



Bulletin 2537-M4/USA Service Bulletin Series CPOM

Effective: November 11, 1996



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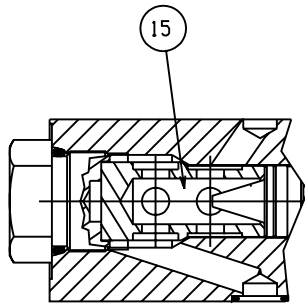
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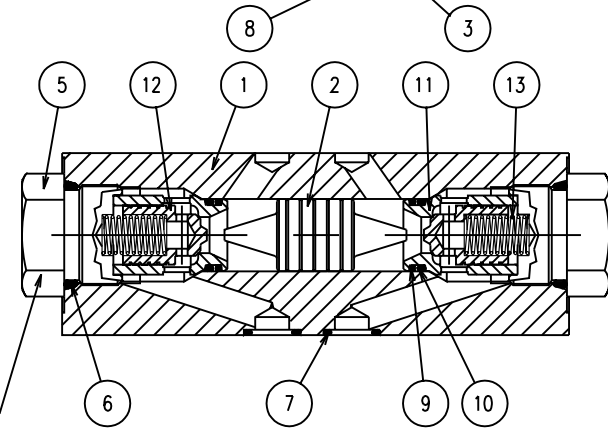
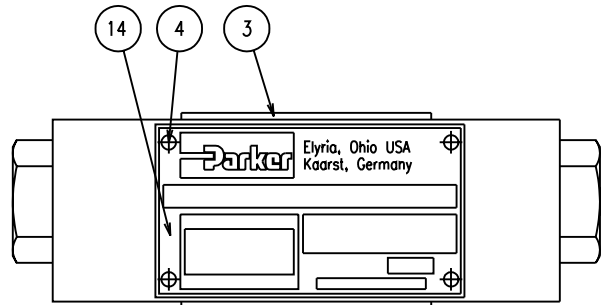
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POPPET OPTION BB SHOWN



Torque to:
119±5 N-m
(85±4 ft-lbs)

POPPET OPTION DD SHOWN

Ordering Information

CPOM2

Check Pilot
Operated Manapak

□

Poppet
Option

□

Seal
Compound

50

Design
Code

Item	Part No.	Quantities			Description
		DD	AA	BB	
1	1301348	1	1	1	Body
2	002232	1	1	1	Piston
3	697628	2	2	2	Shipping Plate
4	1301066	4	4	4	Stick Screw
5	002371	2	2	2	End Cap
6	3-912*-9	2	2	2	O-Ring
7	2-012□-9	4	4	4	O-Ring
8	99X37	1	1	1	Roll Pin
9	2-014□-7	2	1	1	O-Ring
10	8-014□-9	2	1	1	Parbak Ring
11	1301091	2	1	1	Check Assembly
12					
13	612652	2	1	1	Spring
14	1301260	1	1	1	Nameplate

□ Denotes Seal Compound.

Code	Description
V	Fluorocarbons
E	EPR
N	Nitrile

Code	Item	Part No.	Qty.	Description
DD	---	---	---	---
AA	15	002298	1	Cartridge Blank
BB	15	002298	1	Cartridge Blank

SAE Bolt Kits

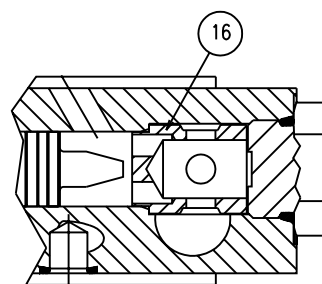
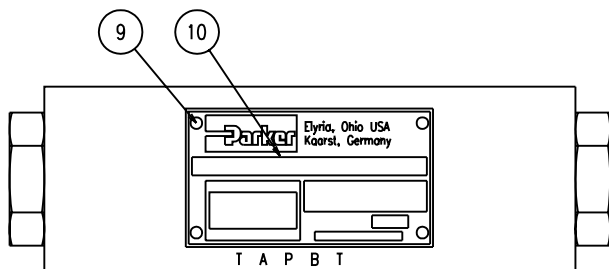
Manapak & Valve Combination	Bolt Kit	Description	Qty./Kit	Torque IN-LBS.
D1V* Valve (Non-explosion proof)	BK209	10-24 X 1.25	4	50
1 Manapak & D1V* Valve	BK243	10-24 X 2.88	4	50
2 Manapak & D1V* Valve	BK225	10-24 X 4.38	4	50
3 Manapak & D1V* Valve	BK244	10-24 X 6.00	4	50
4 Manapak & D1V* Valve	BK245	10-24 X 7.50	4	50

Note: Bolt kits must be ordered separately.

Metric Bolt Kits

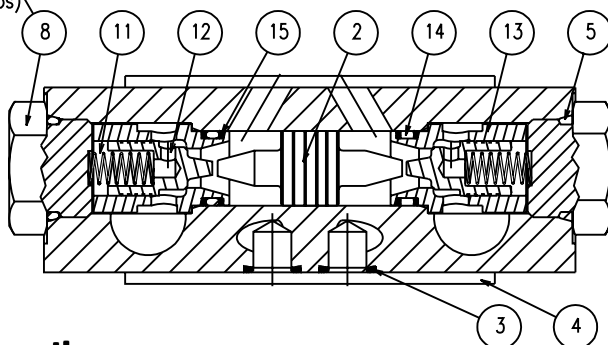
Manapak & Valve Combination	Bolt Kit	Description	Qty./Kit	Torque NM
D1V* Valve (Non-explosion proof)	BK375	M5-0.8 X 30	4	5.7
1 Manapak & D1V* Valve	BK400	M5-0.8 X 70	4	5.7
2 Manapak & D1V* Valve	BK405	M5-0.8 X 110	4	5.7
3 Manapak & D1V* Valve	BK429	M5-0.8 X 150	4	5.7
4 Manapak & D1V* Valve	TK400	M5-0.8 X 205	4	5.7

Note: Bolt kits must be ordered separately.



OPTION BB SHOWN

Torque to:
146±5 N-m
(108±4 ft-lbs)



Ordering Information



Item	Part No.	Quantities			Description
		DD	AA	BB	
1	1301350	1	1	1	Body
2	004856	1	1	1	Piston
3	2-014⊙-9	5	5	5	O-Ring
4	679192	2	2	2	Shipping Plate
5	3-912⊙-9	2	2	2	O-Ring
6	8HP50⊙-S	2	2	2	Plug
7	4HP50⊙-S	2	2	2	Plug
8	062050	2	2	2	End Plug
9	1301066	4	4	4	Stick Screw
10	1301260	1	1	1	Nameplate
11	062054	2	1	1	Spring
12	1301917	2	1	1	Check Assembly
13					
14	2-114⊙-7	2	1	1	O-Ring
15	8-114⊙-9	4	2	2	Parbak Ring

⊙ Denotes Seal Compound.

Code	Description
V	Fluorocarbons
E	EPR
N	Nitrile

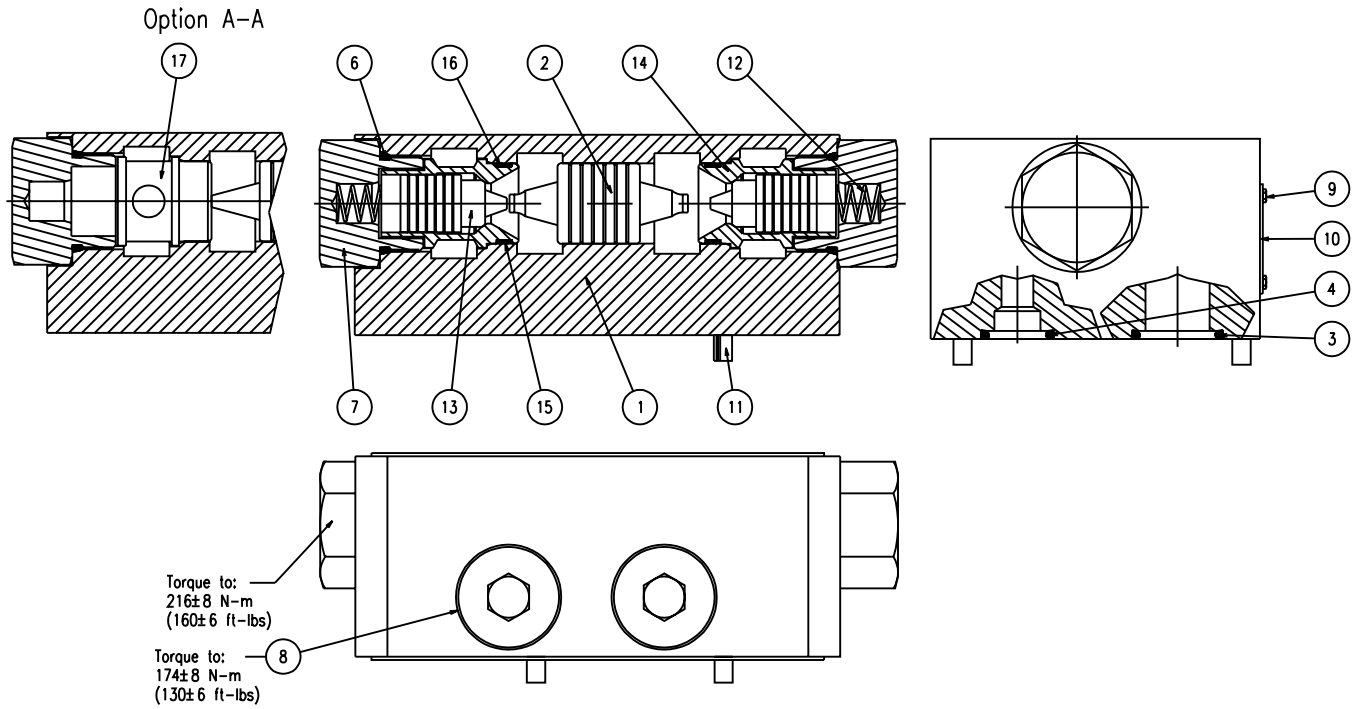
Code	Item	Part No.	Qty.	Description
DD	--	---	---	---
AA	16	062047	1	Cartridge Blank
BB	16	062047	1	Cartridge Blank

SAE Bolt Kits					
Manapak/Valve Combination	D3W	D3 Manaplug w/ Extension	Bolt length Inch	D3DW & D31VW	Bolt length Inch
D3 (Non-explosion proof)	*BK226	*BK80	2.25	BK98	1.63
1 Manapak +D3	*BK61	*BK91	4.25	*BK141	3.50
2 Manapak +D3	*BK62	*BK94	6.25	*BK142	5.50
3 Manapak +D3	*BK63	*BK95	8.25	*BK33	7.50

-Bolt kits are ordered separately.
-All bolts are 1/4-20 and grade 8.
-Torque for all D3 bolts: 12 ft-lbs.
-Size 3 Manapaks are 2.0 thick.
*-For 3000 PSI applications only.

Metric Bolt Kits					
Manapak/Valve Combination	D3W	D3 Manaplug w/ Extension	Bolt length MM	D3DW & D31VW	Bolt length MM
D3 (Non-explosion proof)	*BK310	*BKM80	55	BKM98	40
1 Manapak +D3	*BK311	*BKM91	105	*BKM141	90
2 Manapak +D3	*BK312	*BKM94	169	*BKM142	140
3 Manapak +D3	*BK313	*BKM95	219	*BKM33	190

-Bolt kits are ordered separately.
-All bolts are M6-1 and grade 12.9.
-Torque for all D3 bolts: 16.3 NM.
-Size 3 Manapaks are 50.0 thick.
*-For 3000 PSI applications only.



Ordering Information

CPOM6

Check Pilot
Operated Manapak

□

Poppet
Option

□

Seal
Compound

31

Design
Code

Item	Part No.	Quantities			Description
		DD	AA	BB	
1	011279	1	1	1	Body
2	010731	1	1	1	Piston
3	2-214○-7	4	4	4	O-Ring
4	2-210○-7	2	2	2	O-Ring
5	691139	2	2	2	Shipping Plate
6	3-916○-9	2	2	2	O-Ring
7	010728	2	2	2	End Plug
8	14HP50○-S	2	2	2	Plug
9	1301066	4	4	4	Stick Screw
10	1300448	1	1	1	Nameplate
11	99x125	2	2	2	Roll Pin
12	010956	2	1	1	Spring
13	011128	2	1	1	Check Assembly
14					

○ Denotes Seal Compound.

Code	Item	Part No.	Qty.	Description
DD	15	2-022○-7	2	O-Ring
	16	8-022○-9	4	Parbak Ring
AA	15	2-022○-7	1	O-Ring
	16	8-022○-9	2	Parbak Ring
	17	010727	1	Cartridge Blank
BB	15	2-114○-7	1	O-Ring
	16	8-114○-9	2	Parbak Ring
	17	010727	1	Cartridge Blank

Code	Description
V	Fluorocarbons
E	EPR
N	Nitrile

Bolt Kits				
Manapak & Valve Combination	Part Number	Description	Qty. / Kit	Torque to:
D6W Valve	BK120	1/2-13 UNC X 2.50	6	80 ft-lbs.
1 Manapak & D6VW Valve	BK121	1/2-13 UNC X 5.25	6	80 ft-lbs.
2 Manapak & D6VW Valve	BK122	1/2-13 UNC X 8	6	80 ft-lbs.
3 Manapak & D6VW Valve	BK123	1/2-13 UNC X 10.75	6	80 ft-lbs.
4 Manapak & D6VW Valve	BK124	1/2-13 UNC X 13.50	6	80 ft-lbs.

Note: Bolt kits must be ordered separately.

Operation

A pilot operated check valve works as a standard check valve when flow is travelling from inlet to outlet. A check valve allows flow in one direction and blocks flow in the opposite direction. When the system pressure at the check valve inlet is high enough to overcome the spring force biasing the poppet, the poppet is pushed off its seat. Flow then passes through the valve. When fluid flow attempts to enter

through the outlet, the poppet is forced on its seat and, flow through the valve is blocked. When enough pilot pressure is sensed at the pilot piston, the piston is moved and unseats the check valve poppet permitting flow from the outlet port to the inlet port. Flow can pass through the valve from outlet to inlet as long as sufficient pilot pressure is acting on the pilot piston.

Trouble Shooting

Problem	Cause	Solution
No flow through the valve	<i>Broken spring</i>	Replace spring.
	<i>Valve installed backwards</i>	Reverse connection.
No reverse flow through pilot operated valve	<i>Lack of sufficient pilot pressure or pilot ratio</i>	Check pilot pressure, increase as necessary. Verify sufficient pilot ratio.
	<i>Pilot piston binding</i>	Disassemble and clean valve.
Excessive leakage through check	<i>Pilot pressure present</i>	Check for pilot pressure. Consider pilot ratio.
	<i>Contamination lodged in poppet seat</i>	Inspect and remove.
	<i>Poppet seat O-ring seal failure</i>	Inspect and replace seals as required.
	<i>Pilot piston binding</i>	Disassemble and clean valve.



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