

OPERATOR'S MANUAL

651615-X-D

SPECIFICATIONS, SERVICE KITS, GENERAL INFORMATION
INCLUDE MANUALS: S-635 GENERAL INFORMATION MANUAL (PN 97999-635).

RELEASED: 1-10-03
REVISED: 2-3-04
(REV. C)

651615-X-D SINGLE POST LIFT / RAM

For use with 5 gallon drums (tapered or straight)



**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.
- **104158** for repair of 127112-000 regulator.
- **104176** for repair of F25241-100 filter.
- **104177** for repair of R27241-100 regulator.
- **116772** for repair of E512LM valve.

SPECIFICATIONS

| | |
|--------------------------|-------------------------------|
| Model Series | 651615-X-D |
| Maximum Working Pressure | 150 p.s.i. (10.3 bar) |
| Base Dimensions | 20" (508 mm) x 24" (609.6 mm) |
| Height (lowered) | 43-5/8" (1107.5 mm) |
| Height (raised) | 67-5/8" (1717.1 mm) |

GENERAL DESCRIPTION

The ARO model 651615-X-D single post lift / ram uses a 3-1/4" air powered cylinder which is welded to a heavy gauge base. It is normally used to raise and lower a fluid handling pump and follower in and out of a standard 5 gallon drum, or when used as a ram, it can force high viscosity flowable material into the pump inlet.

When properly secured, this unit has the ability to raise a pump to clear a standard 5 gallon drum. The operator is then able to easily remove the pump from the drum.

This lift / ram uses a hand lever 4-way control valve which controls the air necessary to raise and lower the lift / ram. This unit includes an auxiliary manual air valve which is used to supply a controlled amount of air pressure to the bottom of the follower plate. When the control valve is in the "up" position, a small amount of air pressure applied under the follower plate will help to raise the follower plate, pump and lift / ram by relieving the vacuum (see page 2).

IMPORTANT

This is one of the four documents which support the system. Replacement copies of these forms are available upon request.

- 651615-X-D MODEL OPERATOR'S MANUAL
- GENERAL INFORMATION - AIR OPERATED LIFTS AND RAMS
- 1251X1-XXX MINIATURE F-R-L OPERATOR'S MANUAL
- F252XX-XXX FILTER OPERATOR'S MANUAL
- R272X1-XXX REGULATOR OPERATOR'S MANUAL

PUMP DATA

651615-X-D SINGLE POST LIFT / RAM

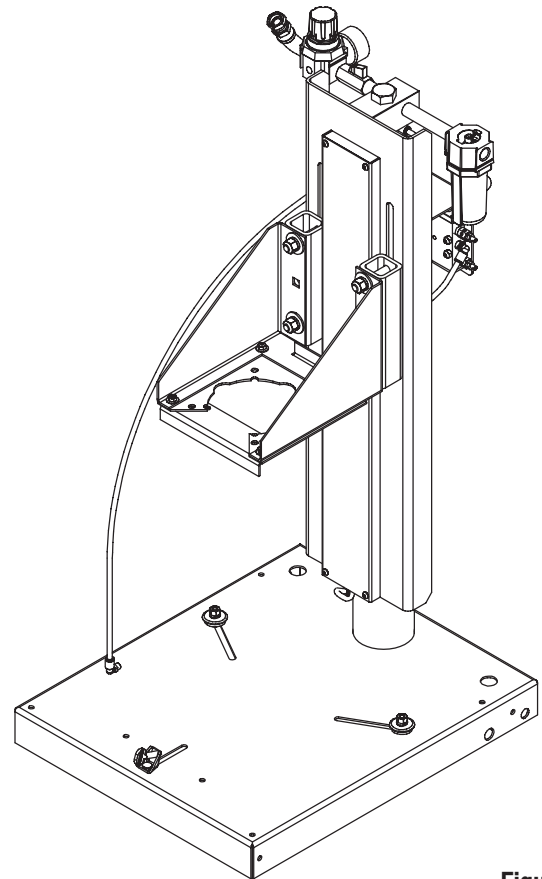


Figure 1

OPERATING AND SAFETY PRECAUTIONS

⚠ WARNING READ THE GENERAL INFORMATION MANUAL INCLUDED FOR OPERATING AND SAFETY PRECAUTIONS AND OTHER IMPORTANT INFORMATION.

⚠ WARNING DO NOT EXCEED MAXIMUM AIR INLET PRESSURE OF 150 P.S.I. (10.3 BAR).



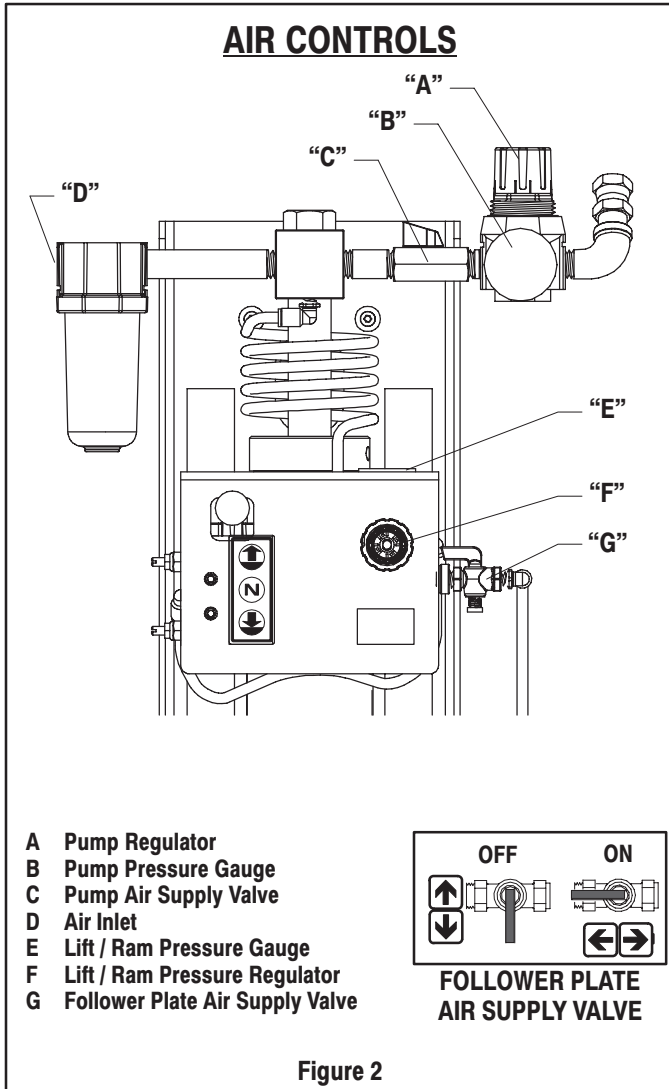
INSTALLATION

1. Establish the desired location for the lift / ram and pay attention to the work area above. This area above the lift must be open, without obstructions and safely away from any electrical devices.
2. Place the pump on the follower plate and align the pump and follower plate on the base and assemble the pump to the mounting bracket on the ram.

3. Assemble the air hose to the air motor inlet.
4. Install the check and follower plate air hose from the control valve.
5. Assemble the vent plug to the follower plate.

NOTE: The lift / ram was tested at the factory. The unit should be generally checked over for leakage because the fittings on the system may have loosened during shipment.

OPERATING INSTRUCTIONS



REFER TO PAGE 3:

1. 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. Use the stops on the base to center the 5 gallon drum. Tighten thumb screw to secure drum.
2. Lubricate lower follower wiper plate seal with grease. NOTE: Make certain the grease is compatible with the material being dispensed. This ensures a smooth fit into the pail as well as prevents curing type compounds from bonding to seal.
3. Check vent plug on 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 compound at this point.

TO LOWER LIFT:

⚠ WARNING PINCH HAZARD. Follower can descend quickly causing injury. Keep hands clear when aligning with container.

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. Adjust the air pressure on the pump regulator (turn pump regulator knob clockwise) until the pump begins to cycle.
4. Trigger gun to prime pump with material.

TO RAISE LIFT, (NORMAL OPERATION):

1. Adjust the follower plate air valve pressure up to approximately 8 p.s.i.g. (0.55 bar). DO NO OVERPRESSURIZE THE DRUM to avoid damage. NOTE: Air from this valve will only pass when the control valve is in the "up" position.
2. Shift the control valve lever to the "up" position.
3. Raise the lift / ram high enough to clear the height of the drum. Stop the lift / ram's upward travel by moving the control valve lever to the "neutral" (center) position.

TO CHANGE DRUM:

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

1. Unscrew thumb screw and remove old 5 gallon drum.
2. Place and center a new drum into position. Remove cover. Tighten thumb screw.

TO RAISE LIFT:

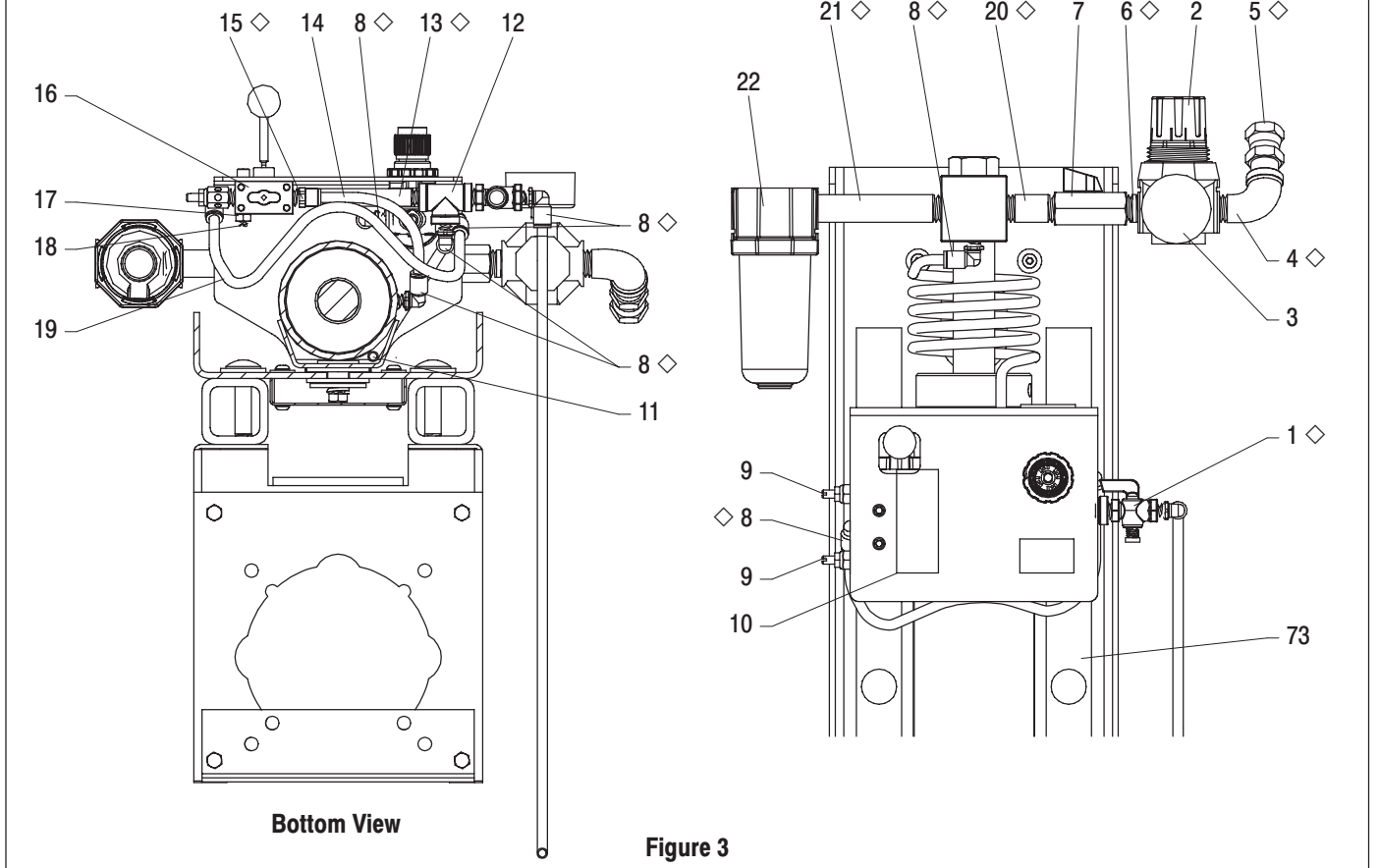
1. Take note of the pump / drum clearance above. Be certain the lift / ram is clear of any objects above. Also refer to "Operating and Safety Precautions" found in "Lifts and Rams General Information Manual" (pn 97999-635).
2. Connect the air supply (150 p.s.i. max.) to the air inlet. Adjust air pressure on lift / ram pressure regulator (turn knob clockwise) to 20 p.s.i. (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 / ram's upward travel by moving the control valve lever to the "neutral" (center) position.

PARTS LIST

| Item | Description (size in inches) | Qty | Part No. |
|------|--|-----|------------|
| 1 | Shut-Off Valve (1/4 - 18 N.P.T.) | (1) | Y28-1 |
| 2 | Regulator (1/2 - 14 N.P.T.) | (1) | R27241-100 |
| 3 | Gauge (0 - 160 p.s.i.)(0 - 11 bar) | (1) | 100067 |
| 4 | 90° Street Elbow (1/2 - 14 N.P.T.) | (1) | Y43-4-C |
| 5 | Swivel Union (1/2 - 14 N.P.T.F.) | (1) | 75366 |
| 6 | Nipple (1/2 - 14 N.P.T. x 1-1/8") | (1) | Y27-4-C |
| 7 | Valve (1/2 - 14 N.P.T.) | (1) | 104077-4 |
| 8 | Elbow (1/4 - 18 N.P.T. male x 5/16" o.d. tube) | (8) | 59756-158 |
| 9 | Muffler (1/4 - 18 N.P.T.) | (2) | 20313-2 |
| 10 | Label | (1) | 92449 |
| 11 | Tubing (5/16" o.d. x 35") | (1) | 94980-() |
| 12 | Tee Pipe Fitting (1/4 - 18 N.P.T.) | (1) | Y43-32-C |
| 13 | Nipple (1/4 - 18 N.P.T. x 4-1/2") | (1) | Y44-16-C |

| Item | Description (size in inches) | Qty | Part No. |
|------|--|-----|------------|
| 14 | Tubing (5/16" o.d. x 6-1/2") | (1) | 94980-() |
| 15 | Connector (1/4 - N.P.T. x 5/16" o.d. tube) | (1) | 59474-158 |
| 16 | "E" Series 4-Way Valve | (1) | E512LM |
| 17 | Nut (1/4" - 20) | (2) | Y12-4-C |
| 18 | Cap Screw (1/4" - 20 x 1-1/2") | (2) | Y99-44 |
| 19 | Tubing (5/16" o.d. x 12" long) | (1) | 94980-() |
| 20 | Nipple (1/2 - 14 N.P.T. x 2") | (1) | Y44-31-C |
| 21 | Nipple (1/2 - 14 N.P.T. x 4-1/2") | (1) | Y44-36-C |
| 22 | Filter (1/2 - 14 N.P.T.) | (1) | F25241-100 |
| 23 | Pipe Plug (1/8 - 27 P.T.F.)(not shown) | (1) | Y227-2-L |
| 24 | Pipe Plug (1/4 - 18 P.T.F.)(not shown) | (1) | Y227-3-L |
| | <input type="checkbox"/> Bulk Tubing (5/16" o.d. x 100') | (1) | 94980-100 |

◇ Apply anaerobic pipe thread sealant to male threads at assembly.



PARTS LIST

| Item | Description (size in inches) | Qty | Part No. |
|------|---|-----|--------------|
| 25 | Washer (9/16" i.d. x 1-3/8" o.d. x 1/8") | (4) | Y13-8-C |
| 26 | Lock Washer (1/2") | (4) | Y14-816-C |
| 27 | Nut (1/2" - 13) | (4) | Y12-8-C |
| 28 | Packing (1-7/8" o.d. x 1/8" thick) | (2) | 95643 |
| 29 | Washer (1-11/16" o.d. x .120" thick) | (1) | 71151 |
| 30 | Lock Washer (3/8") | (1) | Y14-616-C |
| 31 | Cap Screw (3/8" - 16 x 3/4") | (1) | Y6-63-C |
| 32 | Screw (7/8" - 14 x 5") | (1) | 94007 |
| 33 | Stop | (1) | 94008 |
| 34 | Piston | (1) | 94005 |
| 35 | Back-up | (1) | 94123 |
| 36 | Stop | (1) | 95172 |
| 37 | Piston Rod | (1) | 95171 |
| 38 | Miniature Regulator (1/4 - 18 N.P.T.) | (1) | 127122-000 |
| 39 | Nut | (1) | 104094 |
| 40 | Gauge (0 - 160 p.s.i. / 0 - 11 bar) | (1) | 29850 |
| 41 | Cap | (1) | 95173 |
| 42 | Bolt (7/8" - 14 x 2") | (1) | 95145 |
| 43 | Channel Assembly | (1) | 67312 |
| 44 | Self-Storing Hose (5/16" i.d. x 52" long) | (1) | 628005-() ● |
| 45 | Retaining Ring (2.210" o.d.) | (1) | Y147-200 |
| 46 | Retaining Washer | (1) | 90509 |
| 47 | Seal | (1) | 94010 |
| 48 | Retaining Spring Wire | (1) | 90503 |
| 49 | "O" Ring (3/16" x 3-1/4" o.d.) | (1) | Y325-336 |
| 50 | Carriage Bolt (1/2" - 13 x 3-1/4") | (4) | Y84-810-C |
| 51 | Bracket | (1) | 93968 |
| 52 | Nut (1/4" - 20) | (4) | Y12-4-C |
| 53 | Washer (1/4") | (4) | Y13-4-C |
| 54 | Cap Screw (1/4" - 20 x 5/8") | (4) | Y6-42-C |
| 55 | Tubing (5/16" o.d. x 31") | (1) | 94980-() ■ |
| 56 | Adapter Plate (models 651615-D) | (1) | 91396 |
| | (models 651615-1-D) | (1) | 95748 |
| 57 | Base Assembly | (1) | 67291 |

| Item | Description (size in inches) | Qty | Part No. |
|------|--|-----|------------|
| | Stop & Bracket Assembly (includes items 58 - 64) | (1) | 67189 |
| 58 | Bucket Stop | (2) | 90419 |
| 59 | Nut (3/8" - 16) | (3) | Y12-6-C |
| 60 | Carriage Bolt (3/8" - 16 x 1") | (2) | Y84-601-C |
| 61 | Lock Washer (3/8") | (2) | Y14-616-C |
| 62 | Bracket Assembly | (1) | 67182 |
| 63 | Thumb Screw (3/8" - 16 x 1-1/2") | (1) | Y66-378-C |
| 64 | Lock Washer (3/8") | (1) | Y117-616 |
| 65 | Elbow (1/8 N.P.T. x 5/16" o.d. tube) | (1) | 59756-58 |
| 66 | Cover | (1) | 95773 |
| 67 | Cap Screw (1/4" - 20 x 1/2") | (4) | Y211-143 |
| 68 | End Block | (2) | 95778 |
| 69 | Support | (2) | 95782 |
| 70 | Cap Screw (1/4" - 20 x 1/2") | (4) | Y211-143 |
| 71 | Washer (1/4") | (4) | Y13-4-C |
| 72 | Brace | (1) | 95795 |
| ★ 73 | Bolt Plate (see page 3) | (2) | 95801 |
| | (alternate bracket orientation, see page 7) | (2) | 95797 |
| 74 | Spacer Plate (see page 7) | (1) | 95805 |
| | NOT SHOWN | | |
| 75 | 1/2" I.D. Hose (1/2 - 14 N.P.T. x 24" long) | (1) | 621501-2 |
| 76 | Adapter (1/2 - 14 N.P.T. x 1/4 - 18 N.P.T.) | (1) | Y167-5 |
| 77 | 90° Street Elbow (1/2 - 14 N.P.T.) | (1) | Y43-4-C |
| ∞ 78 | Cap Screw (3/8" - 16 x 3/4") | (4) | Y6-63-C |
| ∞ 79 | Washer (3/8") | (4) | Y13-6-C |
| 80 | 90° Street Elbow (1/4 - 18 N.P.T.) | (1) | Y43-2-C |
| * 81 | Nut (1/4" - 20) | (4) | 93828 |
| ∞ 82 | Cap Screw (3/8" - 16 x 1-1/4") | (4) | Y6-66-C |
| ■ | Bulk Tubing (5/16" o.d. x 100') | (1) | 94980-100 |
| ● | Bulk Tubing (5/16" o.d. x 100') | (1) | 628005-100 |

★ If both bolts (50) on each side are mounted in the same vertical slot, use 95797 bolt plate (73).
 If both bolts (50) on each side are mounted in different vertical slots, use 95801 bolt plate (73).

∞ Used on models 651615-D only.

* Used on models 651615-1-D only.

PARTS LIST

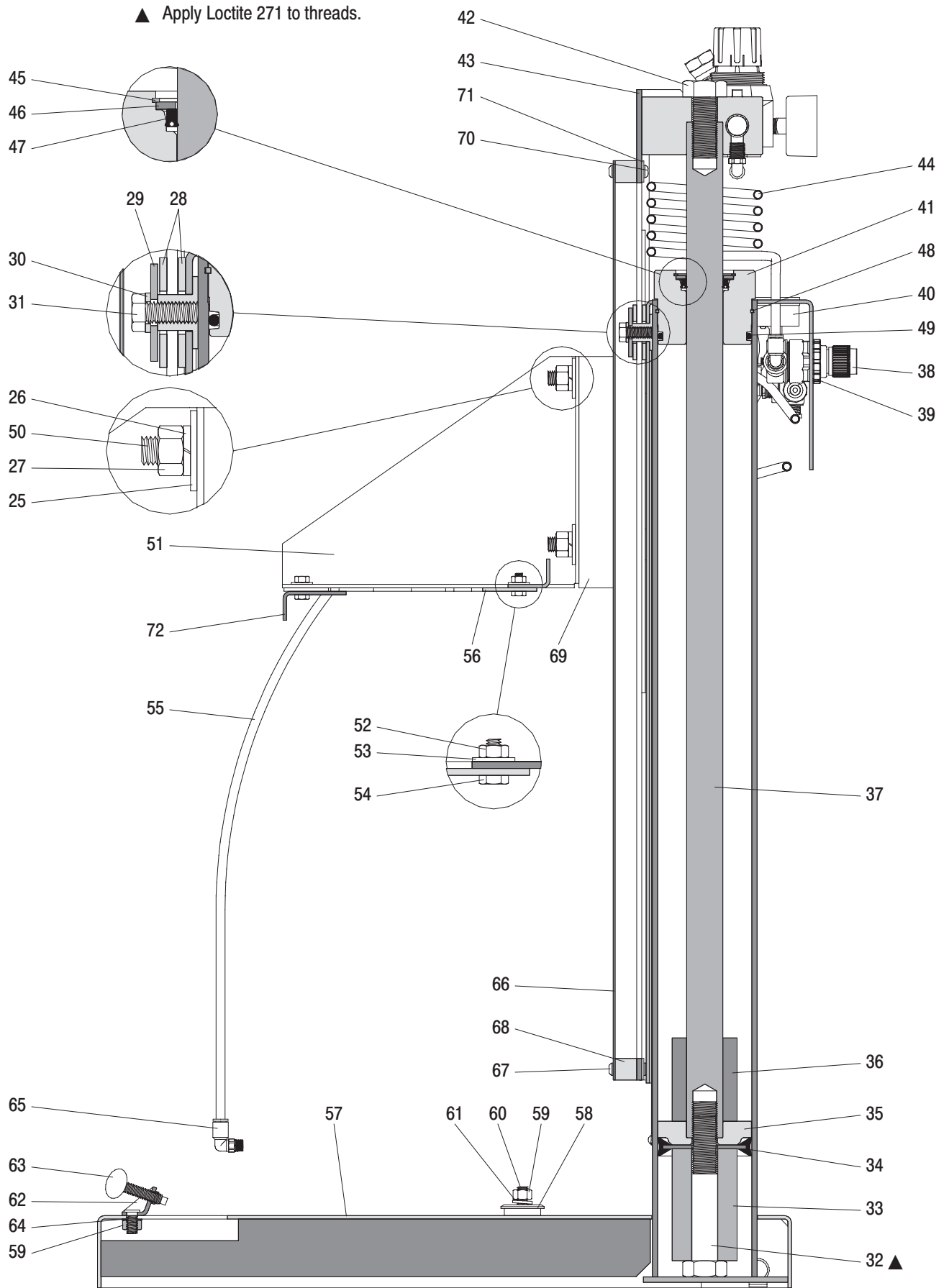
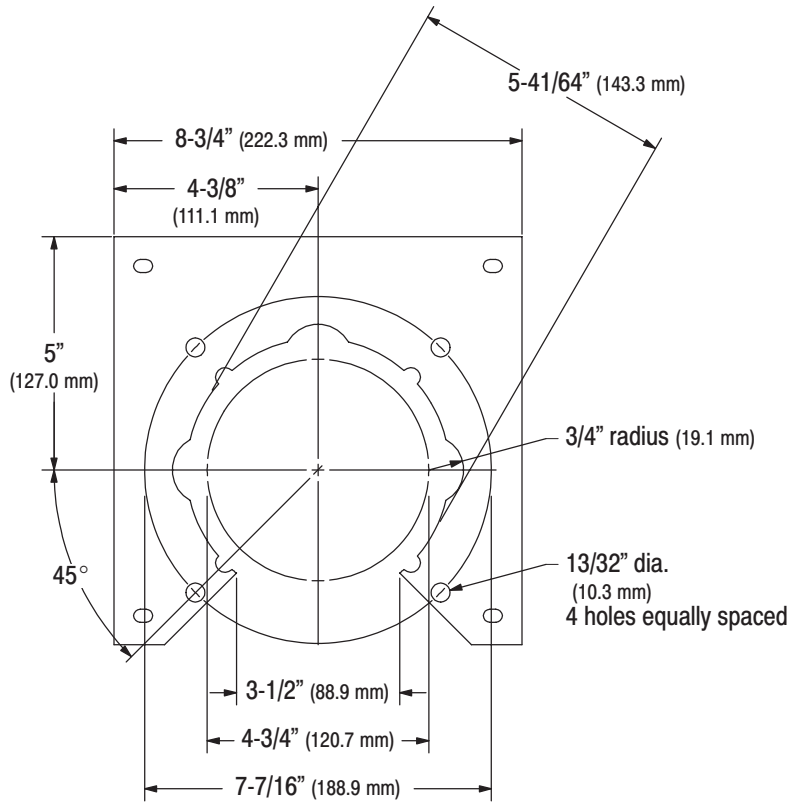


Figure 4

91396 ADAPTER PLATE



95748 ADAPTER PLATE

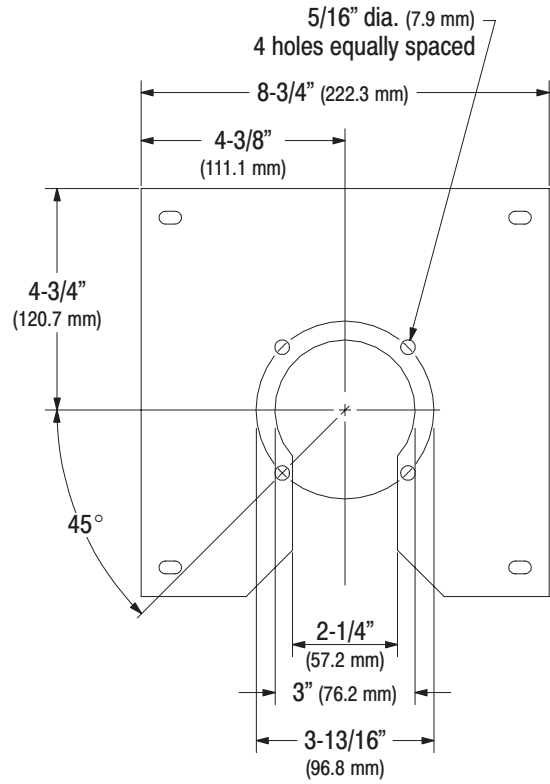


Figure 5

66713 PORTABILITY KIT

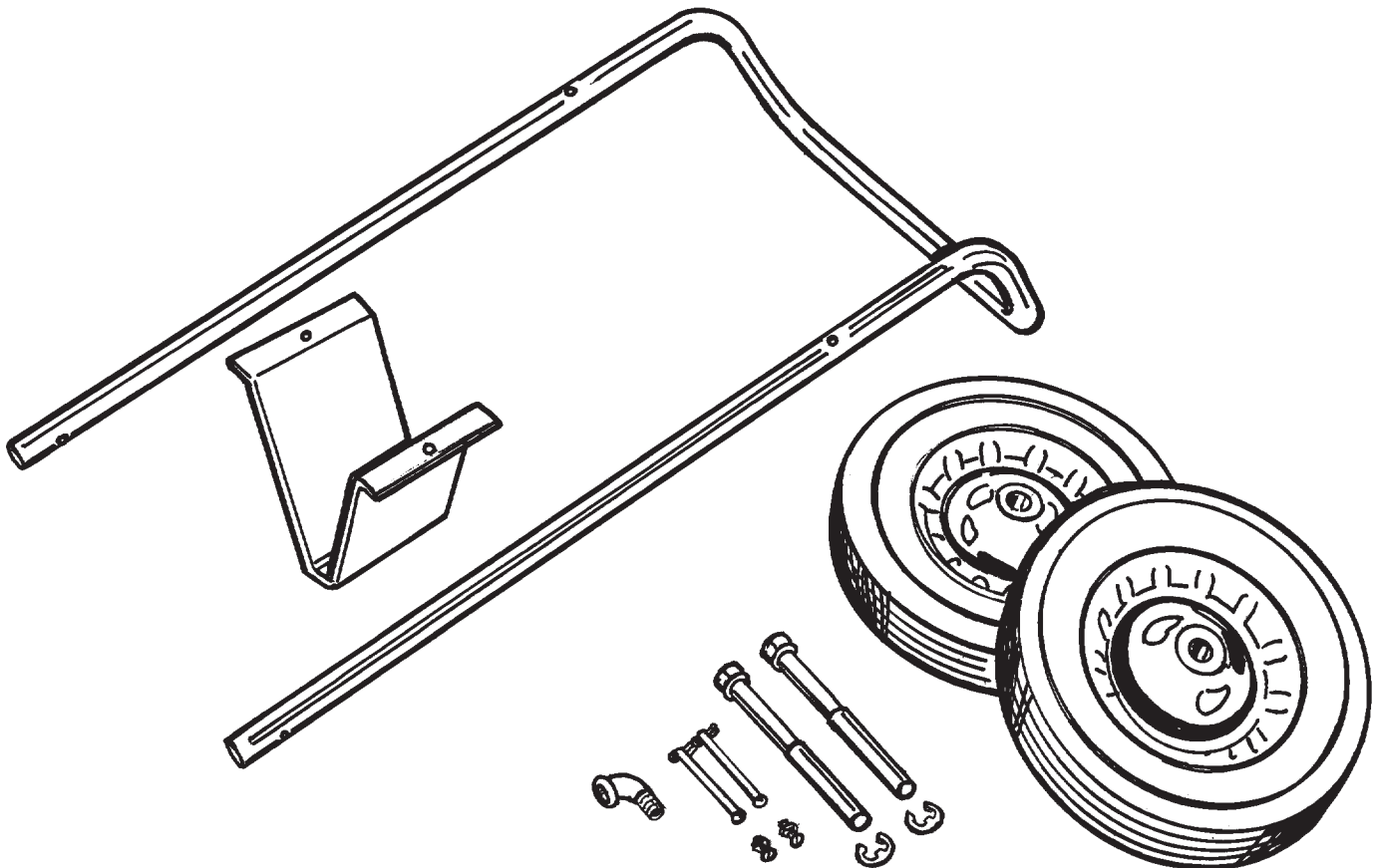
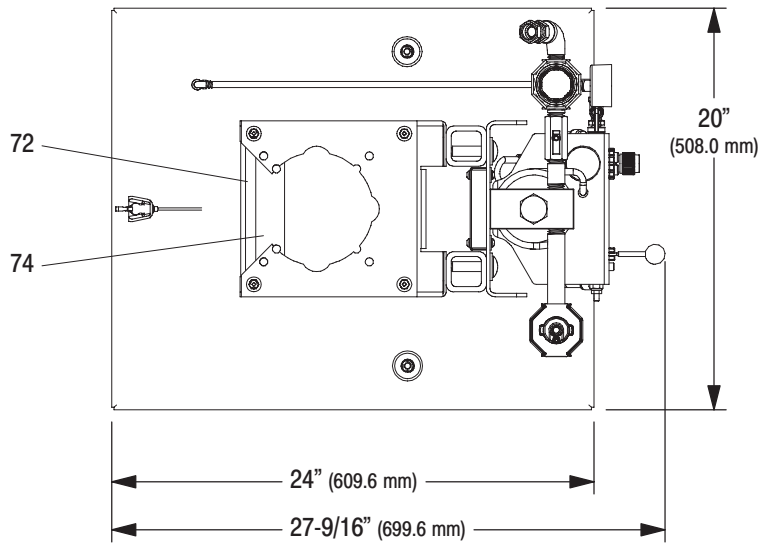


Figure 6

DIMENSIONAL DATA

View showing alternate bracket (51) orientation.



- ★ If both bolts (50) on each side are mounted in the same vertical slot, use 95797 bolt plate (73).
- If both bolts (50) on each side are mounted in different vertical slots, use 95801 bolt plate (73).

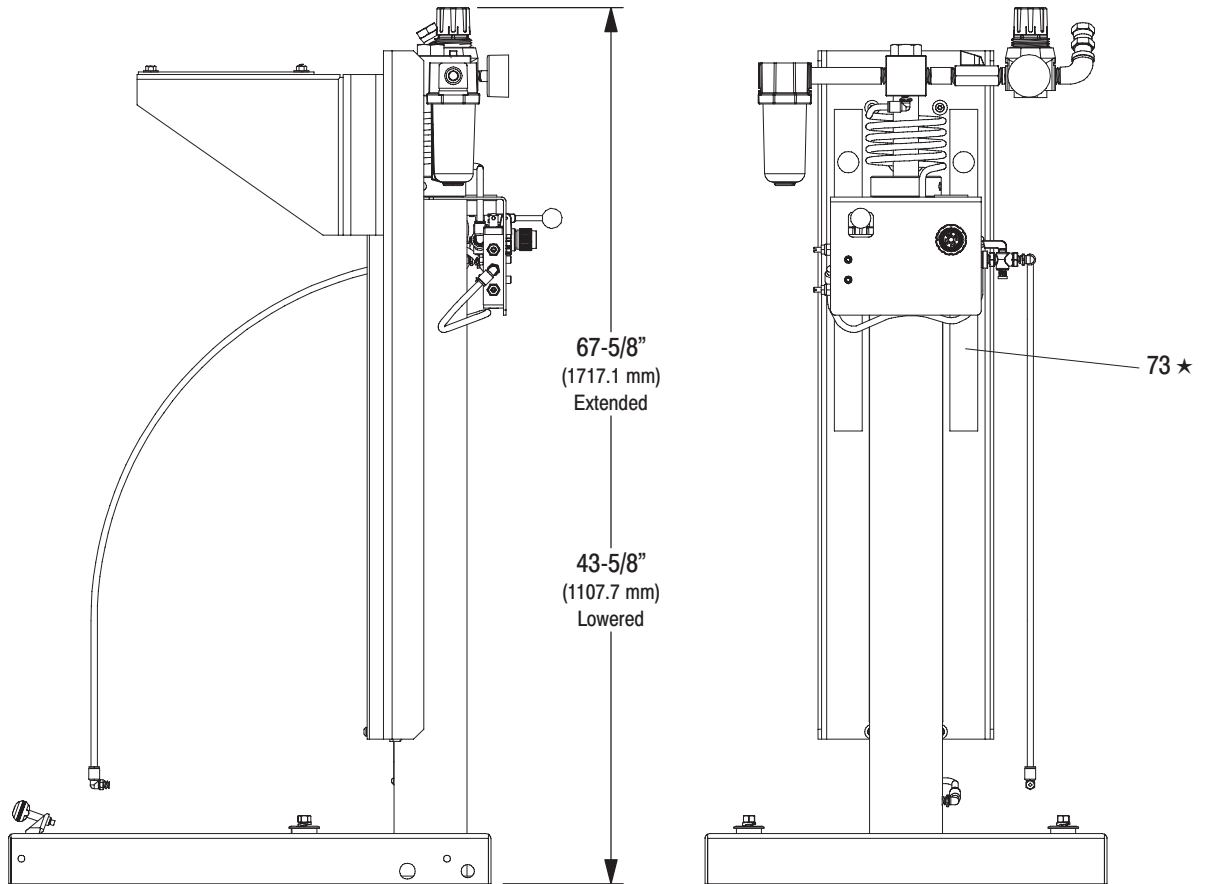


Figure 7

