

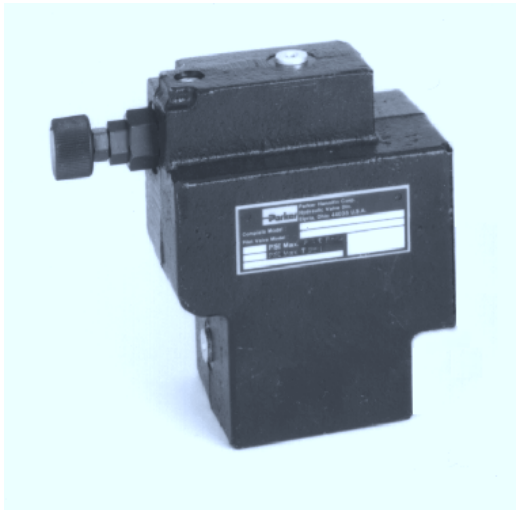


Bulletin 2533-M4/USA
Service Bulletin

Series S25M, S25P, S25S, S32P, S32S

Effective: July 1, 1995

Pilot Operated Sequence Valves





WARNING

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Series S25P, S25S, S32P, S32S

Service Parts Information

Inline Mounted Sequence Valve 1

Ordering Information

Inline Mounted Sequence Valve 2

Series S25M

Service Parts Information

Subplate Mounted Sequence Valve 3

Ordering Information

Subplate Mounted Sequence Valve 4

Series S

Service Parts Information

Universal Pilot Cartridges

Knob Adjustment 5

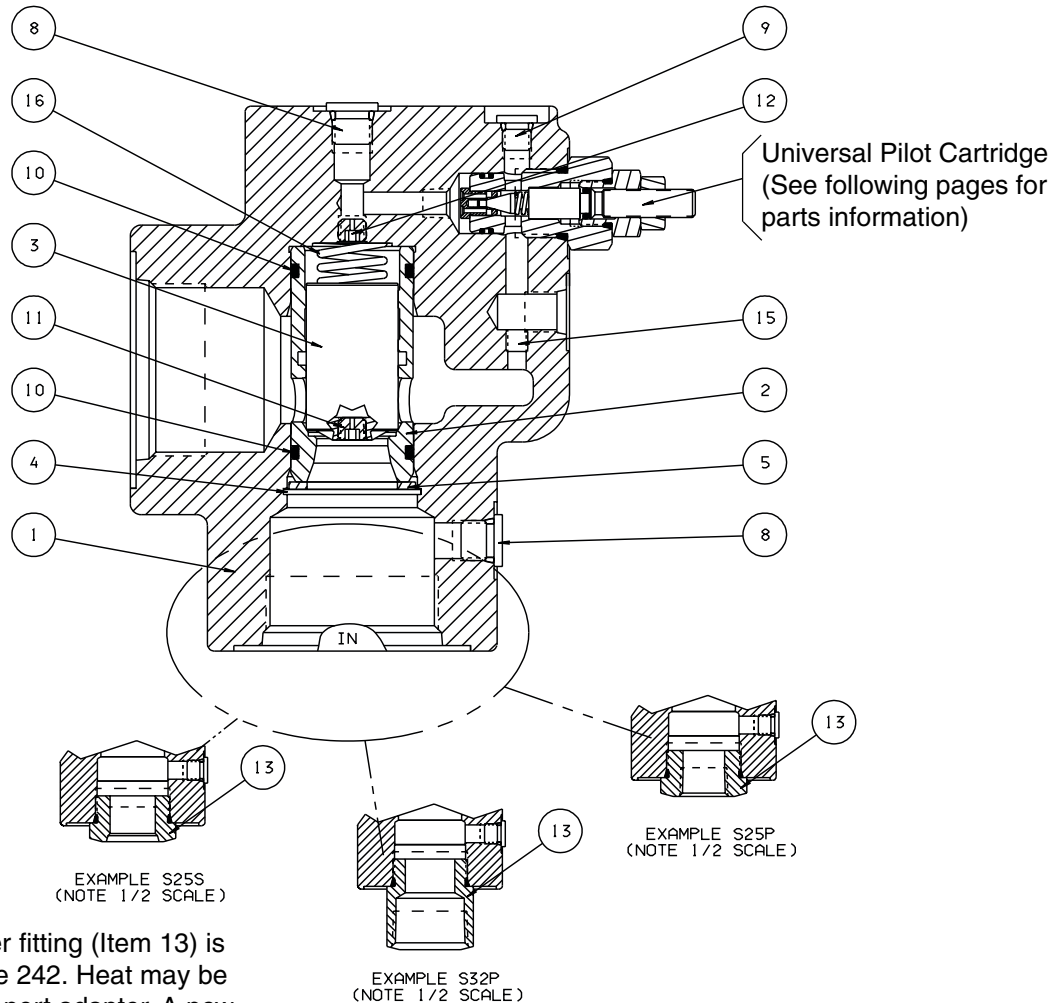
Screw Adjustment 5

Key Lock 6

Operation 6

Trouble-Shooting 7

Inline Mounted

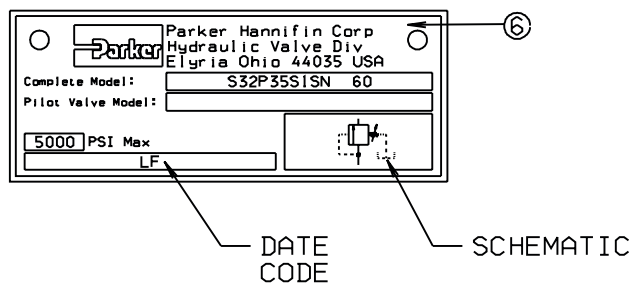


NOTE: Port adapter fitting (Item 13) is secured with Loctite 242. Heat may be required to remove port adapter. A new O-ring (3-920*-9) must be ordered)

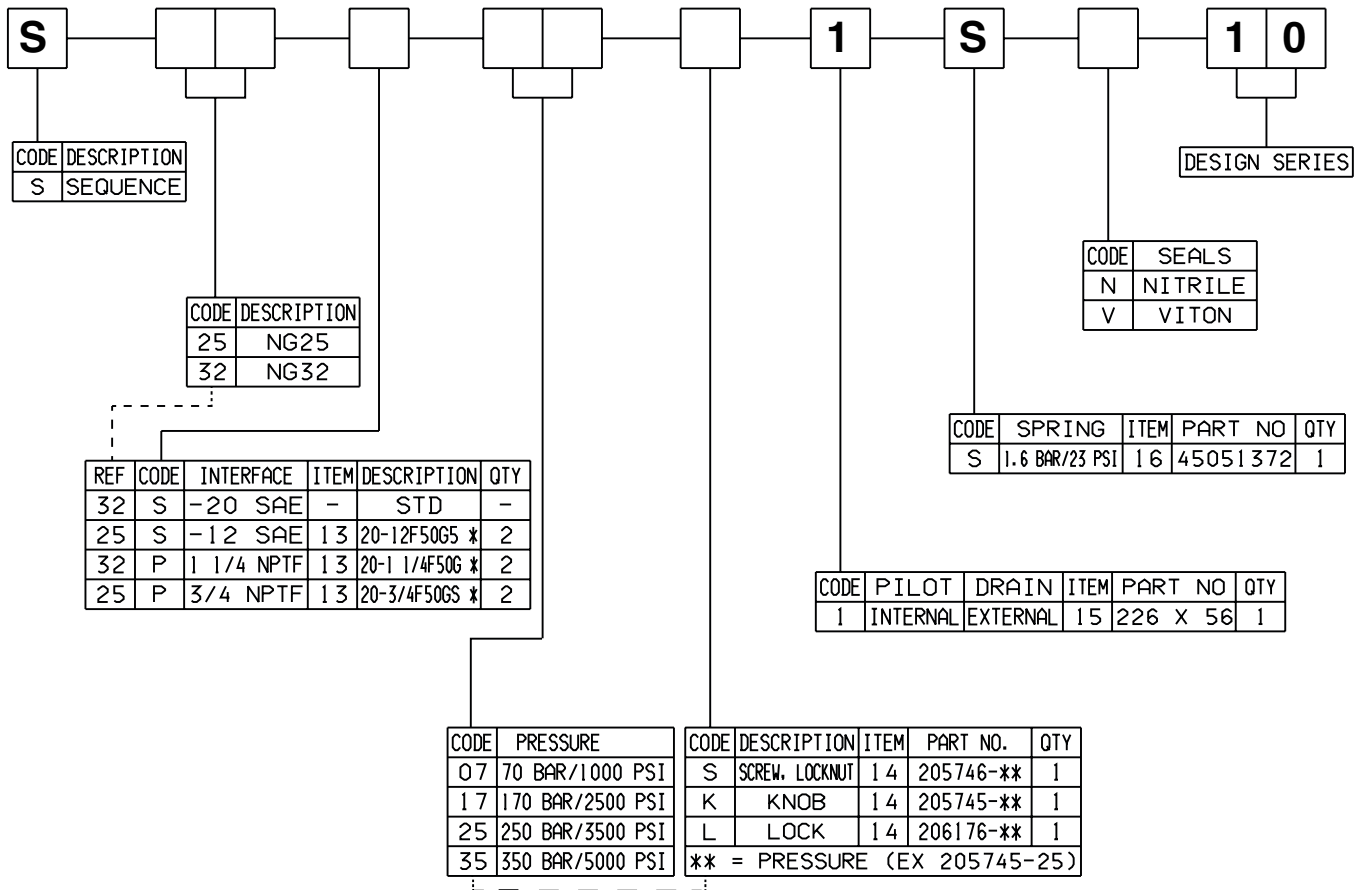
ITEM	PART NO	DESCRIPTION	QTY
1	1301382	BODY	1
2	35036377	SLEEVE	1
3	45036379	POPPET	1
4	5004004	SNAP RING	1
5	5000665	WASHER	1
6	1301449	NAMEPLATE	1
7	39 X 10	DRIVE SCREW	2
8	4HP50*-S	HEX PLUG	2
9	2HP50*-S	HEX PLUG	1
10	2-122*-9	O-RING	2
11	45033519	Ø.9 ORIFICE	1
12	45034721	Ø.1 ORIFICE	1

TUBE FITTING TORQUE AND LOCTITE GUIDE			
ITEM	FITTING	TORQUE	LOC-TITE (242)
8	4HP50*-S	135±10 IN.LB. (15±1 N.M.)	NO
9	2HP50*-S	35±10 IN.LB. (3±.5 N.M.)	NO
11	45033519	108±10 IN.LB. (12±1 N.M.)	YES
12	45034721	108±10 IN.LB. (12±1 N.M.)	YES
13	20-12F50G5 *	225±12 FT.LB. (304±16 N.M.)	YES
13	20-1 1/4F50G *	225±12 FT.LB. (304±16 N.M.)	YES
13	20-3/4F50G5 *	225±12 FT.LB. (304±16 N.M.)	YES
15	226 X 56	60±6 IN.LB. (7±.7 N.M.)	YES

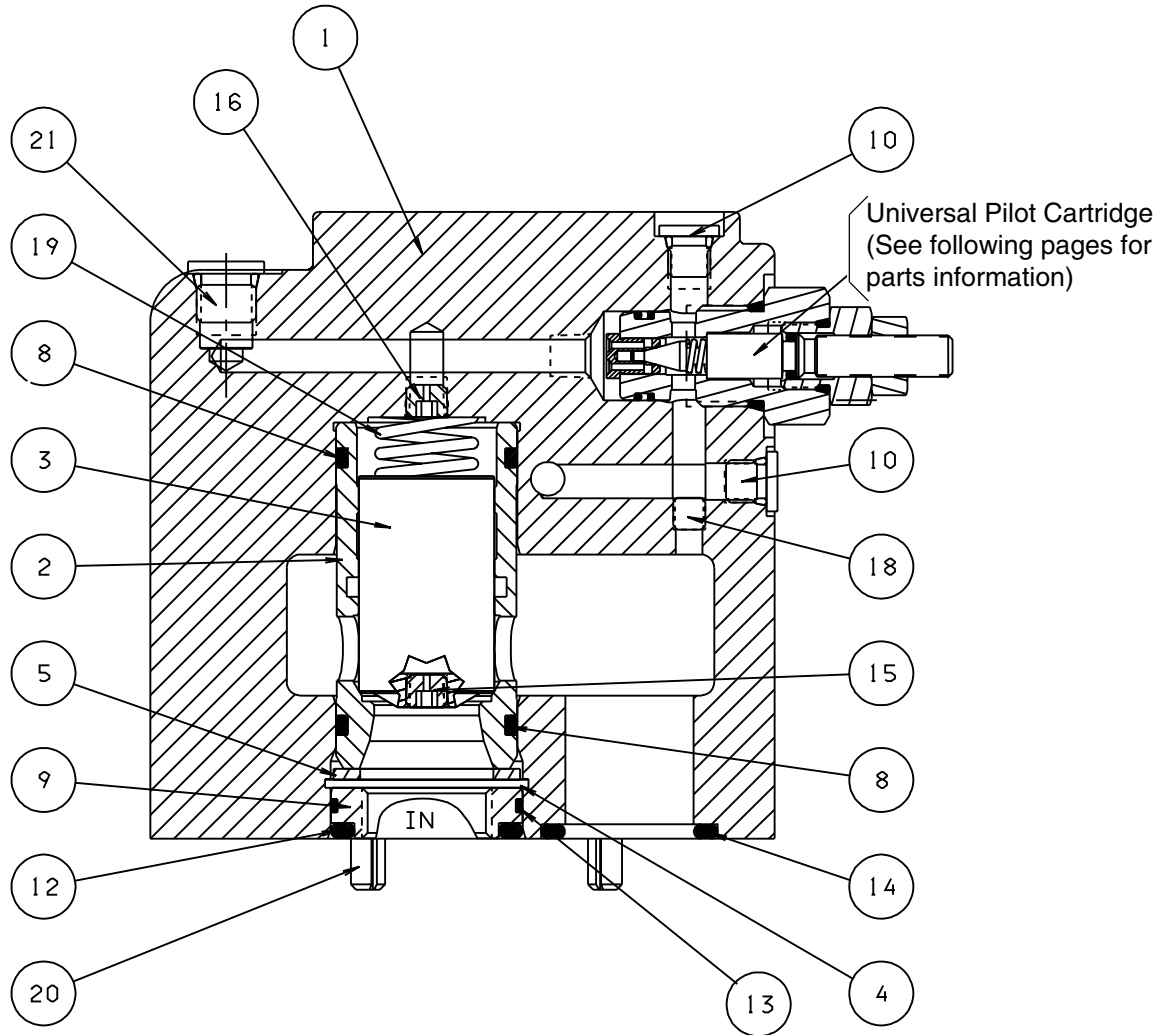
NAMEPLATE EXAMPLE



Inline Mounted



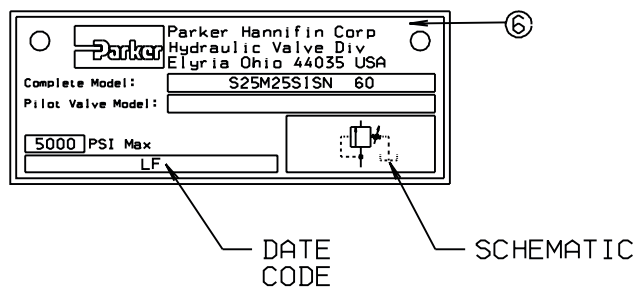
Subplate Mounted



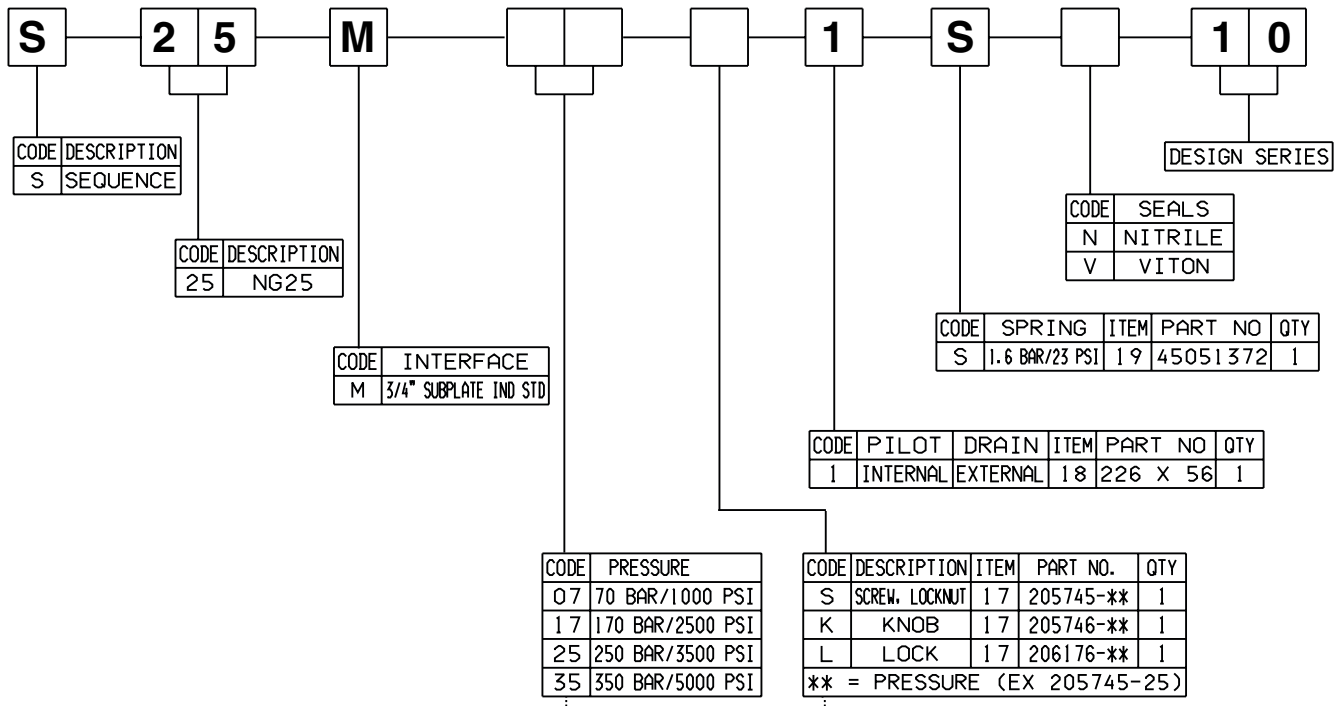
ITEM	PART NO	DESCRIPTION	QTY
1	1301492	BODY	1
2	35036377	SLEEVE	1
3	45036379	POPPET	1
4	5004004	SNAP RING	1
5	5000665	WASHER	1
6	1301449	NAMEPLATE	1
7	39 X 10	DRIVE SCREW	2
8	2-122*-9	O-RING	2
9	45037736	SPACER	1
10	2HP50*-S	HEX PLUG	3
11	2-012*-9	O-RING	1
12	2-217*-9	O-RING	1
13	2-027*-9	O-RING	1
14	2-215*-9	O-RING	1
15	45033519	Ø0.9 ORIFICE	1
16	45034721	Ø1.1 ORIFICE	1
20	99 X 125	ROLL PIN	2
21	4HP50*-S	HEX PLUG	1

TUBE FITTING TORQUE AND LOC-TITE GUIDE			
ITEM	FITTING	TORQUE	LOC-TITE (242)
10	2HP50*-S	35±10 IN.LB. (3±.5 N.M.)	NO
15	45033519	108±10 IN.LB. (12±1 N.M.)	YES
16	45034721	108±10 IN.LB. (12±1 N.M.)	YES
18	226 X 56	60±6 IN.LB. (7±.7 N.M.)	YES

NAMEPLATE EXAMPLE

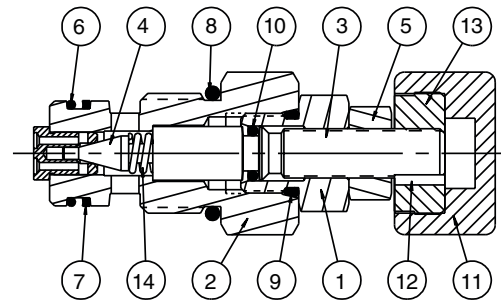
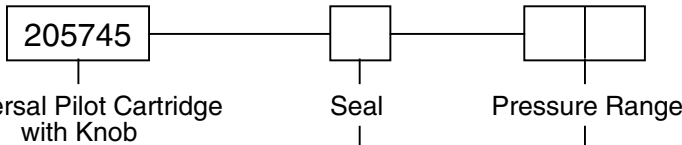


Subplate Mounted



Bolt Kits
 BK156 (3/8"-16x4")
 Torque 25 ft.-lbs.

**Universal Pilot Cartridges
Knob Adjustment**



ITEM	PART NO.	DESCRIPTION	QTY.
1	700460	END PLUG	1
2	002193	PILOT HOUSING (S.A.)	1
3	058514	ADJUSTING SCREW	1
4	703007	DART	1
5	058540	HEX JAM NUT	1
6	2-014Δ-7	O-RING	1
7	8-014Δ-9	PARBAK RING	1
8	3-908Δ-9	O-RING	1
9	3-905Δ-9	O-RING	1
10	2-009Δ-9	O-RING	1
11	058538	KNOB	1
12	117 X 2	DOWEL PIN	1
13	058511	HANDLE NUT	1

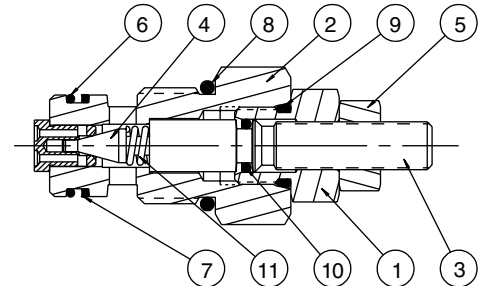
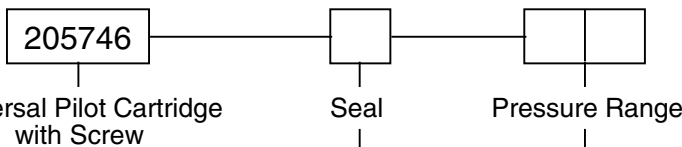
CODE	MATERIAL
N	NITRILE
V	VITON

CODE	PRESSURE RANGE	ITEM	PART NO.	DESCRIPTION	QTY.
07	10-70 BAR (150-1000 PSI)	14	678884	SPRING	1
17	10-175 BAR (150-2500 PSI)	14	678885	SPRING	1
25	10-250 BAR (150-3500 PSI)	14	679935	SPRING	1
35	10-345 BAR (150-5000 PSI)	14	700465	SPRING	1

Δ refers to material.
Use N for nitrile, V for Viton.

205745 can be made from 205746 (below) with the addition of Items 11, 12 and 13.

**Universal Pilot Cartridges
Screw Adjustment**



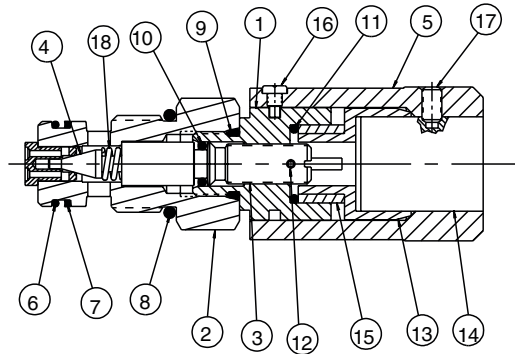
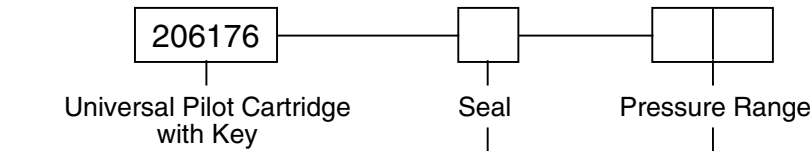
ITEM	PART NO.	DESCRIPTION	QTY.
1	700460	END PLUG	1
2	002193	PILOT HOUSING (S.A.)	1
3	058514	ADJUSTING SCREW	1
4	703007	DART	1
5	058540	HEX JAM NUT	1
6	2-014Δ-7	O-RING	1
7	8-014Δ-9	PARBAK RING	1
8	3-908Δ-9	O-RING	1
9	3-905Δ-9	O-RING	1
10	2-009Δ-9	O-RING	1

CODE	MATERIAL
N	NITRILE
V	VITON

CODE	PRESSURE RANGE	ITEM	PART NO.	DESCRIPTION	QTY.
07	10-70 BAR (150-1000 PSI)	11	678884	SPRING	1
17	10-175 BAR (150-2500 PSI)	11	678885	SPRING	1
25	10-250 BAR (150-3500 PSI)	11	679935	SPRING	1
35	10-345 BAR (150-5000 PSI)	11	700465	SPRING	1

Δ refers to material.
Use N for nitrile, V for Viton.

**Universal Pilot Cartridges
Key Lock**



ITEM	PART NO.	DESCRIPTION	QTY.
1	700473	END PLUG	1
2	002193	PILOT HOUSING (S.A.)	1
3	700470	ADJUSTING SCREW	1
4	703007	DART	1
5	700469	SET COLLAR	1
6	2-014Δ-7	O-RING	1
7	8-014Δ-9	PARBAK RING	1
8	3-908Δ-9	O-RING	1
9	3-905Δ-9	O-RING	1
10	2-009Δ-9	O-RING	1
11	3-906N-7	O-RING	1
12	007186	DOWEL PIN	1
13	700472	COUPLING	1
14	007831	LOCK W/KEY	1
15	700471	SLEEVE	1
16	007832	SCREW	1
17	007833	SET SCREW	1

CODE	MATERIAL
N	NITRILE
V	VITON

CODE	PRESSURE RANGE	ITEM	PART NO.	DESCRIPTION	QTY.
07	10-70 BAR (150-1000 PSI)	18	678884	SPRING	1
17	10-175 BAR (150-2500 PSI)	18	678885	SPRING	1
25	10-250 BAR (150-3500 PSI)	18	679935	SPRING	1
35	10-345 BAR (150-5000 PSI)	18	700465	SPRING	1

206176 can be made from 205746 with the addition of Items 1, 3, and 12 through 17. Delete 058514 and 700460 from 205746.

Δ refers to material.
Use N for nitrile, V for Viton.

Operation

A pilot operated sequence valve is a normally closed valve designed that is designed to open and provide flow to a secondary circuit once pressure in the primary circuit reaches a pressure level determined by the setting of the pilot adjustment. For proper function it is a requirement to connect the pilot drain line from the sequence valve directly to tank at low back pressure.

In operation the inlet of the sequence valve is connected to the primary hydraulic supply and the outlet is connected to the secondary function. As long as the inlet pressure remain below the pilot setting of the sequence valve, the poppet is held closed by the

bias spring and flow is blocked from the outlet port. Once the inlet pressure reaches the setting of the pilot setting, the pilot dart will open creating a pilot flow. The pilot flow results in a pressure drop across the control orifice in the main poppet. The pressure differential allows the main poppet to open by compressing the bias spring and providing flow to the outlet port connected to the secondary function in the system. In the event that the primary pressure drops below the pilot setting, the pilot dart will close causing the bias spring to close the poppet which shuts off flow to the outlet port.

Symptom	Cause	Solution
No flow to secondary	<i>Drain line obstructed</i>	Inspect and clean drain line as required.
	<i>Plugged/blocked control orifices</i>	Remove and clean as required.
	<i>Primary Pressure does not achieve pilot setting</i>	Check main system relief/pump compensator setting. Check for valve diverting flow in primary circuit.
	<i>Main poppet sticking clean and reassemble</i>	Check main poppet for free operation.
Valve opens prematurely	<i>Plugged/blocked control orifices</i>	Remove and clean as required.
	<i>Pilot dart will not seat</i>	Remove pilot cartridge, disassemble, clean and reassemble.
	<i>Leaking pilot cartridge o-rings</i>	Remove pilot cartridge, inspect seals. Replace as required.
	<i>Pilot incorrectly adjusted</i>	Install pressure gage and readjust.
	<i>Main poppet stuck</i>	Check for free operation through discharge port.



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