[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-1036; Product Identifier 2018-SW-015-AD]

RIN 2120-AA64

Airworthiness Directives; Airbus Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for Airbus Helicopters Model AS-365N2, AS 365 N3, SA-365N, SA-365N1 helicopters. This proposed AD would require replacing the main gearbox (MGB), or as an alternative, replacing the epicyclic reduction gear module for certain serial numbered planet gear assemblies installed on the MGB. This proposed AD would also require inspecting the MGB magnetic plugs and oil filter for particles. Depending on the outcome of the inspections, this proposed AD would require further inspections, and replacing certain parts. This proposed AD is prompted by the failure of an MGB second stage planet gear. The actions of this proposed AD are intended to correct an unsafe condition on these helicopters.

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 by any of the following methods:

- Federal eRulemaking Docket: Go to https://www.regulations.gov. Follow the online instructions for sending your comments electronically.

- Fax: 202-493-2251.

- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- Hand Delivery: Deliver to the "Mail" address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket on the Internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2017-1036; 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 proposed AD, the European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed rule, contact Airbus Helicopters, 2701 N. Forum Drive, Grand Prairie, TX 75052; telephone 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 the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

FOR FURTHER INFORMATION CONTACT: Rao Edupuganti, Aviation Safety Engineer, Rotorcraft Standards Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone 817-222-5110; email rao.edupuganti@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to participate in this rulemaking by submitting written comments, data, or views. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

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 file in the docket all comments received, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, the FAA will consider all comments received on or before the closing date for comments. The FAA will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. The FAA may change this proposal in light of the comments received.

Confidential Business Information

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 Rao Edupuganti, Aviation Safety Engineer, Rotorcraft Standards Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone 817-222-5110; email rao.edupuganti@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.

Discussion

EASA, which is the Technical Agent for the Member States of the European Union, has issued EASA AD No. 2017-0116, Revision 2, dated March 2, 2018, (EASA AD 2017-01162R2) to correct an unsafe condition for Airbus Helicopters Model AS 365 N2, AS 365 N3, SA 365 N, and SA 365 N1 helicopters. EASA advises that after an accident on a Model EC225 helicopter, an investigation revealed the failure of a second stage planet gear of the MGB. EASA states that one of the two types of planet gear assemblies used in the MGB epicyclic module is subject to higher outer race contact pressures and therefore is more susceptible to spalling and cracking. Airbus Helicopters reviewed its range of helicopters with regard to this issue and provided instructions to improve the reliability of the installed MGB. Therefore, EASA AD 2017-01162R2 requires repetitive inspections of the MGB magnetic plugs and corrective action if any particles are detected. EASA AD 2017-01162R2 also requires, if certain MGB planet

gear assemblies are installed, replacing the planet gear assemblies. Finally, the EASA AD prohibits installing an MGB with a Type X or Type Y planet gear assembly on any helicopter.

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 of the unsafe condition described in its AD. The FAA is proposing this AD after evaluating all known relevant information and determining that an unsafe condition is likely to exist or develop on other products of the same type designs.

Related Service Information Under 1 CFR part 51

The FAA reviewed Airbus Helicopters Alert Service Bulletin (ASB) No. AS365-05.00.78, Revision 3, dated March 2, 2018, for Model SA-365N, SA-365N1, AS-365N2, and AS 365 N3 helicopters. This service information specifies performing periodic inspections of the MGB magnetic plugs for particles. This service information also specifies identifying the type of gear assembly installed in the MGB and replacing any Type X assembly within 50 hours time-in-service (TIS). For Type Y gear assemblies, the service information requires replacing the assembly within 50 hours TIS or within 300 hours TIS, depending on the time since new. The service information specifies Type Z gear assemblies should be left as is.

The FAA also reviewed Airbus Helicopters Service Bulletin No. AS365-63.00.21, Revision 3, dated July 26, 2018 for Model AS365 helicopters. This service information contains procedures for replacing the MGB epicyclic reduction gear as an option to

replacing the MGB.

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

This proposed AD would require before further flight, for helicopters with a Type X planet gear assembly with a certain S/N installed, replacing the MGB. This proposed AD would require, for helicopters with no Type X planet gear assembly installed but at least one Type Y planet gear assembly with a certain S/N installed, replacing the MGB within 300 hours TIS or before any planet gear assembly accumulates 1,300 hours TIS since new, whichever occurs first. As an alternative to replacing the MGB, this proposed AD would allow replacing the epicyclic reduction gear module in the affected MGB.

This proposed AD would prohibit installing a MGB with Type Y or Type X planet gear assembly installed on any helicopter.

This proposed AD also would require within 10 hours TIS and thereafter before the first flight of the day or at intervals not to exceed 10 hours TIS, whichever occurs first, inspecting the lower MGB magnetic plugs for particles. If there are particles, the proposed AD would require replacing the MGB, depending on the type and the size of particles.

Differences between this Proposed AD and the EASA AD

The EASA AD requires a 50-hour or 300-hour TIS compliance time or by June 30, 2019, whichever occurs first, to determine the type of planet gear installed in the MGB, and depending on the outcome, to replace the MGB. This proposed AD would set

compliance deadlines based only on hours TIS or before further flight. The EASA AD allows a pilot to inspect the MGB magnetic plugs for particles, while this proposed AD would not.

Costs of Compliance

The FAA estimates that this proposed AD affects 34 helicopters of U.S. Registry. The FAA estimates that operators may incur the following costs in order to comply with this proposed AD. Labor costs are estimated at $85 per work-hour.

Inspecting the magnetic plugs and oil filter for particle deposits would take about 1 work-hour for an estimated cost of $85 per inspection cycle.

Replacing an MGB would take about 42 work-hours for cost of $3,570 and parts would cost about $295,000 (overhauled) for a total cost of $298,570 per helicopter.

Replacing the epicyclic reduction gear would take about 56 work-hours for an estimated cost of $4,760 and parts would cost about $11,404 for a total cost of $16,164 per helicopter.

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. 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 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 adding the following new airworthiness directive (AD):

Airbus Helicopters: Docket No. FAA-2017-1036; Product Identifier 2018-SW-015-AD.

(a) Applicability

This AD applies to Airbus Helicopters Model AS-365N2, AS 365 N3, SA-365N, and SA-365N1 helicopters, certified in any category, with at least one Type X or Y planet gear assembly with a serial number (S/N) listed in Appendices 4.A. through 4.B of Airbus Helicopters Alert Service Bulletin (ASB) No. AS365-05.00.78, Revision 3, dated March 2, 2018 (ASB AS-365-05.00.78) installed on the main gearbox (MGB).

(b) Unsafe Condition

This AD defines the unsafe condition as failure of an MGB planet gear assembly. This condition could result in failure of the MGB and subsequent loss of helicopter control.

(c) Comments Due Date

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(d) Compliance

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(e) Required Actions

(1) For helicopters with at least one Type X planet gear assembly with an S/N listed in Appendix 4.A. of ASB AS-365-05.00.78 installed, before further flight, replace

the MGB or as an alternative to replacing an affected MGB, replace the epicyclic reduction gear module Post Modification (MOD) 0763C52 in the affected MGB in accordance with paragraph 3.B.2 of the Accomplishment Instructions of Airbus Helicopters Service Bulletin SB No. AS365-63.00.21, Revision 3, dated July 26, 2018 (SB AS365-63.00.21), except you are not required to contact Airbus Helicopters.

(2) For helicopters without any Type X planet gear assembly installed but with at least one Type Y planet gear assembly with an S/N listed in Appendix 4.B. of ASB AS-365-05.0078 installed, within 300 hours time-in-service (TIS), or before any gear accumulates 1,300 hours TIS since new, whichever occurs first, replace the MGB or as an alternative to replacing the MGB, replace the epicyclic reduction gear module MOD 0763C52 in the affected MGB in accordance with paragraphs 3.B.2. of the Accomplishment Instructions of SB AS365-63.00.21, except you are not required to contact Airbus Helicopters.

(3) After the effective date of this AD, do not install an MGB with a Type X or Type Y gear assembly with an S/N listed in Appendix 4.A. or 4.B. of ASB AS-365-05.0078 installed, on any helicopter.

(4) For all helicopters, within 10 hours TIS and thereafter before the first flight of the day or at intervals not to exceed 10 hours TIS, whichever occurs first, inspect the lower MGB magnetic plugs for particles.

(i) If there are particles that consist of any scale, flake, or splinter, or particles other than cotter pin fragments, pieces of lock wire, swarf, abrasion, or miscellaneous non-metallic waste and the planet gear assembly has logged less than 50 hours TIS since new, inspect the MGB plugs for particles before further flight and inspect the oil filter for

particles within 5 hours TIS. Thereafter, for 25 hours TIS, continue to inspect the MGB plugs for particles before each flight, inspect the oil filter for particles at intervals not to exceed 5 hours TIS, and perform the actions required by paragraphs (e)(4)(ii)(A) through (B) of this AD.

(ii) If there are particles that consist of any scale, flake, or splinter, or particles other than cotter pin fragments, pieces of lock wire, swarf, abrasion, or miscellaneous non-metallic waste and the planet gear assembly has logged more than 50 hours TIS since new, inspect the cumulative surface area of the particles collected from both the magnetic plug and the oil filter, since last MGB overhaul or since new if no overhaul has been performed.

(A) If the total surface area of the particles is less than 3 mm^2, examine the particles with largest surface area (S), longest particle length (L) and thickest particles (e).

(*1*) If largest surface area (S) of a particle is less than 1 mm^2, the L is less than 1.5 mm, and the e is less than 0.2 mm, inspect the MGB plugs for particles before further flight and inspect the oil filter for particles within 5 hours TIS. Thereafter, for 25 hours TIS, continue to inspect the MGB plugs for particles before each flight, inspect the oil filter for particles at intervals not to exceed 5 hours TIS, and perform the actions required by paragraphs (e)(4)(ii)(A) through (B) of this AD.

(*2*) If largest particle size (S) is greater than 1 mm^2, the L is greater than 1.5 mm, or the e is greater than 0.2 mm, perform a metallurgical analysis for any 16NCD13 particles using a method in accordance with FAA-approved procedures.

(*3*) If there are any 16NCD13 particles, replace the MGB with an airworthy MGB.

(*4*) If there are no 16NCD13 particles, inspect the MGB plugs for particles before further flight and inspect the oil filter for particles within 5 hours TIS. Thereafter, for 25 hours TIS, continue to inspect the MGB plugs for particles before each flight, inspect the oil filter for particles at intervals not to exceed 5 hours TIS, and perform the actions required by paragraphs (e)(4)(ii)(A) through (B) of this AD.

(B) If the total surface area of collected particles is greater than or equal to 3 mm^2, before further flight, perform a metallurgical analysis for any 6NCD13 particles using a method in accordance with FAA-approved procedures.

(*1*) If there are any 16NCD13 particles, before further flight, replace the MGB with an airworthy MGB.

(*2*) If there are no 16NCD13 particles, inspect the MGB plugs for particles before further flight and inspect the oil filter for particles within 5 hours TIS. Thereafter, for 25 hours TIS, continue to inspect the MGB plugs for particles before each flight, inspect the oil filter for particles at intervals not to exceed 5 hours TIS, and perform the actions required by paragraphs (e)(4)(ii)(A) through (B) of this AD.

(f) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Rotorcraft Standards Branch, FAA, may approve AMOCs for this AD. Send your proposal to: Rao Edupuganti, Aviation Safety Engineer, Regulations and Policy Section, Rotorcraft Standards Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone 817-222-5110; email 9-ASW-FTW-AMOC-Requests@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, the FAA suggests that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

(g) Additional Information

The subject of this AD is addressed in European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD 2017-0116R2, dated March 2, 2018. You may view the EASA AD on the Internet at https://www.regulations.gov in the AD Docket.

(h) Subject

Joint Aircraft Service Component (JASC) Code: 6300, Main Rotor Drive System.

Issued on August 3, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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