



SCHWEIZER SERVICE BULLETIN

DB-015.1*
19 Apr 2006

MANDATORY

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SUBJECT: MODIFICATION OF CEF 8618M33 LINEAR ACTUATOR

MODELS AFFECTED: 269D and 269D Config. "A" Model helicopters serial numbers 0001 through 0056.

TIME OF COMPLIANCE: PART I: Prior to further flight and at each 25 hour inspection thereafter until Part II is accomplished.

PART II: Within 500 hour time in service or 1 year which ever occurs first.

REFERENCE:

- Model 269D Basic HMI (Issued 1 Feb 1993, Revised 01 Mar 2006).
- Model 269D Conf. "A" Basic HMI (Issued 20 Jul 2001, 01 Mar 2006).

PREFACE:

- A report has been received of an internal separation in a power turbine trim actuator that resulted in loss of control of the engine N₂ speed. Due to this, all trim actuators identified with CEF Industries part number 8618M33 are to be removed from service and replaced by part number 8618M33A. Due to the limited availability of actuators configured to the new part number, 8618M33 actuators may remain in service for the next 500 hours (or 1 year, whichever occurs first) until a replacement is available. In this case, periodic inspections are required until the actuator is replaced. All used actuators can be returned to Schweizer Aircraft Corp. for modification to the current drawing revision. Consult Service Letter DL-010 for information on the actuator exchange program.
- Failure to comply with this service bulletin may result in an inability to maintain engine N₂ speed within flight operating limits and lead to serious injury, death and/or property damage.

FAA APPROVAL: Engineering aspects of this Service Bulletin are FAA approved.

PARTS REQUIRED: CEF 8618M33A Linear Actuator

TOOLS REQUIRED: 10 Gauss Permanent Magnet

Precision measuring device graduated in .001 inch increments.

(█) Denotes portion of text added or revised

*Supersedes DB-015, dated 01 Mar 2006

PROCEDURE:

PART I

- a. Gain access to actuator and identify actuator part number. If a CEF Industries 8618M33A actuator is installed, no further action is required and compliance with this Service Bulletin can be recorded in the aircraft records.
- b. If a CEF 8618M33 is installed:
 - (1) Disconnect N₂ trim actuator ram (shaft) from lever of power turbine governor and reversing lever in accordance with HMI Section 4. Leave electrical connector attached and position actuator for access to data plate side.
 - (2) Turn on electric power and using N₂ trim (beeper) switch, run trim actuator until shaft is at mid travel position.

CAUTION

During the following retraction and extension procedures, the motor must drive the shaft to the maximum travel limits. When the travel limit is contacted, the electric motor will stall. If power remains applied to the motor for more than four or five seconds, the motor will be damaged. As soon as the motor stalls, release the beep switch.

NOTE

The limit switches that control the travel range of the actuator ram operate by the hall effect principle. The switches are activated by magnets that are embedded in the ram. Application of a 10 gauss magnet (a magnet strong enough to lift an 8 oz hammer ¼ inch off a table) to the exterior of the case will neutralize the ram magnets. The switch is sensitive to magnetic polarity and the motor will not run if the wrong pole of the magnet is placed against the case. Perform a minimum of three practice extensions and retractions without the magnet and note the sound of the motor when it is stopped by the limit switch. During the stalled limit test, the motor makes a different sound and this can be used as a positive indication the mechanical travel limit is reached.

- (3) Place permanent magnet at fixed end in area shown in Figure DB-015-1 on the data plate side and retract actuator shaft until sound from electric motor shows it has stalled.
- (4) Measure length of shaft protruding from actuator and record measurement.
- (5) Place magnet at the opposite end (Fig. DB-015-1) and extend actuator shaft until motor stalls. Measure and record length of shaft protruding from actuator.
- (6) Subtract fully retracted measurement from fully extended measurement. A measurement less than 1.128 inches indicates an unserviceable actuator that must be removed from service before further flight.
- (7) Retract a serviceable actuator to mid range and reinstall trim actuator in accordance with Basic HMI Section 4.
- (8) Record compliance with this periodic inspection in the aircraft records.

PART II:

- a. Remove CEF N₂ trim actuator identified as part number 8618M33 from helicopter and install new or modified trim actuator identified as part number 8618M33A in accordance with Basic HMI Section 4.
- b. Perform ground runs and flight checks and check for proper engine operation; adjust N₂ trim actuator as required (Basic HMI Section 4).
- c. Record compliance with this Service Bulletin (DB-015.1) in the aircraft records.

WEIGHT AND BALANCE

Weight and Balance not affected.

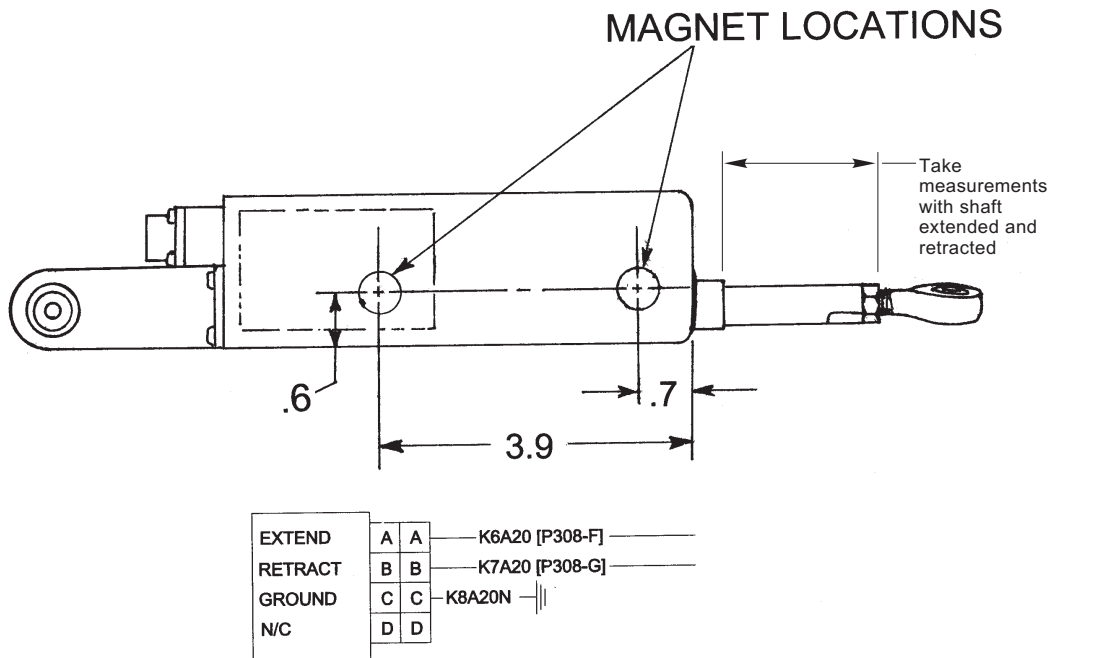


Figure DB-015-1