SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain General Electric Company (GE) CF6–80A and CF6–80C2 model turbofan engines. This AD was prompted by an inspection by the manufacturer that revealed cracking of the high-pressure turbine (HPT) rotor stage 1 disk. This AD requires visual inspection and fluorescent penetrant inspection (FPI) of the HPT thermal shield and, if cracking is detected, removal from service of the HPT thermal shield, HPT rotor stage 1 disk and HPT rotor stage 2 disk. The FAA is issuing this AD to address the unsafe condition on these products. DATES: This AD is effective August 27, 2021. ADDRESSES: For service information identified in this final rule, contact General Electric Company, 1 Neumann Way, Cincinnati, OH 45215; phone: (513) 552–3272; email: aviation.fleetsupport@ae.ge.com; website: www.ge.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (781) 238–7759. It is also available at https://www.regulations.gov by searching for and locating Docket No. FAA–2020–1179.

Examining the AD Docket You may examine the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA–2020–1179; 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 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: Kevin M. Clark, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238–7088; fax: (781) 238–7199; email: Kevin.M.Clark@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion of Final Airworthiness Directive Comments The FAA received comments from five commenters. The commenters were Atlas Air, Boeing Commercial Airplanes (Boeing), Delta Air Lines (Delta), United Airlines (United) and the Air Line Pilots Association, International (ALPA). The following presents the comments received on the NPRM and the FAA’s response to each comment.

Request To Update Shop Manual Atlas Air requested that the FAA revise GE CF6–80C2, ESM 72–53–05, High Pressure Turbine (HPT) Rotor Thermal Shield—Inspection to add the proposed requirement to remove from service the HPT thermal shield, the HPT rotor stage 1 disk, and the HPT rotor stage 2 disk from service if a crack is found, since the thermal shield can be sent to different vendors outside the engine shop. Delta also suggested that the technical data within the Engine Shop Manual (ESM) should be updated to ensure inspection requirements are equivalent across all tasks within the ESM.

The FAA disagrees. Requiring updates to the ESM is unnecessary to correct the unsafe condition identified in this AD. The visual and FPI inspections in the required actions of this AD are the necessary actions to correct the unsafe condition. Operators, at their discretion, may work with the original equipment manufacturer to suggest changes to the ESM to include the inspections required by this AD.
Request To Revise References to Engine Manual

Boeing requested that the FAA update reference to the service information in the Related Service Information section of the NPRM by referencing Revision 90 of the GE CF6–80A Engine Manual and Revision 91 of the CF6–80C2 Engine Manual. These revisions of the respective engine manuals include updated procedures regarding HPT rotor Stage 1 and Stage 2 disk serviceability for these model engines with respect to HPT thermal shield inspection findings.

The FAA agrees and has updated the Related Service Information section of this AD as suggested by the commenter.

Request To Clarify Inspection Instructions

Delta requested that the FAA clarify that the mandated visual and FPI inspections should be accomplished in accordance with the engine manual for the affected engine models.

The FAA disagrees. Operators may use any approved method to perform the visual and FPI inspections required by this AD.

Request To Clarify Engine Applicability

United requested that the FAA remove CF6–80C2B8F model turbofan engines from the applicability of this AD. United commented that two HPT thermal shield configurations exist, part number (P/N) 2787M85P01 and P/N 9315M41P20. Neither of these configurations are applicable to the R88DT HPT rotor installed on CF6–80C2B8F model turbofan engines. United requested that if the FAA considers the CF6–80C2B8F turbofan engine model affected by this AD, then the applicable engine manual should be updated to reflect the inspections required by this AD.

The FAA agrees. This AD is not applicable to the R88DT HPT rotor installed on CF6–80C2B8F model turbofan engines because that rotor configuration does not have an affected thermal shield. The FAA added the applicable part numbers for HPT thermal shields installed on CF6–80A and CF6–80C2 model turbofan engines to the applicability paragraph of this AD.

Support for the NPRM

ALPA supported the NPRM without change.

Conclusion

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Related Service Information


Costs of Compliance

The FAA estimates that this AD affects 1,084 engines installed on airplanes of U.S. registry.

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

<table>
<thead>
<tr>
<th>Action</th>
<th>Labor cost</th>
<th>Parts cost</th>
<th>Cost per product</th>
<th>Cost on U.S. operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perform FPI and visual inspection of HPT thermal shield.</td>
<td>2 work-hours × $85 per hour = $170</td>
<td>$0</td>
<td>$170</td>
<td>$184,280</td>
</tr>
</tbody>
</table>

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

On-Condition Costs

<table>
<thead>
<tr>
<th>Action</th>
<th>Labor cost</th>
<th>Parts cost</th>
<th>Cost per product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replace HPT thermal shield</td>
<td>2 work-hours × $85 per hour = $170</td>
<td>$209,600</td>
<td>$209,770</td>
</tr>
<tr>
<td>Replace HPT rotor stage 1 disk</td>
<td>2 work-hours × $85 per hour = $170</td>
<td>799,700</td>
<td>799,870</td>
</tr>
<tr>
<td>Replace HPT rotor stage 2 disk</td>
<td>2 work-hours × $85 per hour = $170</td>
<td>364,600</td>
<td>364,770</td>
</tr>
</tbody>
</table>

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 Alaska, 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.

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

§ 39.13 [Amended]

(1) The Manager, ECO Branch, FAA, has
(2) During any inspection required by

(b) Affected ADs
None.

(c) Applicability

(d) Subject
Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

(e) Unsafe Condition
This AD was prompted by an inspection by the manufacturer that revealed cracking of the high-pressure turbine (HPT) rotor stage 1 disk, caused by initial flange-to-flange cracking on the HPT thermal shield between the HPT rotor stage 1 disk and the HPT rotor stage 2 disk. The FAA is issuing this AD to prevent failure of the HPT rotor stage 1 disk and the HPT rotor stage 2 disk. The unsafe condition, if not addressed, could result in unreleased rotation of the HPT rotor stage 1 and stage 2 disks, damage to the engine, and damage to the airplane.

(f) Compliance
Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions
(1) After the effective date of this AD, at every piece-part exposure of the HPT rotor stage 1 disk, HPT rotor stage 2 disk, or the HPT thermal shield, perform a visual inspection and a fluorescent penetrant inspection of the HPT thermal shield.
(2) During any inspection required by paragraph (g)(1) of this AD, if a crack extending through either the forward or aft flange of the HPT thermal shield is detected, remove the HPT thermal shield, the HPT rotor stage 1 disk, and the HPT rotor stage 2 disk from service.

(h) Installation Prohibition
Do not install onto any engine an HPT rotor stage 1 disk or HPT rotor stage 2 disk that was removed from service due to the requirements of paragraph (g)(2) of this AD.

(i) Definition
For the purpose of this AD, “piece-part exposure” is when the HPT rotor stage 1 disk, HPT rotor stage 2 disk, or HPT thermal shield is separated from their mating rotor parts within the HPT rotor module.

(j) Alternative Methods of Compliance (AMOCs)
(1) The Manager, ECO 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 ECO Branch, send it to the attention of the person identified in Related Information. You may view the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N–321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222–5110.

(k) Related Information
For more information about this AD, contact Kevin M. Clark, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238–7088; fax: (781) 238–7199; email: Kevin.M.Clark@faa.gov.

(l) Material Incorporated by Reference
None.

Issued on June 25, 2021.

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

[FR Doc. 2021–15694 Filed 7–22–21; 8:45 am]
BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration

14 CFR Part 39


RIN 2120–AA64

Airworthiness Directives; Leonardo S.p.A. Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Leonardo S.p.A. Model AB139 and AW139 helicopters. This AD was prompted by two events of uncommanded emergency flotation system (EFS) deployment during flight. This AD requires replacing certain part-numbered EFS control panels and prohibits installing them. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective August 27, 2021.

ADDRESSES: For service information identified in this final rule, contact Leonardo S.p.A. Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G.Agusta 520, 21017 C.Costa di Samarate (Va) Italy; telephone +39–0331–225074; fax +39–0331–229046; or at https://www.leonardocompany.com/en/home. You may view the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N–321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222–5110.

Examine the AD Docket
You may examine the AD docket at https://www.regulations.gov by