[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [66 FR 10353 2/15/2001]

[Docket No. 2001-NM-11-AD; Amendment 39-12109; AD 2001-03-05]

RIN 2120-AA64

Airworthiness Directives; Learjet Model 45 Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to certain Learjet Model 45 airplanes. This action requires revising the airplane flight manual (AFM) to prohibit flight into known icing conditions; inspecting the anti-ice manifold assembly for missing material, and performing corrective actions if necessary; replacing the anti-ice manifold assembly with a new assembly, which terminates the AFM revision requirement; and revising the Learjet 45 maintenance program to incorporate additional inspections and maintenance practices for the anti-ice manifold assembly. This action is necessary to prevent metal fragments from breaking off the anti-ice manifold assembly due to fatigue, which could block a duct in the anti-ice system and result in an unannunciated loss of ice protection. This action is intended to address the identified unsafe condition.

DATES: Effective February 20, 2001.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of February 20, 2001.

Comments for inclusion in the Rules Docket must be received on or before April 16, 2001.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2001-NM-11-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: 9-anm-iarcomment@faa.gov. Comments sent via fax or the Internet must contain "Docket No. 2001-NM-11-AD" in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 for Windows or ASCII text.

The service information referenced in this AD may be obtained from Learjet, Inc., One Learjet Way, Wichita, Kansas 67209-2942. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Robert Busto, Aerospace Engineer, Systems and Propulsion Branch, ACE-116W, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209; telephone (316) 946-4157; fax (316) 946-4407.

SUPPLEMENTARY INFORMATION: The FAA has been advised that a Learjet Model 45 airplane recently experienced anti-ice system difficulties, generating a warning to the flight crew of an overheat condition of the horizontal stabilizer. Subsequent inspection revealed a fragment of metal from the system's bleed air manifold lodged in a section of the system's ducts. Inspection of other airplanes revealed fatigue cracking on the manifold splitter vanes.

The anti-ice system on Model 45 airplanes incorporates a bleed airflow manifold to deliver air to the wing and horizontal stabilizer piccolo tubes. The manifold contains a set of internal splitter vanes, which recent inspections indicate are subject to premature fatigue cracking. The vanes are inadequately welded and subject to engine bleed airflow at high temperatures. Consequently, the vanes are susceptible to fatigue caused by turbulent airflow traveling within the manifold. Metal pieces of the vanes may break off and become lodged in the anti-ice system downstream of the leading edge skin temperature sensors. This condition, if not corrected, could result in an unannunciated loss of ice protection.

Explanation of Relevant Service Information

The FAA has reviewed and approved Learjet 45 Temporary Flight Manual Change TFM 2000-16, dated January 8, 2001, which prohibits flight into icing conditions until the airplane's anti-icing system has been inspected and modified, as described below.

The FAA has reviewed and approved Bombardier (Learjet 45) Alert Service Bulletin SB A45-30-2, dated December 18, 2000. The alert service bulletin describes procedures for a one-time inspection to detect missing pieces of the manifold assembly splitter. If fragments are missing from the splitter, the service bulletin recommends borescopic inspections to detect debris in the anti-ice tube assemblies within the wing and horizontal stabilizer anti-ice system, and removal of any splitter debris. The alert service bulletin also describes procedures for replacing the anti-ice manifold assembly with a new assembly.

The manufacturer has issued Temporary Revisions (TR) 4-2, 5-2, and 30-1, all dated January 2, 2001, for the Learjet 45 maintenance program manual. TR's 4-2 and 5-2 add borescopic inspections of the anti-ice manifold. TR 30-1 adds certain maintenance practices for the removal, installation, and inspection of the anti-ice manifold assembly. The TR's are to be incorporated into the Learjet maintenance program manual to revise the Learjet maintenance program.

Accomplishment of the actions specified in the AFM revision, alert service bulletin, and maintenance program revisions is intended to adequately address the identified unsafe condition.

Explanation of the Requirements of the Rule

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of the same type design, this AD is being issued to prevent metal fragments of the splitter in the anti-ice system from breaking due to fatigue, which could block a duct in the anti-ice system and result in an unannunciated loss of ice protection. This AD requires accomplishment of the actions specified in the AFM revision, alert service bulletin, and maintenance program revisions described previously, except as discussed below.

Difference Between AD and Alert Service Bulletin

This AD requires replacement of the anti-ice manifold assembly within 100 flight hours, whereas the alert service bulletin recommends replacement within 25 flight hours. At the time the alert service bulletin was developed, the shorter compliance time was recommended because of the urgency of the unsafe condition and the lack of available interim procedures developed to prohibit flight into known icing conditions until the manifold is replaced. In developing an appropriate compliance time for this AD, the FAA considered the safety implications as well as subsequent recommendations from the manufacturer. The FAA finds that 100 flight hours represents an appropriate interval of time allowable for affected airplanes to continue to operate without compromising safety.

Determination of Rule's Effective Date

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket 2001-NM-11-AD." The postcard will be date stamped and returned to the commenter.

Regulatory Impact

The regulations adopted herein 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from 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 the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

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

We post ADs on the internet at "av-info.faa.gov"

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).

2001-03-05 LEARJET: Amendment 39-12109. Docket 2001-NM-11-AD.

Applicability: Model 45 airplanes, certificated in any category, serial numbers 45-002 through 45-004 inclusive, 45-006 through 45-121 inclusive, and 45-124 through 45-129 inclusive.

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 (e) 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 as indicated, unless accomplished previously.

To prevent metal fragments from breaking off the anti-ice manifold assembly due to fatigue, which could block a duct in the anti-ice system and result in an unannunciated loss of ice protection, accomplish the following:

Revision of Airplane Flight Manual (AFM)

(a) Within 24 hours after the effective date, and until accomplishment of the requirements of paragraph (b) of this AD: Revise the Limitations section of the FAA-approved AFM by replacing the existing information in the TYPE OF OPERATION section with the following. This may be accomplished by inserting a copy of this AD into the AFM.

"This airplane is approved for:

- VFR (Visual)
- IFR (Instrument)
- Day
- Night

Flight into icing conditions is prohibited. If icing conditions are encountered, comply with the Inadvertent Icing Encounter procedure, Section IV. Fly out of icing conditions as soon as possible.

Icing conditions exist when outside air temperature (OAT) on the ground and for takeoff is 10°C (50°F) or below, or the static air temperature (SAT) in flight is 10°C (50°F) to -40°C (-40°F), and visible moisture in any form is present (such as clouds, fog with visibility of one mile or less, rain, snow, sleet, or ice crystals).

Icing conditions also exist when the OAT on the ground and for takeoff is 10°C (50°F) or below when operating on ramps, taxiways, or runways where surface snow, ice, standing water, or slush may be ingested by the engines, or freeze on engines, nacelles, or engine sensor probes."

Note 2: Insertion into the AFM of a copy of Learjet 45 Temporary Flight Manual Change (TFM) TFM 2000-16, dated January 8, 2001, is also acceptable for compliance with the requirements of paragraph (a) of this AD.

Anti-ice Manifold Assembly Replacement

(b) Within 100 flight hours after the effective date of this AD: Perform a general visual inspection to detect missing pieces from the splitter vanes of the manifold assembly, perform all applicable corrective actions (including borescopic inspections to detect debris and removal of debris), and replace the anti-ice manifold assembly with a new assembly. Do the actions in accordance with Bombardier (Learjet 45) Alert Service Bulletin SB A45-30-2, dated December 18, 2000. When the manifold assembly has been replaced, the TFM required by paragraph (a) of this AD may be removed from the AFM.

Note 3: For the purposes of this AD, a general visual inspection is defined as: "A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or drop-light, and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked."

Maintenance Program Revision

(c) Concurrently with the accomplishment of the requirements of paragraph (b) of this AD, revise the Learjet maintenance program by incorporating the procedures for removal, installation, and inspection of the anti-ice manifold assembly specified in Learjet Model 45 Maintenance Manual Temporary Revisions 4-2, 5-2, and 30-1; all dated January 2, 2001.

(d) When the temporary revisions required by paragraph (c) of this AD have been incorporated into the general revisions of the maintenance program, the general revisions may be incorporated into the maintenance program, provided that the information contained in the general revisions is identical to that specified in the temporary revisions.

Alternative Methods of Compliance

(e) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Wichita Aircraft Certification Office (ACO), FAA. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Wichita ACO.

Note 4: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Wichita ACO.

Special Flight Permits

(f) 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, provided the airplane is restricted from flight into known icing conditions.

Incorporation by Reference

(g) Except as required by paragraph (a) of this AD: The actions shall be done in accordance with Bombardier (Learjet 45) Alert Service Bulletin SB A45-30-2, dated December 18, 2000; Learjet 45 Maintenance Manual Temporary Revision 4-2, dated January 2, 2001; Learjet 45 Maintenance Manual Temporary Revision 5-2, dated January 2, 2001; and Learjet 45 Maintenance Manual Temporary Revision 30-1, dated January 2, 2001; as applicable. The actions required by paragraph (a) of this AD may also be done in accordance with Learjet 45 Temporary Flight Manual Change TFM 2000-16, dated January 8, 2001. 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 Learjet, Inc., One Learjet Way, Wichita, Kansas 67209-2942. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(h) This amendment becomes effective on February 20, 2001.

FOR FURTHER INFORMATION CONTACT: Robert Busto, Aerospace Engineer, Systems and Propulsion Branch, ACE-116W, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209; telephone (316) 946-4157; fax (316) 946-4407.

Issued in Renton, Washington, on February 7, 2001.
Vi L. Lipski, Manager, Transport Airplane Directorate, Aircraft Certification Service.