



[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: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for Robinson Helicopter Company (Robinson) Model R66 helicopters. This proposed AD would require replacing the tail rotor drive shaft yoke assembly and inspecting for sealant. This proposed AD is prompted by reports of tail rotor driveshaft failures. The actions of this proposed AD are intended to correct an unsafe condition on these products.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 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 <http://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 <http://www.regulations.gov> by searching for and locating 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 proposed AD, the economic evaluation, any comments received, and other information. The street address for Docket Operations (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed rule, contact Robinson Helicopter Company, 2901 Airport Drive, Torrance, CA 90505; telephone (310) 539-0508; fax (310) 539-5198; or at <http://www.robinsonheli.com/servletlib.htm>. You may review 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: Danny Nguyen, Aerospace Engineer, Los Angeles ACO Branch, Compliance & Airworthiness Division, FAA, 3960 Paramount Blvd., Lakewood, California 90712; telephone (562) 627-5247; email danny.nguyen@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy,

or federalism impacts that might result from adopting the proposals in this document. 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.

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

Discussion

We propose to adopt a new AD for Robinson Model R66 helicopters, serial numbers 0003 through 0752, with a tail rotor drive shaft assembly part number (P/N) D224-3 or D224-4 installed. This proposed AD would require, within 100 hours time-in-service (TIS), replacing the forward yoke assembly of the tail rotor drive shaft unless already accomplished, visually inspecting for sealant, and applying sealant if needed to prevent seal rotation.

This proposed AD is prompted by two incidents of bearing failure that stem from a bearing assembly that included a bearing that was undersized for its housing. Consequently, the bearing was spinning at a speed that caused excessive heating of the

bearing 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 specified installing a temperature recorder on the tail rotor driveshaft bearing assembly (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.

Robinson later specified through R66 Service Bulletin SB-20, dated November 7, 2016, modifying the forward D224-3 and D224-4 tail rotor drive shaft assemblies by using a kit that has an improved, larger bearing that spins with less friction. The bulletin also specified inspecting whether 0.5 inch of sealant was on the junction of the black seal and bearing outer race and installing sealant if there was less than 0.5 inch of sealant. Robinson clarified R66 Service Bulletin SB-20 with R66 Service Bulletin SB-20A, dated June 6, 2017, that helicopters equipped with D224-4 tail rotor drive shaft assemblies and certain modified D224-3 assemblies do not require being upgraded with the kit.

The actions specified by this AD are intended prevent failure of the tail rotor driveshaft forward bearing and subsequent loss of helicopter control.

FAA's Determination

We are proposing this AD because we evaluated all known relevant information and determined that an unsafe condition exists and is likely to exist or develop on other products of these same type designs.

Related Service Information

We reviewed Robinson R66 Service Bulletin SB-14, dated June 25, 2015, which

specifies installing a temperature recorder on the 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.

We also reviewed Robinson R66 Service Bulletin SB-20, dated November 7, 2016, and Robinson R66 Service Bulletin SB-20A, dated June 6, 2017, which specify upgrading the bearing assembly to the newer design with kit P/N KI-235 if not previously done. The service information also contains procedures for inspecting for sealant and applying sealant to the damper and hanger bearings if needed to prevent seal rotation.

Lastly, we reviewed Robinson KI-235 R66 TRDS Forward Yoke Assembly and Hanger Installation Kit Instructions, Revision A, dated June 23, 2015. This information provides instructions for installing the newly designed forward yoke assembly, P/N D224-5, on the tail rotor drive shaft.

Proposed AD Requirements

This proposed AD would require, within 100 hours TIS, replacing the tail rotor drive shaft forward yoke assembly, inspecting the damper and hanger bearings for sealant, and applying sealant if needed.

Differences Between this Proposed AD and the Service Information

The service information specifies replacing the forward yoke assembly and applying the sealant to the bearing seals within the next 100 flight hours or by January

31, 2017, whichever comes first. This proposed AD would not have a calendar time compliance requirement.

Costs of Compliance

We estimate that this proposed AD would affect 249 helicopters of U.S. Registry and that labor costs average \$85 per work-hour. Based on these estimates, we expect the following costs:

- Replacing the yoke assembly would require 6 work-hours and \$798 for parts, for a cost of \$1,308 per helicopter.
- Inspecting for and applying sealant would require 1 work-hour and \$30 for parts, for a cost of \$115 per helicopter.

Based on these costs, we expect a total cost of \$1,423 per helicopter and \$354,327 for the U.S. operator fleet.

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.

We are 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

We 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. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. 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.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

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):

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

(a) Applicability

This AD applies to Robinson Helicopter Company (Robinson) Model R66 helicopters, serial numbers 0003 through 0752, with a tail rotor drive shaft assembly part number (P/N) D224-3 or D224-4 tail rotor drive shaft assembly installed, certificated in any category.

(b) Unsafe Condition

This AD defines the unsafe condition as failure of a tail rotor driveshaft forward bearing. This condition could result in failure of the tail rotor driveshaft and subsequent loss of helicopter control.

(c) Comments Due Date

We must receive comments by [INSERT DATE 60 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

Within 100 hours TIS:

(1) Replace the tail rotor drive shaft forward yoke assembly with a yoke assembly part number D224-5, if not previously done.

(2) Remove the forward inspection plug assembly from the tailcone and either remove the B322-2 cover from the top of the third tailcone bay or, if an antenna is installed, remove the antenna and pull the circuit breaker.

(3) Visually inspect the forward and aft sides of the hanger bearing and damper bearing for sealant along the junction of the seal and bearing outer race. If the sealant is less than 0.5 inch in length, clean the area and apply a minimum 0.5 inch long bead of polysulfide fuel-resistant sealant at the junction of the seal and bearing outer race.

(f) Alternative Methods of Compliance (AMOC)

(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, Compliance & Airworthiness Division, 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, we suggest 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 <http://www.robinsonheli.com/servelib.htm>. You may review 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 in Fort Worth, Texas, on March 23, 2018.

Lance T. Gant,

Director, Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2018-06449 Filed: 3/29/2018 8:45 am; Publication Date: 3/30/2018]