue SW., Renton, WA 98057-3356. For information on the availability of this material at the FAA, call 425-227-1221.

#### **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-2014-0010; 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 AD, the regulatory evaluation, any comments received, and other information. The address for the Docket

Office (phone: 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Paul Chapman, Aerospace Engineer, Airframe and Services Branch, ACE-118W, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, KS 67209; phone: 316-946-4152; fax: 316-946-4107; email: paul.chapman@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Learjet Inc. Model 45 airplanes. The NPRM published in the Federal Register on February 10, 2014 (79 FR 7601). The NPRM was prompted by a report of two cases of premature corrosion found on the structural support flange for the engine thrust reverser that attaches the thrust reverser to the engine. The thrust reverser's attach flange is made of aluminum and the corrosion of that flange can be caused by contact with exposed graphite fibers from the engine's composite bypass duct. The NPRM proposed to require doing a fluorescent penetrant inspection of the metallic components of the thrust reverser's attach flange for any corrosion; inspecting the thrust reverser flange for damage to the sealant, as applicable; installing sealants and gaskets, as applicable, to the thrust reverser flanges and service island flanges; and related investigative and corrective actions as necessary. We are issuing this AD to prevent failure of the thrust reverser structural support, which could result in departure of the thrust reverser from the engine that could subsequently result in damage to the adjacent support structure and engine controls, airframe structure, and control surfaces. Departing thrust reversers could also result in injury to persons on the ground.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and the FAA's response to each comment.

### **Request To Add Service Information to Paragraph (i) of This AD**

Bombardier requested that paragraph (i) of the proposed AD (79 FR 1601, February 10, 2014) be revised to add Bombardier Service Bulletin 40-78-03, Revision 1, dated November 5, 2012; or Bombardier Service Bulletin 45-78-9, Revision 1, dated November 5, 2012. Bombardier stated that adding this service information to paragraph (i) of the proposed AD would allow credit for accomplishing the requirements of paragraph (g) of the proposed AD before the effective date of the AD.

We disagree with revising paragraph (i) of this AD. The purpose of paragraph (i) of this AD is to allow credit for using an earlier revision of the required service information before the effective date of the AD if that earlier revision is considered acceptable for addressing the unsafe condition. If actions required by paragraph (g) of this AD were accomplished before the effective date of the AD, using the service information required by paragraph (g) of this AD, those actions are considered acceptable for compliance, since paragraph (f) of this AD states "Comply with this AD within the compliance times specified, unless already done." We have not changed this AD in this regard.

## Clarification of Marketing Designation

We have revised Note 1 to paragraph (c) of this AD to clarify the marketing designations that Model 45 airplanes might be known as.

## Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial changes. We have determined that these minor changes:

Are consistent with the intent that was proposed in the NPRM (79 FR 1601, February 10, 2014) for correcting the unsafe condition; and

Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 1601, February 10, 2014).

## Costs of Compliance

We estimate that this AD affects 365 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

### Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Number of U.S. products	Cost on U.S. operators
Inspections and installing sealants and gaskets	Between 26 and 36 work-hours × \$85 per hour = Between \$2,210 and \$3,060 per thrust reverser	Between \$1,216 and \$1,476 per thrust reverser	Between \$3,426 and \$4,536 per thrust reverser	730 thrust reversers (365 airplanes)	Between \$2,500,980 and \$3,311,280.

We estimate the following costs to do any necessary replacements that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need this replacement.

### On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replacing thrust reverser attachment flange	40 work-hours × \$85 per hour = \$3,400 per thrust reverser	\$1,200 per thrust reverser	\$4,600 per thrust reverser.

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

## **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**

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),
- (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.

## **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 FAA amends § 39.13 by adding the following new airworthiness directive (AD):



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**2014-13-06 Learjet Inc.:** Amendment 39-17882; Docket No. FAA-2014-0010; Directorate Identifier 2012-NM-218-AD.

**(a) Effective Date**

This AD is effective August 19, 2014.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Learjet Inc. Model 45 airplanes having serial numbers (S/Ns) 45-005 through 45-436 inclusive, and 45-2001 through 45-2132 inclusive, certificated in any category, that are equipped with composite engine fan bypass ducts.

Note 1 to paragraph (c) of this AD: Learjet Model 45 airplanes having S/Ns 45-2001 and subsequent are commonly referred to as "Model 40" airplanes or Learjet 40 airplanes as marketing designations.

**(d) Subject**

Air Transport Association (ATA) of America Code 78, Engine Exhaust.

**(e) Unsafe Condition**

This AD was prompted by a report of two cases of premature corrosion found on the structural support flange for the engine thrust reverser. We are issuing this AD to prevent failure of the thrust reverser structural support, which could result in departure of the thrust reverser from the engine that could subsequently result in damage to the adjacent support structure and engine controls, airframe structure, and control surfaces. Departing thrust reversers could also result in injury to persons on the ground.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspections and Sealant Installation With Applicable Related Investigative and Corrective Actions**

Within 1,200 flight hours or 48 months after the effective date of this AD, whichever occurs first, do the requirements of paragraph (g)(1) of this AD; and for the airplanes identified in paragraph (g)(2) of this AD, do the requirements of paragraph (g)(2) of this AD concurrently.

(1) Do a detailed inspection of the thrust reverser flange for damage to the sealant, as applicable, and install sealants and gaskets before further flight, as applicable, to the thrust reverser flanges and service island flanges, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 40-78-03, Revision 1, dated November 5, 2012 (for Model 45 airplanes having S/Ns 45-2001 through 45-2132 inclusive); or Bombardier Service Bulletin 45-78-9, Revision 1, dated November 5, 2012 (for Model 45 airplanes having S/Ns 45-005 through 45-436 inclusive).

(2) For Model 45 airplanes having S/Ns 45-2001 through 45-2129 inclusive and S/Ns 45-005 through 45-420 inclusive: Do a fluorescent penetrant inspection for corrosion of the metallic components of the thrust reverser's attach flange for any corrosion, and all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Nordam Service Bulletin 5045 78-13, dated January 17, 2012, except as required by paragraph (h) of this AD. Do all applicable related investigative and corrective actions before further flight.

#### **(h) Exception to the Nordam Service Information**

If any material thickness less than the minimum allowable thickness is found during any inspection required by paragraph (g)(2) of this AD, and Nordam Service Bulletin 5045 78-13, dated January 17, 2012, specifies contacting Bombardier Learjet for appropriate action: Before further flight, repair the thrust reverser's attach flange in accordance with a method approved by the Manager, Wichita Aircraft Certification Office (ACO), FAA. For a repair method to be approved by the Manager, Wichita ACO, as required by this paragraph, the Manager's approval letter must specifically refer to this AD.

#### **(i) Credit for Previous Actions**

This paragraph provides credit for the actions specified in paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 40-78-03, dated February 27, 2012 (for Model 45 airplanes having S/Ns 45-2001 through 45-2132); or Bombardier Service Bulletin 45-78-9, dated February 27, 2012 (for Model 45 airplanes having S/Ns 45-005 through 45-436).

#### **(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Wichita ACO, 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 (k)(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.

#### **(k) Related Information**

(1) For more information about this AD, contact Paul Chapman, Aerospace Engineer, Airframe and Services Branch, ACE-118W, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, KS 67209; phone: 316-946-4152; fax: 316-946-4107; email: paul.chapman@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference may be viewed at the addresses specified in paragraphs (l)(3) and (l)(4) of this AD.

## **(I) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bombardier Service Bulletin 40-78-03, Revision 1, dated November 5, 2012.

(ii) Bombardier Service Bulletin 45-78-9, Revision 1, dated November 5, 2012.

(iii) Nordam Service Bulletin 5045 78-13, dated January 17, 2012.

(3) For Learjet and Nordam service information identified in this AD, contact Learjet, Inc., One Learjet Way, Wichita, KS 67209-2942; telephone 316-946-2000; fax 316-946-2220; email [ac.ict@aero.bombardier.com](mailto:ac.ict@aero.bombardier.com); Internet <http://www.bombardier.com>.

(4) You may view this service information at FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA 98057-3356. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on June 19, 2014.

Michael J. Kaszycki,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.