

# OPERATOR'S MANUAL

INCLUDING: SERVICE KITS, TROUBLESHOOTING, PARTS LIST, DISASSEMBLY & REASSEMBLY

# 66266-X

RELEASED: 7-7-90

REVISED: 6-4-10

(REV. G) IPP

## LOWER PUMP END CHOP-CHECK STYLE ALSO COVERS 637074-XXX SERVICE KIT



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

### LOWER PUMP END OPTION DESCRIPTION CHART\*

#### 66266-XXX

(PACKINGS ARE UPPER AND LOWER UNLESS NOTED)

#### PACKING MATERIAL

1 THIOKOL LEATHER ☼	G UHMW-PE/LEATHER STAG'D
3 GLASS FILLED PTFE	P UHMW-PE/PTFE STAG'D (UPPER)
5 PTFE(GF)/LEATHER STAG'D (UPPER)	UHMW-PE (LOWER)
GLASS FILLED PTFE (LOWER) ☼	R PTFE/UHMW-PE STAG'D (UPPER)
C UHMW-PE	PTFE (LOWER)
D UHMW-PE/LEATHER STAG'D (UPPER)	
LEATHER (LOWER) ☼	



#### SPRING ARRANGEMENT

- 1 COIL SPRING ☼
- 4 WAVE SPRING
- 5 COMPOSITE SPRING W/ADJ P'KG NUT ☼

#### PLUNGER TYPE

- 3 HD SS W/HD CHROME PLATING

☼ AS OF MAY 15, 1995 NO LONGER AVAILABLE

\* NOT ALL MODEL COMBINATIONS ARE AVAILABLE, REFER TO PUMP MODEL MANUAL (650XXX-XXX) FOR "ACTIVE" MODELS.

### SERVICE KITS

- Use only genuine ARO replacement parts to assure compatible-pressure rating and longest service life.
- 637074-XXX for general repair of 66266-XXX Lower Pump End

### GENERAL DESCRIPTION

**⚠ WARNING** DO NOT EXCEED MAXIMUM OPERATING PRESSURE AS INDICATED ON PUMP MODEL PLATE

**⚠ WARNING** REFER TO GENERAL INFORMATION SHEET FOR ADDITIONAL SAFETY PRECAUTIONS AND IMPORTANT INFORMATION. (See the pump model manual for the proper Form No.)

- This LOWER PUMP END MANUAL is one of four documents needed to properly support an ARO pump model.

Part A. 650XXX-XXX-X MODEL (OPERATOR'S) MANUAL,  
Part B. GENERAL INFORMATION,  
Part C. MOTOR (OPERATOR'S) MANUAL,  
Part D. LOWER PUMP END (OPERATOR'S) MANUAL.  
Copies are available from the factory upon request.

- The Chop-Check design provides for easy priming of the lower foot valve. The double acting feature is standard in all ARO industrial pumps, material is delivered to the pump discharge outlet on both the up and down stroke.

- The pump ratio is an expression of the relationship between the air motor area and the lower pump end area.

**REGULATED INLET AIR PRESSURE X PUMP RATIO =  
MAXIMUM FLUID OUTLET PRESSURE**

EXAMPLE: When 150 PSI (10.3 Bar) air pressure is supplied to the pump motor on a 3:1 ratio pump, the lower pump end will develop a maximum of 450 PSI (31 Bar) fluid pressure (at no flow).

As the fluid control is opened, the flow rate will increase as the motor cycle rate increases to keep up with the demand.

- Operating at excessive pressures will shorten the life of the pump.

### TROUBLE SHOOTING CHOP-CHECK PUMPS

#### Common Lower Pump End Problems

- 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 lower check may not be seating in the foot valve. (See lower pump disassembly) Remove the check from the foot valve, clean and inspect the valve seat area. If check or foot valve are damaged, replace.
- Material on one stroke only. (fast upstroke.)**  
Check for worn or damaged seals. Replace the seals as necessary.
- Material leakage out of the solvent cup or material appears on the pump plunger rod.**  
For Models (-X5X Only). Increase the load on the packings by tightening the packing nut.  
Check for worn upper packings and replace them as necessary.

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# ARO

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Industrial Technologies

## PACKING OPTIONS AND SERVICE KITS

LOWER PUMP 66266-XXX <small>(Popular Models)</small>	SERVICE KIT 637074-XXX	UPPER PACKING					MIDDLE PACKING					LOWER PACKING	
		51 (X) "V" PACKING			52 (2) "V" PKG		55 (X) "V" PACKING			56 (2) "V" PKG		65 (1) "U" CUP	
		PART NO	(QTY)	[MT'L]	PART NO	[MT'L]	PART NO	(QTY)	[MT'L]	PART NO	[MT'L]	PART NO	[MT'L]
- G13, ☉ -G43, -G53 ☉	637074-G43	93661-4	(3)	[UH]	93661-1	[L]	93662-4	(2)	[UH]	93662-1	[L]	90911	[T]
- P13, ☉ -P43, -P53 ☉	637074-P43	93661-4	(3)	[UH]	93661-2	[T]	93662-4	(4)	[UH]	-----	--	90911	[T]
- R13, ☉ -R43, -R53 ☉	637074-R43	93661-2	(3)	[T]	93661-4	[UH]	93662-2	(4)	[T]	-----	--	90911	[T]

(See Page 4 for more Options) ☉ After May 15, 1995 these models are no longer available. EXAMPLE: 66266-G13 is replaced by 66266-G43 & Svc kit is 637074-G43.

## COMMON WETTED PARTS

66266-XXX					66266-XXX				
ITEM	DESCRIPTION	(QTY)	PART NO	[MTL]	ITEM	DESCRIPTION	(QTY)	PART NO	[MTL]
1	Solvent Cup	(1)	66866-1	[CS]	26	Plunger Rod	(1)	91552-1	[SS]
6	Pump Body	(1)	90848	[DI]	28	Seat	(1)	90914	[SS]
7	Gasket	(2)	90306	[Cu]	30	Rod	(1)	91719	[SS]
9	Tube	(1)	91844	[SS]	31	Plate	(1)	93597-1	[SS]
10	Tie Rod	(3)	91725	[CS]	32	Button	(1)	93596-1	[SS]
11	Nut	(3)	Y11-110-N	[CS]	33	Nut	(1)	Y171-7-C	[SS]
15	Foot Valve Body	(1)	91730	[CS]	34	Rod	(1)	90847	[SS]
21	Body	(1)	90916	[SS]	35	Wavy Washer ☉	(1)	91745	[CS]
22	Seat	(1)	91716	[Cu]	36	Nut	(1)	90912	[CS]
23	Gasket	(2)	91736	[SS]	37	Snap Ring	(1)	Y147-102	[CS]
24	"O" Ring	(1)	Y325-229	[B]	58	Washer, F Backup ○	(1)	91743	[Br]
25	Adapter	(1)	91842	[DI]	61	Washer, M Backup ○	(1)	91744	[Br]

☉ Use only on -1XX,- AX,- DXX & -KXX ○ Use only on -1XX, -AXX & -DXX

### UPPER PACKING PARTS

#### COIL SPRING MODELS -X1X ONLY

ITEM	DESCRIPTION	(QTY)	PART NO	[MTL]
41	Spring	(1)	90836	[CS]
50	Washer, F Backup	(1)	90840	[Br]
53	Washer, M Backup	(1)	90839	[Br]

### UPPER PACKING PARTS

#### COMPOSITE SPRING MODELS -X5X ONLY

ITEM	DESCRIPTION	(QTY)	PART NO	[MTL]
42	Composite Spring	(1)	66752-102	[SS]
50	Washer, F Backup	(1)	90840	[Br]

### UPPER PACKING PARTS

#### WAVE SPRING MODELS -X4X ONLY

ITEM	DESCRIPTION	(QTY)	PART NO	[MTL]
43	Wave Spring	(1)	94131	[SS]
53	Washer, M Backup	(1)	90839	[Br]
115	Washer, F Backup	(1)	94132	[De]

### MIDDLE PACKING PARTS

#### "V" TYPE MODELS

ITEM	DESCRIPTION	(QTY)	PART NO	[MTL]
47	Wave Spring	(1)	90915	[CS]
54	Washer, F Backup	(1)	90910	[SS]
57	Washer, M Backup	(1)	90909	[SS]

-KXX PACKING OPTION CONSISTS OF: 75 Packing Assembly (93451-1), 76 Packing Assembly (93452-1) & 77 Packing Assembly (93453-1).

#### MATERIAL CODE

[B]=Buna "N"	[Cu]=Copper	[SS]=Stainless Steel
[Br]=Brass	[De]=Delrin	[T]=PTFE
[CS]=Carbon Steel	[DI]=Ductile Iron	[UH]=UHMW-PE
	[L]=Leather	

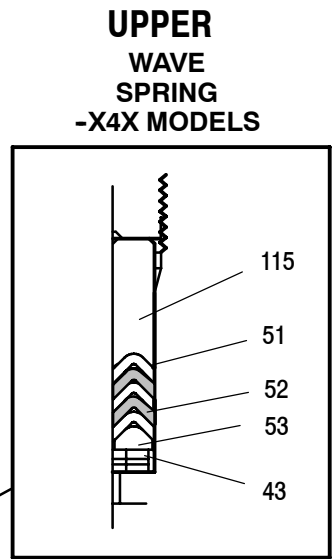
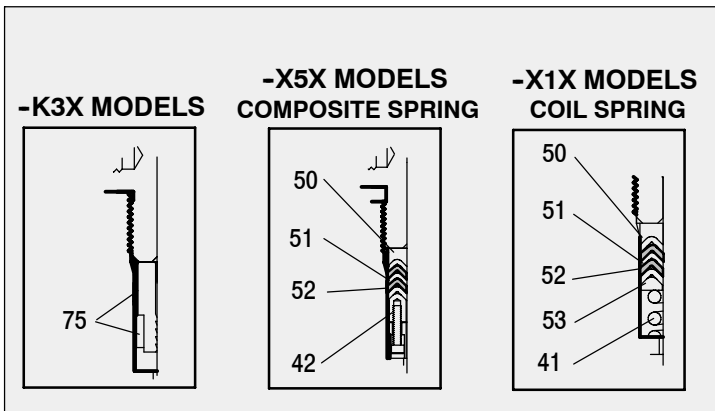
#### SERVICE KITS INCLUDE:

"V" Type Models: 7, 23, 24, 37, 51, 52, 55, 56 & 59.

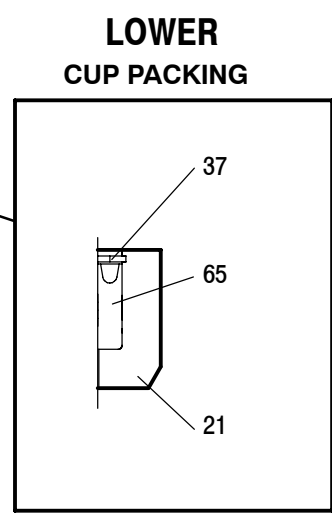
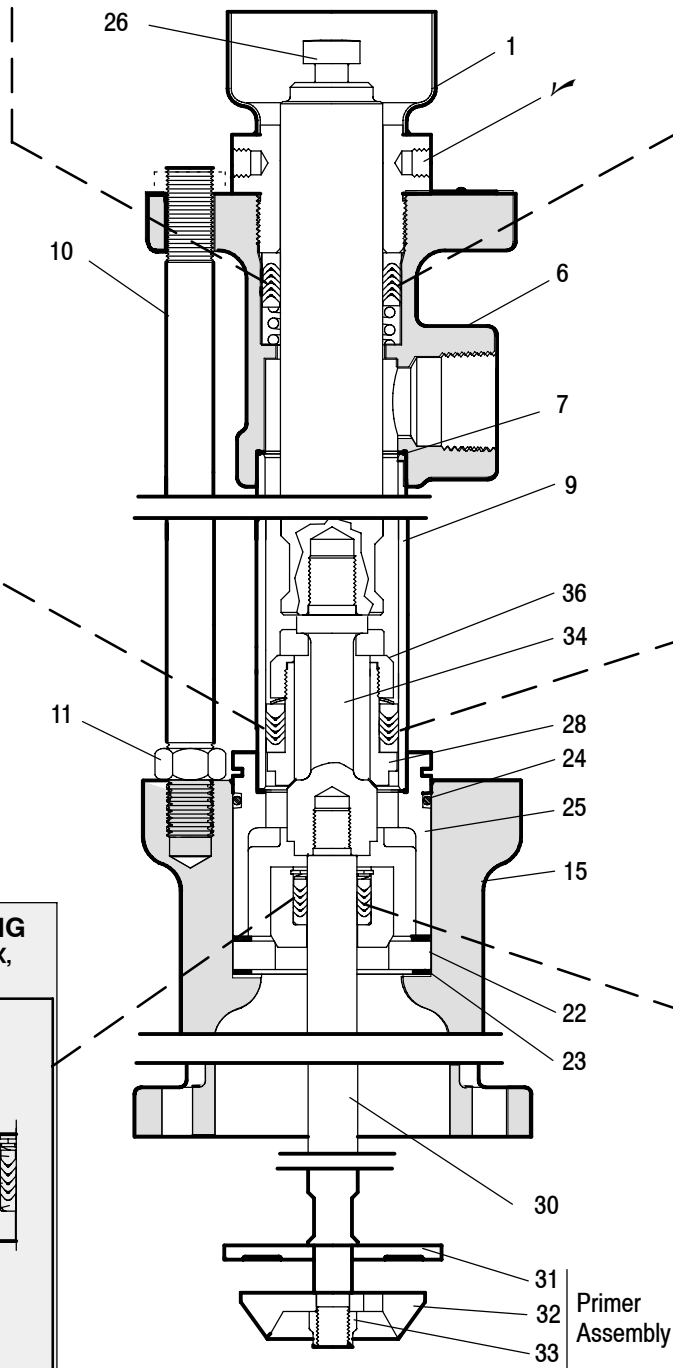
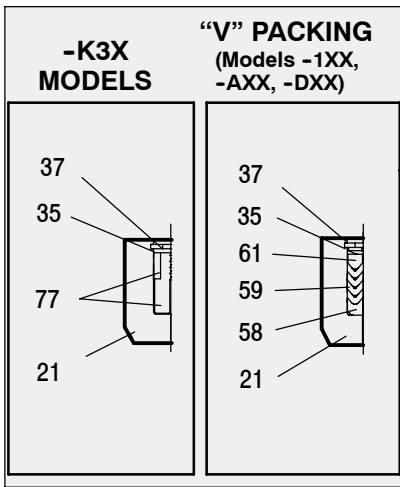
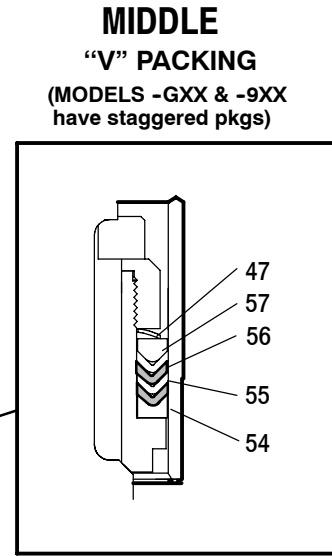
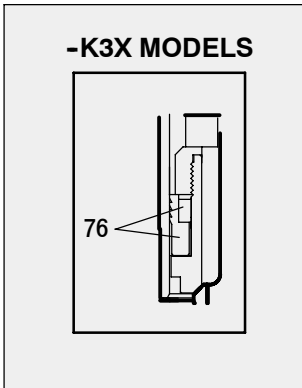
Cup Type Models: 7, 23, 24, 37, 51, 52, 55, 56 & 65.

-K3X Type Models: 7, 23, 24, 37, 75, 76 & 77.

Also in kit: Two Y15-47-C Cotter Pins to connect pump to Air Motor



**AFTER MAY 15, 1995  
THE MODELS IN SHADED  
AREAS ARE NO LONGER  
AVAILABLE**



✓ A 93456-1 Rod is included with unit to adjust packing nut/solvent cup.

**66266-X**

**STAGGERED PACKINGS**

NOTE: When using "STAGGERED" packings use the shaded position as shown in the views above for the "52" and "56" packings.

## PACKING OPTIONS AND SERVICE KITS

LOWER PUMP	SVCE. KIT	UPPER PACKING					MIDDLE PACKING			LOWER PACKING			
		51 (X) "V" PACKING			52 (2) "V" PKG		55 (X) "V" PKG			59 (4) "V" PKG		65 (1) "U" CUP	
		PART NO	(QTY)	[MT'L]	PART NO	[MT'L]	PART NO	(QTY)	[MT'L]	PART NO	[MT'L]	PART NO	[MT'L]
66266-XXX	637074-XXX	93661-1	(5)	[L]	-----	--	93662-1	(4)	[L]	93678-1	[L]	-----	--
-113, ☉ -153 ☉	637074-G43	93661-1	(5)	[L]	-----	--	93662-1	(4)	[L]	93678-1	[L]	-----	--
-313, ☉ -353 ☉	637074-343	93661-2	(5)	[T]	-----	--	93662-2	(4)	[T]	-----	--	90911	[T]
-513, ☉ -553 ☉	637074-G43	93661-2	(3)	[T]	93661-1	[L]	93662-2	(4)	[T]	-----	--	90911	[T]
-C13, ☉ -C53 ☉	637074-C43	93661-4	(5)	[UH]	-----	--	93662-2	(4)	[T]	-----	--	90911	[T]
-D13, ☉ -D53 ☉	637074-D43	93661-4	(3)	[UH]	93661-1	[L]	93662-1	(4)	[L]	93678-1	[L]	-----	--

☉ After May 15, 1995 these models are no longer available.

EXAMPLE: 66266-113 is replaced by 66266-G43 & Service kit is 637074-G43.

### LOWER PUMP DISASSEMBLY

Note: All threads are right hand.

1. Remove (6) pump body from (9) suction tube, by sliding it off three (10) tie rods.
2. Remove (7) gasket from top of (9) suction tube.
3. Remove three (10) tie rods.
4. Pull (9) suction tube off the MIDDLE packing and valve section and out of (25) adapter.
5. Push (26) plunger rod to expose the primer assembly
6. Remove (33) nut, (32) valve plate and (31) washer from (30) primer rod.
7. Pull (26) plunger rod and remove MIDDLE packing, valve section and (30) rod from (15) chamber body.
8. Remove (7) gasket out of (25) adapter.
9. With the aid of a flat bladed screwdriver remove (25) adapter, (21) valve body, (22) valve seat and two (23) gaskets out of (15) chamber body. Use the flat bladed screwdriver to pry on the slot on (25) adapter.

10. Remove (24) "O" Ring from (14) adapter.
11. With retaining ring pliers, remove (37) retaining ring from (21) valve body, then remove the packings out of (21) valve body.
12. Using provided wrench flats, remove (30) rod from (34) valve rod. Again, using wrench flats remove (34) valve rod from (26) plunger rod.

**CAUTION: DO NOT mar or damage surfaces of any of these rods.**

13. Slide the MIDDLE packing assembly off (34) valve rod.
14. Clamp (34) valve seat in a vise and remove (36) valve seat nut, then remove the MIDDLE packing assembly off (28) valve seat.
15. Remove (1) solvent cup from (6) pump body. Now remove UPPER packing assembly out (6) pump body.

### LOWER PUMP REASSEMBLY

Note: All rubber goods and packings should be lubricated with a compatible lubricant prior to assembly.

1. Assemble (21) valve body with LOWER packings. Refer to Packing Options Chart on page 2.
2. Retain LOWER packing assy. in (21) valve body with (37) retaining ring.
3. Assemble (28) valve seat MIDDLE packings. Refer to Packing Options Chart on page 2.
4. Secure the MIDDLE packing assy. with (36) valve seat nut.
5. Slide (21) valve body with LOWER packings onto the end of (30) rod opposite the wrench flats. Install (21) valve body with the beveled end onto rod
6. Screw (30) rod into (34) valve body and tighten.
7. Place (24) "O" Ring on (25) adapter.
8. Slide (25) adapter onto the (34) valve body & (30) rod assy with the wider diameter opening going on first & fit it over (21) body.
9. Slide (28) valve seat and MIDDLE packing assy over (34) valve body. Be sure to place beveled end of (28) valve seat against bevel of (34) valve body.
10. Screw (34) valve body into (26) plunger rod and tighten. Use wrench flats.
11. Place one (23) gasket inside (15) chamber body, followed with (22) valve seat with beveled side up. **NOTE: If stringy or filled material is being pumped, then reverse the (22) valve seat. Next place second (23) brass gasket against top of (22) valve seat.**
12. Place (26) plunger, (28) valve seat and MIDDLE packing assy along with (30) rod & (25) adapter assy into (15) chamber body with the primer rod end going in first. Slide the (25) adapter into place in the (15) chamber body.

13. Place (7) gasket in (25) adapter.
14. Lubricate the MIDDLE packing assy and the inside of (9) suction tube. Carefully slide (9) suction tube over (26) plunger and MIDDLE packing assy into (15) adapter.
15. Install three (10) tie rods.
16. Place (7) gasket on end of (9) suction tube. NOTE: Apply a small amount of grease on gasket to help keep gasket in place.
17. Slide (6) pump body over (26) plunger rod onto (10) tie rods. Seat the (9) suction tube into (6) pump body.
18. Assemble the UPPER packing onto the (26) plunger rod and slide into (6) pump body.
19. Install (1) solvent cup and hand tighten.
20. Push (26) plunger rod to expose (30) rod at bottom of pump. Place (31) washer, (32) plate with beveled edges away from pump and (33) nut onto (30) rod. Tighten (33) nut.
21. Push (30) rod until rod is inside (15) chamber body. Tighten (1) solvent cup

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