



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2014-0010; Directorate Identifier 2012-NM-218-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Learjet Inc. Airplanes**

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain Learjet Inc. Model 45 airplanes. This proposed AD was prompted by a report of two cases of premature corrosion found on the structural support flange for the engine thrust reverser. This proposed AD would 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 proposing 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:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed 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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**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](mailto:paul.chapman@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2014-0010; Directorate Identifier 2012-NM-218-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

### **Discussion**

We received 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. This condition, if not corrected, could result in 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.

### **Relevant Service Information**

We reviewed Bombardier Service Bulletin 40-78-03, Revision 1, dated November 5, 2012 (for Model 45 airplanes having S/N 45-2001 through 45-2132); and

Bombardier Service Bulletin 45-78-9, Revision 1, dated November 5, 2012 (for Model 45 airplanes having S/N 45-005 through 45-436). Those service bulletins describe inspecting the thrust reverser's attach flange for damage to the sealant, as applicable, and installing sealants and gaskets as applicable to the thrust reverser flanges and service island flanges.

We also reviewed Nordam Service Bulletin 5045 78-13, dated January 17, 2012 (for Model 45 airplanes having S/N 45-005 through 45-420 inclusive and S/N 45-2001 through 45-2129 inclusive), which describes procedures for fluorescent penetrant inspection of the metallic components of the thrust reverser's attach flange for any corrosion, and related investigative and corrective actions. Corrective actions include removing corrosion from the thrust reverser's attach flange, applying finishes, contacting the manufacturer, and replacing the engine attach flange. Related investigative actions include doing further fluorescent penetrant inspection for any remaining corrosion, and measuring to ensure a minimum material thickness.

#### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

#### **Proposed AD Requirements**

This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under "Difference Between the Proposed AD and the Service Information."

#### **Difference between Proposed AD and the Service Information**

Although Nordam Service Bulletin 5045 78-13, dated January 17, 2012, specifies that operators may contact the manufacturer for disposition of certain repair conditions, this proposed AD would require operators to repair those conditions in accordance with a method approved by the FAA.

## Costs of Compliance

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

We estimate the following costs to comply with this proposed AD:

### Estimated costs

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Number of U.S. products</b>	<b>Cost on U.S. operators</b>
Inspections and installing sealants and gaskets	Between 26 and 36 work-hours X \$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 proposed inspection. We have no way of determining the number of aircraft that might need this replacement.

### On-condition costs

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Replacing thrust reverser attachment flange	40 work-hours X \$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 proposed 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**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the 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.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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):

**Learjet Inc.:** Docket No. FAA-2014-0010; Directorate Identifier 2012-NM-218-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Learjet Inc. Model 45 airplanes having serial numbers (S/N) 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 Lear 40 Model 45 airplanes as a marketing designation.

**(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/N 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/N 45-005 through 45-436 inclusive).

(2) For Model 45 airplanes having S/N 45-2001 through 45-2129 inclusive and S/N 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/N 45-2001 through 45-2132); or Bombardier Service Bulletin 45-78-9, dated February 27, 2012 (for Model 45 airplanes having S/N 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](mailto:paul.chapman@faa.gov).

(2) 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, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on January 22, 2014.

Jeffrey E. Duven,

Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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