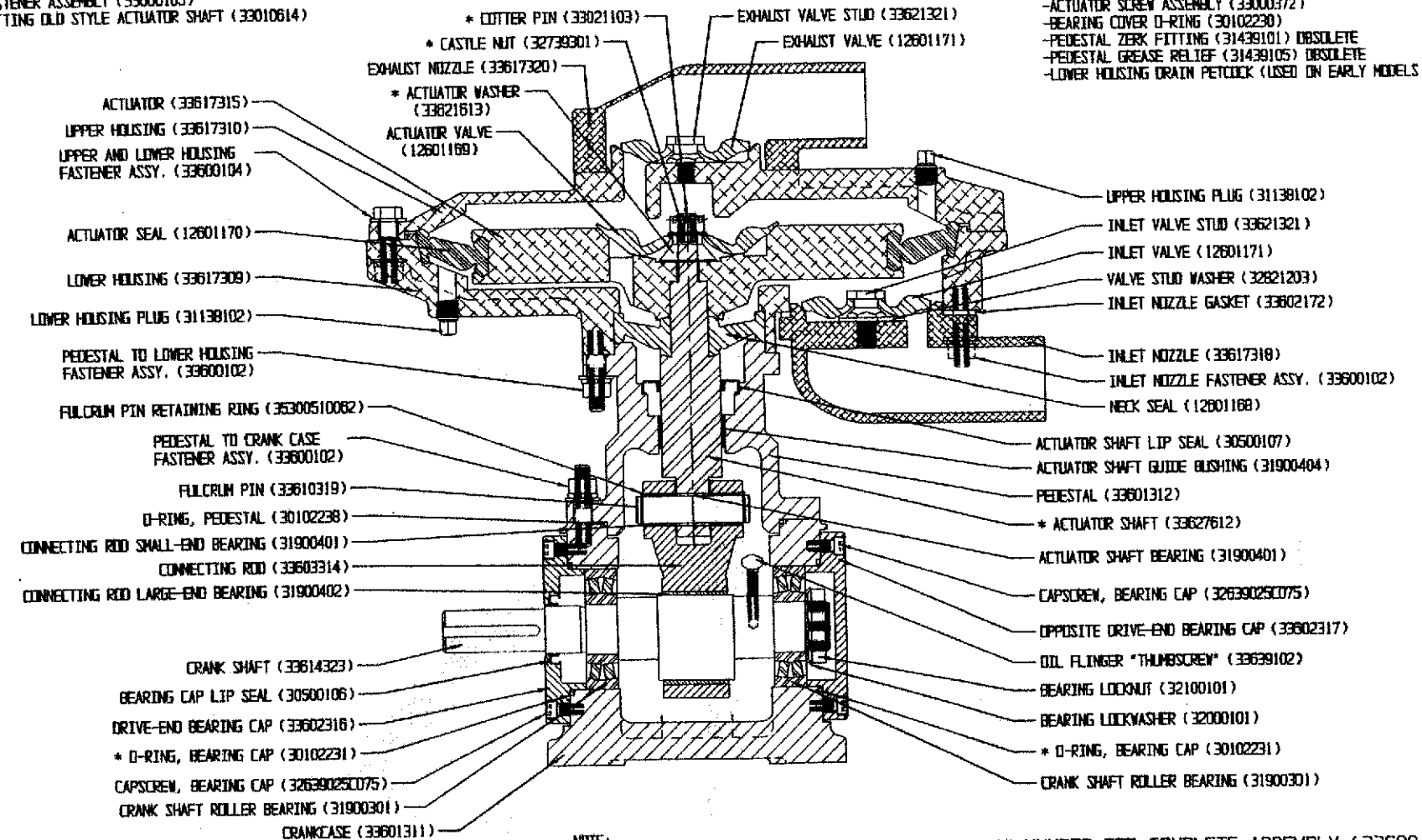
DWG NO.
A638A

NOT SHOWN ON CURRENT MODEL:
-CRANKCASE VENT ASSEMBLY (33611103)
-OIL LEVEL SIGHT GLASS (31339102)
-OIL FILL PLUG (33611103)
-OIL DRAIN ASSEMBLY (33600107)
-EXHAUST NOZZLE FASTENER ASSEMBLY (33600105)
-STUD FOR RETRO-FITTING OLD STYLE ACTUATOR SHAFT (33010614)

FOR PREVIOUS VERSION SEE 0328A
* DENOTES PARTS THAT CHANGED

OLD STYLE PARTS
-ACTUATOR SHAFT (33627313)
-ACTUATOR WASHER (33621322)
-ACTUATOR SCREW ASSEMBLY (33000372)
-BEARING COVER O-RING (30102230)
-PEDESTAL ZERK FITTING (31439101) OBSOLETE
-PEDESTAL GREASE RELIEF (31439105) OBSOLETE
-LOWER HOUSING DRAIN PETCOCK (USED ON EARLY MODELS)



NOTE:
PIONEER PUMP PART NUMBERS IN ( )

PART NUMBER FOR COMPLETE ASSEMBLY (33600101)

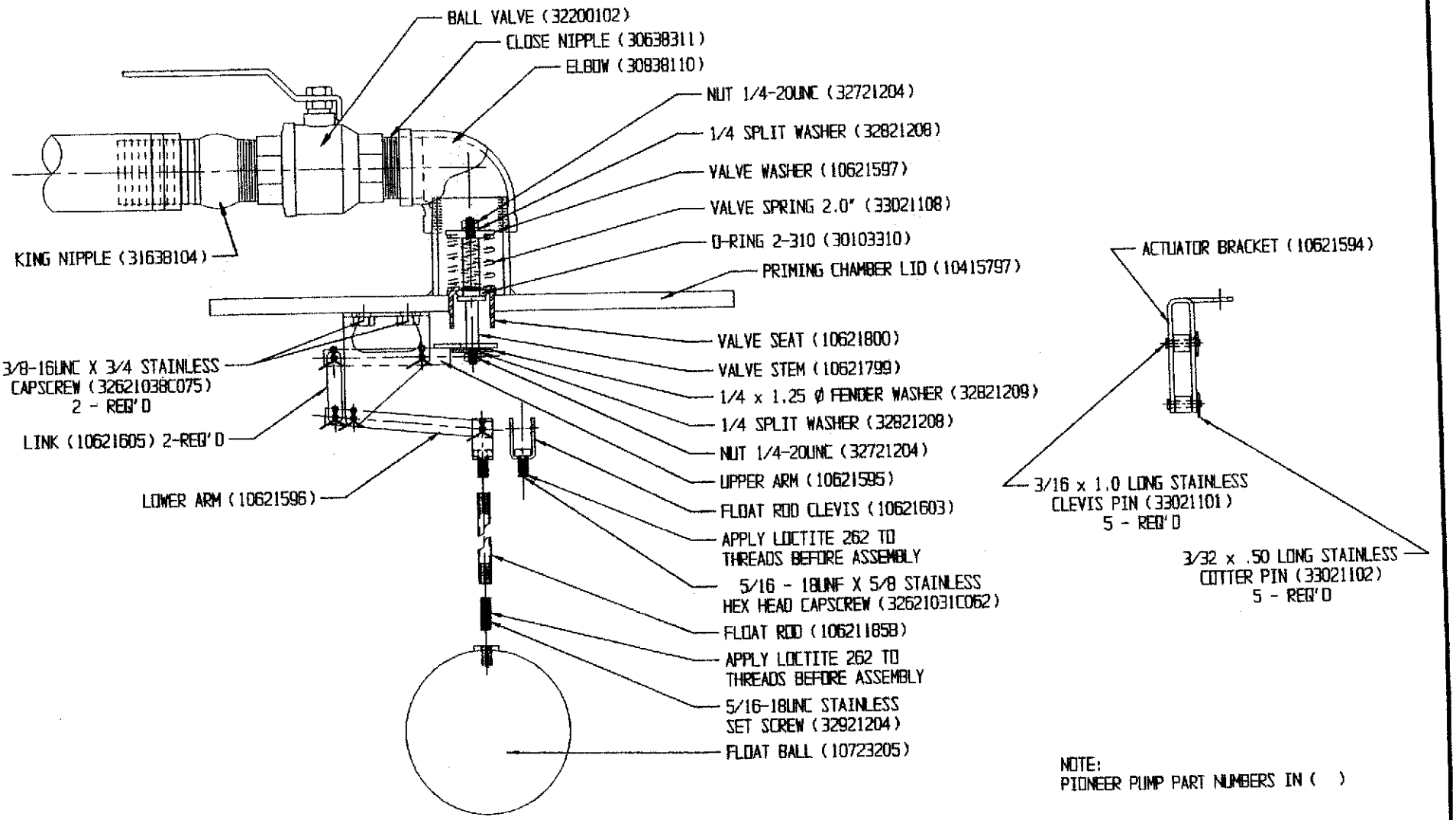
11/7/2002

PIONEER PUMP, INC.

VACUUM PUMP

DWG NO.
A638A

DWG NO. A1459A



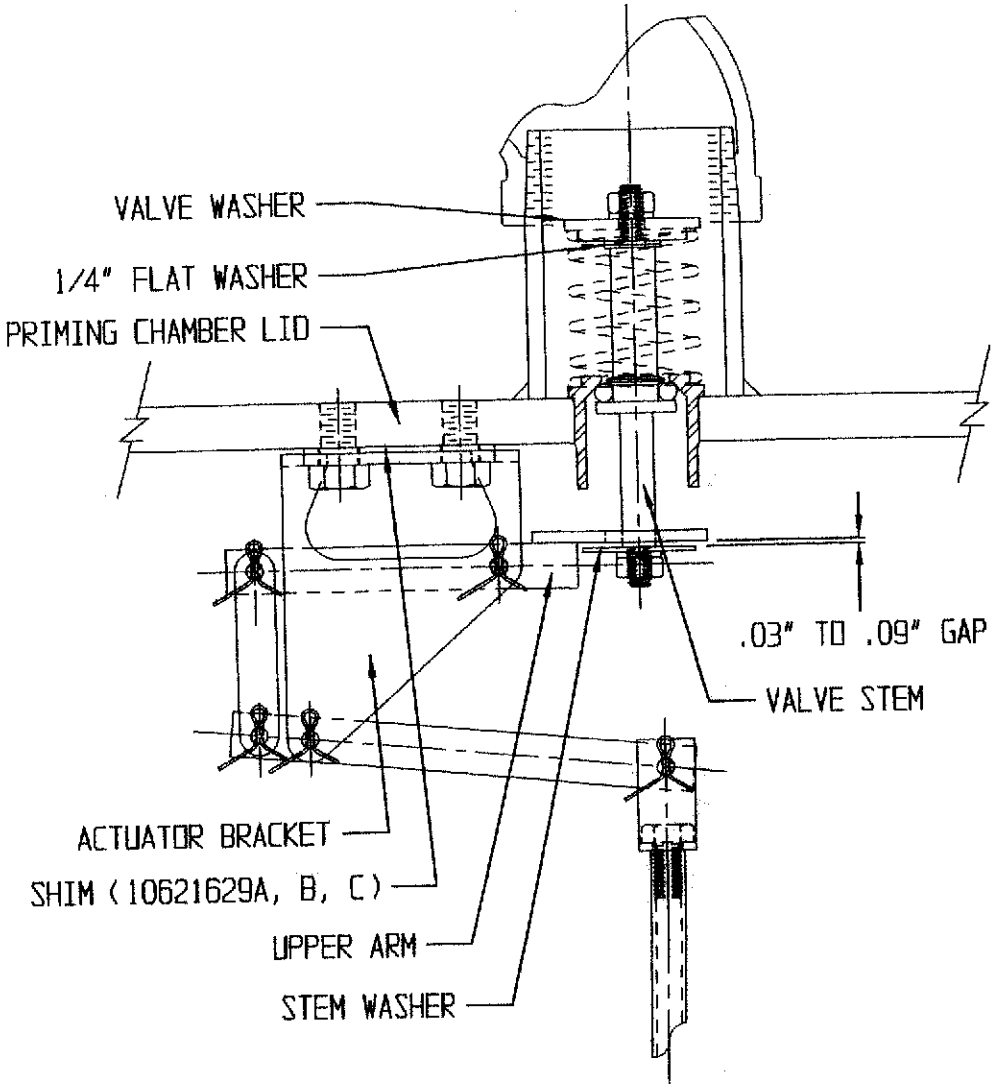
NOTE:
PIONEER PUMP PART NUMBERS IN ( )

PIONEER PUMP, INC.

PRIMING CHAMBER VALVE ASSEMBLY

DWG NO. A1459A

DWG NO. A1784A



ADJUSTMENT INSTRUCTIONS:

WITH THE FORKED PORTION OF THE UPPER ARM PARALLEL TO THE STEM WASHER, THE GAP BETWEEN THEM SHOULD BE .03" - .09".

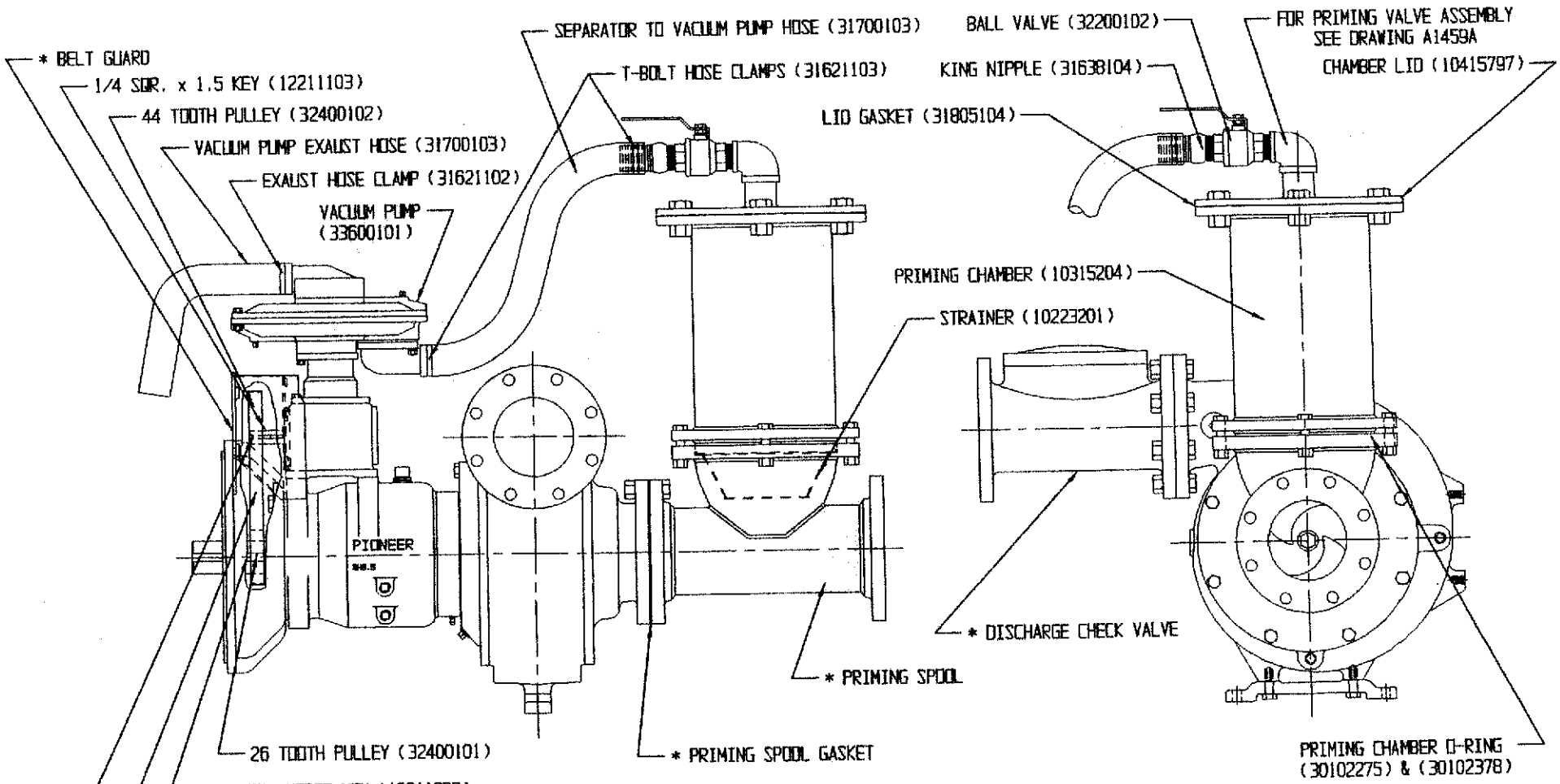
IF THIS GAP IS TOO LARGE, PLACE A SHIM BETWEEN THE THE ACTUATOR BRACKET AND THE PRIMING CHAMBER LID.

- (10621629A = 10 GAGE SHIM = .125" THICK),
- (10621629B = 16 GAGE SHIM = .062" THICK),
- (10621629C = 12 GAGE SHIM = .099" THICK)

THIS WILL LOWER THE BRACKET AND REDUCE THE GAP ALLOWING THE VALVE TO OPEN UP AS NECESSARY TO DRAW A VACUUM MORE EFFICIENTLY.

NOTE: THERE HAS BEEN SOME CASES WHERE THE VALVE HAS STILL FAILED TO OPEN PROPERLY WHEN THE GAP IS SHIMMED CORRECTLY. AT THIS POINT THE SPRING TENSION NEEDS TO BE REDUCED, THIS DONE BY ADDING ONE OR TWO 1/4" STAINLESS FLAT WASHERS (32821201) BETWEEN THE STEM AND VALVE WASHER.

DWG NO. A2017A

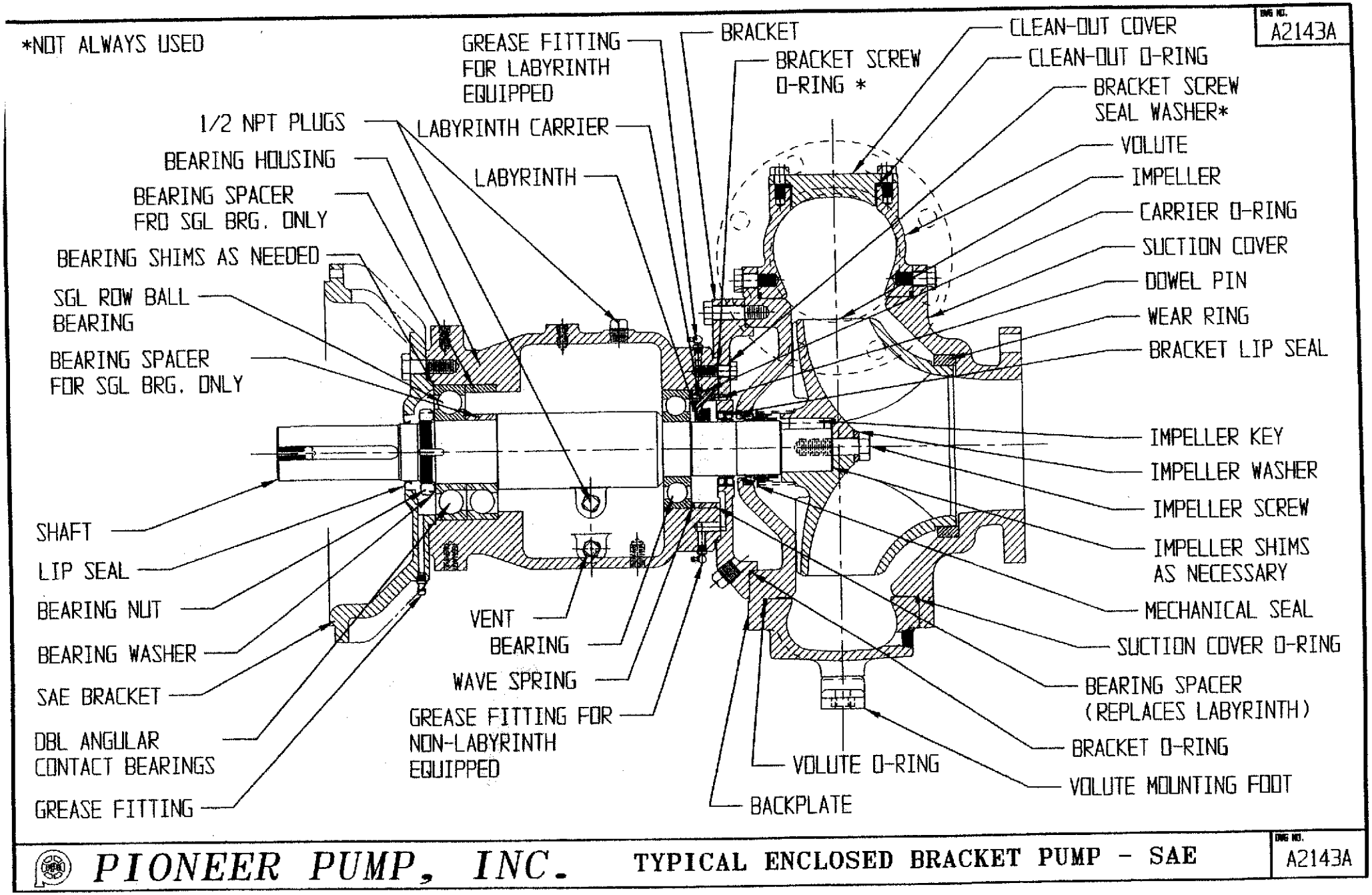


NOTE:
-PIONEER PUMP PART NUMBERS IN ( )
-* CONTACT PIONEER PUMP FOR DIFFERENT SIZES.
-SHIMS, AS REQUIRED FOR TENSIONING VACUUM PUMP BELT (NOT SHOWN)
0.03" (30300101, 0.06" (30300102), 0.12" (30300103)

PIONEER PUMP, INC.

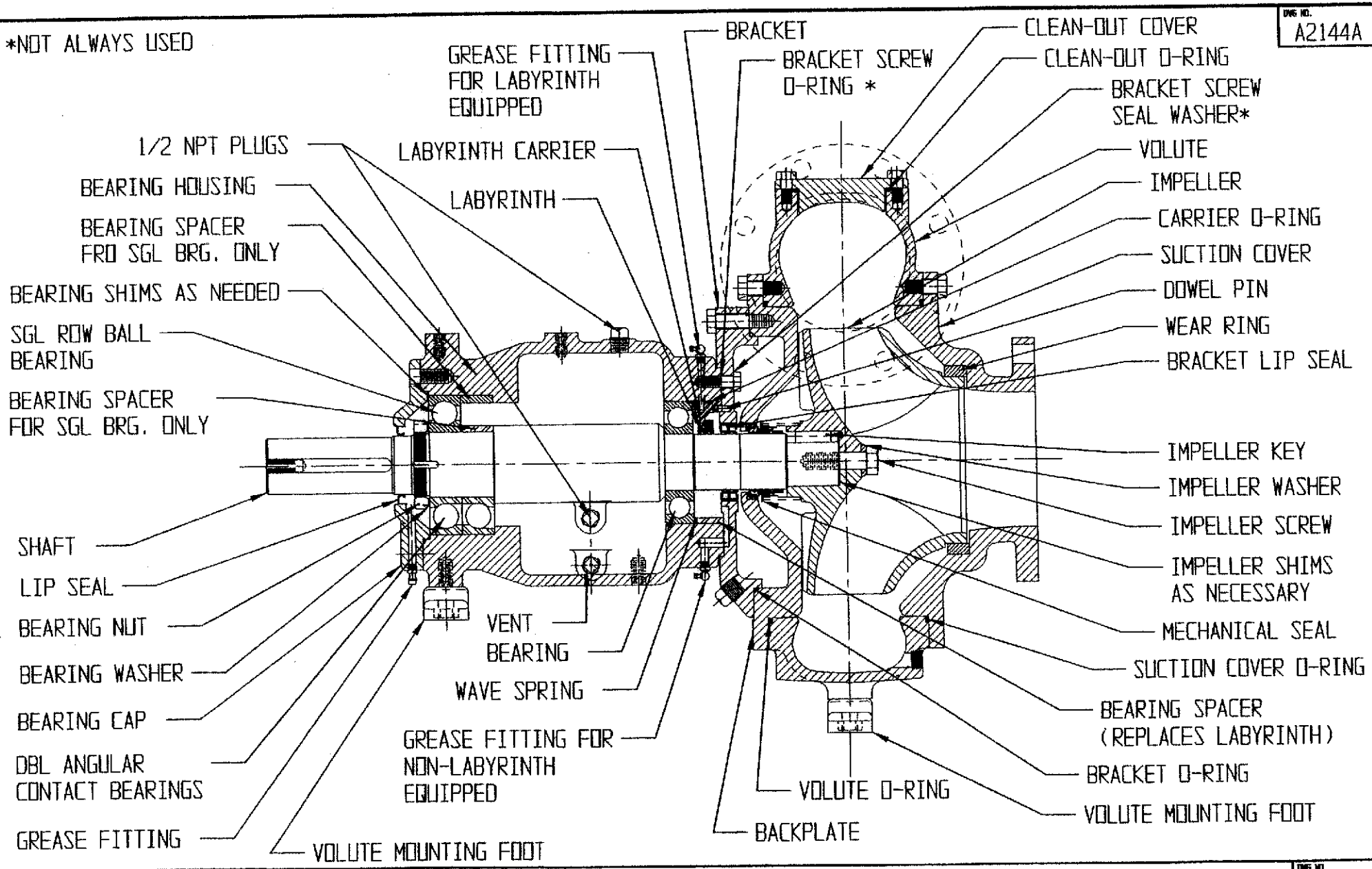
VAC - ASSIST COMPONENTS

DWG NO. A2017A


*NOT ALWAYS USED
DWG NO. A2143A
GREASE FITTING FOR LABYRINTH EQUIPPED
BRACKET
CLEAN-OUT COVER
BRACKET SCREW O-RING *
CLEAN-OUT O-RING
BRACKET SCREW SEAL WASHER*
1/2 NPT PLUGS
LABYRINTH CARRIER
VOLUTE
BEARING HOUSING
LABYRINTH
IMPELLER
BEARING SPACER FRO SGL BRG. ONLY
CARRIER O-RING
BEARING SHIMS AS NEEDED
SUCTION COVER
SGL ROW BALL BEARING
DOWEL PIN
WEAR RING
BEARING SPACER FOR SGL BRG. ONLY
BRACKET LIP SEAL
IMPELLER KEY
IMPELLER WASHER
IMPELLER SCREW
SHAFT
IMPELLER SHIMS AS NECESSARY
LIP SEAL
MECHANICAL SEAL
BEARING NUT
VENT
SUCTION COVER O-RING
BEARING
BEARING WASHER
WAVE SPRING
BEARING SPACER (REPLACES LABYRINTH)
SAE BRACKET
GREASE FITTING FOR NON-LABYRINTH EQUIPPED
BRACKET O-RING
DBL ANGULAR CONTACT BEARINGS
VOLUTE O-RING
VOLUTE MOUNTING FOOT
GREASE FITTING
BACKPLATE
PIONEER PUMP, INC.
TYPICAL ENCLOSED BRACKET PUMP - SAE
DWG NO. A2143A

DWG NO. A2144A

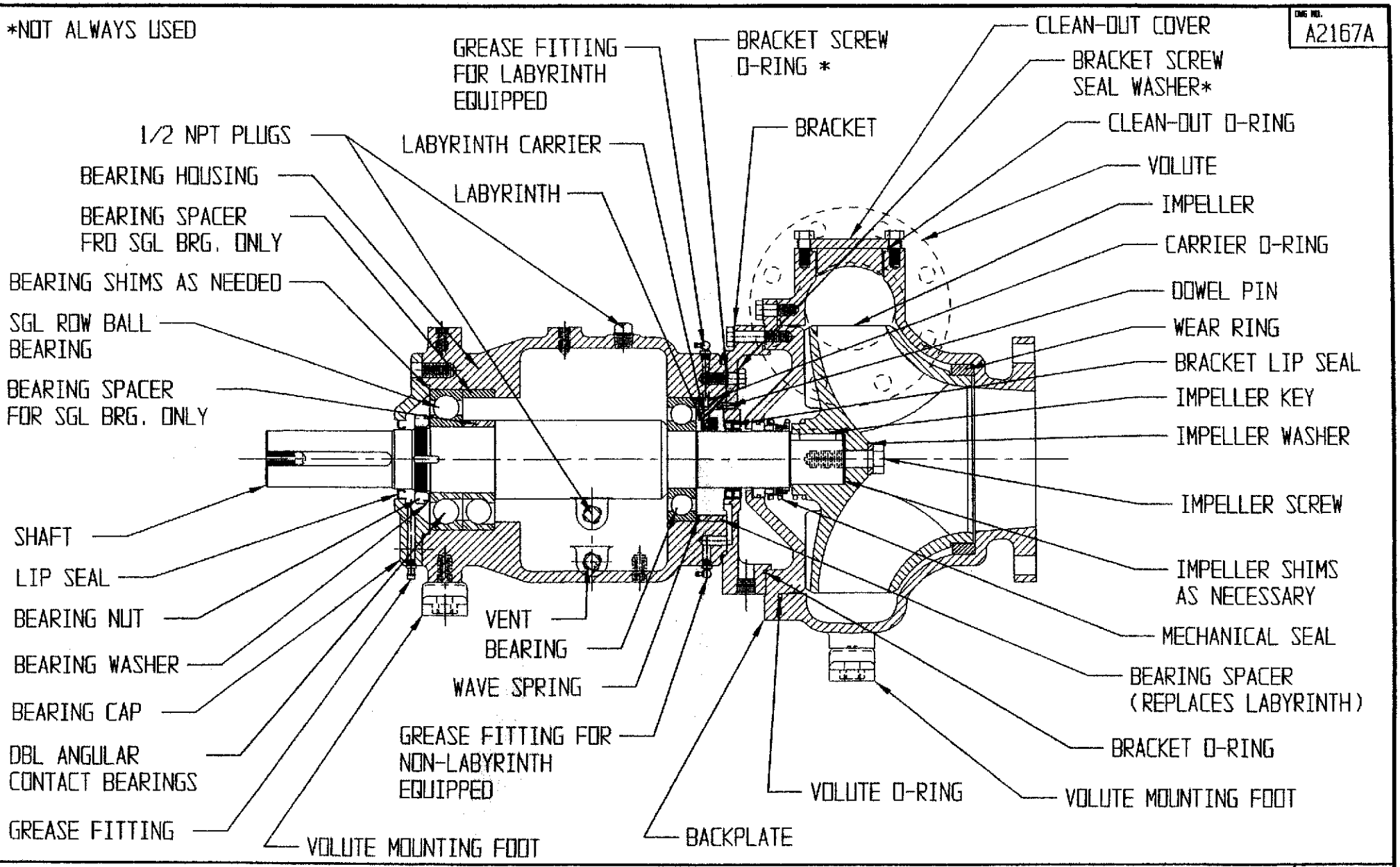
*NOT ALWAYS USED



PIONEER PUMP, INC. **TYPICAL ENCLOSED BRACKET PUMP - BARE SHAFT** DWG NO. A2144A

*NOT ALWAYS USED

DWG NO. A2167A

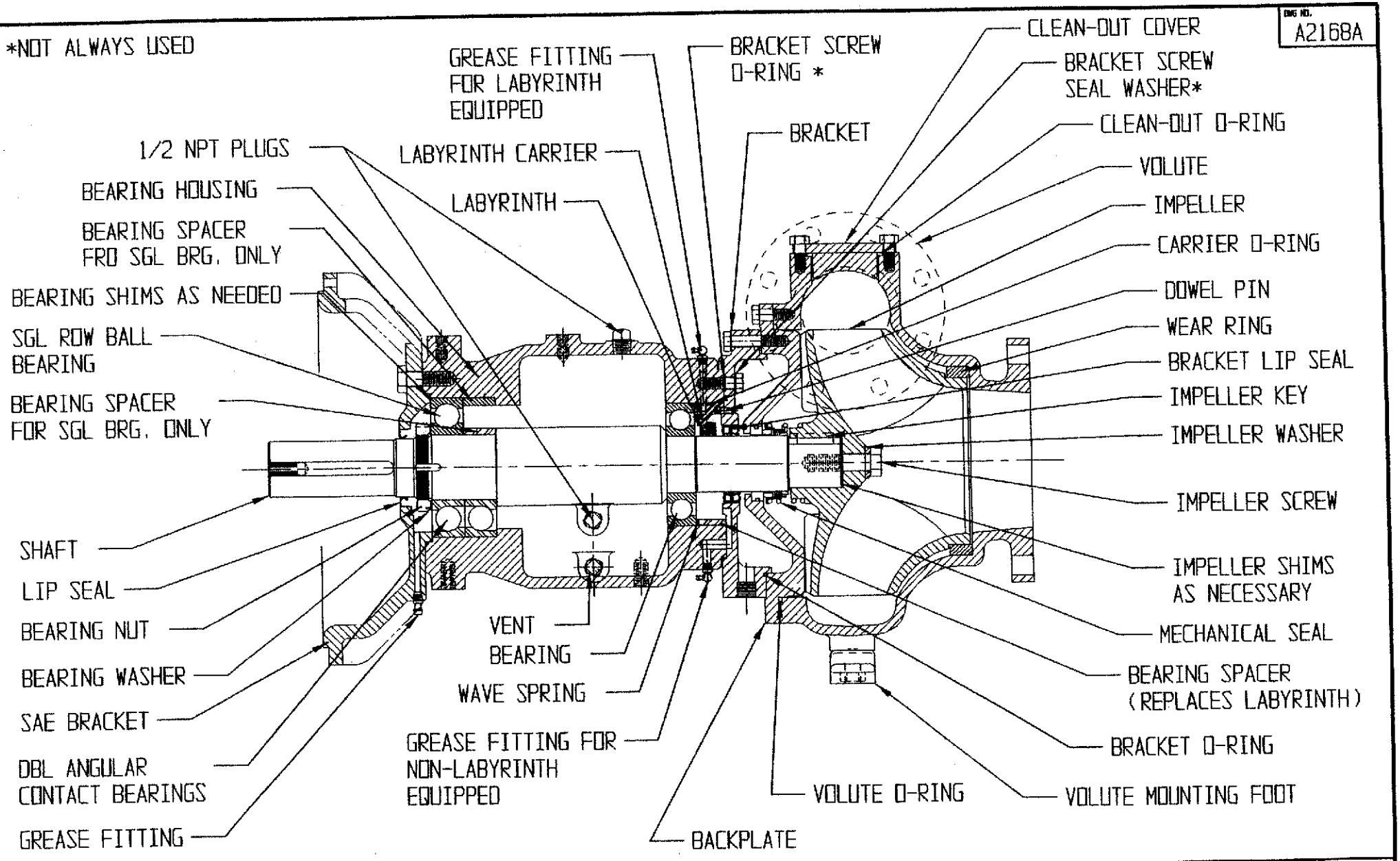


PIONEER PUMP, INC. ENCLOSED BRACKET PUMP/INTEGRAL SUCTION COVER - BARE SHAFT

DWG NO. A2167A

DWG NO. A2168A

*NOT ALWAYS USED

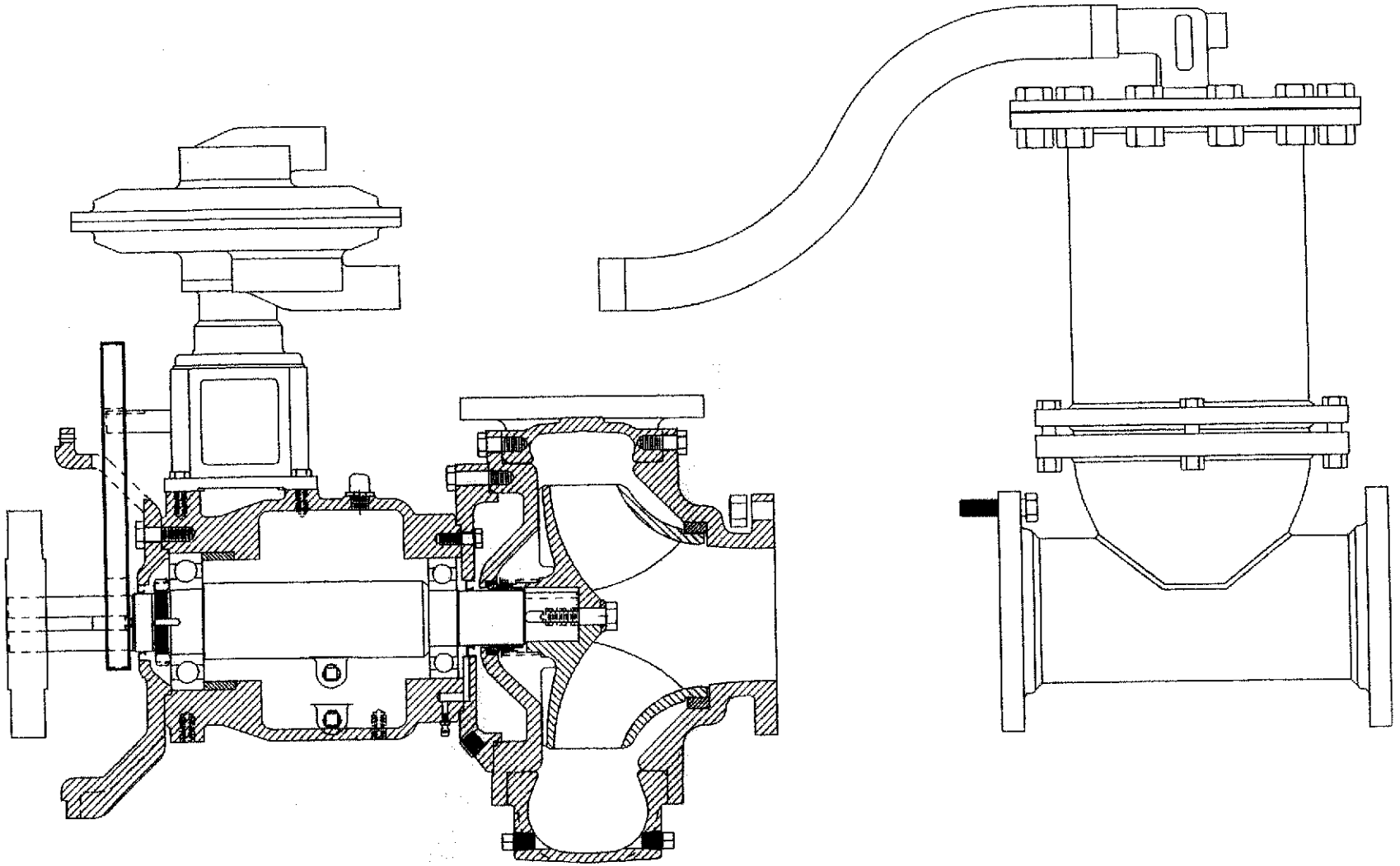


PIONEER PUMP, INC.

ENCLOSED BRACKET PUMP/INTEGRAL SUCTION COVER - SAE MOUNT

DWG NO. A2168A

DWG NO. A2169A

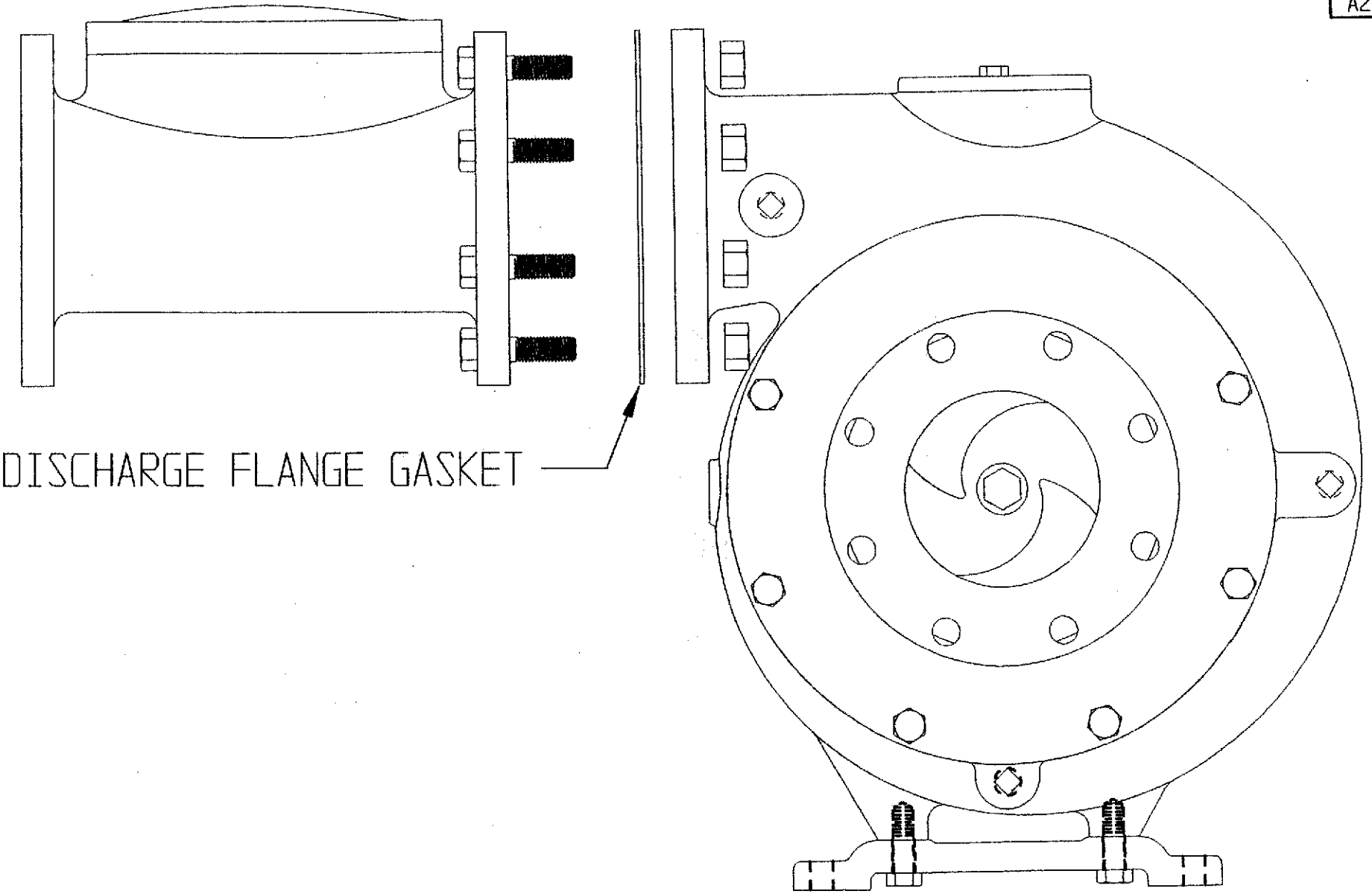


PIONEER PUMP, INC.

REMOVING PRIMING CHAMBER & SPOOL

DWG NO. A2169A

DWG NO.
A2170A

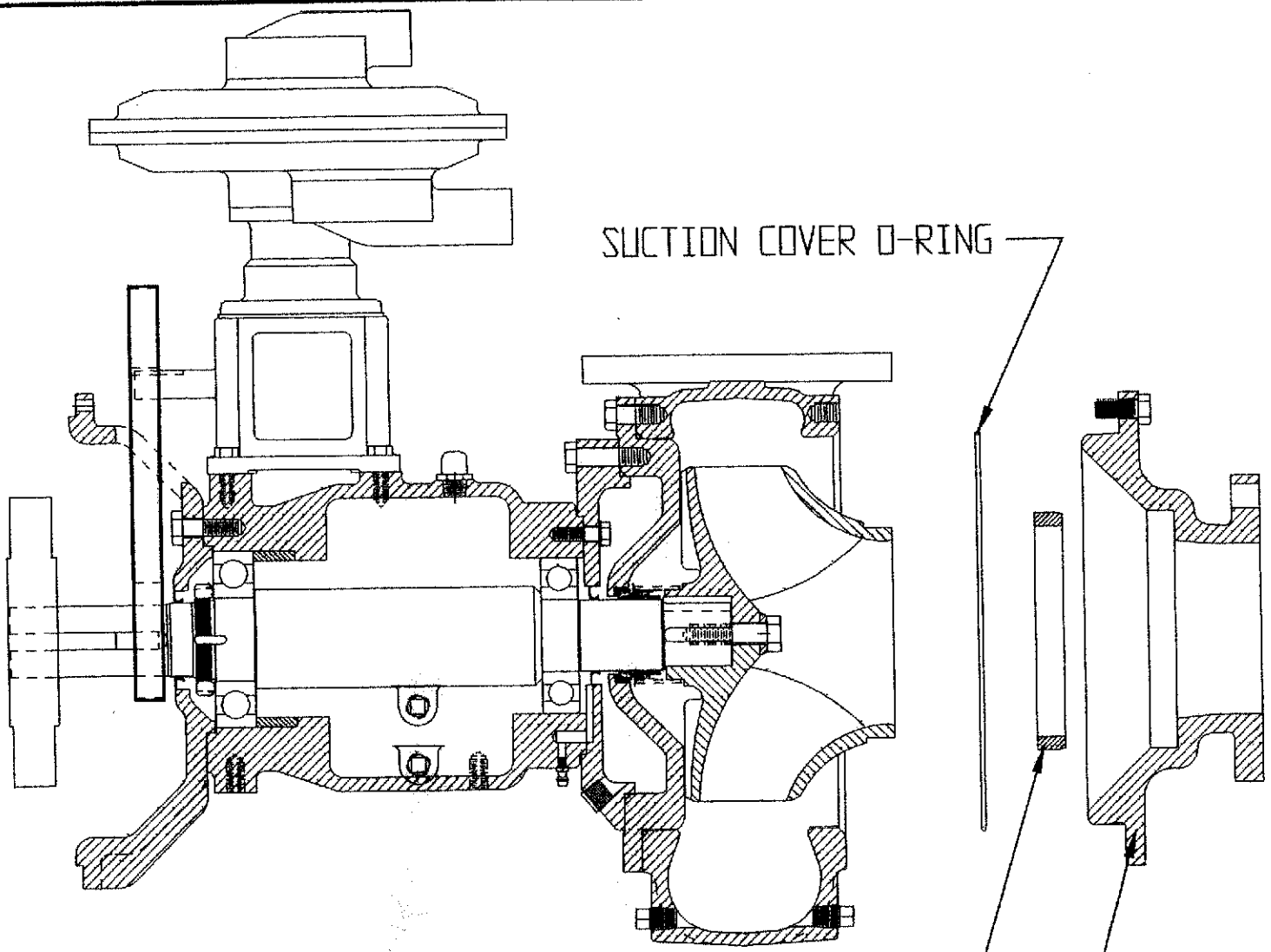


PIONEER PUMP, INC.

REMOVING DISCHARGE CHECK VALVE

DWG NO.
A2170A

DWG NO.
A2171A

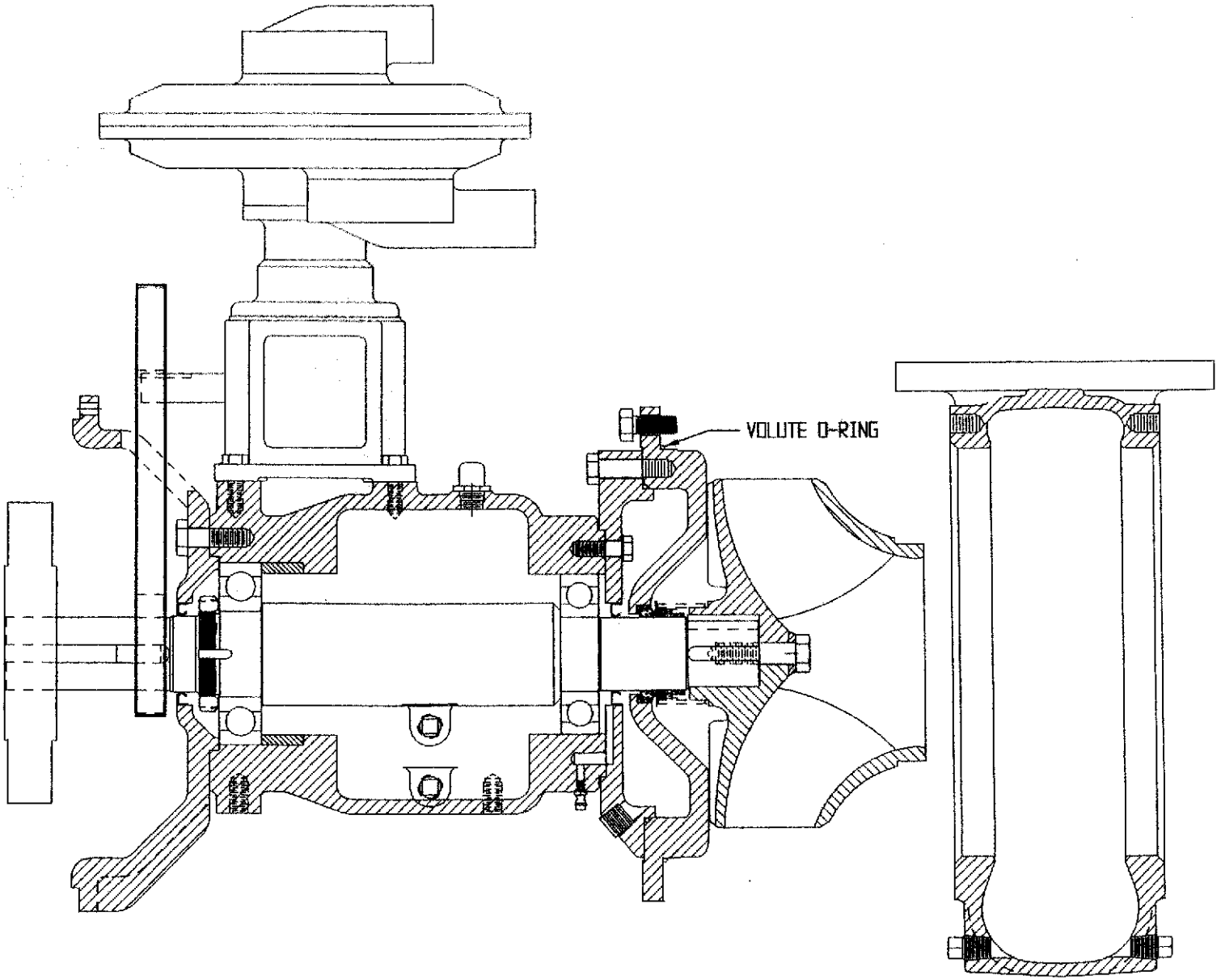


PIONEER PUMP, INC.

SUCTION COVER & WEAR RING REMOVAL

DWG NO.
A2171A

DWG NO.
A2172A

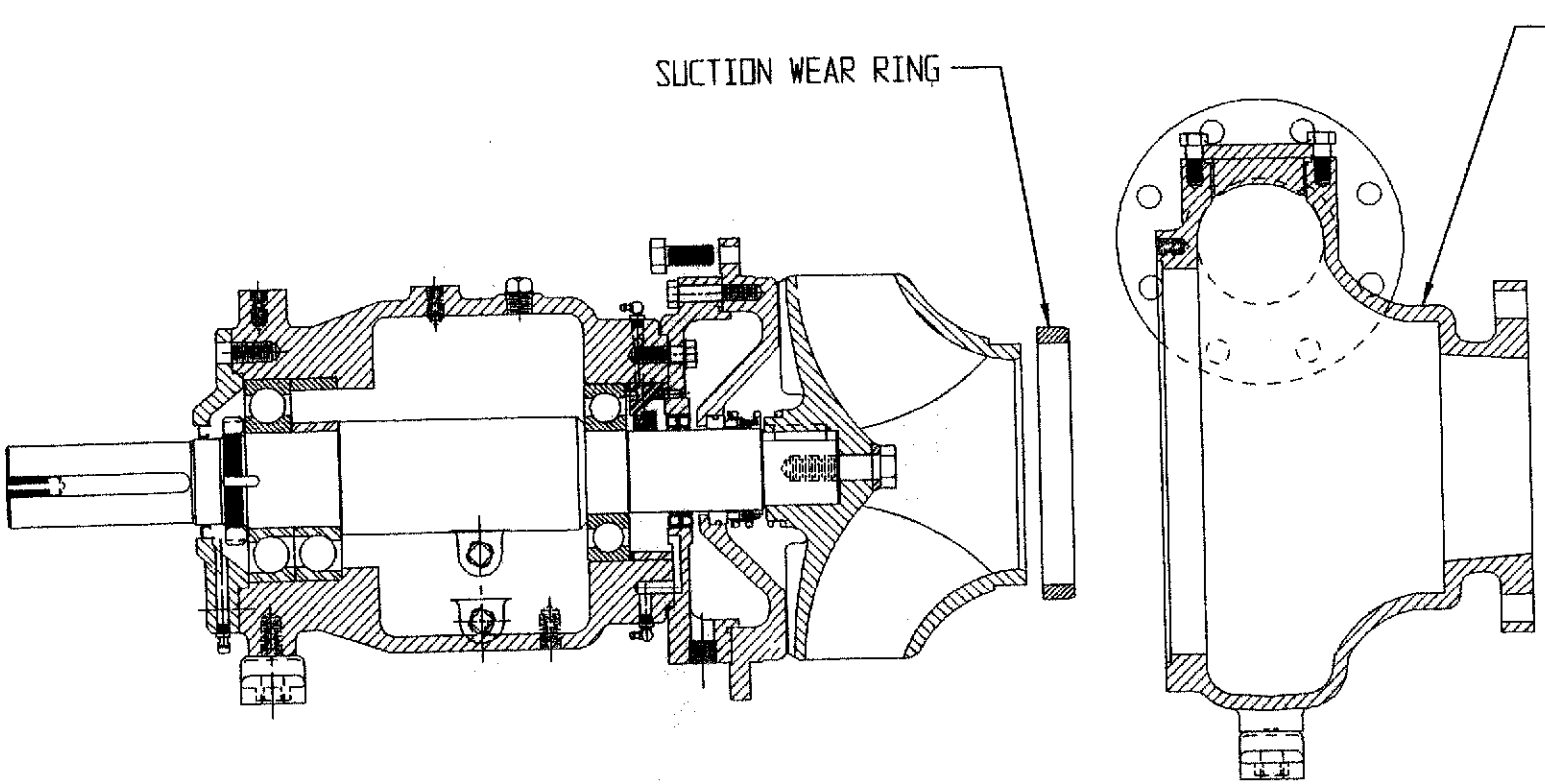


PIONEER PUMP, INC.

REMOVAL OF VOLUTE

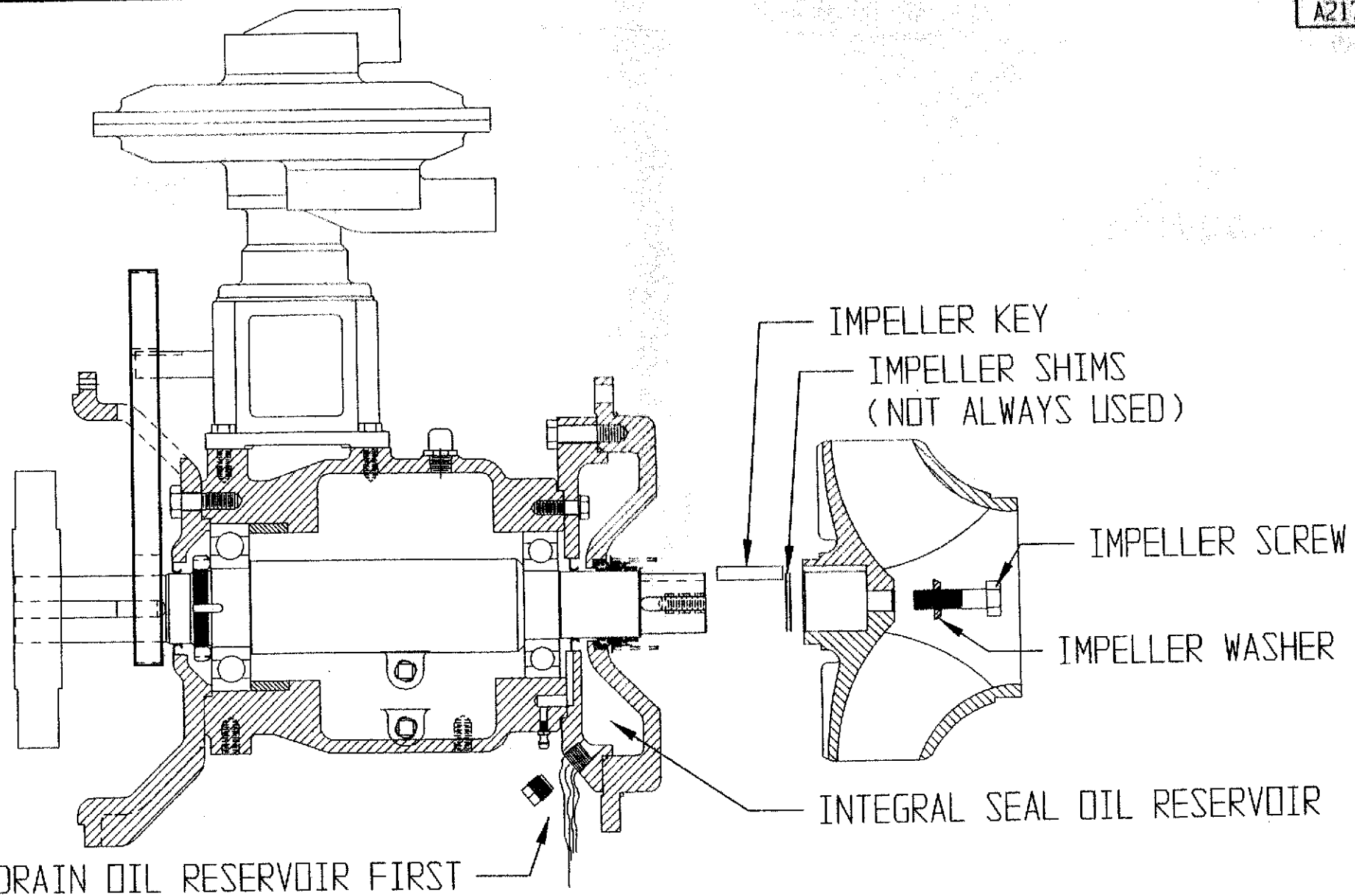
DWG NO.
A2172A

DWG NO. A2173A



PIONEER PUMP, INC. VOLUTE & WEAR RING REMOVAL - INTEGRAL VOLUTE/SUCTION COVER | A2173A

DWG NO. A2174A

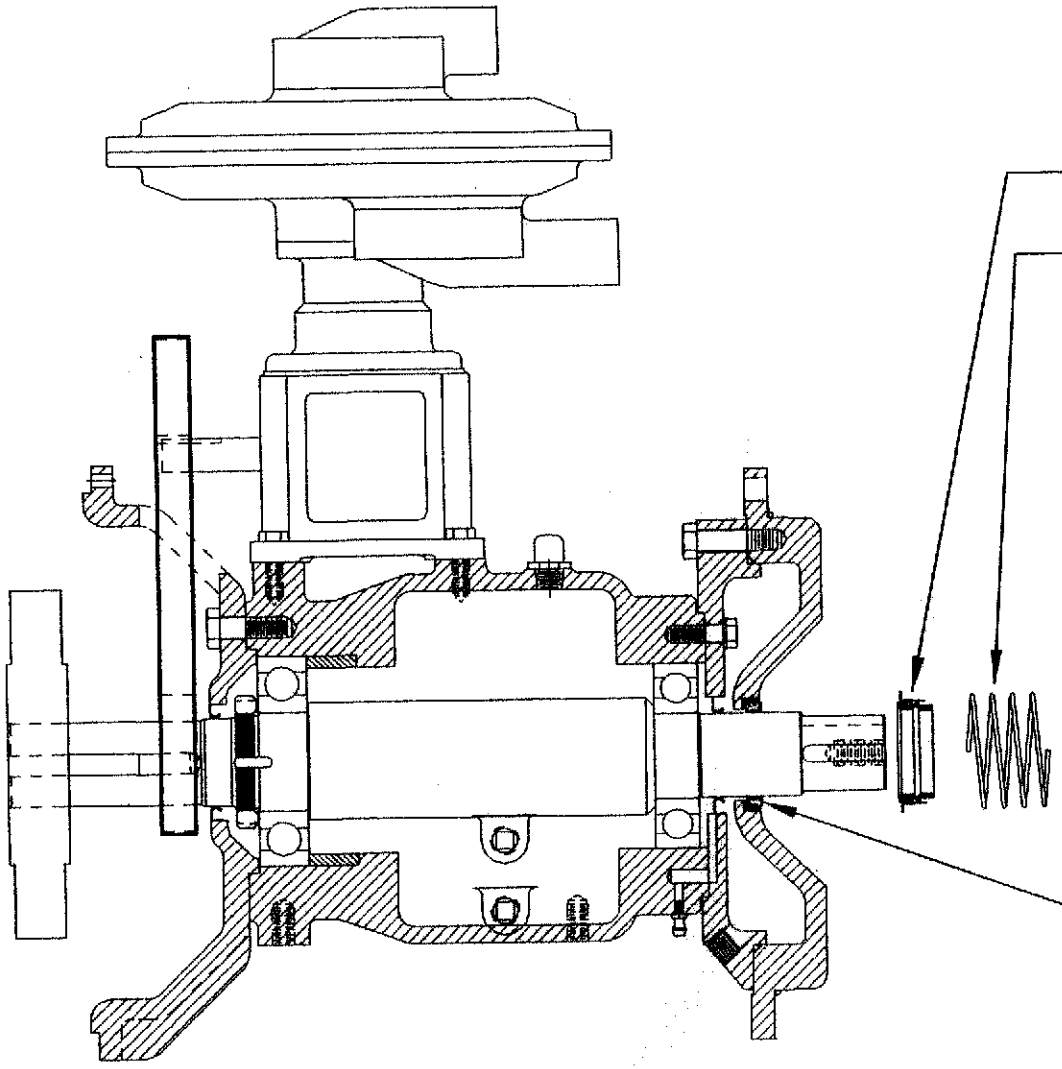


PIONEER PUMP, INC.

REMOVAL OF IMPELLER

DWG NO. A2174A

DWG NO.
A2175A



MECHANICAL SEAL ROTATING ASSEMBLY

MECHANICAL SEAL SPRING

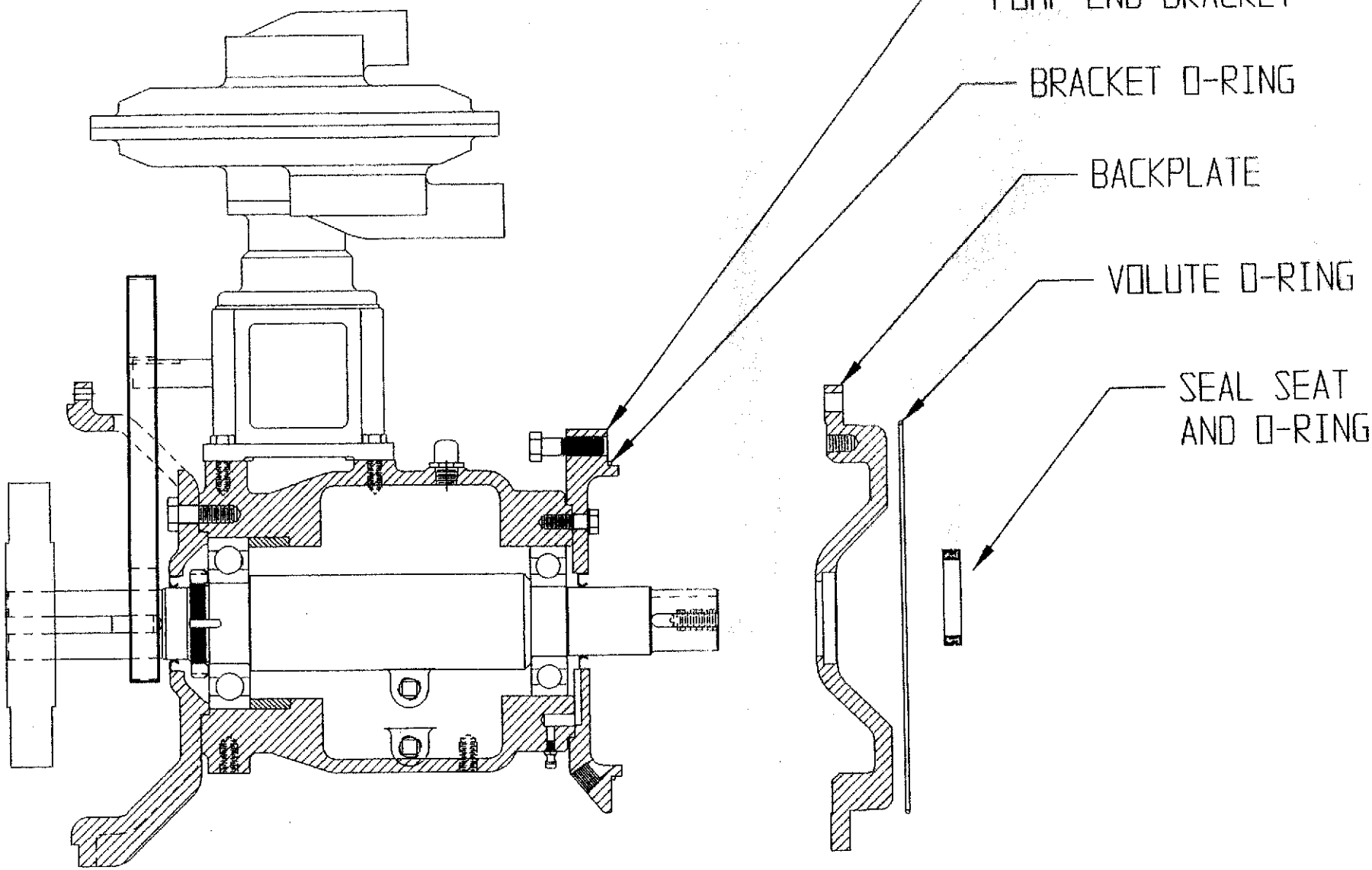
MECHANICAL SEAL STATIONARY SEAT

PIONEER PUMP, INC.

REMOVAL OF MECHANICAL SEAL

DWG NO.
A2175A

DWG NO. A2176A

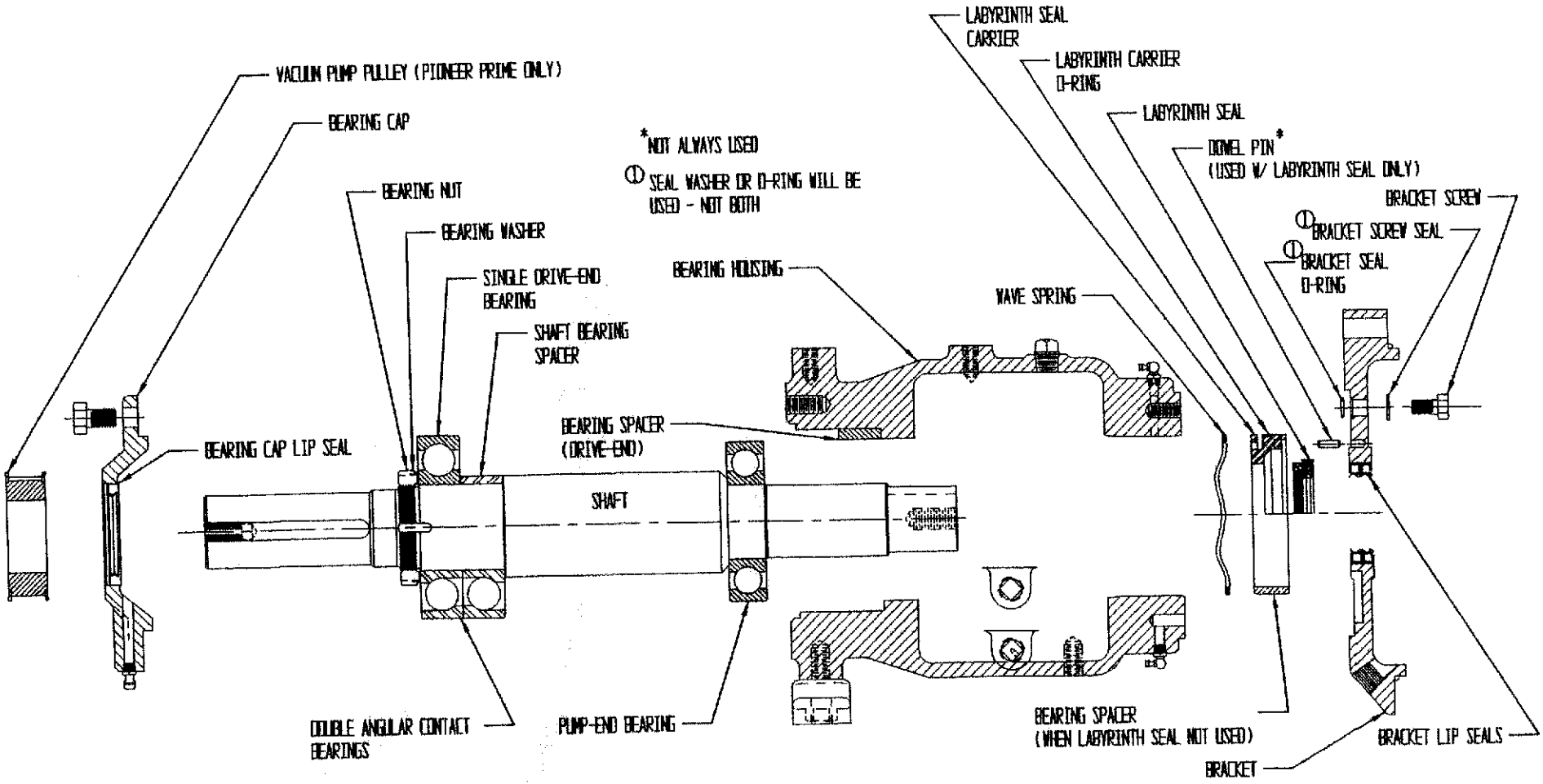


PIONEER PUMP, INC.

REMOVAL OF BACKPLATE

DWG NO. A2176A

DWG NO. A2177A

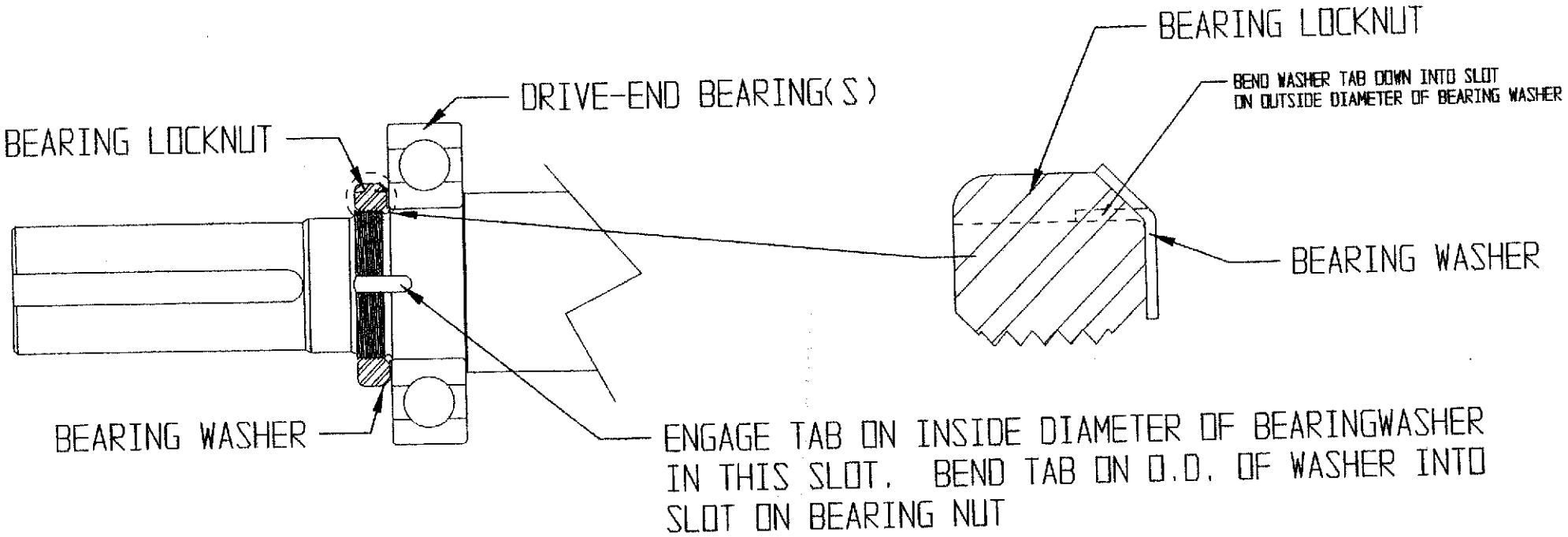


PIONEER PUMP, INC.

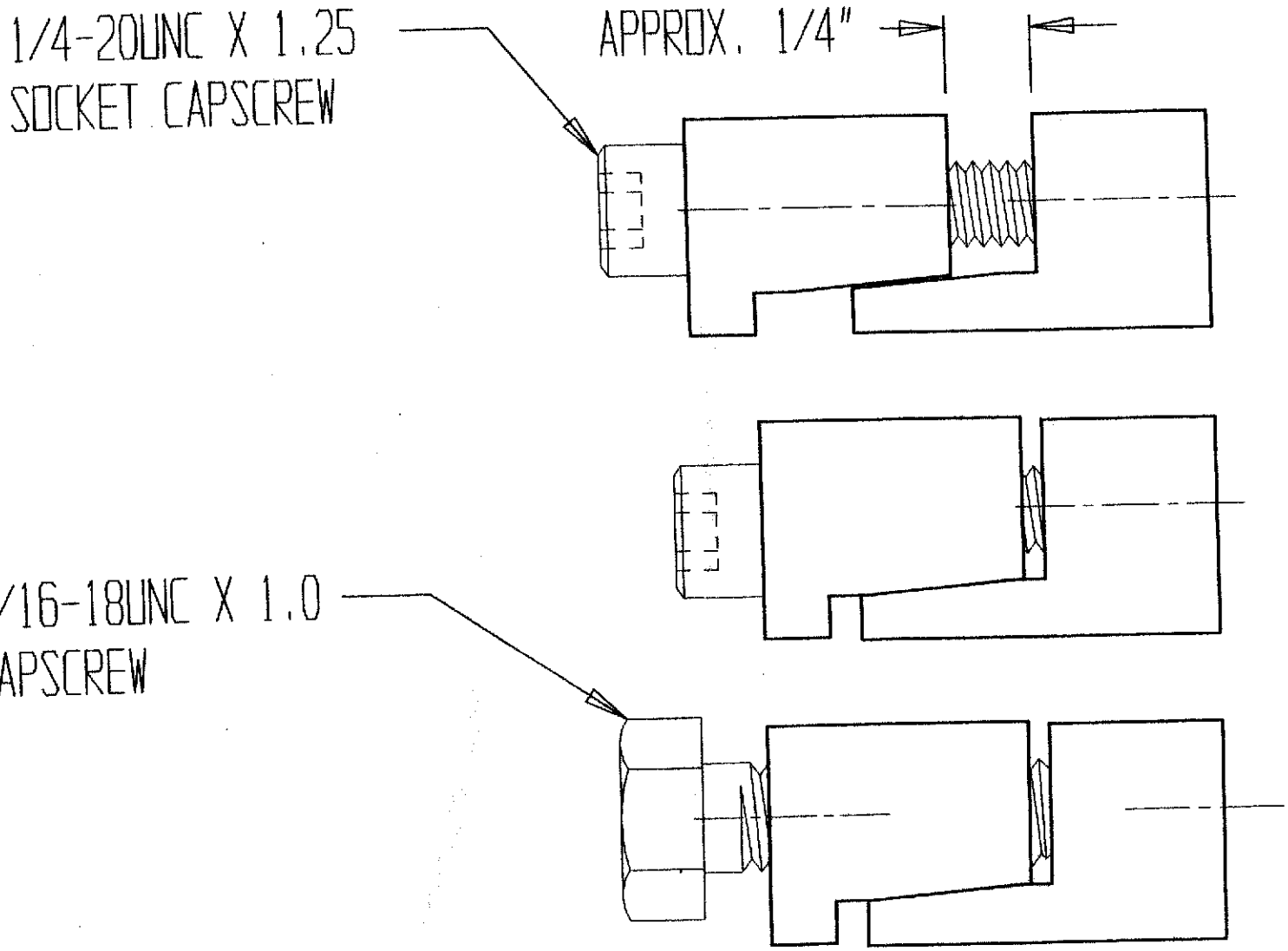
BEARING HOUSING DISASSEMBLY

DWG NO. A2177A

DWG NO.
A2178A



DWG NO. A2183A



PIONEER PUMP, INC.

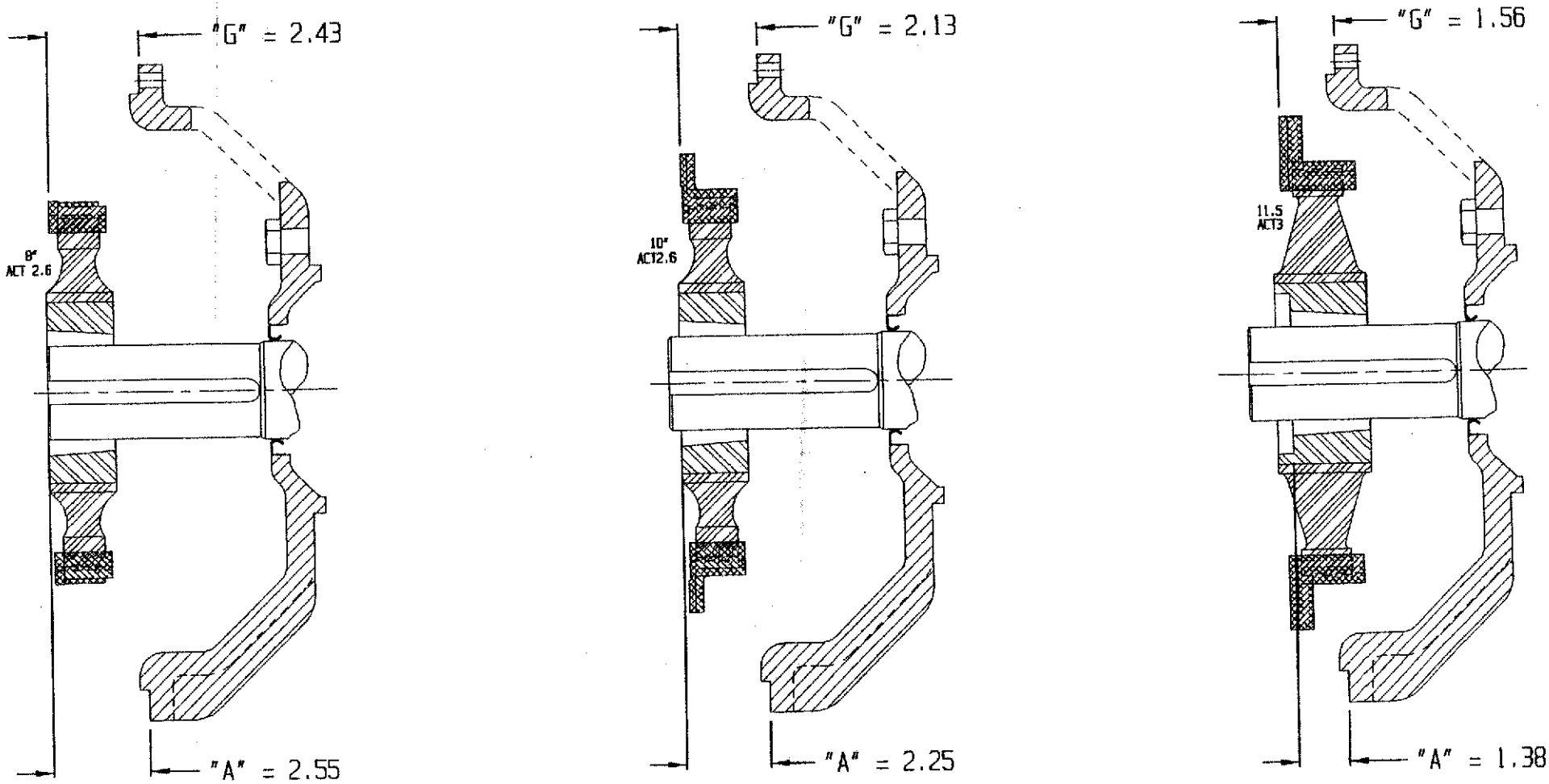
WEDGE KEY INSTALLATION / REMOVAL

DWG NO. A2183A

DWG NO. A2184A

INSTALLER MUST CONFIRM THAT PUMP SHAFT MAKES NO DIRECT CONTACT WITH ENGINE FLYWHEEL OR CRANKSHAFT AND THAT COUPLING IS INSTALLED SO AS TO TRANSMIT NO AXIAL THRUST TO THE ENGINE FLYWHEEL OR CRANKSHAFT

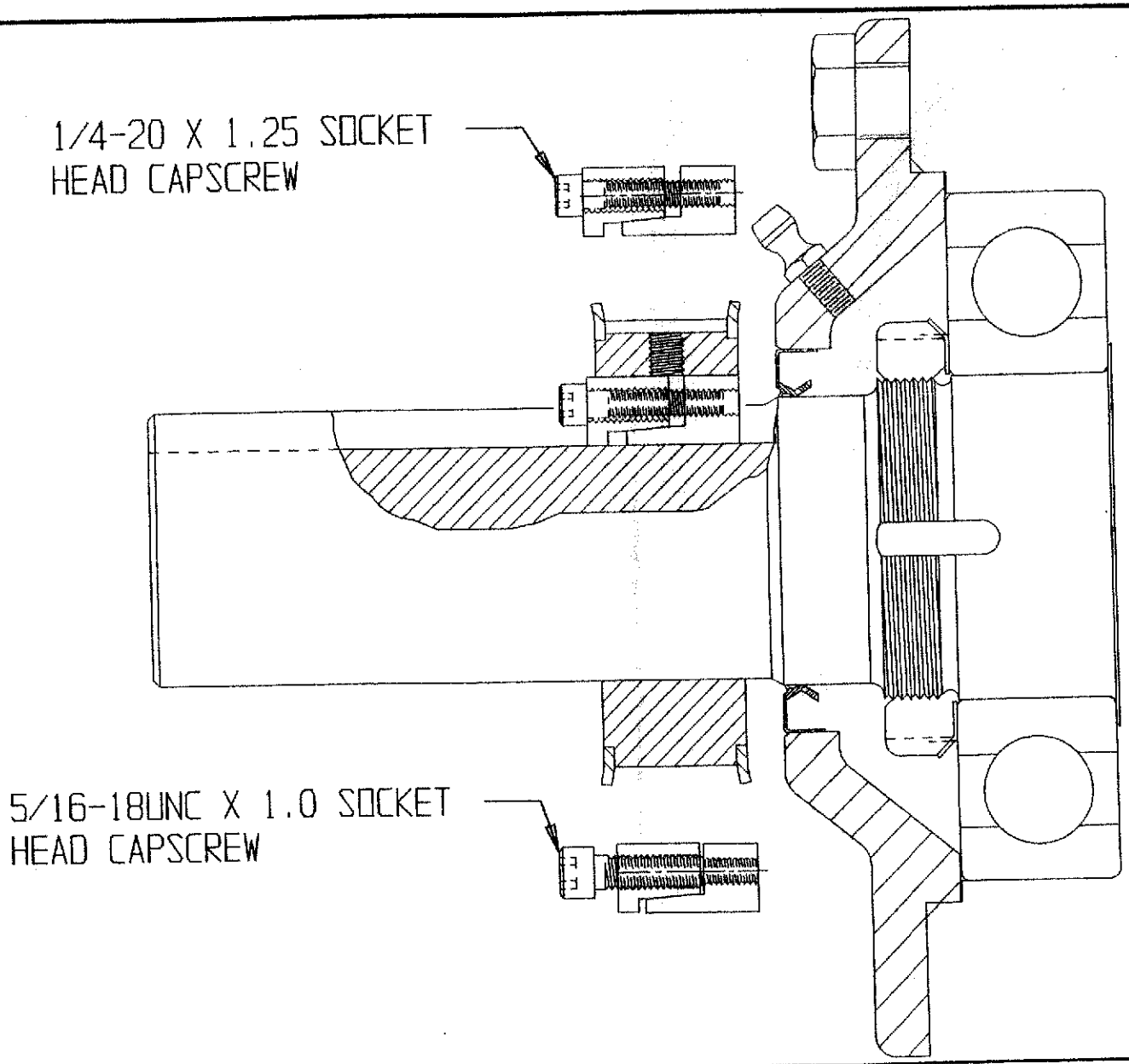
DIMENSIONS SHOWN ARE BASED ON SAE STANDARD BELLHOUSING AND FLYWHEEL DIMENSIONS. INSTALLER ASSUMES FULL RESPONSIBILITY FOR VERIFYING DIMENSIONS CORRECT FOR ANY PARTICULAR ENGINE



PIONEER PUMP, INC. CORRECT COUPLING POSTION FOR SAE 3 & 4 W/8",10" & 11.5" DRIVES

DWG NO. A2184A

DWG NO. A2187A

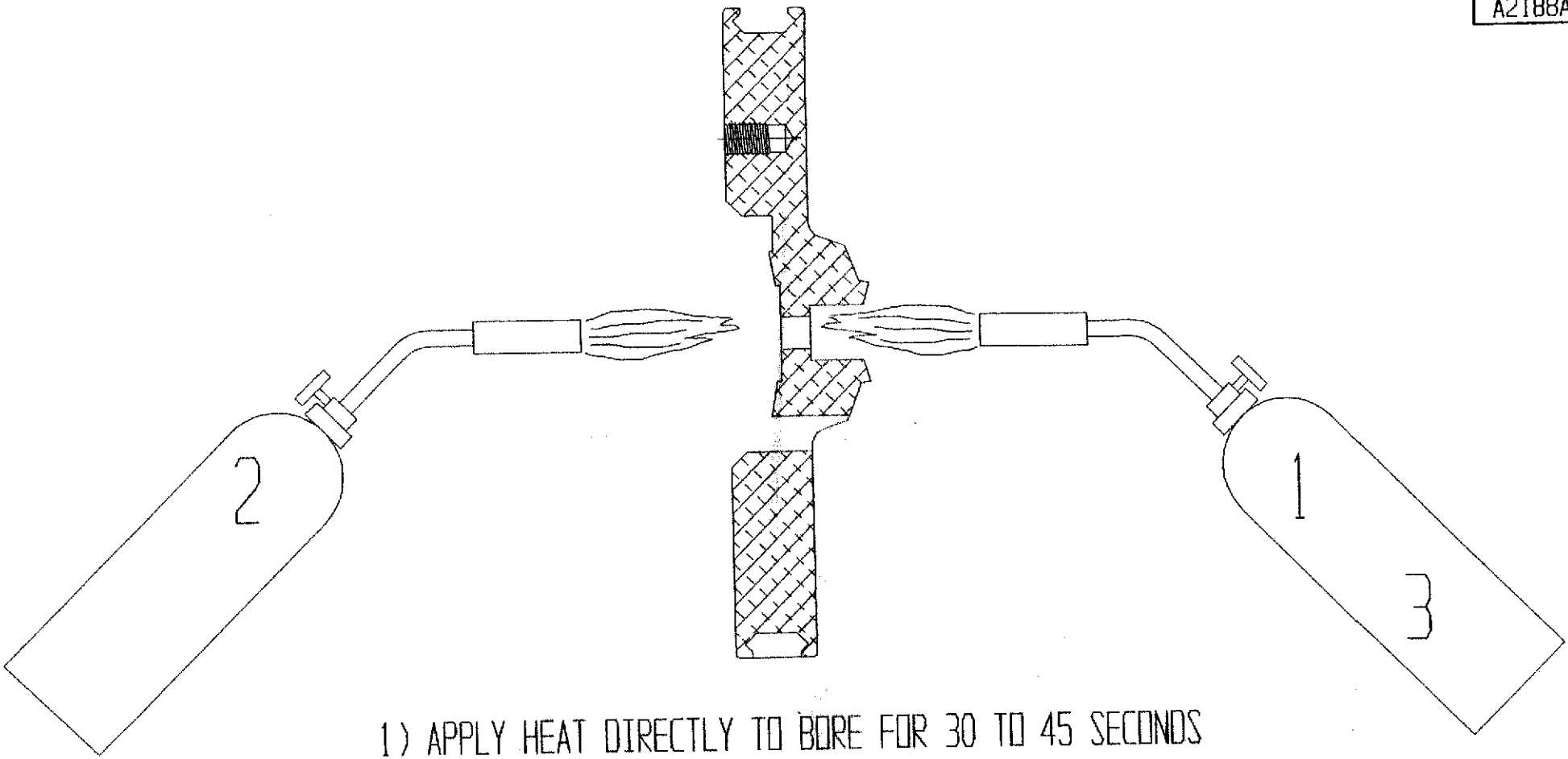


PIONEER PUMP, INC.

PULLEY AND WEDGE KEY INSTALLATION

DWG NO. A2187A

DWG NO.
A2188A



1) APPLY HEAT DIRECTLY TO BORE FOR 30 TO 45 SECONDS

2) APPLY HEAT TO TOP OF ACTUATOR FOR 15 TO 20 SECONDS

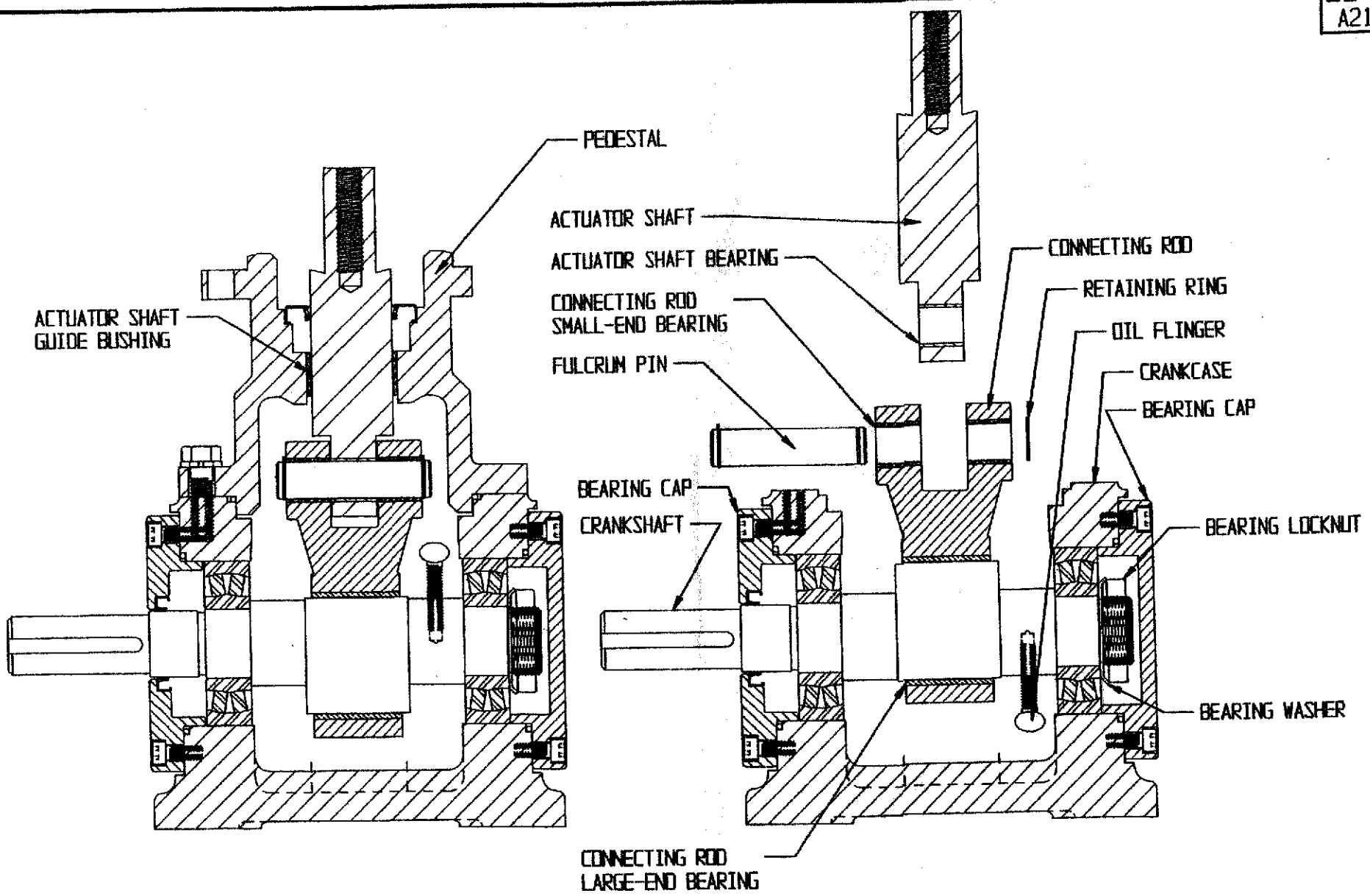
3) APPLY HEAT TO BORE AGAIN FOR 15 TO 20 SECONDS

PIONEER PUMP, INC.

INSTALLATION OF ACTUATOR

DWG NO.
A2188A

DWG NO. A2189A



PIONEER PUMP, INC.

VACUUM PUMP DISASSEMBLY

DWG NO. A2189A