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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2024-1477; Project Identifier AD-2023-01015-R; Amendment 39-22880; AD 2024-23-01]

RIN 2120-AA64

Airworthiness Directives; Robinson Helicopter Company

AGENCY:

Federal Aviation Administration (FAA), DOT.

ACTION:

Final rule.

SUMMARY:

The FAA is adopting a new airworthiness directive (AD) for certain Robinson Helicopter Company Model R44 and R44 II helicopters. This AD was prompted by several reports of failed clutch actuators and failed rivets attaching the belt tension clutch actuator brackets (bracket) to the fan scroll housing. This AD requires inspecting each bracket and, depending on the results, accomplishing additional inspections or taking any necessary corrective actions. The FAA is issuing this AD to address the unsafe condition on these products.

DATES:

This AD is effective January 7, 2025.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of January 7, 2025.

ADDRESSES:

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA-2024-1477; 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.

Material Incorporated by Reference:

- For Robinson Helicopter Company material identified in this AD, contact Robinson Helicopter Company, Technical Support Department, 2901 Airport Drive, Torrance, CA 90505; phone: (310) 539-0508; fax: (310) 539-5198; email:*ts1@robinsonheli.com;* or at *robinsonheli.com*.
- You may view this material at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Parkway, Room 6N-321, Fort Worth, TX 76177. 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-2024-1477.

Other Related Material: For other related Robinson Helicopter Company material identified in this AD, use the Robinson Helicopter Company contact information under *Material Incorporated by Reference* above.

FOR FURTHER INFORMATION CONTACT:

Charles Ayala, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (562) 627-5226; email: *Charles.L.Ayala@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 serial-numbered Robinson Helicopter Company Model R44 and Model R44 II helicopters. The NPRM published in the **Federal Register** on June 27, 2024 (89 FR 53534). The NPRM was prompted by five reports of failed clutch actuators and failed rivets attaching the clutch actuator bracket, part number A185-1, A185-2, and A185-5 (bracket), to the fan scroll housing on Robinson Helicopter Company Model R44 II helicopters. According to Robinson Helicopter Company, in all of these occurrences, the bracket separated from the fan scroll housing. In four of the reports, this separation of the bracket caused a failure of the belt tension actuator. Further investigation revealed the failure of the rivets attaching the bracket to the fan scroll housing was caused by excessive vibration of the fan scroll housing due to the design of the fan scroll housing, including the quantity and size of the rivets. Because of design similarity, Robinson Helicopter Company Model R44 helicopters are also affected by this unsafe condition.

In the NPRM, the FAA proposed to require, with the fanwheel removed, inspecting each bracket for looseness and fretting. Depending on the results of the inspection in the NPRM, the FAA proposed to require additional actions such as inspecting the fiberglass and rivet holes of the fan scroll housing for delamination, inspecting the quantity and size of the fan scroll housing rivets, replacing the fan scroll housing, replacing brackets and rivets, and applying a horizontal torque stripe to each rivet. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received a comment from one commenter, Robinson Helicopter Company. The following presents the comment received on the NPRM and the FAA's response to the comment.

Request To Change the Applicability

Robinson Helicopter Company requested the FAA revise the applicability paragraph to identify only riveted A185-1, A185-2, and A185-5 brackets. Robinson Helicopter Company stated that some helicopters within the applicable serial number ranges have been retrofitted with the latest design installation that utilizes screws as the method of attachment to the fan scroll housing instead of rivets and are not subject to this AD.

The FAA agrees and has revised the applicability paragraph of this AD to clarify that only certain riveted brackets are applicable. The FAA also added a note to the applicability paragraph of this AD to further clarify that brackets installed to the fan scroll housing with screws are not applicable to this AD.

Conclusion

The FAA reviewed the relevant data, considered the comment 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 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.

Material Incorporated by Reference Under 1 CFR Part 51

The FAA reviewed Robinson Helicopter Company R22 Service Letter SL-74B (SL-74B), and R44 Service Letter SL-61B (SL-61B), each Revision B and dated March 16, 2023 (co-published as one document). This material specifies procedures for inspecting the A185 brackets for looseness and ensuring that a total of 12 rivets attach the A185 brackets to the fan scroll housing, and corrective actions as necessary including repairing rivet holes; replacing the scroll; replacing any 1/8 -inch rivets with 5/32 -inch rivets; enlarging rivet holes; and applying a torque seal. SL-61B is incorporated by reference in this AD. SL-74B is not incorporated by reference in this AD because this AD does not apply to Robinson Helicopter Company Model R22 helicopters.

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.

Other Related Material

The FAA reviewed Robinson Helicopter Company R44 Service Bulletin SB-113, dated March 16, 2023 (SB-113). This material specifies procedures for inspecting the A185 brackets to ensure the brackets are attached to the fan scroll housing with 5/32 -inch rivets. This material also specifies repairing the

scroll if there are less than 12 rivets, if 5/32 -inch rivets are not installed, if the brackets are loose, or if there is any fretting.

Differences Between This AD and the Referenced Material

This AD requires inspecting the brackets for fretting, and the fiberglass and rivet holes for delamination, whereas SL-61B does not contain those actions. SL-61B specifies procedures for repairing the fan scroll housing rivet holes, whereas this AD requires making that repair in accordance with FAA-approved procedures.

Costs of Compliance

The FAA estimates that this AD affects 1,686 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 AD.

Inspecting the brackets (three brackets per helicopter) for looseness and fretting will take 0.25 work-hour, for an estimated cost of $21 per helicopter and $35,406 for the U.S. fleet.

If required, inspecting the fiberglass for delamination will take 0.25 work-hour, for an estimated cost of $21 per helicopter.

If required, replacing the fan scroll housing will take 5 work-hours and parts will cost $3,720, for an estimated cost of $4,145 per helicopter.

If required, inspecting all brackets, each inner plate, and each fan scroll housing rivet hole will take 1 work-hour, for an estimated cost of $85 per helicopter.

If required, replacing a bracket or inner plate will take 1 work-hour and parts will cost $175, for an estimated cost of $260 per part replacement.

If required, repairing each rivet hole (per bracket) will take 1.5 work-hours for an estimated cost of $128 per bracket.

Replacing a rivet (if required) and applying a torque stripe to each rivet will each take a minimal amount of time with a nominal parts cost.

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:

2024-23-01 Robinson Helicopter Company: Amendment 39-22880; Docket No. FAA-2024-1477; Project Identifier AD-2023-01015-R.

(a) Effective Date

This airworthiness directive (AD) is effective January 7, 2025.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Robinson Helicopter Company Model R44 helicopters serial numbers (S/Ns) up to 2480 inclusive and 30001 through 30022 inclusive, and Model R44 II helicopters S/Ns up to 14089 inclusive, certificated in any category, with riveted belt tension clutch actuator brackets part number A185-1, A185-2, or A185-5 (bracket(s)), installed.

Note 1 to paragraph (c): Helicopters with an R44 Cadet designation are Model R44 helicopters.

Note 2 to paragraph (c): Brackets attached to the fan scroll housing with screws are not applicable to this AD.

(d) Subject

Joint Aircraft System Component (JASC) Code: 6300, Main rotor drive system and 6700, Rotorcraft flight control.

(e) Unsafe Condition

This AD was prompted by several reports of failed clutch actuators and failed rivets attaching the belt tension clutch actuator brackets to the fan scroll housing. The FAA is issuing this AD to detect and address loose and missing brackets and rivets. The unsafe condition, if not addressed, could result in detachment of the bracket, causing failure of the clutch actuator assembly, loss of main and tail rotor drive, and subsequent loss of control of the helicopter.

(f) Compliance

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

(g) Required Actions

Within 300 hours time-in-service or 12 months after the effective date of this AD, whichever occurs first, with the fanwheel removed, inspect each bracket installed on the fan scroll housing for looseness (bracket can be moved by hand) and fretting and accomplish the actions in paragraphs (g)(1) or (2) of this AD, as applicable.

(1) If there is no looseness of any bracket and no fretting, before further flight, visually inspect the fiberglass adjacent to the rivets of the fan scroll housing for delamination.

(i) If there is any delamination in the fiberglass, before further flight, remove the fan scroll housing from service and install an airworthy fan scroll housing using 5/32 -inch rivets (3 rivets on each top bracket and 6 rivets on the bottom bracket). Figure 1 of Robinson Helicopter Company R44 Service Letter SL-61B, Revision B, dated March 16, 2023 (SL-61B) depicts the location of each bracket and rivet.

(ii) If there is no delamination in the fiberglass, before further flight, inspect for the installation of 5/32 -inch rivets in all 12 locations (3 rivets on each top bracket and 6 rivets on the bottom bracket) depicted in Figure 1 of SL-61B. If a 5/32 -inch rivet is not installed in all 12 locations, before further flight, replace each incorrectly sized rivet and each missing rivet with a 5/32 -inch rivet.

(iii) Apply a horizontal torque stripe to each rivet.

(2) If any bracket is loose or has any fretting, before further flight, remove all brackets and inner plates from the fan scroll housing and accomplish the actions in paragraphs (g)(2)(i) through (iv) of this AD.

(i) For each bracket with fretting, before further flight, remove the bracket from service and replace it with an airworthy bracket.

(ii) Visually inspect each bracket and inner plate for cracks and deformation, visually inspect the fiberglass adjacent to the rivets of the fan scroll housing for delamination, and visually inspect each fan scroll housing rivet hole for delamination and other damage, which may be indicated by fretting.

(A) If a bracket or inner plate has any cracks or deformation, before further flight, remove the affected part from service and replace it with an airworthy part.

(B) If there is any delamination in the fiberglass or in any fan scroll housing rivet hole, before further flight, remove the fan scroll housing from service and install an airworthy fan scroll housing using 5/32 -inch rivets (3 rivets on each top bracket and 6 rivets on the bottom bracket). Figure 1 of SL-61B depicts the location of each bracket and rivet.

(C) If there is other damage in any fan scroll housing rivet hole, before further flight, repair the rivet hole in accordance with FAA-approved procedures.

(iii) After accomplishing the actions in paragraphs (g)(2)(i) and (ii) of this AD, when installing or reinstalling the brackets and inner plates on the fan scroll housing, use 5/32 -inch rivets in all 12 locations depicted in Figure 1 of SL-61B (3 rivets on each top bracket and 6 rivets on the bottom bracket).

(iv) Apply a horizontal torque stripe to each rivet.

(h) Special Flight Permits

A one-time special flight permit may be issued in accordance with 14 CFR 21.197 and 21.199 to fly the aircraft to a location where the actions required by this AD can be accomplished. This flight must be a non-revenue flight and limited to only essential flight crew.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, West Certification 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 West Certification Branch, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: *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.

(j) Related Information

For more information about this AD, contact Charles Ayala, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (562) 627-5226; email: *Charles.L.Ayala@faa.gov*.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) 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) Robinson Helicopter Company R44 Service Letter SL-61B, Revision B, dated March 16, 2023.

Note 3 to paragraph (k)(2)(i): The material identified in paragraph (k)(2)(i) of this AD is co-published as one document along with Robinson Helicopter Company R22 Service Letter SL-74B, Revision B, dated March 16, 2023, which is not incorporated by reference in this AD.

(ii) [Reserved]

(3) For Robinson Helicopter Company material identified in this AD, contact Robinson Helicopter Company, Technical Support Department, 2901 Airport Drive, Torrance, CA 90505; phone: (310) 539-0508; fax: (310) 539-5198; email: *ts1@robinsonheli.com;* or at *robinsonheli.com*.

(4) You may view this material at the FAA, Office of Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Fort Worth, TX 76177. 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 November 4, 2024.

Victor Wicklund,

Deputy Director, Compliance & Airworthiness Division, Aircraft Certification Service.

[FR Doc. 2024-28178 Filed 12-2-24; 8:45 am]

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