[Federal Register Volume 84, Number 185 (Tuesday, September 24, 2019)]
[Rules and Regulations]
[Pages 49944-49947]
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]
[FR Doc No: 2019-20599]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0692; Product Identifier 2018-NE-19-AD; Amendment 39-19735; AD 2019-18-08]

RIN 2120-AA64

Airworthiness Directives; Engine Alliance Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2019-16-04 for all Engine Alliance (EA) GP7270 and GP7277 model turbofan engines. AD 2019-16-04 required a visual inspection of the 1st-stage low-pressure compressor (LPC) rotor assembly, referred to after this as the "engine fan hub assembly," for damage, a one-time eddy current inspection (ECI) of the engine fan hub blade slot bottom and blade slot front edge for cracks; and removal of parts if damage or defects are found. AD 2019-16-04 also required replacement of the engine fan hub blade lock assembly for certain GP7270 and GP7277 model turbofan engines. This AD, for certain GP7270 and GP7277 model turbofan engines, reduces the compliance time for the initial ECI and requires repetitive ECIs of the engine fan hub blade slot bottom and blade slot front edge for cracks. This AD also retains the visual inspection requirements of the engine fan hub assembly for all GP7270 and GP7277 model turbofan engines. This AD was prompted by an uncontained failure of the engine fan hub. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective October 9, 2019.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of October 9, 2019.

The FAA must receive any comments on this AD by November 8, 2019.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.

Fax: 202-493-2251.

Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this final rule, contact Engine Alliance, 411 Silver Lane, East Hartford, CT 06118; phone: 800-565-0140; email: help24@pw.utc.com; website: www.engineallianceportal.com. You may view this service information at the FAA, Engine and Propeller Standards 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 on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2019-0692.

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-2019-0692; 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 street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Matthew Smith, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7735; fax: 781-238-7199; email: matthew.c.smith@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued AD 2019-16-04, Amendment 39-19707 (84 FR 41617, August 15, 2019), ("AD 2019-16-04"), for all EA GP7270 and GP7277 model turbofan engines. AD 2019-16-04 required a visual inspection of the engine fan hub assembly for damage, a one-time ECI of the engine fan hub blade slot bottom and blade slot front edge for cracks, and removal of parts if damage or defects are found that are outside serviceable limits. AD 2019-16-04 required an independent inspection of the engine fan hub assembly prior to reassembly of the engine fan hub blade lock assembly. AD 2019-16-04 also required replacement of the engine fan hub blade lock assembly for certain serial-numbered GP7270 and GP7277 model turbofan engines. AD 2019-16-04 resulted from the manufacturer's determination that an independent inspection of the fan hub assembly for damage was necessary prior to the reassembly of the engine fan hub blade lock assembly for all EA GP7270 and GP7277 model turbofan engines. The FAA issued AD 2019-16-04 to detect defects, damage, and cracks that could result in an uncontained failure of the engine fan hub assembly.

Actions Since AD 2019-16-04 Was Issued

Since the FAA issued AD 2019-16-04, the manufacturer identified a fatigue crack originating inboard of a blade slot after the manufacturer performed a metallurgical examination of the engine fan hub that was recovered, related to the September 30, 2017 event. After performing a risk assessment, the manufacturer determined the need to reduce the compliance time for the initial ECI and add a repetitive ECI. The FAA is issuing this AD to address the unsafe condition on these products.

Related Service Information Under 1 CFR Part 51

The FAA reviewed EA Alert Service Bulletin (ASB) EAGP7-A72-389, Revision No. 5, dated August 23, 2019. The ASB describes procedures for ECI of the EA GP7270 and GP7277 model turbofan engines fan hub assembly. 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.

Other Related Service Information

The FAA reviewed EA ASB EAGP7-A72-418, Revision No. 1, dated January 11, 2019. The ASB provides guidance on replacement or modification of the engine fan hub blade lock assembly.

The FAA also reviewed the following service information:

Subtask 72-31-42-210-001-A, of Task 72-31-42-000-802-A, from the A380 Aircraft Maintenance Manual (AMM). This subtask describes an on-wing visual inspection that is to be performed after removal of the engine fan hub blade lock assembly.

Figure 405 of Task 72-00-31-420-004 of the EA GP7000 Series Engine Manual (EM). This figure and task describe a visual inspection that is to be performed after removal of the engine fan hub blade lock assembly when the engine is in the shop.

Subtask 72-00-00-210-012-A, of Task 72-00-00-210-806-A, from the A380 Aircraft Maintenance Manual (AMM). This subtask describes an on-wing visual inspection that is to be performed after reassembly of the engine fan hub blade lock assembly.

Task 72-00-31-420-004, Paragraph 1.E.(13), of the GP7000 Series EM describes a visual inspection that is to be performed after reassembly of the engine fan hub blade lock assembly when the engine is in the shop.

Table 601 in Subtask 72-00-00-210-012-A, Task 72-00-00-210-806, from the A380 AMM or Task 72-00-31-220-010 of the EA GP7000 Series EM. Table 601 and Task 72-00-31-220-010 provide guidance on acceptable damage service limits.

FAA's Determination

The FAA is issuing this AD because all the relevant information was evaluated and the FAA determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

AD Requirements

This AD requires, for certain GP7270 and GP7277 model turbofan engines, an initial and repetitive ECI of the engine fan hub blade slot bottom and blade slot front edge for cracks. For all GP7270 and GP7277 model turbofan engines, this AD also requires an independent inspection of the engine fan hub assembly prior to the reassembly of the engine fan hub blade lock assembly and a visual inspection of the engine fan hub assembly for damage. For certain serial-numbered GP7270 and GP7277 model turbofan engines, this AD requires replacement of the engine fan hub blade lock assembly with a part eligible for installation.

FAA's Justification and Determination of the Effective Date

No domestic operators use this product. Therefore, the FAA finds good cause that notice and opportunity for prior public comment are unnecessary. In addition, for the reason stated above, the FAA finds that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety, and the FAA did not provide you with notice and an opportunity to provide your comments before it becomes effective. However, the FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under the ADDRESSES section. Include the docket number

FAA-2019-0692 and product identifier 2018-NE-19-AD at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this final rule. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

The FAA will post all comments received, without change, to http://www.regulations.gov, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this final rule.

Regulatory Flexibility Act

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because FAA has determined that it has good cause to adopt this rule without notice and comment, RFA analysis is not required.

Costs of Compliance

The FAA estimates that this AD affects zero engines installed on airplanes of U.S. registry. We have revised the estimate of work hours to complete the ECI based on updated service information.

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
ECI	20 work-hours × $85 per hour = $1,700	$0	$1,700	$0
Visual inspection	1 work-hour × $85 per hour = $85	0	85	0
Replace fan hub blade lock assembly	25 work-hours × $85 per hour = $2,125	28,000	30,125	0

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

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replace engine fan hub assembly	50 work-hours × $85 per hour = $4,250	$790,500	$794,750

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 engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation 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 affect intrastate aviation in Alaska.

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 part 39 of the Federal Aviation Regulations (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) AD 2019-16-04, Amendment 39-19707 (84 FR 41617, August 15, 2019), and adding the following new AD:

2019-18-08 Engine Alliance: Amendment 39-19735; Docket No. FAA-2019-0692; Product Identifier 2018-NE-19-AD.

(a) Effective Date

This AD is effective October 9, 2019.

(b) Affected ADs

This AD replaces AD 2019-16-04, Amendment 39-19707 (84 FR 41617, August 15, 2019) ("AD 2019-16-04").

(c) Applicability

This AD applies to all Engine Alliance (EA) GP7270 and GP7277 model turbofan engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section.

(e) Unsafe Condition

This AD was prompted by an uncontained failure of the engine fan hub. The FAA is issuing this AD to detect defects, damage, and cracks that could result in an uncontained failure of the engine fan hub assembly. The unsafe condition, if not addressed, could result in uncontained failure of the engine fan hub assembly, 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) For EA GP7270 and GP7277 model turbofan engines with engine fan hub assembly part numbers (P/Ns) 5760221 or 5760321, within 1,700 cycles since new, or within 150 flight cycles (FCs) after the effective date of this AD, or within 330 FCs since an eddy current inspection (ECI) was performed in accordance with the Accomplishment Instructions, For Fan Hubs at LPC Module Assembly Level, paragraphs 2.A and 2.B, of EA ASB EAGP7-A72-389, Revision No. 4, dated June 14, 2019, or earlier versions of that ASB; or within 330 FCs since overhaul, whichever occurs later:

(i) For engine fan hub assemblies at the low-pressure compressor (LPC) module assembly level, perform an ECI of the engine fan hub blade slot bottoms and front edges in accordance with the Accomplishment Instructions, For Fan Hubs at LPC Module Assembly Level, paragraphs 1.B. and 1.C., of EA ASB EAGP7-A72-389, Revision No. 5, dated August 23, 2019.

(ii) For engine fan hub assemblies at the piece part level, perform an ECI of the engine fan hub blade slot bottoms and front edges, in accordance with the Accomplishment Instructions, For Fan Hubs at Piece Part Level, paragraphs 1.A. and 1.B., of EA ASB EAGP7-A72-389, Revision No. 5, dated August 23, 2019.

(iii) For engine fan hub assemblies installed in an engine (on-wing or off-wing), perform an ECI of the engine fan hub blade slot bottoms and front edges, in accordance with the Accomplishment Instructions, For Fan Hubs Installed in an Engine, paragraphs 3.B. and 3.C., of EA ASB EAGP7-A72-389, Revision No. 5, dated August 23, 2019.

(iv) Thereafter, repeat the ECI of the engine fan hub blade slot bottoms and front edges at intervals not exceeding 330 FCs since the previous ECI required by paragraphs (g)(1)(i) through (iii) of this AD, as applicable.

(v) If any ECI of the engine fan hub assembly results in a rejectable indication per the Appendix, Added Data, of EA ASB EAGP7-A72-389, Revision No. 5, dated August 23, 2019, remove the engine fan hub assembly from service and, before further flight, replace with a part that is eligible for installation.

(2) For all GP7270 and GP7277 model turbofan engines, after the effective date of this AD:

(i) At the next disassembly of the engine fan hub blade lock assembly, visually inspect the following areas for damage:

(A) The fan hub blade lock retention hooks (also known as lock ring contact area); and

(B) The fan hub rim face.

(ii) At the next reassembly of the fan hub blade lock assembly, visually inspect the following areas of the engine fan hub for damage:

(A) The fan hub scallop areas;

(B) The fan hub bore area behind the balance flange;

(C) The fan hub fan blade lock retention hooks;

(D) The fan hub rim face; and

(E) The clinch nut holes.

(iii) After any reassembly per paragraph (g)(2)(ii), before further flight, perform an independent inspection of all areas of the engine fan hub referenced in paragraph (g)(2)(ii) of this AD for damage.

(iv) Thereafter, repeat the inspections required by paragraphs (g)(2)(i) through (iii) of this AD at each disassembly and reassembly of the engine fan hub blade lock assembly.

(v) As an optional terminating action to the inspection requirements and independent inspection requirements of paragraph (g)(2)(i) through (iii) of this AD, insert the requirements for the visual inspections and independent inspections required by these paragraphs as Required Inspection Items in the approved continuous airworthiness maintenance program for the airplane.

(vi) If damage is found outside serviceable limits during the inspections required by (g)(2)(i) through (iii) of this AD, before further flight, remove the engine fan hub assembly from service and replace it with a part eligible for installation.

(3) For GP7270 and GP7277 model turbofan engines with engine serial numbers P550101 through P550706, remove the engine fan hub blade lock assembly, P/N 5700451, by September 1, 2020, and replace with a part eligible for installation. Refer to EA ASB EAGP7-A72-418, Revision No. 1, dated January 11, 2019, for guidance on replacement of the engine fan hub blade lock assembly.

(h) Credit for Previous Actions

You may take credit for the inspections required by paragraph (g)(1)(i) through (iii) of this AD if you performed the inspections before the effective date of this AD using EA ASB EAGP7-A72-389, Revision No. 4, dated June 14, 2019, or an earlier version.

(i) Definitions

(1) For the purpose of this AD, a part eligible for installation for replacement of the engine fan hub blade lock assembly is:

(i) A part that is not P/N 5700451, or

(ii) An engine fan hub blade lock assembly that has been modified in accordance with EA ASB EAGP7-A72-418, Revision No. 1, dated January 11, 2019, or EA ASB EAGP7-A72-418, Revision No. 0, dated December 7, 2018.

(2) For the purpose of this AD, an independent inspection is a second visual inspection performed by an individual qualified to perform inspections who was not involved in the original inspection of the engine fan hub assembly following disassembly and reassembly of the engine fan hub blade lock assembly.

(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 certification office, send it to the attention of the person identified in paragraph (k) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(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 2019-16-04, AD 2018-11-16 (83 FR 27891, June 15, 2018), and AD 2019-03-04 (84 FR 4694, February 19, 2019) are approved as AMOCs for the corresponding provisions of this AD.

(k) Related Information

For more information about this AD, contact Matthew Smith, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7735; fax: 781-238-7199; email: matthew.c.smith@faa.gov.

(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 the AD specifies otherwise.

(i) Engine Alliance (EA) Alert Service Bulletin EAGP7-A72-389, Revision No. 5, dated August 23, 2019.

(ii) [Reserved]

(3) For EA service information identified in this AD, contact Engine Alliance, 411 Silver Lane, East Hartford, CT 06118; phone: 800-565-0140; email: help24@pw.utc.com; website: www.engineallianceportal.com.

(4) You may view this service information at the FAA, Engine & Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(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: http://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Burlington, Massachusetts, on September 18, 2019.

Karen M. Grant,
Acting Manager, Engine & Propeller Standards Branch,
Aircraft Certification Service.