[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0839; Project Identifier MCAI-2020-01697-R]

RIN 2120-AA64

Airworthiness Directives; Airbus Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2020-21-01, which applies to certain Airbus Helicopters Model AS-365N2, AS 365N3, EC 155B, EC155B1, and SA-365N1 helicopters. AD 2020-21-01 requires modifying the main gearbox (MGB) tail rotor (T/R) drive flange installation. Since the FAA issued AD 2020-21-01, the FAA has determined that additional helicopters are affected by the unsafe condition. This proposed AD would continue to require modifying the MGB T/R drive flange installation, and would also include new helicopters in the applicability for the required actions. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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 https://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: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Airbus Helicopters, 2701 North Forum Drive, Grand Prairie, TX 75052; phone: (972) 641-0000 or (800) 232-0323; fax: (972) 641-3775; or at https://www.airbus.com/helicopters/services/technical-support.html. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

Examining the AD Docket

You may examine the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA-2021-0839; 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 NPRM, the European Union Aviation Safety Agency (EASA) AD, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; phone: (516) 228-7330; email: andrea.jimenez@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2021-0839; Project Identifier MCAI-2020-01697-R" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to https://www.regulations.gov, including any

personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; phone: (516) 228-7330; email: andrea.jimenez@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2020-21-01, Amendment 39-21274 (85 FR 63440, October 8, 2020), (AD 2020-21-01), for certain Airbus Helicopters Model AS-365N2, AS 365N3, EC 155B, EC155B1, and SA-365N1 helicopters. AD 2020-21-01 requires modifying the MGB T/R drive flange installation. AD 2020-21-01 was prompted by several reported occurrences of loss of tightening torque of the Shur-Lok nut, which serves as a retainer of the T/R drive flange.

EASA AD 2020-0287, dated December 21, 2020 (EASA AD 2020-0287), issued by EASA, which is the Technical Agent for the Member States of the European Union, to correct an unsafe condition for certain AS 365 N2, AS 365 N3, SA 365 C1, SA 365 C2, SA 365 C3, SA 365 N and SA 365 N1 helicopters; and all EC 155 B and EC 155 B1 helicopters. Model SA 365 C3 airplanes are not certificated by the FAA and are not

included on the U.S. type certificate data sheet; this proposed AD therefore does not include those airplanes in the applicability.

EASA advised of reported occurrences of loss of tightening torque of the Shur-Lok nut, which serves as a retainer of the T/R drive flange of the MGB. EASA also advises of subsequent investigation that determined that these occurrences were the result of failure of the Shur-Lok nut locking function, which is normally ensured by two anti-rotation tabs engaged into two slots at the end of the MGB output shaft pinion. EASA states this condition could lead to the loosening of the Shur-Lok nut and disengagement of the Shur-Lok nut threads, possibly resulting in reduction of T/R drive control, rear transmission vibrations, and subsequent reduced control of the helicopter.

To address this unsafe condition, EASA issued a series of ADs, initially with EASA AD No. 2014-0165, dated July 14, 2014 (EASA AD 2014-0165), which required a one-time inspection of the radial play inside the T/R drive flange and the condition of the Shur-Lok nut. Shortly after, EASA issued EASA AD No. 2014-0179, dated July 25, 2014 (EASA AD 2014-0179) to supersede EASA AD 2014-0165. EASA AD 2014-0179 retained the requirements of EASA AD 2014-0165 and expanded the applicability of helicopters affected by the unsafe condition. EASA later revised EASA AD 2014-0179 to Revision 1, dated July 29, 2014, to revise the applicability and specify updated related service information, and again to Revision 2, dated April 11, 2016 (EASA AD 2014-0179R2), to reduce the applicability and specify additional updated related service information.

Since EASA issued EASA AD 2014-0179R2, another occurrence was reported that involved an on-ground loss of T/R synchronization, resulting from disengagement of the Shur-Lok nut. This additional occurrence prompted EASA to issue EASA AD 2019-0046, dated March 11, 2019 (EASA AD 2019-0046) (which prompted FAA AD 2020-20-01), to require installation of modification 07 63C81, which consists of installing a rear output stop with 5 spigots on the T/R shaft flexible coupling. According to Airbus Helicopters, the 5 spigots will come into contact with the row of 5 bolt heads of the front T/R shaft if the T/R drive flange moves backwards. This contact limits

backward displacement of the T/R drive flange and subsequently prevents T/R drive flange disengagement.

Since EASA issued EASA AD 2019-0046, Airbus Helicopters reviewed the applicability of modification 07 63C81 and developed an additional 4 spigot modification (07 63D01) that was applicable to an additional subset of in-service helicopter models that were initially excluded from the applicability of EASA AD 2014-0179R2, prompting EASA to issue EASA AD 2020-0212, dated October 5, 2020 (EASA AD 2020-0212), to require either a 4 spigot or 5 spigot modification for the originally excluded helicopter models (which was dependent on the front shaft configuration, on the T/R shaft flexible coupling).

Actions Since AD 2020-21-01 Was Issued

Since the FAA issued AD 2020-21-01, EASA issued EASA AD 2020-0287, which supersedes EASA AD 2020-0212. EASA advises that modification of the MGB T/R drive flange is necessary for additional helicopters that were originally excluded from the previous EASA ADs due to date of manufacture. This condition, if not addressed, could result in loosening of the Shur-Lok nut, possibly resulting in disengagement of the Shur-Loc nut threads, reduction of T/R drive control, rear transmission vibrations, and subsequent reduced control of the helicopter.

Accordingly, EASA AD 2020-0287 retains the modification of the MGB T/R drive flange installation. EASA AD 2020-0287 also includes new helicopters in the applicability for the required actions (Model SA-365C1, SA-365C2, and SA-365N helicopters on which Airbus Helicopters modification 0763B64 has been embodied; and Model EC 155B and EC155B1 helicopters without modification 0763B64 embodied).

FAA's Determination

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA about the unsafe condition described in its AD. The FAA is proposing this AD after evaluating all known relevant information and determining that the unsafe condition described previously is likely to exist or develop on other helicopters of these same type designs.

Related Service Information Under 1 CFR Part 51

The FAA reviewed the following service information.

Airbus Helicopters Alert Service Bulletin (ASB) No. AS365-63.00.26, Revision 0, dated July 22, 2020, for Model AS365N helicopters and non FAA-type certificated military Model AS365Fs helicopters; and Airbus Helicopters ASB No. SA365-65.52, Revision 1 and dated July 22, 2020, for Model SA-365C1 and SA-365C2 helicopters and non FAA-type certificated Model SA-365C3 helicopters. This service information specifies procedures for modifying the MGB T/R drive flange installation, which include installing a rear (aft) output stop between the T/R drive flange and T/R drive shaft. These documents are distinct since they apply to different helicopter models.

This proposed AD also requires Airbus Helicopters ASB No. AS365-63.00.19, Revision 1, dated January 31, 2019; and Airbus Helicopters ASB No. EC155-63A013, Revision 1, dated January 31, 2019; which the Director of the Federal Register approved for incorporation by reference as of November 12, 2020 (85 FR 63440, October 8, 2020).

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.

Proposed AD Requirements in this NPRM

This proposed AD would retain all of the requirements of AD 2020-21-01. This proposed AD would require modifying the MGB T/R drive flange installation, and would also include new helicopters in the applicability for the required actions. This proposed AD would also require accomplishing the actions specified in the service information already described.

Differences Between this Proposed AD and the EASA AD

EASA AD 2020-0287 specifies compliance times of 600 flight hours or a certain time frame (months). However, this proposed AD would only require the compliance time of 600 hours time-in-service.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 53 helicopters of U.S. Registry. Labor rates are estimated at $85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this proposed AD.

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Modification (46 helicopters) (retained actions from AD 2020-21-01)	14 work-hours X $85 per hour = $1,190	$2,704	$3,894	$179,124
Modification (new proposed action)	14 work-hours X $85 per hour = $1,190	Up to $18,474	Up to $19,664	Up to $1,042,192

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

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would 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 Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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:

a. Removing Airworthiness Directive 2020-21-01, Amendment 39-21274 (85 FR 63440, October 8, 2020); and

b. Adding the following new airworthiness directive:

Airbus Helicopters: Docket No. FAA-2021-0839; Project Identifier MCAI-2020-01697-R.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2020-21-01, Amendment 39-21274 (85 FR 63440, October 8, 2020) (AD 2020-21-01).

(c) Applicability

This AD applies to the Airbus Helicopters model helicopters, certificated in any category, as identified in paragraphs (c)(1) through (3) of this AD.

(1) Model AS-365N2, AS 365 N3, and SA-365N1, all serial numbers on which Airbus Helicopters modification 0763B64 has been embodied, except those on which Airbus Helicopters modification 0763C81 has been embodied.

(2) Model SA-365C1, SA-365C2, and SA-365N, all serial numbers on which Airbus Helicopters modification 0763B64 has been embodied.

(3) Model EC 155B and EC155B1, all serial numbers, except those on which Airbus Helicopters modification 0763C81 has been embodied.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 6500, Tail Rotor Drive System.

(e) Unsafe Condition

This AD was prompted by several reported occurrences of loss of tightening torque of the Shur-Lok nut, which serves as a retainer of the main gear box (MGB) tail rotor (T/R) drive flange. The FAA is issuing this AD to detect and address loss of tightening torque of the Shur-Lok nut. The unsafe condition, if not addressed, could result in loosening of the Shur-Lok nut, possibly resulting in disengagement of the Shur-Lok nut threads, reduction of T/R drive control, rear transmission vibrations, and subsequent reduced control of the helicopter.

(f) Compliance

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

(g) Retained Actions of Paragraph (e) of AD 2020-21-01 with No Changes

This paragraph restates the requirements of paragraph (e) of AD 2020-21-01 with no changes. Within 600 hours time-in-service after November 12, 2020 (the effective date of AD 2020-21-01:

(1) For Model AS-365N2, AS 365N3, and SA-365N1 helicopters:

(i) Without removing the tail drive shaft flange (a), remove the sliding flange (b) from the flexible coupling (c) as shown in Detail “B” of Figure 1, PRE MOD, of Airbus Helicopters Alert Service Bulletin (ASB) No. AS365-63.00.19, Revision 1, dated

January 31, 2019 (ASB AS365-63.00.19, Revision 1); replace the 3 bolts (d) and remove from service the 3 washers (e).

(ii) Install the sliding flange (b) with aft output stop (1) part number (P/N) 365A32-7836-20 as shown in Detail "B" of Figure 1, POST MOD, of ASB AS365-63.00.19, Revision 1, and by following the Accomplishment Instructions, paragraph 3.B.2.b, of ASB AS365-63.00.19, Revision 1.

(2) For Model EC 155B and EC155B1 helicopters with modification 0763B64 embodied:

(i) Without removing the Shur-Lok nut (a), remove the sliding flange (b) from the flexible coupling (c) as shown in Detail "B" of Figure 1, PRE MOD, of Airbus Helicopters ASB No. EC155-63A013, Revision 1, dated January 31, 2019 (ASB EC155-63A013, Revision 1); replace the 3 bolts (d) and remove from service the 3 washers (e).

(ii) Install the sliding flange (b) with aft output stop (1) P/N 365A32-7836-20 as shown in Detail "B" of Figure 1, POST MOD, of ASB EC155-63A013, Revision 1, and by following the Accomplishment Instructions, paragraph 3.B.2.b, of ASB EC155-63A013, Revision 1.

Note 1 to paragraph (g)(2)(ii): ASB EC155-63A013, Revision 1 refers to the "aft output stop" as "rear output stop."

(h) New Required Actions

For Model SA-365C1, SA-365C2, and SA-365N helicopters; and Model EC 155B and EC155B1 helicopters without modification 0763B64 embodied: Within 600 hours time-in-service after the effective date of this AD, modify the MGB T/R drive flange installation, in accordance with paragraph 3.B.2., "Procedure," of the Accomplishment Instructions of the applicable service information specified in paragraphs (h)(1) through (3) of this AD, except as specified in paragraph (i) of this AD.

(1) Airbus Helicopters ASB SA365-65.52, Revision 1, dated July 22, 2020.

(2) Airbus Helicopters ASB AS365-63.00.26, Revision 0, dated July 22, 2020.

(3) ASB EC155-63A013, Revision 1.

(i) Exceptions to Service Information

Where the service information identified in paragraph (h) of this AD specifies to discard certain parts, this AD requires removing those parts from service.

(j) Special Flight Permits

Special flight permits, as described in 14 CFR 21.197 and 21.199, are not allowed.

(k) Alternative Methods of Compliance (AMOCs)

(1) 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 (l)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-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.

(l) Related Information

(1) For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; phone: (516) 228-7330; email: andrea.jimenez@faa.gov.

(2) For service information identified in this AD, contact Airbus Helicopters, 2701 North Forum Drive, Grand Prairie, TX 75052; phone: (972) 641-0000 or (800) 232-0323; fax: (972) 641-3775; or at https://www.airbus.com/helicopters/services/technical-support.html. You may view this referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(3) The subject of this AD is addressed in European Union Aviation Safety Agency (EASA) AD 2020-0287, dated December 21, 2020. You may view the EASA AD on the Internet at https://www.regulations.gov in Docket No. FAA-2021-0839.

Issued on September 24, 2021.

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