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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-1305; Directorate Identifier 2010-NM-074-AD; Amendment 39-16749; AD 2011-15-02]

RIN 2120-AA64

Airworthiness Directives; Lockheed Martin Corporation/Lockheed Martin Aeronautics Company Model 382, 382B, 382E, 382F, and 382G Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding an existing airworthiness directive (AD) for all Model 382, 382B, 382E, 382F, and 382G airplanes. That AD currently requires revising the FAA-approved maintenance program by incorporating new airworthiness limitations for fuel tank systems to satisfy Special Federal Aviation Regulation No. 88 requirements. That AD also requires the accomplishment of certain fuel system modifications, the initial inspections of certain repetitive fuel system limitations to phase in those inspections, and repair if necessary. This new AD corrects certain part number references, adds an additional inspection area, and for certain airplanes, requires certain actions to be re-accomplished according to revised service information. This AD was prompted by a report of incorrect accomplishment information in the service information cited by the existing AD. We are issuing this AD to prevent the potential for ignition sources inside fuel tanks caused by latent failures, alterations, repairs, or maintenance actions, which, in combination with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

DATES: This AD is effective August 19, 2011.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of August 19, 2011.

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of November 3, 2008 (73 FR 56464, dated September 29, 2008).

ADDRESSES: For service information identified in this AD, contact Lockheed Martin Corporation/Lockheed Martin Aeronautics Company, Airworthiness Office, Dept. 6A0M, Zone 0252, Column P-58, 86 S. Cobb Drive, Marietta, Georgia 30063; telephone 770-494-5444; fax 770-494-5445; e-mail ams.portal@lmco.com; Internet <http://www.lockheedmartin.com/ams/tools/TechPubs.html>. You may review copies of the 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.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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 Document 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: Neil Duggan, Aerospace Engineer, Propulsion and Services Branch, ACE-118A, FAA, Atlanta Aircraft Certification Office, 1701 Columbia Avenue, College Park, GA 30337; phone: (404) 474-5576; fax: (404) 474-5606; e-mail: neil.duggan@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede airworthiness directive (AD) 2008-20-01, amendment 39-15680 (73 FR 56464, September 29, 2008). That AD applies to the specified products. The NPRM published in the Federal Register on January 5, 2011 (76 FR 485). That NPRM proposed to continue to require revising the maintenance program by incorporating new airworthiness limitations for fuel tank systems to satisfy Special Federal Aviation Regulation No. 88 requirements. That NPRM also proposed to continue to require the accomplishment of certain fuel system modifications, the initial inspections of certain repetitive fuel system limitations to phase in those inspections, and repair if necessary. That NPRM also proposed to correct certain part number references, add an additional inspection area, and for certain airplanes, require certain actions to be re-accomplished according to revised service information.

Comments

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

Request To Revise Cost Estimate

Lynden Air Cargo requested that the cost for revising the Instructions for Continued Airworthiness be included in the Costs of Compliance estimate. Lynden Air Cargo stated that there is a significant amount of work-hours associated with revising "company manuals, job cards, maintenance programs, computerized tracking programs and record keeping documents" so that the operator can comply with the requirements of a new AD. Lynden Air Cargo estimated that these actions will take at least 80 work-hours for its office staff, and estimated that this cost would affect other operators. Lynden Air Cargo also pointed out that this work load for the office staff will have a greater impact on smaller fleet operators with smaller staff.

We agree that a requirement of the new AD will require an update of the maintenance program to incorporate references to revised service information. This action is estimated to take approximately 1 work-hour per airplane. However, we disagree with increasing the estimated work-hours for the time that it takes for writing job cards, tracking programs, or record-keeping, since those

actions are not directly required by this AD. The costs specified by Lynden Air Cargo will not be the same for all operators. The Costs of Compliance estimate has been revised accordingly.

Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

There are about 62 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs for U.S. operators to comply with this AD. The average labor rate per hour is \$85. The costs of the new requirements of this AD are as follows:

Estimated Costs for New Actions

Action	Work hours	Parts	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Inspection of fuel probes	24	None	\$2,040, per inspection cycle	24	\$48,960, per inspection cycle
Maintenance program revision	1	None	\$85	24	\$2,040
Actions necessary for airplanes on which Lockheed Service Bulletin 382-28-19, Revision 3, dated November 30, 2006, has been done	24	None	\$2,040	24	\$48,960

The current costs for AD 2008-20-01 are repeated for the convenience of affected operators, as follows:

Estimated Costs for Actions Required by AD 2008-20-01

Action	Work hours	Parts	Cost per product	Number of U.S.-registered airplanes	Fleet cost
Maintenance program revision	1	None	\$85	24	\$2,040
Installation of new, improved fuel dump masts	12	\$10,288	\$11,308	24	\$271,392
Dry bay zonal inspection, inspection and repair of static ground terminals, marking the wiring for the fuel quantity indicating system, initial inspection of lightning and static bonding jumpers	952	None	\$80,920	24	\$1,942,080
Installation of GFIs and flame arrestors	120	\$115,000	\$125,200	24	\$3,004,800

Initial inspection of GFIs and flame arrestors	8	None	\$680	24	\$16,320
Installation of lightning bonding jumpers	910	\$10,000	\$87,350	24	\$2,096,400
Sealant application	320	None	\$27,200	24	\$652,800

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 have determined that 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 removing airworthiness directive (AD) 2008-20-01, Amendment 39-15680 (73 FR 56464, September 29, 2008), and adding the following new AD:



2011-15-02 Lockheed Martin Corporation/Lockheed Martin Aeronautics Company:
Amendment 39-16749; Docket No. FAA-2010-1305; Directorate Identifier 2010-NM-074-AD.

Effective Date

(a) This airworthiness directive (AD) is effective August 19, 2011.

Affected ADs

(b) This AD supersedes AD 2008-20-01, Amendment 39-15680.

Applicability

(c) This AD applies to all Lockheed Martin Corporation/Lockheed Martin Aeronautics Company Model 382, 382B, 382E, 382F, and 382G airplanes, certificated in any category.

Note 1: This AD requires revisions to certain operator maintenance documents to include new inspections. Compliance with these inspections is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these inspections, the operator may not be able to accomplish the inspections described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (o) of this AD. The request should include a description of changes to the required inspections that will ensure the continued operational safety of the airplane.

Subject

(d) Air Transport Association (ATA) of America Code 28: Fuel.

Unsafe Condition

(e) This AD results from a design review of the fuel tank systems. The Federal Aviation Administration is issuing this AD to prevent the potential for ignition sources inside fuel tanks caused by latent failures, alterations, repairs, or maintenance actions, which, in combination with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

Compliance

(f) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

RESTATEMENT OF REQUIREMENTS OF AD 2008-20-01, WITH NEW SERVICE INFORMATION:

Maintenance Program Revision

(g) Before December 16, 2008, revise the maintenance program to incorporate the fuel system limitations (FSLs) and the critical design configuration control limitations (CDCCLs) specified in the Accomplishment Instructions of the Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008; except as provided by paragraphs (g)(1), (g)(2), and (g)(3) of this AD, and except that the modifications and initial inspections specified in table 1 of this AD must be done at the compliance time specified in paragraph (h) of this AD.

(1) For the CDCCLs specified in paragraphs 2.C.(3)(e), 2.C.(3)(h), 2.C.(4)(a), 2.C.(5)(c), 2.C.(7)(h), and 2.C.(8) of the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008, do the applicable actions in accordance with the Accomplishment Instructions of Lockheed Service Bulletin 382-28-19, Revision 3, dated November 30, 2006; or Revision 4, dated September 18, 2008. After the effective date of this AD, use only Revision 4.

(2) Where paragraph 2.C.(1)(c) of the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008, specifies to change the maintenance program to indicate that repetitive inspections of the lightning and static bonding jumpers must be done in accordance with Lockheed Service Bulletin 382-28-21, instead do the repetitive inspections in accordance with Lockheed Service Bulletin 382-28-19, Revision 3, dated November 30, 2006; or Revision 4, dated September 18, 2008. After the effective date of this AD, use only Revision 4.

(3) Where Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008, specifies to inspect, this AD requires doing a general visual inspection.

Note 2: For the purposes of this AD, a general visual inspection is: "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 from within touching distance unless otherwise specified. A mirror may be necessary to ensure visual access to all surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or droplight 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."

Fuel System Modifications, Initial Inspections, and Repair if Necessary

(h) Within 36 months after November 3, 2008 (the effective date of AD 2008-20-01), do the applicable actions specified in table 1 of this AD, and repair any discrepancy before further flight, in accordance with the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008.

Table 1—Modifications and Initial Inspections

Action	Additional Source of Guidance for Accomplishing the Action
For airplanes having any serial number prior to 4962: Install new, improved fuel dump masts in accordance with paragraph 2.C.(1)(d) of the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008.	Lockheed Service Bulletin 382-28-9, dated May 13, 1983

Mark the fuel quantity indicating system (FQIS) wires in accordance with paragraphs 2.C.(1)(a) <u>2</u> , 2.C.(4)(b), and 2.C.(4)(c) of the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008.	Lockheed Service Bulletin 382-28-19, Revision 4, dated September 18, 2008
Do the dry bay zonal inspection and inspect the static ground terminals of the fuel system plumbing in accordance with paragraph 2.C.(1)(a) of the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008.	Lockheed Service Bulletin 382-28-19, Revision 4, dated September 18, 2008
Install ground fault interrupters (GFIs) and flame arrestors for protection of the fuel system in accordance with paragraphs 2.C.(1)(b) and 2.C.(7)(c) of the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008.	Lockheed Service Bulletin 382-28-20, Revision 11, dated April 20, 2010
Inspect the GFIs for protection of the fuel system in accordance with paragraph 2.C.(1)(b) <u>1</u> of the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008.	Paragraph 2.C.(2) of the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008
Install the lightning bonding jumpers (straps) in accordance with paragraphs 2.C.(1)(c) and 2.C.(6)(a) of the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008.	Lockheed Service Bulletin 382-28-21, Revision 4, dated January 6, 2010
Inspect the lightning and static bonding jumpers (straps) in accordance with paragraphs 2.C.(1)(c) of the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008.	Lockheed Service Bulletin 382-28-19, Revision 4, dated September 18, 2008
Apply a certain sealant to the interior of the main wing fuel tanks; and apply a certain sealant to the all external fuel tank nose caps, mid sections, and tail sections; as applicable; in accordance with paragraphs 2.C.(1)(e) <u>1</u> , 2.C.(1)(e) <u>3</u> , and 2.C.(7)(i) <u>1</u> of the Accomplishment Instructions of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008.	Lockheed Service Bulletin 382-28-24, Revision 1, dated November 5, 2007, including the Errata Notice, dated January 7, 2008

No Alternative Inspections, Inspection Intervals, or CDCCLs

(i) After accomplishing the actions specified in paragraphs (g) and (h) of this AD, no alternative inspections, inspection intervals, or CDCCLs may be used unless the inspections, intervals, or CDCCLs are approved as an alternative method of compliance in accordance with the procedures specified in paragraph (o) of this AD.

No Reporting Requirement

(j) Although Lockheed Service Bulletin 382-28-19, Revision 3, dated November 30, 2006, specifies to notify Lockheed of any discrepancies found during inspection, this AD does not require that action.

NEW REQUIREMENTS OF THIS AD:

Incorrect Steps in a Service Bulletin

(k) Where the last two bulleted steps of paragraphs 2.C.(2)(b)5 and 2.C.(2)(c)3 of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008, specify that the GFI FAILURE and GROUND FAULT DETECTED lights illuminate for 2 seconds, this AD does not require those steps.

Additional Inspection Area

(l) For airplanes on which Lockheed Service Bulletin 382-28-19, Revision 3, dated November 30, 2006, has not been done: Where table 1 of this AD specifies to do the dry bay zonal inspection, do an inspection of the fuel probes as part of the dry bay zonal inspections, in accordance with the service information specified in paragraph (h) of this AD for the dry bay zonal inspections. Do the inspections at the time specified in paragraph (h) of this AD, or within 9 months after the effective date of this AD, whichever occurs later.

Actions for Airplanes on Which a Previous Issue of Lockheed Service Bulletin 382-28-19 Was Done

(m) For airplanes on which any action was done in accordance with Lockheed Service Bulletin 382-28-19, Revision 3, dated November 30, 2006: Within the compliance time specified in paragraph (h) of this AD, or within 9 months after the effective date of this AD, whichever occurs later, do the actions required by paragraphs (m)(1) through (m)(4) of this AD and repair any discrepancy before further flight, in accordance with Accomplishment Instructions of Lockheed Service Bulletin 382-28-19, Revision 4, dated September 18, 2008. Although Lockheed Service Bulletin 382-28-19, Revision 4, dated September 18, 2008, specifies to notify Lockheed of any discrepancies found during inspection, this AD does not require that action.

(1) Inspect the fuel probes as part of the zonal inspections of the dry bay areas and other areas.

(2) Inspect generator feeder and control wire bundles for correct separation from other wires in the wing leading edge and fuselage areas, and for correct separation from fuel tank boundaries in the wing leading edge area.

(3) Inspect for correct spot-tying of certain wire bundles that are within 2 to 12 inches of hot equipment or wires with flame-resistant lacing braid, or, for wiring in powerplant areas, with fiberglass braid.

(4) Inspect for use of the correct shielding specification and separation of the FQIS wiring in certain locations from alternating current (AC) power wires.

Credit for Actions Accomplished in Accordance With Previous Service Information

(n) Actions done before the effective date of this AD in accordance with Lockheed Service Bulletin 382-28-20, Revision 8, dated October 13, 2009; Revision 9, dated December 14, 2009; or Revision 10, dated March 18, 2010; are acceptable for compliance with the requirements of paragraph (h) of this AD.

Alternative Methods of Compliance (AMOCs)

(o)(1) The Manager, Atlanta Aircraft Certification Office (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 the Related Information section 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) AMOCs approved for AD 2008-20-01 are approved as AMOCs for this AD.

Related Information

(p) For more information about this AD, contact Neil Duggan, Aerospace Engineer, Propulsion and Services Branch, ACE-118A, FAA, Atlanta Aircraft Certification Office, 1701 Columbia Avenue, College Park, GA 30337; phone: (404) 474-5576; fax: (404) 474-5606; e-mail: neil.duggan@faa.gov.

Material Incorporated by Reference

(q) You must use Lockheed Service Bulletin 382-28-19, Revision 4, dated September 18, 2008; or Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008; as applicable; to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of Lockheed Service Bulletin 382-28-19, Revision 4, dated September 18, 2008, under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The Director of the Federal Register previously approved the incorporation by reference of Lockheed Service Bulletin 382-28-22, Revision 3, dated March 28, 2008, on November 3, 2008 (73 FR 56464, September 29, 2008).

(3) For service information identified in this AD, contact Lockheed Martin Corporation/ Lockheed Martin Aeronautics Company, Airworthiness Office, Dept. 6A0M, Zone 0252, Column P-58, 86 S. Cobb Drive, Marietta, Georgia 30063; telephone 770-494-5444; fax 770-494-5445; e-mail ams.portal@lmco.com; Internet <http://www.lockheedmartin.com/ams/tools/TechPubs.html>.

(4) You may review copies of the service information at the FAA, 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.

(5) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at an NARA facility, call 202-741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on July 1, 2011.

Jeffrey E. Duven,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.