

Service Letter

FAA-DER APPROVED

Service Letter: No. 328

Subject: Repair or Replacement of ES26185-1 (4712-7) Firewall shutoff valve.

Date: 12 March 1997  
15 May, 2003. Rev. A

Applicability: Bell Helicopter Models 206, 407, & 412 Series.

Reference:

1. F.A.A./S.T.C. #SH3887NM, Bell 206 series Heater System.  
#SR00221DE, Bell 407 series Heater System.  
#SR00066DE, Bell 412 series Air Conditioning System.
  
2. Plumbing Drawing #

206H-505	(206 A/B, TH-67)
206H-512	(206 L/L1/L3)
206H- 514	(206 L4)
206H-516	(206 L4 Twin Ranger)
206H-526	(206 A/B Hi-Output)
407H-514	(407 Hi-Output)
407H-516	(407 Standard)
412AC-520	(412 Bleed Plumbing)

Compliance: Optional, at the discretion of the operator.

Purpose: To provide the end user with options, concerning the Replacement, Overhaul, or Repair of the ES26185-1 (4712-7) Firewall shutoff valve.

Should a failure occur, or a TBO requirement be met the following options are available.

Options:

1. Replace: ES26185-1 (4712-7) Shutoff valve. Price **on request**
  
2. Overhaul: ES26185-2 (4712-7) Shutoff valve. Price **on request**  
( A serviceable core must be returned to ACC for this flat rate to apply.)

(continued on page 2 of 5 )

(continuation of options: from page 1)

3. Solenoid Repair Kit: For ES26185-1, or -2 (4712-7) Shutoff valve.  
P/N 4760001-1 (See attached copy of ASC Solenoid Replacement Instructions)  
Price **on request**.

**Bill of Materials**

Qty.	Part Number	Description
1	ES26185-1	Shutoff valve (New)
1	ES26185-2	Shutoff valve (Overhauled)
1	4760001-1	Solenoid Repair Kit

**NOTE**

One of the items listed above may not be required, and should be ordered on a case by case basis.

**CAUTION**

Disconnect Battery and External Power from aircraft before starting work!

**Replacement of Firewall Shutoff Valve**

1. Open or remove all applicable cowlings and panels to gain access to the shutoff valve assembly.
2. Disconnect electrical leads from the firewall shutoff valve to the aircraft electrical system.
3. Disconnect the shutoff valve from the bleed air plumbing.

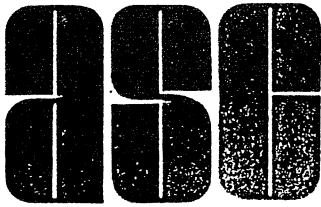
**CAUTION**

Always use a back up wrench on the solenoid housing fittings when removing or installing this component.

4. Remove Firewall shutoff valve from aircraft.
5. Install new, or repaired shutoff valve in reverse order of it's removal.
6. After installation, operate the system to check for air leaks, and proper system function.

**Solenoid Repair kit Instructions**

1. See attached copy of ASC (Aerospace Systems & Components) Solenoid Replacement Instructions. (Pages 3 - 5 of this Service Letter)



**AEROSPACE SYSTEMS & COMPONENTS, INC.**

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**SOLENOID REPLACEMENT INSTRUCTIONS  
FOR ASC P/N 4712-7, VALVE**

Equipment Required: Solenoid Torque Adapter (T-4741102 - see Page 3)  
(or Equivalents) Torque Wrench  
Dial Indicator  
Aluminum Oxide Belt Grinder

Supplies Required: Isopropyl Alcohol  
(or Equivalents) Epoxylite Epoxy 5526

Parts Required: ASC P/N 4760001-1, Solenoid Replacement Kit, which  
includes replacement solenoid, plunger/rod assembly,  
solenoid spring, pilot ball, and pilot spring.

Replacement Instructions: Refer to Figure I.

- 1) Remove grease and dirt from solenoid end of valve.
- 2) Unscrew the solenoid from valve. Remove and discard solenoid, plunger/rod assembly (9), solenoid spring (16), pilot ball (14) and pilot spring (12).
- 3) As required clean pilot area of valve using clean swabs and isopropyl alcohol.
- 4) Refer to Figure II to set length of plunger/rod assembly (9)
  - a) Place pilot ball (14) on seat in valve without pilot spring (12) in place. Using dial indicator take measurement "A" from the top of pilot ball (14) to top of seat (4).
  - b) Place plunger/rod assembly (9) in solenoid without solenoid spring (16) in place. Using dial indicator take measurement "B" from the face of the solenoid to the face of the plunger/rod assembly (9) (where it will contact ball when assembled).
  - c) Trim rod using aluminum oxide belt grinder until measurement A minus B is between 0.015 and 0.020 inches in length. Ensure rod end is flat and de-burred.
- 5) Place a large drop of epoxy on threads of solenoid only. Assemble pilot spring (12) with small diameter pointing up and out of guide hole, pilot ball (14), solenoid spring (16), plunger/rod assembly (9), and solenoid into valve using solenoid torque adapter and torque wrench (torque to a 180-200 in-lb direct reading on torque wrench).
- 6) Cap outlet of valve. Apply  $9 \pm 1$  psi clean shop air to inlet of the valve. Ensure that valve cycles open/closed by applying  $21 \pm 1$  VDC to solenoid.

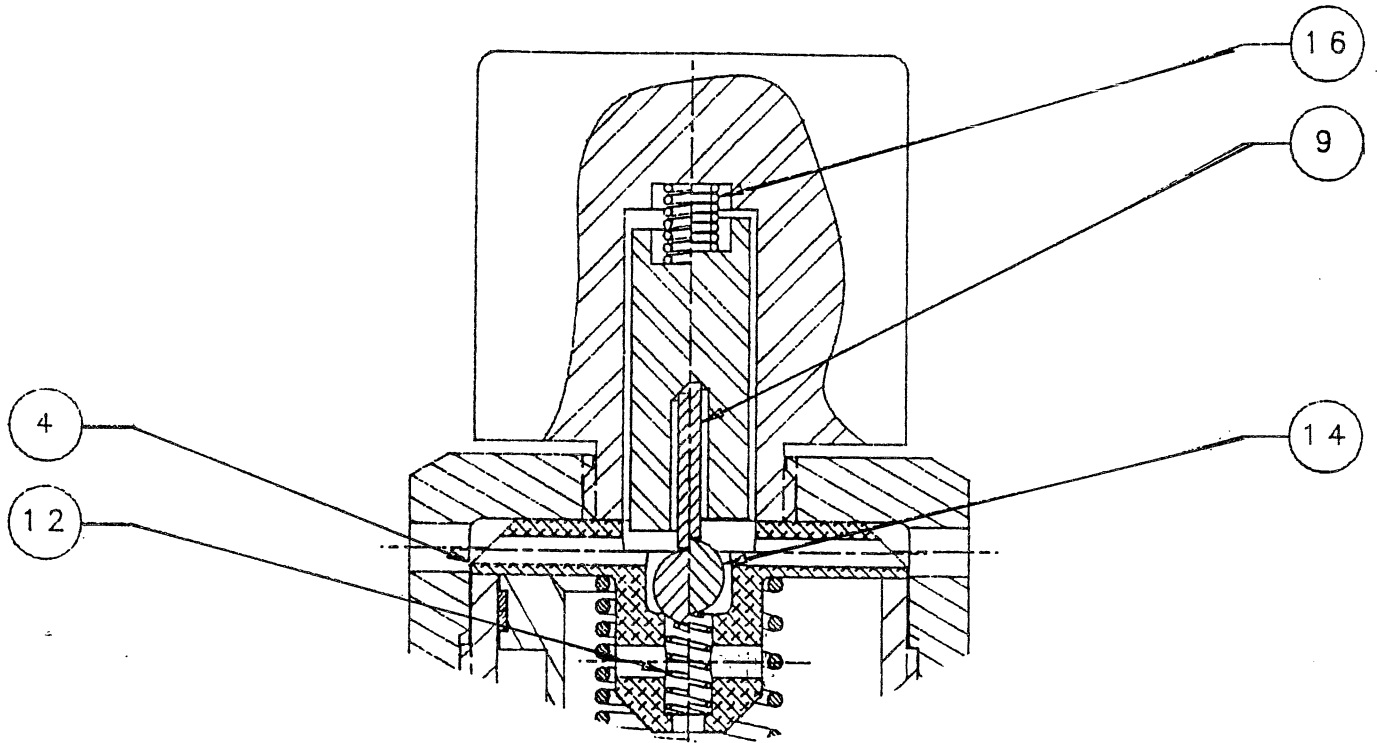


FIGURE I

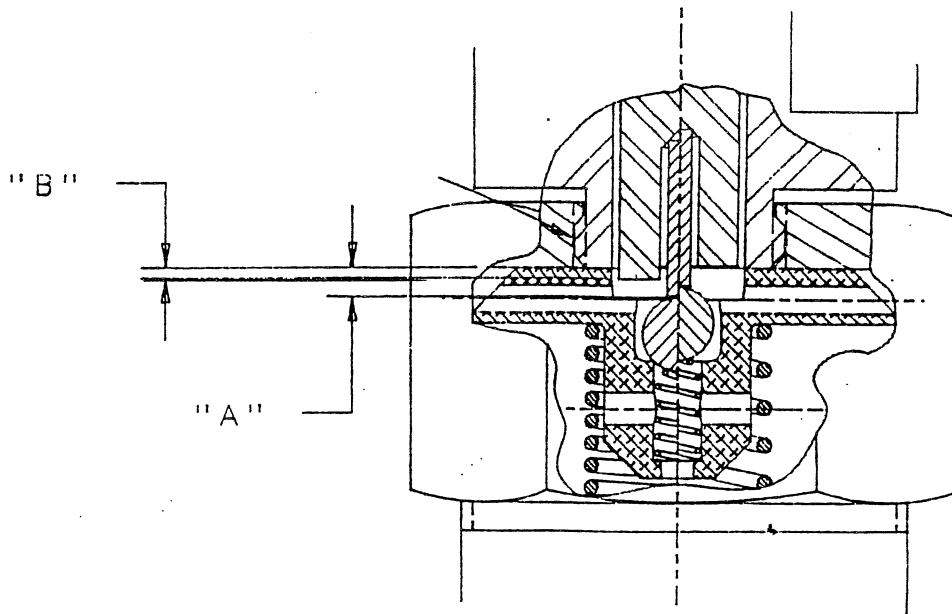
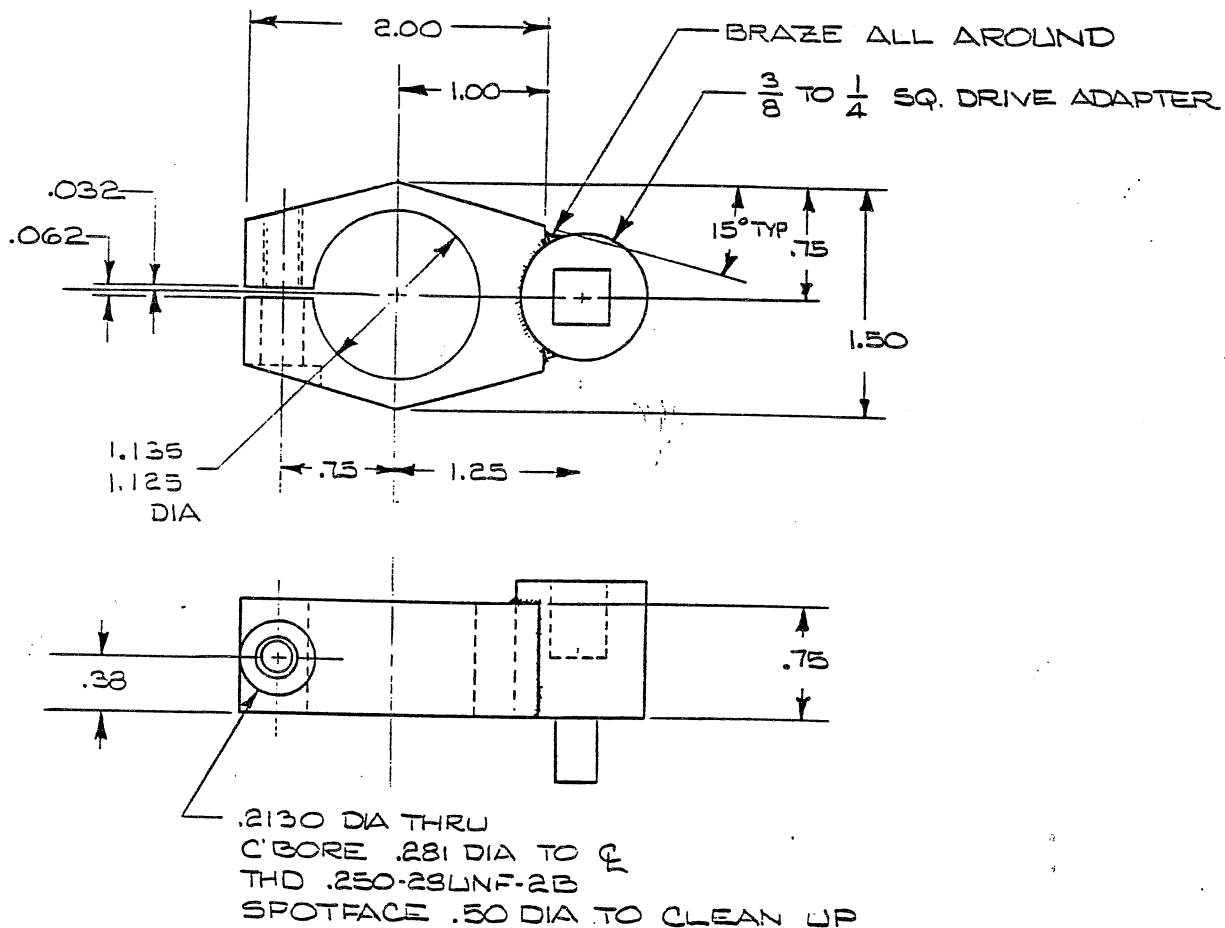


FIGURE II

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### SOLENOID REPLACEMENT INSTRUCTIONS FOR ASC P/N 4712-7, VALVE



P/N T-4741102, Solenoid Torque Tool

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