

# EMERGENCY AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

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**DATE: February 17, 2007**

**AD #: 2007-05-51**

This Emergency Airworthiness Directive (AD) is prompted by the discovery of a cracked lateral mixer output link assembly (mixer link), part number (P/N) 600N7636-1, on an in-service MDHI Model MD600N helicopter. Cracks were also found on two additional mixer links, P/N 600N7636-3, which were being held as spares. The cracks on all three mixer links run through the bearing end area of the mixer link and emanate from staking marks in the mixer link. Cracks in the mixer link, if not detected, could result in failure of the mixer link and subsequent loss of control of the helicopter.

The requirements of this AD are interim actions; the manufacturer continues to investigate the cause of the cracks and, based on that investigation, we will determine either follow-on actions or a terminating action for the requirements of this AD.

The FAA has reviewed MDHI Service Bulletin No. SB600N-044, dated February 16, 2007 (SB), which describes procedures for a one-time visual inspection and an eddy current inspection of the mixer link. The SB includes only P/Ns 600N7636-1, and -3 in its effectivity, however, because the exact cause of the cracks is unknown, and the -9 and -11 are similar designs, we have included them in the applicability of this AD. We are also requiring an eddy current inspection of each affected mixer link before installing it on any helicopter.

A one-time flight permit is allowed for flying the helicopter to an approved maintenance facility to perform the eddy current inspection, provided that no crack is found during the visual inspection required in paragraph (a) of this AD and that the helicopter's airspeed does not exceed 100 knots.

This unsafe condition is likely to exist or develop on other helicopters of the same type design. Therefore, this AD requires, before further flight, the following for each mixer link, P/N 600N7636-1, -3, -9, and -11:

Removing each mixer link, and visually inspecting, with a bright light and a 10x or higher magnifying glass, the shaded areas on both sides around the bearing bore for any crack; and

Performing an eddy current inspection of each mixer link in the bearing end areas.

Replacing any cracked mixer link with an airworthy mixer link on which an eddy current inspection has been performed.

This AD also requires performing an eddy current inspection on each mixer link before installing it on any helicopter.

This rule is issued under 49 U.S.C. Section 44701 pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this emergency AD.

**2007-05-51 MD Helicopters Inc. (MDHI): Directorate Identifier 2007-SW-05-AD.**

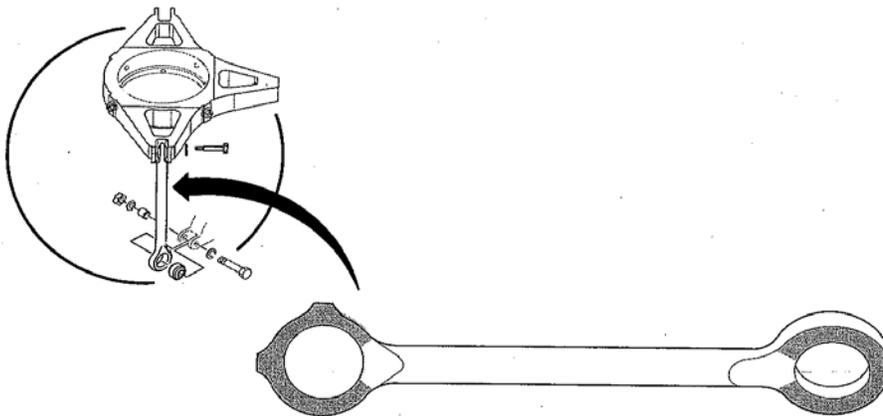
Applicability: Model MD600N helicopters, with a lateral mixer output link assembly (mixer link), part number (P/N) 600N7636-1, -3, -9, or -11 installed, certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To detect a crack in the mixer link, which could result in failure of the mixer link and subsequent loss of control of the helicopter, accomplish the following:

(a) Before further flight:

(1) Remove each mixer link and visually inspect, with a bright light and a 10x or higher magnifying glass, the shaded areas around the bearing bore for any crack as depicted in the following Figure 1:



Bearings have been removed for clarity.

Figure 1

(2) Perform an eddy current inspection of each mixer link in the bearing end areas.

(3) Replace any cracked mixer link with an airworthy mixer link on which an eddy current inspection has been performed.

Note: MDHI Service Bulletin No. SB600N-044, dated February 16, 2007, pertains to the subject of this AD.

(b) Perform an eddy current inspection on each mixer link before installing it on any helicopter.

(c) 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 Manager, Los Angeles Aircraft Certification Office, FAA, ATTN: Jon Mowery, Aviation Safety Engineer, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5322, fax (562) 627-5210, for information about previously approved alternative methods of compliance.

(d) A one-time special flight permit may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the helicopter to a location where the eddy current inspection requirements of this AD can be accomplished provided that no crack is found during the visual inspection required in paragraph (a) of this AD and that the helicopter's airspeed does not exceed 100 knots.

(e) Copies of the applicable service information may be obtained from MD Helicopters Inc., Attn: Customer Support Division, 4555 E. McDowell Rd., Mail Stop M615, Mesa, Arizona 85215-9734, telephone 1-800-388-3378, fax 480-346-6813, or on the web at [www.mdhelicopters.com](http://www.mdhelicopters.com).

(f) Emergency AD 2007-05-51, issued February 17, 2007, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Jon Mowery, Aviation Safety Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5322, fax (562) 627-5210.

Issued in Fort Worth, Texas, on February 17, 2007.

David A. Downey,  
Manager, Rotorcraft Directorate,  
Aircraft Certification Service.