OPERATOR'S MANUAL 6720X-XXX

INCLUDING: SERVICE KITS, TROUBLESHOOTING, PARTS LIST, DISASSEMBLY AND REASSEMBLY.

RELEASED: 7-24-98
REVISED: 5-10-17
(REV: M)

FOUR-BALL STYLE LOWER PUMP ENDS
67200-XXX (3" i.d.)
67201-XXX (3-1/2" i.d.)

Also covers 637317-XXX and 637318-XXX service kits.

READ THIS MANUAL CAREFULLY BEFORE INSTALLING, OPERATING OR SERVICING THIS EQUIPMENT.

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.
The original language of this manual is English.

SERVICE KITS

- Use only genuine ARO® replacement parts to assure compatible pressure rating and longest service life.
- 637317-X4X for general repair of 67200-XXX lower pump ends.
- 637318-X4X for general repair of 67201-XXX lower pump ends.

LOWER PUMP END DISASSEMBLY

NOTE: All threads are right hand.

⚠ CAUTION Items (9) tube and (26) pump rod are ceramic coated. Handle with care so as not to damage them in any way during disassembly or reassembly.

1. Unscrew four (4) bolts, releasing (34) inlet body, two (20) "O" rings, (32 and 39) lower seats, two (35) "O" rings and two (21) balls.
2. Unscrew four (4) bolts, releasing (6) ball cap, two (15) "O" rings, two (27) upper seats, two (28) "O" rings and two (14) balls.
3. Unscrew (1) solvent cup, releasing (77) bushing, (44) washer, (50) washer, five (51 and 52) "V" packings, (53) washer and (43) wave spring.
4. Unscrew (2) gland nut, releasing (38) "O" ring.
5. Unscrew three (12) tie rod nuts and pull (11) upper body from pump.
6. Remove two (17) downtubes and four (16) seals.
7. Remove (9) tube and two (7) "O" rings.
8. Pull (26) pump rod assembly from (9) tube.
9. Remove (31) cotter pin and unscrew (30) nut, releasing two (29) followers and two (65) cup packings.
10. Remove (40) roll pin and unscrew (37) adapter, where applicable.

LOWER PUMP END REASSEMBLY

NOTE: Inspect and replace old parts with new parts as necessary. Look for deep scratches on metallic surfaces. Replace all "O" rings upon reassembly. Lubricate all threads upon reassembly. Refer to sealant and torque notes on page 3.

1. Screw (37) adapter to (26) pump rod, securing with (40) roll pin, where applicable.
2. Assemble (29) followers into (65) cup packings. Assemble to (26) pump rod, securing with (30) nut. **NOTE:**

(continued on page 4)

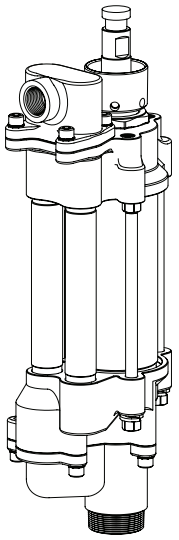

Figure 1

LOWER PUMP END DESCRIPTION CHART

6720 X - X X X

Cylinder Size
0 - 3" i.d.
1 - 3-1/2" i.d.

Packing Material
7 - Glass filled PTFE (upper)
Virgin PTFE (lower)
C - UHMW-PE (upper and lower)
F - UHMW-PE / Leather staggered (upper)
UHMW-PE (lower)
P - UHMW-PE / Glass filled PTFE staggered (upper)
UHMW-PE (lower)
R - Glass filled PTFE / UHMW-PE staggered (upper)
Virgin PTFE (lower)

Spring Arrangement
4 - Multiple wave spring

Plunger Type
B - Hardened stainless steel with ceramic coating (use "B" for service kit selection)
G - Hardened stainless steel with ceramic coating (large motors) (use "C" for service kit selection)

Service Kit Selection

EXAMPLE: Lower Pump End # 67200-F4B
Service Kit # 637317-F4B

6720X - X X X
63731X - X 4 X
Packing — Plunger

INGERSOLL RAND COMPANY LTD
209 NORTH MAIN STREET – BRYAN, OHIO 43506
(800) 495-0276• FAX (800) 892-6276
arozone.com

CCN 99745416

ARO Ingersoll Rand

PARTS LIST / 6720X-XXX

Item	Description (size)	Qty	Part No.	[Mtl]
1	Solvent Cup (6720X-XXB)	(1)	94174	[SS]
	(6720X-XXG)	(1)	94172	[SS]
2	Gland Nut (6720X-XXB)	(1)	94167	[SS]
	(6720X-XXG)	(1)	94165	[SS]
4	Bolt (M10 x 1.5 - 6g x 25 mm)	(8)	96745443	[SS]
❸ 5	Lock Washer (M10)	(8)	95026	[SS]
6	Ball Cap	(1)	94614	[SS]
❶ 7	"O" Ring			
	(67200-XXX) (1/16" x 3-3/8" o.d.)	(2)	Y328-42	[T]
	(67201-XXX) (1/16" x 3-7/8" o.d.)	(2)	Y328-44	[T]
❸ 8	Lock Washer (1/2")	(3)	Y14-816-T	[SS]
9	Tube (67200-XXX)	(1)	94606	[CSS]
	(67201-XXX)	(1)	94605	[CSS]
10	Tie Rod	(3)	94683	[SH]
11	Upper Body	(1)	94612	[SS]
12	Tie Rod Nut (M12 x 1.75)	(6)	96729728	[SS]
14	Ball (15/16" o.d.)	(2)	92409	[SS]
❸ ❶ 15	"O" Ring (3/32" x 1-5/8" o.d.)	(2)	Y328-127	[T]
❶ 16	Seal	(4)	94611	[T]
17	Downtube	(2)	94607	[SS]
18	Lower Body	(1)	94613	[SS]
❸ ❶ 20	"O" Ring (3/32" x 2-1/8")	(2)	Y328-135	[T]
21	Ball (1-1/4" o.d.)	(2)	92408	[SS]
26	Pump Rod (6720X-XXB)	(1)	94610	[CSH]
	(6720X-XXG)	(1)	96522-2	[CSH]
27	Upper Seat	(2)	94609	[SH]
❷ ❶ 28	"O" Ring (1/16" x 1-5/8" o.d.)	(2)	Y328-29	[T]
29	Follower (67200-XXX)	(2)	96700	[SS]
	(67201-XXX)	(2)	96701	[SS]
30	Hex Slotted Nut (M16 x 2)	(1)	96728779	[SS]
❶ 31	Cotter Pin (1/8" o.d. x 1-1/4" long)	(1)	96728761	[SS]
32	Lower Seat	(1)	94608	[SH]
34	Inlet Body	(1)	94663	[SS]
❷ ❶ 35	"O" Ring (1/16" x 2-1/8" o.d.)	(2)	Y328-33	[T]
❶ 38	"O" Ring (1/16" x 2-1/4" o.d.)	(1)	Y328-34	[T]
39	Lower Seat	(1)	67181	[SH]
43	Wave Spring (6720X-XXB)	(1)	94145	[SH]
	(6720X-XXG)	(1)	94136	[SH]
44	Washer (6720X-XXB)	(1)	94191	[SS]
	(6720X-XXG)	(1)	94193	[SS]

Item	Description (size)	Qty	Part No.	[Mtl]
50	Washer (6720X-XXB)	(1)	94197-1	[D]
	(6720X-XXG)	(1)	94195-2	[PPS]
❶ 51	"V" Packing (6720X-7XB)	(3)	93689-2	[GFT]
	(6720X-CXB)	(3)	93689-4	[UH]
	(6720X-FXB)	(3)	93689-4	[UH]
	(6720X-PXB)	(3)	93689-4	[UH]
	(6720X-RXB)	(3)	93689-2	[GFT]
	(6720X-7XG)	(3)	93455-2	[GFT]
	(6720X-CXG)	(3)	93455-4	[UH]
	(6720X-FXG)	(3)	93455-4	[UH]
	(6720X-PXG)	(3)	93455-4	[UH]
	(6720X-RXG)	(3)	93455-2	[GFT]
❶ 52	"V" Packing (6720X-7XB)	(2)	93689-2	[GFT]
	(6720X-CXB)	(2)	93689-4	[UH]
	(6720X-FXB)	(2)	93689-1	[L]
	(6720X-PXB)	(2)	93689-2	[GFT]
	(6720X-RXB)	(2)	93689-4	[UH]
	(6720X-7XG)	(2)	93455-2	[GFT]
	(6720X-CXG)	(2)	93455-4	[UH]
	(6720X-FXG)	(2)	93455-1	[L]
	(6720X-PXG)	(2)	93455-2	[GFT]
	(6720X-RXG)	(2)	93455-4	[UH]
53	Washer (6720X-XXB)	(1)	94272	[SS]
	(6720X-XXG)	(1)	94194	[SS]
❶ 65	Cup Packing (67200-7XX)	(2)	93449-3	[T]
	(67200-CXX)	(2)	93449-4	[UH]
	(67200-FXX)	(2)	93449-4	[UH]
	(67200-PXX)	(2)	93449-4	[UH]
	(67200-RXX)	(2)	93449-3	[T]
	(67201-7XX)	(2)	92963-3	[T]
	(67201-CXX)	(2)	92963-4	[UH]
	(67201-FXX)	(2)	92963-4	[UH]
	(67201-PXX)	(2)	92963-4	[UH]
	(67201-RXX)	(2)	92963-3	[T]
77	Bushing (6720X-XXB)	(1)	94180-1	[D]
	(6720X-XXG)	(1)	94182-2	[PPS]
❶	Service Kit (67200-XXX)		637317-X4X	
❶	Service Kit (67201-XXX)		637318-X4X	

❷ Models built prior to serial # C9209XXX require a quantity of 4 each of items (28) and (35), also included in service kit.
❸ Models built after serial # C9209XXX include items (5), (8), (15) and (20).

MATERIAL CODE

[CSH]	= Ceramic coated hard stainless steel	[PPS]	= Polyphenylene Sulfide
[CSS]	= Ceramic coated stainless steel	[SH]	= Hard stainless steel
[D]	= Acetal	[SS]	= Stainless steel
[GFT]	= Glass filled PTFE	[T]	= PTFE
[L]	= Leather	[UH]	= UHMW-PE

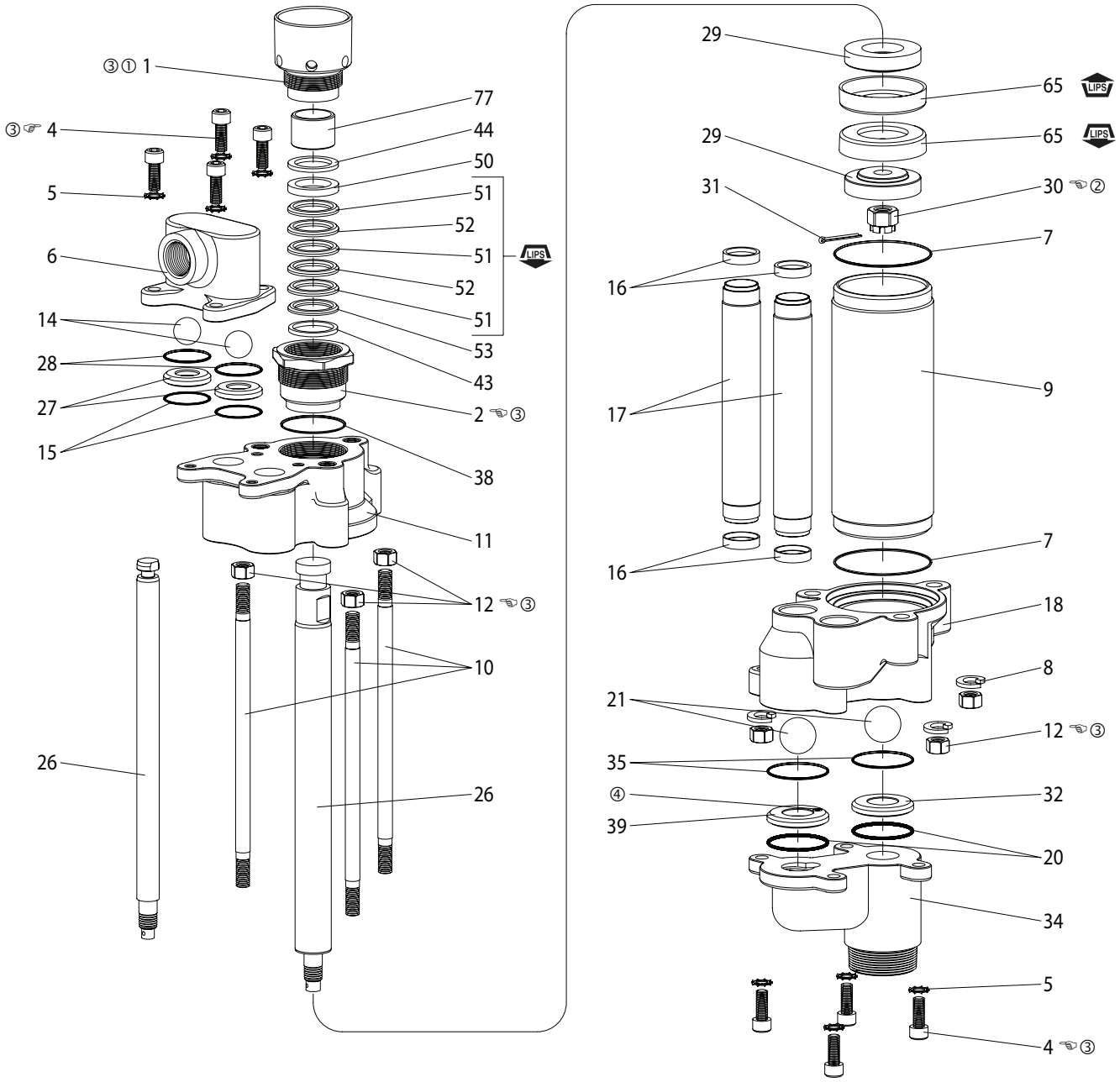

Figure 2

☞ ASSEMBLY TORQUE REQUIREMENTS ☜

NOTE: DO NOT OVERTIGHTEN COMPONENTS.

(2) gland nut, 100 ft lbs (135.6 Nm).
(4) bolts, 45 ft lbs (61.0 Nm).
(12) tie rod nuts, 60 ft lbs (81.3 Nm).
(30) hex slotted nut, 50 ft lbs (67.8 Nm) minimum.

LUBRICATION / SEALANTS

① **Keep solvent cup filled with a lubricant such as ARO Wet-Sol "Plus" or equivalent.**
② **Apply Vaseline® to threads when assembling.**
③ **Apply Lubriplate® Super FML-2 grease to threads.**
④ **Install with orifice toward the center of the pump.**

Assemble cup packings with lips facing away from each other. Torque (30) nut to 50 ft lbs (67.8 Nm).

3. Assemble (31) cotter pin, securing (30) nut.
4. Slide (26) pump rod and (65) cup packings into (9) tube, being careful not to damage the lips of cup packings. **NOTE:** On models 6720X-F4X, thoroughly lubricate the inside of (9) tube with a lubricant compatible with the application, prior to assembly.
5. Assemble two (16) seals to each (17) downtube, assembling with large i.d. onto downtube.
6. Assemble two (17) downtubes to (18) lower body.
7. Assemble (7) "O" ring and (9) tube to (18) lower body.
8. Screw three (12) nuts onto top end of (10) tie rods and screw tie rods into (11) upper body.
9. Assemble (38) "O" ring into (11) upper body, securing with (2) gland nut.
10. Assemble (43) wave spring, (53) male washer, five (51 and 52) "V" packings, (50) female packing washer, (44) washer and (77) bushing into (11) upper body and screw (1) solvent cup loosely into (11) upper body, securing packings.
11. Assemble (7) "O" ring into (11) upper body and assemble (11) upper body to (9) tube, aligning three (10) tie rods with (18) lower body.
12. Assemble three (8) lock washers and three (12) tie rod nuts to (10) tie rods, tightening to 60 ft lbs (81.4 Nm).
13. Turn pump assembly upside down and assemble two (21) balls, two (35) "O" rings, (32 and 39) seats (chamfered side into lower body first) and two (20) "O" rings into (18) lower body. Refer to figure 2, page 3, for the location of (39) seat (with orifice).
14. Assemble (34) inlet body to (18) lower body, securing with four (5) lock washers and four (4) bolts. **NOTE:** Torque (4) bolts to 45 ft lbs (61.0 Nm).
15. Assemble (15) "O" rings to groove in (27) upper seats and set upper seats on (11) upper body. Set (14) balls on (27) upper seats. **NOTE:** Assemble upper seats with chamfered side up.
16. Assemble two (28) "O" rings to (6) ball cap and assemble ball cap to (11) upper body, securing with four (5) lock washers and four (4) bolts. **NOTE:** Torque (4) bolts to 45 ft lbs (61.0 Nm).
17. Tighten (2) gland nut to 100 ft lbs (135.6 Nm).

TROUBLE SHOOTING

- **No material at outlet (pump continually cycles).**
  Check material supply, disconnect or shut off the air supply and replenish the material, reconnect.

- **Material on one stroke only (fast downstroke).**
  The (21) ball may not be seating in the (32) lower seat (see lower pump disassembly). Remove the ball from the lower seat, clean and inspect the ball and seat area. If ball or lower seat is damaged, replace.

- **Material on one stroke only (fast upstroke).**
  The (21) ball may not be seating in the (39) lower seat (see lower pump disassembly). Remove the ball from the lower seat, clean and inspect the ball and seat area. If ball or lower seat is damaged, replace. Check for worn or damaged seals. Replace the seals as necessary. Also, check for a damaged orifice in (39) seat.

- **Material leakage out of the solvent cup or material appears on the pump plunger rod.**
  Tighten the solvent cup until leakage discontinues. If this procedure does not aid in stopping the leakage problem, the upper packings may be worn (see lower pump disassembly). Replace the packings as necessary.