

Fluid Power Systems

511 GLENN AVENUE, WHEELING, ILL. 60090 • 312-541-3000 • Telex 29-2503

SERVICE BULLETIN
No. 4000-1-SB2

MULTI-PAK VALVES

March 1975

Revision 1

DISASSEMBLY OF SPRING CENTERED VALVE

Before starting disassembly, prepare an oil bath of clean SAE-10 oil to receive parts as described in the following procedures. Refer to figure 1 and disassemble the valve as follows:

1. Remove attachments, O-rings, and mylar shims.
2. Remove nut (1). Slide sleeve (2) and solenoid coil off tube subassembly (3).

CAUTION

Use proper tools to avoid damaging tube subassembly. Do not use monkey wrench or vise-grip pliers.

3. Use proper spanner wrench to loosen tube assembly.

NOTE Spring and spring retainer may fall from valve body when tube subassembly is removed.

4. Remove tube subassembly by hand.
5. Remove spring (10) and spring retainer (11) from valve body (12). Place spring and retainer in oil bath.
6. Slide pin (9), plug (8), and plunger (7) out open end of tube subassembly. Place pin, plug, and plunger in oil bath.
7. Using a small screwdriver or punch, gently push button (6) into tube subassembly until it is free and falls out. Remove and discard O-ring (5), and place button in oil bath.

8. Remove O-ring (4) from tube subassembly, place tube subassembly in oil bath, and discard O-ring.

9. Repeat steps 2 through 8 to remove and disassemble the second tube subassembly.

CAUTION

Handle spool with extreme care. Damage to the surface of the spool will prevent it from functioning properly. Note spool position in relation to valve body. Do not turn spool around.

10. Gently slide spool from valve body.

CAUTION

Valve body and spool are a matched pair. If either one is damaged, both must be replaced. To order replacement: specify valve assembly part number (see nameplate) and state position of valve in relation to the inlet.

11. Remove plugs (13, 16) and discard O-rings.

12. Inspect all parts for damage. Replace all O-rings and any part suspected of being damaged. Place new parts in oil bath.

ASSEMBLY OF SPRING CENTERED VALVE

Refer to figure 1 for identification and orientation of parts.

CAUTION

Before proceeding, check that both spool and valve body are thoroughly dry. Residual cleaning agent may damage O-rings.

1. Wash all parts with a cleaning solvent such as trichloroethane and dry with a low pressure air hose.

CAUTION

Handle spool with extreme care. Contamination or damage to surface of the spool will prevent it from functioning properly.

2. Dip spool and valve body (12) in clean SAE-10 oil and slide spool into valve body be sure spool has not been turned around. If spool does not slide freely into valve body, inspect for burrs. Remove burrs with stiff wire brush and repeat steps 1 and 2.

3. Place all disassembled parts in oil bath.

4. Place new O-ring (4) into groove on tube subassembly (3).

5. Place new O-ring (5) into groove on button (6). Drop button into tube and, using a screwdriver, push into place.

6. Insert plunger (7), plug (8), and pin (9) in tube subassembly.

7. Place spring retainer (11) and spring (10) over spool end into valve body (12).

8. Reinstall tube subassembly into body and hand tighten.

9. Repeat steps 4 through 8 on second tube subassembly.

10. Using a spanner wrench, tighten each tube subassembly.

11. Place new O-rings in grooves on valve body.

12. Install plugs.

13. Use mylar shims (14) between each section on each tie rod, reinstall attachments.

14. Use a torque wrench and tighten tie rods to 125-inch-pounds, in 3 steps: 75 in. lbs, 100 in. lbs, 125 in. lbs.

15. Reinstall solenoid coils and sleeves (2). Tighten nuts (1).

MULTI-PAK VALVES

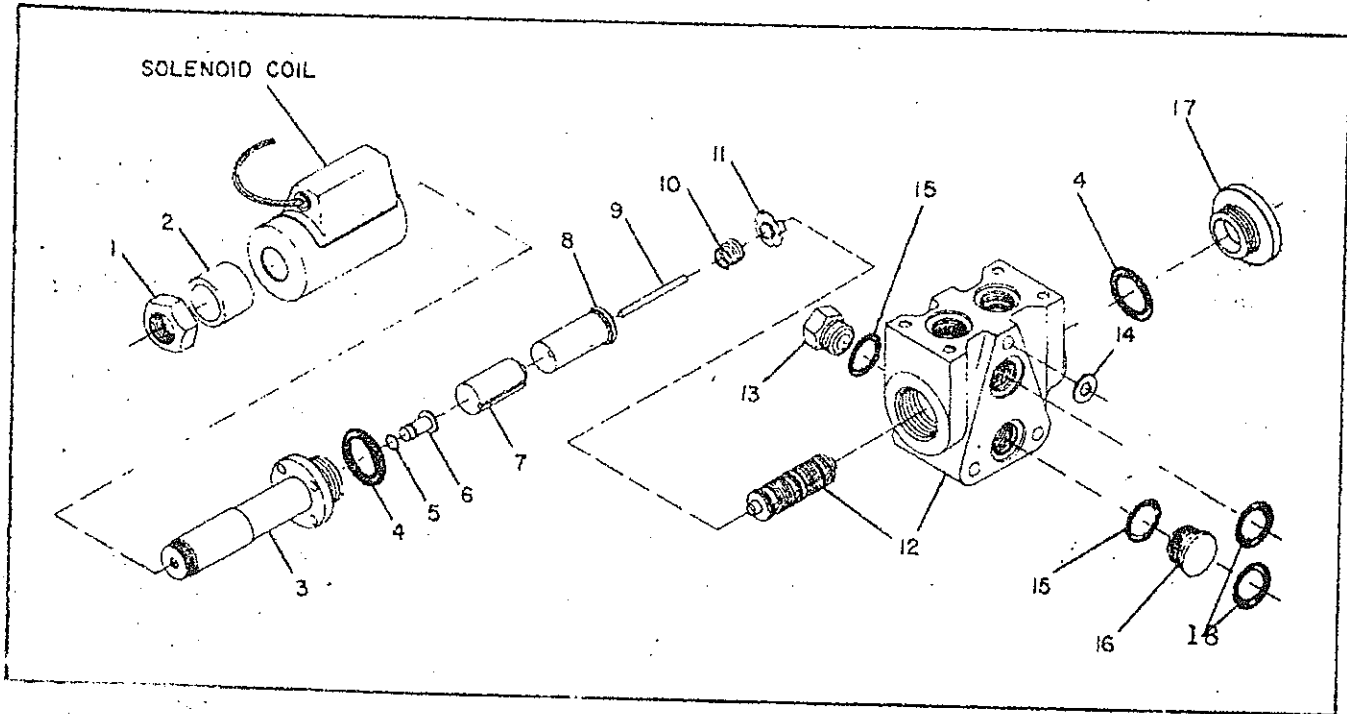


Figure 1

SPRING CENTERED VALVE PARTS LIST

Index No.	Part No.	Description	Single Solenoid Qty	Double Solenoid Qty
	----	Valve Assembly, flush button		
	----	Valve Assembly, extended button		
1	1006024	Nut	1	2
2	4014550	Sleeve	1	2
3	6006090	Tube Subassembly	1	2
4	0102916	O-ring	2	2
5	0101008	O-ring	1	2
6	4014130	Button, flush, std.	1	2
	4014131	Button, extended, option "J"	1	2
7	4019950	Plunger	1	2
8	4019960	Plug	1	2
9	4020051	Pin	1	2
10	4015410 *	Spring	2	2
11	6002880	Retainer, Spring	2	2
12	----	Spool and Body (matched set)	1	1
13	1004005	Plug	1	1
14	4023150	Mylar Shim	6	6
15	0102908	O-ring	2	2
16	4022030	Series Plug	1	1
17	4014041	Plug (Single Solenoid Valve Assy)	1	1

MISCELLANEOUS SERVICE PARTS AND KITS

Coils	
12 VDC	6002790
24 VDC	6002800
115 VAC	6009840
220 VAC	6002870
Inlet relief 6003580 plus Setting: Example (6003580-2000 psi)	
Seal Kit: (O-rings only)	
Single section valve assy.	6008840
Inlet relief	6009290
Banking Kit	
Banking kit includes: nut, washers, mylar shims, tie rods, mounting brackets, O-rings, and series plugs.	
Sections with Relief	
1	6008750
2	6003092
3	6008751
4	6008752
5	6008753
6	6003097
7	6008754
Sections without Relief	
1	6003090
2	6003091
3	6003092
4	6003093
5	6003095
6	6003096
7	6003097

Tube Kit Items 3 thru 9 601308b

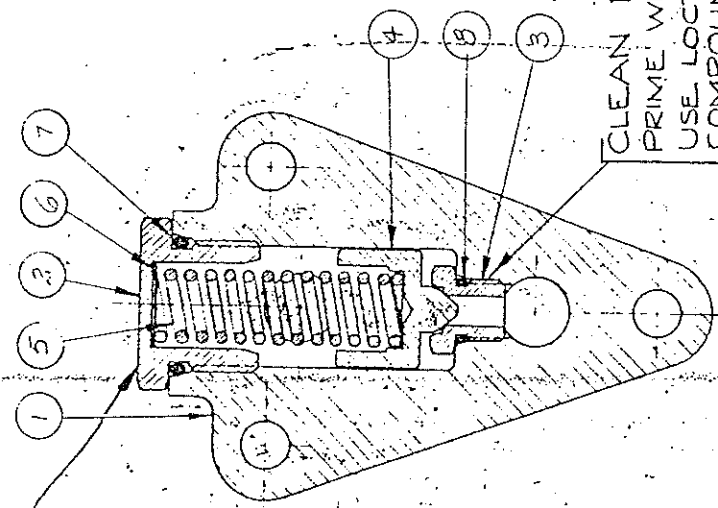
*To order valve assembly, use part number as listed on the nameplate.
 **To order body and spool, specify valve assembly part number and position of valve in relation to inlet.

18 0101118 O-Ring (between sections and attachments)

10* 4015430 Spring for spools #15 thru 20, 24, thru 31, and 35.



METAL STAMP
SUB-ASSEMBLY NO. 301R-A-1500
HERE. (EXAMPLE 301R-A-1500)



CLEAN PARTS WITH SOLVENT.
PRIME WITH LOGQUIC PRIMER.
USE LOCTITE RETAINING-COMPOUND 35
SEAL KIT: 60092110

ITEM	PART NUMBER	QTY	DESCRIPTION
1	4015071	1	BODY
2	4015470	1	RETAINER CAP
3	4015150	1	SEAT
4	4015160	1	WASHER
5	SEE TABLE	1	SPRING
6	1008039	1	WASHER
7	0102912	1	WASHER
8	0102905	1	WASHER

PRESSURE SETTING	ITEM #5 SPRING	QTY. VALVE INCREASES PRESSURE	WASHER REQUIRED
500	4016080	62.5 P.S.I.	1
750	4016080		1
1000	4016090	125 P.S.I.	4
1250	4016030		3
1500	4016440	157.5 P.S.I.	1
1700	4016440		1
2200	4016100	150 P.S.I.	1
2250	4016100		1
2500	4016100		1
2750	4016100		1
3000	4016116	375 P.S.I.	3
2850	4016030		1
1800	4016440		2

- 6003580
- 6003581
- 6003582
- 6003583
- 6003584
- 6003585
- 6003586
- 6003587
- 6003588
- 6003589
- 6005850
- 602670
- 6005853

SUB-ASSEMBLY NO. 301R-A-XX

BASIC MODEL NO. _____
PORT SIZE
A-S.A.E.-8
PRESSURE SETTING _____

TEST PROCEDURE NO. TP 26,007

FLUID POWER SYSTEMS DIVISION
AMERICAN INDUSTRIES, INC.
MORRISVILLE, ILLINOIS

RELIEF VALVE
SUB-ASSEMBLY

REV.	DATE	BY	CHK.	DESCRIPTION
10	10/16/74	6082		
9	8/19/74	5860		
8	10-9-70	ECN 2424	W	
7	7-9-68	ECN 1807	BR	
6	5/7/68	ECN 82		
5	4/21/60	ECN 43		

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301R-A-X
DWG. NO. 6003550