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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0581; Product Identifier 2019-NM-067-AD; Amendment 39-21019; AD 2019-25-20]

RIN 2120-AA64

Airworthiness Directives; Lockheed Martin Corporation/Lockheed Martin Aeronautics Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Lockheed Martin Corporation/Lockheed Martin Aeronautics Company Model 382, 382B, 382E, 382F, and 382G airplanes, type certificated in any category; and Model C-130A, C-130B, C-130BL, C-130E, C-130H, C-130H-30, C-130J, C-130J-30, EC-130Q, HC-130H, KC-130H, NC-130B, NC-130, and WC-130H airplanes, type certificated in the restricted or amateur category. This AD was prompted by a report indicating that two elevator booster assemblies experienced significant hydraulic fluid leaks, caused by fatigue cracks in the actuator cylinder. This AD requires an inspection to determine the part number of the elevator booster actuator, repetitive ultrasonic inspections of the actuator to detect cracking, and replacement of cracked elevator booster assemblies. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective February 28, 2020.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of February 28, 2020.

ADDRESSES: For service information identified in this final rule, contact Lockheed Martin Corporation/Lockheed Martin Aeronautics Company, Customer Support Center, Dept. 3E1M, Zone 0591, 86 S Cobb Drive, Marietta, GA 30063; telephone 770-494-9131; email hercules.support@lmco.com; internet <https://www.Lockheedmartin.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0581.

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-2019-0581; 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, the regulatory evaluation, any comments received, and other information. The address for Docket Operations is 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: Hector Hernandez, Aerospace Engineer, Systems and Equipment Section, FAA, Atlanta ACO Branch, 1701 Columbia Avenue, College Park, GA 30337; phone: 404-474-5587; fax: 404-474-5606; email: hector.hernandez@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 all Lockheed Martin Corporation/Lockheed Martin Aeronautics Company Model 382, 382B, 382E, 382F, and 382G airplanes, type certificated in any category; and Model C-130A, C-130B, C-130BL, C-130E, C-130H, C-130H-30, C-130J, C-130J-30, EC-130Q, HC-130H, KC-130H, NC-130B, NC-130, and WC-130H airplanes, type certificated in the restricted or amateur category. The NPRM published in the Federal Register on July 31, 2019 (84 FR 37165). The NPRM was prompted by a report indicating that two elevator booster assemblies experienced significant hydraulic fluid leaks, caused by fatigue cracks in the actuator cylinder. The NPRM proposed to require an inspection to determine the part number of the elevator booster actuator, repetitive ultrasonic inspections of the actuator to detect cracking, and replacement of cracked elevator booster assemblies.

The FAA is issuing this AD to address the possibility of a dual failure of the left and right actuator cylinders in the elevator booster assembly, which could lead to a significant reduction in controllability of the airplane.

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.

Lynden Air Cargo, LLC stated that it concurred in concept and that the proposed AD would enhance safety.

Request To Clarify Actions for Spare Parts

Lynden Air Cargo, LLC requested clarification whether the ultrasonic inspection procedures in the proposed AD can also be accomplished for off-airplane spare elevator booster actuators. The commenter noted that the Accomplishment Instructions of Lockheed Martin Aeronautics Company Service Bulletin 382-27-51, Revision 1, dated January 17, 2018, state to do the inspection while the elevator booster actuators are installed on the airplane. The commenter asked that, if the inspection cannot be done off-airplane, alternative inspection procedures be provided.

The FAA agrees to clarify. Lockheed has issued Lockheed Martin Aeronautics Company Service Bulletin 382-27-51, Revision 2, dated October 3, 2019. This service information has been revised to clarify that the same inspection procedures can be accomplished with the elevator booster actuators either on or off the airplane. The FAA has revised this AD to refer to the latest service information and to provide credit for actions that were accomplished using Lockheed Martin Aeronautics Company Service Bulletin 382-27-51, Revision 1, dated January 17, 2018.

Request To Correct Exception Language

Lynden Air Cargo, LLC requested that paragraph (h) of the proposed AD be revised to refer to flight hours, rather than flight cycles. The commenter noted that all other references for compliance time in the proposed AD and the service information refer to flight hours.

The FAA agrees with the commenter's request. The NPRM inadvertently referred to flight cycles rather than flight hours in the location noted. Since paragraph (h) of this AD is a compliance time exception for certain airplanes, revising the language will not adversely affect safety, but will allow operators to use this exception. This final rule has been revised accordingly.

Additional Changes Made to This Final Rule

The affected airplane models were originally manufactured by Lockheed Martin Corporation/Lockheed Martin Aeronautics Company, but are currently operating as type certificated airplanes in any category, including restricted and amateur category airplanes with a variety of type certificate holders. The FAA has revised the SUMMARY, the Discussion section, and paragraph (c) of this AD to clarify that the affected airplanes are certificated in different categories. The FAA has also revised paragraph (c) of this AD to refer to the current type certificate holders.

The FAA has also revised the manufacturer contact information in the ADDRESSES section and paragraph (m)(3) of this AD. The website provided in the NPRM is no longer valid.

The proposed AD inadvertently referred to Lockheed Martin Aeronautics Company Service Bulletin 82-833, Revision 1, dated January 17, 2018. That service information is only applicable for airplanes operated by the U.S. military, and is not applicable for the airplanes identified in this AD. The FAA revised this AD to remove all references to Lockheed Martin Aeronautics Company Service Bulletin 82-833, Revision 1, dated January 17, 2018.

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 with the changes described previously and minor editorial changes. The FAA has determined that these minor changes:

Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and

Do not add any additional burden upon the public than was already proposed in the NPRM.

The FAA has also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Lockheed Martin Aeronautics Company Service Bulletin 382-27-51, Revision 2, dated October 3, 2019. This service information describes procedures for an inspection to determine the part number of the elevator booster actuator, repetitive ultrasonic inspections of the elevator booster actuator at the forward-most end to detect cracking along the fluid transfer bore, left and right cylinders, and replacement of cracked elevator booster assemblies. 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 7 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
Part number inspection	1 work-hour × \$85 per hour = \$85	\$0	\$85	\$595.
Ultrasonic inspections	5 work-hours × \$85 per hour = \$425 per inspection cycle	0	\$425 per inspection cycle	\$2,975 per inspection cycle.

The FAA estimates the following costs to do any necessary replacements that would be required based on the results of the inspections. The FAA has no way of determining the number of aircraft that might need these replacements:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replacement	10 work-hours × \$85 per hour = \$850	\$43,000	\$43,850

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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

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, and
- (2) 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):



2019-25-20 Lockheed Martin Corporation/Lockheed Martin Aeronautics Company:
Amendment 39-21019; Docket No. FAA-2019-0581; Product Identifier 2019-NM-067-AD.

(a) Effective Date

This AD is effective February 28, 2020.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Lockheed Martin Corporation/Lockheed Martin Aeronautics Company Model 382, 382B, 382E, 382F, and 382G airplanes, type certificated in any category; and Model C-130A, C-130B, C-130BL, C-130E, C-130H, C-130H-30, C-130J, C-130J-30, EC-130Q, HC-130H, KC-130H, NC-130B, NC-130, and WC-130H airplanes, type certificated in the restricted or amateur category. The restricted and amateur category airplanes were originally manufactured by Lockheed Martin Corporation/Lockheed Martin Aeronautics Company; current type certificate holders include, but are not limited to, those specified in paragraphs (c)(1) through (9) of this AD.

(1) LeSEA Model C-130A airplanes, Type Certificate Data Sheet (TCDS) A34SO, Revision 1.

(2) T.B.M, Inc., (transferred from Central Air Services, Inc.) Model C-130A airplanes, TCDS A39CE, Revision 3.

(3) Western International Aviation, Inc., Model C-130A airplanes, TCDS A33NM.

(4) USDA Forest Service Model C-130A airplanes, TCDS A15NM, Revision 4.

(5) Snow Aviation International, Inc., Model C-130A, TCDS TQ3CH, Revision 1.

(6) Heavylift Helicopter, Inc. (transferred from Hemet Valley Flying Service), Model C-130A, TCDS A31NM, Revision 1.

(7) Heavylift Helicopters, Inc., Model C-130B, TCDS A35NM, Revision 1.

(8) Hawkins & Powers Aviation, Inc., Model HP-C-130A, TCDS A30NM, Revision 1.

(9) Coulson Aviation (USA), Inc., Model EC-130Q, TCDS T00019LA, Revision 2.

(d) Subject

Air Transport Association (ATA) of America Code 27, Flight controls.

(e) Unsafe Condition

This AD was prompted by a report indicating that two elevator booster assemblies experienced significant hydraulic fluid leaks, caused by fatigue cracks in the actuator cylinder. The FAA is issuing this AD to address the possibility of a dual failure of the left and right actuator cylinders in the elevator booster assembly, which could lead to a significant reduction in controllability of the airplane.

(f) Compliance

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

(g) Part Number Inspection, Repetitive Ultrasonic Inspections, and Replacement

(1) On any elevator booster assembly having a part number 374461-5, 374461-7, or 374461-11, before the accumulation of 4,000 total flight hours on the elevator booster assembly, or within 180 days after the effective date of this AD, whichever occurs later, except as required by paragraph (h) of this AD: Do an inspection of the elevator booster assembly to determine the part number of the elevator booster actuator. If the elevator booster actuator has a part number other than 5C5803, no further action is required by this AD.

(2) If, during the inspection required by paragraph (g)(1) of this AD, any elevator booster actuator having part number 5C5803 is found, before the accumulation of 4,000 total flight hours on the elevator booster assembly, or within 180 days after the effective date of this AD, whichever occurs later, except as required by paragraph (h) of this AD: Do an ultrasonic inspection of the elevator booster actuator at the forward-most end to detect cracking along the fluid transfer bore, left and right cylinders, in accordance with the Accomplishment Instructions of Lockheed Martin Aeronautics Company Service Bulletin 382-27-51, Revision 2, dated October 3, 2019. Repeat the inspection thereafter at intervals not to exceed 1,400 flight hours.

(3) If, during any inspection required by paragraph (g)(2) of this AD, any cracking is found, before further flight: Replace the elevator booster assembly, in accordance with the Accomplishment Instructions of Lockheed Martin Aeronautics Company Service Bulletin 382-27-51, Revision 2, dated October 3, 2019.

(h) Compliance Time Exception

For any elevator booster assembly having part number 374461-5, 374461-7, or 374461-11 on which the total flight hours are unknown, do the inspections required by paragraphs (g)(1) and (2) of this AD, as applicable, within 180 days after the effective date of this AD.

(i) No Reporting and No Return of Parts

(1) Although Lockheed Martin Aeronautics Company Service Bulletin 382-27-51, Revision 2, dated October 3, 2019, specifies to submit certain information to the manufacturer, this AD does not include that requirement.

(2) Although Lockheed Martin Aeronautics Company Service Bulletin 382-27-51, Revision 2, dated October 3, 2019, specifies to return parts to the manufacturer, this AD does not require the return of the parts to the manufacturer.

(j) 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 Lockheed Martin Aeronautics Company Service Bulletin 382-27-51, dated July 17, 2017; or Lockheed Martin Aeronautics Company Service Bulletin 382-27-51, Revision 1, dated January 17, 2018.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Atlanta 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 (l)(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.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by a Lockheed Martin Corporation/Lockheed Martin Aeronautics Company Designated Engineering Representative (DER) that has been authorized by the Manager, Atlanta ACO Branch, FAA, to make those findings. To be approved, the repair, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(l) Related Information

(1) For more information about this AD, contact Hector Hernandez, Aerospace Engineer, Systems and Equipment Section, FAA, Atlanta ACO Branch, 1701 Columbia Avenue, College Park, GA 30337; phone: 404-474-5587; fax: 404-474-5606; email: hector.hernandez@faa.gov.

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

(m) 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) Lockheed Martin Aeronautics Company Service Bulletin 382-27-51, Revision 2, dated October 3, 2019.

(ii) [Reserved]

(3) For service information identified in this AD, contact Lockheed Martin Corporation/Lockheed Martin Aeronautics Company, Customer Support Center, Dept. 3E1M, Zone 0591, 86 S Cobb Drive, Marietta, GA 30063; telephone 770-494-9131; email hercules.support@lmco.com; internet <https://www.Lockheedmartin.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(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 December 31, 2019.

Michael Kaszycki,
Acting Director, System Oversight Division,
Aircraft Certification Service.