

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration

14 CFR Part 39 [65 FR 45277 7/21/2000]

[Docket No. 2000-NM-210-AD; Amendment 39-11824; AD 2000-14-14]

RIN 2120-AA64

Airworthiness Directives; BFGoodrich Main Brake Assemblies

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to certain BFGoodrich main brake assemblies as installed on Airbus Model A319 and A320 series airplanes. This action requires repetitive inspections to determine the length of the wear indicator pins of the main brake assemblies of the main landing gear (MLG); follow-on inspections; and corrective actions, if necessary. This amendment is prompted by reports from several operators that severe oxidation was found on the rotor disk assemblies of the main brake assemblies. This action is necessary to detect and correct thermal oxidation of the main brake assemblies, which could result in deterioration of the MLG brakes, and consequent reduced braking performance.

DATES: Effective August 7, 2000.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of August 7, 2000.

Comments for inclusion in the Rules Docket must be received on or before August 21, 2000.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2000-NM-210-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: 9-anm-iarcomment@faa.gov. Comments sent via the Internet must contain "Docket No. 2000-NM-210-AD" in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 for Windows or ASCII text.

The service information referenced in this AD may be obtained from BFGoodrich Aerospace Wheel & Brake Systems Division, P.O. Box 340, Troy, Ohio, 45373. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Norman B. Martenson, Manager, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2110; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION: On November 24, 1999, the FAA issued AD 99-25-07, amendment 39-11450 (64 FR 68620, December 8, 1999), which is applicable to certain BFGoodrich main brake assemblies having part number (P/N) 2-1598 or P/N 2-1600 as installed on Airbus Model A319 and A320 series airplanes. That AD requires a one-time inspection of the wear indicator pins to determine the level of wear of the main brake assemblies of the main landing gear (MLG), and corrective actions, if necessary. That AD also requires modification of the main brake assemblies of the MLG to shorten the wear indicator pins, and change P/N 2-1598 to P/N 2-1598-1 or change P/N 2-1600 to P/N 2-1600-1. In addition, that AD requires incorporation of specified wear limits into the maintenance inspection program.

Since the issuance of AD 99-25-07, the FAA has received reports from several operators of severe oxidation on the carbon heat sinks used on BFGoodrich main brake assemblies, P/N 2-1598-1 and P/N 2-1600-1, installed on Airbus Model A319 and A320 series airplanes. Those reports indicate that the accomplishment of AD 99-25-07 did not adequately address the problem of oxidation on the main brake assemblies in time to correct the identified unsafe condition. Investigation has revealed that deterioration of the BFGoodrich main brake assemblies was caused by thermal oxidation of the carbon material on the heat sinks used in the main brake assemblies, P/N 2-1598-1 and P/N 2-1600-1, due to exposure to elevated temperatures for prolonged periods of time.

Further investigation revealed that the oxidation inhibitor process used by BFGoodrich does not completely prevent oxidation of the carbon brake material. BFGoodrich advises that the carbon brakes, which are susceptible to this oxidation condition, are used only on Airbus Model A319 and A320 series airplanes. Such oxidation first develops on the inner diameter of the rotor disk assemblies when the brake assembly is almost worn-to-limit. This condition, if not corrected, could result in deterioration of the MLG brakes, and consequent reduced braking performance.

Explanation of Relevant Service Information

BFGoodrich has issued Service Bulletins 2-1598-32-2 and 2-1600-32-3, both dated June 16, 2000, which describe procedures for an initial inspection to determine the length of the wear indicator pins of the MLG main brake assemblies and repetitive inspections thereafter at certain intervals. Procedures include follow-on inspections if the length of either wear indicator pin measures between 0.60 and 0.70 inches, or if the length of the pin measures between 0.20 and 0.30 inches; and corrective actions, if necessary. Follow-on inspections include inspecting the rotor disks located in the center of the heat sinks of the main brake assemblies of the MLG to detect the level of oxidation on the brake assemblies. Corrective actions include replacement of the main brake assembly with a new assembly if any oxidation exceeding the limits specified in the applicable service bulletin is detected. Following such replacement, repetitive inspections of the wear indicator pins are continued.

FAA's Conclusions

These airplane models are manufactured in France and are type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement.

Explanation of Requirements of Rule

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of the same type design registered in the United States, this AD is being issued to detect and correct thermal oxidation of the main brake assemblies, which could result in deterioration of the MLG brakes, and consequent reduced braking performance. This AD requires repetitive inspections to determine the length of the wear indicator pins of each main brake assembly of the MLG; follow-on inspections; and corrective actions, if necessary. The actions are required to be accomplished in accordance with the applicable service bulletin described previously, except as discussed below.

Differences Between AD and Service Information

Operators should note that the previously referenced BFGoodrich service bulletins recommend accomplishment of an initial inspection on all MLG brake assemblies to determine the length of the wear indicator pins "as soon as possible." However, the FAA finds that a definitive compliance time is necessary. Therefore, paragraph (a) of this AD requires the accomplishment of the repetitive inspections within 10 days after the effective date of this AD, or within 500 flight cycles after replacement of any brake assembly, whichever occurs later. The FAA considers that such a compliance time represents an appropriate interval of time allowable for affected airplanes to continue to operate without compromising safety.

Operators should note that the previously referenced service bulletins include procedures for a one-time inspection on all brakes when any wear indicator pin measures between 0.60 to 0.70 inches, and another such inspection when any pin measures between 0.20 to 0.30 inches. However, the FAA has determined that it is necessary to change those wear indicator pin measurements in this AD to ensure that all brakes are inspected at appropriate intervals. Paragraph (b) of this AD requires a one-time inspection of the brake if either wear indicator pin measures between 0.31 and 0.70 inches, and paragraph (c) of this AD requires an inspection of the brake if either wear indicator pin measures 0.30 inches or less. In the event that the special detailed inspection required by paragraph (c) of this AD is accomplished prior to paragraph (b) of this AD, the inspection required by paragraph (b) of this AD is deemed unnecessary.

Interim Action

This is considered to be interim action. The brake manufacturer has advised that it currently is developing a modification that will positively address the unsafe condition addressed by this AD. Once this modification is developed, approved, and available, the FAA may consider additional rulemaking.

Determination of Rule's Effective Date

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in

evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2000-NM-210-AD." The postcard will be date stamped and returned to the commenter.

Regulatory Impact

The regulations adopted herein 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration 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. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460



U.S. Department
of Transportation
**Federal Aviation
Administration**

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2000-14-14 BFGOODRICH: Amendment 39-11824. Docket 2000-NM-210-AD.

Applicability: Model BFGoodrich main brake assemblies having part number (P/N) 2-1598-1 or P/N 2-1600-1, as installed on Airbus Model A319 and A320 series airplanes, certificated in any category.

NOTE 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To detect and correct thermal oxidation of the main brake assemblies, which could result in deterioration of the main landing gear (MLG) brakes, and consequent reduced braking performance, accomplish the following:

Initial and Repetitive Inspections

(a) Within 10 days after the effective date of this AD, or within 500 flight cycles after replacement of any brake assembly, whichever occurs later: Perform an inspection to determine the length of the wear indicator pins of each main brake assembly of the MLG, in accordance with the Accomplishment Instructions of BFGoodrich Service Bulletin 2-1598-32-2 or 2-1600-32-3, both dated June 16, 2000, as applicable. Repeat the inspection thereafter for each brake assembly as specified by paragraph (a)(1), (a)(2), (a)(3), or (a)(4), as applicable.

(1) If the length of both wear indicator pins is greater than 2.00 inches, repeat the inspection thereafter at intervals not to exceed 500 flight cycles.

(2) If the length of the shortest wear indicator pin is between 2.00 and 1.50 inches, repeat the inspection thereafter at intervals not to exceed 250 flight cycles.

(3) If the length of the shortest wear indicator pin is between 1.49 and 1.0 inches, repeat the inspection thereafter at intervals not to exceed 100 flight cycles.

(4) If the length of the shortest wear indicator pin is between 0.31 and 0.99 inches, repeat the inspection thereafter at intervals not to exceed 10 days.

(5) If the length of the shortest wear indicator pin is less than 0.31 inches, no further action is required by this paragraph until the brake is replaced.

Follow-on Inspections and Corrective Actions

(b) During any inspection required by paragraph (a) of this AD, if the length of the shortest wear indicator pin measures between 0.31 and 0.70 inches: Prior to further flight, perform a one-time special detailed inspection of the rotor disks located in the center of the heat sinks of the main brake assemblies of the MLG to detect the level of oxidation on the main brake assemblies in accordance with the Accomplishment Instructions of BFGoodrich Service Bulletin 2-1598-32-2 or 2-1600-32-3, both dated June 16, 2000, as applicable. The inspection required by this paragraph is required only the first time the length of the shortest wear indicator pin measures between 0.31 and 0.70 inches.

(1) If no oxidation is detected, or if oxidation within the limits specified in the applicable service bulletin is detected on any brake assembly, continue the inspections required by paragraph (a) of this AD.

(2) If any oxidation exceeding the limits specified in the applicable service bulletin is detected on any brake assembly, prior to further flight, replace the brake assembly with a new brake assembly in accordance with the applicable service bulletin. Within 500 flight cycles following such replacement, continue the inspections required by paragraph (a) of this AD.

NOTE 2: For the purposes of this AD, a special detailed inspection is defined as: "An intensive examination of a specific item(s), installation, or assembly to detect damage, failure, or irregularity. The examination is likely to make extensive use of specialized inspection techniques and/or equipment. Intricate cleaning and substantial access or disassembly procedures may be required."

(c) During any inspection required by paragraph (a) of this AD, if the length of the shortest wear indicator pin measures 0.30 inches or less: Prior to further flight, perform a one-time special detailed inspection of the rotor disks located in the center of the heat sinks of the main brake assemblies of the MLG to detect the level of oxidation on the main brake assemblies in accordance with the Accomplishment Instructions of BFGoodrich Service Bulletin 2-1598-32-2 or 2-1600-32-3, both dated June 16, 2000, as applicable. The inspection required by this paragraph is required only the first time the length of the shortest wear indicator pin measures 0.30 inches or less.

(1) If no oxidation is detected, or if oxidation within the limits specified in the applicable service bulletin is detected on any brake assembly, no further action is required by this AD until the brake is replaced in accordance with the FAA-approved maintenance program.

Within 500 flight cycles following such replacement, continue the inspections required by paragraph (a) of this AD.

(2) If any oxidation exceeding the limits specified in the applicable service bulletin is detected on any brake assembly, prior to further flight, replace the brake assembly with a new brake assembly in accordance with the applicable service bulletin. Within 500 flight cycles following such replacement, continue the inspections required by paragraph (a) of this AD.

Spares

(d) As of the effective date of this AD, no person shall install on any airplane a BFGoodrich main brake assembly having P/N 2-1598-1 or P/N 2-1600-1 if the wear indicator pin measures 0.70 inches or less, unless an inspection to detect oxidation of the brake assembly has been accomplished in accordance with paragraph 3.A.(3) of the Accomplishment Instructions of BFGoodrich Service Bulletin 2-1598-32-2 or 2-1600-32-3, both dated June 16, 2000, as applicable.

Alternative Methods of Compliance

(e) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, International Branch, ANM-116, FAA, Transport Airplane Directorate. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, International Branch, ANM-116.

NOTE 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the International Branch, ANM-116.

Special Flight Permits

(f) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(g) Except as provided by paragraph (c)(1) of this AD, the inspections and replacement actions shall be done in accordance with BFGoodrich Service Bulletin 2-1598-32-2, dated June 16, 2000, or BFGoodrich Service Bulletin 2-1600-32-3, dated June 16, 2000; as applicable. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from BFGoodrich Aerospace Wheel & Brake Systems Division, P.O. Box 340, Troy, Ohio, 45373. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(h) This amendment becomes effective on August 7, 2000.

Issued in Renton, Washington, on July 13, 2000.

Donald L. Riggan, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.