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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-1006; Product Identifier 2018-NM-142-AD; Amendment 39-19565; AD 2019-03-13]

RIN 2120-AA64

Airworthiness Directives; Gulfstream Aerospace LP (Type Certificate Previously Held by Israel Aircraft Industries, Ltd.) Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Gulfstream Aerospace LP Model Gulfstream G150 airplanes. This AD was prompted by reports of corrosion in the solder joints of the upper and lower front relay box connectors to the printed circuit board. This AD requires replacement of the existing relay boxes with modified boxes. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective April 8, 2019.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of April 8, 2019.

ADDRESSES: For service information identified in this final rule, contact Gulfstream Aerospace Corporation, P.O. Box 2206, Mail Station D-25, Savannah, GA 31402-2206; telephone 800-810-4853; fax 912-965-3520; email pubs@gulfstream.com; internet http://www.gulfstream.com/product_support/technical_pubs/pubs/index.htm. 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 http://www.regulations.gov by searching for and locating Docket No. FAA-2018-1006.

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-2018-1006; 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 (phone: 800-647-5527) 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: Tom Rodriguez, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3226.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Gulfstream Aerospace LP Model Gulfstream G150 airplanes. The NPRM published in the Federal Register on December 11, 2018 (83 FR 63596). The NPRM was prompted by reports of corrosion in the solder joints of the upper and lower front relay box connectors to the printed circuit board. The NPRM proposed to require replacement of the existing relay boxes with modified boxes.

We are issuing this AD to address corrosion in the front relay box connector solder joints. If not addressed, this condition could cause false crew alerting system (CAS) messages, such as slats unbalance, auto slats fail, and Mach trim fail, which could interfere with continued safe operation of the airplane.

The Civil Aviation Authority of Israel (CAAI), which is the aviation authority for Israel, has issued Israeli Airworthiness Directive ISR-I-24-2018-09-7, dated October 1, 2018 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for certain Gulfstream Aerospace LP Model Gulfstream G150 airplanes. The MCAI states:

> The existing Upper and Lower Front Relay Box might be prone to corrosion in the relay box connector's solder joint to the printed circuit board. As a result various CAS [crew alerting system] messages such as slats unbalance and auto slats fail, Mach trim fail, etc . . . might be reported [and could interfere with continued safe operation of the airplane]. To prevent this condition, replacement of existing relay boxes with modified boxes featuring an added acrylic conformal coating should be performed.
>
> Five occurrences on G150 model in last 3 years had been reported.

You may examine the MCAI in the AD docket on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2018-1006.

Comments

We gave the public the opportunity to participate in developing this final rule. We received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. We have 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.

Related Service Information Under 1 CFR Part 51

Gulfstream has issued Service Bulletin 150-24-193, dated March 30, 2018. This service information describes procedures for removing and replacing the upper and lower front relay boxes. 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

We estimate that this AD affects 81 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

Estimated Costs for Required Actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
220 work-hours × $85 per hour = $18,700	$20,083	$38,783	$3,141,423

According to the manufacturer, some or all of the costs of this 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 known 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.

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,

(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.

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):

2019-03-13 Gulfstream Aerospace LP (Type Certificate Previously Held by Israel Aircraft Industries, Ltd.): Amendment 39-19565; Docket No. FAA-2018-1006; Product Identifier 2018-NM-142-AD.

(a) Effective Date

This AD is effective April 8, 2019.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Gulfstream Aerospace LP (Type Certificate previously held by Israel Aircraft Industries, Ltd.) Model Gulfstream G150 airplanes, certificated in any category, serial numbers 201 through 326 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 24, Electrical power.

(e) Reason

This AD was prompted by reports of corrosion in the solder joints of the upper and lower front relay box connectors to the printed circuit board. We are issuing this AD to address corrosion in the front relay box connector solder joints. If not addressed, this condition could cause false crew alerting system (CAS) messages, such as slats unbalance, auto slats fail, and Mach trim fail, which could interfere with continued safe operation of the airplane.

(f) Compliance

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

(g) Replacement

Within 36 months after the effective date of this AD, remove the upper front relay box, Israel Aerospace Industries (IAI) part number (P/N) 25G8130301-510/-512/-514/-516, and replace with IAI P/N 25G8130301-516, upgraded to MOD A, and remove the lower front relay box, IAI P/N 25G8130300-512/-516/-518/-520, and replace with an improved lower front relay box, IAI P/N 25G8130300-520, upgraded to MOD A, in accordance with the Accomplishment Instructions of Gulfstream Service Bulletin 150-24-193, dated March 30, 2018.

(h) Parts Installation Prohibition

As of the applicable compliance time specified in paragraph (h)(1) or (h)(2) of this AD, do not install relay box IAI P/N 25G8130301-510/-512/-514/-516 or IAI P/N 25G8130300-512/-516/-518/-520 on any airplane, except relay box IAI P/N 25G8130301-516 or IAI P/N 25G8130300-520 that has been upgraded to MOD A as specified in paragraph (g) of this AD may be installed.

(1) For airplanes that have IAI P/N 25G8130301-510/-512/-514/-516 or IAI P/N 25G8130300-512/-516/-518/-520 installed as of the effective date of this AD: After modification of the airplane as required by this AD.

(2) For airplanes that do not have IAI P/N 25G8130301-510/-512/-514/-516 or IAI P/N 25G8130300-512/-516/-518/-520 installed as of the effective date of this AD: As of the effective date of this AD.

(i) No Parts Return or Reporting Requirement

(1) Although Gulfstream Service Bulletin 150-24-193, dated March 30, 2018, specifies to return parts to the manufacturer, this AD does not include that requirement.

(2) Although Gulfstream Service Bulletin 150-24-193, dated March 30, 2018, specifies to submit certain information to the manufacturer, this AD does not include that requirement.

(j) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards 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 International Section, send it to the attention of the person identified in paragraph (k)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. 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.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the Civil Aviation Authority of Israel (CAAI); or the CAAI's authorized Designee. If approved by the CAAI Designee, the approval must include the Designee's authorized signature.

(k) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Israeli Airworthiness Directive ISR-I-24-2018-09-7, dated October 1, 2018, for related information. This MCAI may be found in the AD docket on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2018-1006.

(2) For more information about this AD, contact Tom Rodriguez, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3226.

(l) 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 this AD specifies otherwise.

(i) Gulfstream Service Bulletin 150-24-193, dated March 30, 2018.

(ii) [Reserved]

(3) For service information identified in this AD, contact Gulfstream Aerospace Corporation, P.O. Box 2206, Mail Station D-25, Savannah, GA 31402-2206; telephone 800-810-4853; fax 912-965-3520; email pubs@gulfstream.com; internet http://www.gulfstream.com/product_support/technical_pubs/pubs/index.htm.

(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, call 202-741-6030, or go to: http://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Des Moines, Washington, on February 14, 2019.

Michael Kaszycki,

Acting Director, System Oversight Division,

Aircraft Certification Service.