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[Page 73165-73168]  
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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2008-1251; Directorate Identifier 2008-SW-61-AD; Amendment 39-15756; AD 2008-22-53]**

**RIN 2120-AA64**

#### **Airworthiness Directives; MD Helicopters, Inc. Model MD900 Helicopters**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule; request for comments.

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**SUMMARY:** This document supersedes AD 2008-18-52 and publishes in the Federal Register an amendment adopting Emergency Airworthiness Directive (AD) 2008-22-53 which was sent previously to all known U.S. owners and operators of MD Helicopters, Inc. (MDHI) Model MD900 helicopters by individual letters. This AD requires turning ON both Vertical Stabilizer Control System (VSCS) switches and turning OFF the autopilot (AP/SAS) switch; pulling certain AP/SAS circuit breakers; installing a placard near the AP/SAS master switch; installing an airspeed limitation placard on the instrument panel; and making changes to the Rotorcraft Flight Manual (RFM). This AD is prompted by 4 occurrences in which the left VSCS adapter tubes failed on the MD900 helicopters and the vertical stabilizer became uncontrollable, resulting in reduced yaw control of the helicopter. There were no injuries, but in one occurrence, due to the high speed quick yaw, the helicopter lost a window and a door. The actions specified by this AD are intended to prevent loss of yaw control and subsequent loss of control of the helicopter.

**DATES:** Effective December 17, 2008, to all persons except those persons to whom it was made immediately effective by Emergency AD 2008-22-53, issued on October 23, 2008, which contained the requirements of this amendment.

Comments for inclusion in the Rules Docket must be received on or before February 2, 2009.

**ADDRESSES:** Use one of the following addresses to submit comments on this AD:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

You may get the service information identified in this AD 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 <http://www.mdhelicopters.com>.

Examining the Docket: You may examine the docket that contains the AD, any comments, and other information on the Internet at <http://www.regulations.gov>, or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Operations office (telephone (800) 647-5527) is located in Room W12-140 on the ground floor of the West Building at the street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Eric D. Schrieber, FAA, Los Angeles Aircraft Certification Office, Aviation Safety Engineer, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone 562-627-5348, fax 562-627-5210.

**SUPPLEMENTARY INFORMATION:** On August 20, 2008, we issued Emergency AD 2008-18-51 for 500N, 600N, and MD900 helicopters. Emergency AD 2008-18-51 was prompted by reports that 2 MD900 helicopters experienced failed VSCS adapter tubes. In one case, the helicopter experienced an uncommanded yaw, resulting in loss of a window and a door. The Emergency AD required several actions related to the Yaw Stability Augmentation System (YSAS) for the Model 500N and 600N helicopters and to the VSCS for the Model MD900 helicopters.

After we issued Emergency AD 2008-18-51, we discovered that pulling the circuit breaker per the Emergency AD caused impaired directional control, which could result in loss of control of the helicopter. Therefore, on August 27, 2008, we issued superseding Emergency AD 2008-18-52, which requires, for Model 500N, 600N and MD900 helicopters, turning OFF the VSCS or YSAS switches instead of pulling the circuit breakers and installing placards that limit airspeed to 100 KIAS or VNE, whichever is less. For the Model MD900 helicopters, limiting flight to VFR, prohibiting use of the autopilot, and making changes to the Emergency Procedures and Airworthiness (sic) Limitations sections of the RFM are also required. For all of the helicopter models, Emergency AD 2008-18-52 requires, within 45 days, terminating action by replacing the adapter tube with an airworthy adapter tube that has a date stamp of August 15, 2008 or later, and then removing the placards, removing the AD limitation changes from the RFM, and returning all switches and circuit breakers to their normal positions.

Since the issuance of Emergency AD 2008-18-52, we have had additional occurrences of failed adapter tubes on the MD900 helicopters. The replacement adapter tube that was terminating action for the requirements of Emergency AD 2008-18-52 failed on 2 of the MD900 helicopters. Furthermore, adapter tubes without a production date code stamp remain a safety concern on the 500N and 600N helicopters because they may not conform to the FAA-approved design. Therefore, we separated the AD actions and issued 2 superseding Emergency ADs; 2008-22-52 for the 500N and 600N helicopters, and 2008-22-53 for the MD900 helicopters.

Emergency AD 2008-22-53 applies to the MD900 helicopters and continues to require the same actions as Emergency AD 2008-18-52; however, we made minor editorial changes and other changes as follows:

- We do not include any serial numbers in the applicability because the unsafe condition can occur on any helicopter with the affected adapter tube installed.
- We require both VSCS switches to be turned ON to reduce pilot workload under normal flight conditions and to help control the helicopter in the event of an adapter tube failure until the helicopter is on final approach.
- We do not provide a terminating action because the cause of the failures is still being investigated.

We have reviewed MDHI Service Bulletin (SB) SB900-110, dated October 17, 2008. The SB specifies the following:

- Making a placard that states "AIRSPEED LIMIT 100 KIAS OR VNE, WHICHEVER IS LESS. VMC FLIGHT ONLY, AUTOPILOT OFF."
- Installing a placard on the instrument panel in view of the pilot.
- Making a record in the compliance section of the Rotorcraft Log Book that the SB has been completed.
- Operating the helicopter as specified in the applicable Rotorcraft Flight Manual Airspeed Limitation Section for helicopter operation.

The SB also includes the following Notes:

- Stronger replacement tube adapters with a new part number are in the FAA approval process. Owners and operators will be notified when the new adapter tubes are available by a revision to the service bulletin.
- If there is an anti-torque system malfunction, de-energize the VSCS on final approach to a run on landing. Refer to Rotorcraft Flight Manual Emergency Procedures for Anti-torque Failure Complete Loss of Thrust and Fixed Thruster Setting.
- Do an inspection before and after each flight to make sure vertical stabilizers are in the correct position and control linkages are attached. To check control linkages, apply light pressure with your hand to the trailing edge of left and right vertical stabilizer in the inboard and outboard direction. No more than 0.125 in. (3.175 mm) movement permitted.

This AD differs from the SB in that it does not require, before and after each flight, an inspection of the vertical stabilizer and control linkages because we have determined that limiting the airspeed to 100 KIAS or VNE, whichever is less, will allow the continued safe operation of the helicopter in the event of an in-flight failure of the adapter tube. Also, this AD differs from the SB in that we require flight under VFR instead of VMC because the master minimum equipment list does not allow dispatch of the helicopter under IFR with an inoperative autopilot.

This AD is an interim action that is intended to provide the continued safe operation of the helicopter in the event of an in-flight failure of the adapter tube. MDHI is currently attempting to determine the root cause of the adapter tube failures and develop final corrective action. We anticipate additional rulemaking once MDHI determines the cause of the adapter tube failures and develops an acceptable corrective action or terminating action for the requirements of this AD.

Since the unsafe condition described is likely to exist or develop on other MDHI Model MD900 helicopters of the same type design, we issued superseding Emergency AD 2008-22-53 to prevent loss of yaw control and subsequent loss of control of the helicopter. The Emergency AD requires the following before further flight:

- Turning ON both VSCS switches and turning OFF the autopilot (AP/SAS) switch after centering the trim actuators.
- Pulling and installing cable ties around certain AP/SAS circuit breakers.
- Installing a placard next to the AP/SAS master switch alerting the pilot that the autopilot has been deactivated.
- Installing a placard on the instrument panel as close as practicable to the airspeed indicator that states:

"AIRSPEED LIMIT 100 KIAS or VNE, WHICHEVER IS LESS. VFR FLIGHT ONLY, AUTOPILOT OFF."

- Making pen and ink changes or inserting a copy of this AD into the limitations section of the RFM to revise the limitations as follows: "VNE is limited to 100 KIAS or less as determined by referring to the airspeed VNE placard already installed on the helicopter. VFR Flight Only, Autopilot Off."

- Making pen and ink changes or inserting a copy of this AD into the limitations section of the RFM to revise the emergency procedures as follows: "If you experience an anti-torque system malfunction, turn both VSCS switches to OFF during final approach for a run-on landing."

The short compliance time involved is required because the previously described critical unsafe condition can adversely affect the controllability of the helicopter. Therefore, the actions described previously are required before further flight, and this AD must be issued immediately.

Since it was found that immediate corrective action was required, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual letters issued on October 23, 2008 to all known U.S. owners and operators of MDHI Model MD900 helicopters. These conditions still exist, and the AD is hereby published in the Federal Register as an amendment to 14 CFR 39.13 to make it effective to all persons.

We estimate that this AD will affect 43 helicopters of U.S. registry. The required actions will take about 0.2 work hour per helicopter, at an average labor rate of \$80 per work hour. Parts cost are negligible. Based on these figures we estimate the total cost impact of the AD on U.S. operators to be about \$688. However, MDHI states in their service information that costs of .2 hours of labor will be covered under labor warranty. Assuming operators take advantage of this credit, we estimate that this AD will have no cost impact on U.S. operators.

### **Comments Invited**

This AD is a final rule that involves requirements that affect flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any written data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2008-1251; Directorate Identifier 2008-SW-61-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the AD. We will consider all comments received by the closing date and may amend the AD in light of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of our docket Web site, you can find and read the comments to any of our dockets, including the name of the individual who sent the comment. You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

### **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD 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.

For the reasons discussed above, I certify that the 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); and
3. 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 AD. See the AD docket to examine the economic evaluation.

## **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.

## **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:



**2008-22-53 MD Helicopters, Inc.:** Amendment 39-15756. Docket No. FAA-2008-1251; Directorate Identifier 2008-SW-61-AD. Supersedes Emergency AD 2008-18-52, Directorate Identifier 2008-SW-52-AD.

**Applicability:** Model MD900 helicopters with a Vertical Stabilizer Control System (VSCS) adapter tube, part number 500N7218-1, installed, certificated in any category.

**Compliance:** Required before further flight, unless accomplished previously.

To prevent loss of yaw control and subsequent loss of control of the helicopter, do the following:

(a) Turn ON both VSCS switches.

(b) If installed, de-energize the autopilot (AP/SAS) as follows:

(1) Determine if the AP/SAS trim actuators are centered. If the AP/SAS trim actuators are not centered, center them.

(2) After the AP/SAS trim actuators are centered:

(i) Turn the AP/SAS MSTR switch to the OFF position.

(ii) Pull the following AP circuit breakers located on the A601 Essential Bus Circuit Breaker Panel, mounted in the cockpit console, and install a plastic cable tie on each circuit breaker to prevent accidental energizing of the circuit:

(A) AP/SAS CMPTR (CB28),

(B) AP/SAS DISC (CB29), and

(C) AP/SAS ACCEL (CB30).

(3) Install a placard next to the AP Mode Select panel that contains the AP/SAS MSTR switch stating "AP/SAS DEACTIVATED."

(c) Install a placard on the instrument panel as close as practicable to the airspeed indicator that states:

"AIRSPEED LIMIT 100 KIAS or VNE, WHICHEVER IS LESS. VFR FLIGHT ONLY,  
AUTOPILOT OFF."

(d) Make pen and ink changes or insert a copy of this AD into the limitations section of the rotorcraft flight manual (RFM) to revise the limitations as follows: "VNE is limited to 100 KIAS or less as determined by referring to the airspeed VNE placard already installed on the helicopter. VFR Flight Only, Autopilot OFF."

(e) Make pen and ink changes or insert a copy of this AD into the limitations section of the RFM to revise the emergency procedures as follows: "If you experience an anti-torque system malfunction, turn both VSCS switches to OFF during final approach for a run-on landing."

Note: MDHI Service Bulletin SB900N-110, dated October 17, 2008, pertains to the subject of this AD.

(f) 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: Eric D. Schrieber, Aviation Safety Engineer, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone 562-627-5348, fax 562-627-5210, for information about previously approved alternative methods of compliance.

(g) 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 <http://www.mdhelicopters.com>.

(h) This amendment becomes effective on December 17, 2008, to all persons except those persons to whom it was made immediately effective by Emergency AD 2008-22-53, issued October 23, 2008, which contained the requirements of this amendment.

Issued in Fort Worth, Texas, on November 19, 2008.  
Scott A. Horn,  
Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.