



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0682; Product Identifier 2017-SW-028-AD]

RIN 2120-AA64

Airworthiness Directives; Robinson Helicopter Company Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Supplemental notice of proposed rulemaking (SNPRM); reopening of comment period.

SUMMARY: The FAA is revising an earlier proposal for Robinson Helicopter Company (Robinson) Model R66 helicopters that proposed to require replacing a certain part-numbered tail rotor (T/R) drive shaft yoke assembly (yoke assembly) and inspecting for sealant. The NPRM was prompted by reports of T/R drive shaft forward hanger bearing failures. This action revises the NPRM by expanding the applicability, changing the proposed requirements, and correcting nomenclature. Since this imposes an additional burden over that proposed in the NPRM, the FAA is reopening the comment period to allow the public the chance to comment on these changes.

DATES: The comment period for the NPRM published in the *Federal Register* on March 30, 2018 (83 FR 13706), is reopened.

The FAA must receive comments on this SNPRM 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: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this SNPRM, contact Robinson Helicopter Company, 2901 Airport Drive, Torrance, CA 90505; telephone 310-539-0508; fax 310-539-5198; or at <https://www.robinsonheli.com>. 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.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> in Docket No. FAA-2017-0682; 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 SNPRM, 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 FURTHER INFORMATION CONTACT: Danny Nguyen, Aerospace Engineer, Los Angeles ACO Branch, FAA, 3960 Paramount Blvd., Lakewood, California 90712; telephone 562-627-5247; email danny.nguyen@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 SNPRM 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 SNPRM, 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 SNPRM. Submissions containing CBI should be sent to Danny Nguyen, Aerospace Engineer, Los Angeles ACO Branch, FAA, 3960 Paramount Blvd., Lakewood, California 90712; telephone 562-627-5247; email danny.nguyen@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

The FAA issued a Notice of proposed rulemaking (NPRM), which proposed to amend 14 CFR part 39 by adding an AD that would apply to Robinson Model R66 helicopters, serial numbers 0003 through 0752, with a T/R drive shaft assembly part number (P/N) D224-3 or D224-4 installed. The NPRM published in the *Federal Register* on March 30, 2018 (83 FR 13706). The NPRM proposed to require replacing the yoke assembly, visually inspecting for sealant, and applying sealant if needed to prevent seal rotation.

The NPRM was prompted by two incidents of forward hanger bearing failure of

the T/R drive shaft assembly because the bearing was undersized for its housing. Consequently, the bearing was spinning at a speed that caused excessive heating of the bearing during operation and led to the breakdown of the bearing's grease and ultimately seizure of the C647-16 bearing.

To correct this condition, Robinson initially issued R66 Service Bulletin SB-14, dated June 25, 2015 (SB-14), for certain serial-numbered helicopters, which specified installing a temperature recorder on the T/R drive shaft forward hanger bearing assembly and inspecting the temperature recorder during preflight checks and during each 100-hour inspection. If the bearing was found running hot, then Robinson advised upgrading the bearing to a newer design.

Following additional reports of overheating forward hanger bearing assemblies, Robinson superseded SB-14 with R66 Service Bulletin SB-20, dated November 7, 2016 (SB-20), which affected additional serial-numbered helicopters and specified modifying T/R drive shaft assembly P/Ns D224-3 and D224-4 by using kit Robinson KI-235 R66 TRDS Forward Yoke Assembly and Hanger Installation Kit Instructions, Revision A, dated June 23, 2015 (KI-235) and installing yoke assembly P/N D224-5. This installation has an improved, larger bearing that spins with less friction. SB-20 also specified inspecting the forward and aft sides of the hanger and damper bearings for a minimum of 0.5 inch in length of sealant on the junction of the black seal and bearing outer race and applying sealant if there was less than 0.5 inch in length of sealant.

Robinson revised SB-20 with R66 Service Bulletin SB-20A, dated June 6, 2017 (SB-20A), to clarify that helicopters with either T/R drive shaft assembly P/N D224-3

with modification B900-11 or P/N D224-4 installed include the upgraded bearing and do not require kit KI-235.

Robinson later revised SB-20A with R66 Service Bulletin SB-20B, dated December 20, 2017 (SB-20B), which updates writing practices and organizes the procedures into two separate sections, clarifies the “Rotorcraft Affected” section, and reduces the helicopters that need to perform the inspection and sealant application procedures to just helicopters without the latest version damper and housing bearings.

The actions proposed by the NPRM were intended to prevent failure of the T/R drive shaft forward bearing and subsequent loss of helicopter control.

Comments

After the NPRM was published, the FAA received comments from Robinson. The following presents the comments received on the NPRM and the FAA’s response to each comment.

Request for Changes to the Preamble and Nomenclature

Request: Robinson requested the description of what prompted this AD in the SUMMARY section be revised from reports of T/R drive shaft failures to reports of bearing failures because there have been no T/R drive shaft failures, only bearing failures.

FAA Response: The FAA agrees and has revised that statement in this SNPRM.

Request: Robinson requested standardizing nomenclature by changing instances of “yoke assembly” to “hanger bearing” throughout the AD to minimize confusion. Robinson stated that although the bearing is pressed onto a yoke, the important point is to upgrade the bearing.

FAA Response: The FAA agrees to clarify nomenclature pertaining to the forward hanger bearing when discussing T/R drive shaft assembly P/N D224-3 and P/N D224-4.

However, the FAA continues to use the nomenclature of yoke assembly for T/R drive shaft assembly P/N D224-5 to match nomenclature stated in Robinson service information.

Request: Robinson requested numerous changes to the Discussion section to provide a simplified explanation of the bearing failure – noting that the explanation as published in the NPRM has technical errors and that the C647 callout is not beneficial because there was no customer visibility of the C647 P/N until data plates were added recently, and to provide a description of the upgraded bearing design, clarify the explanation of SB-20 and SB-20A, add an explanation of SB-20B, identify that the sealant inspection and application aspects of the SB are separate from this AD, and state that bearing failure does not cause loss of helicopter control.

FAA Response: The purpose of the Discussion section is to explain the unsafe condition and the FAA's justification for issuing AD action. It may include, but is not limited to, providing the following types of information: the circumstances that created the need to correct the unsafe condition, historical information, consequences if the unsafe condition is not corrected, and any other information that supports the AD action. Robinson's requested language that corrects information in the Discussion section has been incorporated in this SNPRM. Any requested changes that do not correct information have not been incorporated.

Request: Robinson proposed changes to the Related Service Information section that delete the pilot caution reference. Robinson stated it is peripheral to the bearing upgrade

and obsolete due to supersedure of SB-14. Robinson also requested adding a reference to SB-20B, adding clarification that the bearing upgrade is only for T/R drive shaft assembly P/N D223-3, and removing information related to the sealant inspection and application.

FAA Response: The purpose of the Related Service Information section is to describe service information that is relevant to the AD action and give a brief description of the specified procedures. Service information documents that are relevant to an AD action may contain other information as well. Any proposed changes that correct information in the Related Service Information section have been incorporated in this SNPRM. Any proposed changes that do not correct information have not been incorporated.

Request for Changes to the Applicability

Request: Robinson requested the FAA revise the applicability of this AD by removing the aircraft S/N. Robinson further stated that the aircraft S/N may be included for reference.

FAA Response: The FAA agrees and has revised the applicability in this SNPRM accordingly.

Request: Robinson requested the FAA remove T/R drive shaft assembly P/N D224-4 from the applicability of this AD because T/R drive shaft assembly P/N D224-4 incorporates the improved bearing and does not require an upgrade. Robinson also proposed adding a note stating that T/R drive shaft assembly P/N D224-3 with modification data plate P/N B900-11 has previously been upgraded and does not require action per this AD.

FAA Response: The FAA agrees except T/R drive shaft assembly P/N D224-3 with B900-11 modification installed cannot be included in a note because notes are for informational purposes and are not regulatory text. This exception will be included in the applicability paragraph instead.

Request to Change the Unsafe Condition

Request: Robinson proposed the FAA change the possible result of the unsafe condition from “failure of the T/R drive shaft and subsequent loss of helicopter control” to “forced landing of the helicopter.”

FAA Response: The FAA disagrees. Failure of the T/R drive shaft bearing results in loss of T/R control, which could result in scenarios ranging from a forced landing of the helicopter to loss of helicopter control.

Request for Changes to the Required Actions

Request: Robinson requested the FAA change the Required Actions paragraph to delete the requirements to install T/R drive shaft assembly P/N D224-5 and inspect and apply sealant. Robinson requested the FAA require upgrading an affected T/R drive shaft assembly P/N D224-3 using Robinson KI-235 or replacing an affected T/R drive shaft assembly P/N D224-3 with T/R drive shaft assembly P/N D224-4 instead.

FAA Response: The FAA agrees, except for using the wording Robinson KI-235, as this SNPRM specifically specifies installing Robinson KI-235 using KI-235 R66 TRDS Forward Yoke Assembly and Hanger Installation Kit Instructions, Revision A, dated June 23, 2015.

Additional Changes Since the NPRM was Issued

Since the FAA issued the NPRM, the fleet size has increased from 249 helicopters

to 290 helicopters and the website address for Robinson has changed. This SNPRM updates this information.

Additionally, the FAA has determined that it is necessary to prevent installation of an affected T/R drive shaft assembly on any Model R66 helicopter as a replacement part. Accordingly, this SNPRM proposes to prohibit this installation.

Related Service Information Under 1 CFR part 51

The FAA reviewed KI-235. This service information provides instructions for installing the newly designed yoke assembly, P/N D224-5.

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.

Related Service Information

The FAA has reviewed SB-14, which specifies installing a temperature recorder on the T/R drive shaft forward hanger bearing assembly and inspecting the temperature during preflight checks and during each 100-hour inspection. If the temperature of the bearing is found running hot, then Robinson advises upgrading the bearing to a newer design (kit P/N KI-235). This service information also specifies adding a caution page to the Pilot Operating Handbook regarding the overheating bearing assemblies. This service information was superseded by SB-20.

The FAA has reviewed SB-20, SB-20A, and SB-20B, which specify upgrading the forward hangar bearing assembly of certain T/R drive shaft assemblies to the newer design with kit P/N KI-235 if not previously done. For certain installations, this service information contains procedures for inspecting for sealant and applying sealant to the

damper and hanger bearings if needed to prevent seal rotation. This service information also specifies removing the caution page from the Pilot Operating Handbook regarding the overheating bearing assemblies that was added by SB-14.

FAA's Determination

The FAA is proposing this SNPRM after evaluating all known relevant information and determining that an unsafe condition is likely to exist or develop on other helicopters of the same type design. Certain changes described above expand the scope of the original NPRM. As a result, the FAA has determined that it is necessary to reopen the comment period to provide additional opportunity for the public to comment on this SNPRM.

Proposed Requirements of this SNPRM

This SNPRM proposes to require, within 100 hours TIS, either installing Robinson field kit P/N KI-235 or replacing an affected T/R drive shaft assembly with T/R drive shaft assembly P/N D224-4. This SNPRM also proposes to prohibit installing an affected T/R drive shaft assembly on any helicopter.

Differences Between this AD and the Service Information

SB-20 specifies replacing the yoke assembly and applying sealant to the bearing seals within the next 100 flight hours or by January 31, 2017, whichever comes first, and SB-20A and SB-20B continue the compliance time of no later than January 31, 2017. This proposed AD does not have a calendar time compliance requirement. SB-20, SB-20A, and SB-20B specify inspecting for sealant and applying sealant to the damper and hanger bearings if needed, while this proposed AD does not.

Costs of Compliance

The FAA estimates that this proposed AD affects 290 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these estimates, the FAA estimates that operators may incur the following costs in order to comply with this proposed AD.

Installing Robinson field kit KI-235 would take about 6 work-hours and parts would cost about \$950, for an estimated cost of \$1,460 per helicopter. As an option, replacing an affected T/R drive shaft assembly P/N D224-3 with T/R drive shaft assembly P/N D224-4 would take about 5 work-hours and parts cost about \$4,400, for an estimated cost of \$4,825 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 has determined that this proposed AD will not have federalism implications under Executive Order 13132. This proposed 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 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 proposed 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):

Robinson Helicopter Company: Docket No. FAA-2017-0682; Product Identifier 2017-SW-028-AD.

(a) Applicability

This AD applies to Robinson Helicopter Company (Robinson) Model R66 helicopters with a tail rotor (T/R) drive shaft assembly part number (P/N) D224-3 without B900-11 modification installed, certificated in any category.

Note 1 to paragraph (a) of this AD: Helicopters with S/Ns 0753 and subsequent had T/R drive shaft forward yoke assembly P/N D224-5 installed during production.

(b) Unsafe Condition

This AD defines the unsafe condition as failure of a T/R drive shaft forward hanger bearing. This condition could result in failure of the T/R drive shaft 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) Within 100 hours time-in-service, do one of the following:

(i) Install Robinson kit P/N KI-235 using KI-235 R66 TRDS Forward Yoke Assembly and Hanger Installation Kit Instructions, Revision A, dated June 23, 2015, except you are not required to discard nuts or palnuts, or

(ii) Replace the entire T/R drive shaft assembly with T/R drive shaft assembly P/N D224-4.

(2) As of the effective date of this AD, do not install a T/R drive shaft assembly P/N D224-3 without B900-11 modification on any helicopter.

(f) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles ACO Branch, FAA, may approve AMOCs for this AD. Send your proposal to: Danny Nguyen, Aerospace Engineer, Los Angeles ACO Branch, FAA, 3960 Paramount Blvd., Lakewood, California 90712; telephone 562-627-5247; email 9-ANM-LAACO-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

For service information identified in this AD, contact Robinson Helicopter Company, 2901 Airport Drive, Torrance, CA 90505; telephone 310-539-0508; fax 310-539-5198; or at <https://www.robinsonheli.com>. You may view a copy of information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177.

(h) Subject

Joint Aircraft Service Component (JASC) Code: 6510, Tail Rotor Drive Shaft.

Issued on July 22, 2020.

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

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