CONVERSION KIT

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

62020-X
62046-X

RELEASED:6-13-91
REVISED:
IPP/PSE

CONTROL ASM.

This manual covers: 62020-X Head Asm.
62046-X Kit Asm.

ADJUSTABLE STROKE CONVERSION KIT

(FOR USE WITH 2" DIFFERENTIAL STYLE TRANSFER PUMPS)

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

ELECTRICAL ADJUSTABLE STROKE KIT

PNEUMATIC ADJUSTABLE STROKE KIT

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INSTALLATION

The 62046-X Control Asm. comes unassembled in a carton, the 62020-X comes complete except for electrical/air signal connections.

The installation must comply with all applicable fire and safety codes and procedures.

The 62046-X Control Asm. will adapt to many ARO pump models used in a wide variety of situations and material applications. The following text will refer to both the electrical and the pneumatic versions in general terms covering "typical" installations, refer to the proper views for the control assembly you are installing.

Refer to the views on pages 5,6 & 7 for installation.

__Remove the existing 2" Differential pump Air Motor section cap, O-ring, spring, and button asm. from the motor tube.

__Thread the Adjustable Stroke Control Asm. onto the air motor tube. To remove the Control Asm. Cover (tube): (Refer to view on page 5.)

__Rotate the (5) tube and (10) cap adapter to expose the end of the (3) wire located in the slot in the tube at the base of the control asm.. Using a small screwdriver to lift the wire, rotate the tube counterclockwise to unwind the wire. Remove the wire and then the tube (cover) assembly and lay it to the side until adjustment is finished.

__Install the air valve and regulator to the air motor inlet as shown in views on pages 6 and 7.

__Route electrical wiring as required. Be sure to prevent sharp bends in and out of system components which could result in the wires being eventually damaged due to vibration.

__Route the air tubing and prevent sharp bends or kinking which will inhibit air flow and cause poor singnaling or system malfunction.

OPERATION AND ADJUSTMENT

STROKE LENGTH ADJUSTMENT:

If the stroke length needs to be adjusted, the exact amount of adjustment needed may be difficult to predetermine. Use the EXAMPLES section (page 3) as a guide for basic set-up and adjust the stroke as needed to fine tune and achieve desired performance. Stroke adjustments are made by rotating the switch/valve asm. and adjusting rod.

__In order to rotate the switch/valve asm. the wire connector or tubing must be disconnected.

__Loosen the lower (16) nut which will allow the (17) adjustment screw to rotate.

__Use an open end wrench on the flats of the adjusting screw nut as shown.

- TO SHORTEN THE PUMP STROKE ROTATE CLOCKWISE.
- TO LENGHTHEN THE PUMP STROKE ROTATE COUNTER-CLOCKWISE.

- **NOTE:** MINIMUM STROKE LENGTH IS ONE INCH FOR ALL MODELS.

__Make all final adjustments and secure by tightening the lower nut.

__Reconnect the electrical/air signal lines.

__Replace cover (tube) to protect the switch/valve and to prevent unauthorized adjustment.

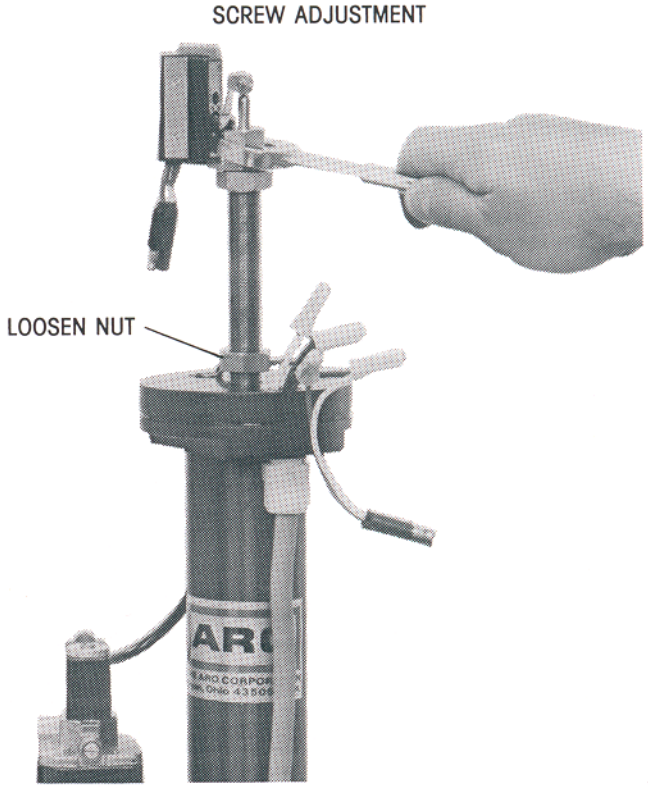


FIGURE 1

2" DIFFERENTIAL PUMP MODEL NUMBERS APPLICABLE FOR THE VARIABLE STROKE ADJUSTER

MODEL NO.	RATIO	FLUID OUNCES PER CYCLE *(MAX)	FLUID OUNCES PER CYCLE (MIN)	CUBIC INCHES (MAX)	CUBIC INCHES (MIN)	CYCLES PER GALLON (MAX)	CHANGE IN FLUID OUNCES PER CYCLE PER REVOLUTION
612028	1:1	6.4	1.7	11.6	3.1	19.8	0.10
612039-X	1:1	6.4	1.7	11.6	3.1	19.8	0.10
612040-X	1:1	6.4	1.7	11.6	3.1	19.8	0.10
612041-X	1:1	6.4	1.7	11.6	3.1	19.8	0.10
612042-X	1:1	6.4	1.7	11.6	3.1	19.8	0.10
612043	1:1	6.4	1.7	11.6	3.1	19.8	0.10
613109	2:1	2.6	1.5	4.7	2.7	48.8	0.08
613111-X	2:1	2.6	1.5	4.7	2.7	48.8	0.08
650110-X	2:1	2.4	0.6	4.4	1.2	51.7	0.04
650115-X	2:1	2.4	0.6	4.4	1.2	51.7	0.04
650132-X	2:1	2.7	0.7	4.9	1.3	46.5	0.04
650133-X	2:1	2.7	0.7	4.9	1.3	46.5	0.04
650136-X	2:1	2.7	0.7	4.9	1.3	46.5	0.04
650137-X	2:1	2.7	0.7	4.9	1.3	46.5	0.04

ONE CUBIC INCH = 1.805 X FLUID OUNCES
ONE FLUID OUNCE = CUBIC INCHES ÷ 1.805
MINIMUM STROKE LENGTH IS ONE INCH FOR ALL MODELS

*Pump delivery rates are based on testing with low-viscosity material. Higher viscosity material delivery rates may vary.

EXAMPLES

EXAMPLE ONE:

To dispense 2 fluid ounces using Model 650133-X pump assembly: Model 650133-X will dispense 2.7 maximum fluid ounces per cycle. If one cycle is required at some stroke length less than the maximum, how many revolutions of the adjusting screw are required to decrease the the stroke length in order to dispense only 2 fluid ounces?

2.7 fluid ounces per cycle (maximum)
-2.0 fluid ounces per cycle (desired)
0.7 fluid ounces per cycle change

.07 oz. ÷ .04 oz./rev.= approx. 17.5 revolutions

Decrease the stroke length by approx. 17.5 revolutions of the adjusting screw.

EXAMPLE TWO:

A system is filling 3.5 fluid ounce bottles in one pump cycle using Model 613109 pump assembly. The bottle size has been changed to a 5 fluid ounce bottle. How many revolutions must the adjusting screw be turned to achieve 5 fluid ounces in one cycle?

5.00 fluid ounces per cycle (desired)
-3.50 fluid ounces per cycle (now dispensing)
1.50 fluid ounces per cycle change

1.50 oz. ÷ .08 oz./rev. = approx. 18.8 revolutions.

Increase the stroke length by approx. 18.8 revolutions of the adjusting screw.

EXAMPLE THREE:

Fill a one Quart (32 fluid ounces) bottle using Model 612028 pump assembly.

First, find a whole number which 32 is evenly divisible by, that is less than the maximum fluid ounces per cycle (6.4 maximum fluid ounces per cycle for the model 612028).
(Choose 4)
32 oz. ÷ 4 oz./ cycle = 8 cycles

So use:
8 cycles at 4 fluid ounces per cycle

6.4 fluid ounces per cycle (maximum)
-4.0 fluid ounces per cycle (desired)
2.4 fluid ounces per cycle change

2.4 oz. ÷ .10 oz./rev. = approx. 24 revolutions

Decrease the stroke length by approx. 24 revolutions of the adjusting screw and cycle the pump 8 cycles.

COMMON PARTS

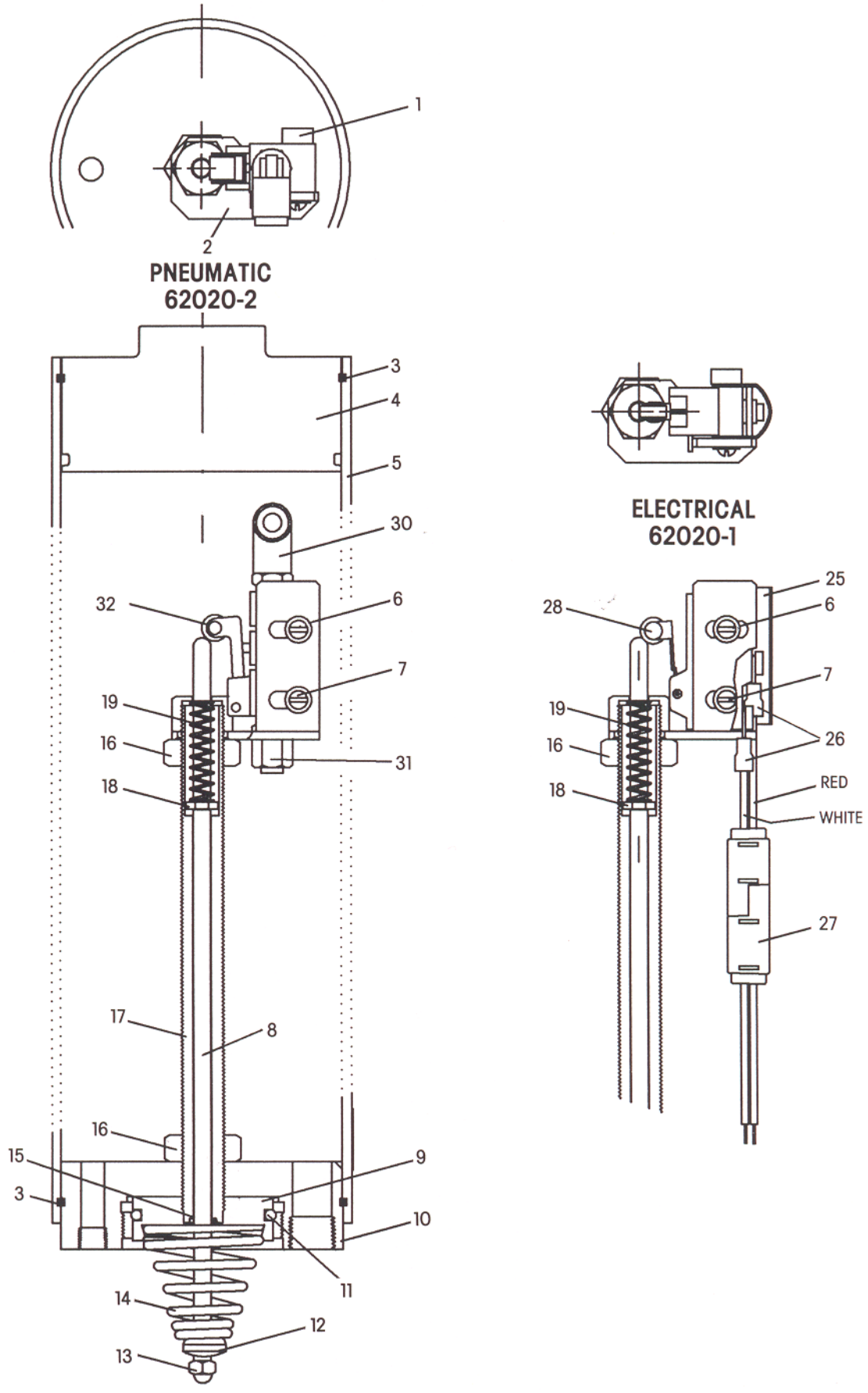
REF.	DESCRIPTION (Size in Inches)	(QTY)	PART NO.
1	Bracket		93703-1
2	Bracket Asm.		62033-1
3	Wire	(2)	93291-012
4	Cap		5458
5	Tube		93702-1
6	Washer (#8)	(2)	Y48-8-C
7	Machine Screw (#6-32 x 1)	(2)	Y8-471-C
8	Rod		93698-1
9	Adapter		93697-1
10	Cap Adapter		93696-1
11	O-Ring (1.750 ID)		Y325-224
12	Button		93691-1
13	Nut (#10-24)		Y85-3-C
14	Spring		77208
15	O-Ring (.250 ID)		Y325-010
16	Nut (5/8-18)	(2)	Y11-110-N
17	Adjusting Rod		93693-1
18	Washer		90105
19	Spring		70615

62020-1 Electric only

25	Insulator		93700-1
26	Ring,P.G.	(2)	78087
27	Plug		93290
28	Switch		93701-1

62020-2 Pneumatic only

30	Male Elbow		59745-56
31	Connector		59688-56
32	Mini-Air Valve		202-C


1
2
PNEUMATIC
62020-2
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ELECTRICAL
62020-1
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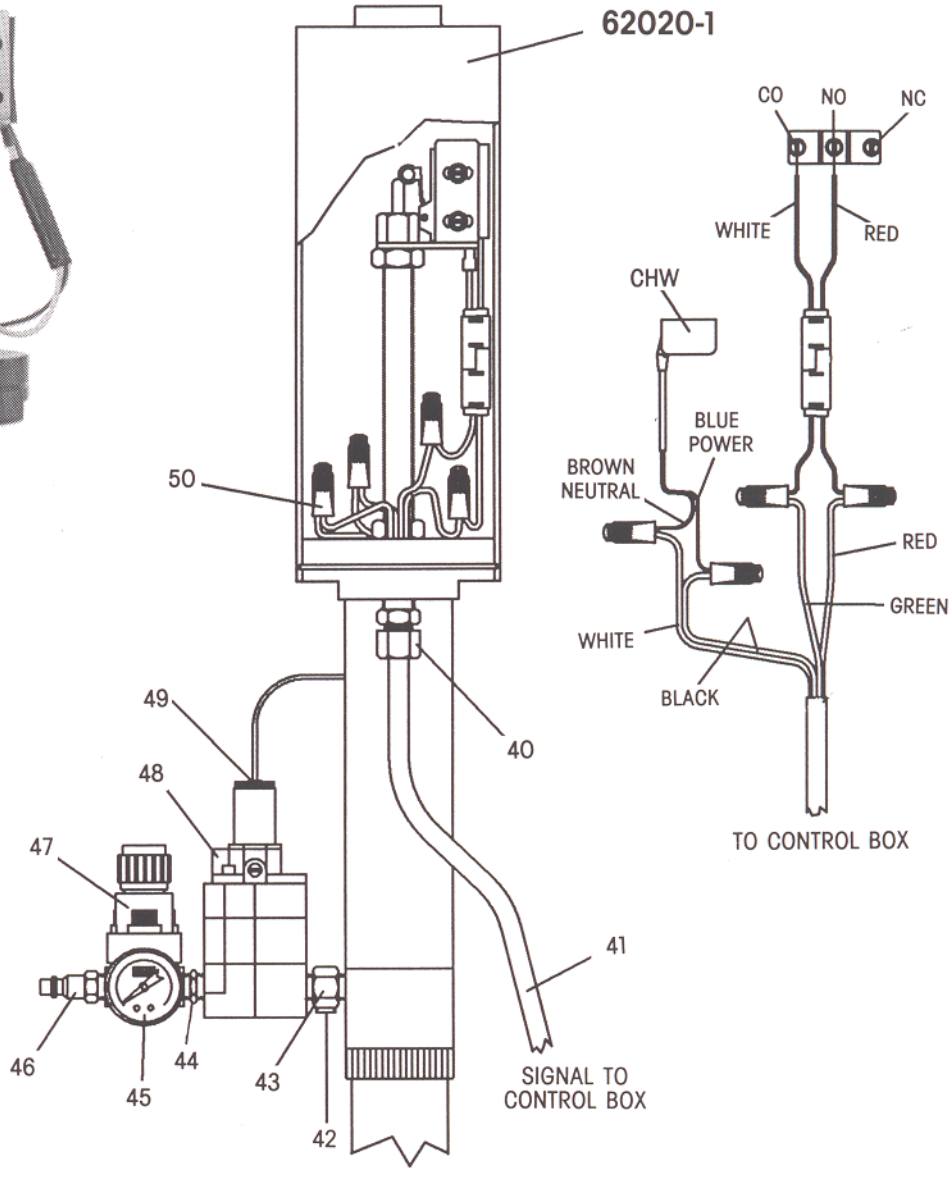
16
26
18
RED
WHITE
27

FIGURE 2

ELECTRICAL VERSION 62046-1

FIGURE 3



62046-1 ELECTRICAL

REF.	DESCRIPTION (Size in inches)	(QTY)	PART NO.
40	Tube Connector (3/8 NPT X 3/8 TUBE)		Y209-5
41	Cable Asm. (10 FEET)		66288-010
42	Plug (1/8 NPT)		Y17-50
43	Adapter (1/4 NPT X 1/4 NPT X 1/8 NPT)		90351
44	Nipple (1/4 NPT X 1/4 NPT)		1950
45	Gauge		29850
46	Connector		23902-210
47	Regulator		127122-000
48	Valve Asm.		H252SS-024-D
49	Connector		CHW
50	Wire Nut	(4)	77594
	Connector (Not shown)(1/8 NPT X 1/4 TUBE)		Y209-1
	Coupler (Not shown)		23102-200

PNEUMATIC VERSION 62046-2

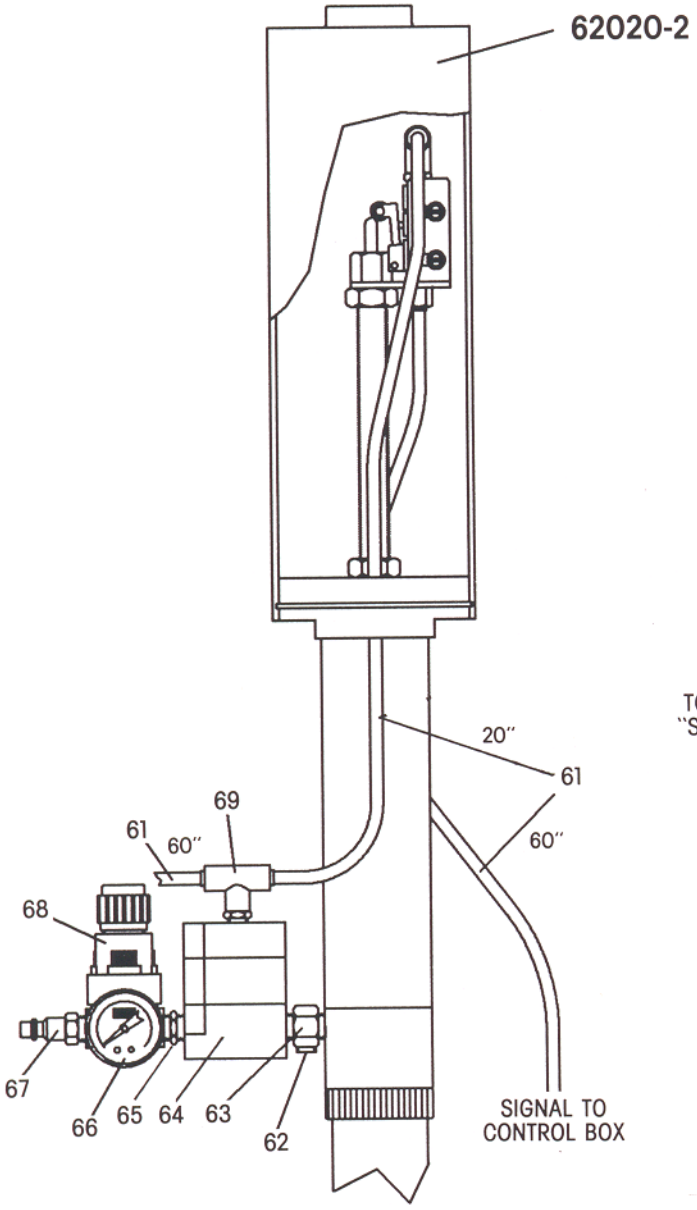


FIGURE 4

62046-2 PNEUMATIC

REF.	DESCRIPTION (Size in inches)	(QTY)	PART NO.
61	Tubing (12 FEET)		91466-144
62	Plug (1/8 NPT)		Y17-50
63	Adapter (1/4 NPT X 1/4 NPT X 1/8 NPT)		90351
64	Valve Asm.		H252PS
65	Nipple (1/4 NPT X 1/4 NPT)		1950
66	Gauge		29850
67	Connector		23902-210
68	Regulator		127122-000
69	Tee		59746-56
	Coupler (Not shown)		23102-200

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