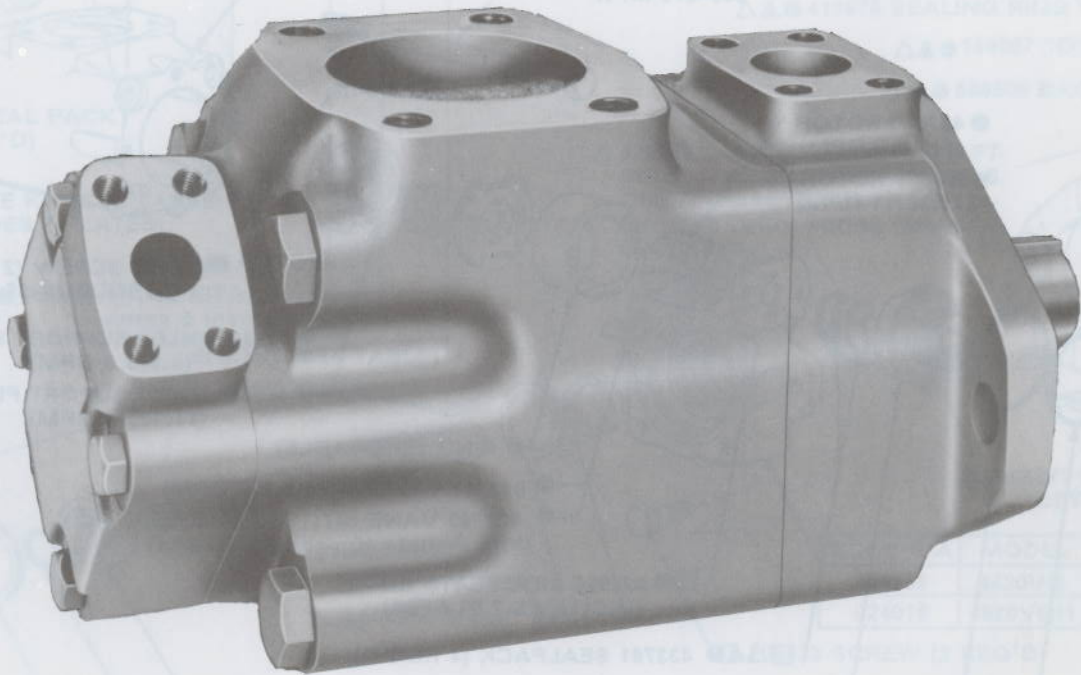




# Service Parts Information

Double  
Pumps

(F3)-4520VQ(H) Series  
- 30 Design



Vickers, Incorporated

1401 Crooks Road  
Troy, Michigan 48084

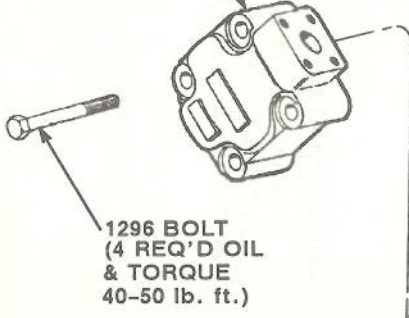
Released 10-1-87 M-2507-S

# 4520VQ(H)-\*\*\*-30

COVER	MODEL
250824	4520VQ(H)**A
252504	4520VQ(H)**E

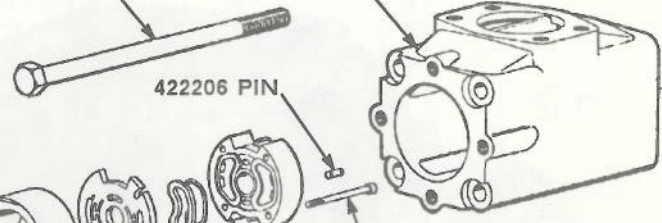
**NOTE**  
Seals must be completely wetted at time of assembly with an SAE 10W motor oil of "SE" quality or an industrial hydraulic equivalent.

**CAUTION**  
Individual cartridge parts and kits are not interchangeable with similar parts or kits of the previous design.



87947 BOLT (4 REQ'D)  
OIL & TORQUE 255-275 lb. ft.

HOUSING	MODEL
252283	4520VQ
429911	4520VQH



- 402690 ROTOR (5,6,8,9 GPM)
- 403539 ROTOR (11,12,14 GPM)

● 416426 SCREW (2 REQ'D)  
TORQUE 25-35 lb.in.

● 419502 INLET SUPPORT PLATE (5,6,8,9 GPM)

● 419501 INLET SUPPORT PLATE (11,12,14 GPM)

● RING (SEE TABLE)

● 922741 VANE KIT (5,6,8,9 GPM)

● 922743 VANE KIT (11,12,14 GPM)  
(Kits include 10 vanes & inserts)

□ ● 923955 SIDE PLATE KIT  
(INCLUDES 2 PLATES)

□ ▲ ● 433761 SEALPACK (4 REQ'D)

● 419500 OUTLET SUPPORT PLATE

▲ ● 154090 "O" RING

▲ ● 419672 SEALING RING

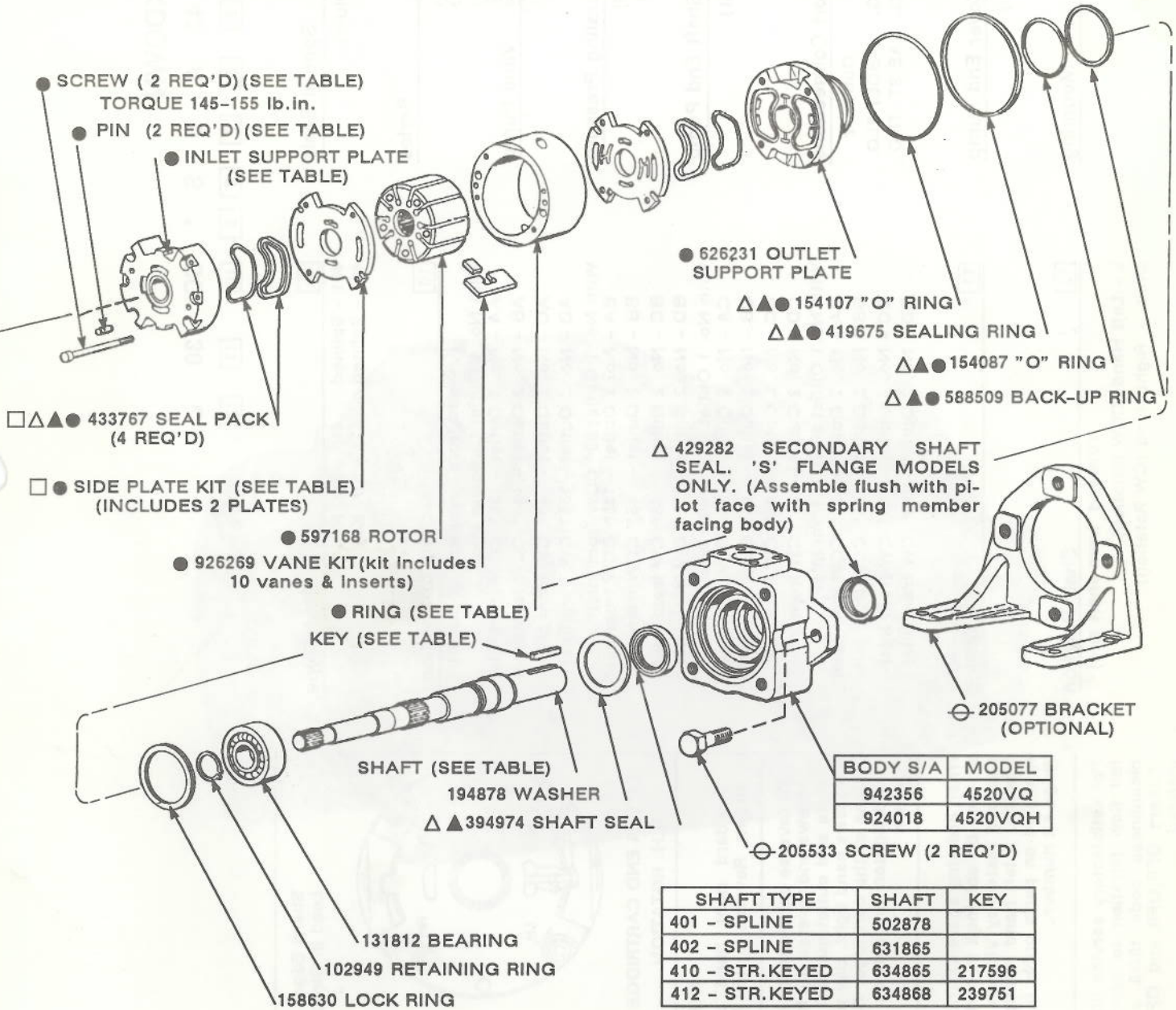
▲ ● 154026 "O" RING

▲ ● 588506 BACK-UP RING

**NOTE**  
Install 419672 sealing ring into cover, then install cartridge.

Model (Cover End)	Ring	Cartridge Kit	
		Std	F3
4520VQ(H)***5	333624	417053	421588
4520VQ(H)***6	431883	431882	—
4520VQ(H)***8	333625	417054	421589
4520VQ(H)***9	374799	423096	423097
4520VQ(H)***11	333626	416427	421590
4520VQ(H)***12	353901	416428	421591
4520VQ(H)***14	353902	416429	421592

Model (Shaft End)	Screw	Pin	Inlet Support Plate S/A	Side Plate Kit	Ring	Cartridge Kit	
						Std.	F3
4520VQ42	380109	422208	631855	926270	631858	630654	630646
4520VQ47					628307	630647	630653
4520VQ50					631859	630656	630648
4520VQ57					630645	630649	630655
4520VQ60					631862	630658	630650
4520VQH42	433227	427335	631857	924017	631858	634897	634901
4520VQH47					628307	634898	634902
4520VQH50					631859	634899	634903
4520VQH57					630645	634900	634904
4520VQH60					631862	634908	634907



**NOTE**  
Install 419675 sealing ring into body, then install cartridge.

Wipe O.D. of shaft seals with oil before pressing into body. Apply grease to seal I.D. before installation of shaft. Assemble seal with spring member toward bearing.

- INCLUDED IN STD. KIT (SEE TABLE)  
EQUIVALENT F3 CARTRIDGE KIT (SEE TABLE)
- ▲ INCLUDED IN STD SINGLE SHAFT SEAL KIT 920060  
EQUIVALENT F3 SINGLE SHAFT SEAL KIT 920062
- ▲ INCLUDED IN STD DOUBLE SHAFT SEAL KIT 920061  
EQUIVALENT F3 DOUBLE SHAFT SEAL KIT 920063
- INCLUDED IN SIDE PLATE KIT  
(BRONZE SURFACES MUST FACE ROTOR)
- ⊕ INCLUDED IN FOOT BRACKET FB-C-10

# MODEL CODE BREAKDOWN

(F3) 4520 VQ (H) 42 A 5 S \* CC 30 L

1 2 3 4 5 6 7 8 9 10 11 12

## 1 Special Seals

For mineral oil & fire resistant fluids.

## 2 4520VQ Double Pump Series

## 3 (Intra-Vane Flex Plate Type) Vane Pump

## 4 Operating Pressure

H-High Pressure (3000-3500 PSI)  
Omit-Rated Pressure (3000 PSI)

## 5 US GPM Capacity Shaft End Pump

(SAE RATING 1200 RPM-100 PSI)  
42,47,50,57,60

## 6 SAE Port Connections

Code	Inlet	Outlet #1	Outlet #2
A	4-BOLT FLG.	4-BOLT FLG.	4-BOLT FLG.
E	4-BOLT FLG.	4-BOLT FLG.	SAE ST. THD.

## 7 US GPM Capacity Cover End Pump

(SAE RATING 1200 RPM-100 PSI)  
5,6,8,9,11,12,14

## 8 Mounting

F-Foot (Single Shaft Seal)  
S-Flange (Double Shaft Seal)  
Omit-Flange (Single Shaft Seal)

## 9 Shaft Type

401 - Splined 410 - Str. Key  
402 - Splined 412 - Str. Key

## 10 Outlet Positions

(Viewed from cover end of pump)

With No. 1 Outlet Opposite Inlet:

AA - No. 2 Outlet - 135° CCW from Inlet  
AB - No. 2 Outlet - 45° CCW from Inlet  
AC - No. 2 Outlet - 45° CW from Inlet  
AD - No. 2 Outlet - 135° CW from Inlet

With No. 1 Outlet 90° CCW from Inlet:

BA - No. 2 Outlet - 135° CCW from Inlet  
BB - No. 2 Outlet - 45° CCW from Inlet  
BC - No. 2 Outlet - 45° CW from Inlet  
BD - No. 2 Outlet - 135° CW from Inlet

With No. 1 Outlet Inline with Inlet

CA - No. 2 Outlet - 135° CCW from Inlet  
CB - No. 2 Outlet - 45° CCW from Inlet  
CC - No. 2 Outlet - 45° CW from Inlet  
CD - No. 2 Outlet - 135° CW from Inlet

With No. 1 Outlet 90° CW from Inlet  
DA - No. 2 Outlet - 135° CCW from Inlet  
DB - No. 2 Outlet - 45° CCW from Inlet  
DC - No. 2 Outlet - 45° CW from Inlet  
DD - No. 2 Outlet - 135° CW from Inlet

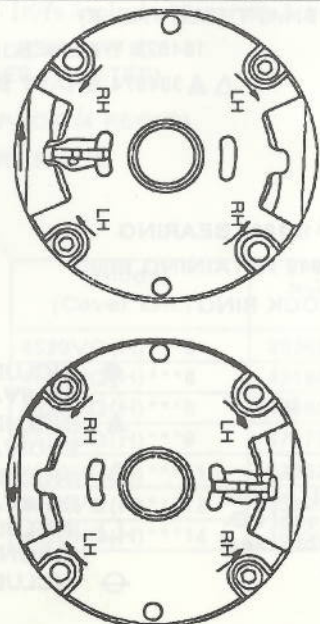
## 11 Design

## 12 Shaft Rotation

(Viewed from shaft end)

L - Left Hand (CCW Rotation)  
Omit - Right Hand (CW Rotation)

Sharp Edges of Vane Must Lead in Direction of Rotation



### NOTE

Standard right hand shaft rotation cartridges shown. Reverse for left hand rotation.

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

When ordering spare cartridge parts, it is recommended they be obtained in cartridge kits. Kits are assembled and tested by Vickers 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.

For satisfactory service life of these components, use full flow filtration to provide fluid which meets ISO cleanliness code 18/15 or cleaner. Selections from Vickers OFF, OFR and OFRS filter series are recommended.