[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2024-1299; Project Identifier MCAI-2023-00237-A; Amendment 39-22925; AD 2025-01-01]**

**RIN 2120-AA64**

**Airworthiness Directives; Britten-Norman Aerospace Ltd. Airplanes**

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

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Britten-Norman Aerospace Ltd. Model BN-2, BN-2A, BN-2A-2, BN-2A-3, BN-2A-6, BN-2A-8, BN-2A-9, BN-2A-20, BN-2A-21, BN-2A-26, BN-2A-27, BN-2B-20, BN-2B-21, BN-2B-26, BN-2B-27, BN-2T, BN2T-4R, and BN2T-4S airplanes; and certain Model BN2A MK. III, BN2A MK. III-2, and BN2A MK. III-3 airplanes. This AD was prompted by the determination that, in order to ensure the continued structural integrity of certain landing gear and associated components, it is necessary to require removal of these components from service prior to exceeding established fatigue lives. This AD requires determining the number of landings on affected main landing gears (MLGs), nose landing gears (NLGs), and associated components; removing from service any part that has reached or exceeded the established fatigue life and installing a replacement part; and prohibiting the installation of any affected part unless the number of landings for that part is below the established fatigue life. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:**

*AD Docket:* You may examine the AD docket at regulations.gov under Docket No.FAA-2024-1299; 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 mandatory continuing airworthiness information (MCAI), 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.

*Material Incorporated by Reference:*

• For Britten-Norman material identified in this AD, contact Britten-Norman Aerospace Ltd., Bembridge Airport, Bembridge, Isle of Wight, UK, PO35 5PR; phone: +44 20 3371 4000; email: customer.support@britten-norman.com; website: britten-norman.com/approvals-technical-publications.

• You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at regulations.gov under Docket No. FAA-2024-1299.

**FOR FURTHER INFORMATION CONTACT:** Beenal Desai, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (609) 485-9930; email: beenal.desai@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 Britten-Norman Aerospace Ltd. Model BN-2, BN-2A, BN-2A-2, BN-2A-3, BN-2A-6, BN-2A-8, BN-2A-9, BN-2A-20, BN-2A-21, BN-2A-26, BN-2A-27, BN-2B-20, BN-2B-21, BN-2B-26, BN-2B-27, BN-2T, BN2T-4R, and BN2T-4S (Islander) airplanes; and Model BN2A MK. III, BN2A MK. III-2, and BN2A MK. III-3 (Trislander) airplanes, fitted with landing gear and associated components manufactured by Fairey Hydraulics Ltd (FHL) and Britten-Norman Aircraft (BNA). The NPRM published in the *Federal Register* on May 17, 2024 (89 FR 43342). The NPRM was prompted by AD G-2023-0001, dated February 8, 2023, issued by Civil Aviation Authority (CAA), which is the aviation authority for the United Kingdom (UK) (UK CAA AD G-2023-0001) (also referred to as the MCAI). The MCAI states that to ensure the continued safe operation of certain Islander's and Trislander's NLG, MLG, and associated components, the manufacturer and the UK CAA determined that affected parts exceeding the established fatigue lives must be removed from service and that installation of parts that have reached their established fatigue lives must be prohibited.

In the NPRM, the FAA proposed to require determining the number of landings on affected MLGs, NLGs, and associated components; removing from service any part that has reached or exceeded the established fatigue life and installing a replacement part; and prohibiting the installation of any affected part unless the number of landings for that part is below the established fatigue life. The FAA is issuing this AD to address the unsafe condition on these products. Exceeding the established fatigue life, if not addressed, could result in failure of the structural integrity of the landing gear and associated components, which could result in damage to the airplane and injury to occupants.

You may examine the MCAI in the AD docket at regulations.gov under Docket No. FAA-2024-1299.

**Discussion of Final Airworthiness Directive**

**Comments**

The FAA received comments from one individual commenter. The following presents the comments received on the NPRM and the FAA's response to each comment.

**Request to Include a Method for Calculating Landings Per Flight Hour**

The commenter stated that in the United States landings are not required to be tracked on general aviation or commercial use non turbo prop airplanes. The commenter also mentioned that AD 2002-25-03, Amendment 39-12978 (67 FR 76106, December 11, 2002) provides a calculation of 3 landings per flight hour to calculate the number of landings, but this calculation is not realistic for all airplane operations and should be re-evaluated. The commenter explained it is difficult to take off and land three times in an hour with taxi, loading, and unloading of passengers and cargo. The commenter stated that if a routine flight was 30 minutes to an hour, then 1 or 2 landings for 1 flight hour should be considered by the FAA. The FAA infers that the commenter is requesting that the NPRM be revised to include a method for calculating landings per flight hour.

The FAA partially agrees with the commenter's request. The FAA acknowledges that landings are not required to be tracked on domestic general aviation airplanes. The compliance time for this AD is based on the number of landings because the affected MLGs, NLGs, and associated components that are showing fatigue are used during landing operations.

The FAA revised paragraph (h)(1) of this AD to specify how to calculate for an unknown number of landings and requires using 3 landings per 1 hour time-in-service (TIS). The FAA disagrees with using the calculation of 1 or 2 landings per 1 hour TIS because the 3 landings per 1 hour TIS calculation is a conservative estimate and has been

used in previous ADs. The FAA received information from Britten-Norman that supported using a calculation of 3 landings per 1 hour TIS. In addition, Britten-Norman does not have any data to substantiate decreasing the number of landings to 1 or 2 landings per 1 hour TIS. The FAA disagrees with referring to "flight hours" and is referring to TIS because "flight hours" are not defined in FAA regulations but TIS is defined in FAA regulations and is used with respect to maintenance records.

**Request for Extension of Fatigue Life Landings by 30 Percent**

The commenter requested that the FAA allow a 30-percent increase of the fatigue life values specified in Tables 1, 2, and 3 of Section 6 in Britten-Norman Service Bulletin SB 298, Issue 3, dated July 7, 2023 (Britten-Norman SB 298, Issue 3). The commenter stated that other countries allow the affected airplanes to operate with heavier gross weights than the United States allows, which reduces the fatigue lives of the affected components by shortening them. The commenter suggested a periodic eddy current inspection to determine the fatigue life value.

The FAA disagrees with both the commenter's request for a 30-percent fatigue life value increase and the commenter's suggestion to use a periodic eddy current inspection to determine the fatigue life value. The commenter did not provide substantiating data to support the requested changes. Britten-Norman provided the fatigue lives for the affected MLGs, NLGs, and associated components for the worldwide fleet based on its analysis of the unsafe condition and does not have data to substantiate increasing the fatigue life by 30-percent. The FAA agrees with this determination for airplanes on the U.S. registry. Operators may submit a proposal, with substantiating data, for revised requirements that affect the fatigue life value by requesting an alternative method of compliance (AMOC) using the procedures specified in paragraph (j) of this AD.

The FAA has not changed this AD regarding this comment.

**Request for Compliance Time Based on Operating Environments and Conditions**

The commenter stated that operating environments and conditions should also be considered when establishing compliance times. The commenter explained that these are excellent cargo and passenger airplanes and are flown all over the world in remote places with short, unimproved runways of dirt and gravel. The commenter stated that these are extreme operating conditions that most airplanes do not encounter and the comparison between airplanes operated in the United States and airplanes operated in other countries are not equal.

The FAA disagrees with the commenter's request to change the compliance time based on airplane operating environments and conditions. There is no current requirement to track the hours spent flying in different conditions. Additionally, operators may not know an airplane's entire flight or maintenance history. Without this detailed knowledge of each airplane, it would be impossible for the FAA to develop a special set of inspections based on airplane operating environments and conditions. However, operators may submit a proposal, with substantiating data, for revised requirements by requesting an AMOC using the procedures specified in paragraph (j) of this AD.

The FAA has not changed this AD regarding this comment.

**Request to Allow Continued Use of Parts that Exceed Fatigue Life Until Replacement Parts are Available**

The commenter requested that the MLG, NLG, and associated components that exceed the fatigue lives specified in in Tables 1, 2, and 3 of Section 6 in Britten-Norman SB 298, Issue 3, be allowed to continue to be used in service until replacement parts are available. The commenter referred to paragraph 2, “Corrective Action,” of UK CAA AD G-2023-0001, which states “Any main or nose landing gear or component which exceed the fatigue life stated in Tables 1, 2 or 3 must be withdrawn from service immediately.” The commenter stated that if replacement parts are not available then the proposed AD

would not only ground the fleet but close businesses that rely on these airplanes.

The FAA disagrees with allowing parts that exceed the fatigue life to be allowed in-service until replacement parts are available. While the FAA acknowledges the commenter's concern regarding immediately removing parts that exceed the specified fatigue lives from service, this AD does not require immediately removing from service affected parts that exceed the specified fatigue lives. Paragraph (h)(2) of this AD provides a grace period of 30 days after the effective date of this AD for replacing affected parts that exceed the specified fatigue lives. Britten-Norman has confirmed that the landing gear is still in production and spares are available. To the extent replacement parts may not be available, the FAA cannot base its AD action on whether replacement parts are available or can be produced. While every effort is made to avoid grounding airplanes, the FAA must address the unsafe condition. Operators may submit a proposal for revised requirements, with substantiating data, by requesting an AMOC using the procedures specified in paragraph (j) of this AD.

The FAA has not changed this AD regarding this comment.

**Conclusion**

These products have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data, considered the 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 changes described previously, this AD is adopted as proposed in the NPRM. None of the changes increase the economic burden on any operator.

**Material Incorporated by Reference under 1 CFR Part 51**

The FAA reviewed Britten-Norman SB 298, Issue 3. This material provides procedures for identifying the affected MLGs, NLGs, and associated components that need to have the number of landings tracked and provides the associated fatigue life. This material also specifies to remove from service any affected part that exceeds the specified fatigue life.

This material 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**

The FAA estimates that this AD affects 87 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 |
|---|---|---|---|---|
| Determine the number of landings accumulated on affected MLGs, NLGs, and associated components | 1 work-hour x $85 per hour = $85 | $0 | $85 | $7,395 |
| Replace MLG | 16 work-hours x $85 per hour = $1,360 | $30,000 | $31,360 | $2,728,320 |
| Replace NLG | 16 work-hours x $85 per hour = $1,360 | $35,000 | $36,360 | $3,163,320 |
| Replace associated components | Up to 4 work-hours x $85 per hour = $340 | $4,000 | Up to $4,340 | Up to $377,580 |

**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:

**2025-01-01 Britten-Norman Aerospace Ltd.**: Amendment 39-22925; Docket No. FAA-2024-1299; Project Identifier MCAI-2023-00237-A.

**(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Britten-Norman Aerospace Ltd. airplanes, certificated in any category, fitted with Fairey Hydraulics Ltd or Britten-Norman Aircraft landing gear and associated landing gear components, identified in paragraphs (c)(1) and (2) of this AD.

(1) Model BN-2, BN-2A, BN-2A-2, BN-2A-3, BN-2A-6, BN-2A-8, BN-2A-9, BN-2A-20, BN-2A-21, BN-2A-26, BN-2A-27, BN-2B-20, BN-2B-21, BN-2B-26, BN-2B-27, BN-2T, BN2T-4R, and BN2T-4S airplanes.

(2) Model BN2A MK. III, BN2A MK. III-2, and BN2A MK. III-3 airplanes.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 3200, Landing Gear System.

**(e) Unsafe Condition**

This AD was prompted by the determination that in order to ensure the continued structural integrity of certain landing gear and associated components, it is necessary to require removal of these components from service prior to exceeding established fatigue lives. Exceeding the established fatigue life, if not addressed, could result in failure of the structural integrity of the landing gear and associated components, which could result in damage to the airplane and injury to occupants.

**(f) Compliance**

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

**(g) Definitions**

For the purpose of this AD:

(1) An "affected part" is a main landing gear (MLG), nose landing gear (NLG), or component identified in Table 1, 2, or 3 of Section 6 in Britten-Norman SB 298, Issue 3, dated July 7, 2023 (Britten-Norman SB 298, Issue 3).

(2) A "part eligible for installation" is an MLG, NLG, or component with a part that has been established to be below the associated fatigue life identified in Table 1, 2, or 3 of Section 6 in Britten-Norman SB 298, Issue 3.

**(h) Required Actions**

(1) Within 30 days after the effective date of this AD, determine the number of landings accumulated on the affected parts. For an unknown number of landings, calculate the number based on 3 landings per 1 hour time-in-service.

(2) Before accumulating the number of landings (fatigue life) associated with the applicable affected part as identified in Table 1, 2, or 3 of Section 6 in Britten-Norman SB 298, Issue 3, or within the next 30 days after the effective date of this AD, whichever occurs later, replace any affected part with a part eligible for installation.

(3) Thereafter, replace any affected part with a part eligible for installation before accumulating the fatigue life, as identified in Table 1, 2, or 3 of Section 6 in Britten-Norman SB 298, Issue 3.

**(i) Parts Installation Limitation**

As of the effective date of this AD, do not install a MLG, NLG, or associated component unless it is a part eligible for installation.

**(j) Alternative Methods of Compliance (AMOCs)**

The Manager, International Validation 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 International Validation Branch, send it to the attention of the person identified in paragraph (k) of this AD or email to: AMOC@faa.gov. If mailing information, also submit information by email. 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) Additional Information**

For more information about this AD, contact Beenal Desai, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (609) 485-9930; email: beenal.desai@faa.gov.

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the material listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this material as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Britten-Norman Service Bulletin SB 298, Issue 3, dated July 7, 2023.

(ii) [Reserved]

(3) For Britten-Norman material identified in this AD, contact Britten-Norman Aerospace Ltd., Bembridge Airport, Bembridge, Isle of Wight, UK, PO35 5PR; phone: +44 20 3371 4000; email: customer.support@britten-norman.com; website: britten-norman.com/approvals-technical-publications.

(4) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations or email fr.inspection@nara.gov.

Issued on January 2, 2025.

Steven W. Thompson,
Acting Deputy Director, Compliance & Airworthiness Division,
Aircraft Certification Service.
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