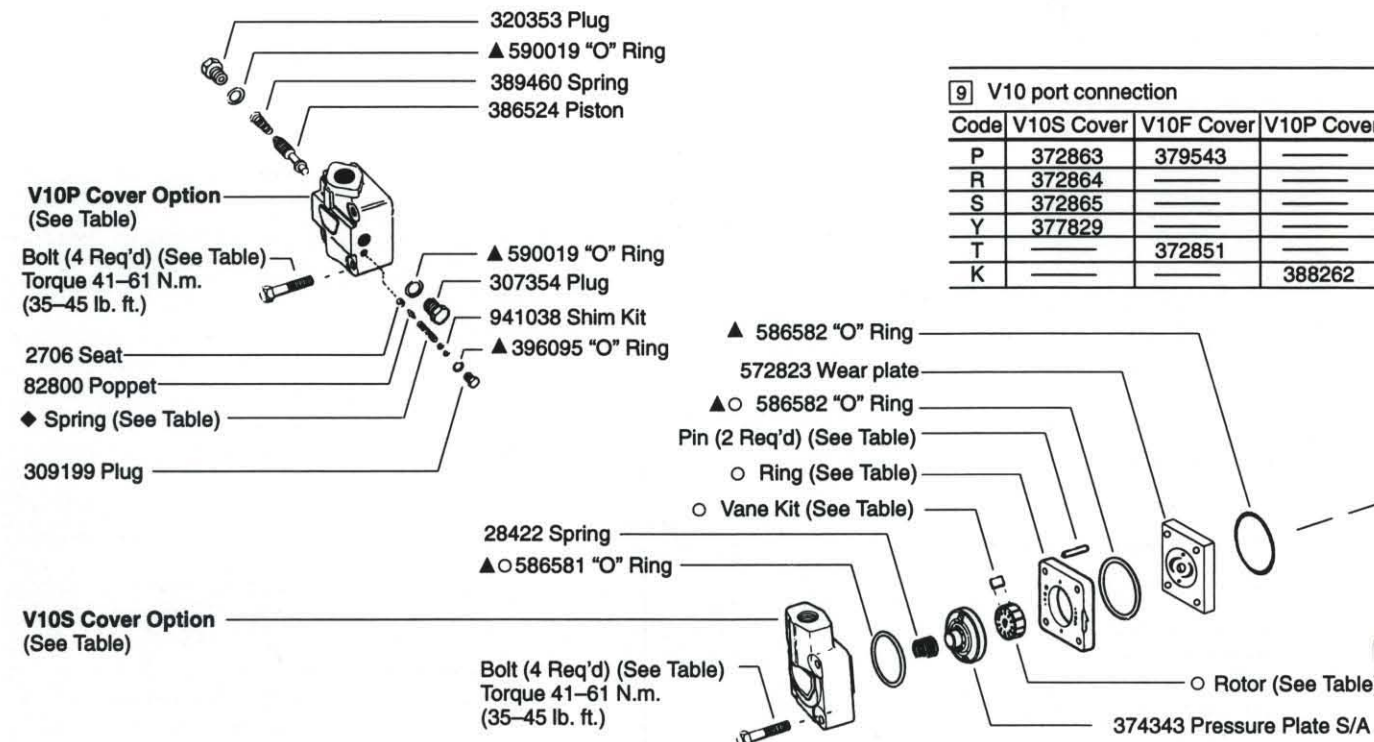
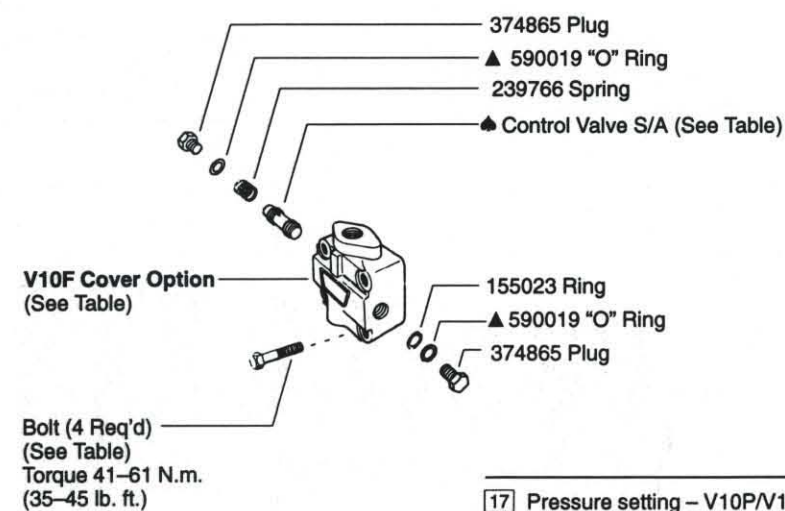


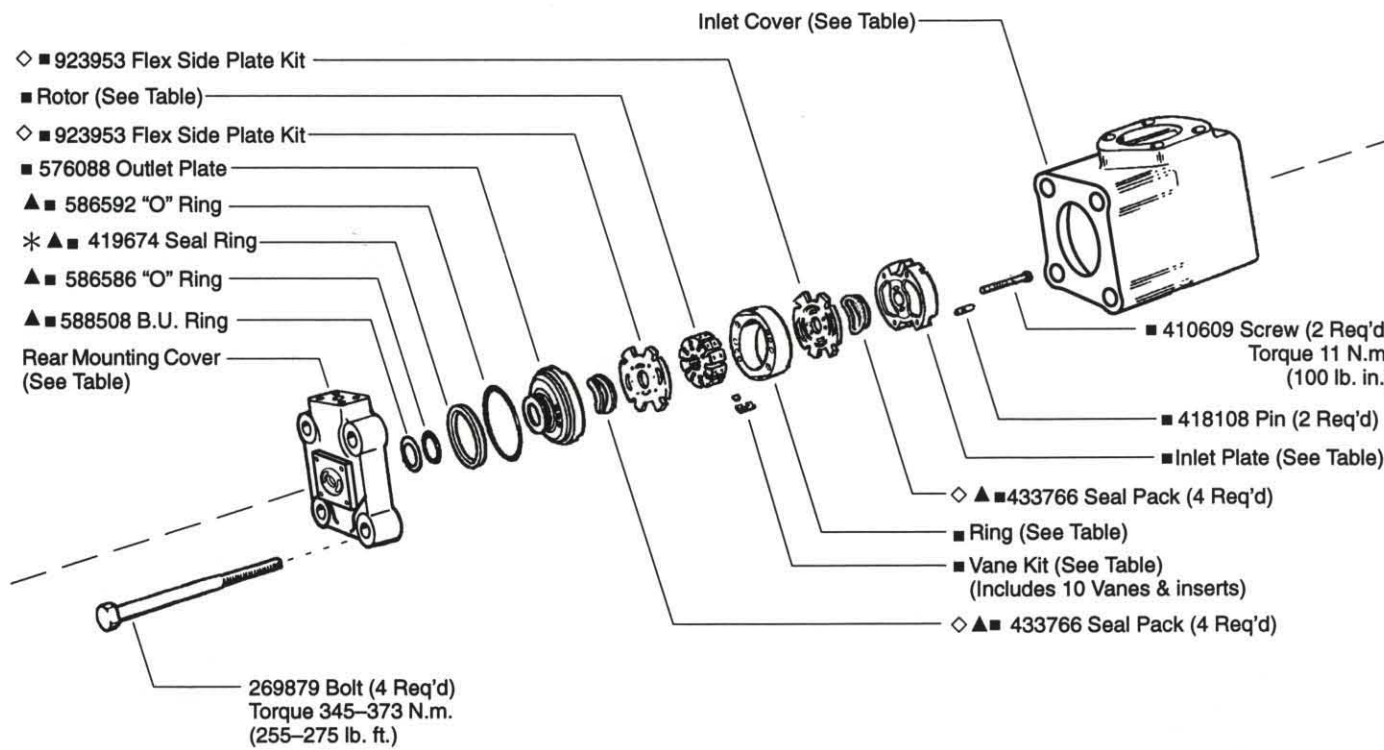
10 SAE rated capacity (V10 cover end cartridge)									
USgpm	○ Rotor	○ Vane Kit (12 vanes)	○ Ring	Pin (V10S)	Pin (V10F/V10P)	Bolt (V10S)	Bolt (V10F)	Bolt (V10P)	○ Cartridge Kit
1			317674						923471
2	317681	923499	317675	2456	2456	11156	295344	295344	923470
3			317676						923496
4			317677						923469
5	351247	923500	317678	16662	16662	1278	432511	432511	923468
6			355641						923497
7	357286	923501	331813	179341	179341	432509	295346	295346	923498



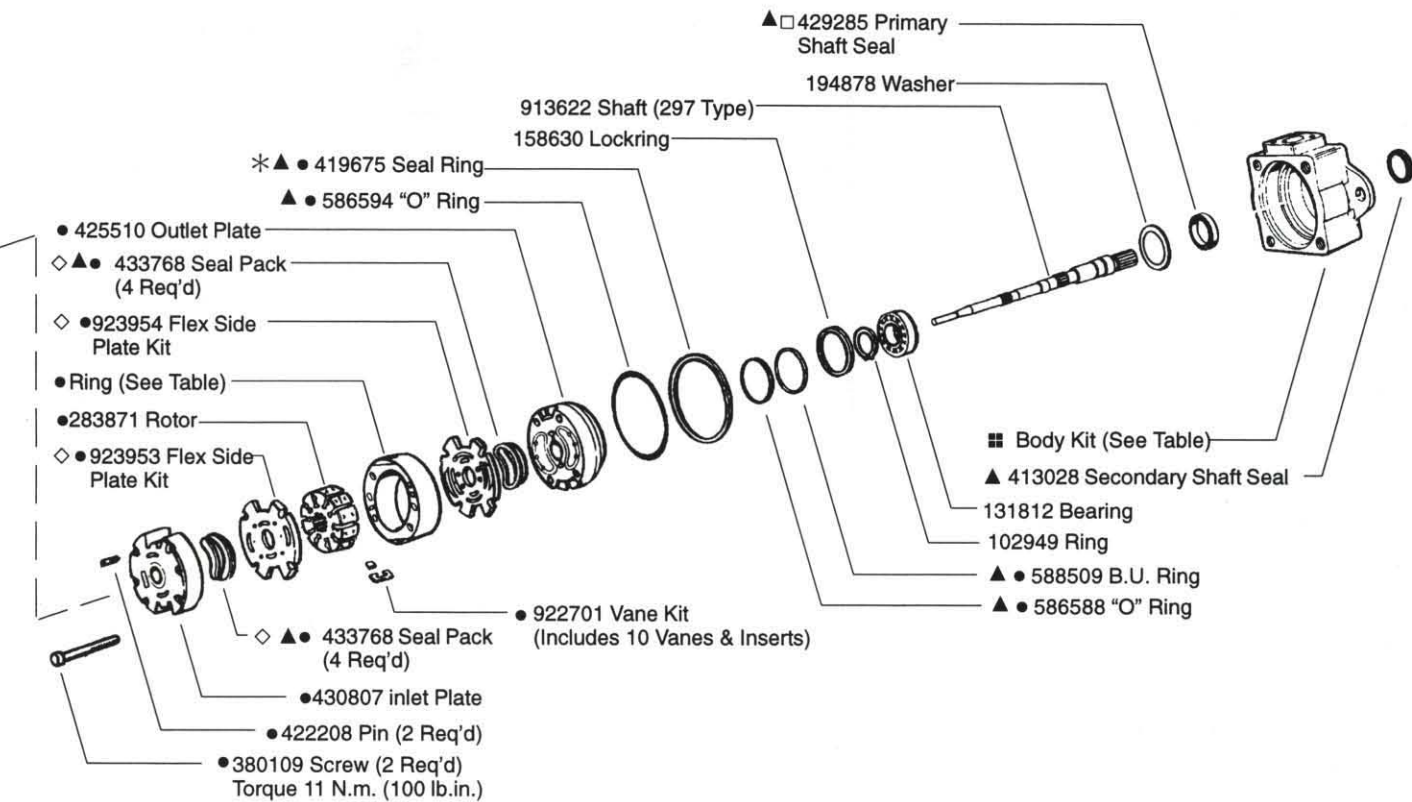
9 V10 port connection			
Code	V10S Cover	V10F Cover	V10P Cover
P	372863	379543	
R	372864		
S	372865		
Y	377829		
T		372851	
K			388262



17 Pressure setting - V10P/V10F (Omit for V10S)			
Code	Pressure setting V10P/V10F	◆ V10P Spring	▲ V10F control valve S/A
A	250 psi	252886	229613
B	500 psi	2280	233018
C	750 psi		232794
D	1000 psi		232795
E	1250 psi	2282	232796
F	1500 psi		232797
G	1750 psi		232798
H	2000 psi		232799
J	2250 psi	2281	233019
K	2500 psi		233020



8 SAE rated capacity (**35 VQ center cartridge)					
USgpm	Ring	Inlet Plate	Rotor	Vane Kit	F3 Cart. Kit
21	394961				583338
25	319396				583339
30	319397				583340
35	319398	412005	262154	922700	583341
38	319399				583342



6 SAE rated capacity (45**VQ shaft end cartridge)		
USgpm	Ring	F3 Cart. Kit
42	297510	419511
47	297718	421954
50	297502	419510
57	306772	421955
60	297503	419509

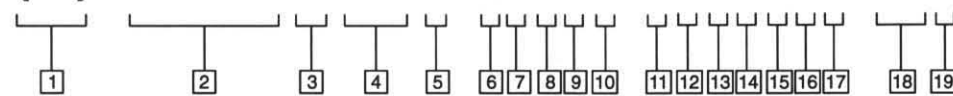
7 Port connections			
Connection Type	Body Kit	Inlet Cover	Rear Mounting Cover
-A - 4 Bolt Flange (Inch)	02-136923	379585	572817
AM - 4 Bolt Flange (Metric)	02-136924	875811	913710

NOTE: Body kit includes body, ball, and plug. (Ball and plug not shown.)

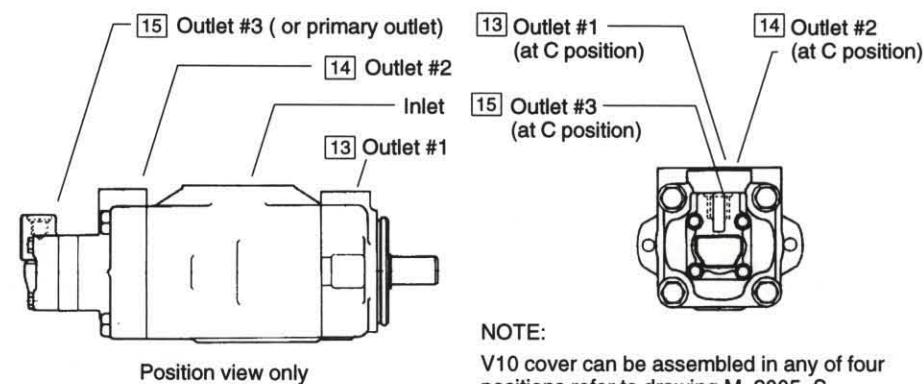
- Included in 45** VQ shaft end cartridge kit.
- Included in **35 VQ center cartridge kit.
- Included in V10 cover end cartridge kit.
- ▲ Included in seal kit 920168. (Kit contains F3 components & both shaft seals.)
- ◇ Included in flex side plate kit; bronze face of plate must be installed toward the rotor. Kit also contains four seal packs.
- Assemble seal with spring loaded sealing member towards bearing. Seals to be completely wetted with oil prior to assembly.
- * Install 419675 & 419674 sealing ring into body, then install cartridge kit.

Model Code

(F3) - 4535VQ S V10 * - * * * * - * * * * * - 20 *



<p>1 Special seals F3 - Viton "O" Rings and shaft seals</p> <p>2 Pump series designation 45**VQ - Shaft end pump **35VQ - Center pump</p> <p>3 Body mounting flange S - SAE mounting per J-744 101-2</p> <p>4 Pump series designation V10 cover end pump</p> <p>5 V10 pump cover options S - Standard cover F - Flow control and relief cover P - Priority valve and relief cover</p> <p>6 SAE rated capacity (VQ shaft - end cartridge) Code Code 42 - 42 USgpm 57 - 57 USgpm 47 - 47 USgpm 60 - 60 USgpm 50 - 50 USgpm</p> <p>7 VQ port connections (inlet & outlet #1 & #2) A - 4 bolt flange (inch threads) AM - 4 bolt flange (metric threads)</p> <p>8 SAE rated capacity (VQ center cartridge) Code Code 21 - 21 USgpm 35 - 35 USgpm 25 - 25 USgpm 38 - 38 USgpm 30 - 30 USgpm</p>	<p>9 V10 port connections V10S standard covers and outlet # 3 Code S - .750-16 Str. thd. P - 1/2" - NPT thd. Y - .875-14 Str. thd. R - 1.062-12 Str. thd.</p> <p>V10F flow/relief control cover Code Outlet # 3 Tank port T - .750-16 Str. thd. .750-16 Str. thd. P - .750-16 Str. thd. 1/2" - NPT thd.</p> <p>V10P priority control covers Primary Secondary Tank port port port Str. thd. Code Str. thd Str. thd. K - .5625-18 .750-16 .5625-18</p> <p>10 SAE rated capacity (V10 cover end cartridge) Code Code 1 - 1 USgpm 5 - 5 USgpm 2 - 2 USgpm 6 - 6 USgpm 3 - 3 USgpm 7 - 7 USgpm 4 - 4 USgpm</p> <p>11 Shaft seal Blank - Single seal S - Double seal</p> <p>12 Shaft type 297 - All series</p> <p>13 Port orientation (Outlet #1) (Viewed from cover end of pump; refer to table on next page)</p>	<p>14 Port orientation (Outlet #2) (Viewed from cover end of pump; refer to table on next page)</p> <p>15 Port orientation (Outlet #3 or primary outlet) (Viewed from cover end of pump; refer to table on next page)</p> <p>16 Controlled flow rate, V10F & V10P (Omit for standard cover) Code Code 3 - 3 USgpm 6 - 6 USgpm 4 - 4 USgpm 7 - 7 USgpm 5 - 5 USgpm 8 - 8 USgpm</p> <p>17 Relief valve pressure setting, V10F & V10P (Omit for standard cover) Code Code A - 250 psi F - 1500 psi B - 500 psi G - 1750 psi C - 750 psi H - 2000 psi D - 1000 psi J - 2250 psi E - 1250 psi K - 2500 psi</p> <p>18 Design (Subject to change)</p> <p>19 Rotation (Viewed from shaft end of pump) L - Left hand for counterclockwise R - Right hand for clockwise</p>
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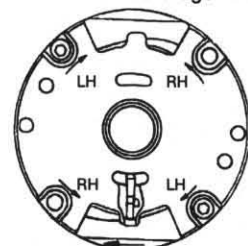


NOTE:
V10 cover can be assembled in any of four positions refer to drawing M-2005-S

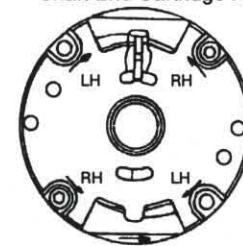
NOTE:

- Standard right hand shaft rotation cartridges shown. Reverse for left hand rotation; refer to note.

Center Cartridge R. H. Rotation



Shaft End Cartridge R. H. Rotation



- Sharp Edges of Vane Must Lead in Direction of Rotation

13 14 15 Port orientation code
(Viewed from cover end of pump)

Outlet	13 #1	14 #2	15 #3
Opposite inlet	A	A	A
90° CCW from inlet	B	B	B
Inline with inlet	C	C	C
90° CW from inlet	D	D	D

NOTE:

- To reverse cartridge kit rotation, remove the two screws and reverse the location of the inlet support plate and the outlet support plate. Reinstall the two screws hand tight. Use pump cover to align all sections of the cartridge. Carefully remove the cover and tighten the screws.

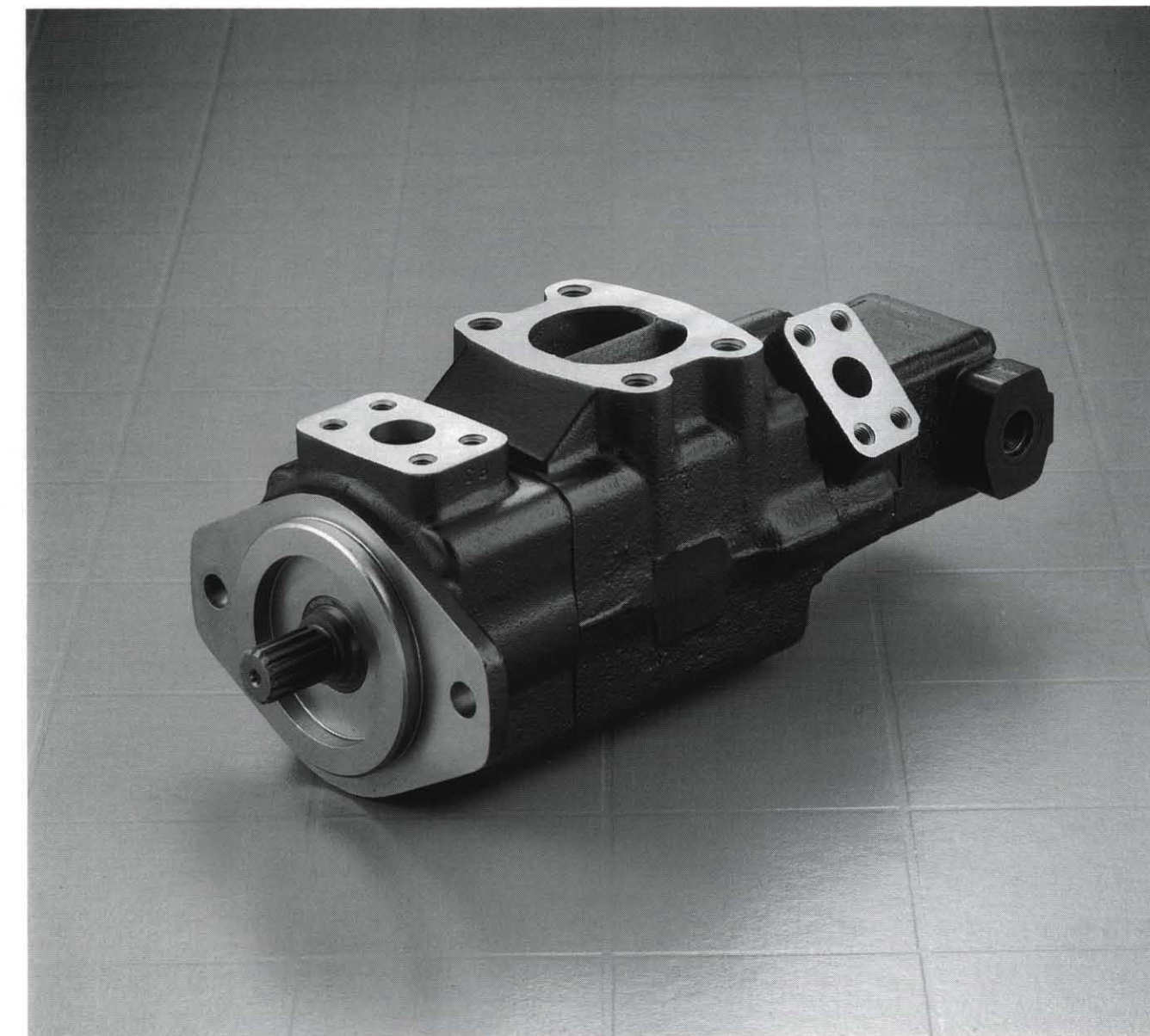
- When ordering spare cartridge parts, it is recommended they be obtained in cartridge kits. Kits are assembled and tested for either right or left hand rotation. If left hand rotation is required, it should be specified on parts order by adding suffix "L" to cartridge kit number.

Service Data



Vane Type Triple Pump

(F3)-4535VQSV10*-*****-*****-20*



Vickers Incorporated
5445 Corporate Drive
P. O. Box 302
Troy, Michigan 48007-0302
U.S.A.