

Bulletin HY14-2101-M2/US Service Parts Bulletin

Series VPL Proportional Valves Series 4, 5, 6 and "Y"

Effective: September 1, 2002

Supersedes: Cat. No. PMF 1032 dated 3/98



Pulsar[™] Stackable Valves

/ WARNING

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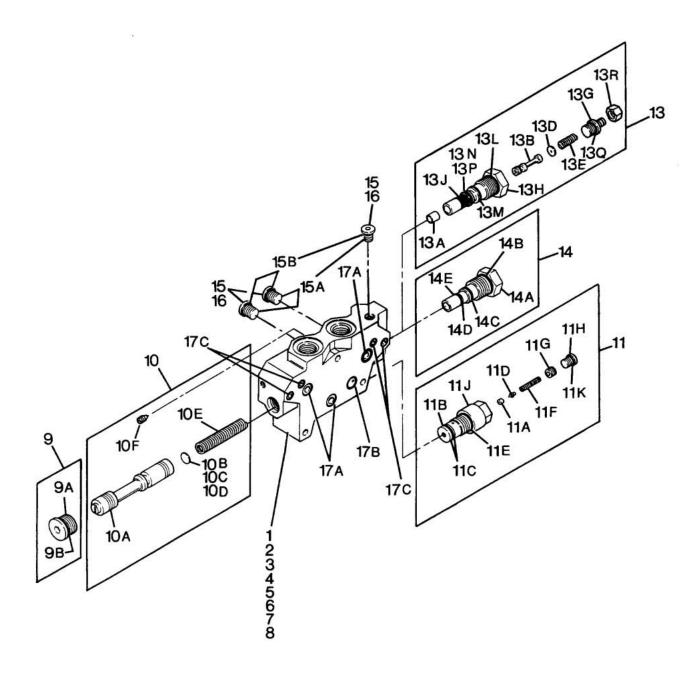
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VPL Service Parts List VBL Bypass Unloading Inlet

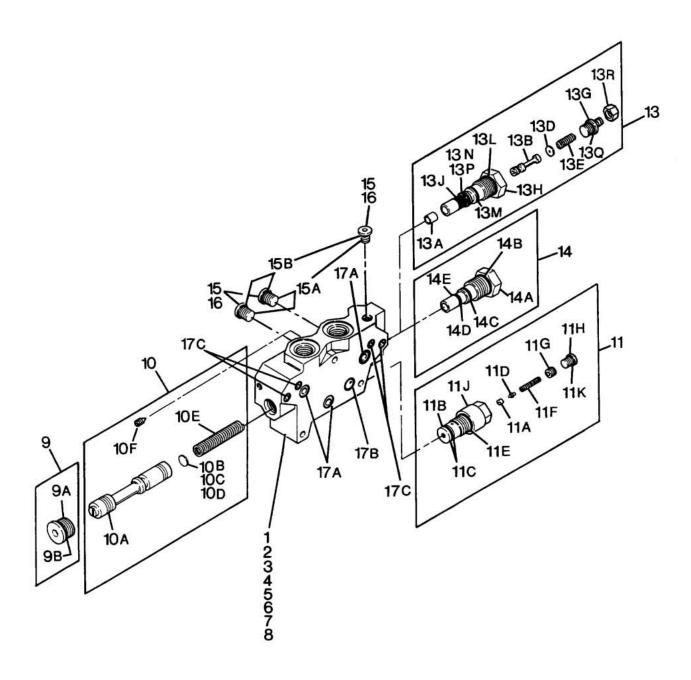


tem	Description	Quantity	Part Number
1	Bypass Inlet External Pilot, SAE Ports	1	VBL 2201-***4F
2	Bypass Inlet Internal Pilot, SAE Ports	í	VBL 2211-***4
3	Bypass Inlet External Pilot, BSPP Ports	1	VBL 2201-***5
4	Bypass Inlet Internal Pilot, BSPP Ports	1	VBL 2211-***5
5	Bypass Inlet with Power Beyond External Pilot, SAE Ports	1	VBL 2401-***4
5	Bypass Inlet with Power Beyond Internal Pilot, SAE Ports	1	VBL 2411-***4
7	Bypass Inlet with Power Beyond External Pilot, BSPP Ports	1	VBL 2401-***5
8	Bypass Inlet with Power Beyond Internal Pilot, BSPP Ports	1	VBL 2411-***5
9	Hex Plug Consists of:	1	B1006.006
9A	Plug	1	N/A
9B	O-Ring (-908)	1	N/A
10	Bypass Inlet Spool Kit	1	VBLSBK1
	Consists of:	1	N/A
10A	Bypass Spool	3	N/A
10B	.025" Shim (0,635 mm)	3	N/A
10C	.008" Shim (0,203 mm)	3	N/A
10D	.003" Shim (0,076 mm)	ĭ	N/A
10E 10F	Spring Orifice Screw	i	N/A
11	Relief Valve Cartridge Kit	1	VPLRVK1
114	Consists of: Seat	1	N/A
11A 11B	O-Ring (-014)	i	N/A
11C	Back-up Ring	2	N/A
110	Relief Poppet	ī	N/A
11E	O-Ring (-908)	. 1	N/A
11F	Relief Spring	1	N/A
11G	Adjustment Screw	1	N/A
11H	Hex Plug	1	N/A
11J	Relief Plug	1	N/A
11K	O-Ring (-902)	1	N/A

For Inlet relief valve pressure setting:

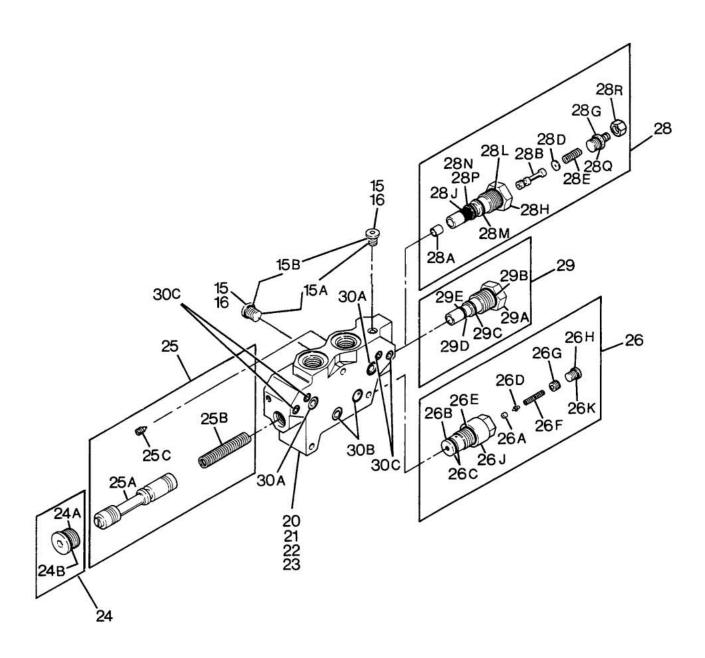
- *** = Pressure setting in PSI x 0.1
- *** = Pressure setting in BAR x 1.45

VPL Service Parts List VBL Bypass Unloading Inlet



VPL Service Parts List VBL Bypass Unloading Inlet (Continued)

lem	Description	Quantity	Part Number
13	Pilot Cartridge Kit	1	VALPCK1
	Consists of:		
13A	Construction Plug	4	NIZA
13B	Pilot Reducing Spool	1	N/A
13D	Spring Guide	1	N/A
13E	Pilot Reducing Spring	1	N/A
13G	Adjustment Screw	1	N/A
13H	Pilot Cartridge Body	1	N/A
13J	Filter	1	N/A
13L	O-Ring (-908)	1	N/A
13M	O-Ring (-014)	1	N/A
13N	Back-up Ring (-013)	1	N/A
13P	O-Ring (-013)	1	N/A
13Q	O-Ring (-904)	1	N/A
13R	Lock Nut	1	N/A
14	External Pilot Plug Kit	1	VALPPK1
	Consists of:		NI/A
14A	Cartridge Plug	į	N/A
14B	O-Ring (-908)	1	N/A
14C	O-Ring (-014)	ļ	N/A
14D	Back-up Ring (-013)	į	N/A
14E	O-Ring (-013)	1	N/A
15	Plug Kit Consists of:	1	B1003.006
15A	Plug	1	N/A
15B	O-Ring (-904)	1	N/A
16	Load Sense Plug - BSPP Port	1	DB1491.006
17	Inlet Seal Kit	1	VBLSK2
00	Consists of:	1	N/A
9B	O-Ring (-908)	i	N/A
11B	O-Ring (-014)	2	N/A
110	Back-up Ring (-014)	1	N/A
11E	O-Ring (-908)	1	N/A
IIK	O-Ring (-902)	1	N/A
13J	Filter		
13L	O-Ring (-908)]	N/A
13M	O-Ring (-014)	1	N/A
13N	Back-up Ring (-014)		N/A
13P	O-Ring (-013)	1	N/A
13Q	O-Ring (-904)	1	N/A
14B	O-Ring (-908)	1	N/A
14C	O-Ring (-014)	1	N/A
14D	Back-up Ring (-013)	1	N/A
14E	O-Ring (-013)	1	N/A
15B	O-Ring (-904)	3	N/A
17A	O-Ring (-114)	3 3	N/A
1//		•	
17B	O-Ring (-112)	1	N/A



VPL Service Parts List VYL Load Sensing Inlet

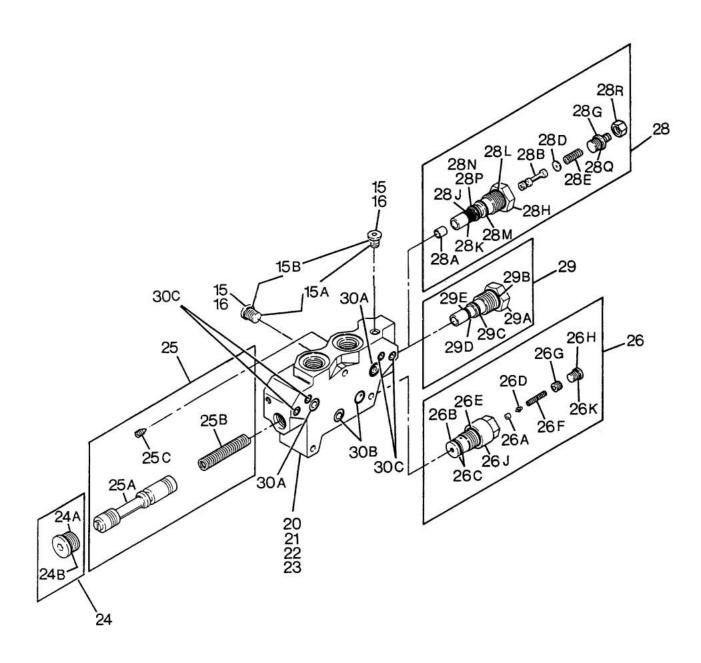
ltem	Description	Quantity	Part Number
20	Load Sense Inlet External Pilot, SAE Ports	1	VYL 2201-***4F
21	Load Sense Inlet Internal Pilot, SAE Ports	1	VYL 2211-***4F
22	Load Sense Inlet External Pilot, BSPP Ports	1	VYL 2201-***5F
23	Load Sense Inlet Internal Pilot, BSPP Ports	1	VYL 2211-***5F
24	Hex Plug Consists of:	1	B1006.006
24A	Plug	3	N/A
24B	O-Ring (-908)	1	N/A
25	Relief Inlet Spool Kit	1	VYLSRK1
054	Consists of:	9	N/A
25A	Relief Spool	ţ	N/A N/A
25B	Spring	1	N/A N/A
25C	Setscrew Plug	8 L	N/A
26	Relief Valve Cartridge Consists of:	1	VPLRVK1
26A	Seat	1	N/A
26B	O-Ring (-014)	i	N/A
26C	Back-Up Ring	2	N/A
26D	Relief Poppet	ī	N/A
26E	O-Ring (-908)	1	N/A
26F	Relief Spring	1	N/A
26G	Adjustment Screw	1	N/A
26H	Hex Plug	1	N/A
26J	Compensator Plug	i	N/A
26K	O-Ring (-902)	1	N/A

N/A - Not Available As A Loose Part

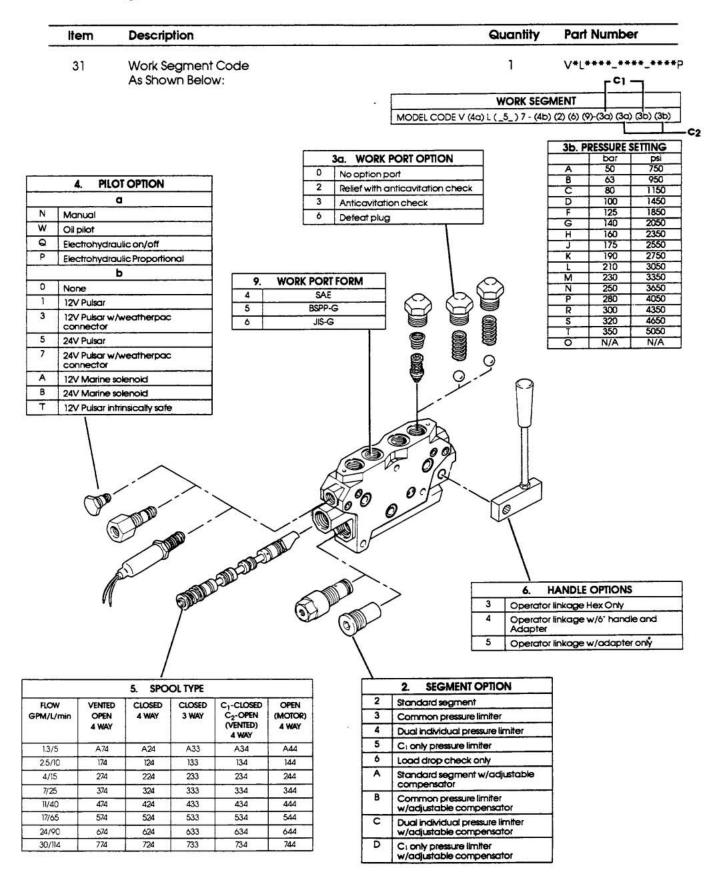
For Inlet relief valve pressure setting:

- *** = Pressure setting in PSI x 0.1
- *** = Pressure setting in BAR x 1.45

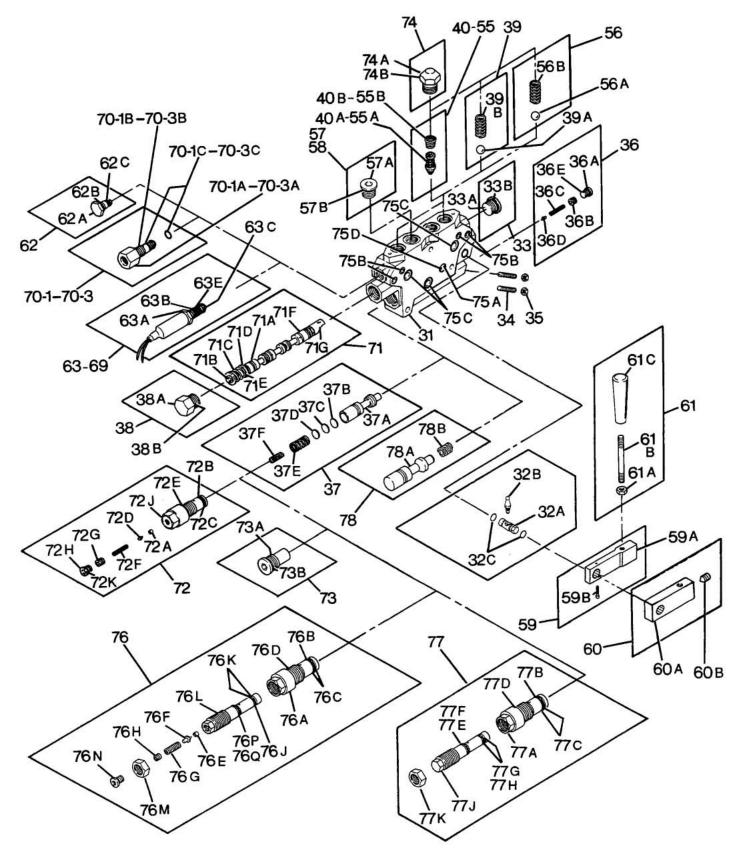
VPL Service Parts List
VYL Load Sensing Inlet (Continued)



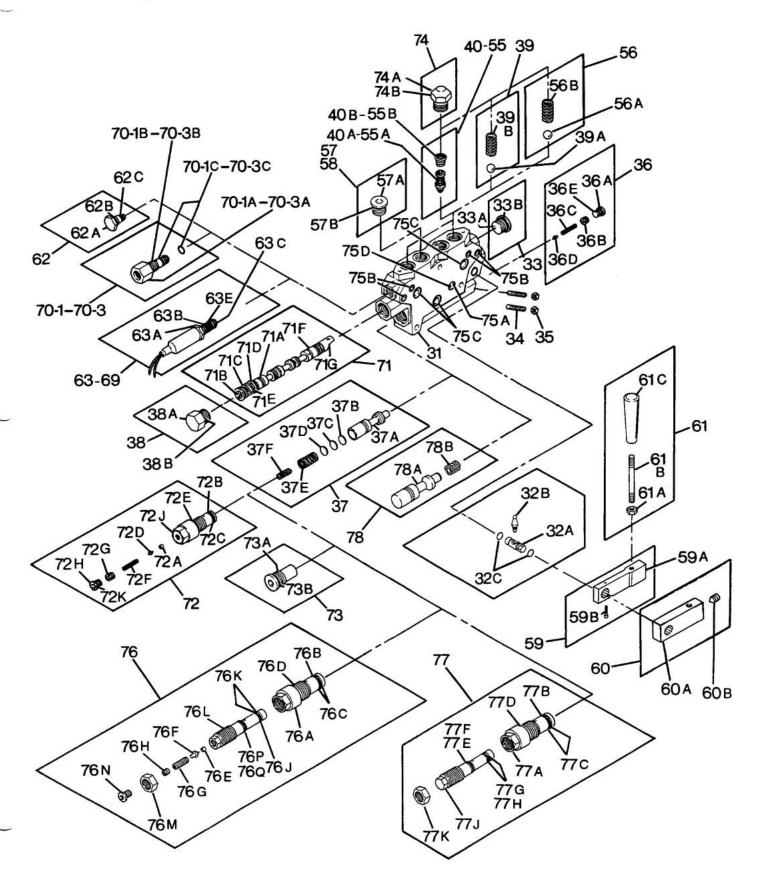
1 1 1 1 1	VALPCK1 N/A N/A
1 1 1	
1 1 1	
1 1 1	N/A
1 1 1	
]]	N/A
1	N/A
1	N/A
	N/A
2	N/A
1	N/A
. i	N/A
1	VALPPK1
2	
1	B1003.006
1	N/A
1	N/A
1	DB1491.006
1	N/A
1	N/A
i	N/A
i	N/A
i	N/A
1	VBLSK2
1	N/A
1	N/A
2	N/A
1	N/A
1	N/A
i	N/A
í	N/A
i	N/A
í	N/A
4	N/A
	N/A
	N/A
	1 1 3 1 4



tem	Description	Quantity	Part Number
32	Handle Shaft Kit	1	VPLMHK2
	Consists of:		
32A	Shaft	1	N/A
32B	Linkage	1	N/A
32C	O-Ring (-012)	2	N/A
33	Socket Plug		B1006.006
(F)(E)(6	Consists of:		
33A	Plug	1	N/A
33B	O-Ring (-908)	1	N/A
34	Set Screw	1	DB5319.027
35	Seal Nut	1	DB1545.021
36	C ₂ Pressure Limiter Kit Consists of:	1	VPLRVK2
36A	Socket Hex Plug	ì	N/A
36B	Adjustment Screw	i	N/A
36C	Pressure Limiter Spring	i	N/A
36D		i	N/A
36E	Pressure Limiter Poppet O-Ring (-902)	i	N/A
37	Compensator Spool Kit	1	VPLSCK2
	Consists of:		
37A	Compensator Spool	1	N/A
37B	.025 Shim (0,635 mm)	3	N/A
37C	.008 Shim (0,203 mm)	3	N/A
37D	.003 Shim (0,076 mm)	3	N/A
37E	Compensator Spring	. 1	N/A
37F	Compensator Spring	1	N/A
	Shim Insertion Tool	1	DB1851.268
38	Hex Plug	1	DB1588.006
	Consists of:		at the first term to
38A	Plug	1	N/A
38B	O-Ring (-910)	1	N/A
39	Anti-Cavitation Valve Kit	1	VPLAV1K1
204	Consists of:	1	N/A
39A 39B	Ball	1	N/A N/A
-4C)F3	Spring		IN/A



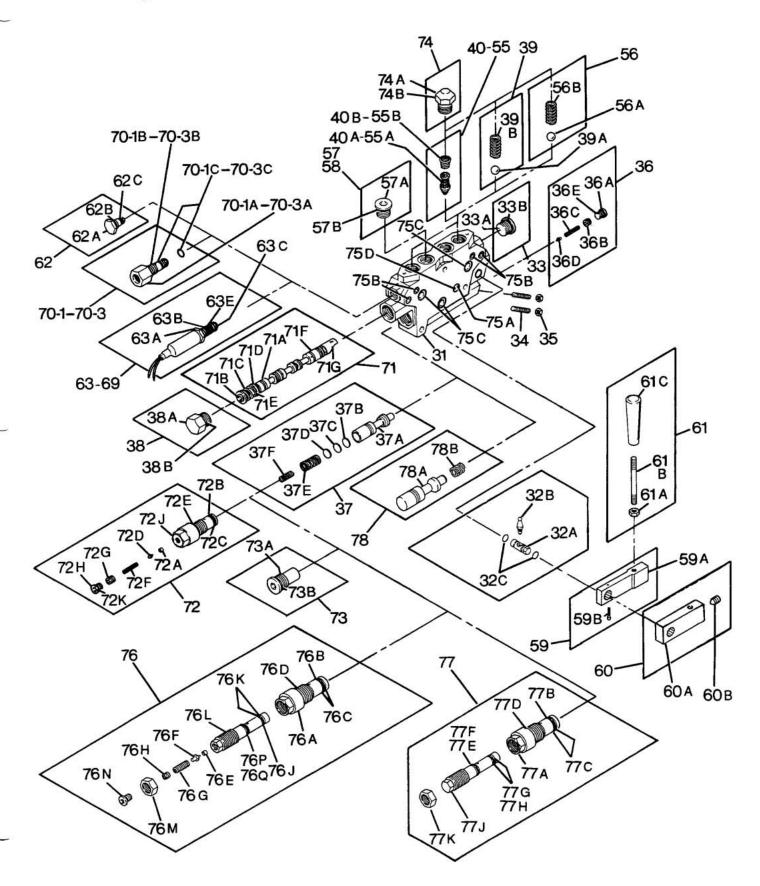
ltem	Description	Quantity	Part Number
40	Relief with Anti-Cavitation Valve Kit - 750 PSI (50 Bar) Setting	1	VPLRAAK1
41	Relief with Anti-Cavitation Valve Kit - 950 PSI (63 Bar) Setting	1	VPLRABK1
42	Relief with Anti-Cavitation Valve Kit - 1150 PSI (80 Bar) Setting	1	VPLRACK1
43	Relief with Anti-Cavitation Valve Kit - 1450 PSI (100 Bar) Setting	i	VPLRADK1
44	Relief with Anti-Cavitation Valve Kit - 1850 PSI (125 Bar) Setting	i	VPLRAFK1
45	Relief with Anti-Cavitation Valve Kit - 2050 PSI (140 Bar) Setting	i	VPLRAGK1
46	Relief with Anti-Cavitation Valve Kit - 2350 PSI (160 Bar) Setting	i	VPLRAHK1
47	Relief with Anti-Cavitation Valve Kit - 2550 PSI (175 Bar) Setting	· i	VPLRAJK1
48	Relief with Anti-Cavitation Valve Kit - 2750 PSI (190 Bar) Setting	i	VPLRAKK1
49	Relief with Anti-Cavitation Valve Kit - 3050 PSI (210 Bar) Setting	í	VPLRALK1
50	Relief with Anti-Cavitation Valve Kit - 3350 PSI (230 Bar) Setting	i	VPLRANK1
51	Relief with Anti-Cavitation Valve Kit - 3550 PSI (250 Bar) Setting		VPLRAMK1
52	Relief with Anti-Cavitation Valve Kit - 4050 PSI (280 Bar) Setting		VPLRAPK1
53	Relief with Anti-Cavitation Valve Kit - 4350 PSI (280 Bar) Setting		VPLRAPK1
53 54	Relief with Anti-Cavitation Valve Kit - 4550 PSI (300 Bar) Setting	0 25	VPLRASK1
			VPLRATK1
55	Relief with Anti-Cavitation Valve Kit - 5050 PSI (350 Bar) Setting		VPLKAIKI
40A EEA	Consists of:	1	NI/A
	Cartridge Assembly	j	N/A
40B-55B	Spring	1	N/A
56	Defeat Plug Kit	1	VPLSP1K1
	Consists of:		
56A	Ball	1	N/A
56B	Spring	1	N/A
57	SAE Port Plug	1	B1006.006
	Consists of:		
57A	Plug	1	N/A
57B	O-Ring (-908)	1	N/A
58	BSPP Port Plug	1	DB1493.006
59	Fixed Operator Linkage Kit (Design 1,2,3 "Y" Version)		VPLFHAK2
	Consists of:		
59A	Handle Adapter	1	N/A
59B	Cap Screw	1	N/A
60	Fixed Operator Linkage Kit (Design 4,5,6) Consists of:	1	VPLFHAK3
60A	Handle Adapter	ī	N/A
60B	Set Screw	1	N/A
61	Handle Kit Consists of:	1	VPLH6K2
61 A	Jam Nut	1	N/A
61 B	Handle Rod	i	N/A
61 C	Knob	i	N/A
62	Solenoid Plug Kit Consists of:	2	VNPK1
62A	Plug	2	N/A
62B	O-Ring (-906)	2	N/A



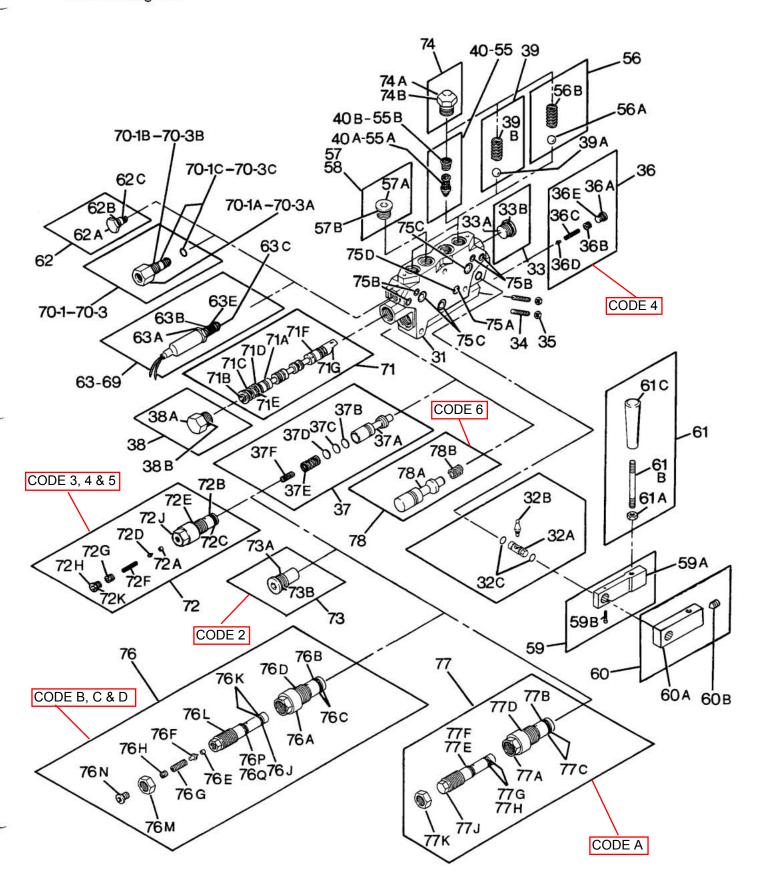
ltem	Desc	ription			Quantity	Part Number
			al filter and o-ring	effective 11/96)		
63	12 Vo	It Pulsar™			1	VS1320-0001P
64	12 Vo	It Pulsar™ with \	Weatherpac Conn	ector	1	VS1320-0011 P
65		lt Pulsar™			1	VS1320-0051P
66			Weatherpac Conn	nector	1	VS1320-0061P
67		It MARINE Pulso		V-0.726765	î	VS1320-0001-0011
68		It MARINE Pulso			1	VS1320-0051-0011
69	12 Vo	It Intrinsically A	pproved Pulsar™		i	VS1320-0012-003
		oid Kit ists of:				
63A-69A					1	N/A
63B-69B					i	N/A
63C-69C					i	N/A
		IG (-011)			i	N/A
70-1		ulic Pilot Fitting	Kit (SAE) #4		2	VWFK4
70-1 A	Consi Fitting				2	N/A
70-1A 70-1B					2	
		g (-906)			2	N/A
70-1 C	O-KIN	g (-011)			4	N/A
70-2	Hydro Consi		Kit (BSPP) G-1/4		2	VWFK5
70-2A	Fitting				2	N/A
70-2B		g (-906)			2	N/A
70-2C		g (-011)			4	N/A
70-3	Hydro Consi	ulic Pilot Fitting	j Kit (JIS) G-1/4		2	VWFK6
70-3A	Fitting				2	N/A
70-3A 70-3B					2	
		g (-906)			4	N/A
70-3C	O-KIN	g (-011)			4	N/A
71	Spool				1	Shown in Chart Below:
71 A		Spool			1	N/A
71 B		ning Ring			i	N/A
71C		Guide			2	N/A
71 D	- 1				1	N/A
71F		ering Spring			i	
		g (-902)				N/A
71G	Overi	de Hook			1	N/A
					C ₁ -Closed	
Flow Ratin		-pos. 3-way	3-pos. 4-way	3-pos. 4-way	C ₂ -Vented Op	
GPM (L/n		Closed	Closed	Vented Open	4-Way	Open (Motor
1.3(5)		/PLA33K2	VPLA24K2	VPLA74K2	VPLA34K2	VPLA44K2
2.5(10)		/PL133K2	VPL124K2	VPL174K2	VPL134K2	VPL144K2
4(15)	1	/PL233K2	VPL224K2	VPL274K2	VPL234K2	VPL244K2

Flow Rating GPM (L/min)	3-pos. 3-way Closed	3-pos. 4-way Closed	3-pos. 4-way Vented Open	C ₁ -Closed C ₂ -Vented Open 4-Way	3-pos. 4-way Open (Motor)
1.3(5)	VPLA33K2	VPLA24K2	VPLA74K2	VPLA34K2	VPLA44K2
2.5(10)	VPL133K2	VPL124K2	VPL174K2	VPL134K2	VPL144K2
4(15)	VPL233K2	VPL224K2	VPL274K2	VPL234K2	VPL244K2
7(25)	VPL333K2	VPL324K2	VPL374K2	VPL334K2	VPL344K2
11(40)	VPL433K2	VPL424K2	VPL474K2	VPL434K2	VPL444K2
17(65)	VPL533K2	VPL524K2	VPL574K2	VPL534K2	VPL544K2
24(90)	VPL633K2	VPL624K2	VPL674K2	VPL634K2	VPL644K2
30(114)	VPL733K2	VPL724K2	VPL774K2	VPL734K2	VPL744K2
1.3(5)	VWLA33K2	VWLA24K2	VWLA74K2	VWLA34K2	VWLA44K2
2.5(10)	VWL133K2	VWL124K2	VWL174K2	VWL134K2	VWL144K2
4(15)	VWL233K2	VWL224K2	VWL274K2	VWL234K2	VWL244K2
7(25)	VWL333K2	VWL324K2	VWL374K2	VWL334K2	VWL344K2
11(40)	VWL433K2	VWL424K2	VWL474K2	VWL434K2	VWL444K2
17(65)	VWL533K2	VWL524K2	VWL574K2	VWL534K2	VWL544K2
24(90)	VWL633K2	VWL624K2	VWL674K2	VWL634K2	VWL644K2
30(114)	VWL733K2	VWL724K2	VWL774K2	VWL734K2	VWL744K2

NOTE: VNL spool kits are same as VPL spool kits N/A - Not Available As A Loose Part

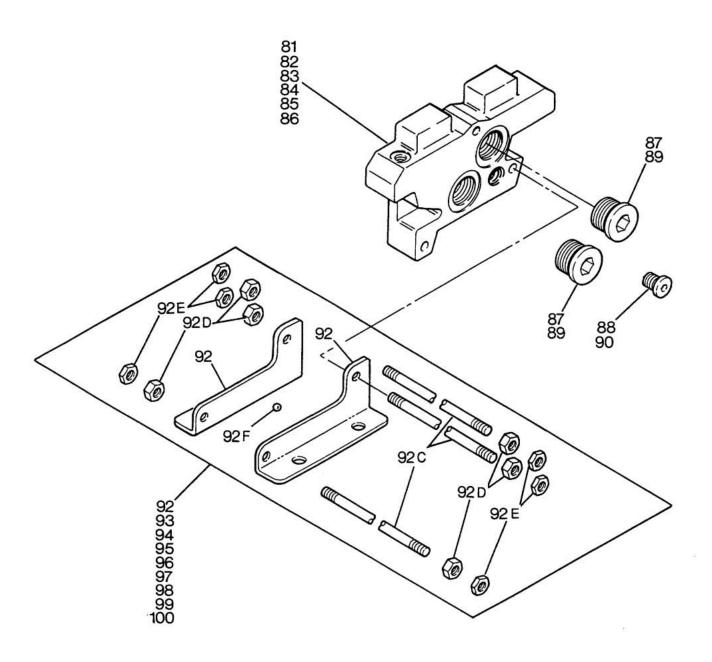


tem	Description	Quantity	Part Number
72	C1 Pressure Limiter Cartridge Kit	1	VPLRVK1
	Consists of:	_	A1/A
72A	Seat	1	N/A
72B	O-Ring (-014)	1	N/A
72C	Back-up Ring	2	N/A
72D	Relief Poppet	1	N/A
72E	O-Ring (-908)	1	N/A
72F	Relief Spring	1	N/A
72G	Adjustment Screw	1	N/A
72H	Hex Plug	1	N/A
72J	Relief Plug	1	N/A
72K	O-Ring (-902)	1	N/A
73	Compensator Plug Kit		VPLCPK1
70 A	Consists of:	1	N/A
73A	Compensator Plug	i	N/A
73B	O-Ring (-908)	M.	
74	Work Port Option Plug Kit		VPLOPK2
2202020	Consists of:		N/A
74A	Work Port Plug		
74B	O-Ring (-908)		N/A
75	Work segment Seal Kit	1	VPLSK2
12.202	Consists of:		NIZA
32C	O-Ring (-012)	2	N/A
33B	O-Ring (-908)	1	N/A
35	Seal Nut	2	N/A
36E	O-Ring (-902)	1	N/A
38B	O-Ring (-910)	1	N/A
57B	O-Ring (-908)	1	N/A
62B	O-Ring (-906)	2 2	N/A
62C	O-Ring (-011)	2	N/A
63C	O-Ring (-010)	2	N/A
71F	O-Ring (-902)	1	N/A
72B	O-Ring (-014)	1	N/A
72C	Back-up Ring	2	N/A
72E-73B	O-Ring (-908)	1	N/A
72K	O-Ring (-902)	i	N/A
74B		2	N/A
75A	O-Ring (-908) Ball	ī	N/A
		4	N/A
75B	O-Ring (-109)	3	N/A
75C	O-Ring (-114)	1	N/A
75D	O-Ring (-112)	1.	IN/A



VPL Service Parts List VPL Work Segment

tem	Description	Quantity	Part Number
76	Adjustable Compensator w/Pressure Limiter Kit Consists of:	1	VPLRVK3
76A	Compensator Plug	1	N/A
76B	O-Ring	1	N/A
76C	Back-up Ring	2	N/A
76D	O-Ring	1	N/A
76E	Relief Seat	1	N/A
76F	Relief Poppet	1	N/A
76G	Relief Spring	1	N/A
76H	Adjustable Screw	1	N/A
76J	O-Ring	1	N/A
76K	Back-up Ring	2	N/A
76L	Adjustable Compensator Screw	1	N/A
76	Adjustable Compensator w/Pressure Limiter Kit Consists of:	1	VPLRVK3
76M	Lock Nut	1	N/A
76N	Hex Plug	1	N/A
76P	O-Ring	1	N/A
76Q	Back-up Ring	1	N/A
77	Adjustable Compensator Plug Kit Consists of:	1	VPLCPK2
77A	Compensator Plug	1	N/A
77B	O-Ring	1	N/A
77C	Back-up Ring	2	N/A
77D	O-Ring	1	N/A
77E	O-Ring	1	N/A
77F	Back-up Ring	1	N/A
77G	O-Ring	1	N/A
77H	Back-up Ring	2	N/A
77J	Adjustment Screw	1	N/A
77K	Lock Nut	1	N/A
78	Load Drop Check Spool Kit Consists Of:	1	VPLLDCSK1
78A	Load Drop Check Spool	1	N/A
78B	Check Spring	ì	N/A



Item	Description	Quantity	Part Number
	Stacking Plate w/Internal or External Drain:		
81	No Ports-SAE	1	VOL0K4
82	SAE w/P,T, and Shuttle Ports	1	VOL1K4
83	SAE w/P.T. and Shuttle Ports Plugged	1	VOL5K4
84	BSPP w/P,T, and Shuttle Ports	1	VOL1K5
85	BSPP w/P,T, and Shuttle Ports Plugged	1	VOL5K5
86	No Ports-BSPP	1	VOL0K5
87	Hex Plug SAE Port	1	B1008.006
88	Hex Plug SAE Port	1	B1003.006
89	Hex Plug BSPP Port	1	DB1494.006
90	Hex Plug BSPP Port	1	DB1491.006
92	The Rod Kit- 1 Segment	1	VAL1K1
93	The Rod Kit- 2 Segment	1	VAL2K1
94	The Rod Kit- 3 Segment	1	VAL3K1
95	The Rod Kit- 4 Segment	1	VAL4K1
96	The Rod Kit- 5 Segment	1	VAL5K1
97	The Rod Kit- 6 Segment	1	VAL6K1
98	The Rod Kit- 7 Segment	1	VAL7K1
99	The Rod Kit- 8 Segment	1	VAL8K1
100	The Rod Kit- 9 Segment	1	VAL9K1
	Consists of:		
A-100A	Mounting Bracket	2	N/A
C-100C	The Rod	3	N/A
D-100D	Hex Nut	6	N/A
-100E	Jam Nut	6	N/A
-100F	Steel Ball	Number of Segments	N/A

Offer of Sale

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- 1. Terms and Conditions of Sale: All descriptions, quotations, proposals, offers, acknowledgments, acceptances and sales of Seller's products are subject to and shall be governed exclusively by the terms and conditions stated herein. Buyer's acceptance of any offer to sell is limited to these terms and conditions. Any terms or conditions in addition to, or inconsistent with those stated herein, proposed by Buyer in any acceptance of an offer by Seller, are hereby objected to. No such additional, different or inconsistent terms and conditions shall become part of the contract between Buyer and Seller unless expressly accepted in writing by Seller. Seller's acceptance of any offer to purchase by Buyer is expressly conditional upon Buyer's assent to all the terms and conditions stated herein, including any terms in addition to, or inconsistent with those contained in Buyer's offer, Acceptance of Seller's products shall in all events constitute such assent.
- 2. Payment: Payment shall be made by Buyer net 30 days from the date of delivery of the items purchased hereunder. Amounts not timely paid shall bear interest at the maximum rate permitted by law for each month or portion thereof that the Buyer is late in making payment. Any claims by Buyer for omissions or shortages in a shipment shall be waived unless Seller receives notice thereof within 30 days after Buyer's receipt of the shipment.
- 3. Delivery: Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller's plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller's delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.
- 4. Warranty: Seller warrants that the items sold hereunder shall be free from defects in material or workmanship for a period of 18 months from date of shipment from Parker Hannifin Corporation. THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED. NOTWITHSTANDING THE FOREGOING, THERE ARE NO WARRANTIES WHATSOEVER ON ITEMS BUILT OR ACQUIRED WHOLLY OR PARTIALLY, TO BUYER'S DESIGNS OR SPECIFICATIONS
- 5. Limitation Of Remedy: SELLER'S LIABILITY ARISING FROM OR IN ANY WAY CONNECTED WITH THE ITEMS SOLD OR THIS CONTRACT SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACEMENT OF THE ITEMS SOLD OR REFUND OF THE PURCHASE PRICE PAID BY BUYER, AT SELLER'S SOLE OPTION. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO LOST PROFITS ARISING FROM OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR ITEMS SOLD HEREUNDER, WHETHER ALLEGED TO ARISE FROM BREACH OF CONTRACT, EXPRESS OR IMPLIED WARRANTY, OR IN TORT, INCLUDING WITHOUT LIMITATION, NEGLIGENCE, FAILURE TO WARN OR STRICT LIABILITY.
- 6. Changes, Reschedules and Cancellations: Buyer may request to modify the designs or specifications for the items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this Agreement. Acceptance of any such requested modification or cancellation shall be at Seller's discretion, and shall be upon such terms and conditions as Seller may require.
- 7. Special Tooling: A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges

- paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.
- 8. Buyer's Property: Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property, Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.
- 9. Taxes: Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.
- 10. Indemnity For Infringement of Intellectual Property Rights: Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. Patents, U.S. Trademarks, copyrights, trade dress and trade secrets (hereinafter 'Intellectual Property Rights'). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights. If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgments resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.
- 11. Force Majeure: Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter 'Events of Force Majeure'). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller's control.
- 12. Entire Agreement/Governing Law: The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of the sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.

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