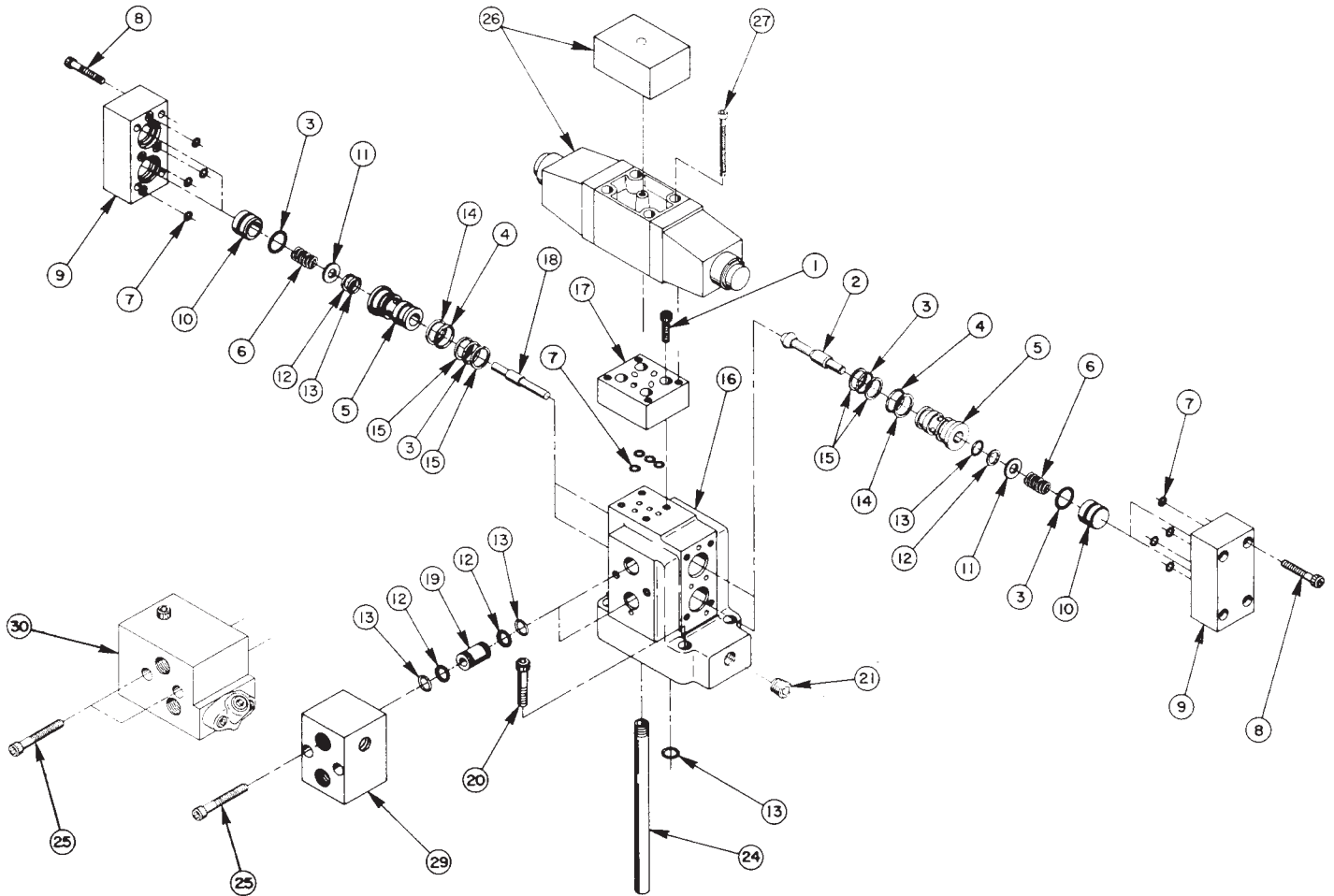


Parts List for:

9522
9590
9604
9615
31057

THREE POSITION, 4-WAY -- SOLENOID CONTROLLED -- PILOT OPERATED DIRECTIONAL VALVE

Max. Capacity: 10,000 PSI



NOTE:

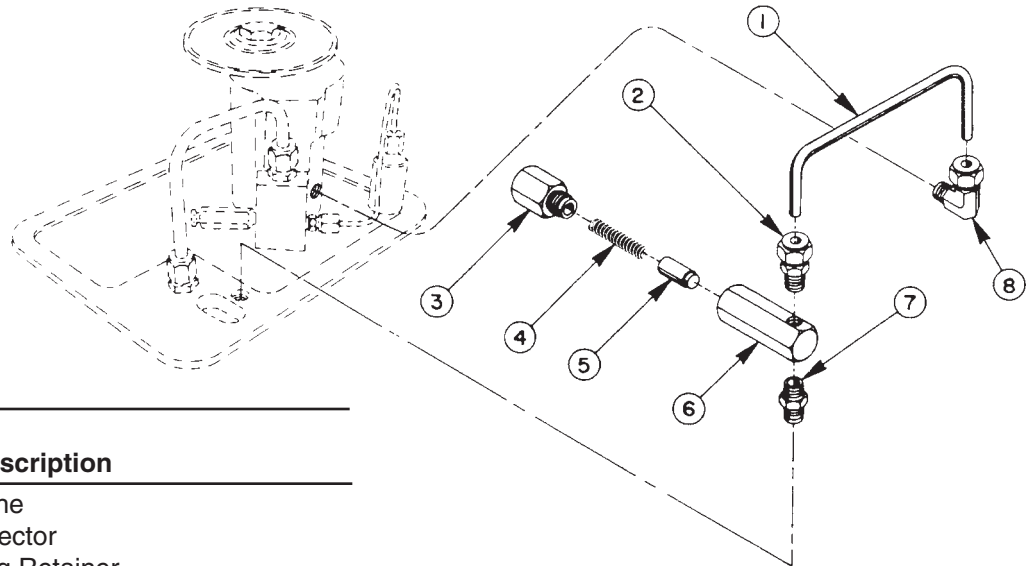
- 31057 consists of items 1 thru 25
- 9590, 9615, and 9522 consist of all items except item 30
- 9604 consists of all items except item 29

Parts List, Form No. 100562, Back sheet 1 of 3

Item No.	Part No.	No. Req'd	Description	Item No.	Part No.	No. Req'd	Description
1	12102	4	Cap Screw (#10-24 X 3/4 Lg.; Torque to 80/100 in. lbs.)	18	200541	1	Poppet Half
2	200542	2	Poppet Half	19	21094	2	Bushing
3	*11284	8	O-ring (11/16 X 9/16 X 1/16)	20	10020	4	Cap Screw (1/4-20 X 1-1/4 Lg.; Note: When using this valve on a PE30 Series pump order (4) 10854 Screws for mounting valve to pump.)
4	*10302	4	O-ring (3/4 X 5/8 X 1/16)	21	10479	1	Pipe Plug (1/4 NPTF)
5	22068	4	Bushing	24	20847	1	Drain Line
6	10362	4	Compression Spring (3/8 O.D. X 3/4 Lg.)	25	10854	2	Cap Screw (1/4-20 x 1-3/4 Lg.; Torque to 150/180 in. lbs.)
7	*10265	12	O-ring (5/16 X 3/16 X 1/16)	26	15643-1	1	Solenoid (115 Volt, 50/60 Hz.; For 9590 & 9604)
8	11151	8	Cap Screw (#10-24 X 1-1/4 Lg.; Torque to 50/70 in. lbs.)	15643-2	1	Solenoid (230 Volt, 50/60 Hz.; For 9522)	
9	31008	2	Cap End	15643-4	1	Solenoid (24 Volt, 50/60 Hz.; For 9615)	
10	22070	4	Piston	27	14423	4	Cap Screw (#10-24 X 2" Lg.; Torque to 50/80 in. lbs.)
11	209541	4	Washer	28	22747	1	Pilot Oil Line/Accumulator Ass'y (See below)
12	*11863	8	Backup Washer (1/2 X 3/8 X 1/16)	29	31039	1	Manifold (For 9590, 9615, and 9522)
13	*10268	9	O-ring (1/2 X 3/8 X 1/16)	30	23110	1	Pilot Operated Check Valve Ass'y (See sheet 2 of 3; for 9604)
14	*12392	4	Backup Washer (3/4 X 5/8 X 1/16)				
15	*12391	8	Backup Washer (11/16 X 9/16 X .048)				
16	50119	1	Body				
17	42934	1	Port Plate				

Part numbers marked with an asterisk (*) are contained in Repair Kit No. 300357.

STANDARD PILOT OIL LINE/ACCUMULATOR ASS'Y FOR USE WITH Y26, Y60, Y70, PE55, PE90 & PE120 SERIES PUMPS

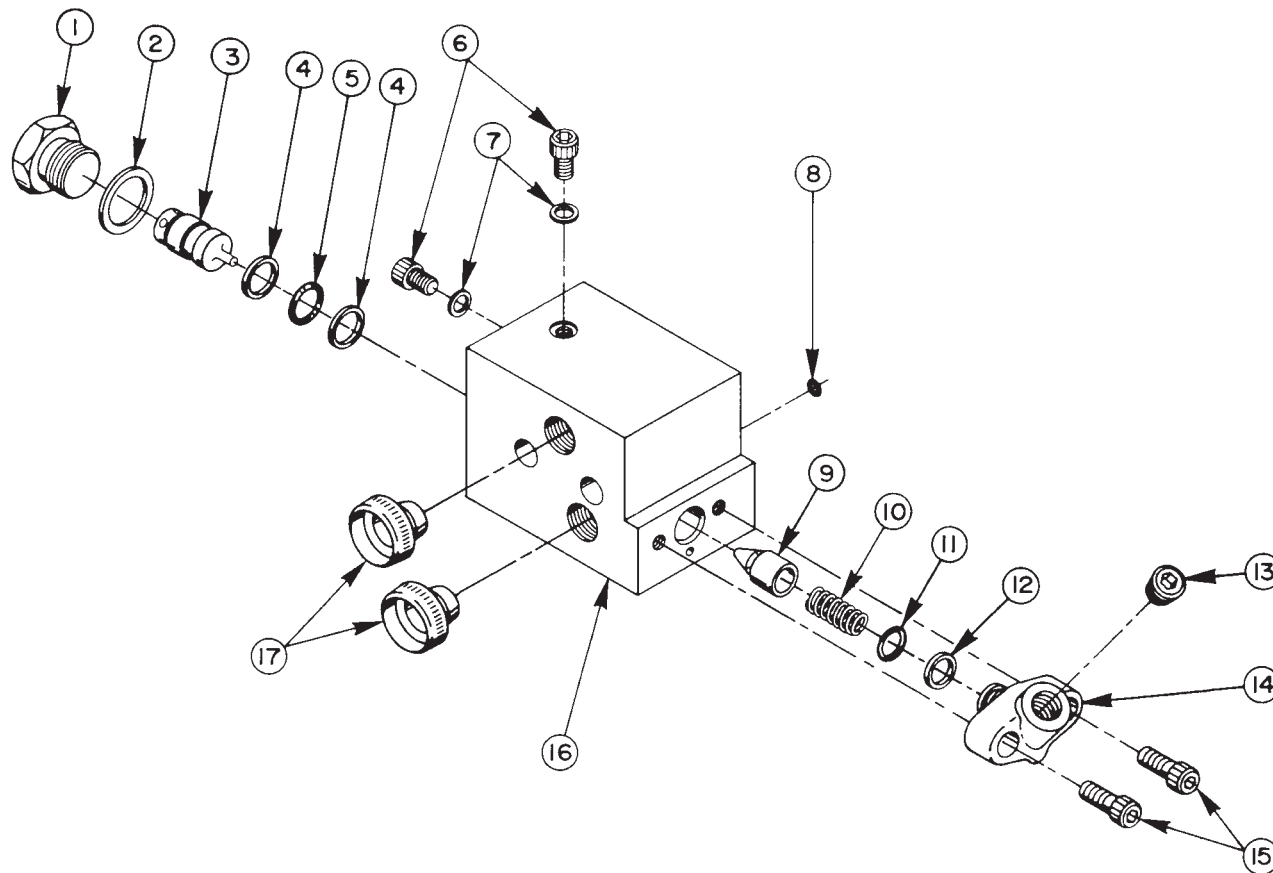


NOTE: 22747 is the standard Pilot Oil Line/Accumulator Assembly that is supplied with 9590, 9604, 9615 & 9522 Valves. Various Pilot Oil Line/Accumulator Assemblies for use with other pump units are shown on sheet 3 of 3.

Item No.	Part No.	No. Req'd	Description
1	22746	1	Oil Line
2	11173	1	Connector
3	202121	1	Spring Retainer (Torque to 50/70 in. lbs.)
4	16499	1	Compression Spring (1/4 O.D. X 2-3/16 Lg.)
5	21945	1	Plunger
6	21944	1	Cylinder Body
7	11421	1	Pipe Nipple
8	11278	1	Connector
	22747	1	Pilot Oil Line/Accumulator Ass'y (Consists of items 1 through 8)
	21943	1	Accumulator Ass'y (Consists of items 3, 4, 5, & 6)

Note: Shaded areas reflect last revision(s) made to this form.

PILOT OPERATED CHECK VALVE



Item No.	Part No.	No. Req'd	Description
1	23108	1	Plug
2	*10263	1	Copper Washer (1" X .765 X 1/32)
3	21864	1	Valve Piston
4	*12390	2	Backup Washer (5/8 X 1/2 X 3/64)
5	*10301	1	O-ring (5/8 X 1/2 X 1/16)
6	10002	2	Cap Screw (1/4-20 X 3/8 Lg.)
7	*10442	2	Copper Washer (3/8 X 1/4 X 1/32)
8	10264	1	O-ring (1/4 X 1/8 X 1/16)
9	20771	1	Poppet
10	10425	1	Spring
11	*10268	1	O-ring (1/2 X 3/8 X 1/1)
12	*11863	1	Backup Washer (1/2 X 3/8 X 1/16)
13	10479	1	Pipe Plug (1/4 NPTF)
14	20866	1	Gauge Fitting
15	10006	2	Soc. Hd. Cap Screw (1/4-20 X 5/8 Lg.)
16	40434	1	Valve Body
17	11036	2	Aluminum Cap

Part numbers marked with an asterisk (*) are contained in Repair Kit No. 300357.

SPECIFICATIONS

This is a sub-plate mounted, solenoid-controlled, pilot-operated, 3-position, 4-way valve for use on hydraulic power units. This valve is intended for use with double-acting cylinders and provides the possibility of remote operation. The manifold provides two 3/8" NPTF ports. A connection is provided on the valve body for a pressure switch and/or gauge. If required, a pressure switch or gauge may be mounted on a special manifold. The solenoid coils are available in a wide range of voltages.

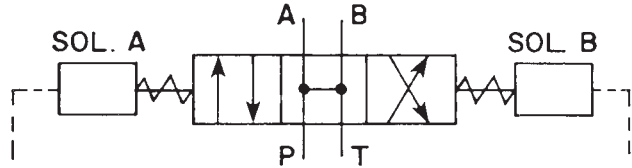
OPERATION

Solenoid "A" Energized: When solenoid "Sol. A" is energized, oil is directed through port "A" to one end of a double-acting cylinder. Oil from the other end of the double-acting cylinder returns through port "B" to the reservoir.

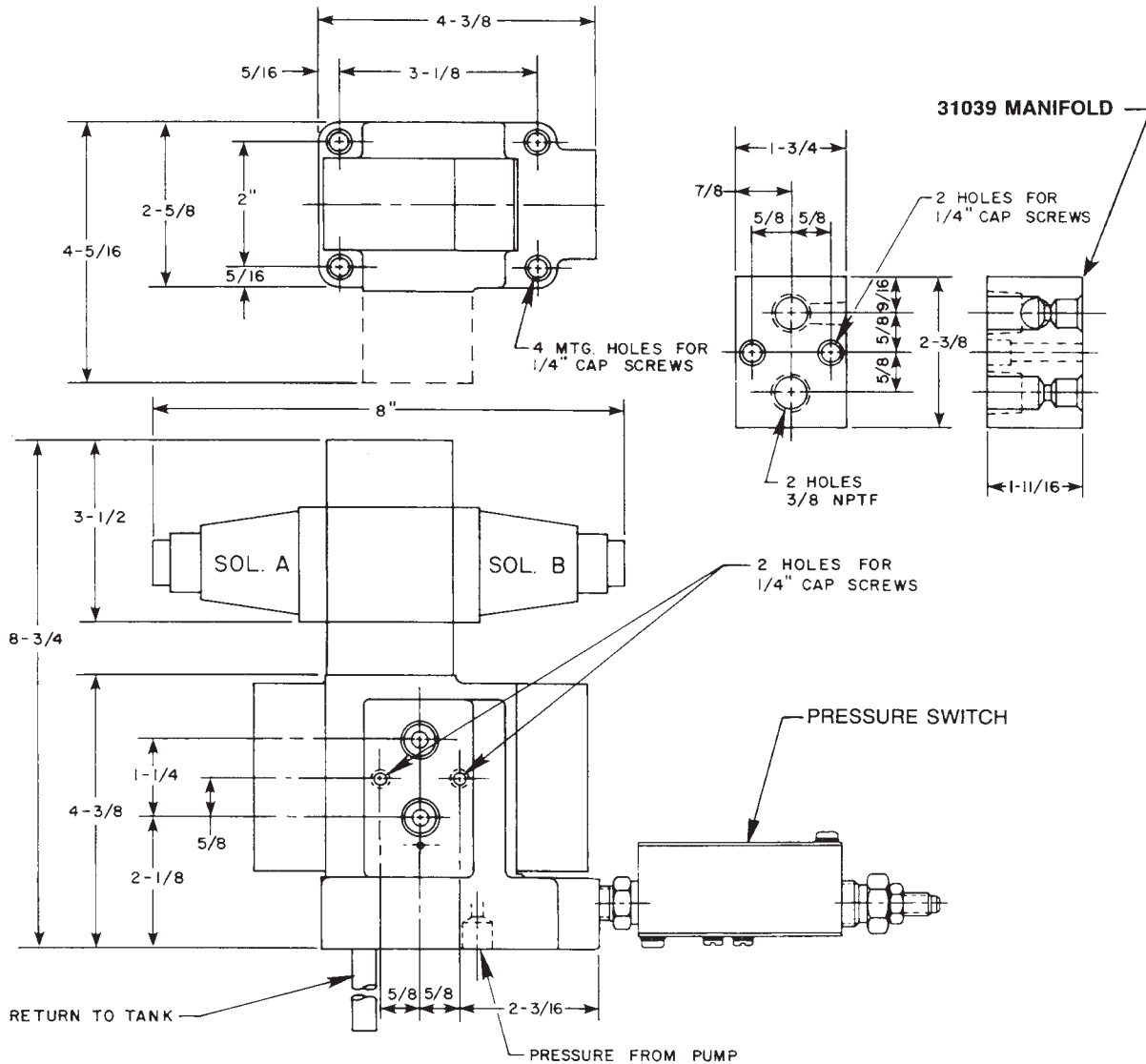
Solenoid "B" Energized: When solenoid "Sol. B" is energized, oil is directed through port "B" to one end of a double-acting cylinder and oil returns through port "A" to the reservoir from the other end of the double-acting cylinder.

Neutral (Hold): When both solenoids are de-energized, the valve is in the neutral position and all ports are connected, thereby giving a true "open-center" condition.

HYDRAULIC SCHEMATIC

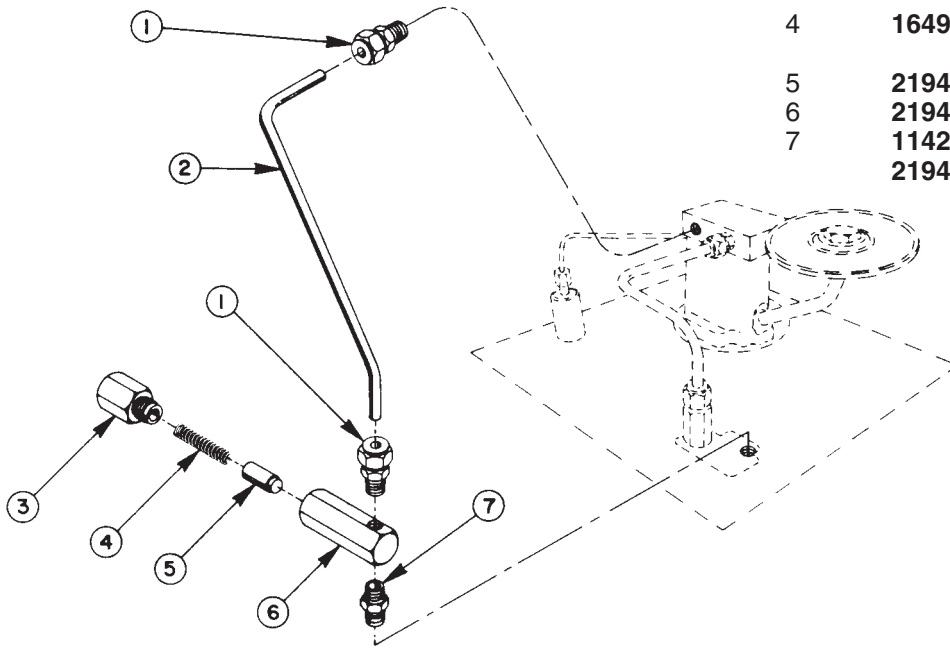


PORT SIZES: 3/8" NPTF
 MAXIMUM PRESSURE: 10,000 PSI
 MAX. RECOMMENDED FLOW: 5 GPM



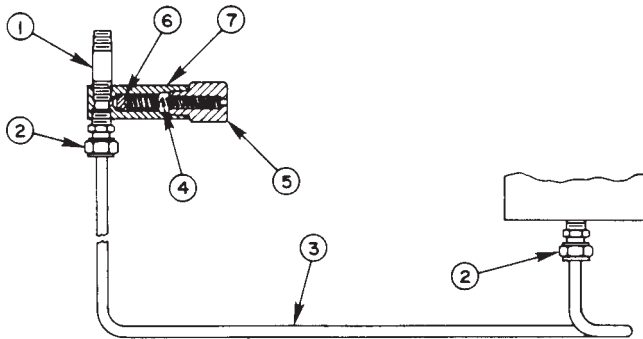
OPTIONAL PILOT OIL LINE/ACCUMULATOR ASSEMBLIES FOR USE WITH PQ20 SERIES PUMPS

Item No.	Part No.	No. Req'd	Description
1	11173	2	Connector
2	36754	1	Oil Line
3	202121	1	Spring Retainer (Torque to 50/70 in. lbs.)
4	16499	1	Compression Spring (1/4 O.D. X 2-3/16 Lg.)
5	21945	1	Plunger
6	21944	1	Cylinder Body
7	11421	1	Pipe Nipple
	21943	1	Accumulator Ass'y (Consists of items 3, 4, 5, & 6)



NOTE: The above parts are not included with this valve but are an option.

FOR USE WITH PE200 & PE400 SERIES PUMPS

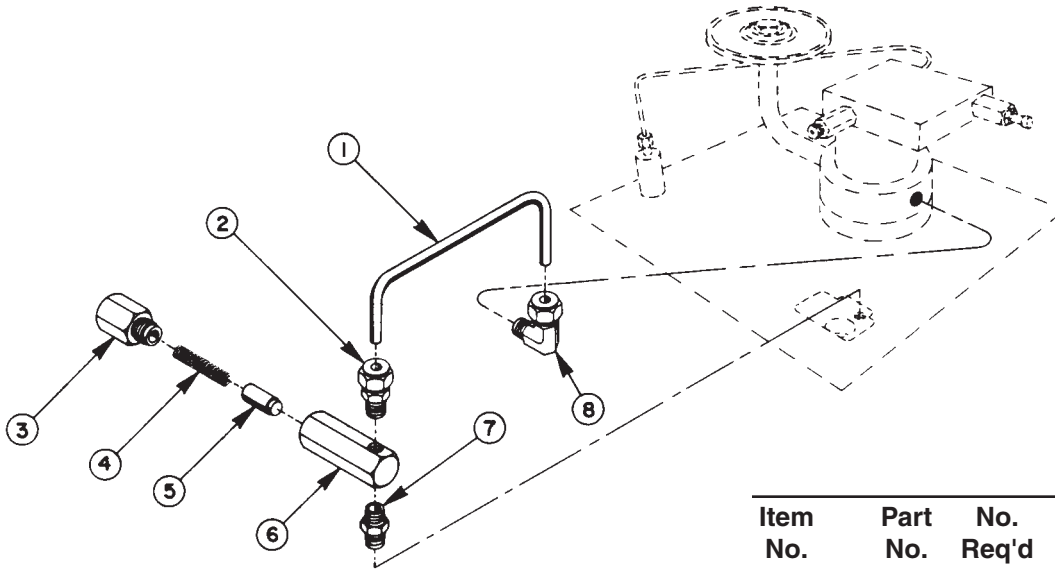


Item No.	Part No.	No. Req'd	Description
1	11530	1	Nipple
2	15061	2	Connector
3	44303	1	Oil Line
4	16499	1	Compression Spring (1/4 O.D. X 2-3/16 Lg.)
5	202121	1	Spring Retainer (Torque to 50/70 in. lbs.)
6	21945	1	Plunger
7	21944	1	Cylinder Body
	21943	1	Accumulator Ass'y (Consists of items 4, 5, 6, & 7)

NOTE: The above parts are not included with this valve but are an option.

OPTIONAL PILOT OIL LINE/ACCUMULATOR ASSEMBLIES Cont.

FOR USE WITH PQ60 & PQ120 SERIES PUMPS



NOTE: These parts are not included with this valve but are an option.

Item No.	Part No.	No. Req'd	Description
1	200405	1	Oil Line
2	11173	1	Connector
3	202121	1	Spring Retainer (Torque to 50/70 in. lbs.)
4	16499	1	Compression Spring (1/4 O.D. X 2-3/16 Lg.)
5	21945	1	Plunger
6	21944	1	Cylinder Body
7	11421	1	Pipe Nipple
8	11278	1	Connector
	21943	1	Accumulator Ass'y (Consists of item 3, 4, 5, & 6)