Parker Hydraulics

Bulletin PM3240-22

Service Parts Guide

Model PAVC 100****22

Effective: April 18, 2012

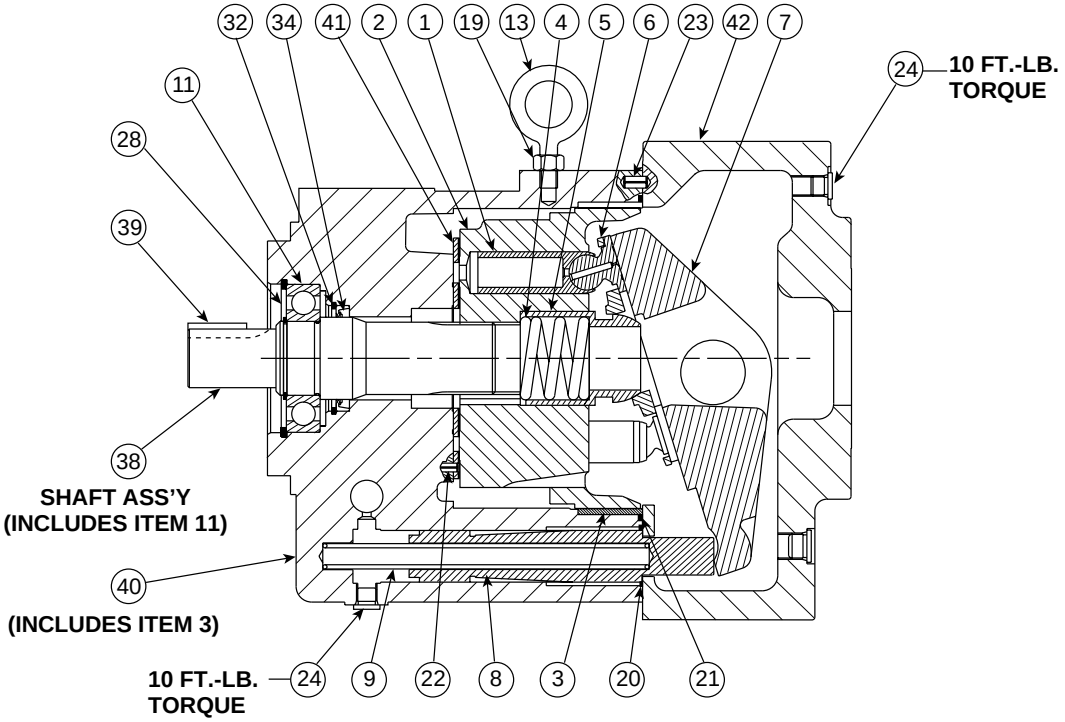
PAVC 100****22 Series Variable Volume Piston Pump

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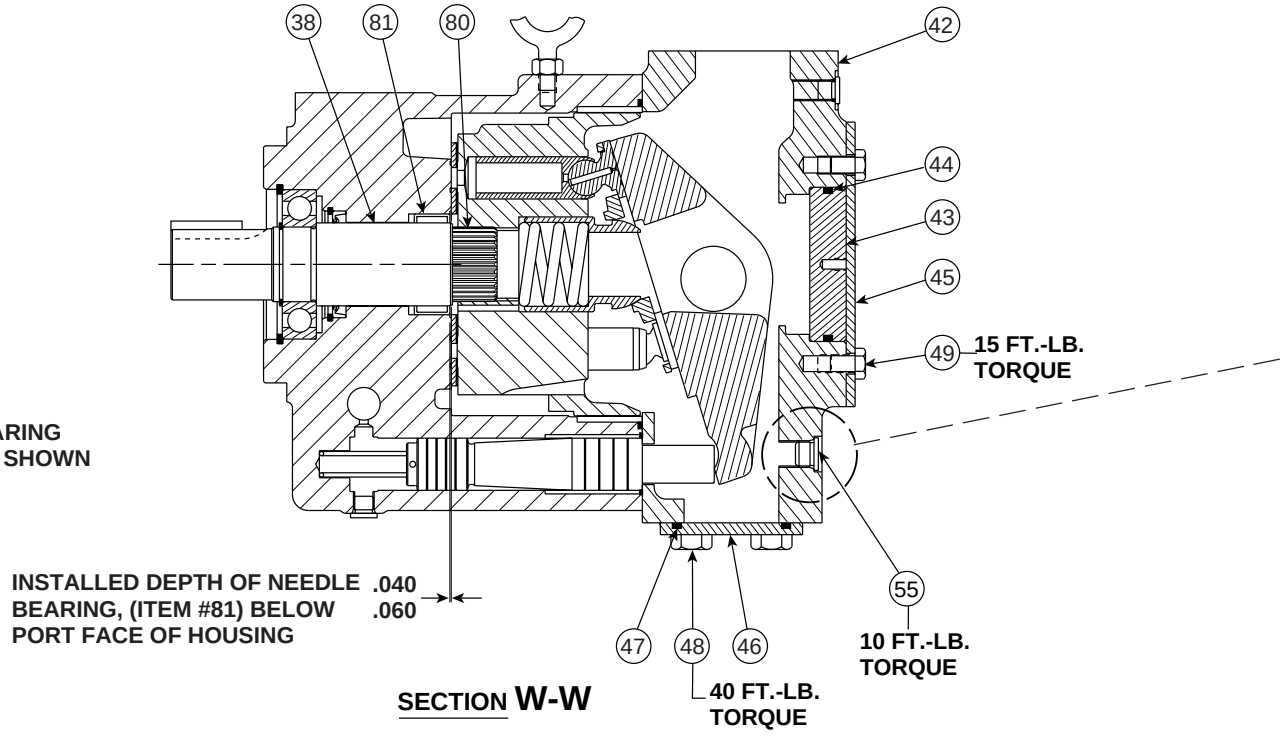
Offer of Sale 12



SECTION W-W

NOTE:

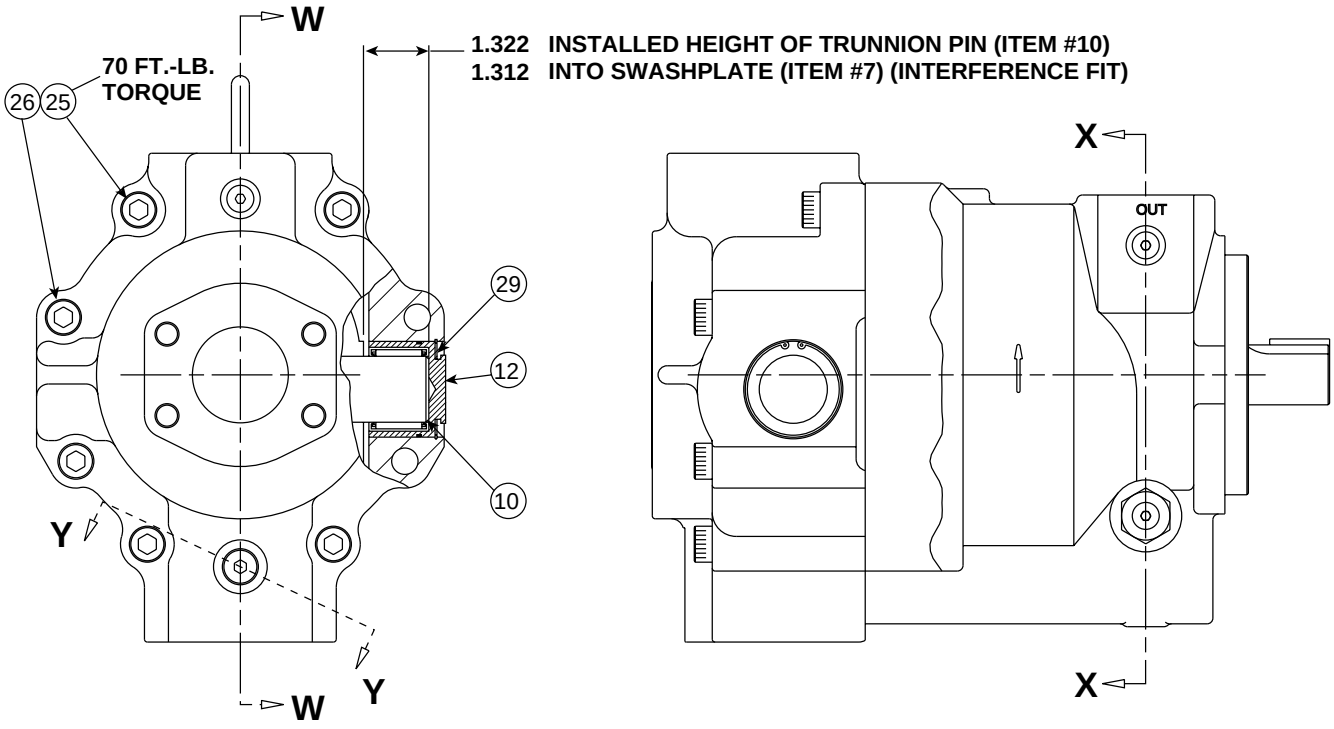
1. PUMP SHOWN WITH INLET PORT OPTION "OMIT" (REAR PORT)

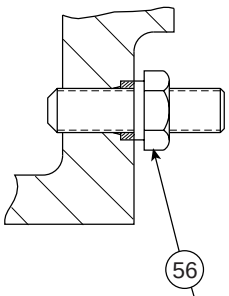


SECTION W-W

NOTE:

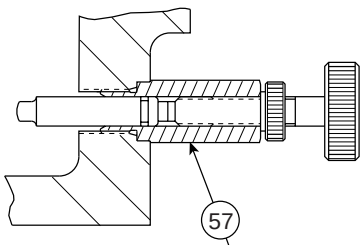
1. PUMP SHOWN WITH INLET PORT OPTION "2" (TOP/BOTTOM PORTS).





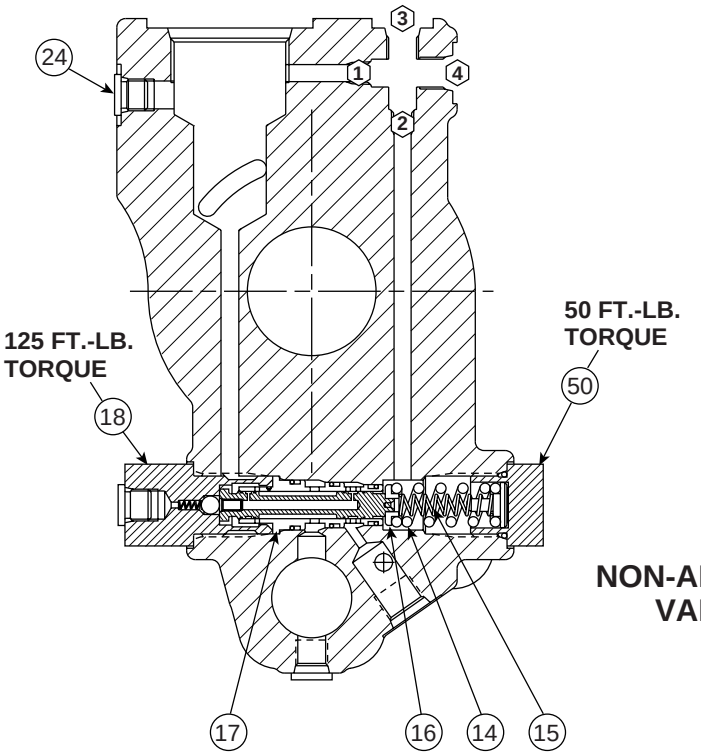
25-30 FT.-LB.
TORQUE

MAXIMUM VOLUME STOP
VARIATION - 2

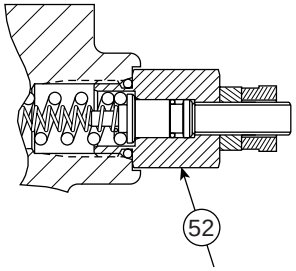


17 FT.-LB.
TORQUE

MAXIMUM VOLUME STOP
VARIATION - 5



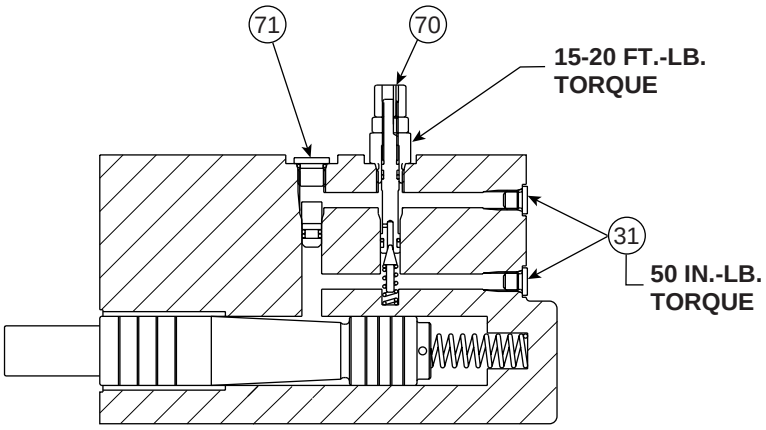
SECTION X-X



ADJUSTABLE DIFFERENTIAL VARIATION - 4

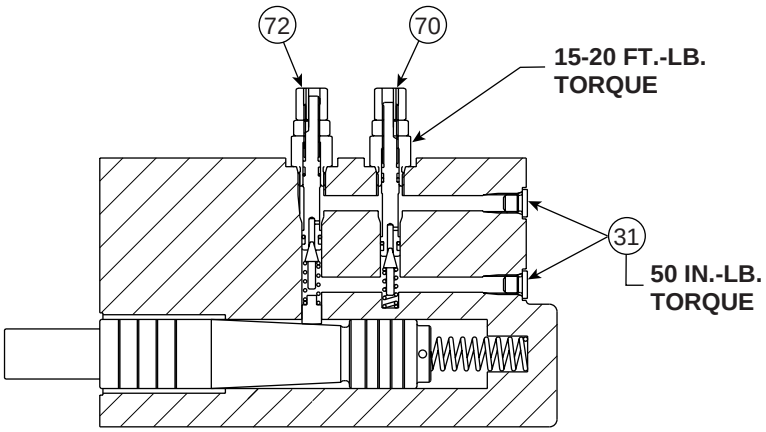
NON-ADJ. DIFFERENTIAL VARIATION - OMIT

	POSITION			
CONTROL OPTION	1	2	3	4
OMIT	OPEN	690870	108X4	108X4
A	102X1	690870	OPEN	108X4
C	102X1	690870	OPEN	108X4
H	OPEN	690870	108X4	108X4
M	690870	OPEN	OPEN	108X4
ME	102X1	690870	OPEN	108X4
S	690870	OPEN	OPEN	108X4
SE	102X1	690870	OPEN	108X4
AM	102X1	690870	786635	OPEN
CM	102X1	690870	786635	OPEN
HM	690870	OPEN	OPEN	108X4



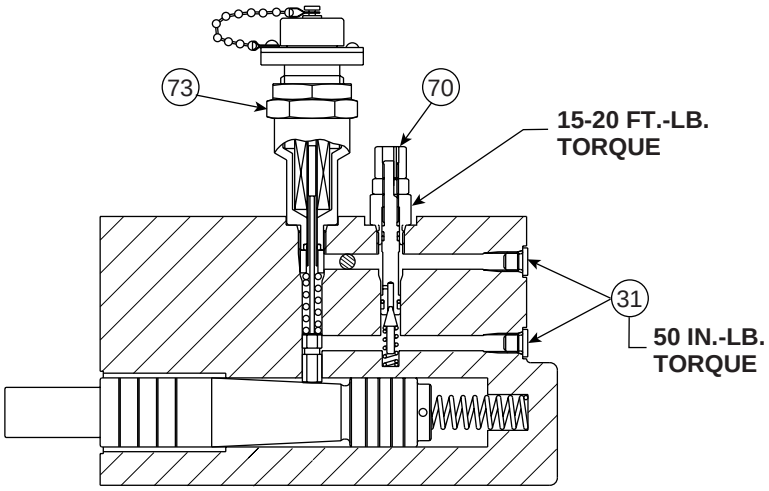
CONTROL OPTIONS
"OMIT", "M", "A" AND "AM"

SECTION Y-Y



CONTROL OPTIONS
"H", "C", "HM" AND "CM"

SECTION Y-Y



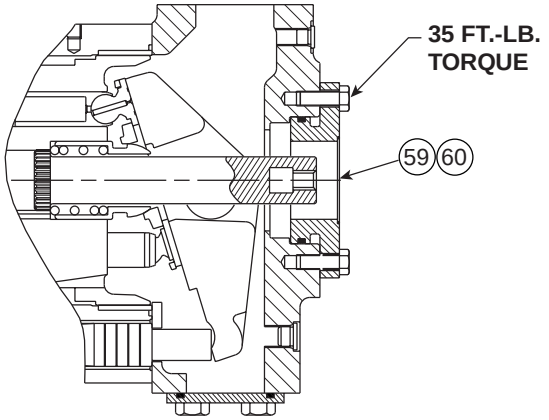
CONTROL OPTIONS
"S" AND "SE"

SECTION Y-Y

THRU-SHAFT PUMP OPTIONS

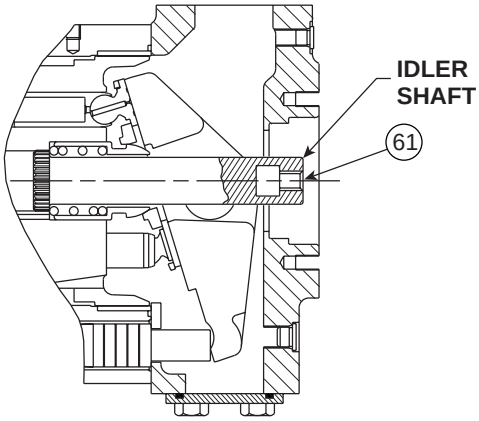
VARIATION "*A1" & "*A3"
- **PILOT DIAMETER: 2.000**
- **SHAFT LENGTH: 1.00-1.50**
- **SHAFT: .500 X .125 KEY (*A1)**
- **SHAFT: 9 TOOTH 20/40 PITCH (*A3)**

KIT PART NUMBERS:
- **"6A1" - 787851**
- **"6A3" - 786925**
- **"9A1" - 788628**
- **"9A3" - 788629**



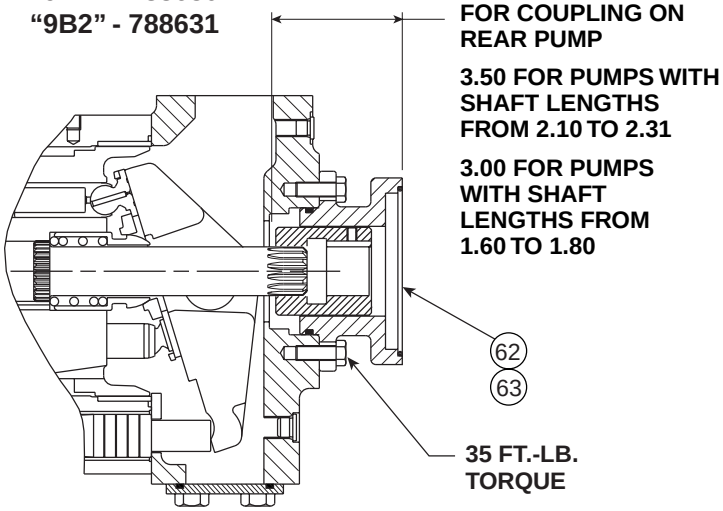
VARIATION "*A4"
- **PILOT DIAMETER: 3.250**
- **SHAFT LENGTH: 1.25-1.40**
- **SHAFT: 9 TOOTH 16/32 PITCH**

KIT PART NUMBERS:
- **"6A4" - 786926**
- **"9A4" - 788630**



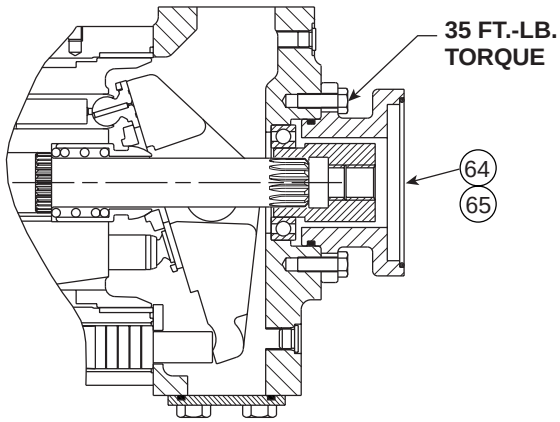
VARIATION "*B1" & "*B2"
- **PILOT DIAMETER: 4.000**
- **SHAFT LENGTH: 1.62-2.31**
- **SHAFT (*B1): .875 X .250 KEY**
- **SHAFT (*B2): 1.000 X .250 KEY**

KIT PART NUMBERS:
- **"6B1" - 786927**
- **"6B2" - 786932**
- **"9B1" - 788630**
- **"9B2" - 788631**



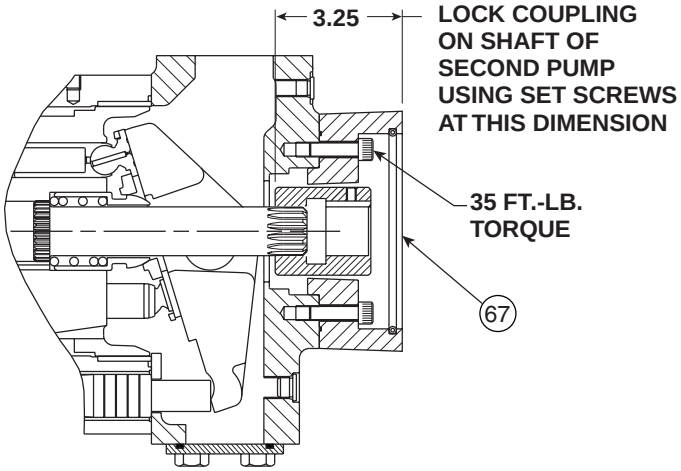
VARIATION "*B3" & "*B4"
- **PILOT DIAMETER: 4.000**
- **SHAFT LENGTH: 1.62-2.31**
- **SHAFT (*B3): 13 TOOTH 16/32 PITCH**
- **SHAFT (*B4): 15 TOOTH 16/32 PITCH**

KIT PART NUMBERS:
- **"6B3" - 787076**
- **"6B4" - 787077**
- **"9B3" - 788633**
- **"9B4" - 788634**



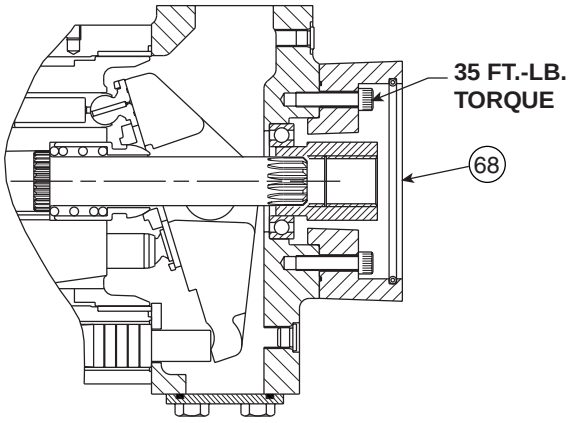
VARIATION "*C2"
PILOT DIAMETER: 5.000
SHAFT LENGTH: 1.80-2.20
SHAFT: 1.250 X .312 KEY

KIT PART NUMBERS:
"6C2" - 786928
"9C2" - 788635



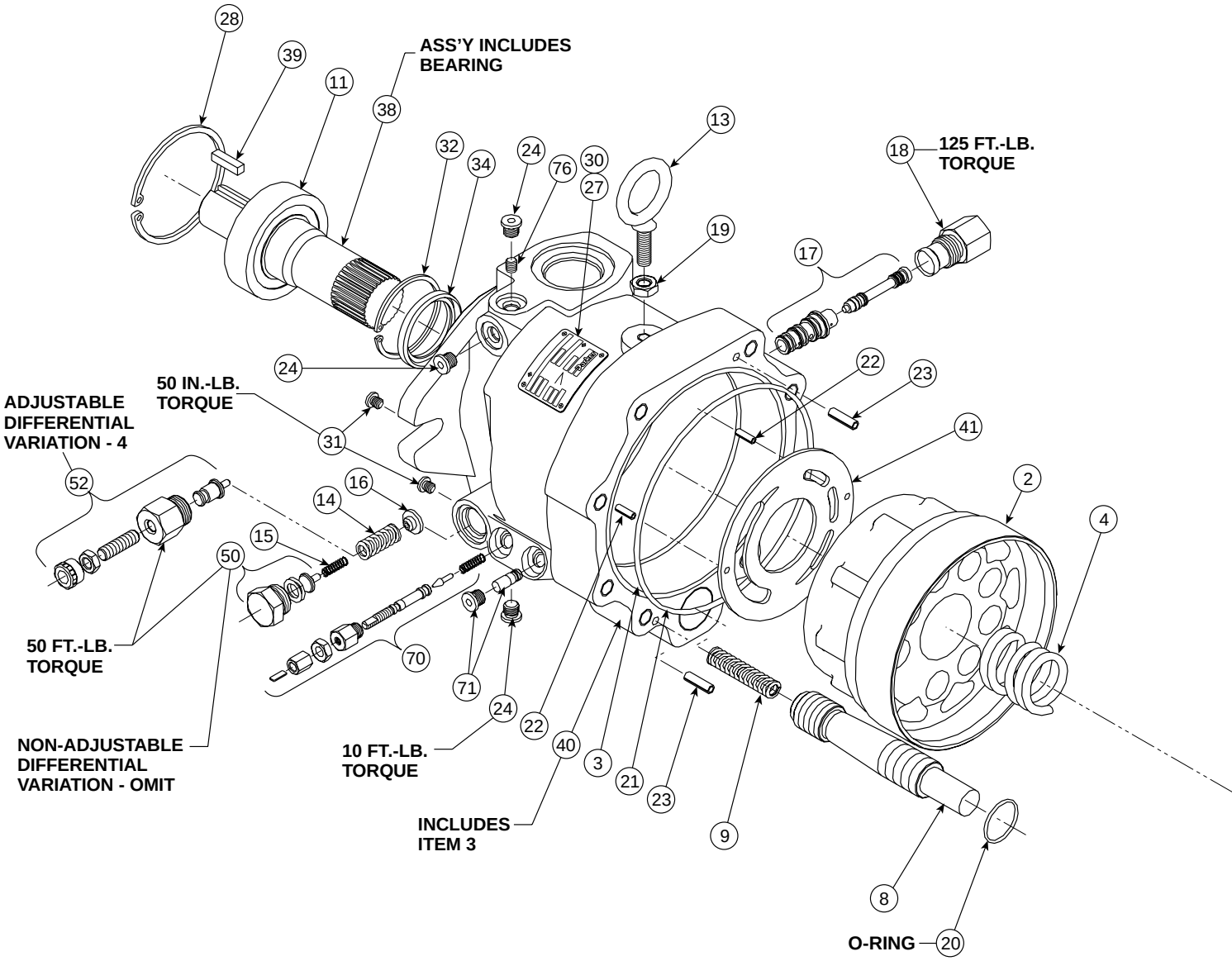
VARIATION "*C3"
PILOT DIAMETER: 5.000
SHAFT LENGTH: 1.80-2.20
SHAFT: 14 TOOTH 12/24 PITCH

KIT PART NUMBERS:
"6C3" - 787078
"9C3" - 788636



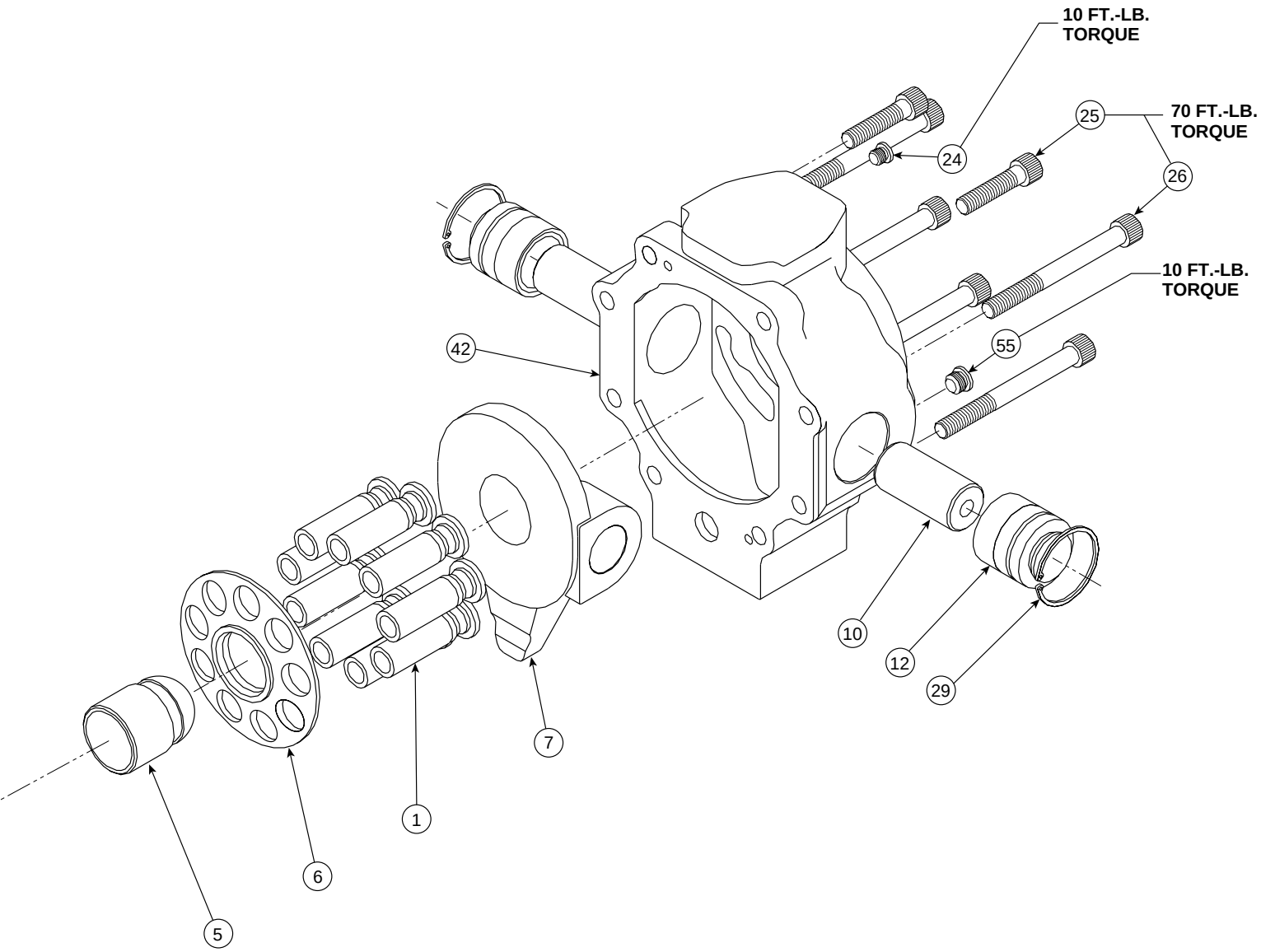
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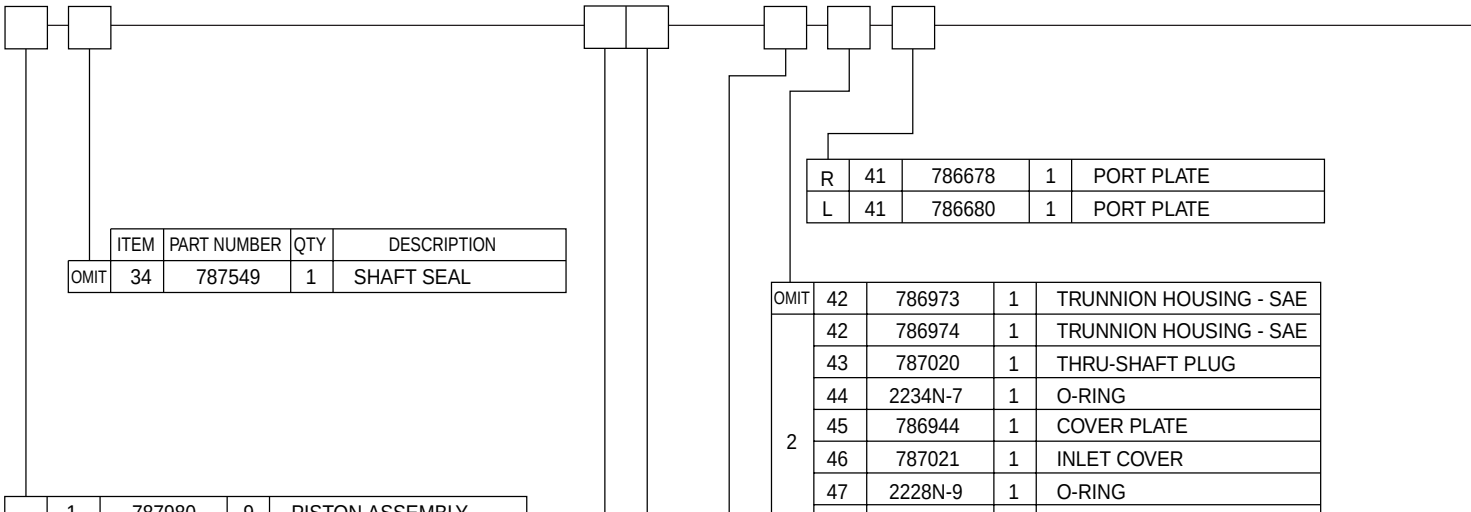
1. IDLER SHAFT INSTALLED THROUGH FRONT OF PUMP.
   (REMOVE INPUT SHAFT, INSTALL IDLER, RE-INSTALL INPUT SHAFT.)
2. WHEN CONVERTING PUMPS FROM THRU DRIVE VERSIONS TO NON THRU DRIVE VERSIONS, REMOVE THE TAIL BEARING AND IDLER SHAFT. LEAVING THE TAIL BEARING IN THE TRUNNION HOUSING WILL CAUSE INTERFERENCE WITH THE NON THRU DRIVE COVER AND WILL DAMAGE THE PUMP. REFER TO VIEWS ABOVE AND USE ONLY THE PARTS SHOWN IN THE APPLICABLE CONFIGURATION.



NOTES:

1. PUMP SHOWN IN CLOCKWISE ROTATION, CONTROL OPTION "OMIT", AND REAR INLET PORT. FOR COUNTERCLOCKWISE ROTATION OUTLET PORT, CONTROL DRAIN AND PUMP CONTROLS WILL BE ON OPPOSITE SIDE.
2. SEAL KIT – SK PAVC100 22
3. ROTATING GROUP KIT – RRK PAVC100 ☐ 22
   - R – CW ROTATION
   - L – CCW ROTATION


10 FT.-LB.
TORQUE
25
70 FT.-LB.
TORQUE
24
26
10 FT.-LB.
TORQUE
42
55
10
12
29
7
1
6
5



	ITEM	PART NUMBER	QTY	DESCRIPTION
OMIT	34	787549	1	SHAFT SEAL

R	41	786678	1	PORT PLATE
L	41	786680	1	PORT PLATE

OMIT	42	786973	1	TRUNNION HOUSING - SAE
2	42	786974	1	TRUNNION HOUSING - SAE
	43	787020	1	THRU-SHAFT PLUG
	44	2234N-7	1	O-RING
	45	786944	1	COVER PLATE
	46	787021	1	INLET COVER
	47	2228N-9	1	O-RING
	48	12X291	4	BOLT
	49	12X253	4	BOLT
8	42	788620	1	TRUNNION HOUSING - 6149
	43	787020	1	THRU-SHAFT PLUG
	44	2234N-7	1	O-RING
	45	786944	1	COVER PLATE
	46	787021	1	INLET COVER
	47	2228N-9	1	O-RING
	48	212X228	4	BOLT
	49	212X201	4	BOLT

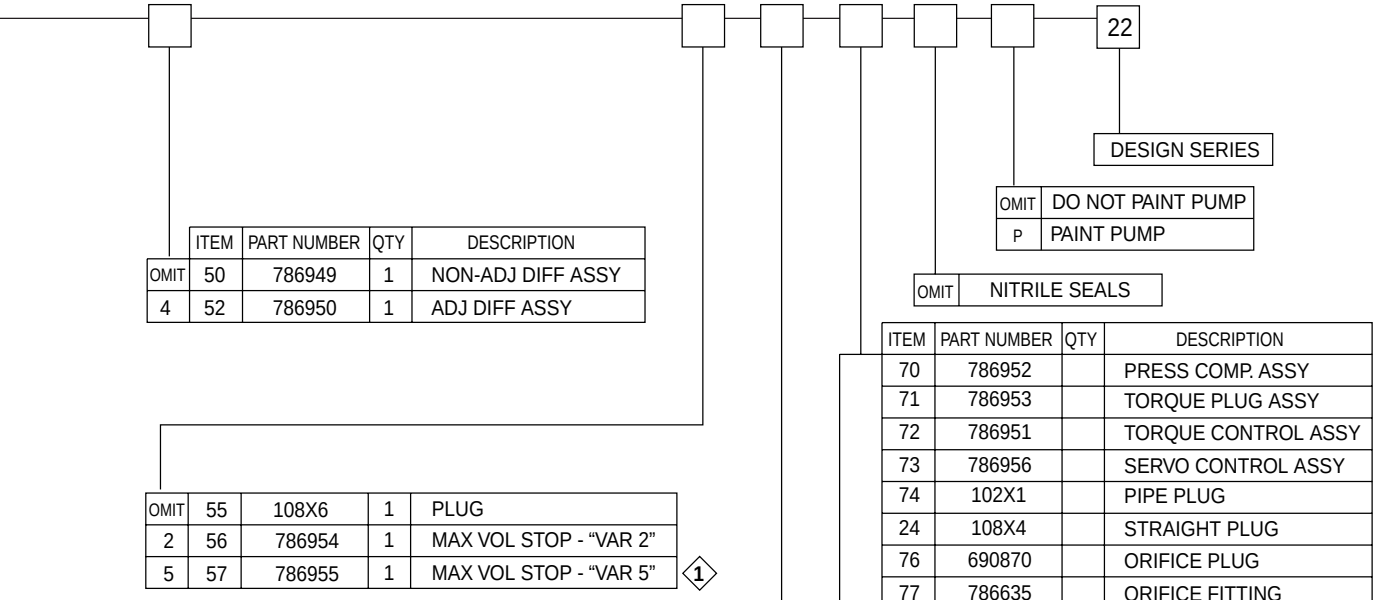
OMIT	OMIT 2	R	40	787558	1	FRONT HOUSING - SAE
		L	40	787559	1	FRONT HOUSING - SAE
	8	R	40	788616	1	FRONT HOUSING - 6149
		L	40	788617	1	FRONT HOUSING - 6149
3	OMIT 2	R	40	787556	1	FRONT HOUSING - SAE
		L	40	787557	1	FRONT HOUSING - SAE
	8	R	40	788618	1	FRONT HOUSING - 6149
		L	40	788619	1	FRONT HOUSING - 6149

1	787980	9	PISTON ASSEMBLY
2	787420	1	BARREL
3	786804	1	BUSHING-BARREL
4	787411	1	SPRING-BARREL
5	786685	1	BALL SEAT
6	786684	1	SLIPPER RETAINER
7	786867	1	SWASH PLATE
8	786872	1	SERVO PISTON
9	787412	1	SPRING-SERVO
10	786870	2	TRUNNION PIN
11	786568	1	BEARING - BALL
12	786966	1	TRUN. CAP ASSY.
13	800299	1	EYE BOLT
14	786865	1	SPRING-MODULATOR
15	787474	1	SPRING-UPSTROKE
16	786116	1	RETAINER-SPRING
17	787339	1	SPOOL & SLEEVE ASSY
18	786946	1	AIRBLEED ASSY.
19	16X23	1	JAM NUT
20	2025N-9	1	O-RING
21	2166N-9	1	O-RING
22	99X81	2	ROLL PIN
23	99X127	2	ROLL PIN
24	108X4	3	PLUG
25	10X294	2	CAP SCREW
26	10X303	6	CAP SCREW
27	800511	1	NAME PLATE
28	56X357	1	SNAP RING
29	56X327	2	SNAP RING
30	39X10	2	DRIVE SCREW
31	108X2	2	PLUG
32	56X329	1	SNAP RING

OMIT	OMIT	38	787592	1	SHAFT-STRAIGHT ASSY
		39	22X31	1	KEY
	B	38	787593	1	SHAFT SPLINE ASSY
	C	38	787594	1	SHAFT-STRAIGHT ASSY
		39	22X45	1	KEY
	D	38	787595	1	SHAFT-SPLINE ASSY
9	OMIT	38	787613	1	SHAFT-STRAIGHT ASSY
		39	22X31	1	KEY
	B	38	787572	1	SHAFT-SPLINE ASSY
	C	38	787573	1	SHAFT-STRAIGHT ASSY
		39	22X45	1	KEY
	D	38	787574	1	SHAFT-SPLINE ASSY
		80	787401	1	IDLER SHAFT
		81	787550	1	NEEDLE BEARING

NOTE:

1. VARIATION "5" NOT AVAILABLE WITH VARIATION "6" (THRU-SHAFT).
2. USE P/N 788516-04 IF ISO 6149 (PORTING OPTION 8) IS SPECIFIED.
3. SEAL KIT P/N: SK PAVC100 22.
4. ROTATING GROUP KIT RRKPAVC100 R22 (RIGHTHAND (CW) ROTATION).
   RRKPAVC100 L22 (LEFTHAND (CCW) ROTATION).



	ITEM	PART NUMBER	QTY	DESCRIPTION
OMIT	50	786949	1	NON-ADJ DIFF ASSY
4	52	786950	1	ADJ DIFF ASSY

	ITEM	PART NUMBER	QTY	DESCRIPTION
OMIT	55	108X6	1	PLUG
2	56	786954	1	MAX VOL STOP - “VAR 2”
5	57	786955	1	MAX VOL STOP - “VAR 5”

ITEM	PART NUMBER	QTY	DESCRIPTION
70	786952		PRESS COMP. ASSY
71	786953		TORQUE PLUG ASSY
72	786951		TORQUE CONTROL ASSY
73	786956		SERVO CONTROL ASSY
74	102X1		PIPE PLUG
24	108X4		STRAIGHT PLUG
76	690870		ORIFICE PLUG
77	786635		ORIFICE FITTING

OMIT
A
C
H
M
ME
S
SE
AM
CM
HM

REFER TO SECTION X-X
& SECTION Y-Y
FOR LOCATION & COMBINATION
OF ABOVE COMPONENTS

	ITEM	PART NUMBER	QTY	DESCRIPTION
OMIT				NO THRU- SHAFT OPTION
6A1	59	787851	1	ADAPTER KIT “AA”
6A3	60	786925	1	ADAPTER KIT “AA”
6A4	61	786926	1	ADAPTER KIT “A”
6B1	62	786927	1	ADAPTER KIT “B”
6B2	63	786932	1	ADAPTER KIT “BB”
6B3	64	787076	1	ADAPTER KIT “B”
6B4	65	787077	1	ADAPTER KIT “BB”
6C2	67	786928	1	ADAPTER KIT “C”
6C3	68	787078	1	ADAPTER KIT “C”
9A1	59	788628	1	ADAPTER KIT “AA”
9A3	60	786629	1	ADAPTER KIT “AA”
9A4	61	786630	1	ADAPTER KIT “A”
9B1	62	788631	1	ADAPTER KIT “B”
9B2	63	788632	1	ADAPTER KIT “BB”
9B3	64	788633	1	ADAPTER KIT “B”
9B4	65	788634	1	ADAPTER KIT “BB”
9C2	67	788635	1	ADAPTER KIT “C”
9C3	68	788636	1	ADAPTER KIT “C”

SERVICE NOTES:

- **Use a clean lubricant (compatible with the working fluid) on all pump components during assembly.**
- **Thoroughly clean the reservoir, suction lines, suction strainer, drain lines, etc. before re-installing the pump. Most premature pump failures occur when contaminants from a previous failure have not been completely removed from the system, or cause for previous failure is still present (i.e. water in oil, filter bypassing, etc.).**
- **Always fill the case with clean fluid before starting a new or serviced pump (fill as high as inlet port will allow on a PAVC style pump). For flooded suction, purge air from suction lines by cracking the inlet fitting or vent plug on pump body. This should prevent an airlock condition and allow for faster priming. Starting the pump slowly by jogging (or turning over engine without allowing it to start) will help the pump prime and makes it easier to determine when priming has occurred.**
- **Check for proper shaft rotation if there is a possibility it may have changed during a system rebuild.**
- **Start pump with an open circuit whenever possible. Reduce the compensator to its minimum setting during start-up. Cycle the pump on and off stroke while increasing the compensator to its required setting. This will assist in break-in of new components and help purge air from the case.**

BASIC TROUBLESHOOTING:

Pump Won't Prime

Note: Pump should prime within 30 seconds. If it does not, **STOP**!

- Check for proper drive rotation.
- Make sure pump shaft is turning (i.e. key at coupling hubs is engaged).
- Make sure reservoir is full.
- Check for major sources of a suction leak (vent plug open, shaft seal missing (PAVC), flange not tight, pinched o-ring at flange or pump housing, etc.).

Can't Build Any Pressure

- Make sure pump is primed.
- Check alignment, especially on PAVC pumps without "9" option.
- Make sure system is not an open circuit. (A pump produces *flow*, not pressure. It can only *limit* pressure when the system requirement is higher than the pump compensator setting.)

Can Only Build A Few Hundred PSI

- Compensator is backed all the way out.
- Remote/load sense line is vented.
- Control orifice is plugged.
- Pressure control dart is lodged open.
- Torque control plug missing (PAVC).
- Wrong compensator spool (PVP).

Pump Won't Compensate

- Differential spring over-compressed (i.e. spring guide dislocated).
- Drain line blocked (PAVC).
- Pressure control stem vent hole is plugged.
- Spool travel hindered.
- Control orifice missing (PAVC).
- Saturation orifice missing in load sense circuit.

Offer Of Sale

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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.

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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 limitations, 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 judgements 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 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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