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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-SW-16-AD; Amendment 39-13370; AD 2003-24-01]

RIN 2120-AA64

Airworthiness Directives; MD Helicopters, Inc. Model 369A, H, HE, HM, HS, D, and E Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) for the specified model helicopters modified with a Helicopter Technology Company, LLC, Supplemental Type Certificate (STC) No. SR09172RC, SR09074RC, or SR09184RC. This action requires recording on the component history card or equivalent record the number of torque events (TEs) on each main rotor blade (blade). When a blade accumulates 13,720 TEs and 750 hours time-in-service (TIS), the AD requires inspecting both surfaces of the blade for a crack at specified intervals. If a crack is found, the AD also requires replacing the blade with an airworthy blade. Also, the AD establishes life limits for certain part-numbered blades. This proposal is prompted by several reports, including a recent report dated July 24, 2003, of blade cracks due to a high number of TEs per hour. The actions specified in this AD are intended to prevent fatigue cracking of the blade, blade failure, and subsequent loss of control of the helicopter.

DATES: Effective December 10, 2003.

Comments for inclusion in the Rules Docket must be received on or before January 26, 2003.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Office of the Regional Counsel, Southwest Region, Attention: Rules Docket No. 2003-SW-16-AD, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137. You may also send comments electronically to the Rules Docket at the following address: 9-asw-adcomments@faa.gov.

FOR FURTHER INFORMATION CONTACT: Marc Belhumeur, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Rotorcraft Certification Office, Fort Worth, Texas 76193-0170, telephone (817) 222-5177, fax (817) 222-5783.

SUPERSEDED

SUPPLEMENTARY INFORMATION: This amendment adopts a new AD for MD Helicopters, Inc. Model 369A, H, HE, HM, HS, D, and E helicopters, modified with a Helicopter Technology Company, LLC, STC No. SR09172RC, SR09074RC, or SR09184RC. The AD requires determining and recording on the component history card or equivalent record the total number of TEs accumulated on each blade to date and thereafter, recording the total number of TEs accumulated after each day's operation, or every 100 external lift operations, whichever occurs first. A torque event (TE) is the transition to a hover or landing from forward flight with an airspeed of 30 or more knots or any external lift operation. An external lift operation is defined as pickup and drop-off of an external load. After drop-off of an external load, if the airspeed reaches 30 or more knots during the flight back to the pickup point, a second TE must be recorded.

For a blade with 13,720 TEs and 750 hours TIS, the AD requires certain inspections of the blade for a crack at specified intervals. If a crack is found, the AD also requires, before further flight, replacing the blade with an airworthy blade. Also, the AD revises the Limitations and Conditions of Helicopter Technology Company, LLC, STC Nos. SR09172RC, SR09074RC, and SR09184RC by establishing life limits for certain part-numbered blades. This AD is prompted by reports, including a recent report dated July 24, 2003, of blades cracking due to a higher number of TEs per hour than was originally calculated. These blades, as well as similar MD Helicopter, Inc. blades, have had cracks that have propagated through most of the trailing edge skin and channel sub-structure. This condition, if not corrected, could result in fatigue cracking of the blade, blade failure, and subsequent loss of control of the helicopter.

The FAA has reviewed Helicopter Technology Company, LLC, Mandatory Service Bulletin, Notice No. 2100-3R2, dated December 20, 2002. This service bulletin describes procedures for performing the blade TE inspection and determining an inspection interval.

This unsafe condition is likely to exist or develop on other helicopters of the same type designs modified with a Helicopter Technology Company, LLC, STC No. SR09172RC, SR09074RC, or SR09184RC. Therefore, this AD is being issued to prevent fatigue cracking of the blade, blade failure, and subsequent loss of control of the helicopter. This AD requires:

- On or before 12 hours TIS or 30 days, whichever occurs first, determining and recording on the component history card or equivalent record the total number of TEs on each blade. If you cannot determine the actual number of TEs for a blade, assume and record 13,720 TEs as the accumulated total number of TEs on that blade to date.
- Thereafter, after each day's operation or after 100 external lift operations, whichever occurs first, record on the component history card or equivalent record the number of TEs that occurred during that period for each blade.
- After a blade accumulates 13,720 TE and 750 hours TIS, conduct certain inspections for a crack in the blade. Thereafter, inspect the blade at specified intervals.
- Before further flight, replace the blade with an airworthy blade if a crack is found.
- On or before 3,530 hours TIS, replace each blade, part number (P/N) 500P2100-BSC or 500P2100-101, and on or before 2,440 hours TIS, replace each blade, P/N 500P2100-301, with an airworthy blade.

This AD establishes a life limit of 3,530 hours TIS for blade, P/N 500P2100-BSC and 500P2100-101, and a life limit of 2,440 hours TIS for blade, P/N 500P2100-301. The life limits were inadvertently omitted from the Limitations and Conditions of the Helicopter Technology Company, LLC, STCs. The STC Nos. SR09172RC, SR09074RC, and SR09184RC, Limitations and Conditions, have already been amended and revised to include the mandated inspection and life limits. The number of TEs accumulated on the blades does not change the life limits of the blades but are only used for inspection determinations. The life limits of the blades are not changed because we believe the TE inspections are an adequate means for detecting cracks in the blades and preventing blade failure during high TE occurrences.

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The short compliance times involved are required because the previously described critical unsafe condition can adversely affect the controllability and structural integrity of the helicopter. Therefore, the inspections based on TE and hours TIS are required within a very short time span, and this AD must be issued immediately.

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

The FAA estimates that this AD will:

- Affect 800 helicopters of U.S. registry.
- Take approximately 1 work hour per helicopter to determine and record the initial number of TEs; 1 work hour to record the number of TEs after each day's operation or 100 external lift operations, whichever occurs first; 1 work hour to inspect a set of blades for a crack; and 8 work hours to replace a set of blades at an average labor rate of $65 per work hour.
- Cost approximately $9,500 per blade.

Based on these amounts, the estimated cost impact of the AD on U.S. operators will be $16,655,600 for the labor for the additional record keeping and inspections over the life of one set of blades, assuming there are 284 additional inspections and the TEs must be recorded 353 times, and an additional $38,416,000 in parts and labor, assuming one set of blades (5 blades) are replaced on each aircraft in the entire fleet. The total estimated cost impact of the AD on U.S. operators is $55,071,600.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 2003-SW-16-AD." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

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The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

SUPERSEDED

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
Federal Aviation
Administration

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2003-24-01 MD Helicopters, Inc.: Amendment 39-13370. Docket No. 2003-SW-16-AD.

Applicability: Models 369A, H, HE, HM, HS, D, or E, with a main rotor blade (blade), part number (P/N) 500P2100-BSC, 500P2100-101, or 500P2100-301, and modified with Helicopter Technology Company, LLC, Supplemental Type Certificate (STC) No. SR09172RC, SR09074RC, or SR09184RC, installed, certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To prevent fatigue cracking of the blade, blade failure, and subsequent loss of control of the helicopter, accomplish the following:

(a) Within 12 hours time-in-service (TIS) or 30 days, whichever occurs first, determine and record on the component history card or equivalent record the number of torque events (TEs) accumulated on each blade. Record a torque event (TE) for each transition to a hover or landing from forward flight with an airspeed of 30 or more knots or any external lift operation. An external lift operation is defined as the pickup and drop-off of an external load. (An external lift operation with a return flight at an airspeed of 30 or more knots back to the pick-up location would be recorded as two TEs).

(1) If you cannot determine the actual number of TEs for a blade, assume and record 13,720 TEs as the accumulated total number of TEs on that blade.

(2) Thereafter, after each day's operation or after 100 external lift operations, whichever occurs first, record on the component history card or equivalent record the number of TEs that occurred during that period for each blade.

Note 1: Helicopter Technology Company, LLC, Mandatory Service Bulletin Notice No. 2100-3R2, dated December 30, 2002, pertains to the subject of this AD.

(b) For each blade with 750 or more hours TIS and 13,720 or more TEs, before further flight and thereafter at intervals not to exceed 35 hours TIS or 200 TEs, whichever occurs first:

(1) Lift the outboard end of the blade until the blade is off the droop stop.

(2) Using a bright light and a 10x or higher magnifying glass, inspect for a crack on the first 24-inch inboard area of the bottom side of the blade. Pay particular attention to the area around the root fitting, its adjacent doubler and skin, and in line with the root fitting attach bolts. Also, pay particular attention at blade stations: 22.6, 24.1, 25.1, 25.3, 27.9, and 36.4 (these blade stations are located 4.9, 6.4, 7.4, 7.6, 10.2, and 18.7 inches outboard (parallel to the blade) from the center of the root fitting and lead lag attach bolt holes closest to the trailing edge).

(3) Using a bright light, inspect for a crack on the remaining length of the bottom side of the blade.

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(4) Lower the blade back onto the droop stop.

(5) Using a bright light and a 10x or higher magnifying glass, inspect for a crack on the first 24-inch inboard area of topside of the blade. Pay particular attention to the area around the root fitting, its adjacent doubler and skin, and in line with root fitting attach bolts. Also pay particular attention at blade stations: 22.6, 24.1, 25.1, 25.3, 27.9, and 36.4 (these blade stations are located 4.9, 6.4, 7.4, 7.6, 10.2, and 18.7 inches outboard (parallel to the blade) from the center of the root fitting bushing and lead lag attach bolt hole closest to the trailing edge).

(6) Using a bright light, inspect for a crack on the remaining length of the topside of each blade.

(c) If a crack is found, replace the blade with an airworthy blade before further flight.

(d) On or before 3,530 hours TIS, replace each blade, P/N 500P2100-BSC or P/N 500P2100-101, with an airworthy blade.

(e) On or before 2,440 hours TIS, replace each blade, P/N 500P2100-301, with an airworthy blade.

(f) This AD revises the Limitations and Conditions of Helicopter Technology Company, LLC, STC Nos. SR09172RC, SR09074RC, or SR09184RC by establishing a life limit of 3,530 hours TIS for blade, P/N 500P2100-BSC and P/N 500P2100-101, and 2,440 hours TIS for blade P/N 500P2100-301.

Note 2: TEs are used only to establish an additional inspection interval and not to establish an alternative retirement life.

(g) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Rotorcraft Certification Office, Rotorcraft Directorate, FAA, for information about previously approved alternative methods of compliance.

(h) This amendment becomes effective on December 10, 2003.

Issued in Fort Worth, Texas, on November 17, 2003.
David A. Downey,
Manager, Rotorcraft Directorate, Aircraft Certification Service.
[FR Doc. 03-29222 Filed 11-24-03; 8:45 am]
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