

OPERATOR'S MANUAL

SP0411X2XXXXXXX

INCLUDING: OPERATION, INSTALLATION AND MAINTENANCE.

INCLUDE MANUALS: AF0411XXXXXX-XX-X Two-Ball Pump (97999-1496), 67485-X Follower Assembly (pn 97999-1808), 66732-X Follower Assembly (pn 97999-213), 67347-X Follower Assembly (pn 97999-1102), 67518-X Follower Assembly (pn 97999-1811), RM051S-XXX-XX-B Single Post Lift / Ram (pn 97999-1790) and S-636 General Information (pn 97999-636).

RELEASED: 4-1-14

REVISED: 2-28-18

(REV: E)

4 1/4" AIR MOTOR
11:1 RATIO
6" STROKE

SINGLE POST RAM PACKAGE 5 GALLON



**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.

SERVICE KITS

- Use only genuine ARO® replacement parts to assure compatible pressure rating and longest service life.
- **637489** for repair of AF04XX-XX air motor.
- **104302** for repair of R37121-100 filter / regulator.
- **104453** for repair of P39344-110 filter / regulator.
- **637465** for repair of lift / ram seals.
- **637305-X43** for repair of 66300-XXX lower pump section.

MODEL DESCRIPTION CHART

SP 04 11 X 2 XXXXX XX X	
Package SP - Single Post	
Air Motor Size 04 - 4 1/4"	
Pump Ratio 11 - 11:1	
Check Type / Wetted Materials G - 2 Ball / Hard Stainless Steel with Big Inlet	
Mount Style 2 - 5 gallon	
Lower Pump End Options Refer to pump model operator's manual	
Follower Assembly E1 - 67485-2 EC - 66732 E3 - 67485-1 A7 - 67347-2 E5 - 67485-3 A8 - 67347-1 S2 - 67518-1 T7 - 67347-12 EA - 66732-1 T8 - 67347-11 EB - 66732-2	
Package Option 0 - None - Basic Control for Ram Only 2 - Advanced Ram and Pump Controls	

SP0411X2XXXXXXX RAM PACKAGE

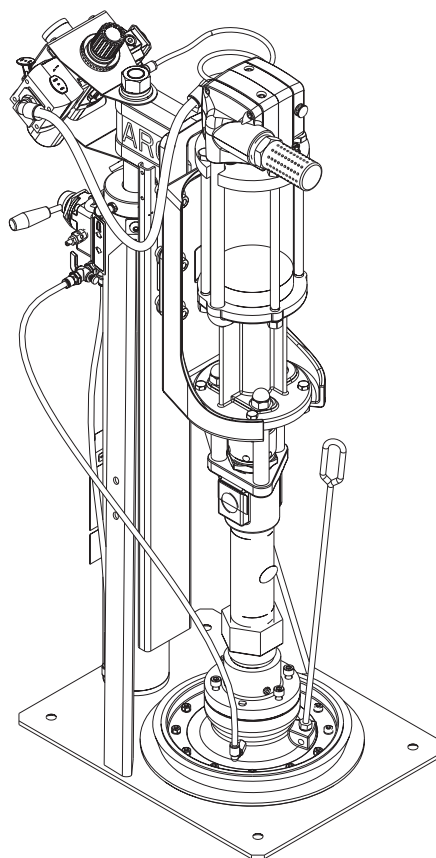


Figure 1

GENERAL DESCRIPTION

By delivering a smooth, continuous bead of the proper size, an ARO system helps the operator maintain both production rate and produce high quality standards. Maintained quality standards assures that the material benefits are realized. To further maximize operator production time, the ARO system has a built-in lift / ram feature for quick and easy drum changeover and easy lifting of the pump assembly from the container.

ARO systems are totally enclosed, sealing the material in the system from air and moisture, preventing premature cure-out of the material. This allows for either continuous or intermittent use of the system and allows the need for daily system clean-up.

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INSTALLATION

The SP0411X2XXXXXXX Ram System comes completely assembled. Remove the unit from the crate and place on a level surface. Install the material hose and dispensing device as required.

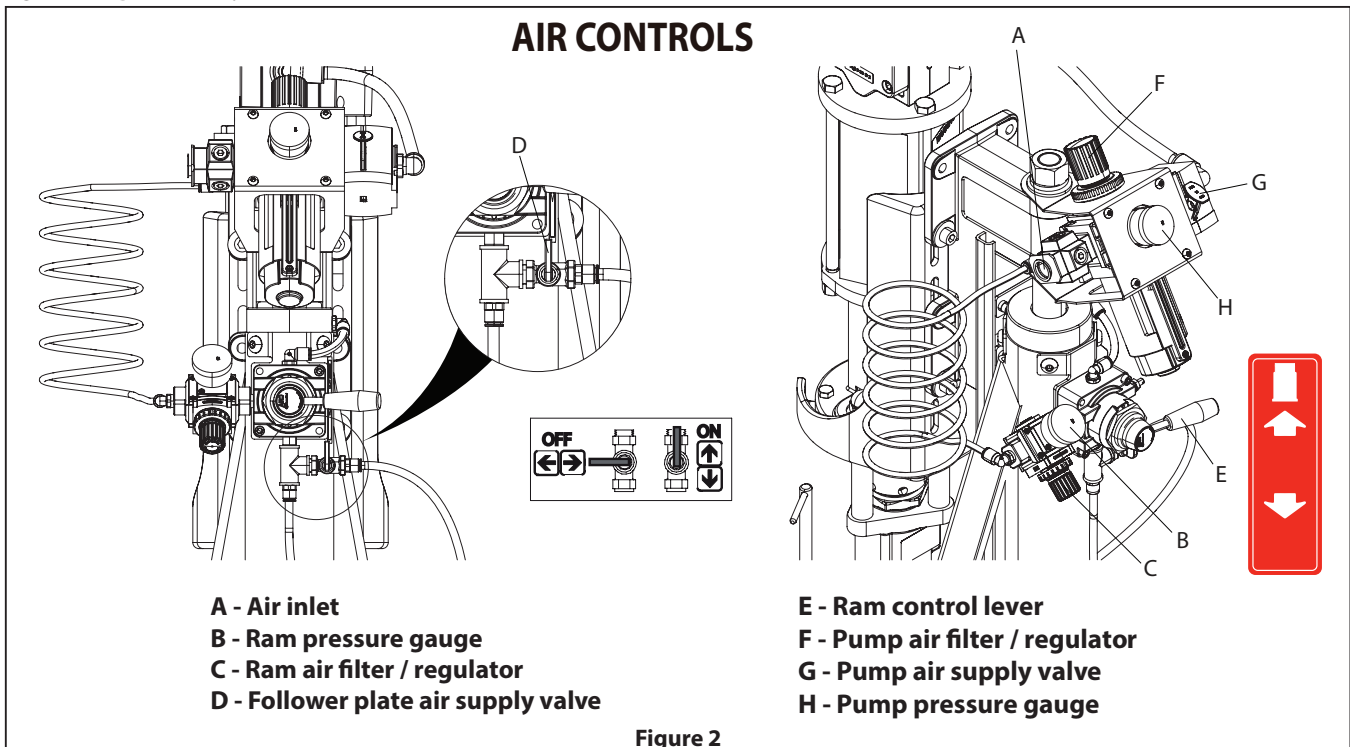
When the following instructions are observed, heavy paste materials can be pumped directly from their original drum without air inclusion or excessive waste. The follower plate creates an air tight seal as well as clean-wiping action in its progressive downward movement into the drum.

OPERATING INSTRUCTIONS

OPERATING INSTRUCTIONS / INITIAL SET-UP PROCEDURE

Read the warnings on page 3 of RM051S-XXX-XX-B Single Post Lift / Ram Operator's Manual.

⚠ WARNING STAND CLEAR WHEN RAISING OR LOWERING THE LIFT.



TO RAISE THE LIFT, (the first time):

1. Take note of the pump / drum clearance above. Be certain the lift / ram is clear of any objects above. Also, refer to "Operating and Safety Precautions" found on page 3 of RM051S-XXX-XX-B Single Post Lift / Ram Operator's Manual.
2. Connect the air supply (120 psig / 8.27 bar max.) to the air inlet. Adjust the air pressure on the lift / ram pressure regulator (turn the knob clockwise) to 20 psig (1.4 bar).
3. Shift the control valve lever to the "up" position.
4. Raise the lift / ram high enough to clear the height of the drum. Stop the lift upward travel by moving the control valve lever to the "neutral" (center) position.
5. Once the lift / ram assembly and pump are in the "up" position, place and center an opened 5 gallon drum of material on the lift / ram base.
6. Lubricate the lower follower wiper plate seal with grease. This ensures a smooth fit into the drum and prevents curing type compounds from bonding to the seal. **NOTE:** Make certain the grease is compatible with the material being dispensed.
7. Check the vent plug on the follower plate to be sure it easily threads in and out. It is recommended to lubricate the threads of the plug to help prevent possible set-up of the compound at this point (see RM051S-XXX-XX-B Operator's Manual).

TO LOWER LIFT:

⚠ WARNING PINCH HAZARD. Follower can descend quickly, causing injury. Keep hands clear when aligning with container. Read the warnings on page 3 of RM051S-XXX-XX-B Single Post Lift / Ram Operator's Manual.

NOTE: Be certain the follower plate vent plug has been removed so that the air trapped between the follower and the material is allowed to escape from this vent. Captured air between the follower plate and drum will escape.

NOTE: The lift / ram may hesitate momentarily before starting downward. The air pressure inside the post air chamber must decrease before it will begin to descend.

1. Shift the control valve lever to the "down" position and proceed to lower the pump.
2. Replace the vent plug once the material begins to ooze from the vent opening.
3. The unit is now ready for operation. Open the pump air supply valve. Adjust the air pressure on the pump filter / regulator (turn the pump regulator knob clockwise) until the pump begins to cycle.
4. Trigger the gun to prime the pump with material.

TO RAISE LIFT, (normal operation):

1. Close the pump air supply valve.
2. Adjust the follower plate air valve pressure up to approximately 8 psig (0.55 bar). **DO NOT OVER PRESSURIZE THE DRUM** to avoid damage. **NOTE:** Air from this valve will only pass when the control lever is in the "up" position.
3. Shift the control valve lever to the "up" position.
4. Raise the lift / ram high enough to clear the height of the drum. Stop the lift upward travel by moving the control valve lever to the "neutral" (center) position.

TO CHANGE THE DRUM:

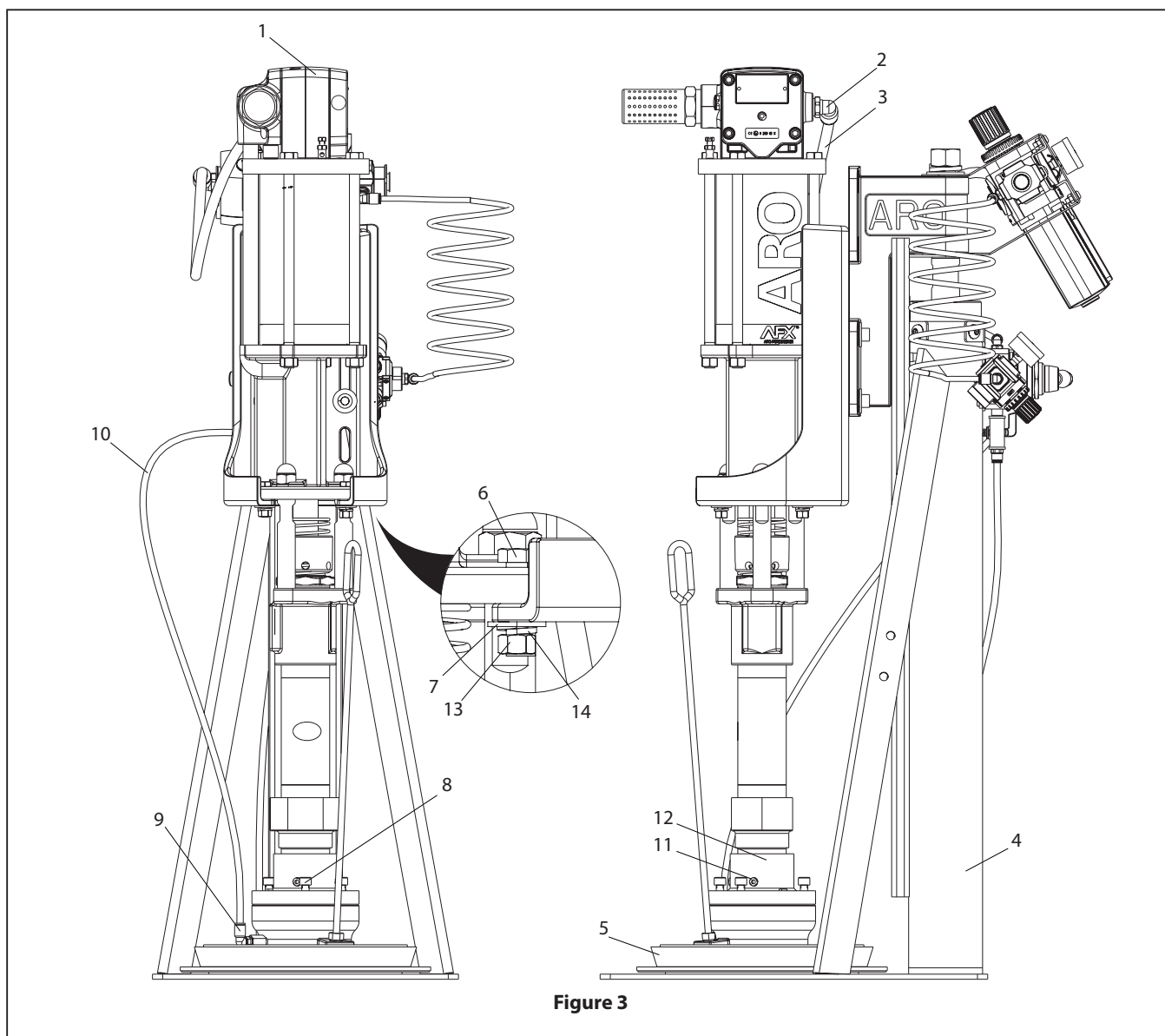
NOTE: The control valve lever must be in the "neutral" position.

1. To avoid damage, **DO NOT OVER PRESSURIZE THE DRUM**.
2. Open the follower plate supply valve to allow air under the follower plate.
3. Shift the control valve lever to the "up" position.
4. Unscrew the thumb screw and remove the old drum.

PARTS LIST / SP0411X2XXXXXXX

Item	Description (size)	Qty	Part No.
1	Pump Assembly	(1)	AF0411G2XXXXXX
* 2	90° Male Fitting (1/2 NPT x 1/2" OD)	(1)	59756-362
* 3	Tubing (1/2" OD x 16")	(1)	94978-(①)
* 4	Single-Post Lift / Ram	(1)	RM051S-XXX-XX-B
* 5	Follower Assembly (see model description on page 4)	(1)	
6	Cap Screw	(4)	Y6-67-C
7	Washer	(4)	Y13-6-C
* 8	Cap Screw	(4)	Y99-63-C
* 9	Male Elbow	(1)	59756-58

Item	Description (size)	Qty	Part No.
* 10	Tubing (5/16" OD x 38")	(1)	94980-(②)
** 11	Pipe Plug (1/8 - 27 NPT)	(2)	Y17-50-S
12	Adapter Kit assembly	(1)	67136-1
13	Nut (3/8" - 16)	(4)	Y12-6-C
14	Lock Washer (3/8")	(4)	Y14-616-C
15	Wet-Sol "Plus" (1 quart) (not shown)	(1)	66333-B
①	Bulk Tubing (1/2" OD x 100')	(1)	94978-100
②	Bulk Tubing (5/16" OD x 100')	(1)	94980-100
* included with RM051S-XXX-XX-B			
** included with 67136-1			



MODEL DESCRIPTION / FOLLOWER PLATE OPTIONS

Model	Pump Size	Follower Plate Material	Seal Type	Seal Material	Seal Diameter	Follower Asm.
SP0411X2XXXXXA7X	Standard Footprint "A" with 67136-1 Adapter	Aluminum	Single Tube	EPR	11.440" (290.6 mm)	67347-2
SP0411X2XXXXXA8X				Nitrile		67347-1
SP0411X2XXXXXT7X		Aluminum with PTFE Coating		EPR		67347-12
SP0411X2XXXXXT8X				Nitrile		67347-11
SP0411X2XXXXXE1X		Carbon Steel, Electroless Nickel Coating	Single Lip	Nitrile / Polyethylene	11.614" (295.0 mm)	67485-2
SP0411X2XXXXXE3X				Polyurethane / Polyethylene	11.437" (290.5 mm)	67485-1
SP0411X2XXXXXE5X				Nitrile / Polyethylene	12.281" (311.9 mm)	67485-3
SP0411X2XXXXXEAX			Double Lip	Polyurethane	11.609" (294.9 mm)	66732-1
SP0411X2XXXXEBX				EPR		66732-2
SP0411X2XXXXECX				Nitrile		66732
SP0411X2XXXXXS2X	Pipe Thread "D"	Stainless Steel	Single Lip	PTFE coated Nitrile / Polyethylene	11.437" (290.5 mm)	67518-1

DIMENSIONAL DATA

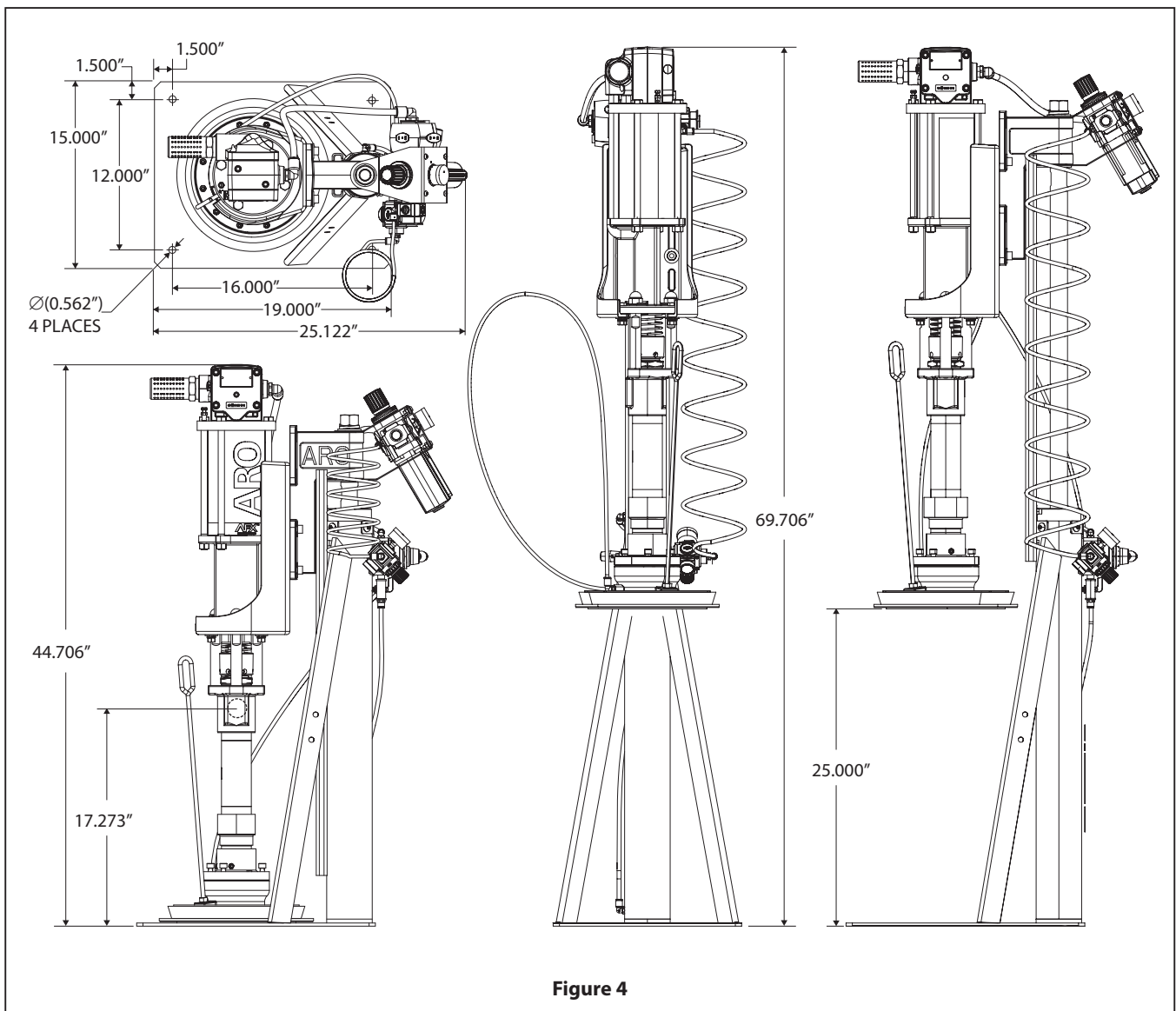


Figure 4