Service Parts Guide
Model PAVC 100****22

Effective: April 18, 2012

PAVC 100****22 Series
Variable Volume
Piston Pump
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NOTE:
1. PUMP SHOWN WITH INLET PORT OPTION “OMIT” (REAR PORT)

NOTE:
1. PUMP SHOWN WITH INLET PORT OPTION “2” (TOP/BOTTOM PORTS).
70 FT.-LB. TORQUE

1.322 INSTALLED HEIGHT OF TRU NNION PIN (ITEM #10)
1.312 INTO SWASHPLATE (ITEM #7) (INTERFERENCE FIT)

25-30 FT.-LB. TORQUE

17 FT.-LB. TORQUE

MAXIMUM VOLUME STOP VARIATION - 2

MAXIMUM VOLUME STOP VARIATION - 5
<table>
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<th>CONTROL OPTION</th>
<th>POSITION</th>
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<td>OMIT</td>
<td>OPEN 690870 108X4 108X4</td>
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<td>A</td>
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<tr>
<td>H</td>
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</tr>
<tr>
<td>M</td>
<td>690870 OPEN OPEN 108X4</td>
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<tr>
<td>ME</td>
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<tr>
<td>S</td>
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<td>CM</td>
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<tr>
<td>HM</td>
<td>690870 OPEN OPEN 108X4</td>
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CONTROL OPTIONS
“OMIT”, “M”, “A” AND “AM”

CONTROL OPTIONS
“H”, “C”, “HM” AND “CM”

CONTROL OPTIONS
“S” AND “SE”
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 “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 “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 “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

NOTE:
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.

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

35 FT.-LB. TORQUE

LOCK COUPLING ON SHAFT OF SECOND PUMP USING SET SCREWS AT THIS DIMENSION

35 FT.-LB. TORQUE

3.25
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
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 KIT RRKPVC100 R22 (RIGHHAND (CW) ROTATION).
      RRKPVC100 L22 (LEFTHAND (CCW) ROTATION).
<table>
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<td>786950</td>
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<td>ADJ DIFF ASSY</td>
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<td>108X6</td>
<td>1</td>
<td>PLUG</td>
</tr>
<tr>
<td>2</td>
<td>786954</td>
<td>1</td>
<td>MAX VOL STOP - &quot;VAR 2&quot;</td>
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<td>5</td>
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<td>PRESS COMP. ASSY</td>
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<td>ORIFICE FITTING</td>
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Refer to Section X-X & Section Y-Y for location & combination of above components.

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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.
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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 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 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.

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 COMPRIS ES 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 DESIGN OR SPECIFICATIONS.

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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, such a 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 the property of Buyer unless paid by Buyer in full and accepted 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 acceptance by Buyer. Unless otherwise agreed, Seller has 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. Buyer’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 in delivery 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 laws 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.