



INSTRUCTION MANUAL

SERIES A6D, B6D AND C6D

WARNING

**READ CA-1 AND THIS INSTRUCTION BOOK BEFORE
INSTALLATION, OPERATION, OR MAINTENANCE**

This manual now is
identified as part no.
SRM00027

Instructions A6D (R-6)

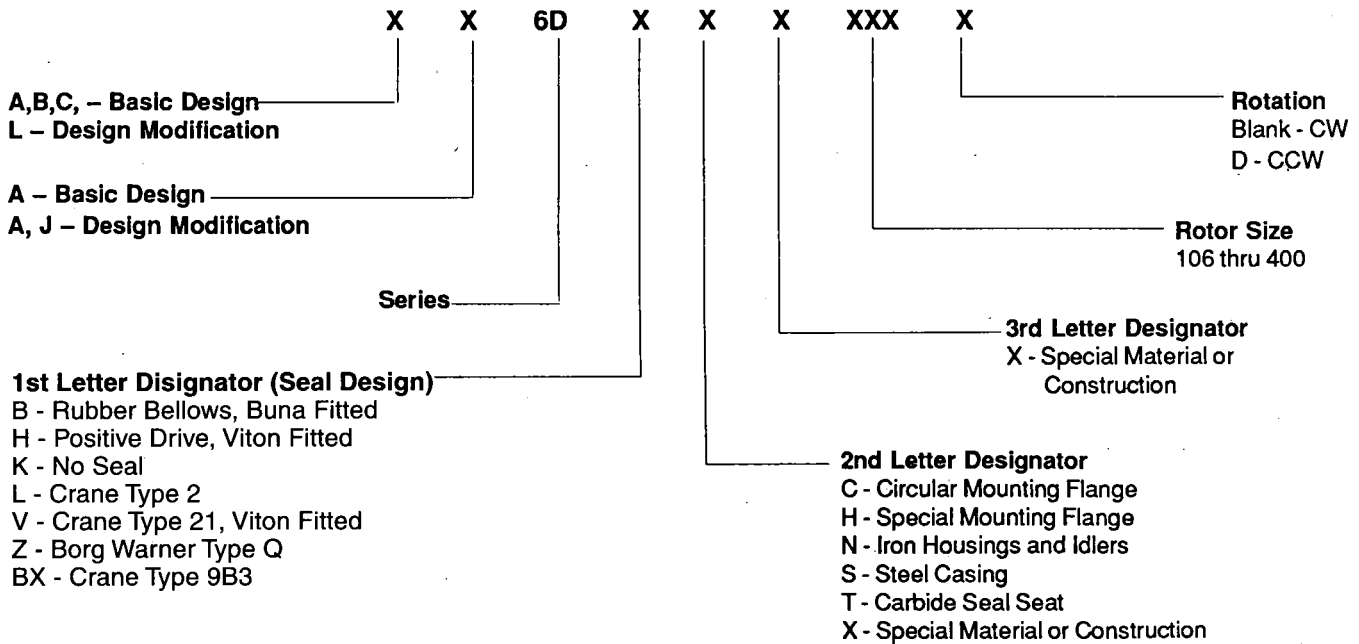
Imo Pump
1710 Airport Road
PO Box 5020
Monroe, NC
28111.5020

tel 704.289.6511
fax 704.289.9273

November, 1996

FOREWORD

This instruction manual covers IMO Pump Division Series A6D, B6D, and C6D, rotor sizes 106 through 400, IMO Pumps. Because of the large number of operating conditions, it is necessary to have a variety of construction and material combinations to meet job requirements. The model of each pump is identified on the pump nameplate. This manual identifies pump types and sealing designs by Figure Numbers only. For maintenance, disassembly and re-assembly procedures, ensure that specific pump type is identified with correct Figure Number. Refer to Table 1, Figure 1 and Figures 9 through 12 for proper identification of specific models.



NOTE: Letter designators following series designator (6D) identify mechanical seal design, construction and special features. Series designator (6D) is followed by 1, 2, or 3 letter designators. Table 1 applies to all designators. Examples of determining a particular pump type from letter designators are given below.

Examples: 6DB (Crane 21 Seal)
 6DBC (Crane 21 Seal, Circular Mounting Flange)
 6DBCX (Crane 21 Seal, Circular Mounting Flange, Special Material or Construction)

FIGURE 1. Definitions of Model Designators

**TABLE 1
SERIES A6D, B6D AND C6D
ROTOR SIZES 106 THRU 400**

Pump Model	Rotor Size	Assembly Fig. No.	Seal Fig. No.	Pump Model	Rotor Size	Assembly Fig. No.	Seal Fig. No.
A6DB	106 thru 137	9	4	A6DHT	312	11	3
B6DB	106 thru 118	9A					
A6DB	218 thru 312	11	4	A6DHX	250	11	2
A6DB	350 and 400	12	4	A6DKH	118 and 137	9	No Seal
A6DH	106 thru 137	9	2	A6DKH	350 and 400	12	No Seal
B6DH	106 thru 118	9A					
A6DH	218 thru 312	11	2	A6DLN	118	9	6
A6DH	350 and 400	12	2	A6DHCX	350	12	2
A6DV	118 and 137	9	4	C6DB	156 and 187	10	4
A6DV	218 and 2507	11	4	C6DH	156 and 187	10	2
A6DZ	250 and 275	11	8	C6DH	156	10	4
A6DZ	350 and 400	12	8	C6DBC	156 and 187	10	4
A6DBC	106 thru 137	9	4	C6DBT	156 and 187	10	5
A6DBC	218 thru 312	11	4	C6DHC	156	10	2
A6DBC	350 and 400	12	4	C6DKH	156	10	No Seal
A6DBS	350 and 400	12	4	C6DVC	156	10	4
A6DBT	312	11	5	AA6DKHX	312	11	No Seal
A6DBX	312	11	7	AJ6DB	106 thru 137	9	4
				BJ6DB	106 and 118	9A	
A6DBX	400	12	7	CJ6DB	156 and 187	10	4
A6DHC	137	9	2	CJ6DH	156 and 187	10	2
A6DHC	250 and 312	11	2	LA6DKH	400	12	No Seal

NOTE: Pump model precedes rotor size. Example: A6DB-106

ORDERING INSTRUCTIONS

All correspondence pertaining to renewal parts for Series 6D pumps must refer to this instruction book number and should be addressed to the nearest IMO Pump Division representative listed in Manual CA-1.

The following directions should be followed for renewal part orders:

- (1) Give the number of this instruction book.
- (2) Give the pump type and serial number of the pump for which part(s) is ordered.
- (3) Give the Figure number(s) on which pump type and sealing design part(s) are shown.
- (4) Give the part number(s) for necessary part(s).

STRUCTURAL LIMITS

Operating conditions such as speed, fluid viscosity, inlet pressure, temperature, filtration, duty cycle, mounting, drive type, etc. are interrelated. Due to variable conditions, specific application limitations may vary from structural limitations. *This equipment must not be operated without verification that operating requirements are within published capabilities as shown in the appropriate pump data manuals (available from local IMO Pump Division offices and representatives listed in Manual CA-1).*

Under no circumstances are the following structural limitations to be exceeded.

MAXIMUM SPEED:

Rotor Size	RPM	
	Distillate Oils & Lube & Seal Oils	Residual & Crude Oil
106 - 118	5400	1800 All Sizes
137 - 187	4400	
218 - 250	3600	
275	3000	
312 - 400	2500	

DISCHARGE PRESSURE: 1000- PSIG (Distillate, Residual and Crude Oils)
1500- PSIG (Lube and Seal Oils)

VISCOSITY: 33 SSU Minimum
3000 SSU Maximum - Types B and V Mechanical Seals
For viscosities above 3000 SSU, use Type H Mechanical Seal
Consult factory for allowable operating viscosity for other seal types at specific speeds and pressures. Do not alter design viscosity without prior approval from factory.

TEMPERATURE: Type B: 0- 160 Degrees F, Type H: 0 - 250 Degrees F
Consult factory for minimum required inlet pressure

INLET: 75 PSIG Maximum
Consult factory for minimum required inlet pressure

DRIVE: Direct only

FILTRATION: Light fluids – 60 mesh
Heavy fluids – 1/8 to 3/16-inch

MOUNTING: Foot mounted in any attitude
Optional flange mount available for mounting any attitude – rotor sizes 106 thru 187
Optional flange mount available for vertical mounting only – rotor sizes 218 thru 400

NOTE: Series A6D pumps, rotor sizes 218 through 400 are equipped with bronze housings. Having a higher coefficient for heat expansion, bronze housings are more susceptible to head changes than the surrounding iron case or steel alloy rotors. Rapid temperature changes can cause distortion of the bronze housings, resulting in breakdown conditions. Therefore, care must be taken to prevent thermal shock to the pump. Pumps must be heated or cooled slowly as conditions dictate.

MECHANICAL SEALS

Mechanical seals installed in Series A6D, B6D, and C6D pumps are Crane Type 8-1, Figures 2 and 3; Crane Type 21, Figures 4 and 5; Crane Type 2, Figure 6; Crane Type 9B3, Figure 7 and Borg Warner Type Q, Figure 8. Disassembly and assembly procedures for mechanical seals are as follows:

DISASSEMBLY PROCEDURES

Stationary Assembly:

(Figures 2, 4, 6 and 7) Slide stationary assembly, seat (1) and gasket (2) off power rotor shaft.

(Figures 3, 5 and 8) Stationary assembly, seat (1) and O-ring (2), is removed with spacer (048, 081 or 092). Remove mechanical seal seat (1) from spacer 048, 081 or 092) and remove O-ring (2) from seat (1).

Rotating Assembly:

(Figures 4 and 6) Slide rotating assembly (3) off power rotor shaft.

(Figures 2, 3, 7 and 8) Loosen setscrews and slide rotating assembly (3) off power rotor shaft.

ASSEMBLY PROCEDURES:

Rotating Assembly:

NOTE: The rotating assembly (3) is normally packaged as an assembly for ease of installation. Coat all parts of the seal with oil prior to assembly on power rotor shaft. Refer to mechanical seal drawings, Figures 2 through 8, and assembly drawings, Figures 9 through 12, for applicable assembly procedures.

(Figures 4, 5 and 6) Slide rotating assembly (3) on power rotor shaft next to piston (020), sleeve (038) or spiral ring (075) as indicated on applicable assembly drawing. If installed, Remove and discard Retaining Clips (4). Tighten setscrews.

Stationary Assembly:

(Figures 2, 4, 6 and 7) Slide mechanical seal seat (1) on power rotor next to rotating assembly (3).

(Figures 3, 5 and 8) Install mechanical seal seat (1) and O-ring (2) in spacer (048, 081 or 092), ensuring that spring pin is properly positioned to engage slot in mechanical seal seat (1).

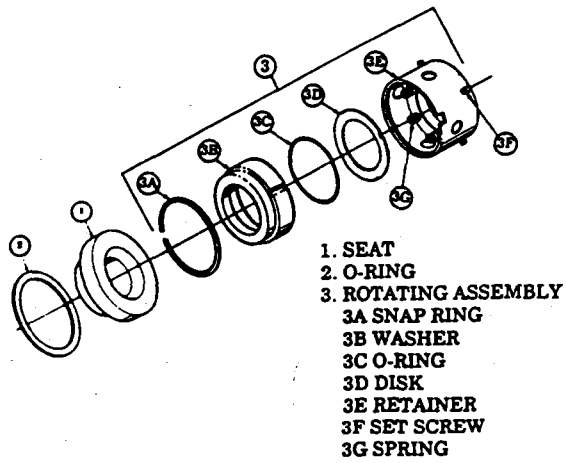


Figure 2. Crane Type 8-1 Mechanical Seal — Clamped Seat

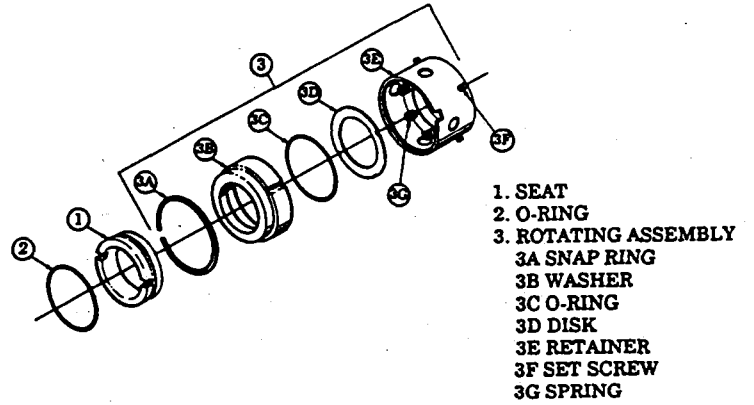


Figure 3. Crane Type 8-1 Mechanical Seal — O-ring Seat

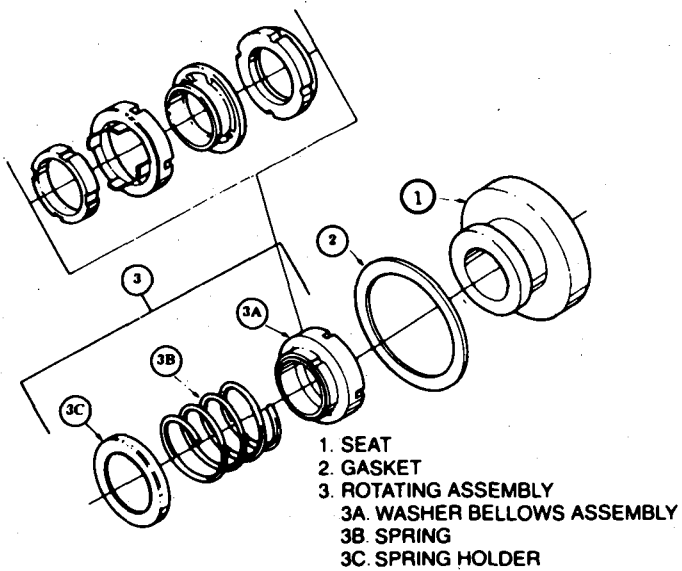


FIGURE 4. Crane Type 21 — Clamped Seat

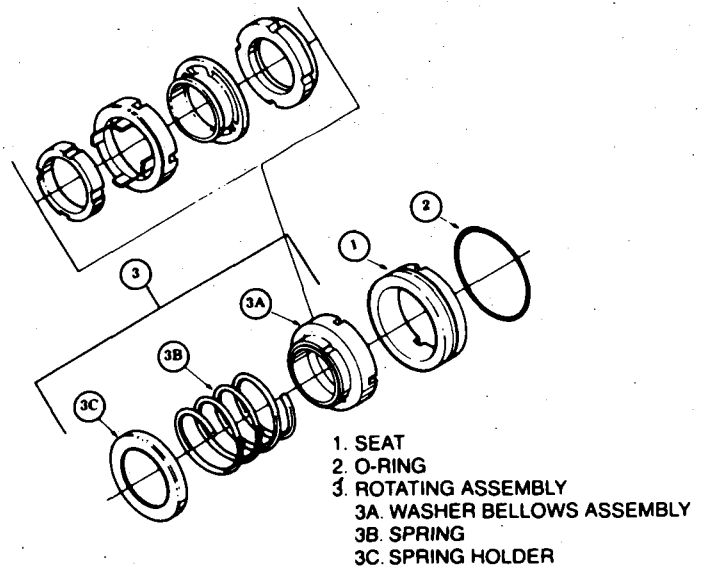


FIGURE 5. Crane Type 21 — O-ring Seat

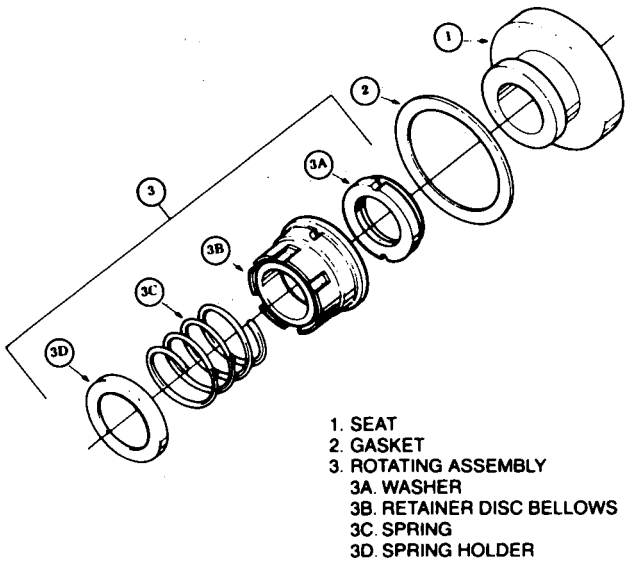


FIGURE 6. Crane Type 2 – Clamped Seat

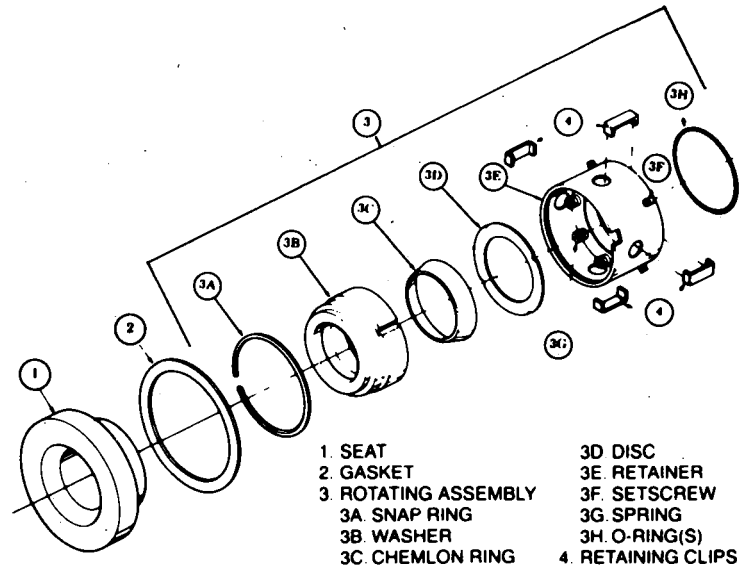


FIGURE 7. Crane Type 9B3 – Clamped Seat

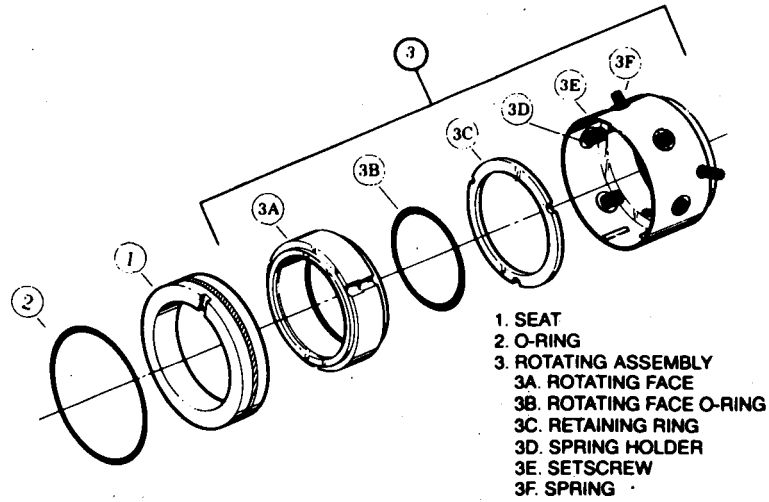


FIGURE 8. Borg-Warner Type Q

DISASSEMBLY AND ASSEMBLY PROCEDURES

DISASSEMBLY PROCEDURES (FIGURES 9 THROUGH 12)

NOTE: Disassembly and assembly procedures are given for pump types and sealing arrangements by Figure numbers. Ensure that pump type and sealing arrangement are identified by proper Figure numbers for correct disassembly and assembly procedures. Refer to Table 1 and Figure 1 for proper identification of pump type and applicable Assembly Figure Number and Seal Figure Number. Disassembly procedures for Figures 9 through 12 are identical except when specifically noted.

STEP 1. Close off suction and discharge piping to pump and disconnect piping. If applicable, remove seal piping (071). Remove drain plugs and drain unit. Remove pump from driver, coupling and baseplate. Remove coupling hub and key (031).

STEP 2. Remove capscrews or bolts (004) and, if applicable, washers (091 or 092) and inlet head (002).

STEP 3. Remove gasket (009) from case (001) or O-ring (088) from inlet head (002) groove.

STEP 4. Remove retaining ring (008) or spacer (089) from case (001).

STEP 5. Remove thrust cage (029). Remove oil balance tube (026) with O-rings (027) from either cage (029) or housing (050 or 073). Remove O-rings (027) from tube (026).

STEP 6. Remove idler balance piston housings (023) from idlers (021). Remove idlers (021) by unscrewing them from housing (050 or 073). Remove remaining idlers (035) from housings by rotating power rotor (063) in a counter-clockwise direction. Do Not permit idlers to drop as they emerge from housings.

STEP 7. Remove bolts (047) and, if applicable, washers (091 or 092) and bearing retainer (043) from case (001).

STEP 8. Remove assembled power rotor (063) from pump and disassemble power rotor as follows:

- a. Remove outer truarc ring (042), ball bearing (049) and inner truarc ring (042) from power rotor (063).
- b. Remove spacer (048, 081 or 092) from power rotor (063).
- c. If applicable, remove mechanical seal (025) as follows:
 - (1) (*Figures 3, 5, 7 or 8*) Removal of spacer (048, 081 or 092) will also remove mechanical seal seat (1) and O-ring (2) and spring pin (082, 083, 092 or 093). Remove mechanical seal seat (1) from spacer (048, 081 or 092) and remove O-ring (2) from seal seat.
 - (2) (*Figures 2, 4 or 6*) Remove mechanical seal seat (1) from power rotor (063).
 - (3) Remove mechanical seal (025) rotating assembly (3, Figures 2 through 8) from power rotor (063). NOTE: Refer to Mechanical Seals for proper disassembly procedures based on applicable seal arrangement.
- d. (*Figure 9, rotor size 106 Only*) Spiral ring (075) is furnished as part of power rotor (063)

and should not be removed.

e. (Figures 11 and 12) Remove sleeve (038) from power rotor (063). NOTE: Sleeve (038) not installed in pump type A6DBX-400 or pumps not equipped with mechanical seal (025).

NOTE: Piston (020) is provided as part of power rotor (063) and is not serviced separately.

STEP 9. Remove capscrews or bolts (004, 090 or 093) and , if applicable, washers (092) and inboard cover (046 or 085).

NOTE: (Figures 9, 11 and 12 - Circular Mounting Flange, and Figure 10) Removal of inboard cover (046 or 085) will include removal of O-ring (028) and bushing (086). Remove O-ring (028) from inboard cover (046 or 085). Bushing (086) is loctited to inboard cover during pump assembly and will not be removed unless replacement is necessary.

STEP 10. (Figure 11 - Pump Type C6DV Only) Remove back-up ring (083) from groove of inboard cover (085).

STEP 11. (Figures 9, 11 and 12) Remove gasket (009) from flange of case (001). NOTE: Gasket (009) not furnished on Figures 9, 11 and 12 with Circular Mounting Flange.

STEP 12. If applicable, remove gasket from mechanical seal (025) bore of inboard cover (046 or 085).

STEP 13. (Figure 9 Only) Remove spacer (084) from case (001).

STEP 14. (Figures 11 and 12) If applicable, remove retaining ring (081 or 101) and retainer (080 or 100) from groove of case (001).

STEP 15. (Figures 9, 11 and 12) Remove balance piston housing (022) with O-ring (028) from case (001). Remove O-ring (028) from balance piston housing (022) groove. NOTE: Refer to Figure 9A for B6D balance piston housing design. Balance piston housing (091) for series B6D 106 & 118 rotor sizes, is a subassembly and should be removed as one piece. It consists of the housing (091), bushing (098), pin (100) and bolt (101). The "o" ring (028) is the same as other designs.

STEP 16. (Figures 9, 11 and 12) If applicable, remove oil balance tube (026) from either balance piston housing (022) or housing (024).

STEP 17. Remove stop pin (006) with Dyna seal (007) from case (001).

STEP 18. Remove housings (024 and 050 or 073) from inlet end of pump case (001).

CAUTION

Do not permit housings to fall as they are removed from pump.

STEP 19. Remove oil balance tube (026) with O-rings (027) from housings as they are removed from pump case (001). Remove O-rings (027) from tube (026).

STEP 20. Remove O-ring(s) (028) from groove of housing (024).

STEP 21. (Figure 11 - Pump Type C6DV Only) Remove back-up ring (083) from groove of housing (024).

ASSEMBLY PROCEDURES (FIGURES 9 THROUGH 12)

NOTE: Prior to assembly of pump, all parts should be cleaned and inspected for nicks and burrs. Replace all worn or damaged parts. Imo Delaval Inc. recommends automatic replacement of O-rings (027, 028 and 088), gaskets (009, 080, 083 and 090), Dyna seal (007), mechanical seal (025) and ball bearing (049) when these parts are disturbed from their previously installed position. Refer to pump assembly drawings, Figures 9 through 12; mechanical seal drawings, Figures 2 through 8; and List of Material, Table 3, during assembly. Coat all parts with light lubricating oil to assist in assembly. Assembly procedures for Figures 9 through 12 are identical except when specifically noted.

STEP 1. Install O-ring(s) (028) in housing (024).

STEP 2. (*Figure 11 - Pump Type C6DV Only*) Install back-up ring (083) in groove of housing (024) beside O-ring (028). NOTE: Back-up ring to be positioned in groove toward inlet end of pump.

STEP 3. Install housing (024), properly aligning housing with bore for stop pin (006) in case (001). Install stop pin (006) with Dyna seal (007).

STEP 4. Install O-rings (027) on oil balance tube (026). Install oil balance tube (026) in bore of housing (050 or 073) and install housing (050 or 073) in pump case (001), ensuring that tube (026) engages bore of housing (024).

STEP 5. (*Figures 9, 11 and 12*) Install oil balance tube (026) in bore of balance piston housing (022).

STEP 6. (*Figures 9, 11 and 12*) Install O-ring (028) in groove of balance piston housing (022) and install assembled balance piston housing (022) in case (001). NOTE: Refer to Figure 9A for B6D balance piston housing design. Install assembled balance piston housing which consists of the housing (091), bushing (093), pin (100) and bolt (101) after inserting "o" ring (028) in the groove.

STEP 7. (*Figure 9 Only*) Install spacer (084) in case (001).

STEP 8. (*Figure 11 - Pump Type C6DV Only*) Install back-up ring (083) in groove of inboard cover (085).

STEP 9. (*Figures 11 and 12*) Install retaining ring (081 or 101) and retainer (080 or 100) in groove of case (001).

STEP 10. (*Figures 9, 11 and 12 - Circular Mounting Flange, and Figure 10*) Install O-ring (028) in groove of inboard cover (046 or 085). NOTE: If bushing (086), where applicable, was removed during disassembly, install bushing (086) to inboard cover (046 or 085) with Loctite Retaining Compound coated between bushing (086) and inboard cover (046 or 085). Allow one hour for Loctite compound to harden.

STEP 11. (*Figures 9, 11 and 12*) Install gasket (009) on flange of case (001). NOTE: Gasket (009) not installed on Figures 9, 11 and 12 with Circular Mounting Flange.

STEP 12. Install inboard cover (046 or 085) on case (001) using capscrews or bolts (004, 090 or 093) and, if applicable, washer (092). Torque capscrews or bolts (004, 090 or 093) to proper value listed in Table 2.

STEP 13. If applicable, install gasket in mechanical seal bore of inboard cover (046 or 085).

**TABLE 2
TORQUE VALUES**

Part	Rotor Size	Torque Value
004 (1)	106 thru 137	60 lbs. ft. (± 5 lbs. ft.)
	156 thru 187	120 lbs. ft. (± 10 lbs. ft.)
	218 thru 250	110 lbs. ft. (± 10 lbs. ft.)
	275	60 lbs. ft. (± 5 lbs. ft.)
	312 thru 350	90 lbs. ft. (± 5 lbs. ft.)
004 (2)	400	115 lbs. ft. (± 10 lbs. ft.)
	106 thru 137	120 lbs. ft. (± 10 lbs. ft.)
	156 thru 187	200 lbs. ft. (± 10 lbs. ft.)
	218 thru 250	160 lbs. ft. (± 10 lbs. ft.)
	275 thru 350	100 lbs. ft. (± 5 lbs. ft.)
047	400	145 lbs. ft. (± 10 lbs. ft.)
	106 thru 187	11 lbs. ft. (± 2 lbs. ft.)
	218 thru 275	20 lbs. ft. (± 2 lbs. ft.)
	312 thru 400	30 lbs. ft. (± 2 lbs. ft.)
090	106 thru 137	120 lbs. ft. (± 10 lbs. ft.)
093	106 thru 137	120 lbs. ft. (± 10 lbs. ft.)
(1) Foot Mounted Pumps (2) Circular Flange Mounted Pumps		

STEP 14. Assembly power rotor (063) as follows:

NOTE: Piston (020) is provided as part of power rotor (063) and is not serviced separately.

- a. (Figures 11 and 12) Install sleeve (038) on power rotor (063) next to piston (020). NOTE: Sleeve (038) not installed on pump type A6DBX-400 or pumps not equipped with mechanical seal.
- b. If applicable, install mechanical seal (025) as follows:
 - (1) (Figures 2 through 8) Install mechanical seal (025) rotating assembly (3) on power rotor (063) next to piston (020), sleeve (038) or spiral ring (075) per applicable pump assembly drawing, Figures 9 through 12. Refer to Mechanical Seals for correct assembly procedures for applicable seal design.
 - (2) (Figures 2, 4 and 6) Install mechanical seal (025) seat (2) on power rotor (063) as described in assembly procedures of Mechanical Seals for applicable seal design.
 - (3) (Figures 3, 5, 7 and 8) Install O-ring (2) in groove of mechanical seal seat (1). Install mechanical seal seat (1) in spacer (048, 081 or 092), ensuring that spring pin (082, 083, 092 or 093) is properly positioned to engage bore of seal seat. Refer to Mechanical Seals for assembly procedures for applicable seal design.
- c. Install spacer (048, 081 or 092) on power rotor (063) shaft.

- d. Install inner triarc ring (042) in groove of power rotor (063).
- e. Press ball bearing (049) on power rotor (063), pressing only on inner race of bearing (049).
- f. Install outer triarc ring (042) in groove of power rotor (063) shaft.

STEP 15. Install assembled power rotor (063) in pump, centering all parts as they enter inboard cover (046 or 085). NOTE: If applicable, bearing spacer (048 or 081) is to be aligned with slot located over drain.

STEP 16. Install bearing retainer (043) on cover (046) using bolts (047). If applicable, install washers (091 or 092) with bolts (047). Torque bolts (047) to proper value listed in Table 2.

STEP 17. Install idlers (035) by meshing threads of idlers (035) with threads of power rotor (063) and rotating power rotor (063) in direction of normal rotation of pump to screw idlers (035) into housing idler bores.

STEP 18. Install idlers (021) in housing (050 or 073) idler bores described above. Install idler balance piston housings (023) on idlers (021).

STEP 19. Install O-rings (027) on oil balance tube (026) and install oil balance tube (026) in housing (050 or 073). Install thrust cage (029), ensuring that bore in thrust cage (029) engages oil balance tube (026) in housing (050 or 073).

STEP 20. Install retaining ring (008) or spacer (089) in case (001).

STEP 21. (Figures 9, 11 and 12) Install gasket (009) on case (001).

STEP 22. (Figures 10 only) Install O-ring (008) in groove of inlet head (002).

STEP 23. Install inlet head (002) using capscrews or bolts (004). If applicable, washers (091 or 092) will be installed with bolts (004). Torque capscrews or bolts (004) to proper value listed in Table 2.

NOTE: Inlet head (002) can be rotated and re-positioned in 90 degree increments to suit suction pipe arrangements. To change the inlet head position, disconnect tubing, remove capscrews or bolts, and rotate inlet head to desired position, ensuring that gasket or O-ring is not damaged. Replace capscrews or bolts and torque capscrews or bolts to proper value listed in Table 2.

STEP 24. Install coupling hub and key (031).

STEP 25. If applicable, install seal piping (071). Install all plugs removed during disassembly.

STEP 26. Mount pump on baseplate and align with driver as described in CA-1 manual.

**TABLE 3
LIST OF MATERIAL (FIGURES 9 THROUGH 12)**

Part No.	Description	Part No.	Description
001	Case	050 (2)	Housing
002	Inlet Head	063 (2)	Power Rotor
004 (3)	Capscrew or Bolt	067	Plug (2)
005	Plug (2)	068	Nipple
006 (2)	Stop Pin	069	Elbow
007 (1)	Dyna Seal	070	Elbow
008 (2)	Retaining Ring (12)	071	Seal Pipe
009 (1) (4)	Gasket (2)	072	Plug
		073 (2)	Housing
021 (2)	Idler (2)	074	Elbow
022 (2)	Balance Piston Housing	075	Spiral Ring
023 (2)	Idler Balance Piston Housing (2)	076	Elbow
024 (2)	Housing	077	Connector
025 (1)	Seal	080 (7) (2)	Retainer
026 (5) (2)	Tube (3)	081 (8) (2)	Retaining Ring
027 (1)	O-ring (4)	082	Spring Pin
028 (1) (6)	O-ring (2)	083 (1) (9)	Gasket
029 (2)	Cage	084	Spacer
030	Drive Screw (3)	085	Inboard Cover
031	Key	086 (2)	Bushing
033	Nameplate	088 (1)	O-ring
034	Drive Screw (3)	089	Spacer
035 (2)	Idler (2)	090	Capscrew (4)
038	Sleeve	091	Washer (4)
		091 (13) (2)	Balance Piston Housing Assembly
042 (1)	Retaining Ring (2)	092 (10) (11)	Washer
043	Retainer	093	Capscrew (4)
046	Inboard Cover	094	Stud (8)
047	Bolt (4)	095	Nut (8)
048 (2)	Spacer	100 (2)	Retainer
049 (1)	Ball Bearing	101 (2)	Retaining Ring

Quantities are one (1) except when noted in parentheses after part description or in notes below.

- (1) Minor Repair Kit items.
- (2) Major Repair Kit items. Items marked (1) also included in Major Repair Kit.
- (3) Quantity four (4) for Figure 9; eight (8) for Figure 10 and Figure 11, Rotor Sizes 218 and 250; sixteen (16) for Figure 11, Rotor Sizes 275 and 312, and Figure 12.
- (4) Quantity one (1) for Figures 9, 11 and 12, Circular Mounting Flange.
- (5) Quantity two (2) for Figure 10 and Figures 9, 11 and 12, Circular Mounting Flange.
- (6) Quantity three (3) for Figure 12, Circular Mounting; Type LA6DKH and Rotor Size 400.
- (7) Part description is Gasket for Figure 11, O-ring Seat, and Figure 12, Type A6DZ.
- (8) Part description is Spacer for Figure 11, O-ring Seat, and Figure 12, Type A6DZ.
- (9) Part Description is Back-Up Ring for Figure 10, Circular Mounting Flange.
- (10) Quantity is four (4), Figure 9; eight (8), Figures 10 and 11.
- (11) Part description is Spring Pin for Figure 10, O-ring Seat.
- (12) Quantity is (2) for Rotor sizes 218 – 400.
- (13) Can only be purchased as a complete assembly.

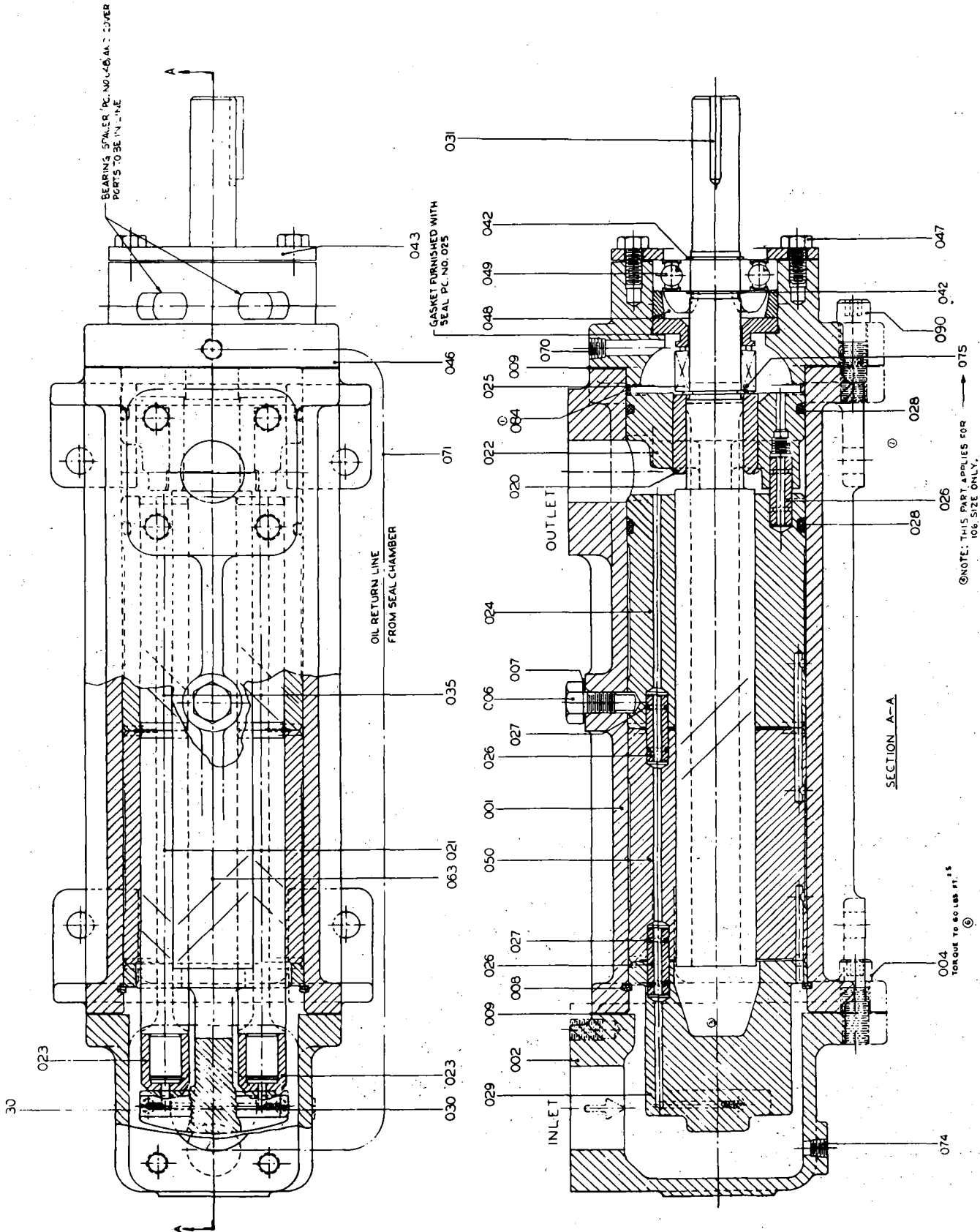
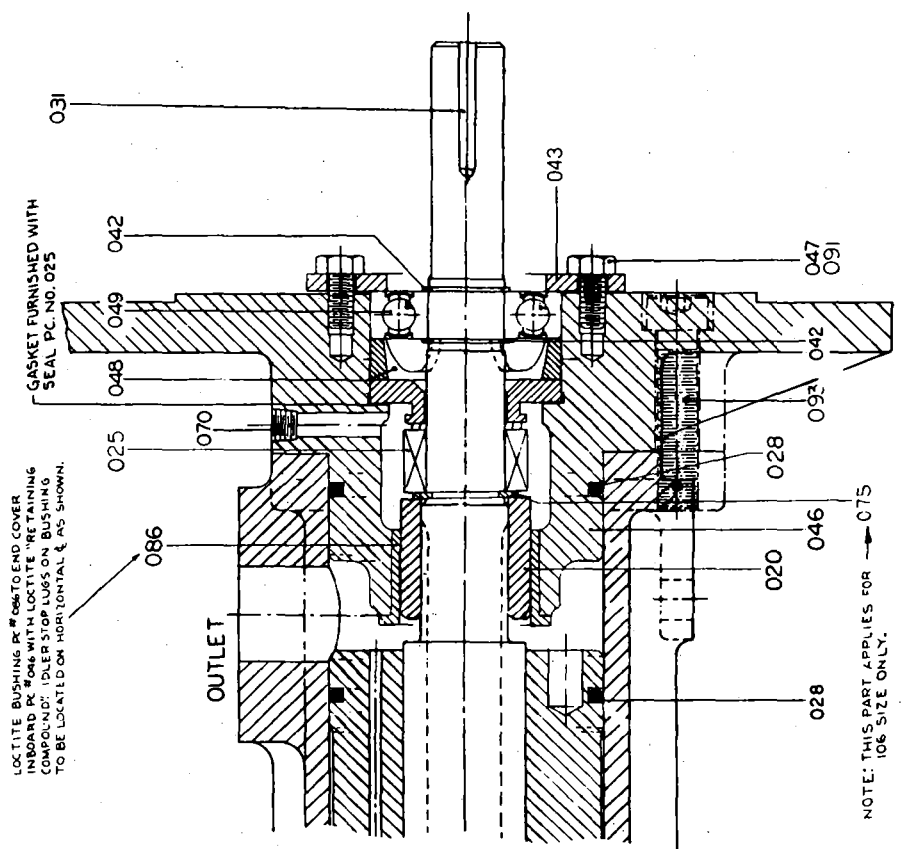
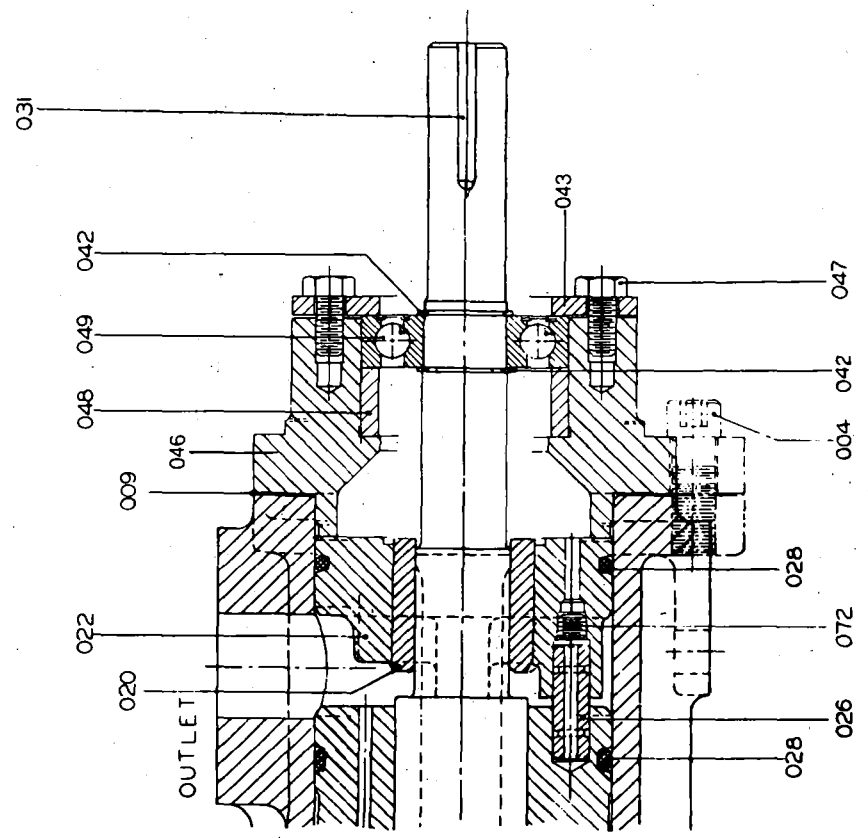


FIGURE 9. ROTOR SIZES 106 THRU 137
 (Continued on page 13)



Circular Mounting Flange



No Mechanical Seal

FIGURE 9. (Continued from page 12)

REFERENCE LAYOUTS (INBOARD END)
 106 SIZE - - - - - 503-5039

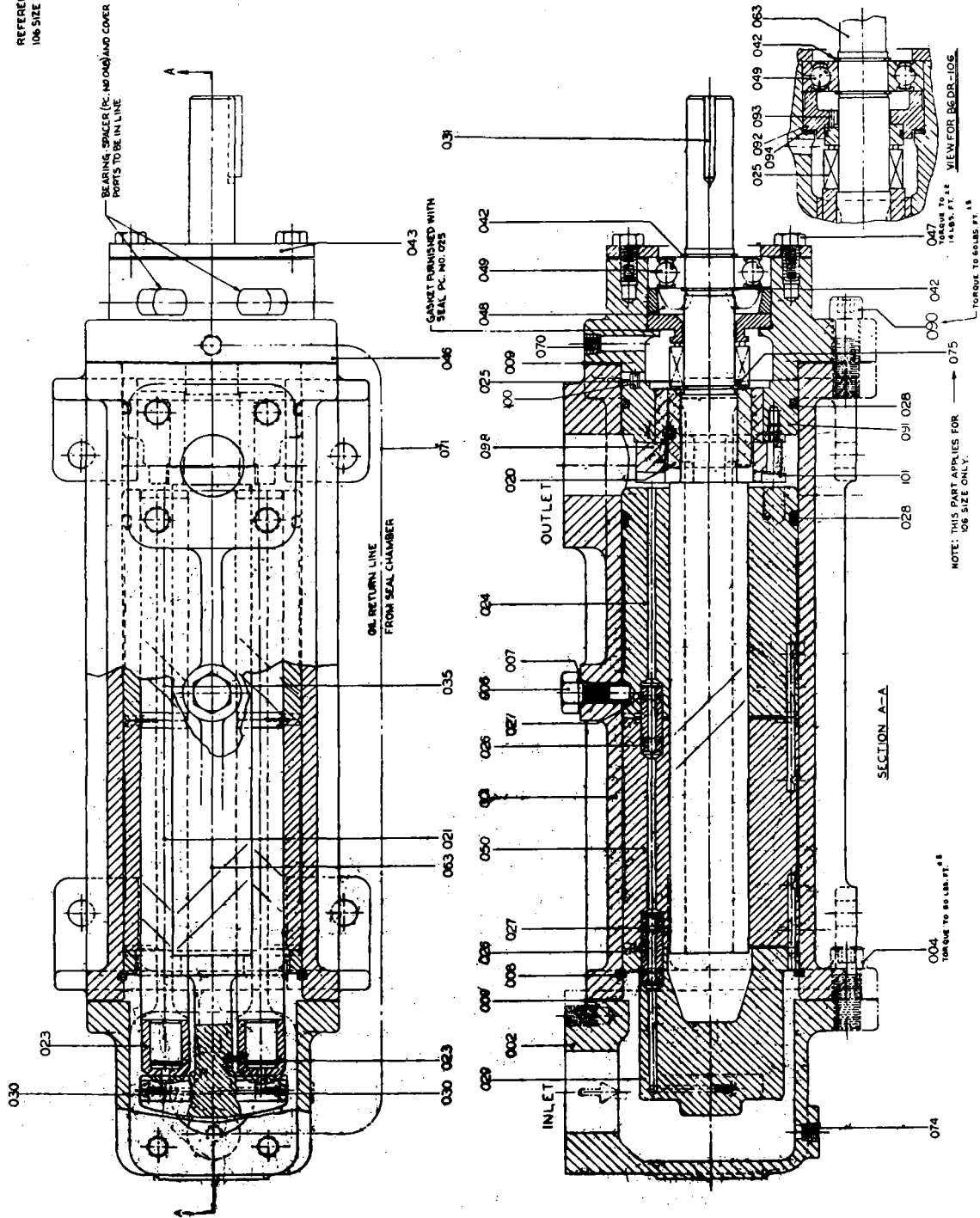


FIGURE 9A. (Continued from page 13)

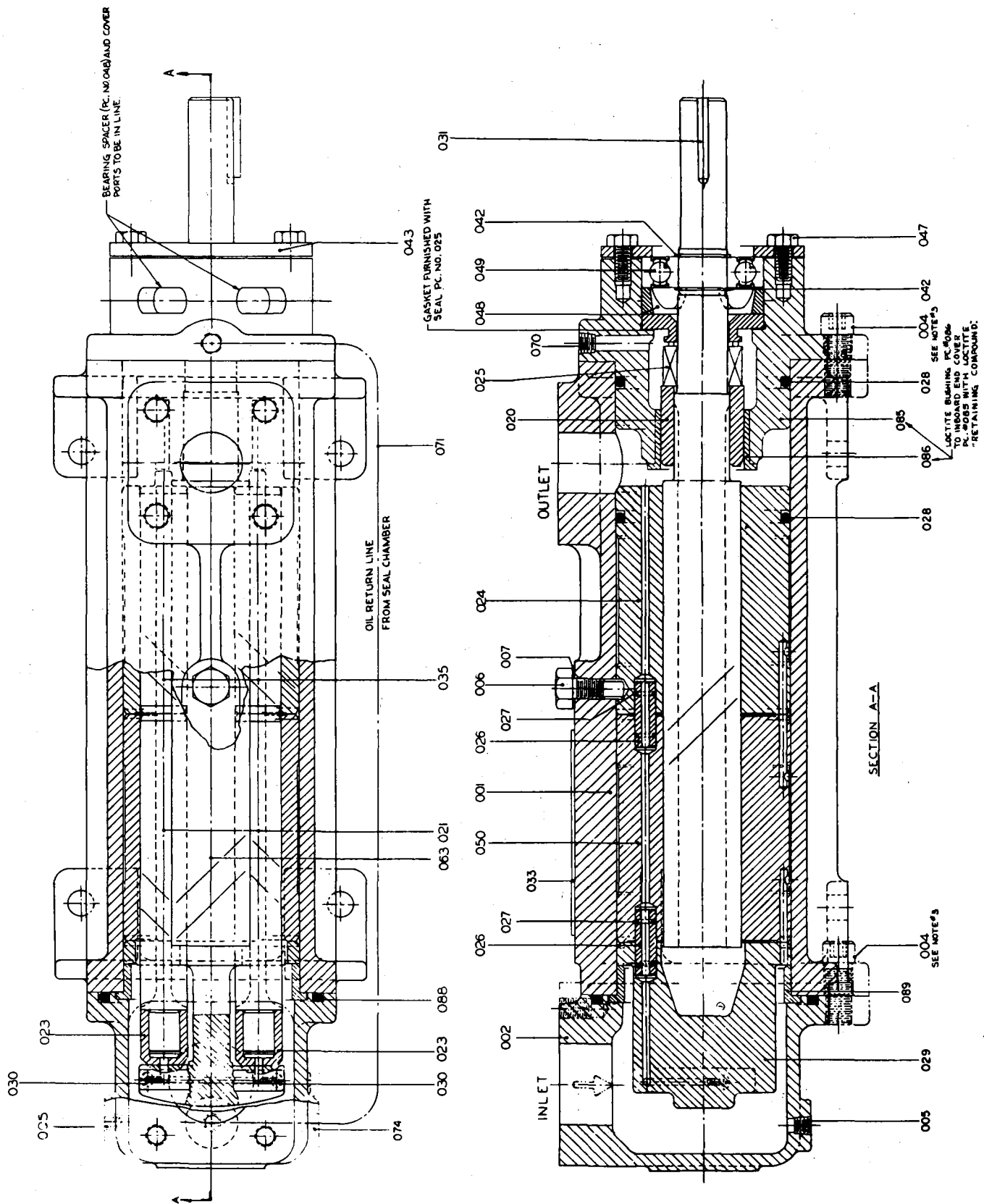
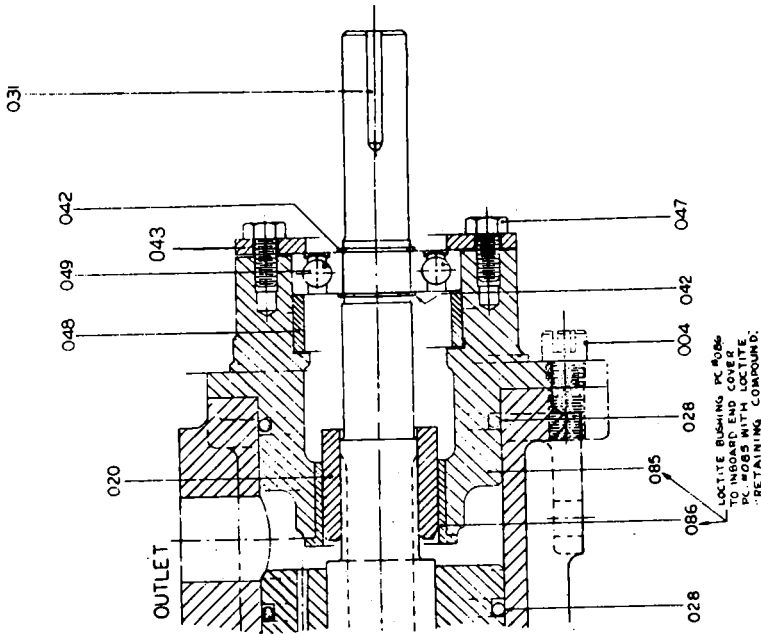
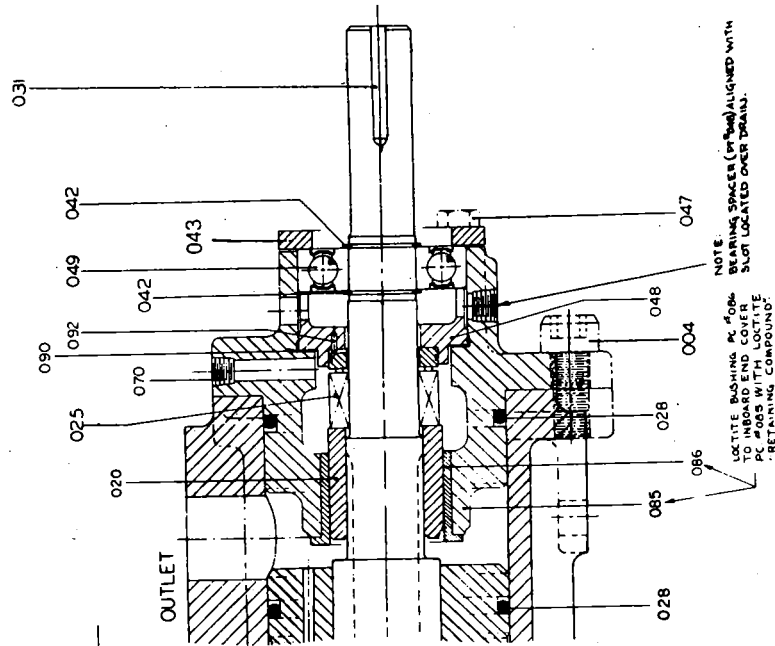


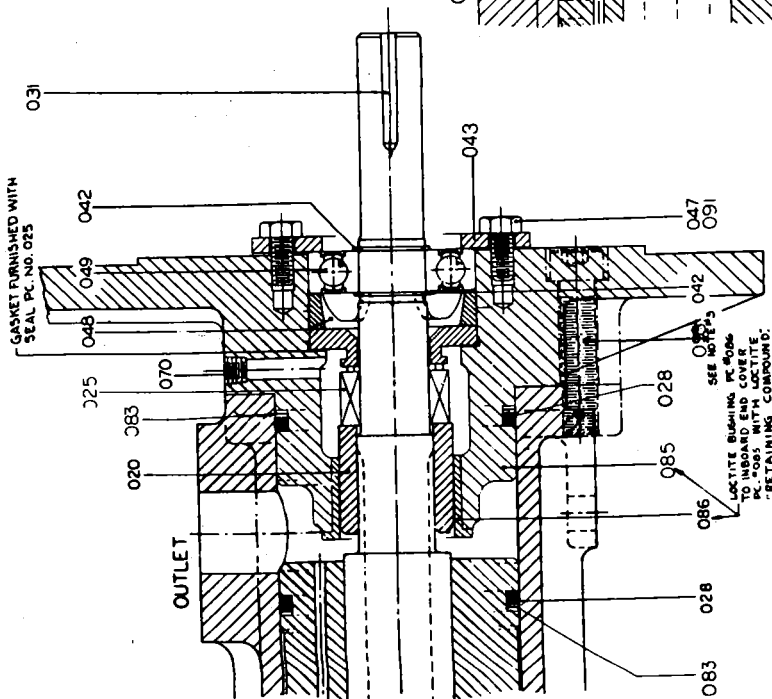
FIGURE 10. ROTOR SIZES 156 AND 187
 (C ntinued on page 16)



No Mechanical Seal



O-ring Seal Seat



Clamped Seal Seat
Circular Mounting Flange

FIGURE 10. (Continued from page 15)

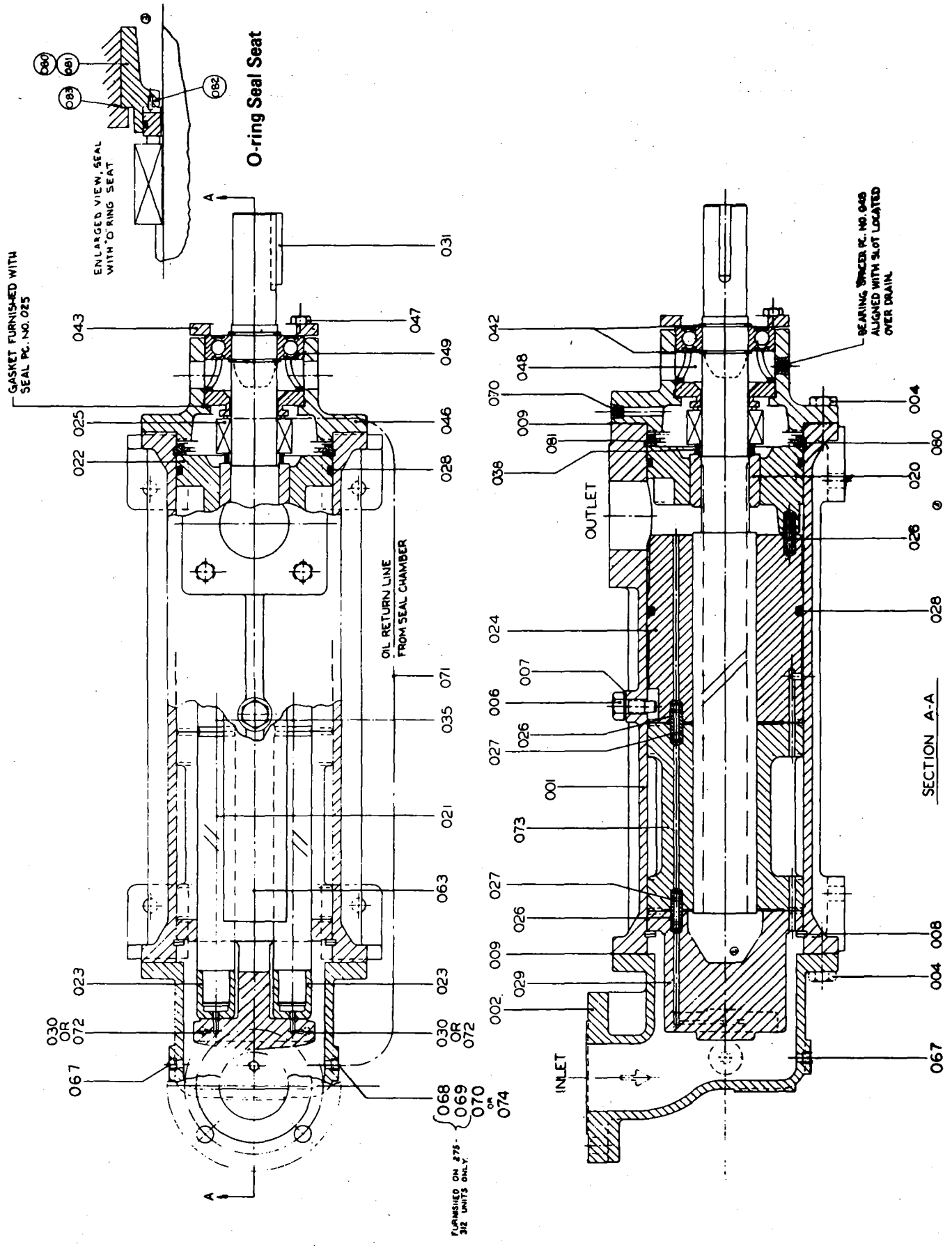
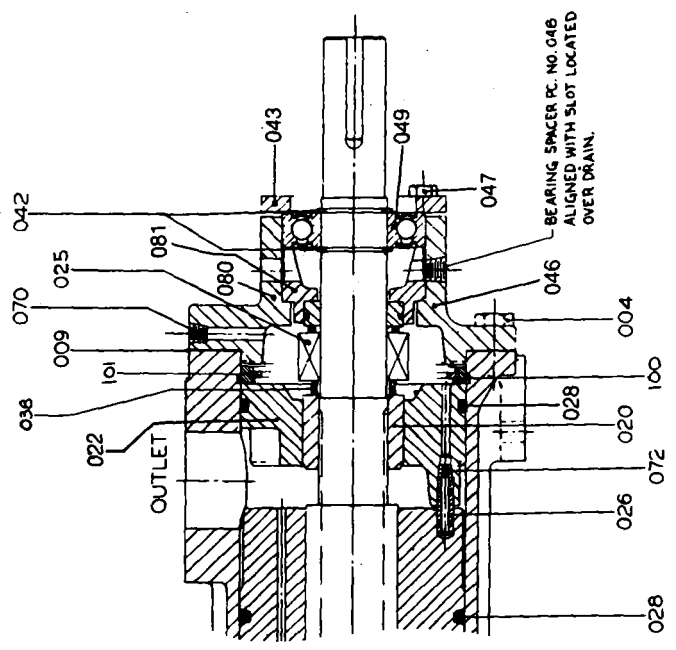
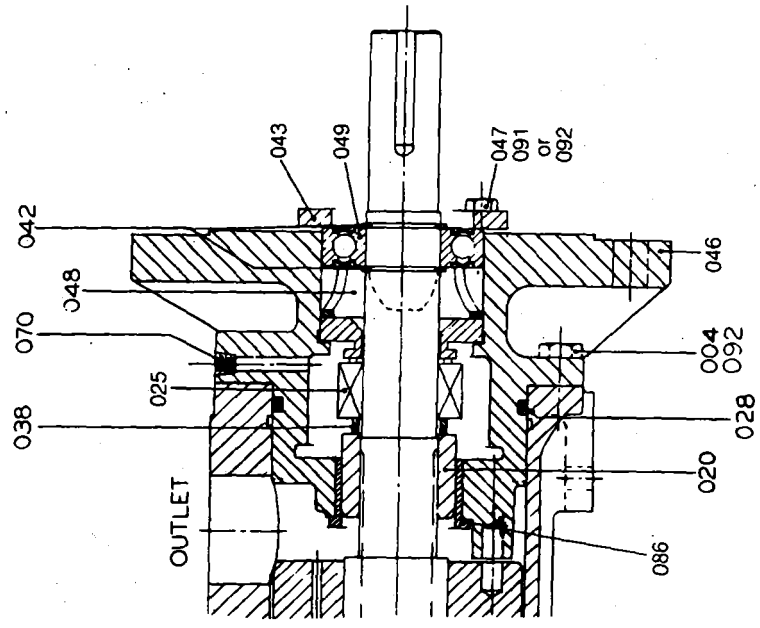


FIGURE 11. ROTOR SIZES 218 THRU 312
 (Continued on pag 18)

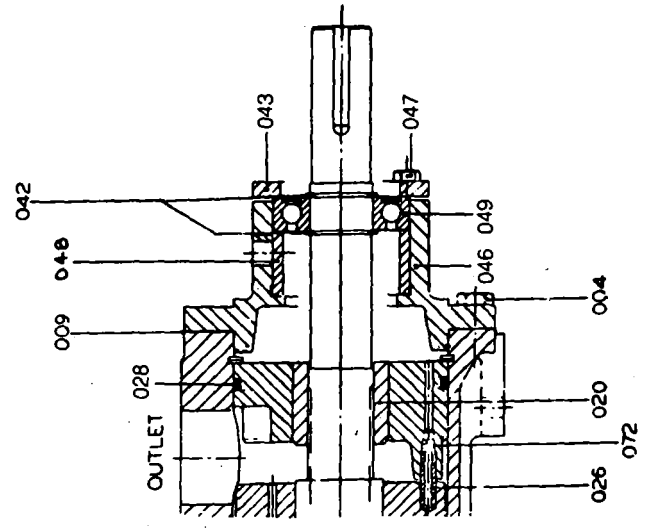


Type A6DZ



Clamped Seal Seat

Circular Mounting Flange



No Mechanical Seal

FIGURE 11. (Continued from page 17)

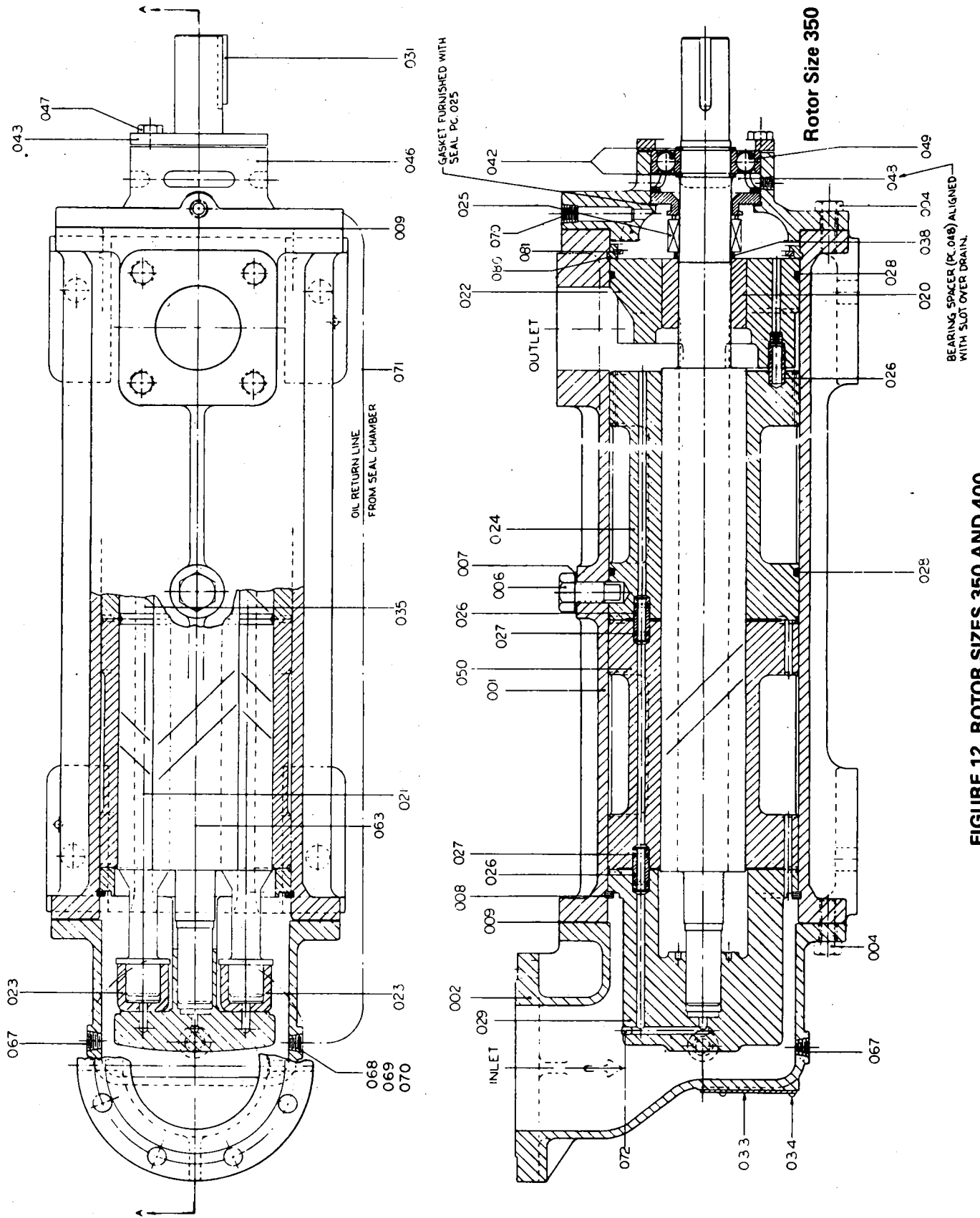
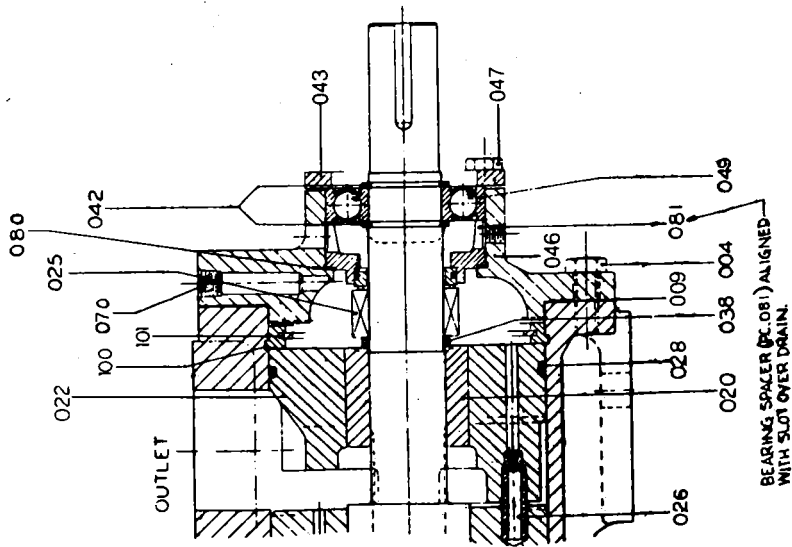
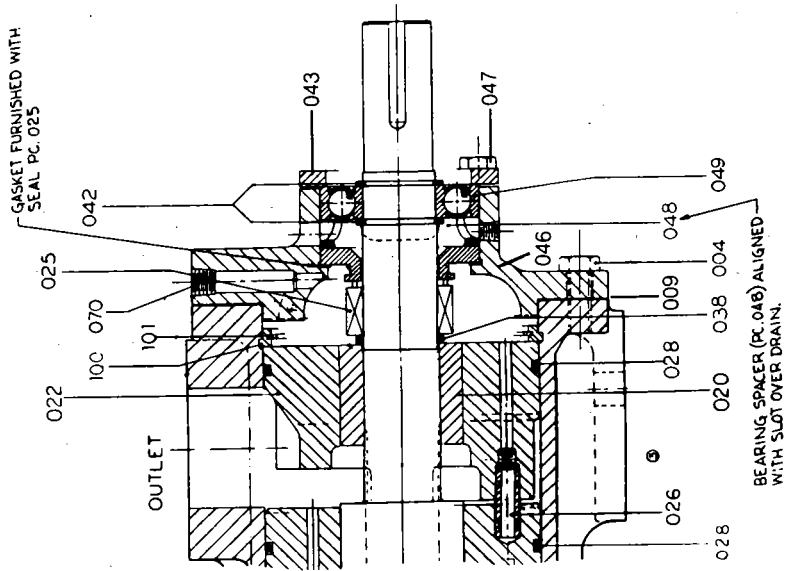


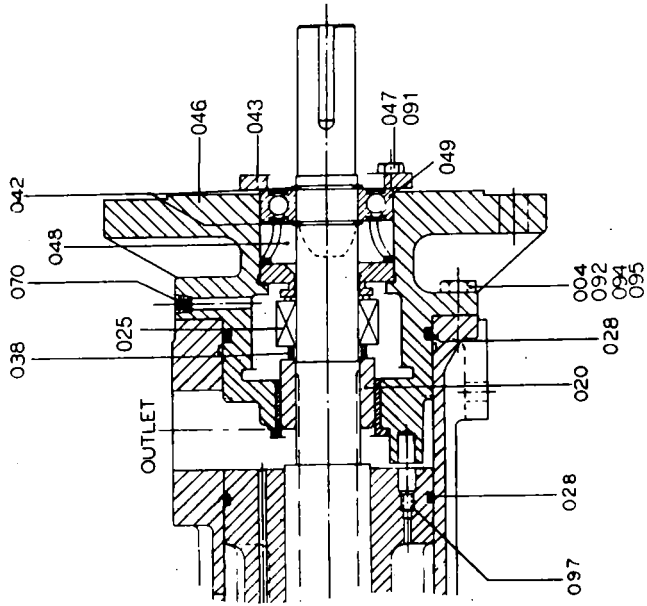
FIGURE 12. ROTOR SIZES 350 AND 400
(Continued on pages 20 and 21)



Type A6DZ-350 & 400

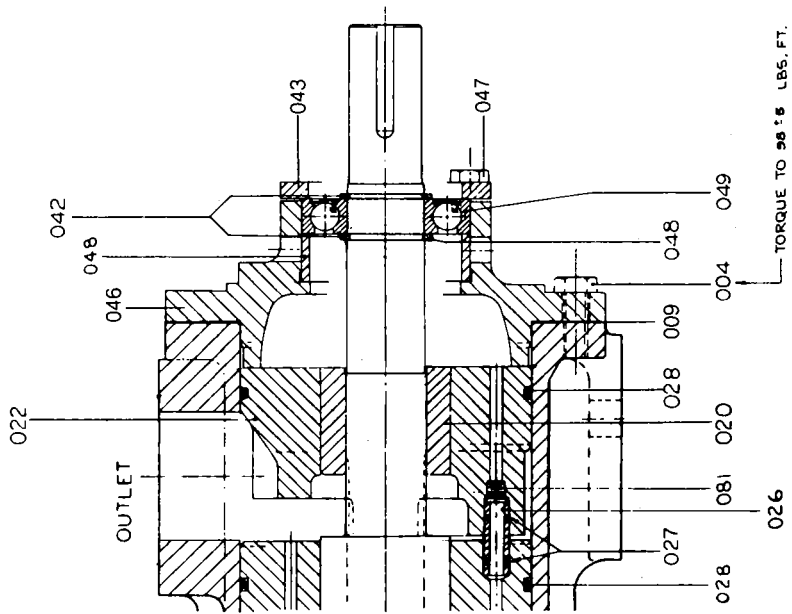


Rotor Size 400

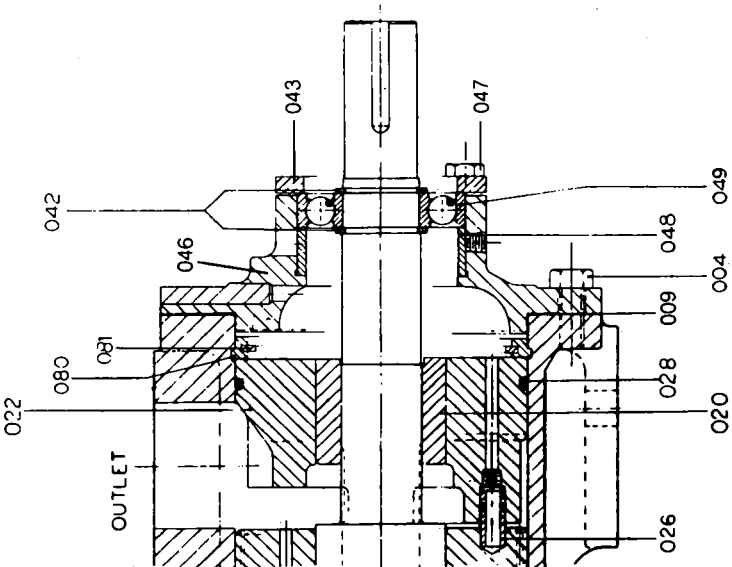


Circular Mounting Flange

FIGURE 12. (Continued from pag 19)



Type LA6DKH-400P



No Mechanical Seal

FIGURE 12. (Continued from pages 19 and 20)

The instructions given herein cover generally the operation and maintenance of subject equipment. Should any questions arise which may not be answered specifically by these instructions, they should be referred to the IMO Pump Division for further detailed information and technical assistance.

This manual cannot possibly cover every situation connected with the operation, adjustment, inspection, test, overhaul and maintenance of the equipment furnished. Every effort is made to prepare the text of the manual so that engineering and design data is transformed into the most easily understood wording. The IMO Pump Division, in furnishing this equipment and this manual, must presume that the operating and maintenance personnel assigned thereto have sufficient technical knowledge and experience to apply sound safety and operational practices which may not be otherwise covered herein.

In applications where the IMO Pump Division furnished equipment is to be integrated with a process or other machinery, these instructions should be thoroughly reviewed to determine the proper integration of the equipment into the overall plant operational procedures.