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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2011-1382; Directorate Identifier 2011-SW-053-AD; Amendment 39-16900; AD 2011-26-10]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Enstrom Helicopter Corporation Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

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

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for Enstrom Helicopter Corporation (Enstrom) Model F-28C, F-28C-2, F-28F, 280C, 280F, 280FX TH-28, 480, and 480B helicopters with certain trim relays to require modifying and testing the lateral and longitudinal cyclic trim actuator assemblies. This AD was prompted by four failures in the cyclic trim system on certain Enstrom model helicopters that resulted in reduced controllability of the helicopter. These actions are intended to prevent failure of the cyclic trim system and subsequent loss of control of the helicopter.

**DATES:** This AD becomes effective January 23, 2012.

The Director of the Federal Register approved the incorporation by reference of certain documents listed in this AD as of January 23, 2012.

We must receive comments on this AD by March 6, 2012.

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.
- Fax: (202) 493-2251.
- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590-0001.
- Hand Delivery: Deliver to the "Mail" address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket: You may examine the AD docket 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 AD docket contains this AD, the economic evaluation, any comments received, and other information. The street address for the Docket

Operations Office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this AD, contact Enstrom Helicopter Corporation, 2209 22nd St., Menominee, Michigan, 49858-0490; telephone: (906) 863-1200; email: customerservice@enstromhelicopter.com; Web site: [http://www.enstromhelicopter.com/enstrom\\_new/enstrom\\_support\\_tec.html](http://www.enstromhelicopter.com/enstrom_new/enstrom_support_tec.html). You may review copies of the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**FOR FURTHER INFORMATION CONTACT:** Gregory J. Michalik, Enstrom Program Manager, FAA, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Room 107, Des Plaines, Illinois 60018; telephone (847) 294-7135; fax (847) 294-7834; email: [gregory.michalik@faa.gov](mailto:gregory.michalik@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not provide you with notice and an opportunity to provide your comments prior to it becoming effective. However, we invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that resulted from adopting this AD. The most helpful comments reference a specific portion of the AD, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit them only one time. We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this rulemaking during the comment period. We will consider all the comments we receive and may conduct additional rulemaking based on those comments.

### **Discussion**

We are adopting a new AD for the Enstrom Model F-28C, F-28C-2, F-28F, 280C, 280F, 280FX, TH-28, 480, and 480B helicopters with a trim relay, part-number (P/N) KUP14D55-472, M83536/10-015M, or M83536/10-024M. This AD does not apply to the specified helicopters with a reversible trim motor, P/N 28-16621 (Ford Motor Company C1AZ-14553A) or P/N AD1R-10 (Signal Electric). This AD requires modifying the lateral and longitudinal trim actuator assemblies by replacing the actuator and limit switch bracket to provide a positive stop for the trim actuator. In the event of a trim actuator runaway, the new bracket will stop the actuator, causing the circuit breaker to trip before any significant loss of control occurs. After the trim actuator assemblies are modified, this AD requires performing operational (ground) and flight tests to determine that the trim relay is working correctly. This AD was prompted by reports of 4 failures in the cyclic trim system in the field, 2 that occurred on the Enstrom Model 480B helicopter and 2 that occurred on the Enstrom Model F28 helicopter. These failures resulted in reduced controllability of the helicopter. We are issuing this AD to prevent failure of the cyclic trim system and subsequent loss of control of the helicopter.

### **FAA's Determination**

We are issuing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## **Related Service Information**

We reviewed Enstrom Service Directive Bulletin (SDB) No. 0110, Revision 3, dated July 6, 2011 (SDB 0110), for Model F-28C, F-28C-2, F-28F, 280C, 280F, and 280FX helicopters; and Enstrom SDB No. T-039, Revision 3, dated July 6, 2011 (SDB T-039), for Model TH-28, 480, and 480B helicopters. SDB 0110 specifies, for helicopters with a trim relay, P/N KUP14D55-472, M83536/10-015M, or M83536/10-024M, procedures for modifying the lateral and longitudinal trim actuator assembly using the cyclic trim assembly kit (modification kit), P/N 28-01063-1, and specifies performing an operational check and flight test to determine the trim is operating correctly after the modification. SDB T-039 specifies, for helicopters with a trim relay, P/N M83536/10-024M, procedures for modifying the lateral and longitudinal trim actuator assembly using the modification kit, P/N 4230045-1, and specifies performing an operational check and flight test to determine the trim is operating correctly after the modification. The SDBs state that the modification kits contain the upgraded bracket.

## **AD Requirements**

This AD requires, within 5 hours time-in-service (TIS) or at the next annual or 100 hour time-in-service inspection, whichever occurs first, the following actions:

- For the Enstrom Model F-28C, F-28C-2, F-28F, 280C, 280F, and 280FX helicopters with a trim relay, P/N KUP14D55-472, M83536/10-015M, or M83536/10-024M, modify the lateral and longitudinal trim actuator assembly using the modification kit, P/N 28-01063-1.
- For the Enstrom Model TH-28, 480, and 480B helicopter with a trim relay, P/N M83536/10-024M, modify the lateral and longitudinal trim actuator assembly using the modification kit, P/N 4230045-1.
- For all affected helicopters, after accomplishing the modification of the lateral and longitudinal trim actuator assemblies and before further flight, perform an operational test and flight test to determine the trim is operating correctly.

The actions required by this AD are to be accomplished by following specified portions of the SDBs described previously.

## **Differences Between This AD and the Service Information**

The SDBs specify, before further flight, to insert a special addendum into the Emergency Procedures section of the Flight Manual, and this AD does not require this action.

## **Costs of Compliance**

We estimate that this AD will affect 207 helicopters of U.S. Registry. We estimate that operators may incur the following costs in order to comply with this AD. For Model 480, 480B, and TH-28, modifying the actuator assembly will require 4 work hours at a cost of \$85 per hour and parts will cost \$327; the cost per helicopter will be \$667. For Model 280C, 280F, 280FX, F-28C, F-28C-2, and F-28F, modifying the actuator assembly will require 4 work hours at a cost of \$85 per hour; parts will cost \$383; and the cost per helicopter will be \$723.

## **FAA's Justification and Determination of the Effective Date**

Providing an opportunity for public comments prior to adopting these AD requirements would delay implementing the safety actions needed to correct this known unsafe condition. Therefore, we find that the risk to the flying public justifies waiving notice and comment prior to the adoption of this rule because the required corrective actions must be accomplished within 5 hours time-in-service, a very short time period based on the average flight-hour utilization rate of these helicopters.

Since an unsafe condition exists that requires the immediate adoption of this AD, we determined that notice and opportunity for public comment before issuing this AD are impracticable and contrary to the public interest and that good cause exists for making this amendment effective in less than 30 days.

### **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.

### **Regulatory Findings**

We 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, I certify that this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. 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 and placed it in the AD docket.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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. The FAA amends § 39.13 by adding the following new AD:



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**2011-26-10 Enstrom Helicopter Corporation:** Amendment 39-16900; Docket No. FAA-2011-1382; Directorate Identifier 2011-SW-053-AD.

**(a) Applicability**

This AD applies to the Enstrom Model F-28C, F-28C-2, F-28F, 280C, 280F, 280FX, TH-28, 480, and 480B helicopters with a trim relay, part-number (P/N) KUP14D55-472, M83536/10-015M, or M83536/10-024M, certificated in any category.

Note 1: This AD does not apply to the specified helicopters with a reversible trim motor, P/N 28-16621 (Ford Motor Company C1AZ-14553A) or P/N AD1R-10 (Signal Electric).

**(b) Unsafe Condition**

This AD defines the unsafe condition as a failure in the cyclic trim system. This condition could result in reduced controllability of the helicopter and subsequent loss of control of the helicopter.

**(c) Effective Date**

This airworthiness directive (AD) becomes effective January 23, 2012.

**(d) Compliance**

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

**(e) Required Actions**

Within 5 hours time-in-service (TIS) or at the next annual or 100 TIS inspection, whichever comes first:

(1) For the Enstrom Model F-28C, F-28C-2, F-28F, 280C, 280F, and 280FX helicopters, modify the lateral and longitudinal trim actuator assemblies using the cyclic trim assembly kit (modification kit), P/N 28-01063-1, in accordance with the instructions in paragraph 6.1 of the Enstrom Service Directive Bulletin (SDB) No. 0110, Revision 3, dated July 6, 2011 (SDB No. 0110 R3), except when the instructions specify using "Aeroshell 22 grease" or "VC-3 Vibra-tite thread locker," you may use an equivalent product.

(2) For the Enstrom Model TH-28, 480, and 480B helicopters, modify the lateral and longitudinal trim actuator assemblies using the modification kit, P/N 4230045-1, in accordance with the instructions in paragraph 6.1 of the Enstrom SDB No. T-039, Revision 3, dated July 6, 2011 (SDB No. T-039 R3), except when the instructions specify using "Aeroshell 22 grease" or "VC-3 Vibra-tite thread locker," you may use an equivalent product, and you are not required to contact Enstrom Customer Service.

(3) After modifying the lateral and longitudinal trim actuator assemblies in accordance with paragraphs (e)(1) or (e)(2) of this AD, before further flight, operationally test the trim limits in accordance with paragraph 6.2. of the SDB for your model helicopter, and determine during a flight

test whether there is appropriate trim authority in accordance with paragraph 6.3. of the SDB for your model helicopter.

**(f) Special Flight Permits**

A one-time special-flight permit may be issued in accordance with 14 CFR 21.197 and 21.199 provided the helicopter is operated with the trim system circuit breaker pulled.

**(g) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: Gregory J. Michalik, Enstrom Program Manager, FAA, Chicago Aircraft Certification Office, 2300 East Devon Avenue, Room 107, Des Plaines, Illinois 60018; telephone (847) 294-7135; fax (847) 294-7834; email: [gregory.michalik@faa.gov](mailto:gregory.michalik@faa.gov).

(2) For operations conducted under a Part 119 operating certificate or under Part 91, Subpart K, we suggest that you notify your principal inspector or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

**(h) Subject**

Joint Aircraft Service Component (JASC) Code: 6710: Main Rotor Control.

**(i) Material Incorporated by Reference**

You must use the specified portions of the following service information to do the specified actions required by this AD. The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) Enstrom Service Directive Bulletin No. 0110, Revision 3, dated July 6, 2011, for the Model F-28C, F-28C-2, F-28F, 280C, 280F; and

(3) 280FX or Enstrom Service Directive Bulletin No. T-039, Revision 3, dated July 6, 2011, for the Model TH-28, 480, and 480B.

(4) For service information identified in this AD, contact Enstrom Helicopter Corporation, 2209 22nd St., Menominee, Michigan 49858-0490; telephone: (906) 863-1200; email: [customerservice@enstromhelicopter.com](mailto:customerservice@enstromhelicopter.com); Web site: [http://www.enstromhelicopter.com/enstrom\\_new/enstrom\\_support\\_tec.html](http://www.enstromhelicopter.com/enstrom_new/enstrom_support_tec.html).

(5) You may review copies of the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137 or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Fort Worth, Texas, on December 14, 2011.

M. Monica Merritt,  
Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.