| EASA | AIRWORTHINESS DIRECTIVE |
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| | **AD No.: 2010-0050R1**<br><br>**Date: 19 April 2010**<br><br>Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation. |

This AD is issued in accordance with EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].

| **Type Approval Holder's Name :** | **Type/Model designation(s) :** |
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| MD Helicopters, Inc. | MD900 helicopters |

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| TCDS Number : | United States (FAA) H19NM |
| Foreign AD : | None |
| Revision : | This AD revises and replaces EASA AD 2010-0050 dated 23 March 2010. |

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| **ATA 62** | **Main Rotor – Main Rotor (MR) Blade Retention Bolts – Inspection / Replacement (Life Limit)** |
| Manufacturer(s): | MD Helicopters, Inc. (MDHI), McDonnell Douglas Helicopter Systems (MDHS). |
| Applicability: | MD900 helicopters, all serial numbers, if equipped with Part Number (P/N) 900R3100001-103 MR blade retention bolts.<br><br>Some helicopters may have the designation MD-900 on the data plate; these helicopters belong to the same type design and consequently, this AD applies to those helicopters. |
| Reason: | There have been 11 reported failures of P/N 900R3100001-103 MR blade retention bolts in service; the first in June 2003 and the latest in May 2009. The last reported incident prompted the issuance of EASA Safety Information Bulletin (SIB) 2009-18 dated 19 June 2009, recommending visual and tactile checks, prior to or after each flight. Since that SIB was published, no permanent solution to the problem has been forthcoming.<br><br>To date, for what appear to be a variety of reasons, these failures have not resulted in accidents. However, based on data gathered from the known failures, and after careful consideration of all other available information, EASA has determined that an unsafe condition exists or is likely to develop on MD900 helicopters with these P/N bolts installed which, if not detected and corrected, could result in in-flight loss of blade retention capability and consequent loss of the helicopter.<br><br>For the reasons described above, this EASA AD requires the implementation |

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| | of repetitive detailed visual and tactile inspections of the affected bolts and imposes a reduced life limit, depending on the environment where the helicopter is being operated. The latter distinction is made because it appears that a salty sea/air environment may have a particularly detrimental effect on the life of these bolts.<br><br>This AD is considered to be an interim measure, until a cause is established to explain the reported bolt failures and consequent corrective measures are introduced by the approval holder of the type design.<br><br>This AD is revised to correct a compliance time in Table 2 of this AD, which should have been the same 30 days as allowed by paragraph (4). |
| Effective Date: | Revision 1 : 26 April 2010<br><br>Original issue : 06 April 2010 |
| Required Action(s) and Compliance Time(s): | Required as indicated, unless accomplished previously:<br><br>(1) Within 30 days after 06 April 2010, the effective date of the original issue of this AD, amend the applicable Rotorcraft Flight Manual (RFM) Section 4-2 PILOT'S DAILY PREFLIGHT CHECK and Section 4-3 PILOT'S PREFLIGHT CHECK to incorporate the repetitive pre-flight retention bolt visual and 'touch' check instructions as detailed in Appendix I and Appendix II of this AD, respectively. This may be accomplished by inserting a copy of Appendix I and Appendix II of this AD into the applicable sections of the RFM.<br><br>(2) If, during any of the repetitive RFM checks as required by paragraph (1) of this AD, a failed bolt is detected, before next flight, replace the bolt with a serviceable part in accordance with the instructions of the MD900 Rotorcraft Maintenance Manual, CSP-900RMM-2, Section 62-10-00, Page 401 through 405 inclusive.<br><br>(3) Within 10 days after replacement of a failed bolt as required by paragraph (2) of this AD, send a full report, including the failed bolt, to MD Helicopters, address indicated in the Remarks section of this AD.<br><br>(4) Within 30 days after 06 April, the effective date of the original issue of this AD, for each P/N 900R3100001-103 MR blade retention bolt installed on a helicopter, establish the total hours time-in-service (TIS) accumulated since installation on any MD900 helicopter.<br><br>(5) The new (reduced) life limits for the affected bolts are established in Table 1 of this AD below. After establishing the total hours TIS accumulated for each bolt, as required by paragraph (4) of this AD, each bolt must be replaced, prior to or upon reaching the new life limit, with a serviceable part in accordance with the instructions of the MD900 Rotorcraft Maintenance Manual, CSP-900RMM-2, Section 62-10-00, Page 401 through 405 inclusive.<br><br>Table 1<br><br>**Bolt Reduced Life Limit (TIS)**<br><br>400 hours TIS, for helicopters operated 80% or more in a salty sea/air environment (*)<br><br>1 500 hours TIS, for all other helicopters<br><br>(*) This is defined as the helicopter being operated into and/or out of an airfield located within 2 miles (3 km) from the sea or expanse of salt water. |

(6) Bolts that, based on the determination as required by paragraph (4) of this AD, have already reached or exceeded the new life limit as established in Table 1 of this AD, must be replaced, at the time indicated in Table 2 of this AD, with serviceable parts in accordance with the instructions of the MD900 Rotorcraft Maintenance Manual, CSP-900RMM-2, Section 62-10-00, Page 401 through 405 inclusive.

Table 2

| **Applicable Life Limit:** | **Compliance Time after 06 April 2010, the Effective date of the original issue of this AD:** |
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| 400 hours TIS | within 30 days |
| 1 500 hours TIS | within 60 days |

(7) Within 30 days after removal of a bolt as a result of the replacement action as required by paragraph (5) or (6) of this AD, as applicable, return the bolt to MD Helicopters, address indicated in the Remarks section of this AD.

(8) Replacement of bolts does not constitute terminating action for the requirements of this AD. Replacement of all the bolts on a helicopter with P/N 900R3100001-101 or -105 bolts is an acceptable terminating action, as this AD does not apply to those bolts. Installation of a mix of different P/N bolts on a single helicopter is only allowed after receiving explicit authorisation from MDHI to do so.

Ref. Publication(s):

MD900 Rotorcraft Maintenance Manual, CSP-900RMM-2.

Remarks :

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.

2. The original issue of this AD was published on 15 December 2009 as PAD 09-137 for consultation until 12 January 2010. The Comment Response Document can be found at http://ad.easa.europa.eu/.

3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA. E-mail ADs@easa.europa.eu.

4. For any question concerning the technical content of the requirements in this AD, please contact: MD Helicopters Inc., Attn: Customer Support Division, 4555 East McDowell Road, Mail Stop M615, Mesa, Arizona 85215-9734, United States of America.
Telephone +1-800-388-3378, fax +1-480-346-6813, or on the Web at http://www.mdhelicopters.com.

Appendix I

**4–2. PILOT'S DAILY PREFLIGHT CHECK**

**Note:** This check is in addition to the checks as specified in section 4-2 of the basic RFM.

- Blade attach pins (bolts):

Carry out a 'touch check' (e.g. light hand pressure) of each blade bolt cam handle/spring clip to detect easy sideways movement, i.e. lack of bolt tension

- If any movement (shift) is detected, before further flight, contact maintenance for corrective action.

Appendix II

**4–3. PILOT'S PREFLIGHT CHECK**

**Note:** This check is in addition to the checks as specified in section 4-3 of the basic RFM.

- Rotor Blades:

Accomplish a visual check of each MR blade retention bolt vertical position relative to its neighbour, and the lower and upper surface of the pitch case. This check must include a 'touch check' (e.g. light hand pressure) of each blade bolt cam handle/spring clip to detect easy sideways movement, i.e. lack of bolt tension

- If any movement (shift) is detected, before further flight, contact maintenance for corrective action.