

SECTION 8. PARTS INFORMATION

8.1 PARTS ORDERING PROCEDURE

- A. Contact your local dealer, distributor, or authorized service center.
- B. Contact Capitol Gears, Inc. If the above cannot supply the part(s) you need, write:

Customer Service Capitol Gears, Inc. 349 North Hamline Ave St. Paul MN 55104 USA	Cable Address: "Capmarine" telephone: 645-9491 Area code: 612 Telex: 28-7081
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- C. Always give complete part description as shown in the sample column below.

<u>Necessary information</u>	<u>Sample</u>
1. Model	HY-400 E.R
2. Option Code	2-20400-03042-30110
3. Serial #	11023-0879
4. Ratio	1 to 1
5. Eng. Mfg. No (If any)	218198
6. Part number	1-00230-4400
7. Description	Disc, clutch driving
8. Figure # and item #	Fig. 43, item 6
9. Quantity being ordered	3

NOTE:

Please do not use the term "set" or "Complete" when ordering parts but specify exactly each part required.

A list of distributors for capitol gear equipment may be obtained by writing to the customer service department at the address mentioned above.

Do not send any equipment to the factory without authorization from the customer service department.

Capitol Gears will route parts with customer's best interest in mind, if routing is not specified when ordering.

Capitol Gears, Inc. will provide its distributors, dealers and service centers with current changes and additions to service literature.

Contact your local capitol representative to up to date service material.

Capitol Gasket and Seal kit No. 1-10195-0000 includes all necessary gaskets, seals and o-rings for repairs on the HY 400 and HP 500 transmissions. Gasket and Seal Kit No. 1-10196-0000 is designed for all torque converter ("TC") models.

8.2 UNIT RECORD

"CAPITOL" Marine Gear Model _____

Serial No. _____

Installed in (Name of Vessel) _____

Installed by _____ date _____

Address _____

For use with (Engine & Model) _____

Type of Service _____

Purchased from (Dealer's name & Add.) _____

Date Purchased _____

8.3 ADAPTER GROUP
HY-400 REVERSE GEAR

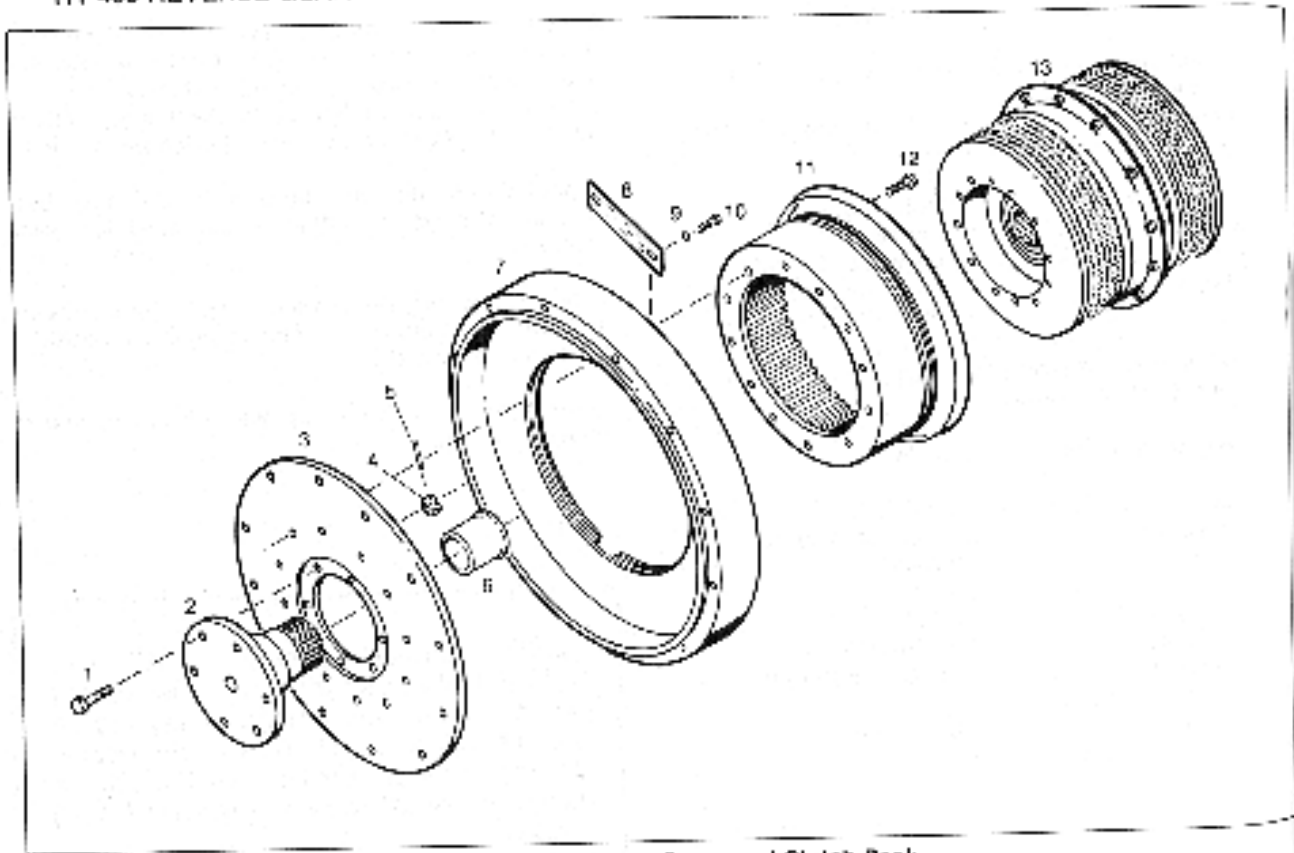


Fig. 54. 'HY' Adapter Group and Clutch Pack

ITEM	DESCRIPTION	PART NUMBER	QTY
1	CAPSCREW, HEX.H.D-DRILLED END	1-06972-0800	6
2	DRIVE FLANGE ASSEMBLY (SEE "HY" INSTALLATION DRAWING)		1
3	FLYWHEEL ADAPTER (SEE "HY" INSTALLATION DRAWING)		1
4	HEX.NUT HEAVY SLOTTED	1-06973-0800	6
5	COTTER PIN	1-12769-5400	6
6	BUSHING, DRIVE FLANGE	1-00326-2600	1
7	OIL DAM ADAPTER (SEE "HY" INSTALLATION DRAWING)		1
8	COVER, AIR VENT	1-01118-2700	1
9	LOCKWASHER, 5/16 DIA	1-09458-0800	4
10	CAPSCREW, HEX HD 5/16-18X1/2	1-12145-0000	4
11	DRUM CLUTCH, DRIVING	1-01116-3600	1
12	CAPSCREW, HEX HD (POLYLOK)	1-01116-3600	1
13	CLUTCH ASSEMBLY, "HY" (SEE PAGE 43-48)		1

8.4 HOUSING AND RELATED PARTS

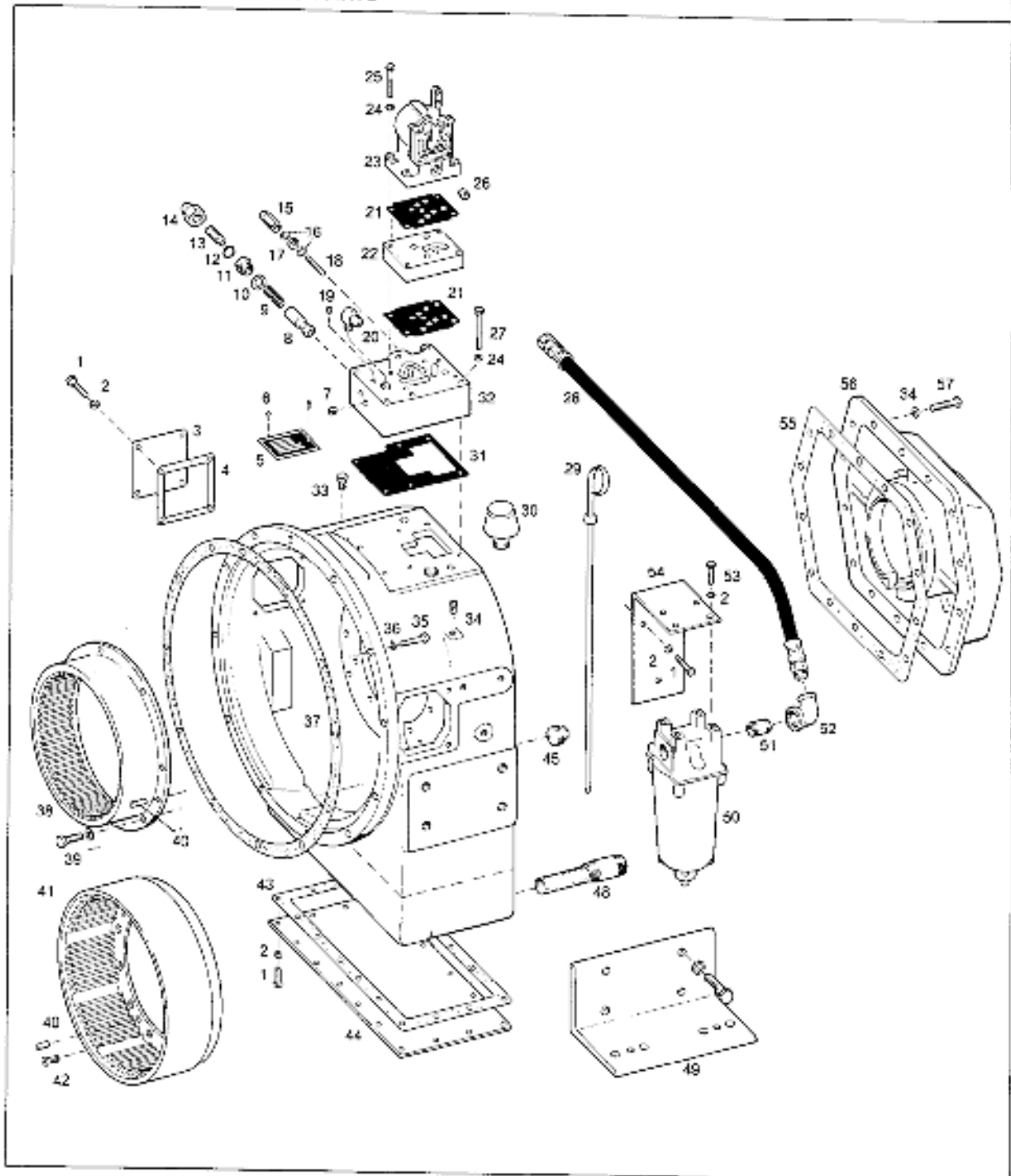


Fig. 38. Housing and Related Parts

8.5 OUTPUT SHAFT AND RELATED PARTS

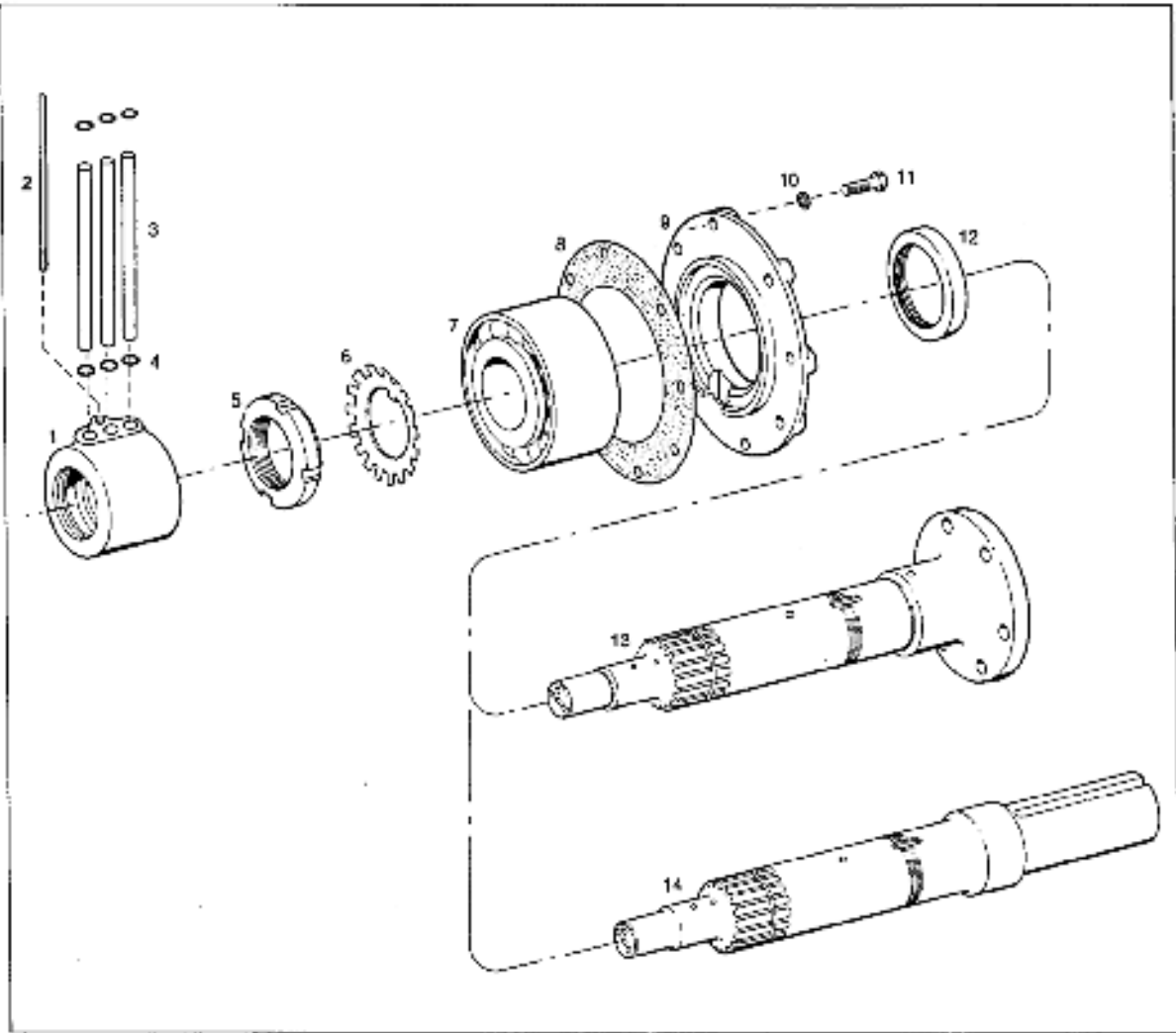
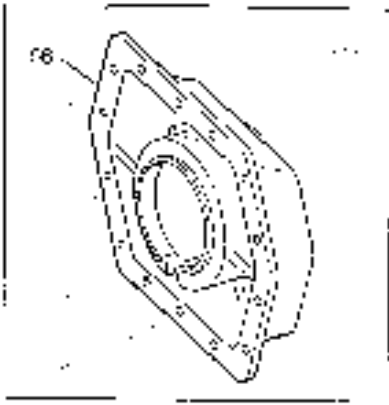


Fig. 37. Output Shaft and Related Parts

ITEM	DESCRIPTION	PART NUMBER	QTY
1	COMMUTATOR, REAR	1-13900-0000	1
2	STUD, ANTI-ROTATION	1-13481-0000	1
3	TUBE, COMMUTATOR	1-13474-0000	3
4	O-RING	1-13076-0000	6
5	LOCKNUT, BALL BEARING	1-10818-0000	1
6	LOCKWASHER, BALL BEARING	1-10819-0000	1
7	BALL BEARING	1-00331-4000	1
8	GASKET, BEARING, RETAINER	1-01218-4000	1
9	RETAINER, BEARING	1-13901-0000	1
10	LOCKWASHER, 3/8 LIGHT	1-09460-0800	8
11	CAPSCREW, HEX.HEAD, 3/8-16/14	1-06751-0800	8
12	OILSEAL	1-12976-0000	1
13	OUTPUTSHAFT, FLANGED (HY 400)	1-13897-1000	1
	(HP 500)	1-13896-1000	1
14	OUTPUT SHAFT, KEYED (HY 400)	1-13898-1000	1
	(HP 500)	1-13896-1000	5



CHANGE PARTS INFORMATION – PAGES 35 AND 36

ITEM	DESCRIPTION	(NEW) PART NO.	QTY
56	CONTAINER, BEARING	1-13937-0000	1

- A) BALL BEARINGS ARE 'THRUST' BEARINGS AND MUST BE ASSEMBLED IN THE CONFIGURATION SHOWN BELOW (FIG. 37)
- B) BEARINGS SHOULD BE HEATED IN HOT OILT BEFORE ASSEMBLY ON OUTPUT SHAFT
- C) THE BEARING SPACER SET SHOWN BELOW (ITEM 8, FIGURE 37) IS A MATCHED SET AND MUST NOT BE MIXED WITH OTHER SPACERS
- D) WHEN RE-INSTALLING BEARING RETAINER (ITEM 10, FIGURE 37), BE SURE DRAIN HOLES ARE TOWARD THE BOTTOM OF TRANSMISSION HOUSING.

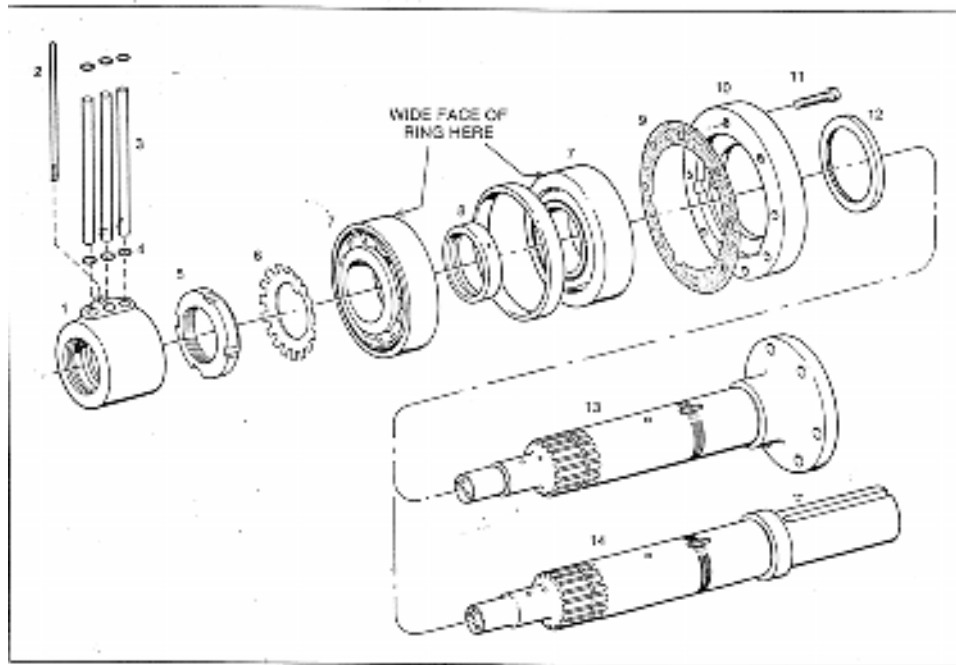


Fig. 37. Output Shaft and Related Parts

ITEM	DESCRIPTION	PART NO.	QTY
1	COMMUTATOR, REAR	1-13900-0000	1
2	STUD, ANTI-ROTATION	1-13481-0000	1
3	TUBE, COMMUTATOR	1-13474-0000	3
4	O-RING	1-13076-0000	6
5	LOCKNUT, BALL BEARING	1-10818-0000	1
6	LOCKWASHER, BALL BEARING	1-10819-0000	1
7	BALL BEARING	1-13939-0000	2
8	SET, BEARING SPACER	1-13942-0000	1
9	GASKET, BEARING RETAINER	1-13940-0000	1
10	RETAINER, BEARING	1-13938-0000	1
11	CAPSCREW, SOCKET HEAD, 3/8-16X 13/4"	1-10956-0000	8
12	OIL SEAL	1-12976-0000	1
13	OUTPUT SHAFT ASSEMBLY , FLANGED (HY 400)	1-13954-1000	1
	(HP 500)	1-13934-1000	1
14	OUTPUT SHAFT, ASSEMBLY , KEYED (HY 400)	1-13955-1000	1
	(HP 500)	1-13941-1000	1

8.6 OIL PUMP

A. Single Pump, Belt Driven

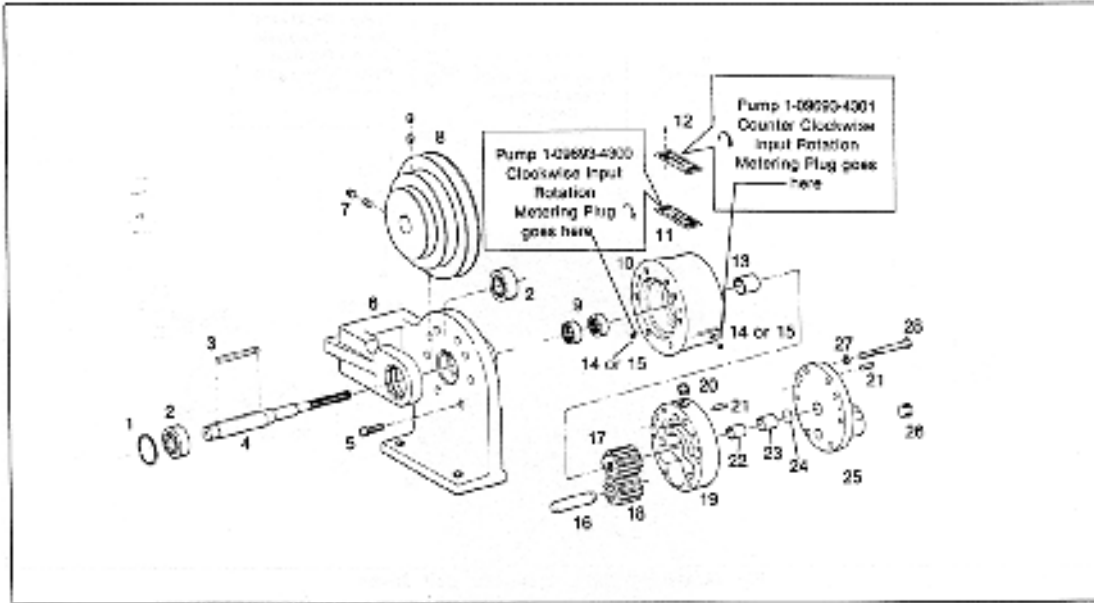


Fig. 38. Single Pump, Belt Driven

ITEM	DESCRIPTION	PART NO.	QTY
Ref.	SINGLE PUMP ASSEMBLY, BELT DRIVEN CLOCKWISE INPUT ROTATION	1-09693-4300	1
Ref.	SINGLE PUMP ASSEMBLY, BELT DRIVEN COUNTER CLOCKWISE INPUT ROTATION	1-09693-4301	1
1.	SNAP RING, SPIROLOX	1-12066-0000	1
2.	BALL BEARING	1-14076-0000	2
3.	SQUARE KEY, 3/16X 1/4" LG	1-09686-1000	1
4.	SHAFT, DRIVE	1-09681-1400	1
5.	CAPSCREW, SOCKET HD., 5/16-18X 1" LG	1-10248-0000	7
6.	BRACKET, SHEAVE AND PUMP	1-09694-1100	1
7.	SOCKET SET SCREW, 5/16-18X 3/8" LG	1-11524-0000	4
8.	SHEAVE, THREE STEP	1-13491-0000	1
9.	OIL SEAL	1-12643-0000	2
10.	ADAPTER	1-09680-0800	1
11.	PLATE, ROTATION INDICATOR	1-11212-0000	1
12.	DRIVE SCREW, RD.HD. #2X 3/16" LG	1-13275-0000	2
13.	BUSHING	1-09691-0800	1
14.	PIPE PLUG, 1/16 NPT	1-11279-0100	1
15.	METERING PLUG, 1/8 DIA. HOLE	1-12686-0000	1
16.	SHAFT, DRIVEN, 5/8" DIA. 21/2" LG	1-11664-0000	1
17.	DRIVE GEAR, 13/8" WIDE	1-09688-0800	1
18.	DRIVEN GEAR, 13/8" WIDE	1-09689-3400	1
19.	BODY, 13/8" WIDE	1-07856-0800	1
20.	PIPE PLUG, HEX. SOCKET (3/8 NPT)	1-11279-0400	1
21.	SPRING PIN, 1/4 X 3/4" LG	1-12097-1200	4
22.	SLEEVE	1-07736-0800	1
23.	BUSHING	1-00218-0700	1
24.	DISC, FLAT	1-10253-0000	1
25.	COVER	1-07723-1000	1
26.	PIPE PLUG, LEVEL SEAL 3/4-14	1-11279-0600	2
27.	LOCKWASHER, 5/16 LIGHT	1-09458-0800	8
28.	CAPSCREW, 5/16-18X 23/4" LG	1-12259-0000	8

8.6 OIL PUMP

B. Duplex Pump, Belt Driven

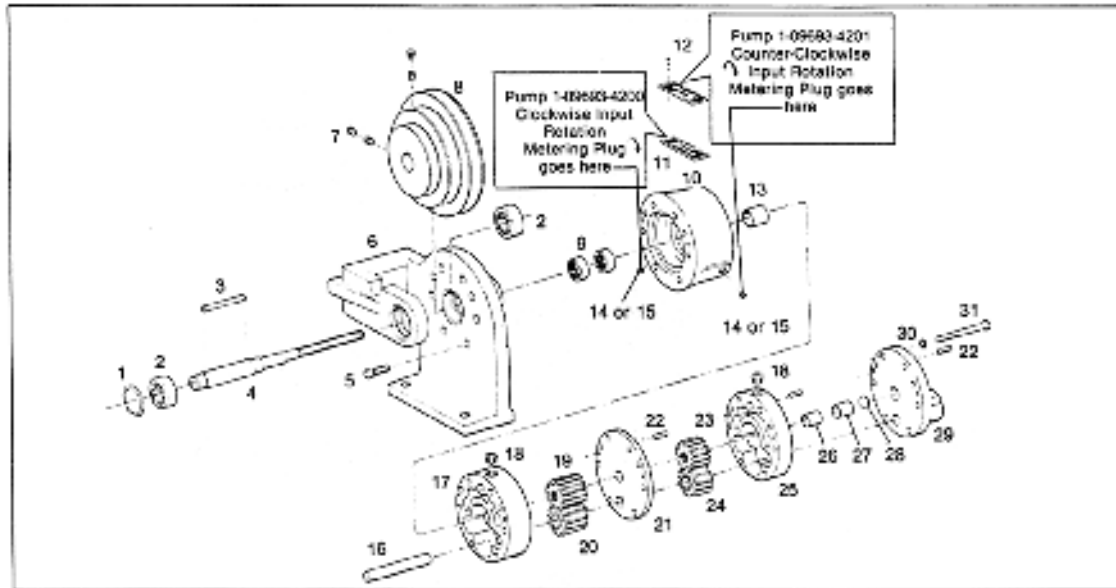


Fig. 39. Duplex Pump Assembly, Belt Driven

ITEM	DESCRIPTION	PART NO.	QTY.
Ref.	DUPLEX PUMP ASSEMBLY, BELT DRIVEN CLOCKWISE INPUT ROTATION	1-09693-4200	1
Ref.	DUPLEX, PUMP ASSEMBLY, BELT DRIVEN COUNTER CLOCKWISE INPUT ROTATION	1-09693-4201	1
1.	SNAP RING, SPIRLOX	1-12066-0000	1
2.	BALL BEARING	1-14076-0000	2
3.	SQUARE KEY, 3/16X 2 1/4" LG	1-09686-1000	1
4.	SHAFT DRIVE	1-09681-1200	1
5.	CAPSCREW, SOCKET HEAD 5/16-18X 1" LG	1-10248-0000	7
6.	BRACKET, SHEAVE AND PUMP	1-09694-1100	1
7.	SOCKET SET SCREW, 5/16-18X 3/8" LG	1-11524-0000	4
8.	SHEAVE, THREE STEP	1-13491-0000	1
9.	OIL SEAL	1-12643-0000	2
10.	ADAPTER	1-09680-0800	1
11.	PLATE, ROTATION INDICATOR	1-11212-0000	1
12.	DRIVE SCREW, RD. HD., #2X 3/16" LG	1-13275-0000	2
13.	BUSHING	1-09691-0800	1
14.	PIPE PLUG, 1/16 NPT	1-11279-0100	1
15.	METERING PLUG, 1/8 DIA. HOLE	1-12686-0000	1
16.	SHAFT, DRIVEN	1-09682-1000	1
17.	BODY, SCAVANGE, 1 3/8" WIDE	1-07856-0800	1
18.	PIPE PLUG, HEX. SOCKET, 3/8 NPT	1-11279-0400	2
19.	DRIVE GEAR, SCAVANGE 1 3/8" WIDE	1-09688-0800	1
20.	DRIVEN GEAR, SCAVANGE, 1 3/8" WIDE	1-09689-3400	1
21.	SPACER, 1/4" WIDE	1-07783-0900	1
22.	SPRING PIN, 1/4X 3/4" LG	1-12097-1200	6
23.	DRIVE GEAR, PRESSURE, 1" WIDE	1-07780-0800	1
24.	DRIVEN GEAR, PRESSURE, 1" WIDE	1-07781-5400	1
25.	BODY, PRESSURE, 1" WIDE	1-07722-1000	1
26.	SLEEVE	1-07736-0800	1
27.	BUSHING	1-00218-0700	1
28.	DISC, FLAT	1-10253-0000	1
29.	COVER	1-07723-1000	1
30.	LOCKWASHER, 5/16 LIGHT	1-09458-0800	8
31.	CAPSCREW, HEX. HD., 5/16-18X4" LG	1-12261-0000	8

8.6 OIL PUMP

C. Single pump, Direct Engine Mounted

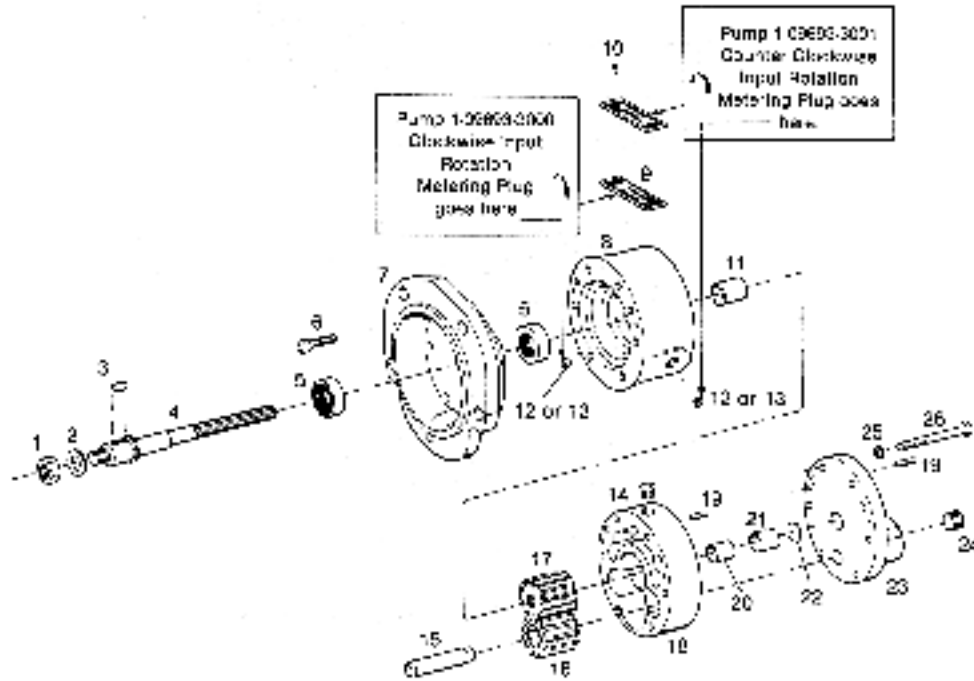


Fig. 4D. Single Pump Assembly, Direct Engine Mounted

ITEM	DESCRIPTION	PART NO.	QTY.
Ref.	SINGLE PUMP ASSEMBLY, DIRECT MOUNTED CLOCKWISE INPUT ROTATION	1-09693-3000	1
Ref.	SINGLE PUMP ASSEMBLY, DIRECT MOUNTED COUNTER CLOCKWISE INPUT ROTATION	1-09693-3001	1
1.	JAM NUT, FINISHED HEX, 1/2-20 NF	1-02212-4300	1
2.	LOCKWASHER	1-11083-0000	1
3.	KEY, WOODRUFF, #6	1-09802-0800	1
4.	SHAFT, DRIVE	1-09681-2700	1
5.	OIL SEAL	1-12643-0000	2
6.	CAPSCREW, SOCKET HD., 5/16-18X 1" LG	1-10248-0000	8
7.	ADAPTER	1-09694-2900	1
8.	BODY ADAPTER	1-09680-0800	1
9.	PLATE, ROTATION INDICATOR	1-11212-0000	1
10.	DRIVE SCREW, ROUND HD, #2X3/16" LG	1-13275-0000	2
11.	BUSHING	1-09691-0800	1
12.	PIPE PLUG, HEX SOCKET, 1/16-27 NPT	1-11279-0100	1
13.	METERING PLUG, 1/8" DIA. HOLE	1-12686-0000	1
14.	PIPE PLUG, LEVEL-SEAL, 3/8-18	1-11279-0400	1
15.	SHAFT DRIVEN, 5/8 DIA.X2 1/2" LG	1-11664-0000	1
16.	GEAR, DRIVEN, 1 3/8" WIDE	1-09689-3400	1
17.	GEAR, DRIVE	1-09688-0800	1
18.	BODY, 1 3/8" WIDE	1-07856-0800	1
19.	SPRING PIN, 1/4 DIA. X 3/4" LG	1-12097-1200	4
20.	SLEEVE	1-07736-0800	1
21.	BUSHING	1-00218-0700	1
22.	DISC FLAT	1-10253-0000	1
23.	COVER	1-07723-1000	1
24.	PIPE PLUG, 3/4-14	1-11279-0600	2
25.	LOCKWASHER, 5/16	1-09458-0800	8
26.	CAPSCREW, HEX HD, 5/16-18X 2 3/4 LG	1-12259-0000	8

8.6 OIL PUMP

D. Duplex Pump, Direct Engine Mounted

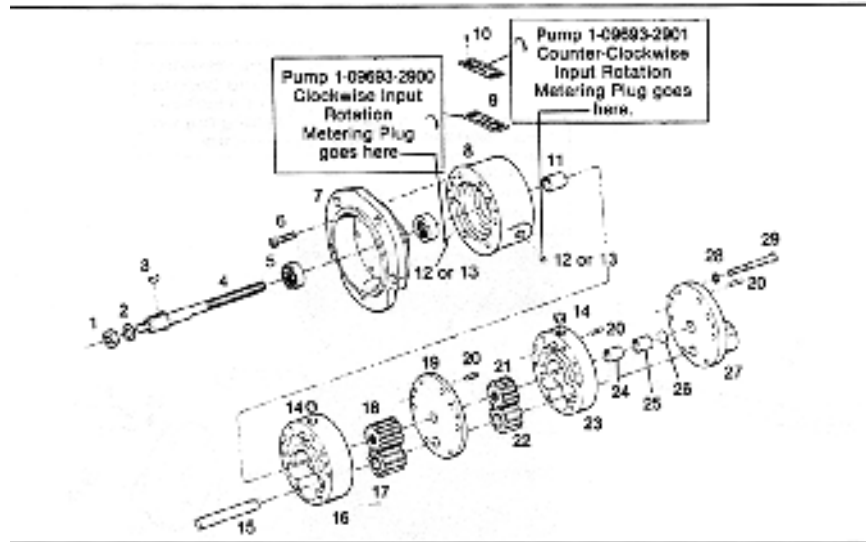
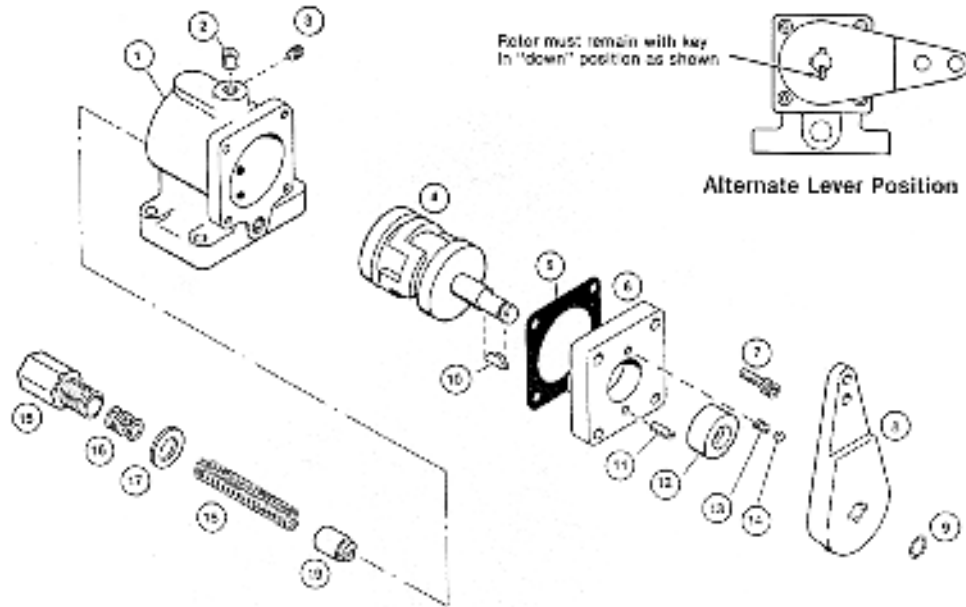


Fig. 41. Duplex Pump Assembly, Direct Engine Mounted

ITEM	DESCRIPTION	PART NO.	QTY
Ref.	DUPLEX PUMP ASSEMBLY, DIRECT MOUNTED		
	CLOCKWISE INPUT ROTATION	1-09693-2900	1
Ref.	DUPLEX PUMP ASSEMBLY, DIRECT MOUNTED		
	COUNTER CLOCKWISE INPUT ROTATION	1-09693-2901	1
1	JAM NUT, FINISHED HEX, 1/2-20 NF	1-02212-4300	1
2	LOCKWASHER, 1/2"	1-11083-0000	1
3	KEY, WOODRUFF #6	1-09802-0800	1
4	SHAFT, DRIVE	1-09681-2700	1
5	OIL SEAL	1-12643-0000	2
6	CAPSCREW, SOCKET HD. 5/16-18X 1" LG	1-10248-0000	8
7	ADAPTER	1-09694-2900	1
8	BODY, ADAPTER	1-09680-0800	1
9	PLATE, ROTATION INDICATOR	1-11212-0000	1
10	DRIVE SCREW, ROUND, #2X 3/16 LG	1-13275-0000	2
11	BUSHING	1-09691-0800	1
12	PIPE PLUG, HEX SOCKET, 1/16-27 NPT	1-11279-0100	1
13	METERING PLUG, 1/8" dia. Hole	1-12686-0000	1
14	PIPE PLUG, LEVEL-SEAL, 3/8-18	1-11279-0400	2
15	SHAFT, DRIVEN 5/8 DIA. X 4" LG	1-09682-1000	1
16	BODY, 1 3/8" WIDE	1-07856-0800	1
17	GEAR, DRIVEN, 1 3/8" WIDE (SCAVANGE)	1-09689-3400	1
18	GEAR, DRIVE, 1 3/8" WIDE (SCAVANGE)	1-09688-0800	1
19	SPACER, 1/4" WIDE	1-07783-0900	1
20	SPRING PIN, 1/4 X 3/4" LG	1-12097-1200	1
21	GEAR, DRIVE, 1" WIDE (PRESSURE)	1-07780-0800	1
22	GEAR, DRIVEN, 1" WIDE (PRESSURE)	1-07781-5400	1
23	BODY, 1" WIDE	1-07722-1000	1
24	SLEEVE	1-07736-0800	1
25	BUSHING	1-00218-0700	1
26	DISC, FLAT	1-10253-0000	1
27	COVER	1-07723-1000	1
28	LOCKWASHER, 5/16"	1-09458-0800	8
29	CAPSCREW, HEX. HD. 5/16-18X4" LG	1-12261-0000	8

CHANGE: PARTS INFORMATION SELECTOR VALVE



Selector Valve Assembly No. 1-09427-2000

ITEM	DESCRIPTION	PART NO.	QTY
Ref.	ASSEMBLY, SELECTOR VALVE	1-09427-2000	1
1	BODY	1-01141-3500	1
2	PIPE PLUG, HEX SOCKET; 1/4 N.P	1-11279-0300	1
3	PIPE PLUG, HEX SOCKET; 1/8 N.P	1-11279-0200	1
4	VALVE (ROTOR)	1-01144-1000	1
5	GASKET, VALVE COVER	1-01156-3700	1
6	COVER	1-01142-3400	1
7	CAPSCREW, SOCKET HEAD; 1/4-20X 1/2 LG	1-09432-0800	4
8	LEVER	1-01143-4200	1
9	RETAINING RING, EXTERNAL	1-13125-0000	1
10	KEY, 3/32 X 1/2" DIA.	1-01164-3200	1
11	SPRING PIN, 1/4" DIA X 1/2" LG	1-12097-0800	1
12	OIL SEAL	1-01152-3200	1
13	SPRING, INDEXING	1-01132-1500	1
14	BALL, INDEXING; 1/4" DIA.	1-11200-0000	1
15	ADJUSTMENT SCREW, RELIEF	1-12617-0000	1
16	WASHER, .030" THICK	1-12619-0000	5
17	WASHER, 1/16" THICK	1-10288-0700	1
18	SPRING, RELIEF VALVE	1-12618-0000	1
19	PLUNGER, SAFETY RELIEF	1-12616-0000	1

8.8 CLUTCH

A. Clutch No. 1-00100-6000

Note: This end
toward engine

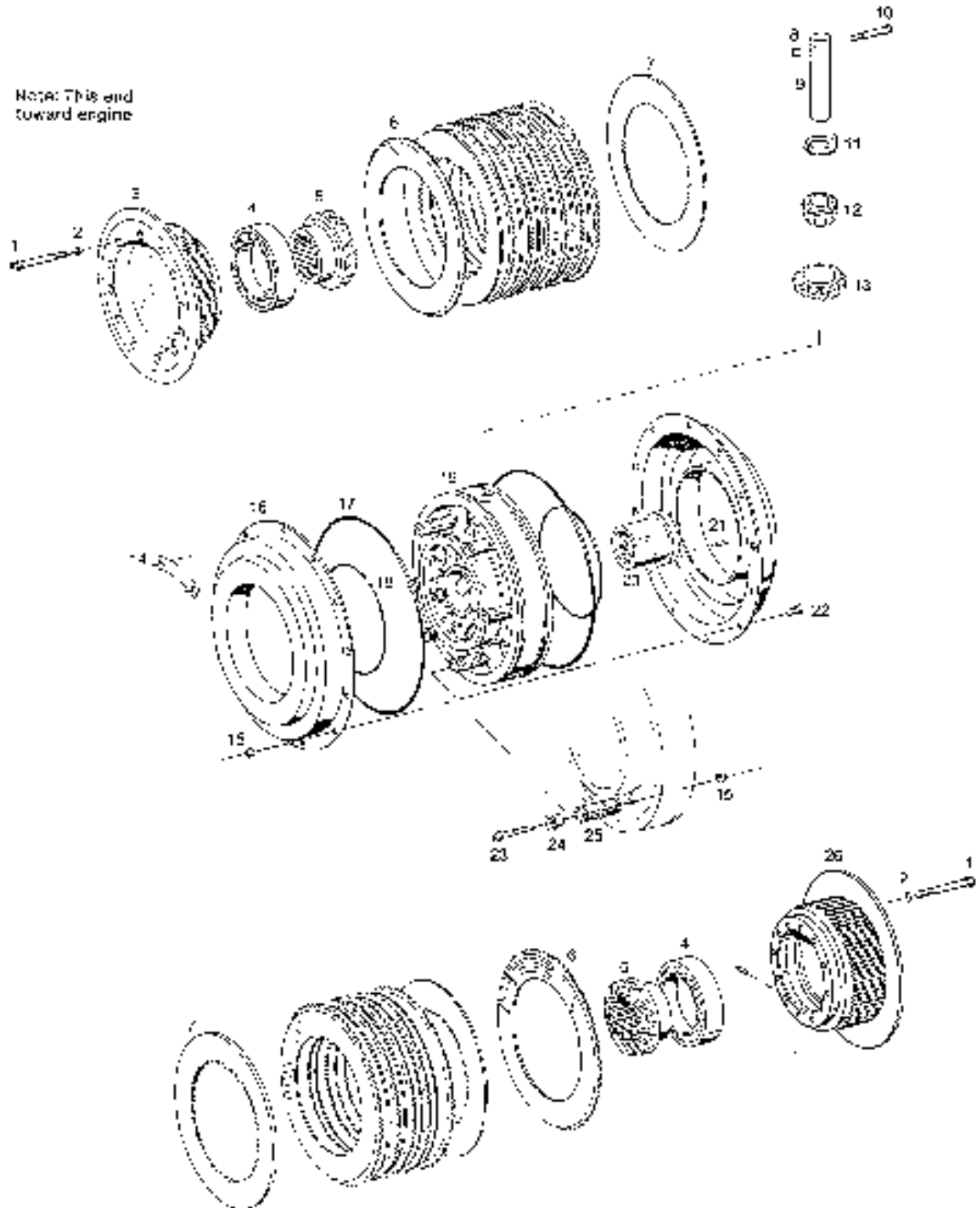


Fig. 48. HY-100 Clutch Assembly

8.8 CLUTCH

B. Clutch No. 1-00100-4100

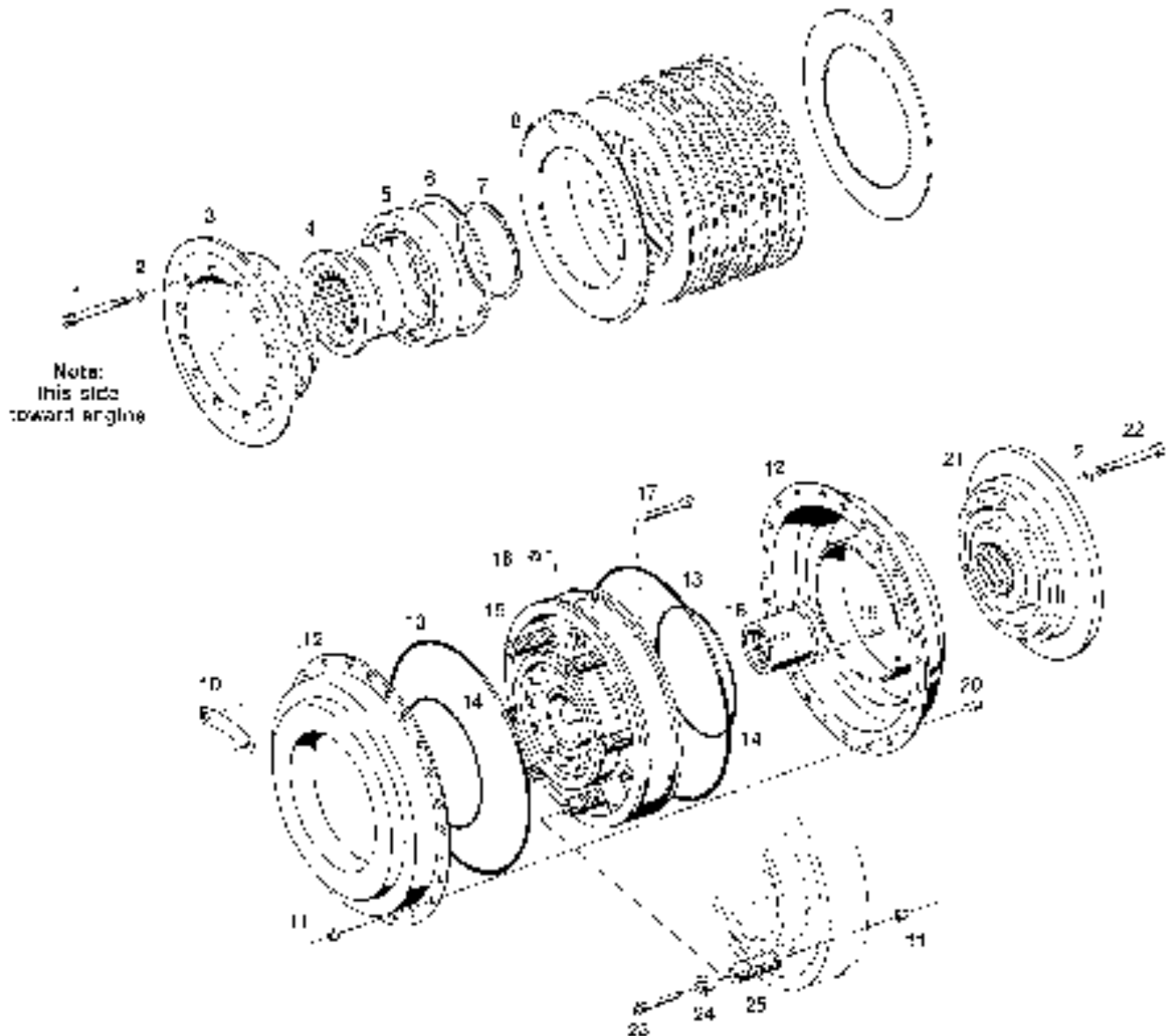


Fig. 44. HY-400 Clutch Assembly

8.8 CLUTCH

C. Clutch No. 1-00100-4200, HY PTO WITH BRAKE

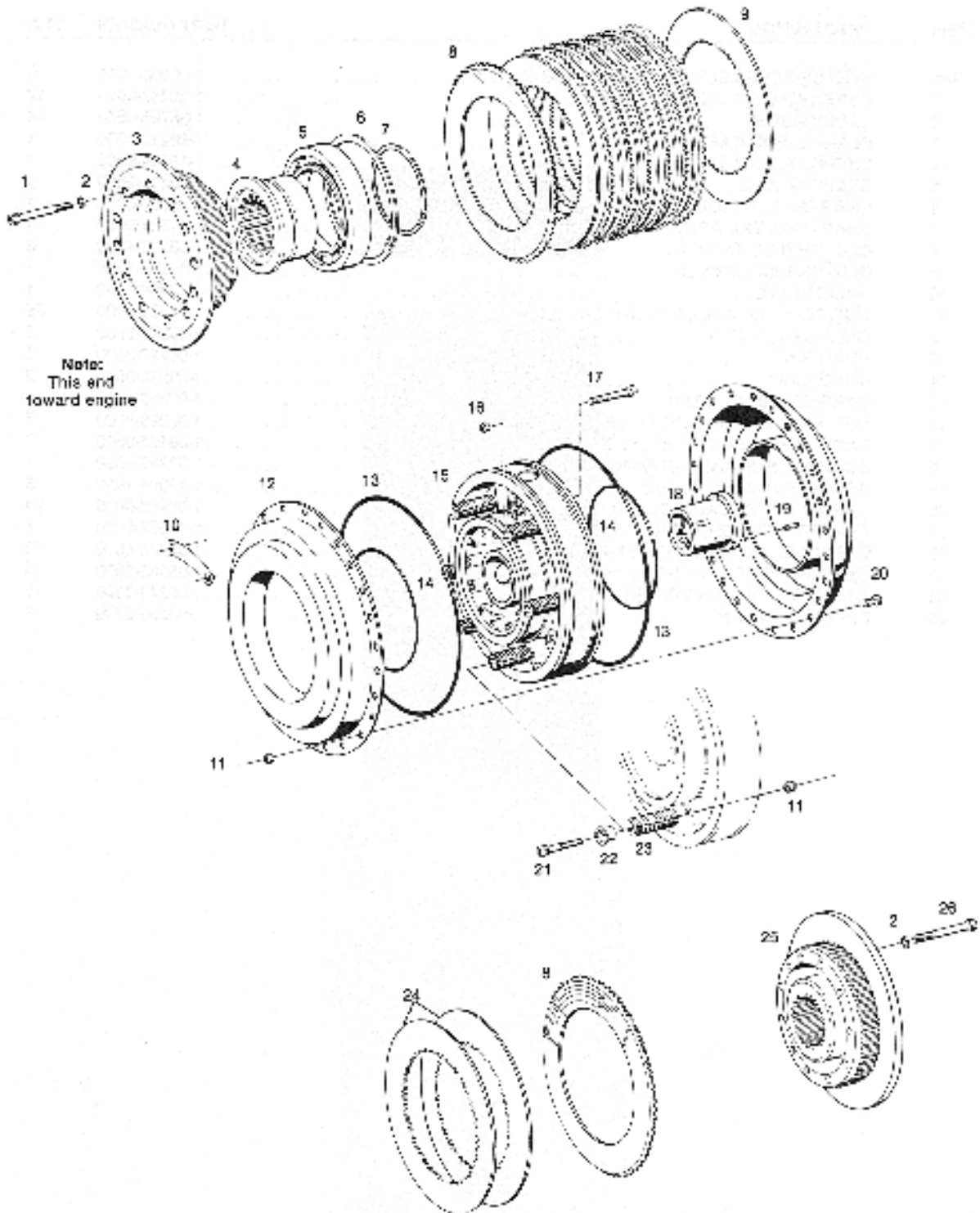
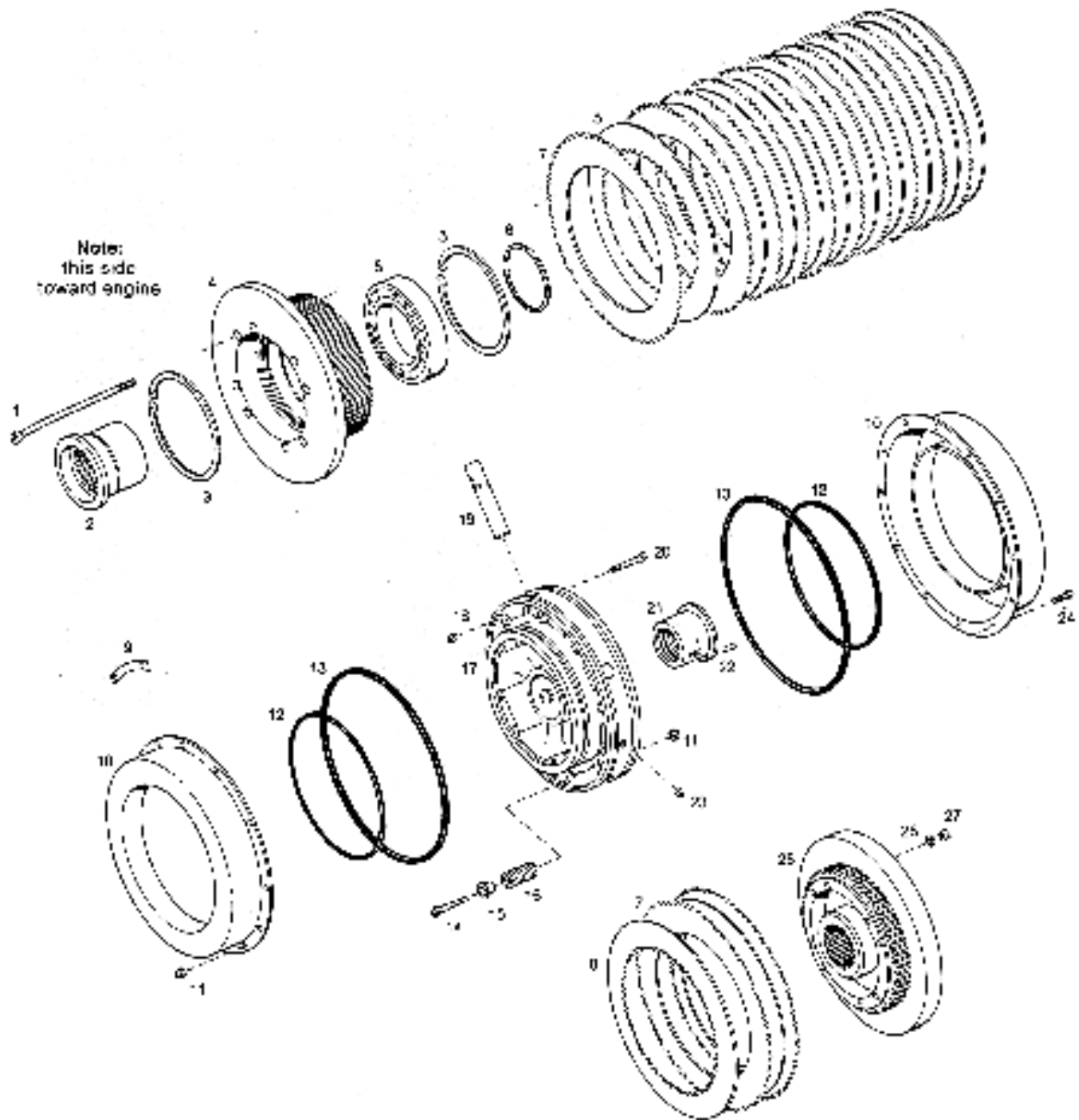


Fig. 45. HY-400 Clutch Assembly

8.8 CLUTCH

F. CLUTCH No. 1-00100-4300



8.9 COOLERS

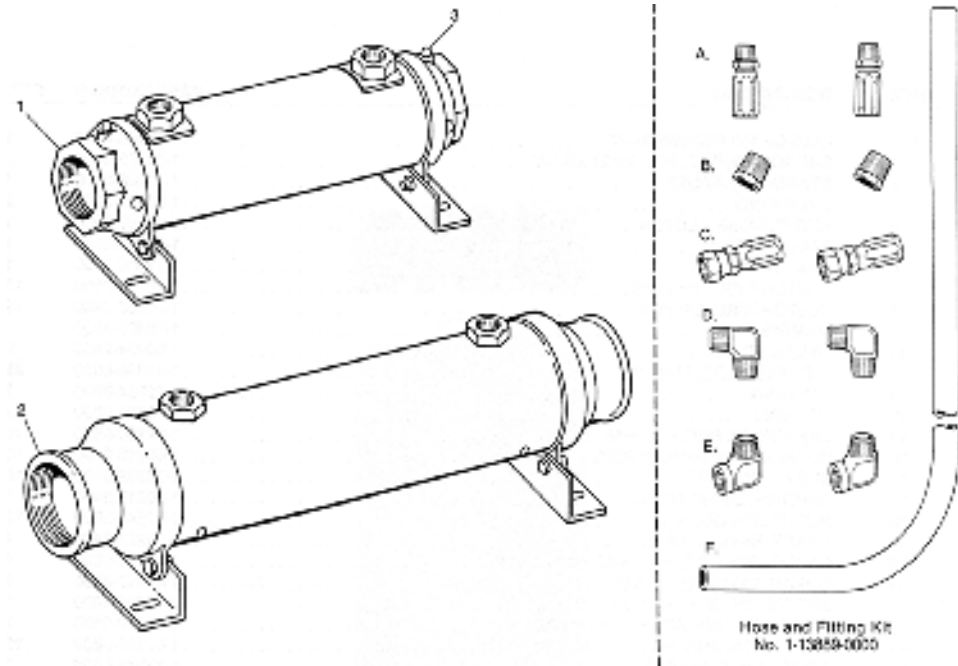


Fig. 49. Oil Coolers and Hose and Fitting Kit

ITEM	DESCRIPTION	PART NO.	QTY
HY 400 OIL COOLERS			
1	SEA WATER COOLER 1. (12 3/4" X 4 1/8" dia.)	1-07808-5000	1
	SEA WATER COOLER 1. (17" X 5 1/8" dia.)	1-13769-0000	1
2	FRESH WATER COOLER (19 1/2" X 6 1/8" dia.)	1-13795-0000	1
3	ZINC PENCILS	1-12445-400	2
HP 500 OIL COOLERS			
1	SEA WATER COOLER 1. (17 X 5 1/8" dia.)	1-13769-0000	1
2	FRESH WATER COOLER (30 3/4" X 6 1/8" dia.)	1-13814-0000	1
3	ZINC PENCILS	1-12455-0400	2

1. Cooler comes with zinc pencils

Hose and fitting kit No. 1-13889-0000 (above right) is available for use with the coolers listed. Parts included in the kit are:

A. MALE FITTING	1-11283-1100	2
B. BUSHING 1 X 3/4"	1-11253-1200	2
C. FEMALE FITTING	1-11282-0700	2
D. 90° ELBOW (JIC)	1-11221-1800	2
E. STREET EL, 3/4 X 3/4"	1-11248-0800	2
F. HOSE, 5/8" I.D 12 FT. LONG	1-11832-0000	1

8.10 PROP COUPLING KIT

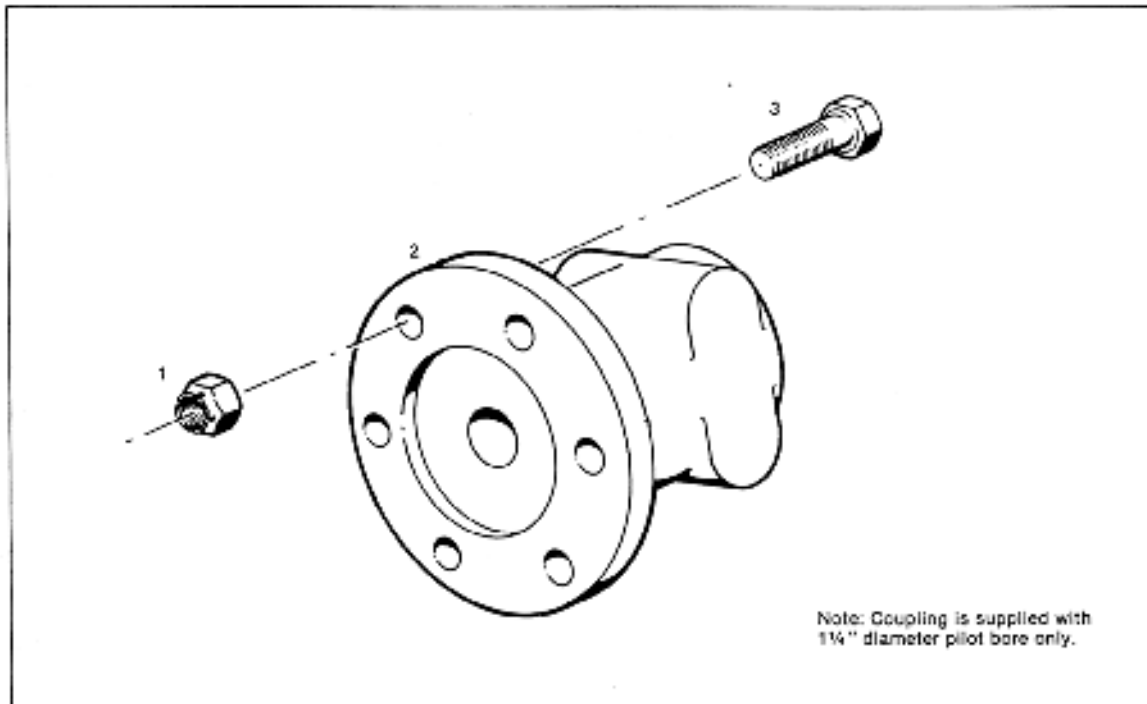


Fig. 50. Propeller Coupling Kit

ITEM	DESCRIPTION	PART NO.	QTY
Ref.	COUPLING, KIT (13 PCS.)	1-13578-0000	1
1	NUT, FLEXLOC	1-13304-0000	6
2	COUPLING, SHAFT	1-13494-0000	1
3	CAPSCREW, HEX HEAD	1-07554-0800	6