

OPERATOR'S MANUAL

651614-X

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

RELEASED: 3-29-94
REVISED: 9-15-00
(REV. B)

SINGLE POST LIFT / RAM

For use with 5 & 55 Gallon Drums

SEE MODEL LIST BELOW



**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.

THIS MANUAL COVERS THE FOLLOWING MODELS

MODEL	TYPICAL APPLICATION
651614-1	3-1/4" TO 6" AIR MOTORS (TIE ROD PUMPS)
651614-2	8" TO 12" AIR MOTORS (TIE ROD PUMPS)
651614-3	SMALL HYDRAULIC MOTORS
651614-4	LARGE HYDRAULIC MOTORS

SERVICE KITS

Valve Rebuild Kit - 116722

Cylinder Rebuild Kit - RK2425

Refer to page 7 for parts list.

GENERAL DESCRIPTION

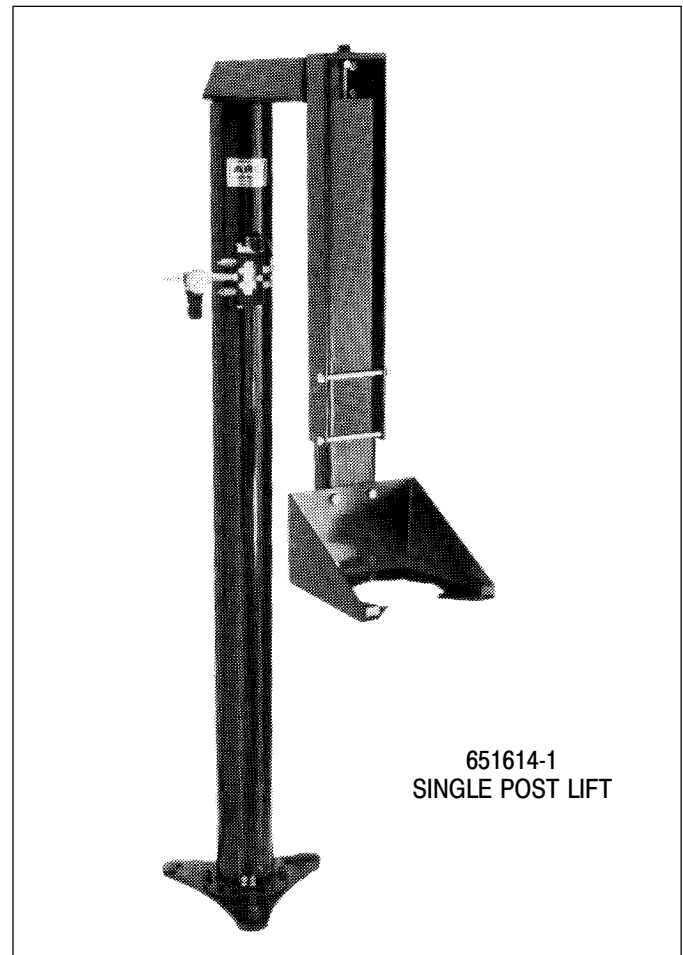
The ARO Model 651614-X Single Post Lift / Ram uses an air-powered cylinder to raise and lower a fluid handling pump in and out of standard 5 or 55-gallon drum. It is typically used in conjunction with a follower plate which connects to the pump lower end (not included). It may also be used with a drum cover if the pump is connected to the lift.

Various pump mounting options are available to fit many of the ARO fluid handling pumps. The model chart above shows the lift and bracket assemblies and which pump motors they will generally accommodate.

When properly anchored in concrete, this unit has the ability to raise a pump to clear a standard 55-gallon drum, and to rotate 360° in order to access up to three drums. A threaded vertical adjustment rod is used to accurately position the pump in relationship to the drum. When a pump is used with the lift, the operator is able to easily remove the pump from a drum. In most applications it is used to change from one drum to another.

This Lift / Ram uses a hand lever 4-way control valve which controls the air necessary to raise and lower the lift. This valve exhausts through exhaust speed controls.

An optional Air Assist Kit 65116 is available and recommended with follower plates. It is used to supply air pressure to the bottom of the follower plate. When the Control Valve is in the "UP" position, the Air Assist Kit will help to raise the follower plate, pump and lift by relieving the vacuum. The kit includes an air valve, hose, check valve and necessary hardware. Refer to page 6.



651614-1
SINGLE POST LIFT

OPERATING AND SAFETY PRECAUTIONS

- ◇ Read and heed all Warnings, Cautions, and Safety Precautions before operating.
- ◇ Use only genuine ARO replacement parts to assure compatible pressure rating and longest service life.

⚠ WARNING ANCHOR THE LIFT BASE SECURELY IN CONCRETE. AN IMPROPERLY SECURED LIFT IS UNSAFE. Do not attempt to use the lift until all possible measures have been taken to insure that the lift has been properly installed and the base is securely fastened. It is the duty of the installer to provide a minimum of 5/8" diameter anchor bolts/studs (not included) and for them to be securely embedded in concrete which is more than 2" thick.

⚠ WARNING PREVENT ELECTRIC SHOCK. Be certain the area above the lift is clear of electrical fixtures, devices and wiring. Examine the working area and take necessary action to assure adequate clearance for the lift and pump assembly to raise to the fullest limit and function properly.

⚠ WARNING PINCH HAZARD. Follower can descend quickly, causing injury. Keep hands clear when aligning with container. Do not rotate the pump to the next drum by grasping the follower plate. In the raising and lowering function, the speed is controlled by the Exhaust Speed Controls. In a situation where the lift could get hung up or the descent is restricted temporarily, the lift could in some situations drop rapidly and be hazardous. If the follower plate does not enter the drum properly, DO NOT ATTEMPT TO REPOSITION IT WITH YOUR HANDS; raise the lift and restart.

⚠ WARNING STAND CLEAR. When raising or lowering the lift, it is good safety practice to stay clear of a raised lift and operate it from a safe position.

⚠ WARNING HAZARDOUS PRESSURE. Do not exceed maximum inlet air pressure of 150 psi (10.3 bar). Operating lift at higher pressure may cause lift damage and/or personal injury and/or property damage.

- Do not service or clean pump, hoses or dispensing valve while the system is pressurized.
- Know the pressure limitations of the drum and regulate the air pressure within safe limits when supplying air to follower plate.

⚠ CAUTION Be certain all operators of this equipment have been trained for safe working practices, understand it's limitations, and wear their safety goggles / equipment as required.

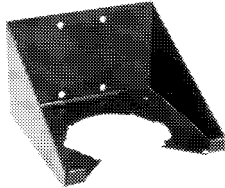
BRACKET ASSEMBLY PARTS LIST

DESCRIPTION (QTY) (SIZE)

67067 MOUNTING BRACKET ASM

- BRACKET (1)
- CAP SCREW (4) (3/8" - 16 X 1-1/2")
- NUT (4) (3/8" - 16)
- WASHER (4) (3/8")

FIGURE 1



67067 BRACKET

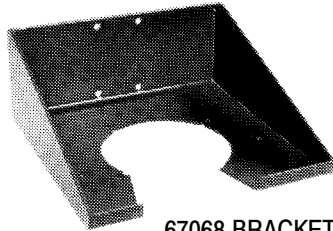
67069 ADAPTER KIT

- PLATE (1)
- CAP SCREW (4) (1/4" - 20 x 3/4")
- NUT (4) (1/4" - 20)

67068 MOUNTING BRACKET ASM

- BRACKET (1)
- CAP SCREW (4) (3/8" - 16 x 1-3/4")
- NUT (4) (3/8" - 16)
- WASHER (3/8")

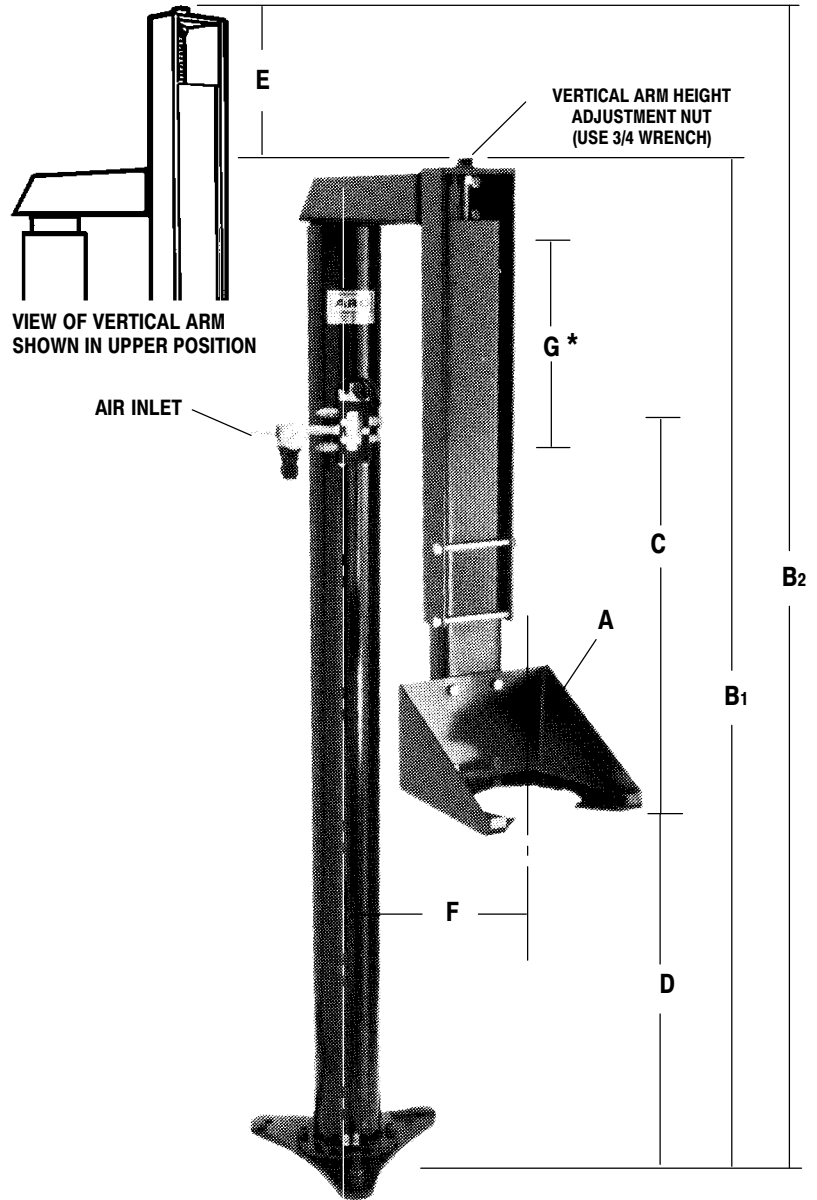
FIGURE 2



67068 BRACKET

67070 ADAPTER KIT

- PLATE (1)
- CAP SCREW (4) (1/4" - 20 x 3/4")
- NUT (4) (1/4" - 20)



Maximum Inlet Air Pressure 150 PSI (10.3 bar)

Maximum Lift Capacity 230 lbs

FIGURE 3

MODEL	"A" BRACKET / ADAPTER - APPLICATION	"B ₁ " MINIMUM / MAXIMUM HEIGHT	"B ₂ " MINIMUM / MAXIMUM HEIGHT	"C" LIFT	"D" MINIMUM / MAXIMUM HEIGHT	"E"	"F" CTR / CTR	"G"* ARM TVL
651614-1	67067 - 3-1/4" TO 6" AIR MOTORS	63 / 100	73 / 110	37	24 / 40	10	16	16
651614-2	67068 - 8" TO 12" AIR MOTORS	63 / 100	73 / 110	37	24 / 40	10	16	16
651614-3	67067 / 67069 - SMALL HYD ADAPTER KIT	63 / 100	73 / 110	37	24 / 40	10	16	16
651614-4	67068 / 67070 - LARGE HYD ADAPTER KIT	63 / 100	73 / 110	37	24 / 40	10	16	16

* In addition to the regular Vertical Arm travel adjustment, it also has 3 mounting locations.

LIFT / RAM INSTALLATION

⚠ WARNING Failure to properly install the lift assembly can result in severe personal injury and property damage. Read the warning on page 2.

Note: Concrete anchors and retaining fasteners are not included. They must be supplied by the installer or the customer and must be of good quality and condition.

1. Establish the desired location for the lift and pay special attention to work area required to swing the pump and lift around the full 360° diameter. The area above the lift work area must be clear and without obstructions and safely away from anything electrical.
2. **THE LIFT MOUNTING PLATE BASE MUST BE SECURELY ANCHORED TO THE CONCRETE FLOOR.** A minimum of 5/8" diameter anchor bolts / studs embedded in **AT LEAST 2"** of good concrete is required. The mounting plate itself can be used for a template for establishing the proper anchor locations. Refer to dimensional data for locations found on pages 3 & 8.

3. Secure the lift base mounting plate to the anchors using three sets of nuts and lock washers.

INSTALLATION NOTE: The mounting plate can be detached and used as a guide (for anchoring) by removing the six (6) flange bolts and by disconnecting the (20,21) inside clevis pin, clip retainer from the cylinder. It must then be re-attached prior to installing

IMPORTANT: DO NOT PROCEED UNTIL THE BASE IS SECURE.

NOTE: The two (2) 5" Bolts should be loose enough to allow vertical arm rod adjustment and should then be tightened when the final position is satisfactory.

4. Assemble the pump bracket to the channel using the fasteners provided. See the views below for the different configurations.
5. Mount the pump and follower plate assembly (when used) securely into position using the mounting holes in the bracket and the adapter plate as required. See Fig. 3.
6. The height / clearance of the pump to the drum can be adjusted using the Vertical Arm Adjustment Nut. Fig. 3.

Typical System with Lift, Pump, Follower Plate and Air Assist Kit.
Note: Vertical Arm is shown in the lower position to accommodate shorter pumps.

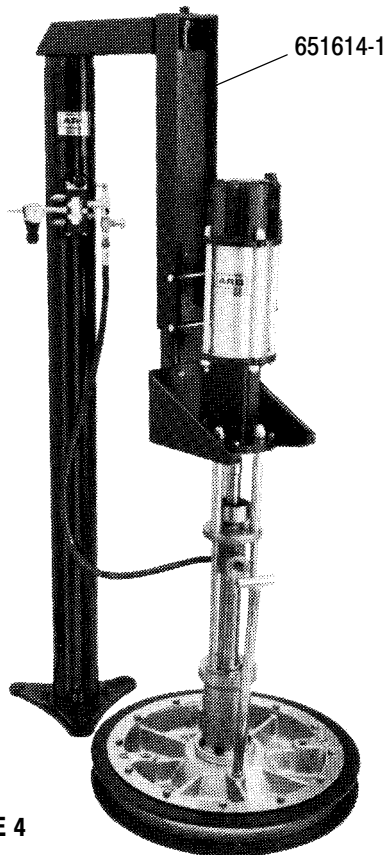


FIGURE 4

Typical System with Lift, Pump, Follower Plate and Air Assist Kit.
Note: Vertical Arm is shown in the upper position to accommodate taller pumps.

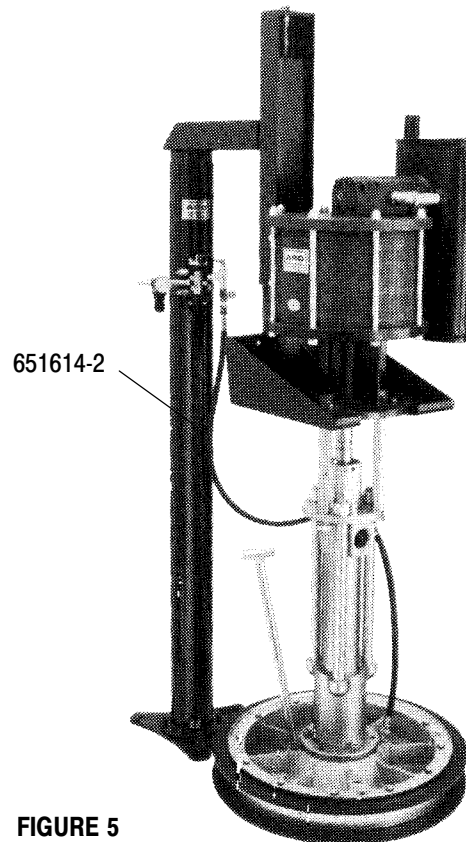


FIGURE 5

OPERATING INSTRUCTIONS

OPERATING INSTRUCTIONS / INITIAL SETUP PROCEDURE

WARNING: BE CERTAIN HEAD, HANDS AND ARMS ARE CLEAR OF ASCENDING AND DESCENDING LIFT. Refer to OPERATING AND SAFETY PRECAUTIONS on page 2.

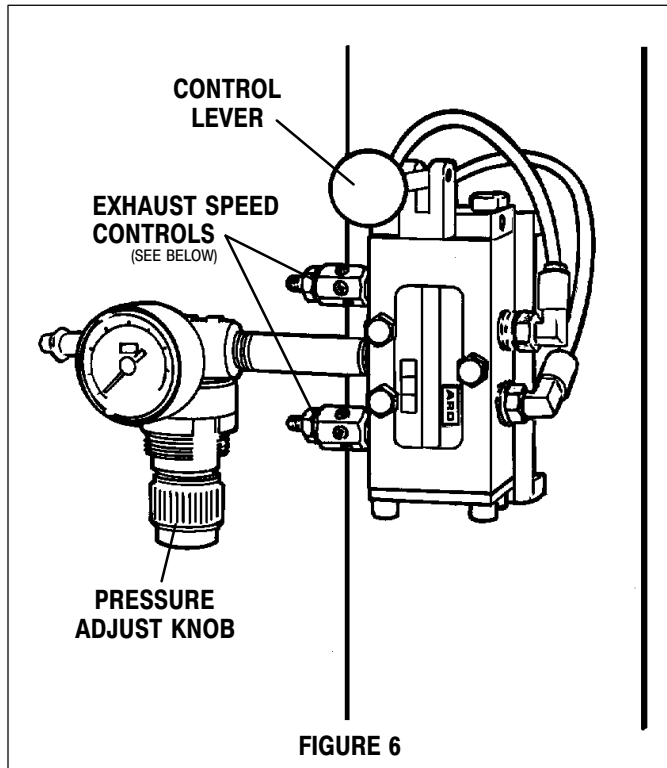


FIGURE 6

EXHAUST SPEED CONTROLS: These meter the flow of air from the valve exhaust ports. The rate of rise or descent of the lift may be increased or decreased by adjusting the screw. The adjusted position can then be locked in place by a lock nut.

TO RAISE LIFT, (THE FIRST TIME):

1. Take note of the pump / drum clearance above. If additional clearance is needed to clear the drum, lower the lift, loosen the Vertical Arm (15) bolts, turn the Vertical Arm Adjustment Nut and re-tighten the (15) bolts.
2. Connect the air supply (150 PSI MAX) to the air inlet.
3. Shift the control valve lever to the "UP" position. Be certain the lift is clear of any objects above. Also refer to OPERATING AND SAFETY PRECAUTIONS found on page 2.
4. Raise the lift high enough to clear the height of the drum. Stop the lift upward travel by moving the control valve lever to the (center) NEUTRAL position.

TO RAISE LIFT, (NORMAL OPERATION):

1. **If an Air Assist Kit is not used** (See Fig 6) remove the Follower Plate vent plug to prevent a build up of vacuum when raising the follower.
2. **If an Air Assist Kit is being used** (See Fig 7), adjust the Air Valve pressure up to approximately 8 psig. **DO NO OVERPRESSURIZE THE DRUM** to avoid damage.
3. Shift the control valve lever to the UP position.
4. Raise the lift high enough to clear the height of the drum. Stop the lift upward travel by moving the control valve lever to the (center) NEUTRAL position.

TO CHANGE DRUMS:

NOTE: The raised lift control valve should be in the NEUTRAL position.

1. Place a new drum into position or rotate the lift and pump to the next drum position.

TO LOWER LIFT:

⚠ WARNING STAND CLEAR. When raising or lowering the lift. Read the warning on page 2.

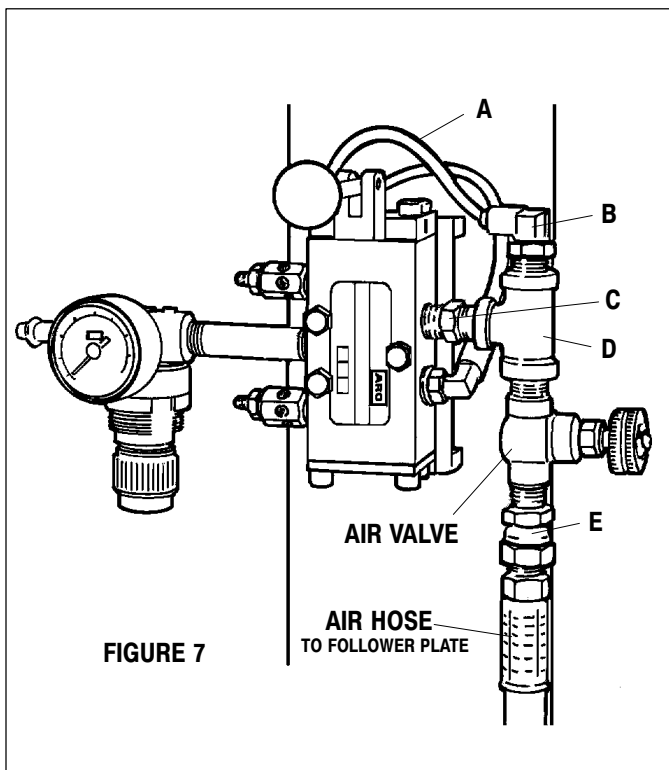
⚠ WARNING PINCH HAZARD. Follower can descend quickly causing injury. Keep hands clear when aligning with container. Read the warning on page 2.

NOTE: When follower plate lowers into drum, be certain the Follower Plate vent plug has been removed (if applicable) so that the air trapped between the follower and the material is allowed to escape.

NOTE: The lift 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 (when Air Assist Kit is not used).

65116 AIR ASSIST KIT (OPTIONAL)



65116 AIR ASSIST KIT INSTALLATION: (RECOMMENDED WITH FOLLOWER PLATES)

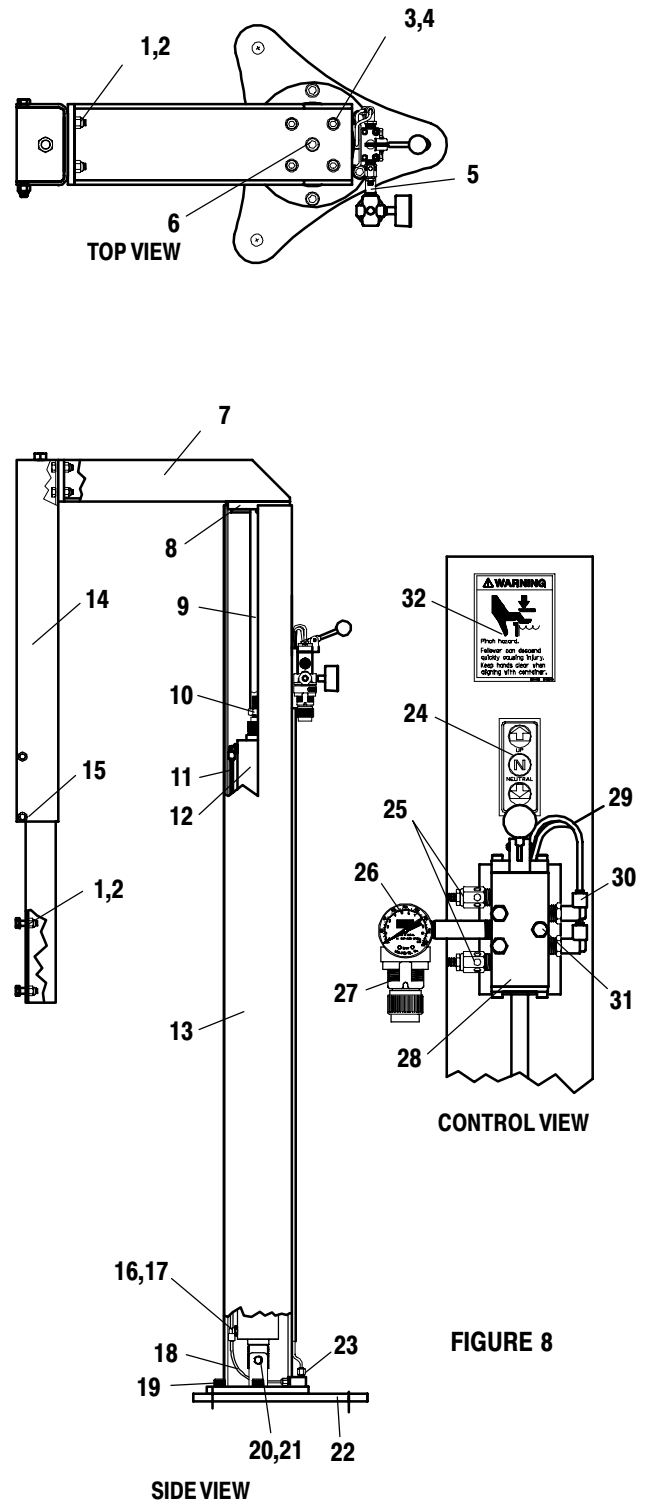
NOTE: Once the pressure has been set on the Air Valve the Air Assist feature will then activate when the Control Valve is in the "UP" position.

1. Disconnect the air supply from the lift.
2. Remove the control tube (A) from the (B) 90° fitting.
3. Remove the (B) 90° fitting from the control valve.
4. Attach the (C) nipple and (D) pipe tee to the valve.
5. Attach the (B) 90° tube fitting to the (D) pipe tee.
6. Re-attach the (A) tube to the (B) 90° fitting.
7. Attach the Air Valve and (E) swivel to the pipe tee.
8. Attach the Check Valve and Hose to the Follower Plate.
9. Connect the Hose to the Swivel.

PARTS LIST

ITEM	DESCRIPTION (SIZE IN INCHES)	(QTY)	PART NO.
1	Screw (3/8" - 16 x 1)	(8)	Y6-65-C
2	Stop Nut, Elastic (3/8" - 16)	(8)	Y108-3-Z
3	S'kt Head Screw (3/8" - 16 x 3/4")	(4)	Y99-61
4	Lockwasher (3/8")	(4)	Y14-616
5	Nipple (1/4 NPT x 2-1/2")	(1)	Y44-12-C
6	S'kt Head Screw (1/2" - 13 x 1-1/4)	(1)	Y99-83
7	Bracket Asm. (2-3/4 x 4-3/8 x 15)	(1)	67071-4
8	Inner Tube Asm. (4-1/4 x 54)	(1)	67071-8
9	Rod Asm. (13-1/4")	(1)	67071-7
10	Nut (3/4" - 10)	(1)	Y12-112-C
11	Air Line Tubing (5/32 x 44-1/2)	(1)	44632-() ○
12	Cylinder ☆	(1)	2425-1009-370
13	Outer Tube Asm.	(1)	67071-6
14	Vertical Adj. Bracket Asm.	(1)	67071-3
15	Bolt (3/8" - 16 x 5)	(2)	-----
16	Face Bushing (1/4" - 18 x 3/8" - 18)	(2)	93948-29
17	Air Line Fitting (1/4 - 18 NPT 90°)	(2)	93948-30
18	Air Line Tubing (5/32" x 6")	(1)	44632-() ○
19	S'kt Head Screw (1/2" - 13 x 1")	(6)	Y99-82
20	Clevis Pin (7/16" x 1-1/2")	(1)	5814
21	Clip Retainer (.337 I.D.)	(2)	Y180-43
22	Mounting Plate	(1)	67071-5
23	Straight A'line Fitting (1/4 NPT)	(4)	59688-4
24	Directional Decal	(1)	92449
25	Exhaust Speed Control	(2)	20313-2
26	Air Line Gauge	(1)	29850
27	Air Line Regulator	(1)	127122-000
28	"E" Series 4-way Valve ■	(1)	E512LM
29	Air Line Tubing (5/32" x 54-1/2")	(2)	44632-() ○
30	90° Legris Fitting (1/4 NPT)	(2)	59745-154
31	Screw (1/4" - 20 x 1/4")	(3)	Y6-46-C
32	Decal, Pinch Warning	(1)	93922
■	Repair kit available for Valve - 116722		
☆	Repair kit available for Cylinder - RK2425		
○	Bulk Tubing (5/32" o.d. x 100') - 59690-104		

651614 LIFT



DIMENSIONAL DATA

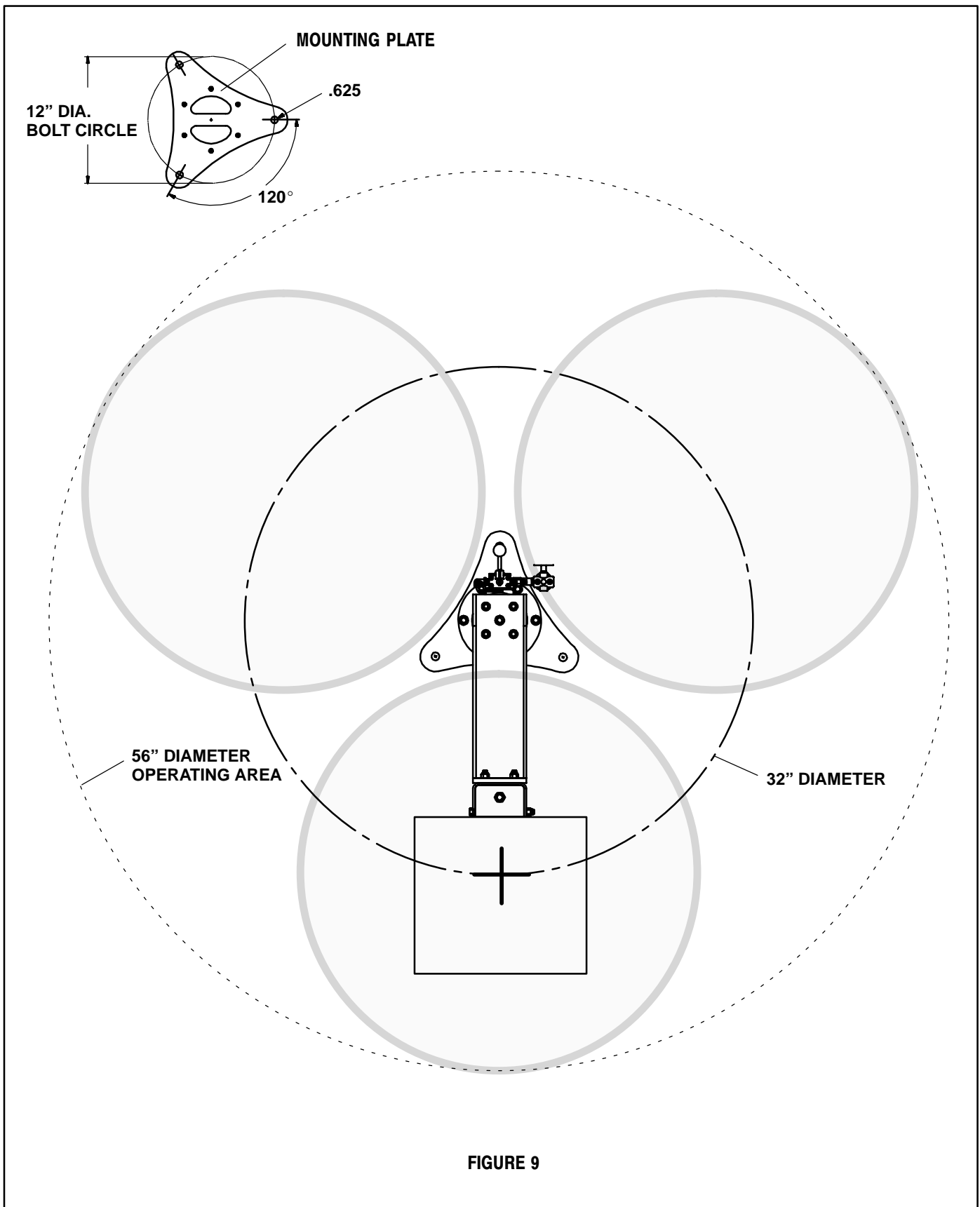


FIGURE 9