

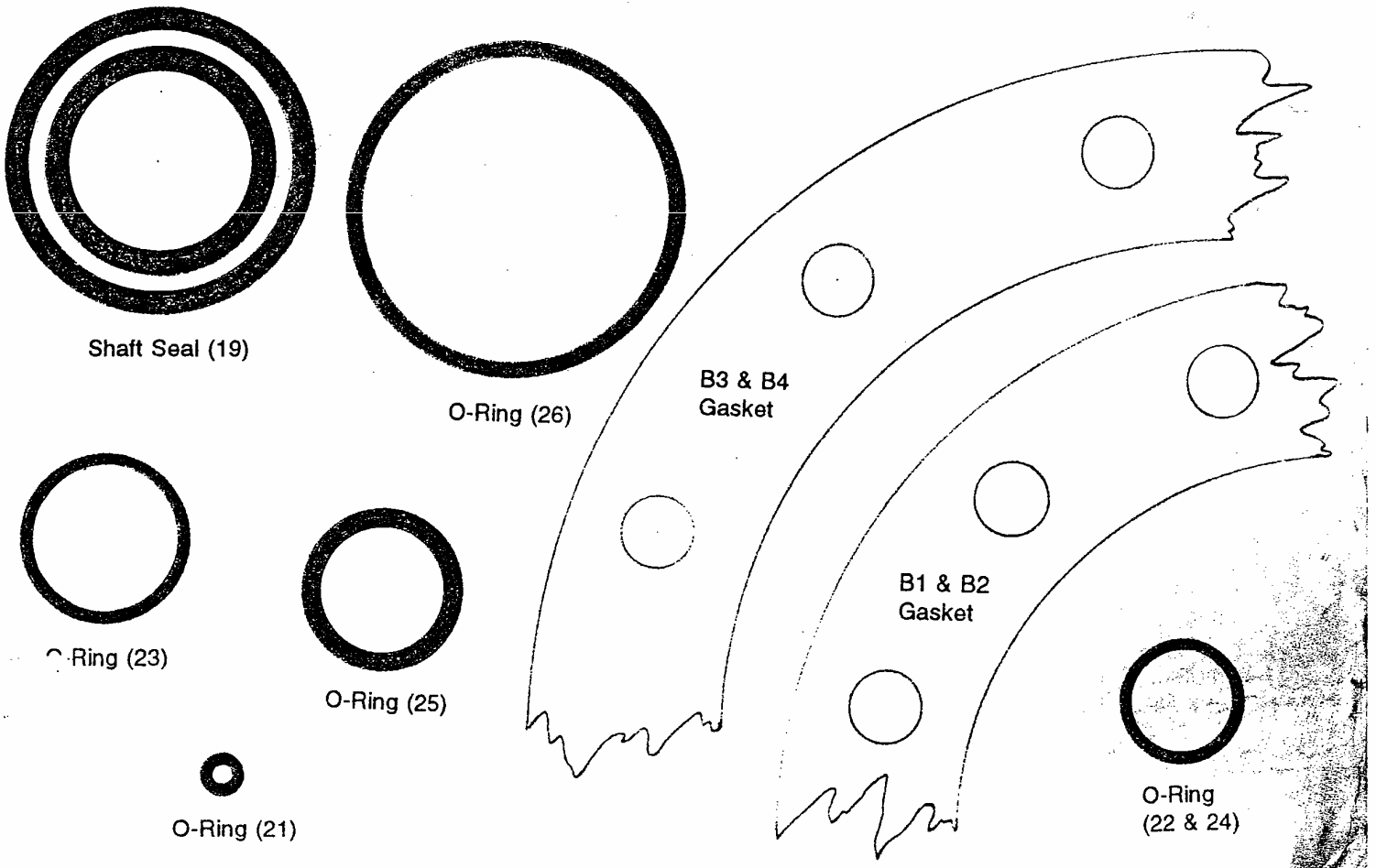


# HELM PUMPS

## SEAL KITS FOR "B" SERIES

<u>QTY</u>	<u>PART #</u>	<u>DESCRIPTION</u>	<u>ITEM #</u>	<u>WHERE USED</u>
1	10-500009	Shaft Seal	19	All B Helm Pumps
1	10-300014	Gasket	20	B1/B2 Pumps only
1	10-300015	Gasket	20	B3/B4 Pumps only
1	11-106006	O-Ring	21	All B Helm Pumps
2	11-106016	O-Ring	22	All B Helm Pumps
2	11-106020	O-Ring	23	B1/B2 Lockvalve
2	11-106016	O-Ring	24	B1/B2 Lockvalve
2	11-106116	O-Ring	25	B3/B4 Lockvalve
1	11-106133	O-Ring	26	B3/B4 Lockvalve

The drawing below indicates the full size of the components listed above. The parts are indicated by item numbers relating to Drawing C-1-370. Depending on the pump model, certain seals will not be required. The helm pump model is recorded on a label fastened to the side of the pump. Model numbers are also stamped into the wheel shaft bearing support projecting from the front of the pump housing, or on the pump shaft just in front of the bearing support and in line with the keyway. The numeral '2' indicates Model B2, etc.





### REPLACING THE GASKET (ITEM 20)

Grasp the lockvalve (item 9) in a vice. The helm pump shaft should point upward. Remove the bolt and key (items 1 and 2) from the shaft. Loosen the five capscrews (item 17) and lift the front plate (item 4) upward and slide off the pump shaft. Paint both sides of the new gasket (item 20) with a pipe-sealing compound such as 'Permatex' and install. If the shaft seal is to be replaced, it may be easier to do this while the front plate is removed.

NOTE: It is not necessary to disassemble the helm pump to replace the shaft seal. See 'REPLACING THE SHAFT SEAL (ITEM 19)'.

Place the bearing plate (item 18) the bearing (item 14) and bearing retainer (item 15) centrally over the shaft, balancing on the top of the piston ball ends. The bearing has two sides. One side has the manufacturer's name stamped in the metal. Be certain the stamped side points away from the piston ball ends.

Slide the front plate over the shaft and slowly move it downward until it just makes contact with the bearing assembly. With a sudden downward motion, push the housing and front plate together. This forces the bearing assembly into the illustrated position. Securely tighten the five capscrews (item 17) and nuts (item 16).

### REPLACING THE SHAFT SEAL (ITEM 19)

Remove the old seal with a sharp-pointed tool, taking care not to scratch or gouge the shaft. Position the new seal with the 'U' shaped side facing inside the pump. Use a short length of pipe (a sliding fit over the shaft) and tap the seal into position until flush with the front of the bearing support.

### REPLACING PUMP TO LOCKVALVE O-RINGS (ITEMS 21 & 22)

Remove the two lockvalve-mounting capscrews (item 10). Replace O-Rings (items 21 & 22) and remount the lockvalve. The mounting capscrews must be tightened securely.

### REPLACING THE LOCKVALVE O-RINGS (ITEMS 23, 24, & 25)

Two different types of lockvalves (and O-Rings) are used on the 'B' Series Helm Pumps. Models B1 and B2 require O-Rings (items 23 and 24). Models B3 and B4 require O-Rings (item 25). Both ends of the lockvalves have thread-in inserts or end caps.

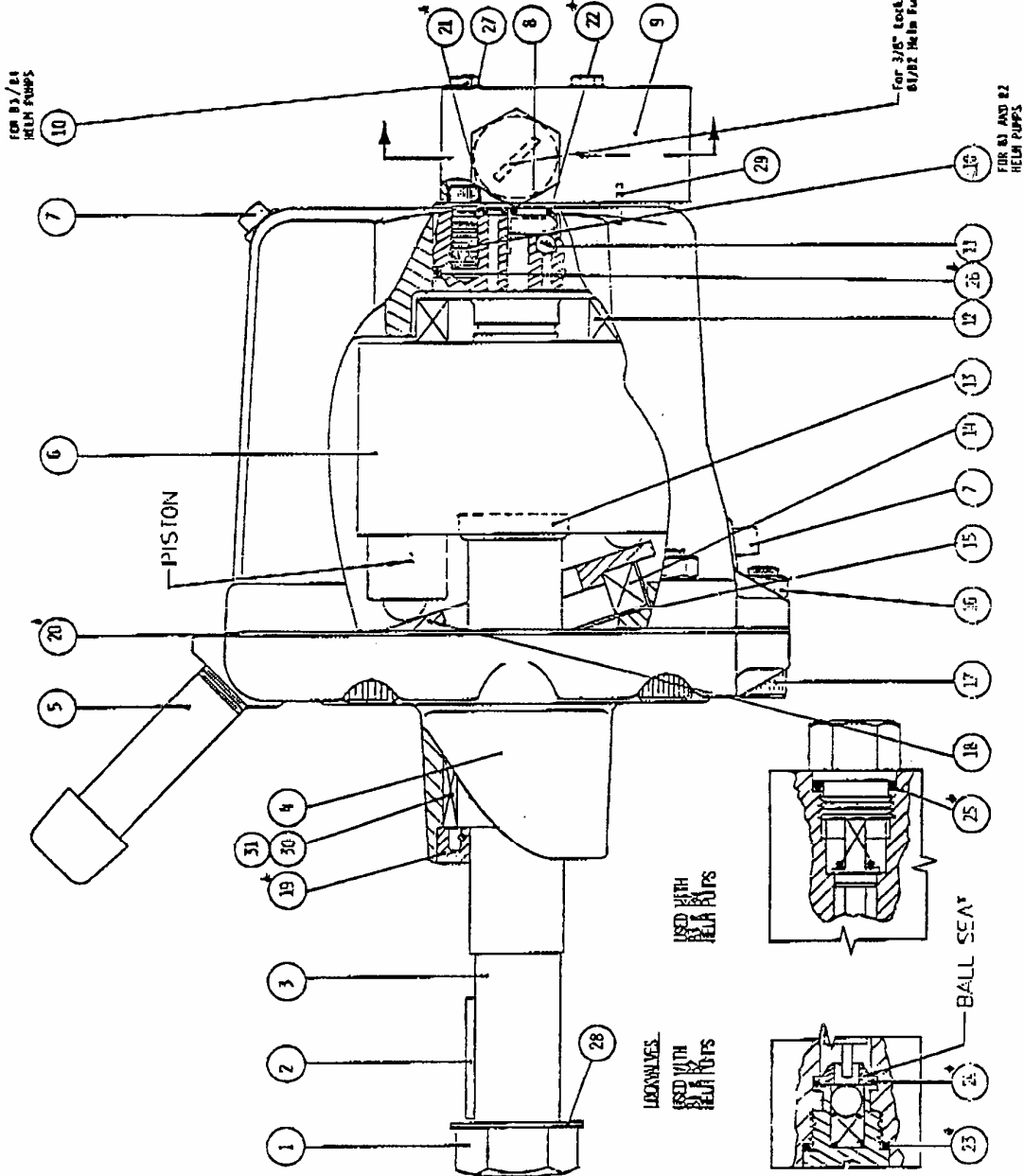
On B1 or B2 helm pumps, lockvalve O-Ring (item 24) is installed first; and then the ball seat is installed. The smaller side of the ball seat must face the center of the lockvalve (as shown on Dwg. C-1-370).

On B3 or B4 helm pumps, slide O-Ring (item 25) over the thread-in end cap and screw it back into the lockvalve body.

B1, B2 HELM PUMP

ITEM	QTY	PART NO.	DESC.
1	1	51-211011	BOLT
2	1	51-102007	KEY
3	1	320-0134	SHAFT
4	1	320-0045	FRONT PLATE
5	1	51-0004	PISTON
6	1	510-0021	HOUSING, PIMBLE ROTOR ASSEMBLY B1 PUMP
7	1	510-0022	HOUSING, PIMBLE ROTOR ASSEMBLY B2 PUMP
8	2	51-13202	PLUG
9	2	51-39006	WIRE BALL STOP
10	1	400-0002	LOCKWASHER
11	2	51-30902	CAPSCREW
12	2	21-100002	BALL
13	1	21-100006	BEARING
14	1	51-300003	KEY (ROTOR)
15	1	21-100002	BEARING
16	4	51-30909	NUT
17	4	51-20903	CAPSCREW
18	1	51-401005	WASHER
19	1	320-0210	Bearing

ITEM	QTY	PART NO.	DESCRIPTION
20	1	51-211011	BOLT
21	1	51-102007	KEY
22	1	320-0074	SHAFT
23	1	320-0076	FRONT PLATE
24	1	51-0004	PISTON
25	1	310-0023	HOUSING, PIMBLE ROTOR ASSEMBLY B3 PUMP
26	1	310-0024	HOUSING, PIMBLE ROTOR ASSEMBLY B4 PUMP
27	2	41-13202	PLUG
28	2	51-39006	WIRE BALL STOP
29	1	400-0144	LOCKWASHER
30	2	51-210046	CAPSCREW
31	2	21-100002	BALL
32	1	21-100006	BEARING
33	1	51-102010	KEY (ROTOR)
34	1	21-100016	BEARING
35	1	51-390004	NUT
36	5	51-20904	CAPSCREW
37	1	320-0083	BEARING PLATE
38	1	11-100133	O-RING
39	2	51-401005	LOCWASHER
40	1	51-401005	WASHER
41	1	51-178018	LOCATING PIN
42	1	21-200009	Bearing
43	1	21-200010	Bearing



For 3/16" Lockwashes located on B1/B2 Helm Pumps Only

FOR B1 AND B2 HELM PUMPS

LOCKWASHERS USED WITH HELM PUMPS

USED WITH HELM PUMPS

BALL SEAT

\*NOTE: ITEMS 19 through 26 ARE CONTAINED IN THE SEAL KIT FOR THE HELM PUMPS (P/N 110-0008). SEE MANUAL P/N 110-0008 FOR PART NUMBERS OF INDIVIDUAL SEALS.



MANUFACTURED BY WAGNER INDUSTRIAL SYSTEMS DEPT. TITLE

PARTS LIST FOR B1, B2, B3, AND B4 HELM PUMPS

DRAWN BY: B.B.O.	DATE: 11/18/93	SCALE:	QUOTE NO:
CHECKED BY: [ ]			DRAWING NO: REV.
			C-1-370 H