



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0204; Project Identifier 2018-CE-042-AD; Amendment 39-21129; AD 2020-11-04]

RIN 2120-AA64

Airworthiness Directives; Learjet Inc. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Learjet Inc. Model 60 airplanes. This AD was prompted by a report of a reverse thrust command accelerating the airplane instead of decelerating the airplane. The acceleration with reverse thrust commanded occurred when the thrust reverser doors were in the stowed position instead of the deployed position. This AD requires installing a thrust reverser (T/R) Voice Command Warning System (VCWS) to alert the crew of a T/R malfunction. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Learjet Inc., MS 53, P.O. Box 7707, Wichita, Kansas 67277-7707; telephone: (toll free) 1-866-538-1247; (514) 855-2999; Internet: <https://my.businessaircraft.bombardier.com>.

You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0204.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0204; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is Docket Operations, 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: James Galstad, Aerospace Engineer, Wichita ACO Branch, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946-4135; fax: (316) 946-4107; email: james.galstad@faa.gov or Wichita-COS@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain serial-numbered Learjet Inc. Model 60 airplanes. The NPRM published in the *Federal Register* on May 13, 2019 (84 FR 20823). The NPRM was prompted by a report of a high-speed rejected takeoff involving a Learjet Model 60 airplane that occurred when all four main landing gear (MLG) tires blew out during the takeoff roll. The tires blew out due to internal heat damage consistent with under-inflation, overloading, or a combination of both. Subsequently, damage from tires

caused damage to various components, including the MLG squat switches, brake hydraulic tubes, wheel speed sensor wiring, and anti-skid components. In the event of squat switch wiring failures, thrust reverser operation can be adversely affected. During the subject accident, forward thrust occurred when the thrust reverser doors stowed due to the failure, and at the same time the crew was still commanding reverse thrust. Squat switch wiring can also be damaged by other external factors, such as bird strikes or deer strikes.

The FAA considers this AD to be the third of three related ADs that collectively address unsafe conditions that might result from damage to critical components on the landing gear or in the wheel well that affect the braking, spoiler, and thrust reverser systems. AD 2010-11-11, Amendment 39-16316 (75 FR 32255, June 8, 2010) was issued to prevent tire failure, and AD 2013-13-09, Amendment 39-17497 (78 FR 39574, July 2, 2013) was issued to prevent failure of the braking system or adverse operation of the spoiler and reverse thruster system due to external damage, particularly from tire failure, which could result in loss of control of the airplane.

The NPRM proposed to require installing a T/R VCWS to alert the crew of a T/R malfunction. The FAA is issuing this AD to mitigate failure of the engine thrust reverser system. The unsafe condition, if not addressed, could result in the airplane overrunning the runway or a runway excursion.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

Support for the NPRM

The National Transportation Safety Board (NTSB) and Damian Palaich expressed support for the NPRM.

Request to Withdraw the NPRM

Charles Perrigoue requested that the NPRM be withdrawn. The commenter noted that modern aircraft designs have shifted away from a multitude of aural alarms and warnings and that most modern business jets and airline aircraft suppress alarms during critical phases of flight. The commenter stated there is no nexus between the proposed AD actions and the precipitating Learjet Model 60 accident, as the pilot correctly recognized and reacted to the thrust reverser malfunction.

The FAA disagrees with the commenter's request. The design change required by paragraph (g) of this AD incorporates a direct aural voice command for a rapid effective response and design features to minimize faulty voice commands. The FAA's evaluation concludes that the installation of the T/R VCWS required by this AD will effectively mitigate the identified unsafe condition and prevent future scenarios similar to the September 19, 2008, accident involving a Learjet Model 60 airplane. The T/R VCWS is monitoring the thrust reversers and providing a voice command, when needed, which will enable a faster pilot response to decelerate the airplane. The FAA has not changed this AD in this regard.

Request to Incorporate a Solution That Is Not Reliant On Crew Action

An anonymous commenter stated the proposed AD does not eliminate the root cause of the unsafe condition. The commenter further suggested that relying on pilot response to address a catastrophic hazard is not always valid. The commenter stated that a design solution is available that would eliminate the uncontrollable high thrust condition. The commenter asserted that the FAA's proposed AD contradicts its guidance in draft advisory circular (AC) AC 25.901-2X. The acceptable design solution suggested by the commenter is a similar installation on another aircraft identified in the NTSB investigation report (NTSB/AAR-10/02) and addressed through AD 2016-13-13, Amendment 18577 (81 FR 44494, July 8, 2016) ("AD 2016-13-13"). The commenter

noted that AD 2016-13-13 requires installation of a control system modification that, following a single failure cause, prevents uncontrolled high failure thrust from occurring and prevents the engine from accelerating above idle. The commenter further stated that Draft AC 25.901-2X identified that assuming a crew response to address a hazard is not proper.

The FAA infers that the commenter is requesting corrective action that does not rely on crew action, similar to the modification required by AD 2016-13-13. The FAA acknowledges that Draft AC 25.901-2X suggests that relying on pilot response to address a catastrophic hazard is not always feasible; however, Draft AC 25.901-2X is not current agency guidance because it has not yet been finalized and issued. In addition, the FAA has determined that in some cases, including this one, relying on pilot response to address a hazard is appropriate. The installation of a T/R VCWS and performance of a functional test, as required by paragraph (g) of this AD, adequately addresses the unsafe condition on the affected airplanes. The T/R VCWS monitors the thrust reversers and provides voice command when needed, which will enable a faster pilot response to decelerate the airplane. However, if the FAA obtains and analyzes additional data that indicates the unsafe condition has not been adequately addressed by this AD, the FAA will consider further rulemaking. The FAA has not changed this AD in this regard.

Request to Shorten the Compliance Time

The NTSB requested that the FAA shorten the proposed compliance time of 1,200 hours time-in-service or 48 months, because of how much time has passed since the NTSB's July 17, 2009, safety recommendation regarding this issue.

The FAA disagrees with the commenter's request. Based on the FAA's risk assessment, the FAA has determined that the proposed compliance time in this AD is adequate to address the unsafe condition. In developing an appropriate compliance time for this action, the agency considered the urgency associated with the unsafe condition

and the practical aspects of accomplishing the required modification within a period of time that corresponds to the normal scheduled maintenance for most affected owners/operators. The FAA has not changed this AD in this regard.

Conclusion

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule as proposed except for minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with what was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any burden upon the public than was proposed in the NPRM.

Related Service Information under 1 CFR part 51

The FAA reviewed Bombardier Learjet 60 Service Bulletin SB 60-78-9, dated June 25, 2018. This service information contains procedures for installing a T/R VCWS to alert the pilot of a T/R malfunction. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 289 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs				
Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Install a T/R VCWS	20 work-hours X \$85 per hour = \$1,700	\$28,274	\$29,974	\$8,662,486

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. The FAA does not control warranty coverage for affected individuals. As a result, the FAA has included all costs in this 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.

The FAA is 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) Will not affect intrastate aviation in, 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.

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):

2020-11-04 **Learjet Inc.**: Amendment 39-21129; Docket No. FAA-2019-0204; Project Identifier 2018-CE-042-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Learjet Inc. Model 60 airplanes, serial numbers 60-001 through 60-430 inclusive, certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 78, Engine Exhaust.

(e) Unsafe Condition

This AD was prompted by a report of a reverse thrust command accelerating the airplane instead of decelerating the airplane because the thrust reverser doors were stowed instead of deployed. The FAA is issuing this AD to mitigate failure of the engine thrust reverser system. The unsafe condition, if not addressed, could result in the airplane overrunning the runway or a runway excursion.

(f) Compliance

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

(g) Install a Thrust Reverser Voice Command Warning System

Within the next 1,200 hours time-in-service or within the next 48 months after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), whichever occurs first, install a Thrust Reverser Voice Command Warning System and perform a functional test in accordance with sections 3.A. through 3.C. of the Accomplishment Instructions in Bombardier Learjet 60 Service Bulletin SB 60-78-9, dated June 25, 2018.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Wichita ACO Branch, 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 certification office, send it to the attention of the person identified in paragraph (i) 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.

(i) Related Information

For more information about this AD, contact James Galstad, Aerospace Engineer, Wichita ACO Branch, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946-4135; fax: (316) 946-4107; email: james.galstad@faa.gov or Wichita-COS@faa.gov.

(j) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference 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 this AD specifies otherwise.

(i) Bombardier Learjet 60 Service Bulletin SB 60-78-9, dated June 25, 2018.

(ii) [Reserved]

(3) For service information identified in this AD, contact Learjet Inc., MS 53, P.O. Box 7707, Wichita, Kansas 67277-7707; telephone: (toll free) 1-866-538-1247; (514) 855-2999; Internet: <https://my.businessaircraft.bombardier.com>.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(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, email fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on May 15, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2020-10915 Filed: 5/20/2020 8:45 am; Publication Date: 5/21/2020]