

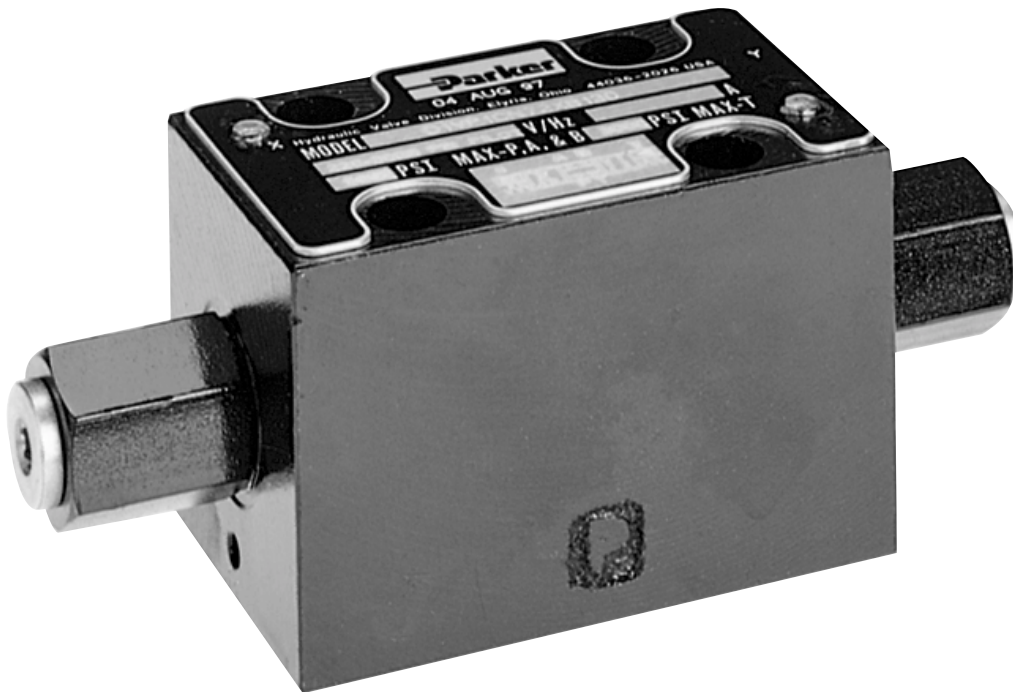


**Bulletin 2531-M12/USA**  
**Service Bulletin**

**Series D1VP**

Effective: March 23, 1998

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**Model Code** ..... 1

**Parts Data**

    D1VP\*B\*\*\* ..... 2

    D1VP\*C\*\*\* ..... 3

    D1VP\*D\*\*\* ..... 4

    D1VP\*E\*\*\* ..... 5

    D1VP\*H\*\*\* ..... 6

    D1VP\*K\*\*\* ..... 7

**Spool Chart** ..... 8

**Troubleshooting Guide** ..... 9

 **WARNING**

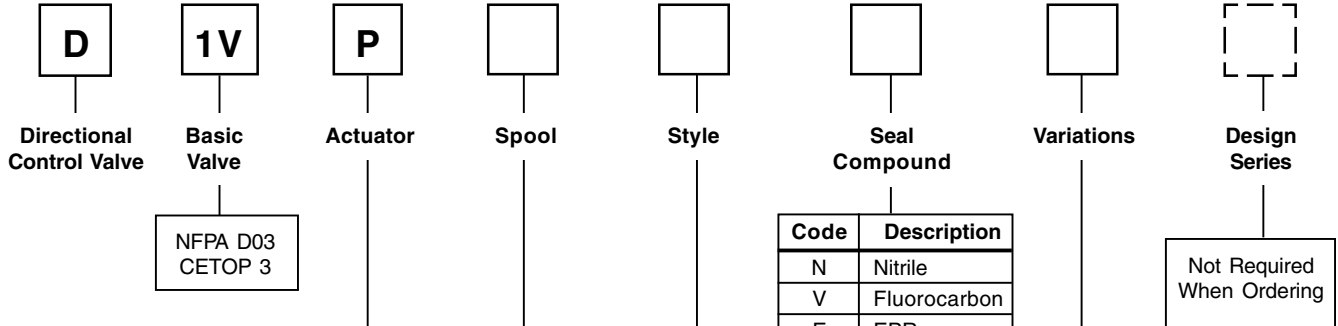
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This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

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NFPA D03  
CETOP 3

Code	Description
P	Oil Operator

Code	Description
N	Nitrile
V	Fluorocarbon
E	EPR

Code	Description
Omit	Standard
P10*	Monitor Switch
90	BSPB Threads

\* Available in B & H styles only.  
Not CE or CSA approved.

Code	Symbol
1	
2	
4	
8*	
9**	
20*	
26*	
30**	

\* 8, 20 and 26 spool have closed crossover.  
\*\* 9 and 30 spool have open crossover

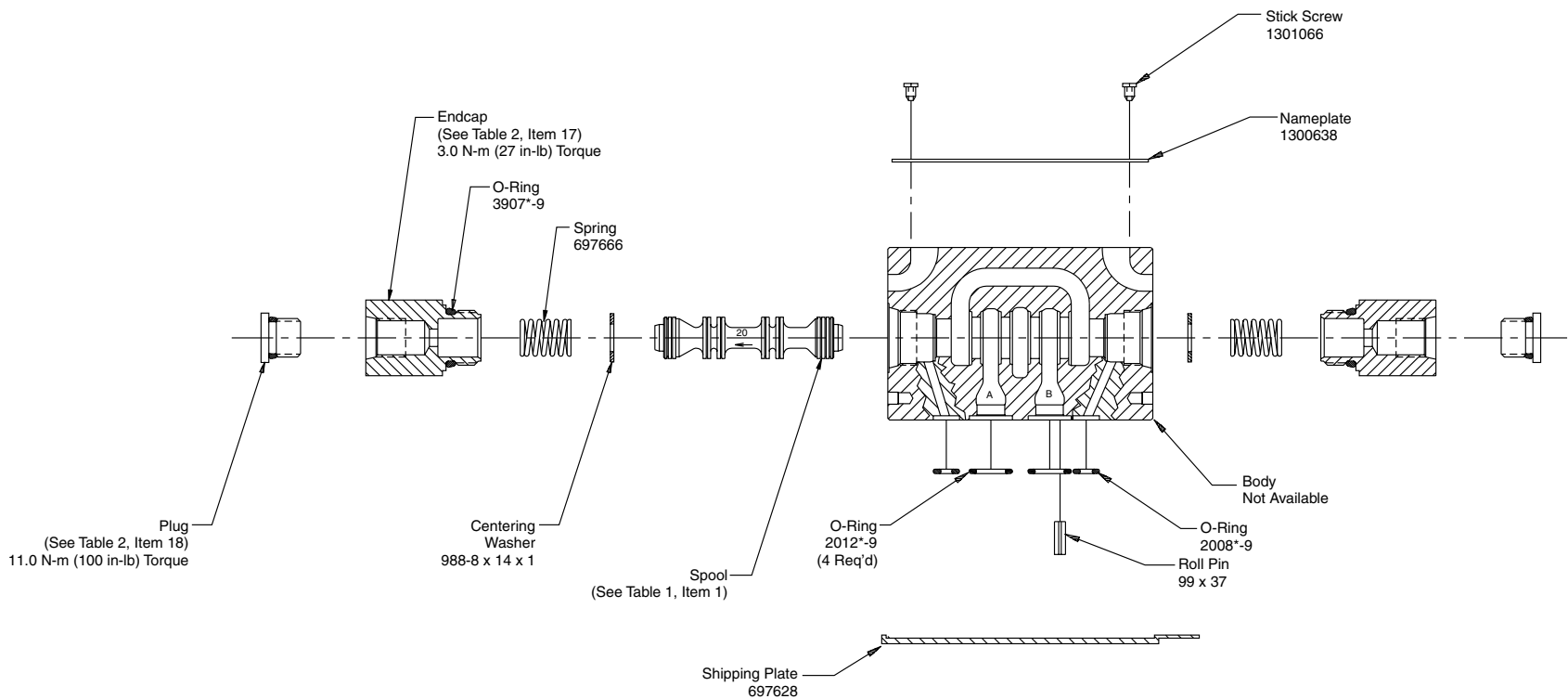
Code	Description
B #	Single operator, two position spring offset. P to A and B to T in offset position.
C *	Double operator, three position, spring centered.
D #	Double operator, two position, detent.
E *	Two position, spring offset to center. P to B and A to T in offset position.
H #	Single operator, two position, spring offset. P to B and A to T in offset position.
K *	Two position, spring offset to center. P to A and B to T in offset position.

\* Not available with 20, 26 or 30 spools.  
# D available with 20 and 30 spools only.  
B & H available with 20, 26 and 30 spools only.

This condition varies with spool code

Code	Item	Part Number	Qty	Description
20	1	697620	1	#20 Spool
26	1	1300209	1	#26 Spool
30	1	697630	1	#30 Spool

Code	Item	Part Number	Qty	Description
Omit	17	1302107	2	End Cap - SAE
	18	4HP50*-S	2	SAE Plug (108 x 4*)
90	17	1302108	2	End Cap - BSPP
	18	VST11/4EDA3C	2	BSPP Plug



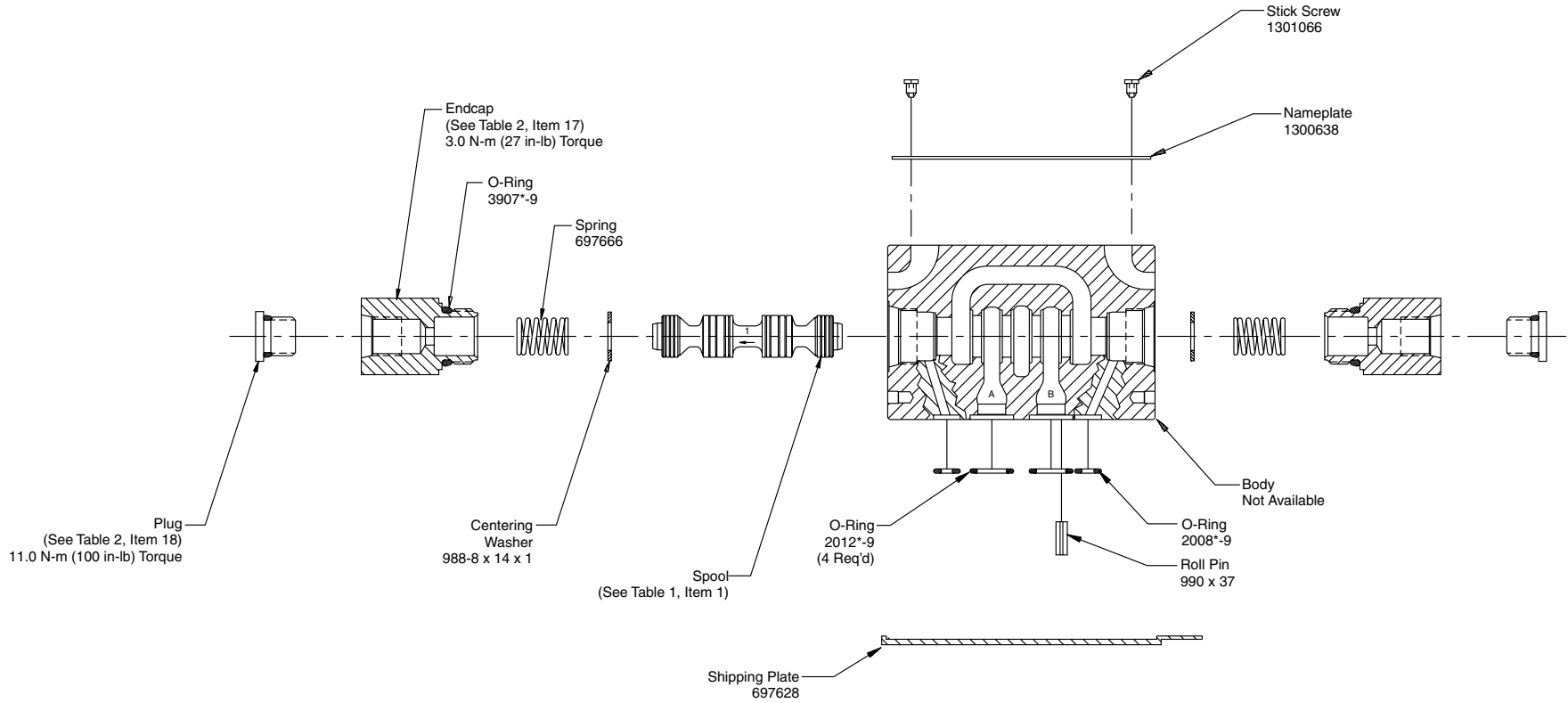
**Oil Pilot Operated Model**

**NOTES:**

1) \* Indicates Seal Compound. N-Nitrile, V-Fluorocarbon, E-EPR.

Code	Item	Part Number	Qty	Description
1	1	697601	1	#1 Spool
2	1	697602	1	#2 Spool
4	1	697604	1	#4 Spool
8	1	697608	1	#8 Spool
9	1	1302128	1	#9 Spool

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	18	VST11/4EDA3C	2	BSPP Plug



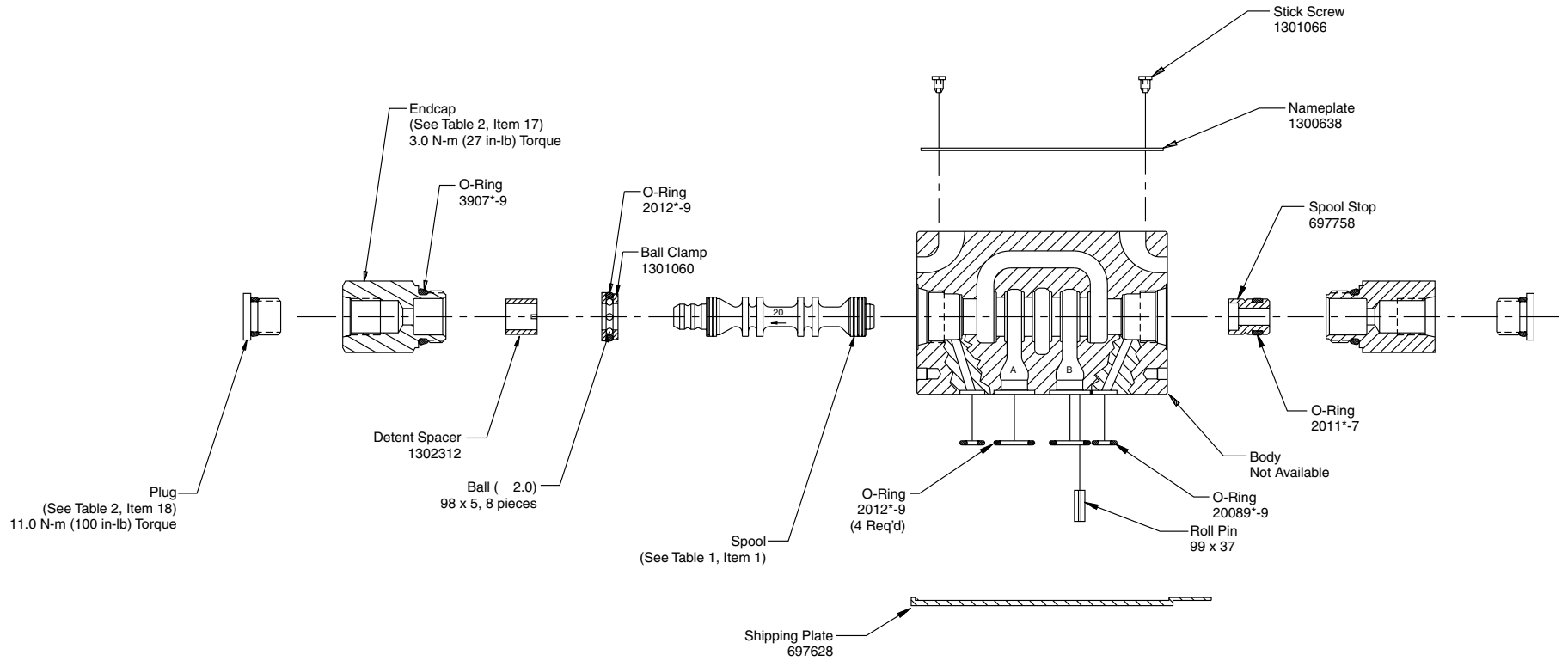
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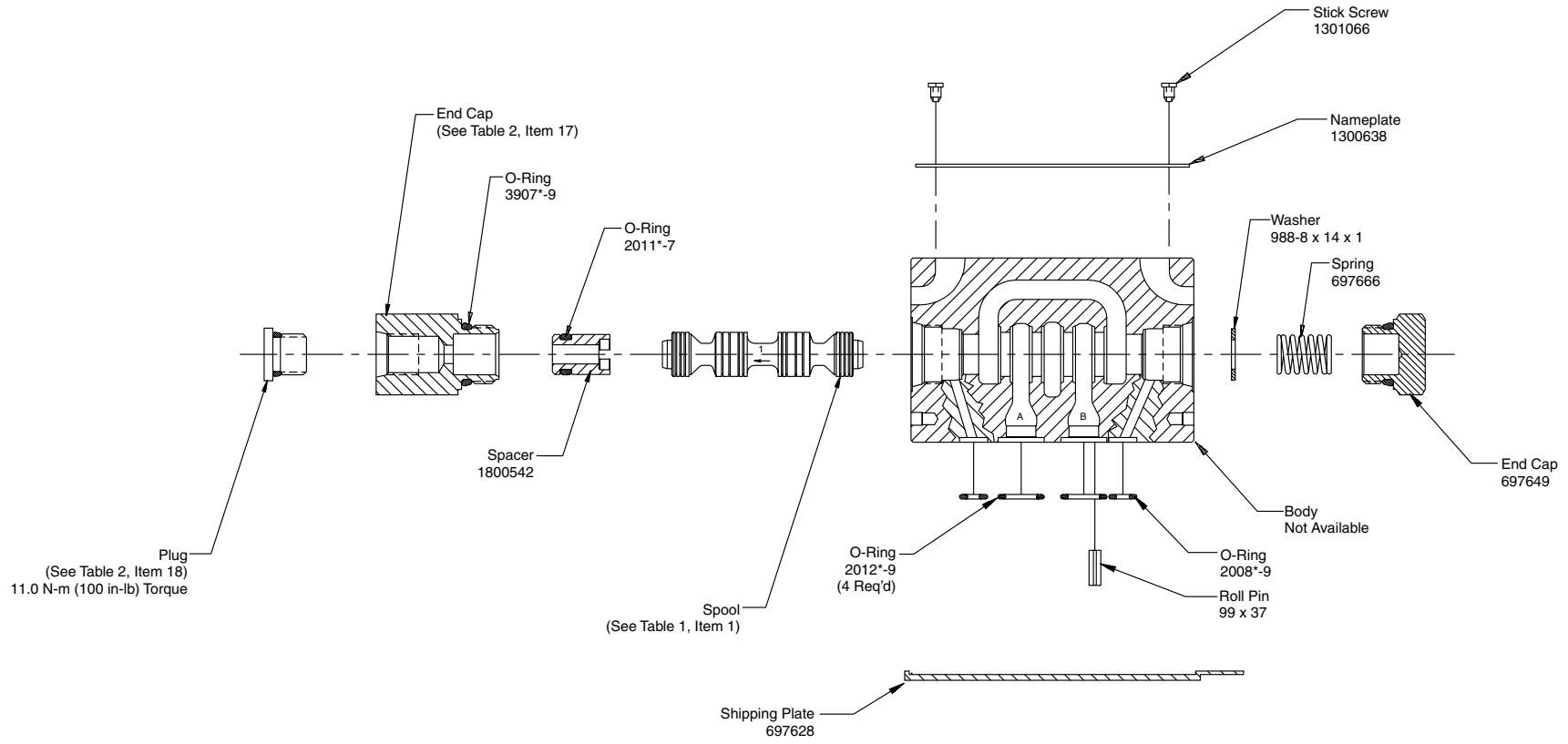
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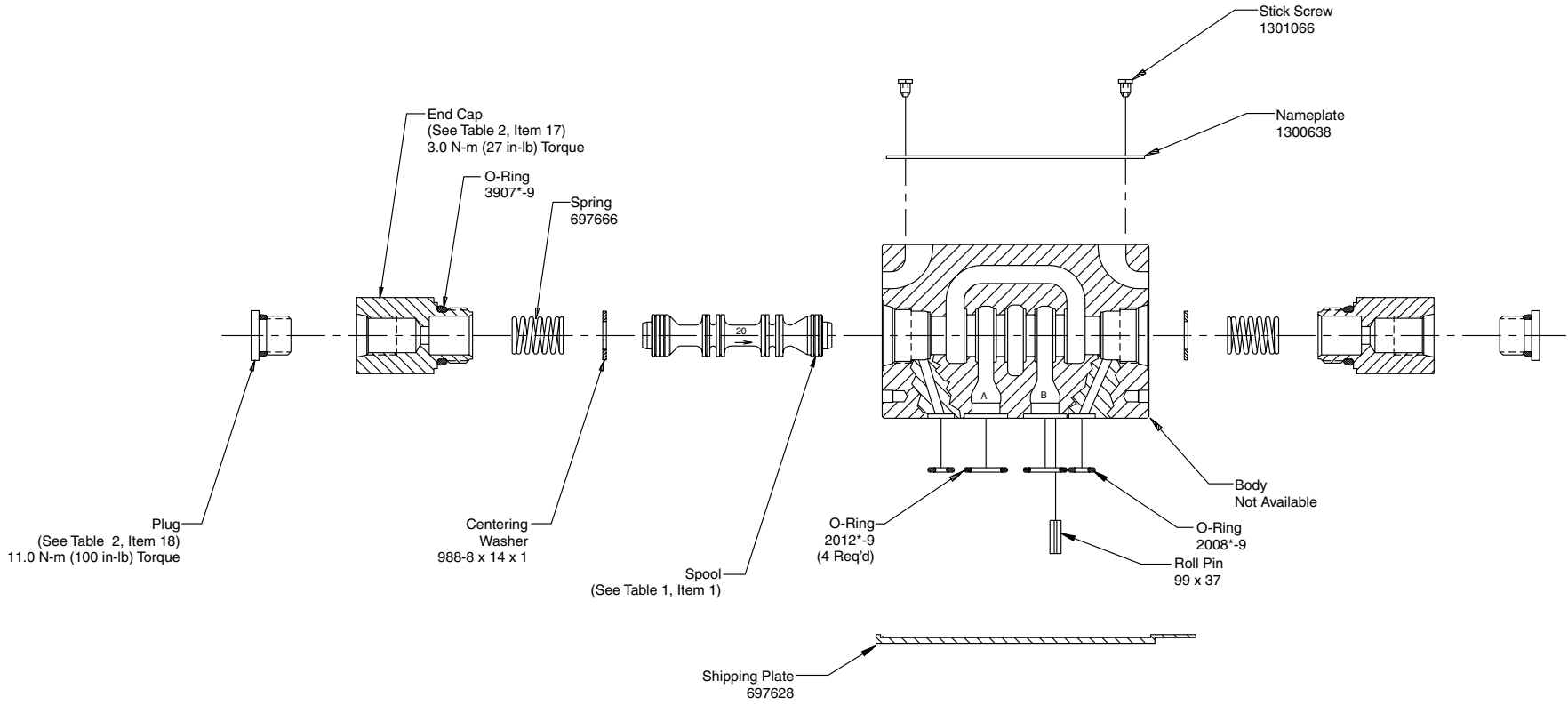


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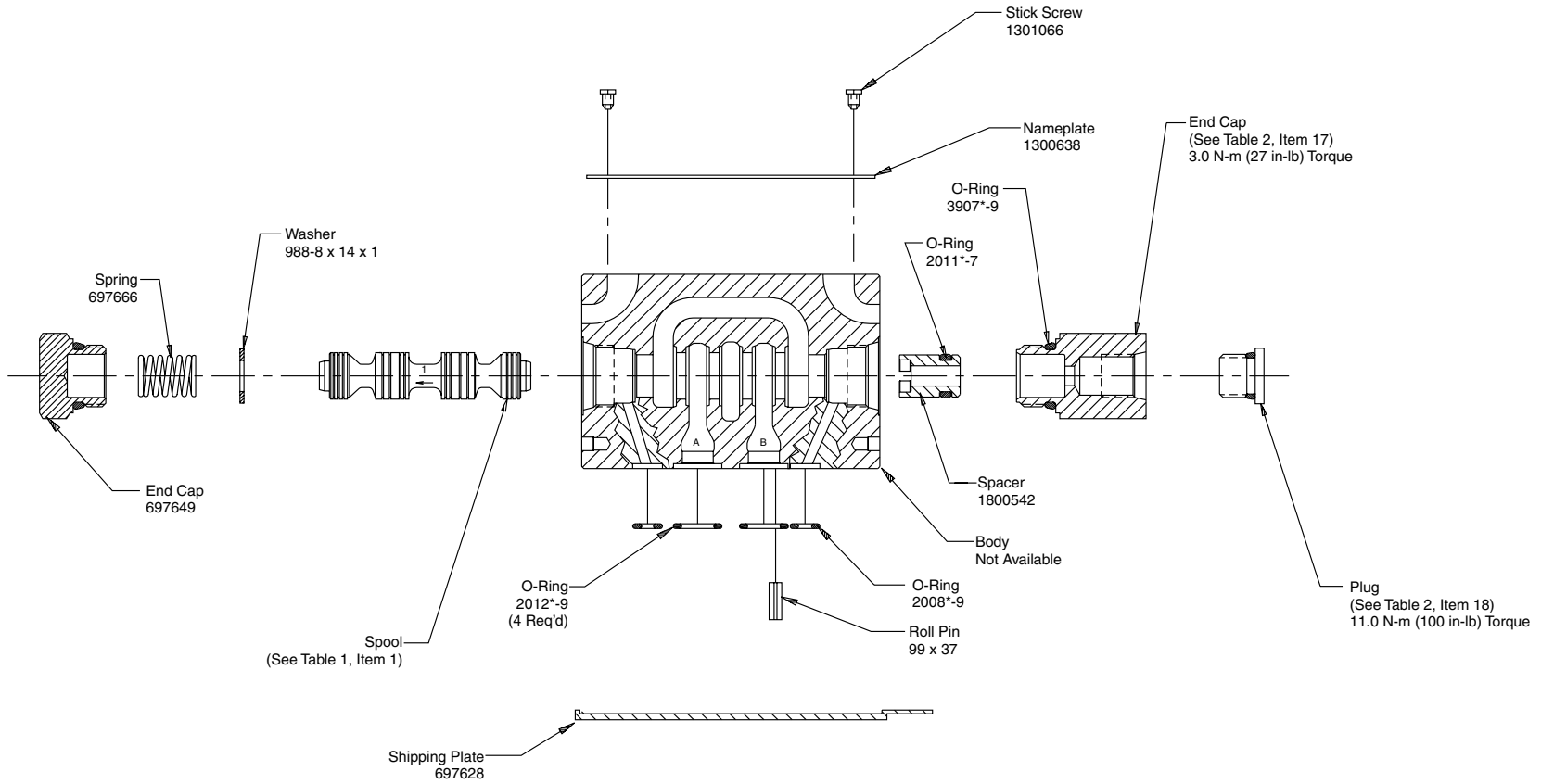
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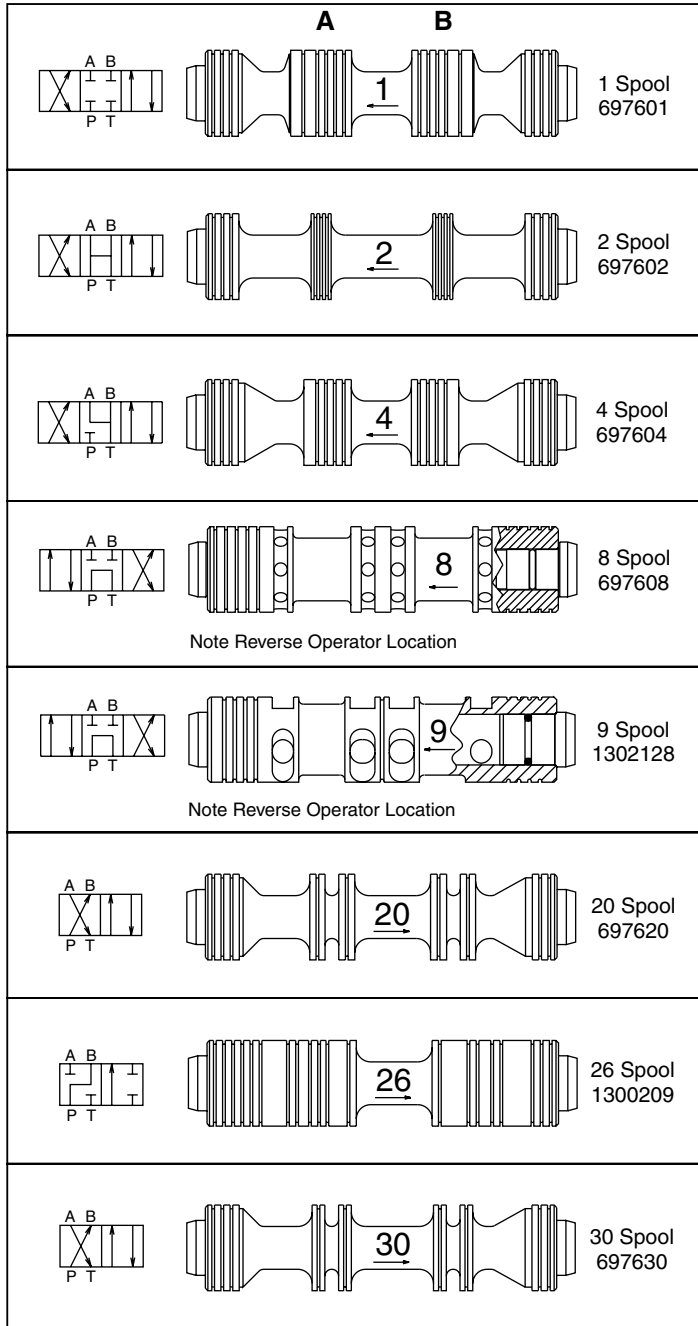
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Oil Pilot Operated Model

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NOTES:



**Note:** Spool 8 has closed crossover.  
Spool 9 has open crossover.

## Warning

Before any circuit connection is broken, be sure to turn off all power and relieve system pressure. Lower all vertical loads and cylinders, lock any load which could produce pressure and discharge any accumulators. Plug and cap all lines and openings to prevent contamination from entering the system.

## Cleaning and Inspection

1. Proper cleaning is a critical part of preventive maintenance in the use of directional control valves. All parts should be cleaned with a solvent that is compatible with the system fluid. Compressed air may also work well when cleaning orifices and passage ways, but proper filtration must be employed to remove water and contamination.

**NOTE:** Always make sure all parts have been cleaned before reassembling.

2. Inspection

- a. Inspect all passage ways for obstructions.
- b. Inspect all washers, push pins, plungers and pole faces for signs of wear and/or mushrooming. Inspect all springs for signs of distortion. Replace parts as necessary.
- c. Look for nicks and burrs on the spool and bore lands. Nicks in these areas indicate likely contamination of the system fluid.

3. If there are no signs of nicks or burrs on the spool and bore, check the spool clearance as follows:

- a. Lubricate the spool and bore with clean system fluid.
- b. Insert the spool back into the body and slowly move the spool back and forth. The spool should move freely. If there is any sticking between the spool and the bore, remove the spool and repeat 2b.
- c. The spool clearance can also be checked by placing the valve body on end and inserting the spool. Gravity will pull the spool to the other end if there is no sticking.
- d. After several attempts have been made without resolution, replace the valve.

## Troubleshooting

### Problem: Valve spool fails to move

Cause	Recommendation
Recommended flow exceeded	Check maximum flow rate for appropriate spool by spool function.
Recommended pressure exceeded	Check maximum pressure rating for valve.
Improper installation connections	Check installation drawings.
Contamination in system	Disassemble, inspect, clean and flush.
Improper assembly	Check proper assembly. Refer to drawing for appropriate model.
Valve has silted.	Disassemble and clean valve.
Pilot supply off.	Turn supply on.
Inadequate pilot pressure.	Check pilot pressure specifications for valve model. Check pilot/connections for leak.

### Problem: Valve produces undesirable response

Cause	Recommendation
Recommended flow exceeded	Check maximum flow rate for appropriate spool by spool function.
Recommended pressure exceeded	Check maximum pressure rating for valve.
Improper installation connections	Check installation drawings.
Contamination in system	Disassemble, inspect, clean and flush.
Improper assembly	Check proper assembly. Refer to drawing for appropriate model.
Improper fluid	Check fluid recommendations.
Recommended temperature exceeded (indicated by fluid discoloration or spool tarnishing)	Check maximum temperature recommendations.
Inadequate pilot pressure	Check pilot pressure specifications for valve. Check pilot/connections for leak.



**Parker Hannifin Corporation**  
Hydraulic Valve Division  
520 Ternes Avenue  
Elyria, Ohio 44035 USA  
Tel: (440) 366-5200  
Fax: (440) 366-5253  
Web Site: <http://www.parker.com/hydraulicvalve>

Bulletin 2531-M12/USA,  
5M, 3/98, PHD