

Issued: 05/88
Revised: 01/20/97

W A T E R O U S

WATEROUS COMPANY
SOUTH ST. PAUL, MINNESOTA

CM PUMPS BODY ASSEMBLY

REF NO.	DESCRIPTION	REF NO.	DESCRIPTION
B1	Flap valve, standard intake adapter	B33	Pipe tee, 1/4 in.
B2	Stud, 5/16-18 x 1-5/8 in.	B34	Sq hd pipe plug, 1/4 in.
B3	Unbalanced nut, 5/16-18	B35	Sq hd pipe plug, 3/8 in. (Used when priming valve is omitted)
B5	Intake fitting gasket, standard adapter	B36	Sq hd pipe plug, 1-1/2 in.
B6	Intake adapter, LH	B39	Rd hd drive screw, No. 6 x 1/4 in.
B7	Intake adapter, RH (or rear intake adapter, RH)	B43	Cap screw, 1/2-13 x 1-1/2 in.
B10	Serial plate, pump mounted	B60	Tank to pump adapter gasket
B11	Transfer valve stem bushing	B61	Blind flange
B12	Intake flange gasket	B62	Flap valve, rear intake
B14	Transfer valve ball	B63	Rear intake fitting gasket
B15	Gasket set, cover-to-body	B64	Tank intake adapter, 2-1/2 NPT, 3 NPT, 4 ANSI flange or tank intake valve flange
B16	Transfer valve housing assembly	B70	Cap screw, 3/8-16 x 1 in., or 1-1/4 in.
B17	Cap screw, socket hd, 1/2-13 x 2-1/4 in.	B72	Check valve, tank intake
B18	Cap screw, 1/2-13 x 2-1/4 in.	B74	Rear intake fitting
B19	Cap screw, 1/2-13 x 4-3/4 in.	B75	Hex hd screw, 1/2-20 x 2 in.
B20	Cap screw, 1/2-13 x 3-1/2 in.	B76	Hex nut, 1/2-20
B21	Cap screw, 1/2-13 x 1 in.	B77	Hose assembly, 1/4 tube
B22	Cap screw, 1/2-13 x 1-1/4 in.	B78	Male elbow, 90°, 1/8 NPT x 1/4 tube
B23	Cap screw, 3/4-10 x 2 in.	B79	Connector, 1/8 x 1/4 tube
B26	O-ring, 1-1/8 x 1-3/8 in.	B80	Body assembly (sold as assembly only) (Consists of volute body and volute cover)
B27	O-ring, 5 x 5-1/4 in.	B81	Transfer valve housing gasket
B28	Plain brass washer, 5/16 in.	B82	Transfer valve seal
B29	Plain copper washer, 1/2 in.	B83	Transfer valve cover
B30	Dowel pin, 7/16 x 1-1/4 in.		
B31	Groove pin, 1/4 x 1-3/4 in.		
B32	Close pipe nipple, 1/4 x 7/8 in.		

PLEASE NOTE

WHEN ORDERING PARTS PLEASE SUPPLY PUMP SERIAL NUMBER

SPL81606

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CM PUMPS BODY ASSEMBLY

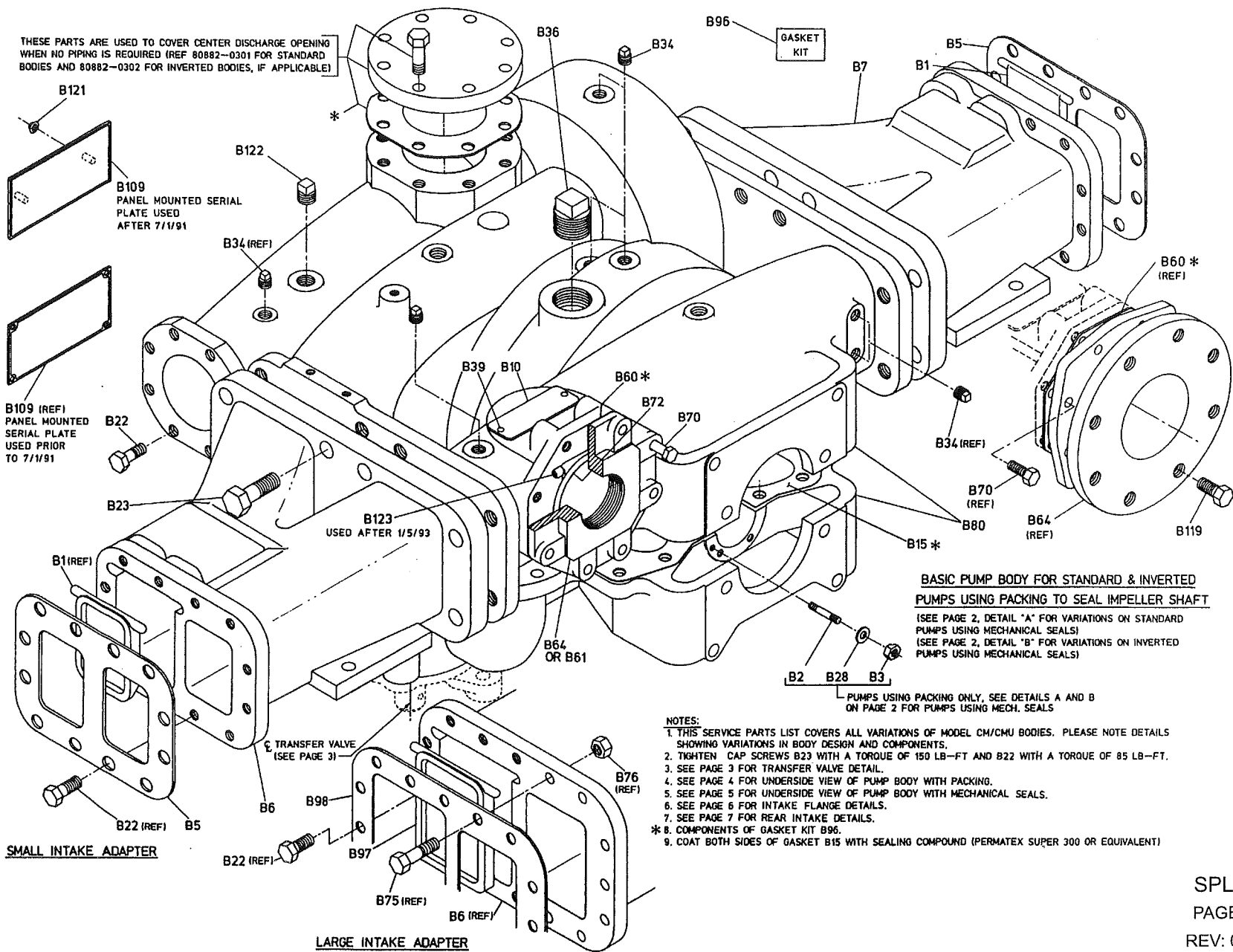
REF NO.	DESCRIPTION	REF NO.	DESCRIPTION
B84	Socket hd cap screw, 5/16-18 x 3/4 in.	B107	Pipe coupling, 1/8 in.
B85	O-ring, 1-5/8 x 1-7/8 in.	B108	Pipe nipple, 1/8 in. x 3/4 in.
B86*	O-ring, 3-1/8 x 3-1/2 in.	B109	Serial plate (located on operators panel)
B87	Dowel pin, SS, 1/4 x 3/4 in.	B110	Socket hd cap screw, 1/2-13 x 1-1/2 in.
B88	Transfer valve seal spring	B111	Socket hd set screw, 5/16-18 x 1/2 in.
B89	O-ring, 2-1/2 x 2-3/4 in.	B112	Pipe nipple, 1/8 x 1 in. (inverted bodies only)
B90	Intake flange gasket (Bronze body only)	B113	Standard elbow, 90°, 1/8 in. (inverted bodies only)
B91	Socket hd cap screw, 1/2-13 x 4-3/4 in.	B114	Pipe nipple, 1/8 x 5-1/2 in. (inverted bodies only)
B93	Pipe plug, 1/8 in.	B116	Ball transfer valve repair kit (consists of B11, B26, B27, B31, B81, B82, B85, B86, B87 & B88)
B95	Discharge flange gasket	B117	Pipe reducer, 1/4 x 1/8 in.
B96*	Gasket kit, (consists of B12, B15, 27, 29, B60, B81, B85, B86, B89, B90 & B95)	B118	Pipe nipple, 1/8 x 2 in.
B97	Flap valve, large intake adapter	B119	Hex hd screw, 1/2-13 x 1 in. (used only on B64 tank to pump valve flange)
B98	Intake fitting gasket, large intake adapter	B120	Hose assembly
B100	Standard pipe cross, 1/4 x 1/4 in.	B121	Self threading nut
B102	Street elbow, 90°, 1/8 in.	B122	Pipe plug, 1/2 in.
B103	Bushing, 1/4 x 1/8 in.	B123	Plain bearing, TFE (used after 1/5/93 on tank to pump flange and after 4/4/94 on rear intake adapter)
B104	Hose assembly		
B105	Hose assembly		
B106	Male union adapter, 1/8 x 1/8 in.		

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REV: 01/20/97

THESE PARTS ARE USED TO COVER CENTER DISCHARGE OPENING WHEN NO PIPING IS REQUIRED (REF 80882-0301 FOR STANDARD BODIES AND 80882-0302 FOR INVERTED BODIES, IF APPLICABLE)

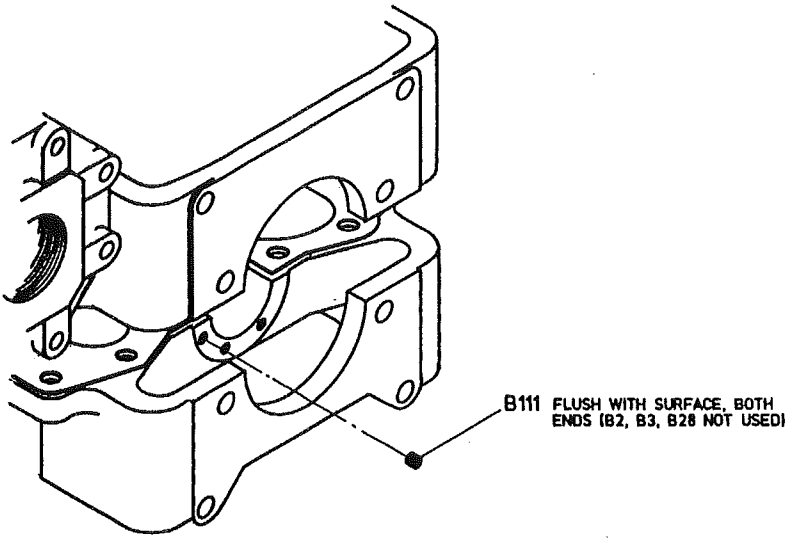


BASIC PUMP BODY FOR STANDARD & INVERTED PUMPS USING PACKING TO SEAL IMPELLER SHAFT

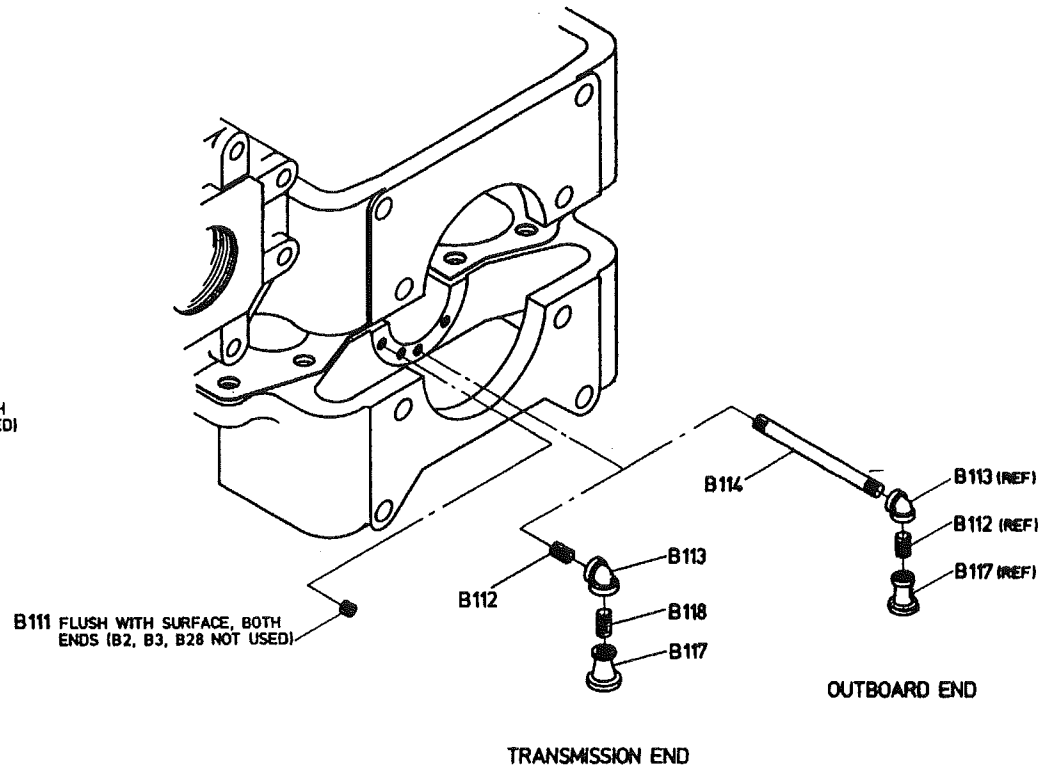
(SEE PAGE 2, DETAIL "A" FOR VARIATIONS ON STANDARD PUMPS USING MECHANICAL SEALS)
(SEE PAGE 2, DETAIL "B" FOR VARIATIONS ON INVERTED PUMPS USING MECHANICAL SEALS)

B2 B28 B3
PUMPS USING PACKING ONLY, SEE DETAILS A AND B ON PAGE 2 FOR PUMPS USING MECH. SEALS

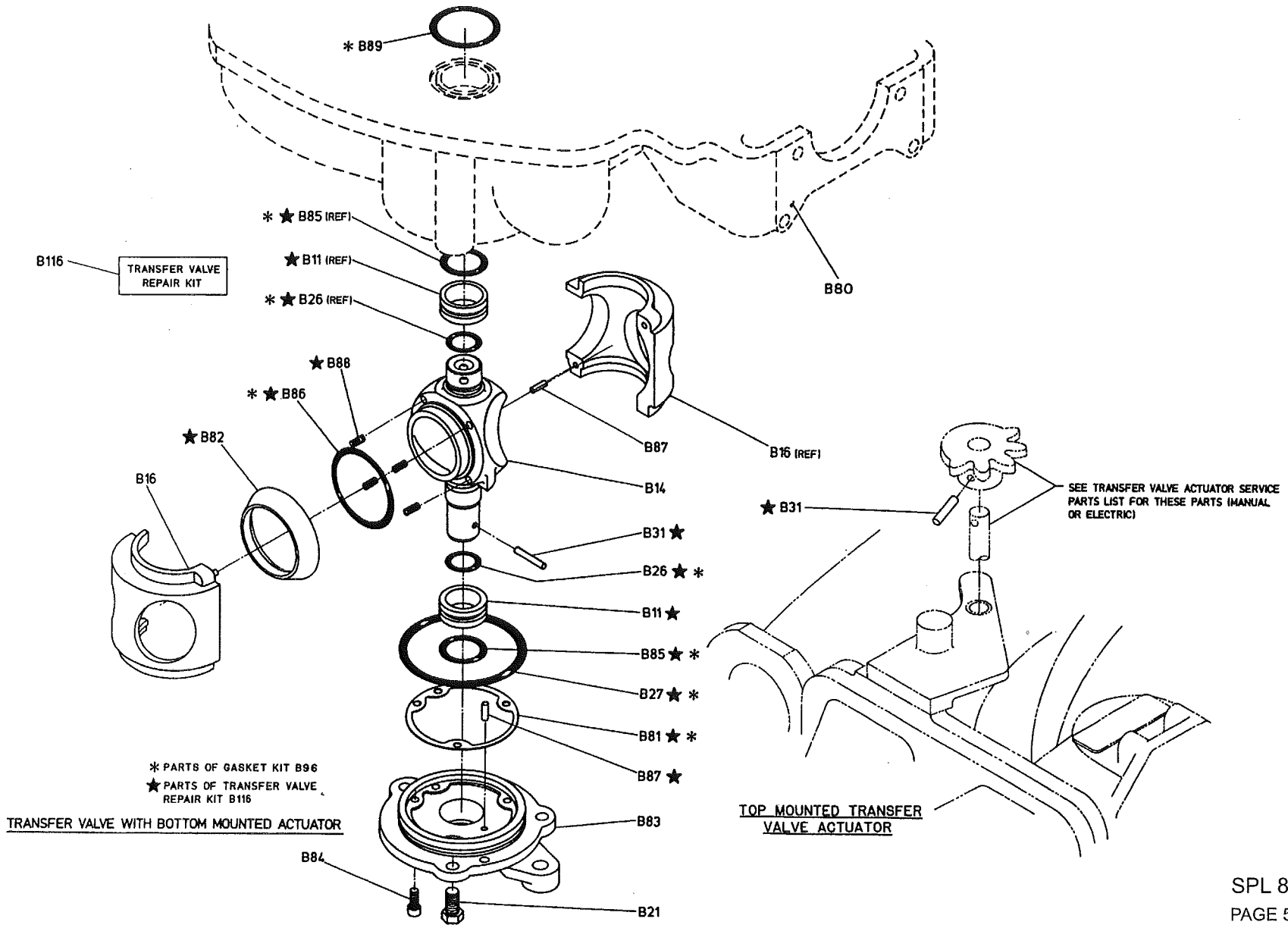
- NOTES:**
1. THIS SERVICE PARTS LIST COVERS ALL VARIATIONS OF MODEL CM/CMU BODIES. PLEASE NOTE DETAILS SHOWING VARIATIONS IN BODY DESIGN AND COMPONENTS.
 2. TIGHTEN CAP SCREWS B23 WITH A TORQUE OF 150 LB-FT AND B22 WITH A TORQUE OF 85 LB-FT.
 3. SEE PAGE 3 FOR TRANSFER VALVE DETAIL.
 4. SEE PAGE 4 FOR UNDERSIDE VIEW OF PUMP BODY WITH PACKING.
 5. SEE PAGE 5 FOR UNDERSIDE VIEW OF PUMP BODY WITH MECHANICAL SEALS.
 6. SEE PAGE 6 FOR INTAKE FLANGE DETAILS.
 7. SEE PAGE 7 FOR REAR INTAKE DETAILS.
 - * 8. COMPONENTS OF GASKET KIT B96.
 9. COAT BOTH SIDES OF GASKET B15 WITH SEALING COMPOUND (PERMATEX SUPER 300 OR EQUIVALENT)



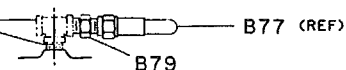
DETAIL A
STANDARD PUMP BODY USING MECHANICAL SEALS



DETAIL B
INVERTED PUMP BODY USING MECHANICAL SEALS

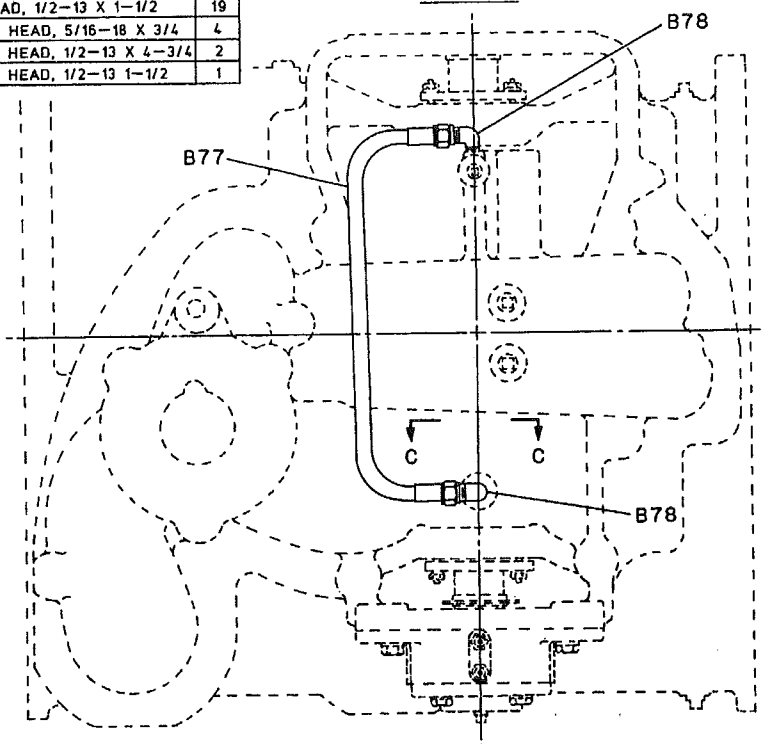
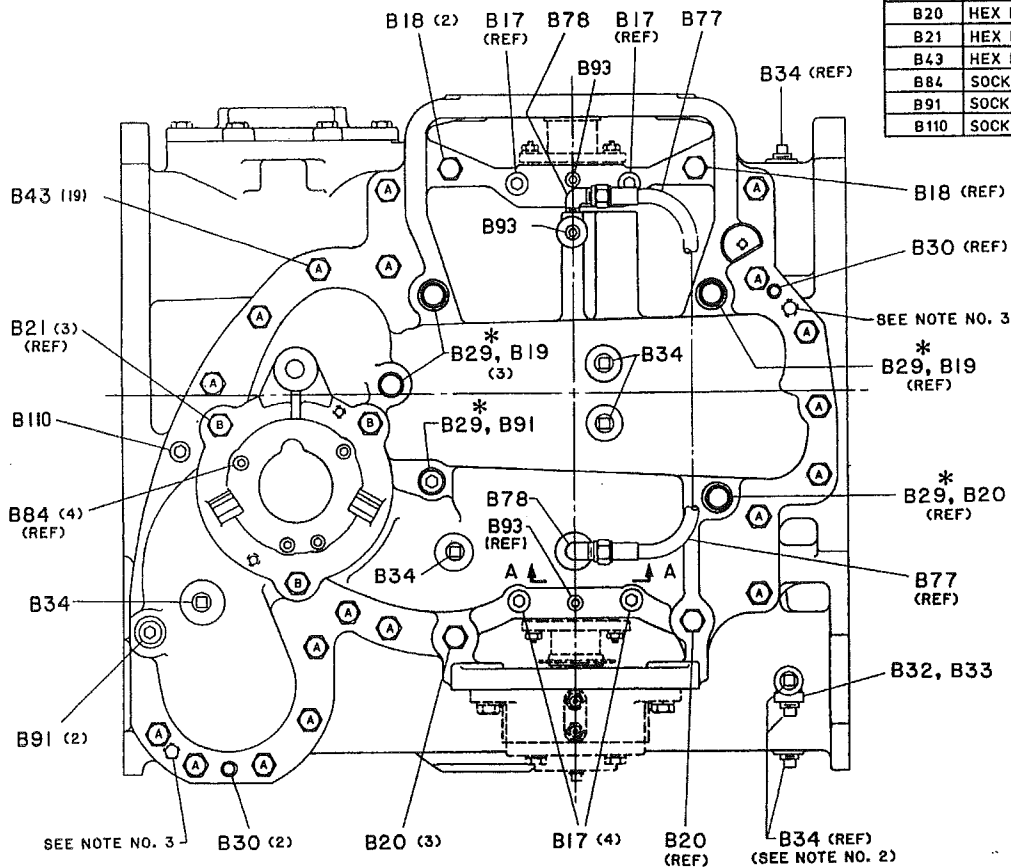
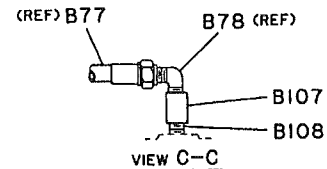


NOTE: TEE AND NIPPLE REPLACE ELBOW B78 WHEN HIGH PRESSURE STAGE IS ADDED. (THE TEE AND NIPPLE ARE PART OF HIGH PRESSURE STAGE ASSEMBLY).



(HIGH PRESSURE STAGE ASSEMBLY)

FASTENER TYPE AND SIZE		
REF NO.	DESCRIPTION	QTY
B17	SOCKET HEAD, 1/2-13 X 2-1/4	4
B18	HEX HEAD, 1/2-13 X 2-1/4	2
B19	HEX HEAD 1/2-13 X 4-3/4	3
B20	HEX HEAD, 1/2-13 X 3-1/2	3
B21	HEX HEAD, 1/2-13 X 1	3
B43	HEX HEAD, 1/2-13 X 1-1/2	19
B84	SOCKET HEAD, 5/16-18 X 3/4	4
B91	SOCKET HEAD, 1/2-13 X 4-3/4	2
B110	SOCKET HEAD, 1/2-13 1-1/2	1



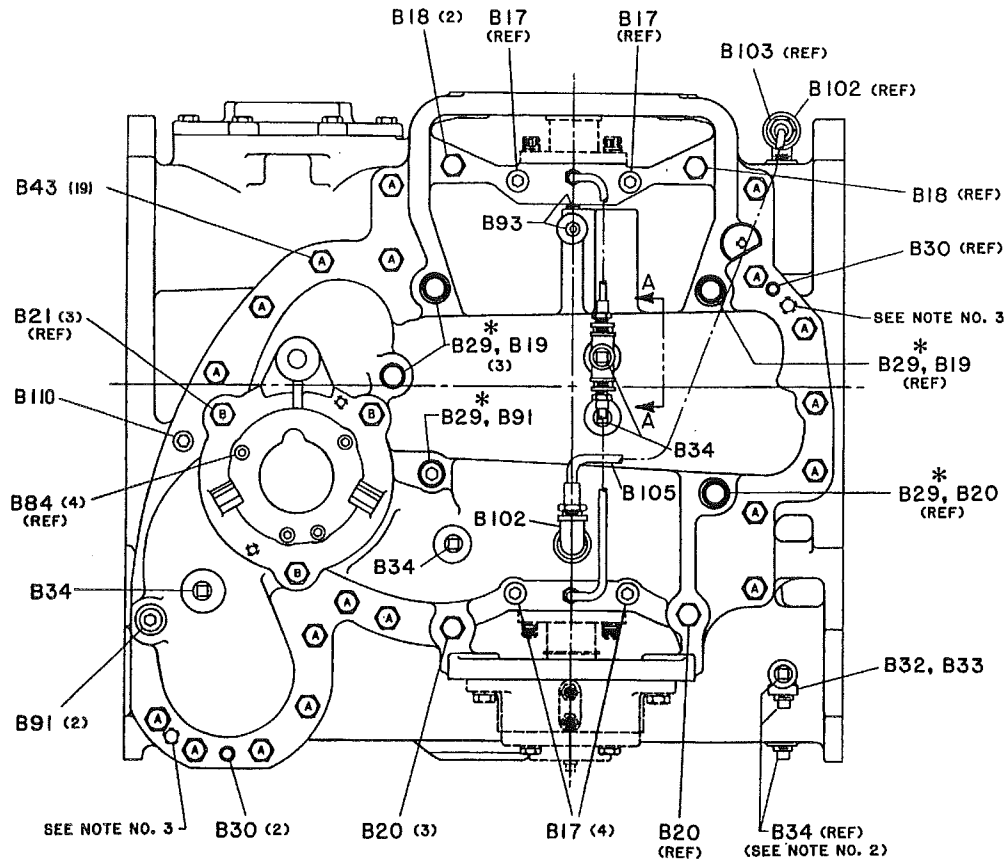
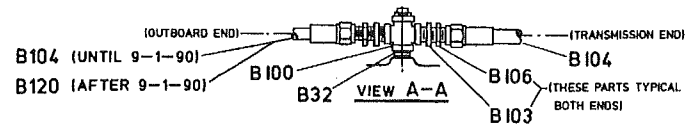
CM/CMU STANDARD & INVERTED BODY USING PACKING WITH TOP MOUNTED MANUAL/ELECTRIC OR BOTTOM MOUNTED MANUAL TRANSFER VALVE ACTUATOR

CM/CMU STANDARD & INVERTED BODY USING PACKING WITH BOTTOM MOUNTED ELECTRIC TRANSFER VALVE ACTUATOR ONLY

NOTES:

1. TIGHTEN CAP SCREWS B17, B18, B19, B20, AND B43 WITH A TORQUE OF 85 LB-FT.
2. WATEROUS FURNISHES PUMP WITH B34 PIPE PLUGS INSTALLED IN THESE HOLES, BUT THE APPARATUS BUILDER MAY HAVE REMOVED THEM AND INSTALLED PIPING TO THE DRAIN VALVE.
3. THESE ARE 1/2-13 UNC TAPPED HOLES TO ACCOMMODATE THE USE OF JACKING SCREWS DURING DISASSEMBLY.
4. * PARTS OF GASKET KIT B96.

UNDERSIDE VIEW OF PUMP

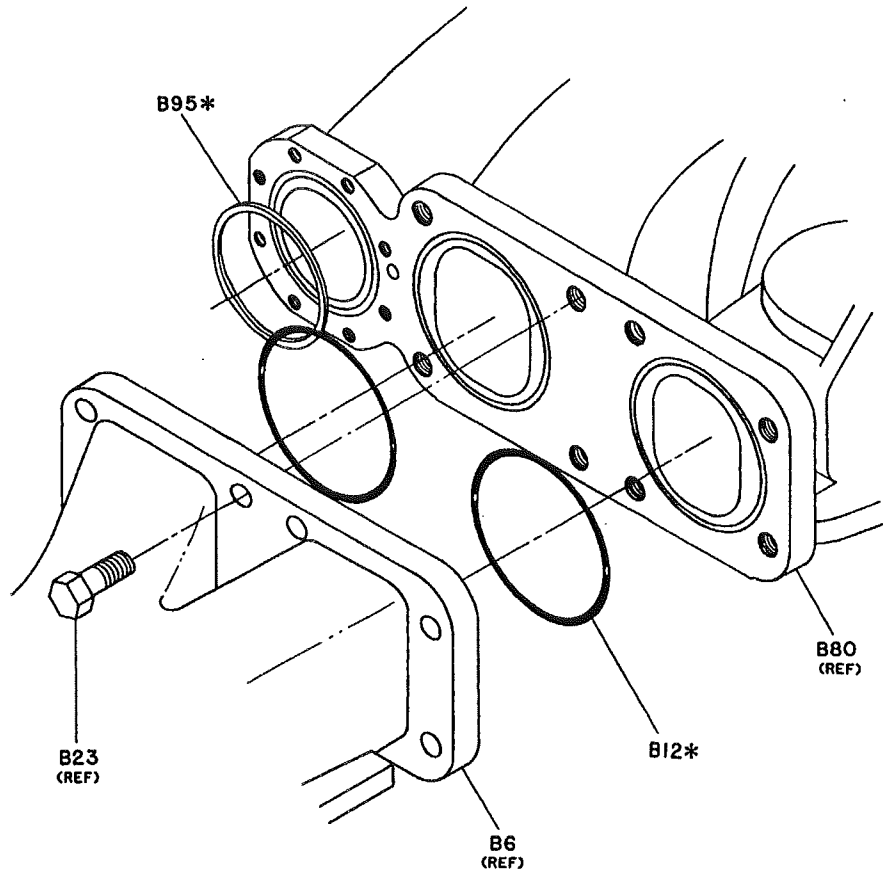


FASTENER TYPE AND SIZE		
REF NO.	DESCRIPTION	QTY
B17	SOCKET HEAD, 1/2-13 X 2-1/4	4
B18	HEX HEAD, 1/2-13 X 2-1/4	2
B19	HEX HEAD 1/2-13 X 4-3/4	3
B20	HEX HEAD, 1/2-13 X 3-1/2	3
B21	HEX HEAD, 1/2-13 X 1	3
B43	HEX HEAD, 1/2-13 X 1-1/2	19
B84	SOCKET HEAD, 5/16-18 X 3/4	4
B91	SOCKET HEAD, 1/2-13 X 4-3/4	2
B110	SOCKET HEAD, 1/2-13 1-1/2	1

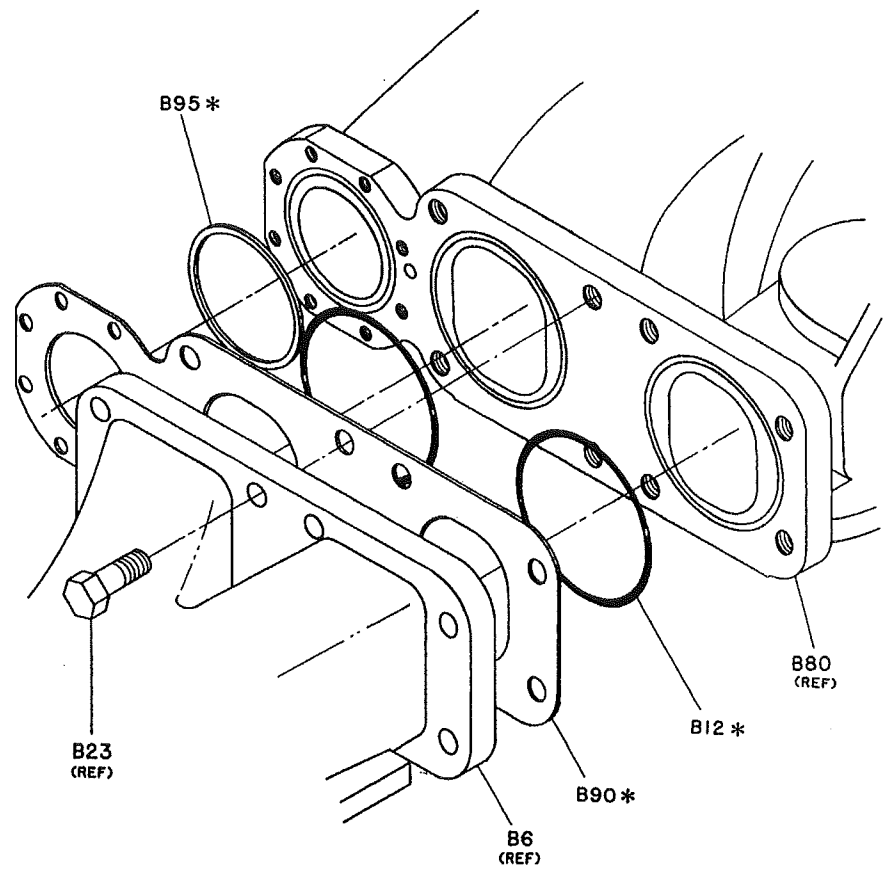
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- 2.) WATEROUS FURNISHES PUMP WITH B34 PIPE PLUGS INSTALLED IN THESE HOLES BUT THE APPARATUS BUILDER MAY HAVE REMOVED THEM AND INSTALLED PIPING TO THE DRAIN VALVE.
- 3.) THESE ARE 1/2-13 UNC TAPPED HOLES TO ACCOMMODATE THE USE OF JACKING SCREWS DURING DISASSEMBLY.
- 4.) * PARTS OF GASKET KIT 896.

UNDERSIDE VIEW OF PUMP BODY
 CM/CMU STANDARD & INVERTED BODY USING MECHANICAL
 SEALS AND ALL TYPES OF TRANSFER VALVE ACTUATORS



IRON PUMP ONLY



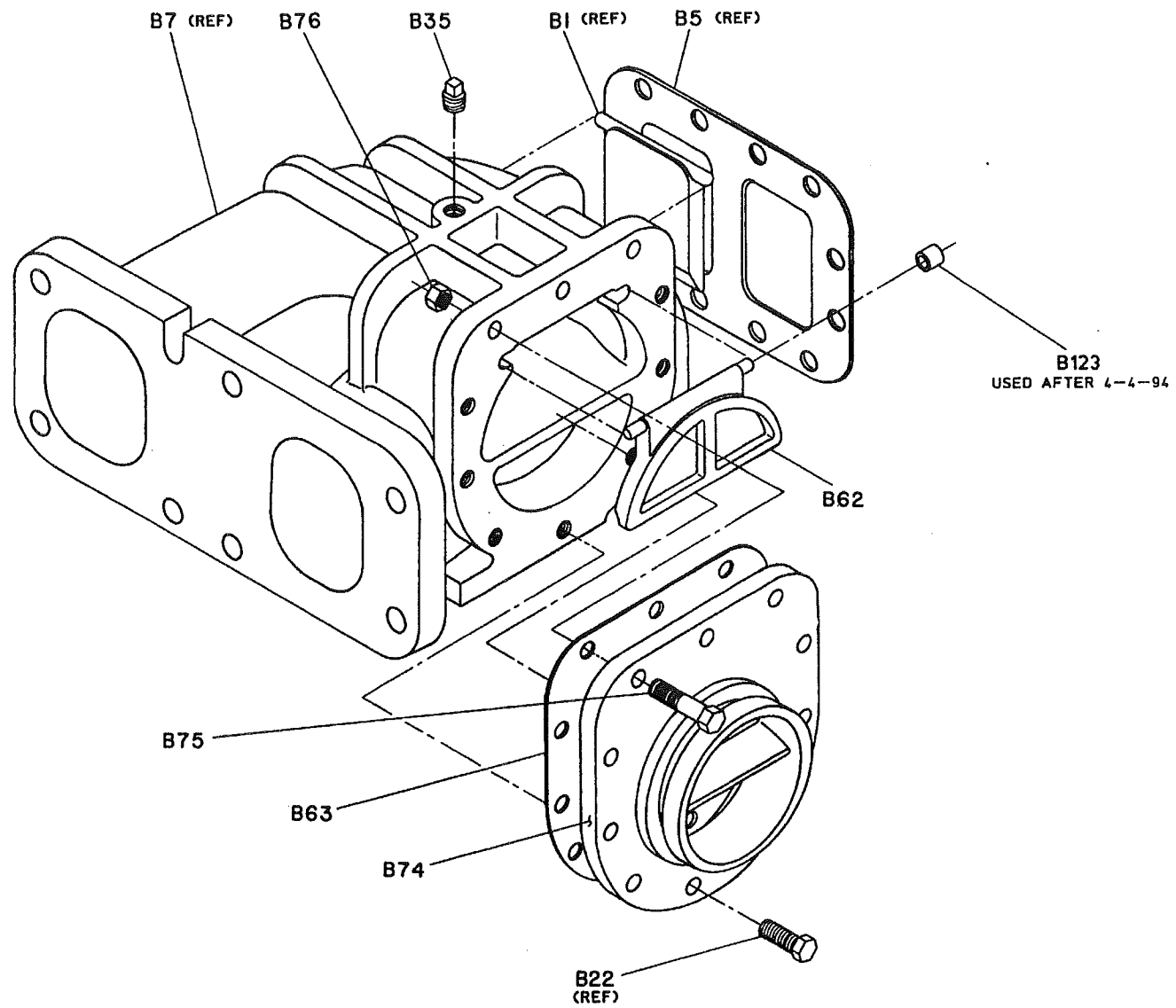
BRONZE PUMP ONLY

*PARTS OF GASKET KIT B96

SUCTION FLANGE GASKET DETAIL

NOTES:

- 1.) COAT BOTH SIDES OF GASKET B73 OR B90 WITH SEALING COMPOUND (PERMATEX SUPER 300 OR EQUIVALENT).



REAR INTAKE ADAPTER AND FITTING DETAIL