



**適航指令發布單**  
**Airworthiness Directive Issuance Form**

民航局 AD 編號 AD number	CAA-2021-06-011	發布日期 Date issued	2021/7/5												
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	General Electric Company GEnx-1B64, GEnx-1B64/P1, GEnx-1B64/P2, GEnx-1B67, GEnx-1B67/P1, GEnx-1B67/P2, GEnx-1B70, GEnx-1B70/75/P1, GEnx-1B70/75/P2, GEnx-1B70/P1, GEnx-1B70/P2, GEnx-1B70C/P1, GEnx-1B70C/P2, GEnx-1B74/75/P1, GEnx-1B74/75/P2, GEnx-1B76/P2, GEnx-1B76A/P2 model turbofan engines with stages 6-10 compressor rotor spools in the high-pressure compressor (HPC) assembly with the following part numbers (P/N) installed: (i) P/N 2357M30G01, P/N 2357M30G02, P/N 2439M35G01, P/N 2439M35G02, or P/N 2445M40G02, all serial numbers (S/Ns); (ii) P/N 2610M90G01 with the S/Ns listed in paragraph 4., APPENDIX-A, Table 1 of the GE GEnx-1B Service Bulletin (SB) 72-0472 R02, dated November 5, 2020 (GEnx-1B SB 72-0472); and (iii) P/N 2628M56G01 with the S/Ns listed in paragraph 4., APPENDIX-A, Table 2 or Table 3 of GEnx-1B SB 72-0472. (2) GEnx-2B67, GEnx-2B67/P, GEnx-2B67B model turbofan engines with the following stages 6-10 compressor rotor spools P/Ns installed: (i) P/N 2357M30G02, P/N 2439M35G02, or P/N 2445M40G02, all S/Ns; (ii) P/N 2340M36G01 with S/Ns listed in paragraph 4., APPENDIX-A, Table 1 of GE GEnx-2B SB 72-0415 R02, dated November 5, 2020 (GEnx-2B SB 72-0415); and (iii) P/N 2628M56G01 with S/Ns listed in paragraph 4., APPENDIX-A, Table 2 or Table 3 of GEnx-2B SB 72-0415.														
主旨摘要	This AD requires inspection of the stages 6-10 compressor rotor spool and, depending on the results of the inspection, replacement of the stages 6-10 compressor rotor spool.														
民航局 CAA <input type="checkbox"/> 本國產品 Native products  <input type="checkbox"/> 其他個案 Other	<div style="text-align: center;">設計國民航主管機構 Original Authorities</div> <table style="width: 100%;"><tr><td><input checked="" type="checkbox"/> FAA</td><td><input type="checkbox"/> Germany LBA</td></tr><tr><td><input type="checkbox"/> EASA</td><td><input type="checkbox"/> CAA-NL</td></tr><tr><td><input type="checkbox"/> Brazil</td><td><input type="checkbox"/> UK CAA</td></tr><tr><td><input type="checkbox"/> Transport Canada Civil Aviation</td><td><input type="checkbox"/> Japan CAB</td></tr><tr><td><input type="checkbox"/> DGAC</td><td><input type="checkbox"/> CAA of Israel</td></tr><tr><td></td><td><input type="checkbox"/> Other _____</td></tr></table> <div style="display: flex; justify-content: space-between; margin-top: 10px;"><div>設計國 AD 編號 Original AD number</div><div>2021-11-07</div></div> <div style="margin-top: 10px;">1. 直接採用原 AD 之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 否(No) _     a. 生效日期另訂為(Re-specify the effective <input type="checkbox"/>         date as) : _____     b. 執行時限另訂為(Re-specify the compliance <input type="checkbox"/>         time or period as) : _____ <input type="checkbox"/> 2. 使用人是否需要將 AD 執行結果向民航局提出報告?(Do <input type="checkbox"/> <input type="checkbox"/> Users need to report the status of compliance to the CAA?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)</div>			<input checked="" type="checkbox"/> FAA	<input type="checkbox"/> Germany LBA	<input type="checkbox"/> EASA	<input type="checkbox"/> CAA-NL	<input type="checkbox"/> Brazil	<input type="checkbox"/> UK CAA	<input type="checkbox"/> Transport Canada Civil Aviation	<input type="checkbox"/> Japan CAB	<input type="checkbox"/> DGAC	<input type="checkbox"/> CAA of Israel		<input type="checkbox"/> Other _____
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	<input type="checkbox"/> Other _____														

備註 Note	ATA 72. Ref. GE GEnx-1B Service Bulletin (SB) 72-0472 R02, dated November 5, 2020. and GE GEnx-2B SB 72-0415 R02, dated November 5, 2020.
註：	<ol style="list-style-type: none"> <li>1. AD 內容後附。</li> <li>2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。</li> <li>3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a></li> </ol>
Note：	<ol style="list-style-type: none"> <li>1. The AD text is enclosed.</li> <li>2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval.</li> <li>3. For further information, please contact Civil Aeronautics Administration on Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a></li> </ol>

CAA Form ACS-P08-02

第一頁/共一頁

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[Rules and Regulations]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2020-0850; Project Identifier AD-2020-00288-E; Amendment 39-21569; AD 2021-11-07]**

**RIN 2120-AA64**

### **Airworthiness Directives; General Electric Company Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain General Electric Company (GE) GEnx-1B64, 1B64/P1, -1B64/P2, -1B67, -1B67/P1, -1B67/P2, -1B70, -1B70/75/P1, -1B70/75/P2, -1B70/P1, -1B70/P2, -1B70C/P1, -1B70C/P2, -1B74/75/P1, -1B74/75/P2, -1B76/P2, -1B76A/P2, -2B67, -2B67/P, and -2B67B model turbofan engines. This AD was prompted by a finding during an inspection by the manufacturer that two stages 6-10 compressor rotor spools in the high-pressure compressor (HPC) assembly were damaged at similar locations. Additionally, the manufacturer reported that certain stages 6-10 compressor rotor spool webs did not undergo a required fluorescent penetrant inspection (FPI) during production. This AD requires inspection of the stages 6-10 compressor rotor spool and, depending on the results of the inspection, replacement of the stages 6-10 compressor rotor spool. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective July 30, 2021.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of July 30, 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-2020-0850.

## **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0850; 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:** Mehdi Lamnyi, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7743; fax: (781) 238-7199; email: Mehdi.Lamnyi@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain GE GENx-1B and GENx-2B model turbofan engines. The NPRM published in the Federal Register on September 24, 2020 (85 FR 60103). The NPRM was prompted by a report from the manufacturer that an inspection had found two stages 6-10 compressor rotor spools in the HPC assembly damaged at similar locations on the webs. The subsequent investigation determined that tool marks were created during the manufacturing process. In addition, the manufacturer also reported that certain stages 6-10 compressor rotor spool webs did not undergo a required FPI during production.

In the NPRM, the FAA proposed to require inspection of the stages 6-10 compressor rotor spool. Operators of certain affected GENx-1B or GENx-2B model turbofan engines have already completed acceptable inspections of the aft web of stage 6, stage 7, and stage 8 of the stages 6-10 compressor rotor spool. The FAA proposed to require operators of those affected engines to complete the inspection of the stages 6-10 compressor rotor spool no later than the next engine shop visit. The FAA proposed to require all other remaining affected GENx-1B and GENx-2B model turbofan engines to complete this inspection by the next engine shop visit, before the stages 6-10 compressor rotor spools accumulate 6,500 cycles since new, or before further flight if 6,500 cycles since new has already been accumulated as of the effective date of this AD. Depending on the results of the inspection, the FAA proposed to require replacement of the stages 6-10 compressor rotor spool with a part eligible for installation. The FAA is issuing this AD to address the unsafe condition on these products.

### **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received comments from seven commenters. The commenters were American Airlines (American), GE Aviation, Japan Airlines, Nippon Cargo Airlines (NCA), the Air Line Pilots Association, International, United Airlines Engineering, and Boeing Commercial Airplanes. Three commenters supported the proposed rule without change. One commenter requested that the FAA add a term to the Definitions paragraph of the proposed rule, and use the latest version of the service information. Three commenters requested certain clarifications or changes to the Required Actions and Previous Credit sections. The following presents the comments received on the NPRM and the FAA's response to each comment.

## **Request To Clarify Rejectable Indication**

GE Aviation requested that the FAA define the term “rejectable indication” to avoid confusion in the event an indication is found during inspection. GE Aviation requested that the FAA define rejectable indication as an indication that does not meet the serviceable or repairable limits defined in the special procedure referenced in GE GENx-1B Service Bulletin (SB) 72-0472 R02, dated November 5, 2020 (GENx-1B SB 72-0472) and GE GENx-2B SB 72-0415 R02, dated November 5, 2020 (GENx-2B SB 72-0415).

The FAA agrees to define a “rejectable indication” as used in paragraph (g)(2) of the Required Actions section of this AD and added the definition in paragraph (h), Definitions, of this AD.

## **Request To Clarify Acceptance of Reworked Parts**

American requested that the FAA clarify paragraph (g)(2) and paragraph (i), Credit for Previous Actions, regarding installation of parts that initially failed inspection with a rejectable indication but were later reworked and found acceptable. American stated that GE has been accepting parts that were reworked using GE Subtask 72-00-00-210-012 in the GENx-1B EM 72-00-00, Special Procedure 023, in accordance with approved GE Departure Recommendations.

The FAA disagrees. Paragraph (g)(2) of this AD requires that if during an inspection, a stages 6-10 compressor rotor spool is found to have a rejectable indication, as defined in paragraph (h) of this AD, then the stages 6-10 compressor rotor spool must be removed from service. If the stages 6-10 compressor rotor spool is subsequently repaired or reworked, operators would need to submit an alternative methods of compliance (AMOC) request to the FAA to allow use of the repaired or reworked stages 6-10 compressor rotor spool.

## **Request To Revise References to Service Bulletin**

GE Aviation requested that the FAA update the specified service information by referencing Revision 2 of GE GENx-1B SB 72-0472 and GE GENx-2B SB 72-0415. GE noted that Revision 2 of these SBs had not been issued at the time of publication of the NPRM.

The FAA agrees and has updated this AD to reference GENx-1B SB 72-0472 R02 and GENx-2B SB 72-0415 R02, both dated November 5, 2020. This change to this AD imposes no additional burden on operators.

## **Request To Revise Previous Credit**

Japan Airlines requested that the FAA grant credit for the borescope inspection (BSI) or eddy current inspection (ECI) required by paragraph (g)(1) of this AD if inspections were previously performed in accordance with GE GENx-1B SB 72-0472 R01, dated July 24, 2020.

The FAA agrees and has updated paragraph (i), Credit for Previous Actions, to allow credit for inspections performed using GE GENx-1B SB 72-0472 R01, dated July 24, 2020 or GE GENx-2B SB 72-0415 R01, dated July 24, 2020, as applicable.

## **Request for Reference Date Clarification**

NCA requested that the FAA clarify the meaning of “previously undergone” in paragraph (g)(1)(ii) of this AD. NCA commented that one of its engines underwent an inspection during an engine shop visit using GENx-2B SB 72-0385 R02, dated July 29, 2019 and GE GENx-2B SB 72-0398 R00, dated October 30, 2019, before the effective date of this AD but after publication of GENx-2B SB 72-0415 R01. NCA noted that the reference to “previously undergone” means that it has been implemented in accordance with SB in the past without any specific timeframe, so it is not clear if the NCA's engine can apply the no cycles since new (CSN) limit.

The FAA clarified paragraph (g)(1)(i) and (ii) of this AD by removing the phrase “previously undergone” and referring instead to engines that have undergone inspections “before the effective date of this AD.”

### **Change to Compliance Time**

The FAA updated Table 1 to paragraph (g)(1) of this AD by allowing operators 100 flight cycles to perform the inspections required by paragraph (g)(1) of this AD when an engine has a stages 6-10 compressor rotor spool with 6,400 CSN or greater as of the effective date of this AD. This change allows operators a grace period to complete the required inspections without unnecessary grounding of airplanes and still meets the safety intent of this AD.

### **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 Under 1 CFR Part 51**

The FAA reviewed GE GENx-1B Service Bulletin (SB) 72-0472 R02, dated November 5, 2020 (GENx-1B SB 72-0472) and GE GENx-2B SB 72-0415 R02, dated November 5, 2020 (GENx-2B SB 72-0415).

GENx-1B SB 72-0472 describes procedures for performing a BSI or an ECI of stage 6, stage 7, and stage 8 webs, web transitions, and bore faces of the stages 6-10 compressor rotor spool for GENx-1B model turbofan engines. GENx-1B SB 72-0472 also provides the affected part and serial numbers of the stages 6-10 compressor rotor spools installed on GENx-1B model turbofan engines.

GENx-2B SB 72-0415 describes procedures for performing a BSI or an ECI of stage 6, stage 7, and stage 8 webs, web transitions, and bore faces of the stages 6-10 compressor rotor spool for GENx-2B model turbofan engines. GENx-2B SB 72-0415 also provides the affected part and serial numbers of the stages 6-10 compressor rotor spools installed on GENx-2B model turbofan engines.

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 ADDRESSES.

### **Other Related Service Information**

The FAA also reviewed Subtask 72-31-45-160-002 of TASK 72-31-45-200-807 in GE GENx-1B Engine Manual 05-21-00, Life Limits 001 Mandatory Inspections, Rev. 31 dated, January 31, 2020; and Subtask 72-31-45-160-002 of TASK 72-31-45-200-801 in GE GENx-2B Engine Manual 05-21-00, Life Limits 001 Mandatory Inspections, Rev. 24 dated, January 31, 2020. The Subtasks provide guidance on performing the ECI on the stages 6-10 compressor rotor spool on GE GENx-1B and GENx-2B model turbofan engines.

The FAA also reviewed the following GE SBs: GENx-1B SB 72-0448 R00, dated July 29, 2019 (GENx-1B SB 72-0448); GENx-1B SB 72-0460 R00, dated October 30, 2019 (GENx-1B SB 72-0460); GENx-2B SB 72-0385 R02, dated July 29, 2019 (GENx-2B SB 72-0385); and GENx-2B SB 72-0398 R00, dated October 30, 2019 (GENx-2B SB 72-0398).

GENx-1B SB 72-0448 describes procedures for performing a BSI or an ECI of the stage 8 aft web of the HPC stages 6-10 rotor spool for GENx-1B model turbofan engines. GENx-1B SB 72-0460 describes procedures for performing a BSI or an ECI of the stage 6 and stage 7 aft web of the HPC stages 6-10 rotor spool for GENx-1B model turbofan engines.

GENx-2B SB 72-0385 describes procedures for performing a BSI or an ECI of the stage 8 aft web of the HPC stages 6-10 spool for GENx-2B model turbofan engines. GENx-2B SB 72-0398 describes procedures for performing a BSI or an ECI of the stage 6 and stage 7 aft web of the HPC stages 6-10 rotor spool for GENx-2B model turbofan engines.

### Costs of Compliance

The FAA estimates that this AD affects 268 engines installed on 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
BSI of GENx-1B stage 6, stage 7, and stage 8 webs, web transitions and bore faces of the stages 6-10 compressor rotor spool	6 work-hours × \$85 per hour = \$510	\$0	\$510	\$89,760
BSI of GENx-2B stage 6, stage 7, and stage 8 webs, web transitions and bore faces of the stages 6-10 compressor rotor spool	6 work-hours × \$85 per hour = \$510	\$0	\$510	\$46,920

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

Action	Labor cost	Parts cost	Cost per product
Replace the stages 6-10 compressor rotor spool	64 work-hours × \$85 per hour = \$5,440	\$1,018,600	\$1,024,040

### 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**

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:





# **AIRWORTHINESS DIRECTIVE**

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

**2021-11-07 General Electric Company:** Amendment 39-21569; Docket No. FAA-2020-0850; Project Identifier AD-2020-00288-E.

## **(a) Effective Date**

This airworthiness directive (AD) is effective July 30, 2021.

## **(b) Affected ADs**

None.

## **(c) Applicability**

This AD applies to:

(1) General Electric Company (GE) GEnx-1B64, GEnx-1B64/P1, GEnx-1B64/P2, GEnx-1B67, GEnx-1B67/P1, GEnx-1B67/P2, GEnx-1B70, GEnx-1B70/75/P1, GEnx-1B70/75/P2, GEnx-1B70/P1, GEnx-1B70/P2, GEnx-1B70C/P1, GEnx-1B70C/P2, GEnx-1B74/75/P1, GEnx-1B74/75/P2, GEnx-1B76/P2, GEnx-1B76A/P2 model turbofan engines with stages 6-10 compressor rotor spools in the high-pressure compressor (HPC) assembly with the following part numbers (P/N) installed:

(i) P/N 2357M30G01, P/N 2357M30G02, P/N 2439M35G01, P/N 2439M35G02, or P/N 2445M40G02, all serial numbers (S/Ns);

(ii) P/N 2610M90G01 with the S/Ns listed in paragraph 4., APPENDIX–A, Table 1 of the GE GEnx-1B Service Bulletin (SB) 72-0472 R02, dated November 5, 2020 (GEnx-1B SB 72-0472); and

(iii) P/N 2628M56G01 with the S/Ns listed in paragraph 4., APPENDIX–A, Table 2 or Table 3 of GEnx-1B SB 72-0472.

(2) GEnx-2B67, GEnx-2B67/P, GEnx-2B67B model turbofan engines with the following stages 6-10 compressor rotor spools P/Ns installed:

(i) P/N 2357M30G02, P/N 2439M35G02, or P/N 2445M40G02, all S/Ns;

(ii) P/N 2340M36G01 with S/Ns listed in paragraph 4., APPENDIX–A, Table 1 of GE GEnx-2B SB 72-0415 R02, dated November 5, 2020 (GEnx-2B SB 72-0415); and

(iii) P/N 2628M56G01 with S/Ns listed in paragraph 4., APPENDIX–A, Table 2 or Table 3 of GEnx-2B SB 72-0415.

## **(d) Subject**

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

## **(e) Unsafe Condition**

This AD was prompted by a finding during an inspection that two stages 6-10 compressor rotor spools were damaged at similar locations. In addition, the manufacturer reported that certain stages 6-10 compressor rotor spool webs did not undergo a required fluorescent penetrant inspection (FPI) during production. The FAA is issuing this AD to prevent failure of the compressor rotor spool. The

unsafe condition, if not addressed, could result in uncontained release of debris, 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 all affected GENx-1B and GENx-2B model turbofan engines, before exceeding the compliance time in Table 1 to paragraph (g)(1) of this AD, perform a borescope inspection (BSI) or eddy current inspection (ECI) of the stage 6, stage 7, and stage 8 webs, web transitions, and bore faces of the stages 6-10 compressor rotor spool in accordance with the Accomplishment Instructions, paragraph 3, of GENx-1B SB 72-0472 (for GENx-1B models) or the Accomplishment Instructions, paragraph 3, of GENx-2B SB 72-0415 (for GENx-2B models).

**Table 1 to Paragraph (g)(1)**

<b>Cycles Since New (CSN) accumulated on the stages 6-10 compressor rotor spool</b>	<b>Compliance time</b>
Less than 6,400 CSN	Next engine shop visit or before the stages 6-10 compressor rotor spool accumulates 6,500 CSN, whichever occurs first after the effective date of this AD.
6,400 CSN or greater	Within 100 flight cycles after the effective date of this AD.

(i) For GENx-1B model turbofan engines, except those identified in paragraph 4, APPENDIX–A, Table 3 of SB 72-0472, if, before the effective date of this AD, the engines have undergone inspections of the aft web of stage 6, stage 7, and stage 8 of the stages 6-10 compressor rotor spool using both GE GENx-1B SB 72-0448 R00, dated July 29, 2019, and GE GENx-1B SB 72-0460 R00, dated October 30, 2019, regardless of the CSN accumulated on the stages 6-10 compressor rotor spool, perform the inspection required by paragraph (g)(1) of this AD no later than the next engine shop visit after the effective date of this AD.

(ii) For GENx-2B model turbofan engines, except those identified in paragraph 4., APPENDIX–A, Table 3 of SB 72-0415, if, before the effective date of this AD, the engines have undergone inspections of the aft web of stage 6, stage 7, and stage 8 of the stages 6-10 compressor rotor spool using both GE GENx-2B SB 72-385 R02, dated July 29, 2019, and GE GENx-2B SB 72-0398 R00, dated October 30, 2019, regardless of the CSN accumulated on the stages 6-10 compressor rotor spool, perform the inspection required by paragraph (g)(1) of this AD no later than the next engine shop visit after the effective date of this AD.

(2) For all affected GENx-1B and GENx-2B model turbofan engines, during the inspections required by paragraph (g)(1) of this AD, if a rejectable indication is found, before further flight, remove the stages 6-10 compressor rotor spool from service and replace it with a part eligible for installation.

**(h) Definitions**

(1) For the purpose of this AD, an “engine shop visit” is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges, except that the separation of engine flanges solely for the purposes of transportation of the engine without subsequent engine maintenance does not constitute an engine shop visit.

(2) For the purpose of this AD, a rejectable indication is:

- (i) A BSI indication that does not meet the BSI serviceable or repairable limits referenced in the Accomplishment Instructions, paragraph 3.A.(1)(a)2, of GENx-1B SB 72-0472, or paragraph 3.A.(1)(a)2 of GENx-2B SB 72-0415, and the affected part has not undergone a subsequent ECI; or
- (ii) A BSI indication that does not meet the BSI serviceable or repairable limits referenced in the Accomplishment Instructions, paragraph 3.A.(1)(a)2, of GENx-1B SB 72-0472, or paragraph 3.A.(1)(a)2 of GENx-2B SB 72-0415, and the affected part has undergone a subsequent ECI in which the indication did not meet the ECI serviceable or repairable limits referenced in the Accomplishment Instructions, paragraph 3.A.(1)(b) of GENx-1B SB 72-0472, or paragraph 3.A.(1)(b) of GENx-2B SB 72-0415; or
- (iii) An ECI indication that does not meet the serviceable or repairable limits referenced in the Accomplishment Instructions, paragraph 3.A.(1)(b) of GENx-1B SB 72-0472, or paragraph 3.A.(1)(b) of GENx-2B SB 72-0415.

#### **(i) Credit for Previous Actions**

(1) For affected GENx-1B model turbofan engines, you may take credit for the BSI or ECI required by paragraph (g)(1) of this AD, if you performed an ECI of the stages 6-10 compressor rotor spool webs, web transitions, and bore faces before the effective date of this AD using Subtask 72-31-45-160-002 of TASK 72-31-45-200-807 in GE GENx-1B Engine Manual 05-21-00, Life Limits 001 Mandatory Inspections, Rev. 31, dated January 31, 2020, or earlier, and no rejectable indications were found.

(2) For affected GENx-2B model turbofan engines, you may take credit for the BSI or ECI required by paragraph (g)(1) of this AD, if you performed an ECI of the stages 6-10 compressor rotor spool webs, web transitions, and bore faces before the effective date of this AD using Subtask 72-31-45-160-002 of TASK 72-31-45-200-801 in GE GENx-2B Engine Manual 05-21-00, Life Limits 001 Mandatory Inspections, Rev. 24, dated January 31, 2020, or earlier, and no rejectable indications were found.

(3) For affected GENx-1B model turbofan engines, you may take credit for the BSI or ECI required by paragraph (g)(1) of this AD, if you performed that inspection before the effective date of this AD using GE GENx-1B Service Bulletin (SB) 72-0472 R00, dated April 24, 2020, or GE GENx-1B SB 72-0472 R01, dated July 24, 2020, and no rejectable indications were found.

(4) For affected GENx-2B model turbofan engines, you may take credit for the BSI or ECI required by paragraph (g)(1) of this AD, if you performed that inspection before the effective date of this AD using GE GENx-2B SB 72-0415 R00, dated April 24, 2020, or GE GENx-2B SB 72-0415 R01, dated July 24, 2020, and no rejectable indications were found.

#### **(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 Related Information. 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.

## **(k) Related Information**

For more information about this AD, contact Mehdi Lamnyi, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7743; fax: (781) 238-7199; email: Mehdi.Lamnyi@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) GE GENx-1B Service Bulletin (SB) 72-0472 R02, dated November 5, 2020.

(ii) GE GENx-2B SB 72-0415 R02, dated November 5, 2020.

(3) For General Electric Company service information identified in this AD, contact General Electric Company, 1 Neumann Way, Cincinnati, OH 45215; phone: (513) 552-3272; email: aviation.fleetsupport@ae.ge.com; website: www.ge.com.

(4) You may view this service information at 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.

(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 May 19, 2021.

Gaetano A. Sciortino,

Deputy Director for Strategic Initiatives, Compliance & Airworthiness Division, Aircraft Certification Service.

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