

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.

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.

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.