Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2024–0237; Project Identifier AD–2023–00491–R]

RIN 2120–AA64

Airworthiness Directives; Robinson Helicopter Company 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 all Robinson Helicopter Company Model R44 and R44 II helicopters. This proposed AD was prompted by reports of a fractured clutch shaft forward yoke (yoke) on the main rotor (M/R) drive due to fatigue cracking. This proposed AD would require visually inspecting a certain part-numbered flex plate assembly (flex plate) and certain part-numbered yokes, including each yoke bolt, and depending on the inspection results, removing an affected part from service and replacing an affected part with an airworthy part. This proposed AD would also require removing a certain part-numbered yoke from service after accumulating a certain number of hours time-in-service (TIS) or a certain number of years, or as an alternative to removing the part from service, performing a 10X or higher power magnification visual inspection and, if needed, a magnetic particle inspection. 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 April 15, 2024.

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 *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.

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA–2024–0237; 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, any comments received, and other information. The street address for Docket Operations is listed above.

Related Service Information: For service information identified in this NPRM, 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 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.

FOR FURTHER INFORMATION CONTACT: Eric Moreland, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (562) 627–5364; email: *Eric.R.Moreland@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–2024–0237; Project Identifier AD–2023–00491–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 *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 Eric Moreland, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (562) 627–5364; email: *Eric.R.Moreland@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

After receiving a report of a failed yoke in the M/R drive system, the FAA issued Special Airworthiness Information Bulletin AIR–22–08, dated April 11, 2022 (SAIB) to remind owners and operators of any Robinson Helicopter Company Model R44 helicopters of the importance of adhering to existing inspection procedures in the applicable operating handbooks and maintenance manuals. According to Robinson Helicopter Company, the yoke had fractured due to fatigue cracking and improper torque at the bolt hole and the yoke cross-section.

After the FAA issued the SAIB, Robinson Helicopter Company reported an additional incident on a Model R44 helicopter where the yoke was fractured and separated from the drive train, again due to fatigue cracks and improper torquing. Accordingly, the FAA

proposes to adopt a new AD for all Robinson Helicopter Company Model R44 and R44 II helicopters to ensure adequate inspection and maintenance of all driveshaft yokes. This condition, if not addressed, could result in loss of M/R drive and subsequent loss of control of the helicopter.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information

The FAA reviewed Robinson Helicopter Company R44 Maintenance Manual and Instructions for Continued Airworthiness, Volume 1, Chapter 2 and Chapter 23, dated September 2023, which specifies procedures for inspecting the yoke and flex plate of the M/R drive, removing paint, applying torque, and performing a magnetic particle inspection. This service information also contains the information specified in Appendix 1 to this proposed AD, which specifies torque values, and Figure 1 to paragraph (g)(1) of this proposed AD, which depicts the areas for the flex plate inspection.

Proposed AD Requirements in This NPRM

This proposed AD would require visually inspecting flex plate part number (P/N) C947–1 for any loose fasteners, cracks, fretting, corrosion, wear, and to ensure that the washers are bonded to both sides of the flex plate arms and depending on the inspection results, removing the flex plate from service and replacing it with an airworthy flex plate.

This proposed AD would also require visually inspecting yoke P/N C907–1 or C907–2 as applicable, and yoke P/N C908–1, for any cracks, corrosion, and fretting, and depending on the inspection results, removing the yoke from service and replacing it with an airworthy yoke. Additionally, this proposed AD would require visually inspecting each yoke bolt for a torque stripe, loose fastener, loose nut, and to determine if nut P/N D210–6 and palnut P/N B330–19 are installed. If there are any missing torque stripes, loose fasteners, loose nuts, or if nut P/N D210–6 or palnut P/N B330–19 are not installed, this proposed AD would require removing the associated yoke from service and replacing it with an airworthy yoke.

This proposed AD would also require removing from service any yoke P/N C907–1 or C907–2 that has accumulated more than 12 years or 2,200 total hours TIS, whichever occurs first since first installation on any helicopter, and replacing it with a yoke P/N C907–1 or C907–2 that has accumulated less than 2,200 total hours TIS or 12 years, whichever occurs first since first installation on any helicopter. As an alternative to replacing any yoke that has accumulated more than 12 years or 2,200 total hours TIS since first installation on a helicopter, this proposed AD would allow removing paint from the yoke and using 10X or higher power magnifying glass to inspect for any crack, seam, lap, shut, missing cadmium plating, or any flaw which is open to the surface, and depending on the inspection results, removing the yoke from service and replacing it with an airworthy yoke. If the yoke is not replaced as a result of the alternate inspection, this proposed AD would require performing a magnetic particle inspection of the yoke for any crack, seam, lap, shut, or any flaw which is open to the surface, and depending on the inspection results, removing the yoke from service and replacing with an airworthy yoke.

Finally, if the yoke is replaced as a result of the actions required by this proposed AD, this proposed AD would require torquing each bolt, nut, and palnut using the torque value information in Appendix 1 to this proposed AD.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 1,725 helicopters of U.S. registry. The FAA estimates the following costs to comply with this proposed AD. Labor costs are estimated at $85 per work-hour.

Visually inspecting a flex plate would take approximately 0.25 work-hour for an estimated cost of $21 per helicopter and $36,225 for the U.S. fleet.

Visually inspecting a yoke, including inspecting each yoke bolt, would take approximately 1.25 work-hours for an estimated cost of $106 per helicopter and $182,850 for the U.S. fleet.

Replacing a yoke would take approximately 6 work-hours and parts would cost approximately $890 for an estimated cost of $1,400 per helicopter.

Removing paint and inspecting a yoke using 10X or higher power magnifying glass would take approximately 1.5 work-hours for an estimated cost of $128 per helicopter.

Performing a magnetic particle inspection would take approximately 1.5 work-hours for an estimated cost of $128 per helicopter.

Applying torque to one bolt, nut, and palnut would take approximately 1 work-hour for an estimated cost of $85 per hardware set.

If required, replacing a flex plate would take approximately 1 work-hour and parts would cost approximately $1,240 for an estimated cost of $1,325 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 above, 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 adding the following new airworthiness directive:

Robinson Helicopter Company: Docket No. FAA–2024–0237; Project Identifier AD–2023–00491–R.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by April 15, 2024.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Robinson Helicopter Company Model R44 and R44 II helicopters, certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC) Code: 6310, Engine/Transmission coupling.

(e) Unsafe Condition

This AD was prompted by reports of a fractured clutch shaft forward yoke (yoke) on the main rotor (M/R) drive due to fatigue cracking. The FAA is issuing this AD to detect fatigue cracking on the yoke. The unsafe condition, if not addressed, could result in loss of M/R drive and subsequent loss of control of the helicopter.

(f) Compliance

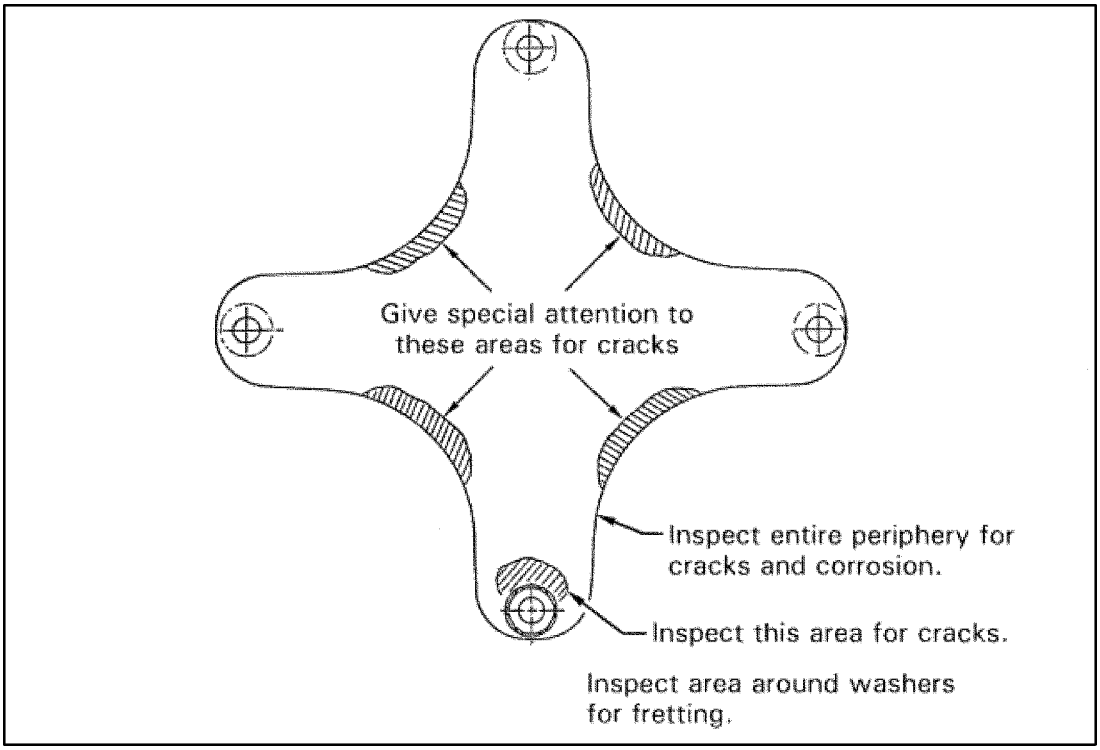
Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within 100 hours time-in-service (TIS) after the effective date of this AD, accomplish the actions required by paragraphs (g)(1)(i) through (iii) of this AD.

(i) Visually inspect forward flex plate assembly (flex plate) part number (P/N) C947–1 for any loose fasteners, cracks, fretting, corrosion, wear, and to ensure that the washers are bonded to both sides of each flex plate arm, in the areas depicted in Figure 1 to paragraph (g)(1)(i) of this AD, which includes the four bolt holes. If there is any loose fastener (can be moved by hand), crack, fretting, corrosion, or wear in any area including the four bolt holes, or wear that consists of the washers not securely bonded to both sides of each flex plate arm, before further flight, remove the flex plate from service and replace with an airworthy flex plate.

Figure 1 to Paragraph (g)(1)(i)—Flex Plate Inspection



(ii) Visually inspect yoke P/N C907–1 or C907–2, as applicable to your model helicopter, and yoke P/N C908–1, for any cracks, corrosion, and fretting. If there is any crack, corrosion, or fretting, before further flight, remove the yoke from service and replace it with an airworthy yoke, and torque each newly-installed bolt, nut, and palnut using the torque value information in Appendix 1 to this AD.

(iii) Visually inspect each yoke bolt for a torque stripe, loose fastener, a loose nut, and to ensure that nut P/N D210–6 and palnut P/N B330–19 are installed. If there is a missing torque stripe, loose fastener on any nut (can be moved by hand), any nut is loose (nut can be turned by hand), or if nut P/N D210–6 or palnut P/N B330–19 are not installed, before further flight, remove the associated yoke from service and replace it with an airworthy yoke, and torque each newly-installed bolt, nut, and palnut using the torque value information in Appendix 1 to this AD.

(2) For helicopters on which a yoke replacement as specified in paragraphs (g)(1)(ii) or (iii) of this AD was not accomplished: Prior to the accumulation of 2,200 total hours TIS on any yoke P/N C907–1 or C907–2 or within 12 years since first installation of yoke P/N C907–1 or C907–2 on any helicopter, whichever occurs first; or within 100 hours TIS after the effective date of this AD; whichever occurs later, remove that yoke from service and replace it with an airworthy yoke, and torque each newly-installed bolt, nut, and palnut using the torque value information in Appendix 1 to this AD.

(3) As an alternative to removing the yoke from service as required by paragraph (g)(2) of this AD, remove yoke P/N C907–1 or C907–2, as applicable to your model helicopter, remove the paint on the yoke using Cee-Bee stripper A–292, without using a plastic media abrasive paint stripper, and accomplish paragraphs (g)(3)(i) and (ii) of this AD, as applicable.

(i) Using 10X or higher power magnifying glass, visually inspect the yoke for any crack, seam, lap, shut, missing cadmium plating,

and any flaw which is open to the surface. If there is any crack, seam, lap, shut, missing cadmium plating, or flaw, before further flight, remove the yoke from service and replace it with an airworthy yoke, and torque each newly-installed bolt, nut, and palnut using the torque value information in Appendix 1 to this AD.

(ii) If the yoke is not removed from service as a result of the actions required by paragraph (g)(3)(i) of this AD, visually inspect it for any crack, seam, lap, shut, or any flaw which is open to the surface by performing a magnetic particle inspection using a method in accordance with FAA-approved procedures. If there is any crack, seam, lap, shut, or flaw, before further flight, remove the yoke from service and replace with an airworthy yoke, and torque each newly-installed bolt, nut, and palnut using the torque value information in Appendix 1 to this AD.

(h) Special Flight Permit

A one-time flight permit may be issued in accordance with 14 CFR 21.197 and 21.199 in order to fly to a maintenance area to perform the required actions in this AD, provided there are no passengers onboard.

(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: *9-ANM-LAACO-AMOC-REQUESTS@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) Additional Information

For more information about this AD, contact Eric Moreland, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (562) 627–5364; email: *Eric.R.Moreland@faa.gov.*

(k) Material Incorporated by Reference

None.

Appendix 1 to AD ####–##–##

NOTE

1. Torque values are in inch-pounds unless otherwise specified.
2. Torque values include nut self-locking torque.
3. Increase torque values 10% if torqued at bolt head.
4. Wet indicates threads lubricated with A257-9 anti-seize.
5. For elbow and tee fittings which require alignment, torque to indicated value, then tighten to desired position.
6. Tolerance is ± 10% unless range is specified.
7. Unless otherwise specified, thread sizes 8-32 and smaller are not used for primary structure and do not require control of torques.

FASTENER SERIES		SIZE	EXAMPLE FASTENER	TORQUE (IN.-LB)
NAS6603 thru NAS6608 Bolts NAS1303 thru NAS1308 Bolts NAS623 Screws NAS1351 & NAS1352 Screws NAS600 thru NAS606 Screws		10-32	NAS6603	50
		1/4-28	NAS6604	120
		5/16-24	NAS6605	240
		3/8-24	NAS6606	350
		7/16-20	NAS6607	665
		1/2-20	NAS6608	995
A142 screws AN3 Bolts AN4 Bolts AN6 Bolts AN8 Bolts	AN502 Screws AN503 Screws AN509 Screws AN525 Screws MS24694 Screws MS27039 Screws	10-32	A142-1, -3, -4; AN3	37
		1/4-28	AN4	90
		3/8-24	AN6	280
		1/2-20	AN8	795
STAMPED NUTS (PALNUTS) Palnuts are to be used only once and replaced with new when removed.		10-32	B330-7 (MS27151-7)	6–15
		1/4-28	B330-13 (MS27151-13)	11–25
		5/16-24	B330-16 (MS27151-16)	20–40
		3/8-24	B330-19 (MS27151-19)	29–60
		7/16-20	B330-21 (MS27151-21)	42–85
		1/2-20	B330-24 (MS27151-24)	54–110
TAPERED PIPE THREADS		1/8-27	See note 5	60
			Straight fittings only	120
		1/4-18	See note 5	85
			Straight fittings only	170
		3/8-18	See note 5	110
			Straight fittings only	220
		1/2-14	See note 5	160
			Straight fittings only	320
		3/4-14	See note 5	230
			Straight fittings only	460
ROD END JAM NUTS (AN315 and AN316)		10-32	AN315-3	15
		1/4-28	AN316-4	40
		5/16-24	AN316-5	80
		3/8-24	AN316-6	110

Issued on February 21, 2024.

Victor Wicklund,

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

[FR Doc. 2024–03970 Filed 2–27–24; 8:45 am]

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