AD/ENST 28/37 Voltage Regulator 13/97

Applicability: Model F-28A; 280; F-28C helicopters, with a serial number less than S/N 745; and Model 280C helicopters, with a serial number less than S/N 1502.

Requirement:

1. Determine if a Prestolite-manufactured voltage regulator, part number (P/N) VSF7203, or Prestolite-manufactured over-voltage relay, P/N X16799, P/N X17621, or P/N FOC-4002A, is installed. If any of these parts are installed, perform the following:

   a. Determine if the alternator output is within the proper output voltage range (13.8 to 14.4 volts) and, if the alternator output voltage is not within the proper voltage range, adjust or replace the voltage regulator, and,

   b. in accordance with paragraph 6.3.3 of Enstrom Helicopter Corporation SDB No. 0086, dated 31 March 1996, conduct an operational test of the over-voltage relay and replace the over-voltage relay if required.

2. If no over-voltage relay is installed:

   a. Install an over-voltage relay, P/N FOC-4002A, in accordance with paragraph 6.3.4. of Enstrom Helicopter Corporation Service Directive Bulletin (SDB) No. 0086, dated 31 March 1996.

   OR

   b. Install the transistorised voltage controller, P/N ECD-069-11, and modify the wiring in accordance with paragraph 6.4 of Enstrom Helicopter Corporation SDB No. 0086, dated 31 March 1996.

Note: The installation of the transistorised voltage controller is considered terminating action for the requirements of this AD.

3. Check the amp meter for readings within the normal operating range while the helicopter engine is operating at 2,200 revolutions per-minute (RPM).

4. Perform the following:

   a. Determine if the alternator output is within the proper output voltage range, and if the alternator output voltage is not within the proper voltage range, adjust or replace the voltage regulator.

   b. Conduct an operational test of the over-voltage relay, and replace any over-voltage relay that fails the operational test with a serviceable over-voltage relay in accordance with paragraph 6.3.3 of Enstrom Helicopter Corporation SDB No. 0086, dated 31 March 1996.

Note: FAA AD 97-20-04 Amdt 39-10142 refers.

Compliance: Requirement 1, within 5 hours time in service from the effective date of this AD.

Requirement 2a, before next flight.

Requirement 2b, before next flight.

Requirement 3, after compliance with Requirement 1 of this AD, thereafter, before each flight unless Requirement 2b has been implemented.

Note: Flight crew may perform this action in accordance with a temporary flight manual amendment incorporating Requirement 2 into the pre-flight check list.

Requirement 4, after compliance with Requirement 1 of this AD, thereafter, at each annual inspection, or 100 hours time in service, which ever occurs first unless Requirement 2b has been implemented.

Note: Replacement of the existing voltage control system with a transistorised voltage controller, P/N ECD-069-11, and modifying the wiring in accordance with paragraph 6.4 of Enstrom Helicopter Corporation SDB No. 0086, dated 31 March 1996, is considered terminating action for the requirements of this AD.

This airworthiness directive becomes effective on 4 December 1997.

Background: This AD is intended to prevent an electrical overload and a failure of the voltage regulator and over-voltage relay, that could result in an inflight fire, and subsequent forced landing of the helicopter.