

**INSTRUCTIONS FOR INSTALLING AND ADJUSTING
PNEUMATIC CLAMP LIFT AND CYCLE START
FOR 270 MACHINE**

495069

**THIS UNIT IS COVERED BY
U. S. PATENT NO. 2,764,112**

**THE SINGER COMPANY
INDUSTRIAL PRODUCTS DIVISION
MECHANIZED SYSTEMS DEPARTMENT
CLIFTON, N. J.**

THE SINGER PNEUMATIC CLAMP LIFT-CYCLE START DEVICE 495069

Description

The Singer Pneumatic Clamp Lift-Cycle Start Device 495069 is a completely air powered and air controlled unit designed specifically for 270 Class Machines. The clamp lifting and starting mechanisms are so interlocked that the clamp cannot be raised during the sewing cycle and the machine cannot be started until the clamp is lowered.

The foot control operates in two stages. The first downward movement lowers the clamp. The second or final movement initiates the sewing cycle after which the pressure on the foot control is released. The machine will complete the sewing cycle and stop and the clamp will raise automatically.

The clamp can be raised or lowered any number of times by means of the foot control without starting the machine. This is a specific advantage with garments that are difficult to position properly.

The inherent advantage in a pneumatic unit of this kind is reflected in the reduction of the amount of effort and skill required of the operator. Another advantage which is not so immediately apparent is the result of the soft action of the pneumatic type control in relation to the stop motion parts. This means less wear and, ultimately, less down time.

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NOTE

Remove Starting Lever Arm Nut 1655 and Starting Lever Arm Tripper 167296 from the machine. The function of Tripper 167296 is not required with the pneumatic cycle start device.

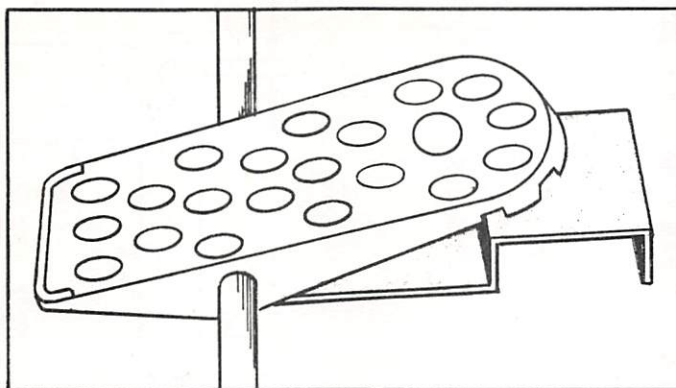
If the clamp lift-cycle start is to operate efficiently, the 270 Machine on which it is installed, must be in good sewing condition. This is especially true with respect to stop motion parts such as the brake and the starting lever interlocking arm (239159).

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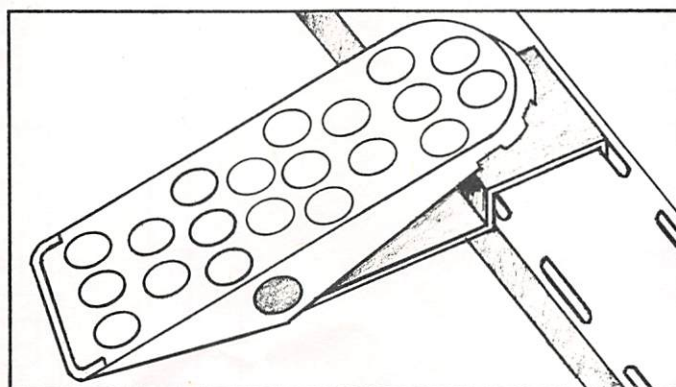
THE SINGER PNEUMATIC CLAMP LIFT-CYCLE START DEVICE 495069Installation

- 1 - Use the template, included as the last page of these instructions, to enlarge the present cutout in the table to facilitate mounting the valve and cylinder assembly at the rear of the machine.
- 2 - Mount the valve and cylinder assembly by means of the bracket (which duplicates Belt Guard Base 239444) with four #12 X 1" pan head screws.
- 3 - Mount the filter, lubricator, regulator assembly on the underside of the table and preferably at the right of the machine. Use two #12 X 1" pan head screws.
- 4 - Mount the foot control using any one of the three methods illustrated in this manual.
- 5 - Connect the tubing, extending from the bottom of the cylinders, to the connections at the air spring.
- 6 - Connect the three unions on the foot control tubing to the ends of the tubing marked with the corresponding red, yellow and blue bands.
- 7 - Fill the lubricator with oil, to a point just below the indicator line. Use SINGER Type C Oil or the equivalent.
- 8 - Mount the one-shot valve on the underside of the table and to the rear of the machine. Use two #6 X 1 3/4" round head wood screws. See the illustration elsewhere in this manual.
- 9 - Make the air cylinder connections to the starting and clamp lifting levers. See the illustrations which follow for instructions on connecting and adjusting procedures.
- 10 - Connect the unit to an air supply source. Use the Qwik-Change coupler supplied with the accessories.
- 11 - Set the main regulator pressure at 50 pounds and the air spring pressure at 3 pounds. There may be some slight adjustment of the air spring pressure to suit individual requirements.

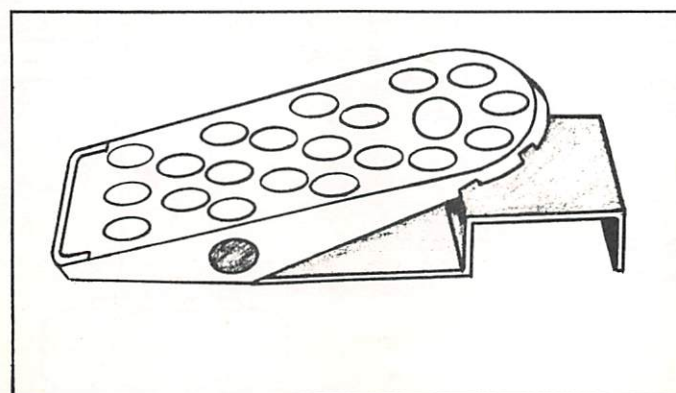
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TUBE MOUNTING



TREADLE PLATFORM MOUNTING

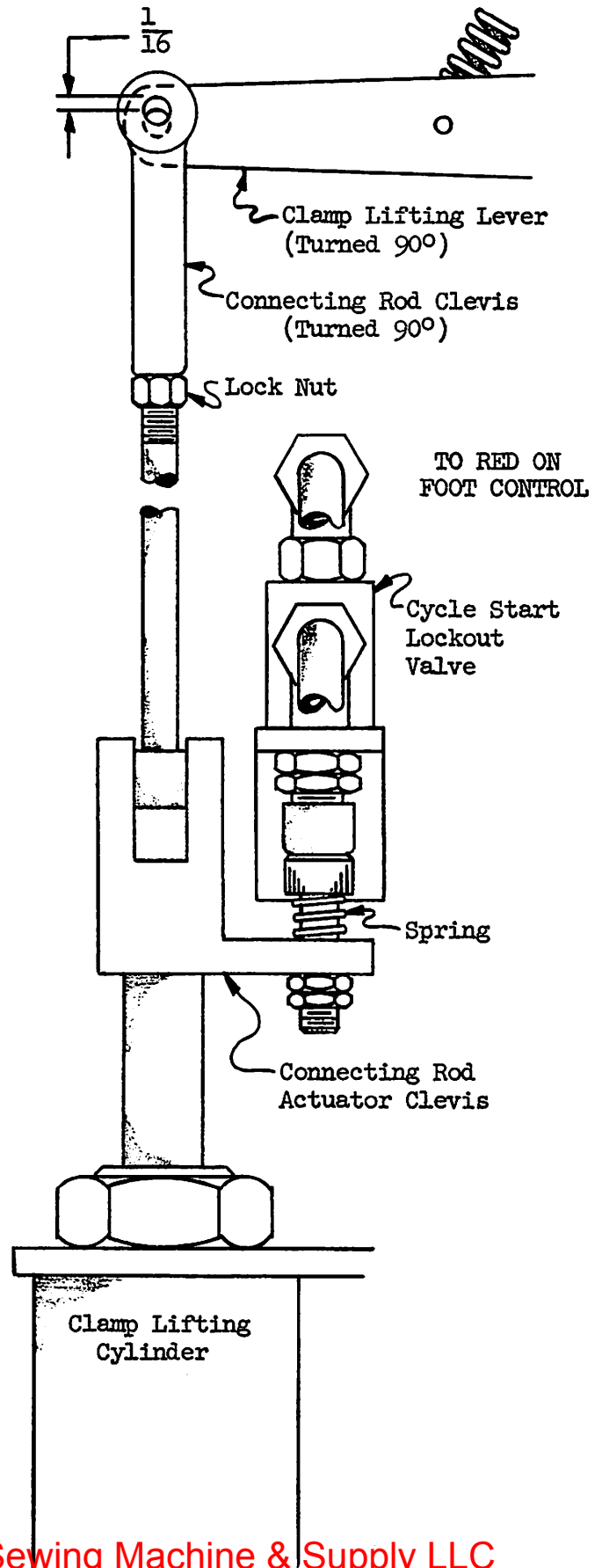


FLOOR MOUNTING

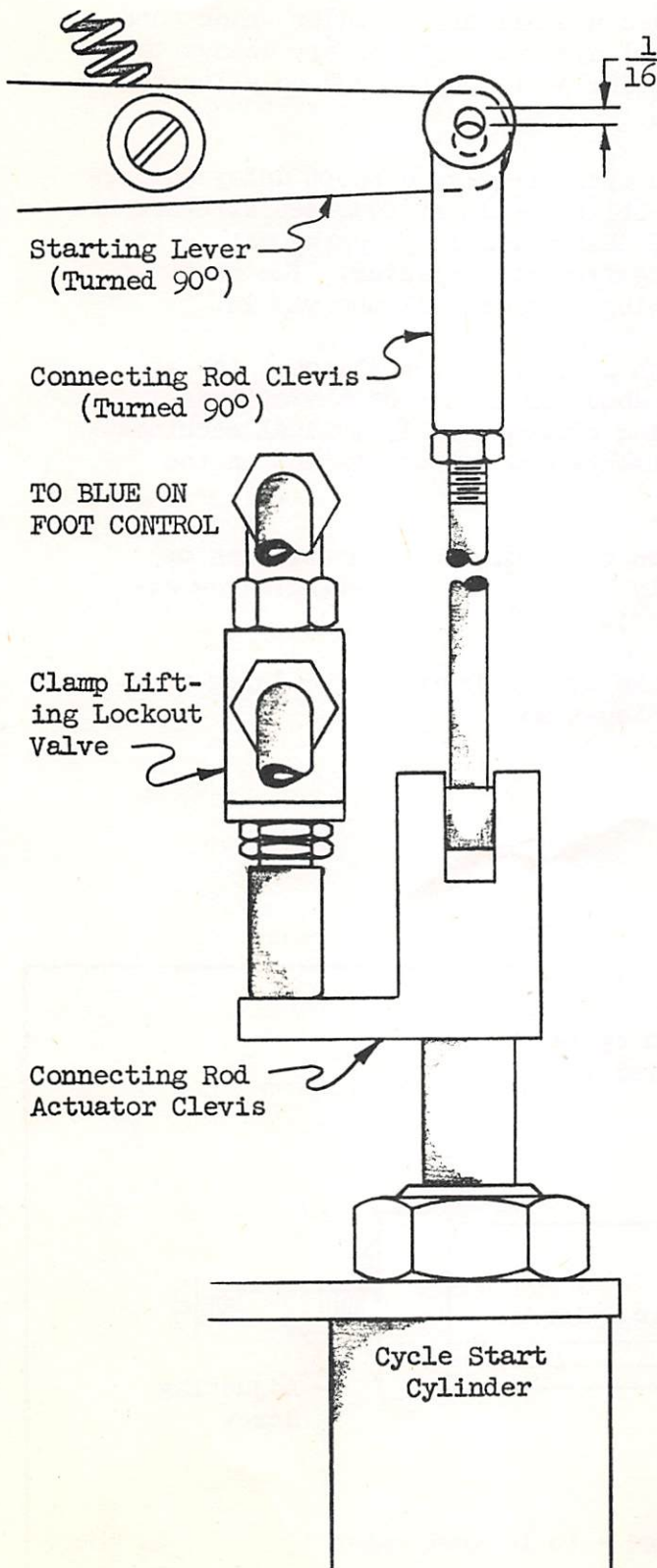
Mount the foot controls in any one of the three methods illustrated and at the preference of the operator.

Adjustments - Clamp Lift Lever

1. Loosen screws holding the lock-out valve and raise the valve mounting bracket to the top of the slots.
2. With air and power off and machine in normal stop position, engage sewing machine by hand and make 5 or 6 stitches.
3. Pull up the air cylinder connecting rod until the cylinder is in the full up position.
4. Adjust the clevis on the connecting rod so that the hole in the clevis is about $\frac{1}{16}$ " higher than the hole in the machine lifting lever.
5. Align the holes and insert the clevis pin and retaining spring. Tighten the clevis lock nut.
6. Complete machine cycle to stop position.
7. Adjust the lockout valve downward until the button on the valve stem is seated against the valve housing without compressing spring.
8. Tighten the screws to secure the valve in this position.



Adjustments - Cycle Start Cylinder



1. Loosen screws holding the lockout valve and raise the valve mounting bracket to the top of the slots.
2. Pull up the air cylinder connecting rod until the cylinder is in the full up position.
3. Adjust the clevis on the connecting rod so that the hole in the clevis is about $\frac{1}{16}$ " higher than the hole in the machine starting lever.
4. Align the holes and insert the clevis pin and retaining spring. Tighten the clevis lock nut.
5. Adjust the lockout valve downward until the button on the valve stem is seated against the valve housing.
6. Tighten the screws to secure the valve in this position.

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One-Shot Valve 492062

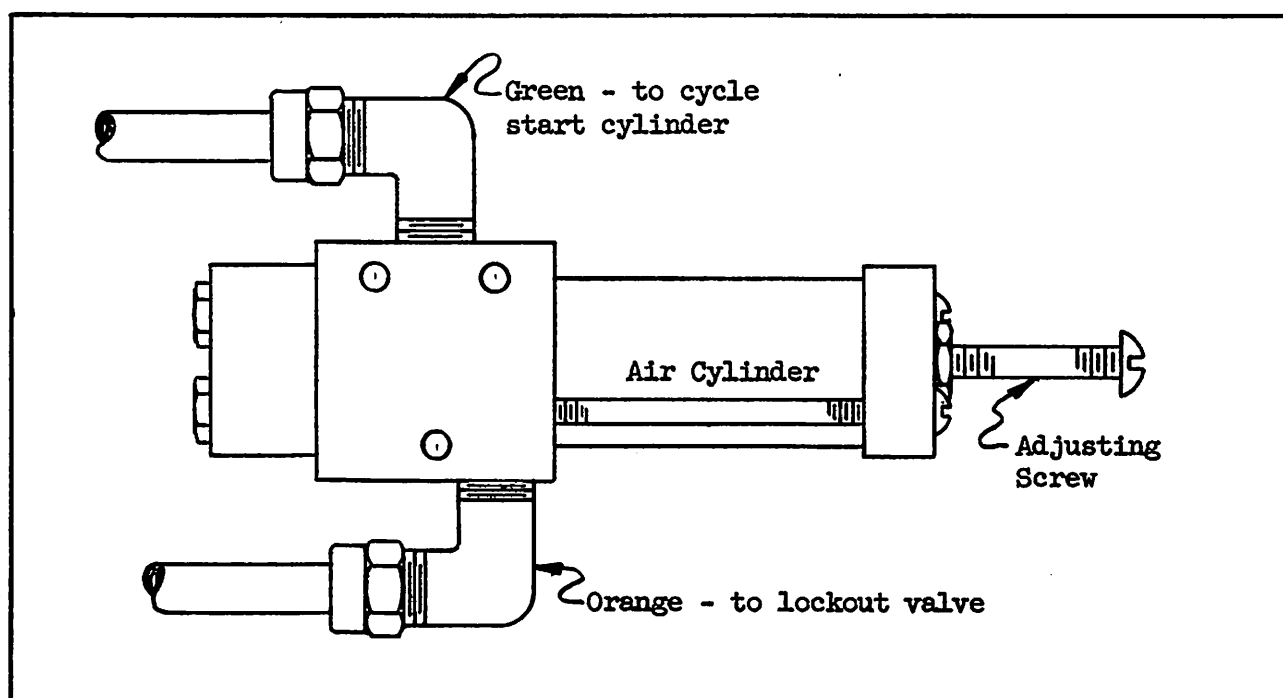
One Shot Valve 492062 includes a small air cylinder which acts as a variable air reservoir. This small air reservoir of air delays the release action of the cycle start cylinder just long enough to allow the machine to latch in the "RUN" position.

Machines with a short stitch cycle require a short delay to prevent double cycling. Machines with a stitch cycle of fourteen stitches or more can use a longer delay time. The delay time is proportional to the length of the adjusting screw extending from the cylinder. The shortest delay time is obtained when the adjusting screw is all the way in.

With machines having a stitch cycle of seven stitches the adjusting screw should be set to extend about an inch from the cylinder. It may be necessary to vary this setting slightly on individual machines. This depends on the stop motion adjustments and to some extent on the tension of the drive belt.

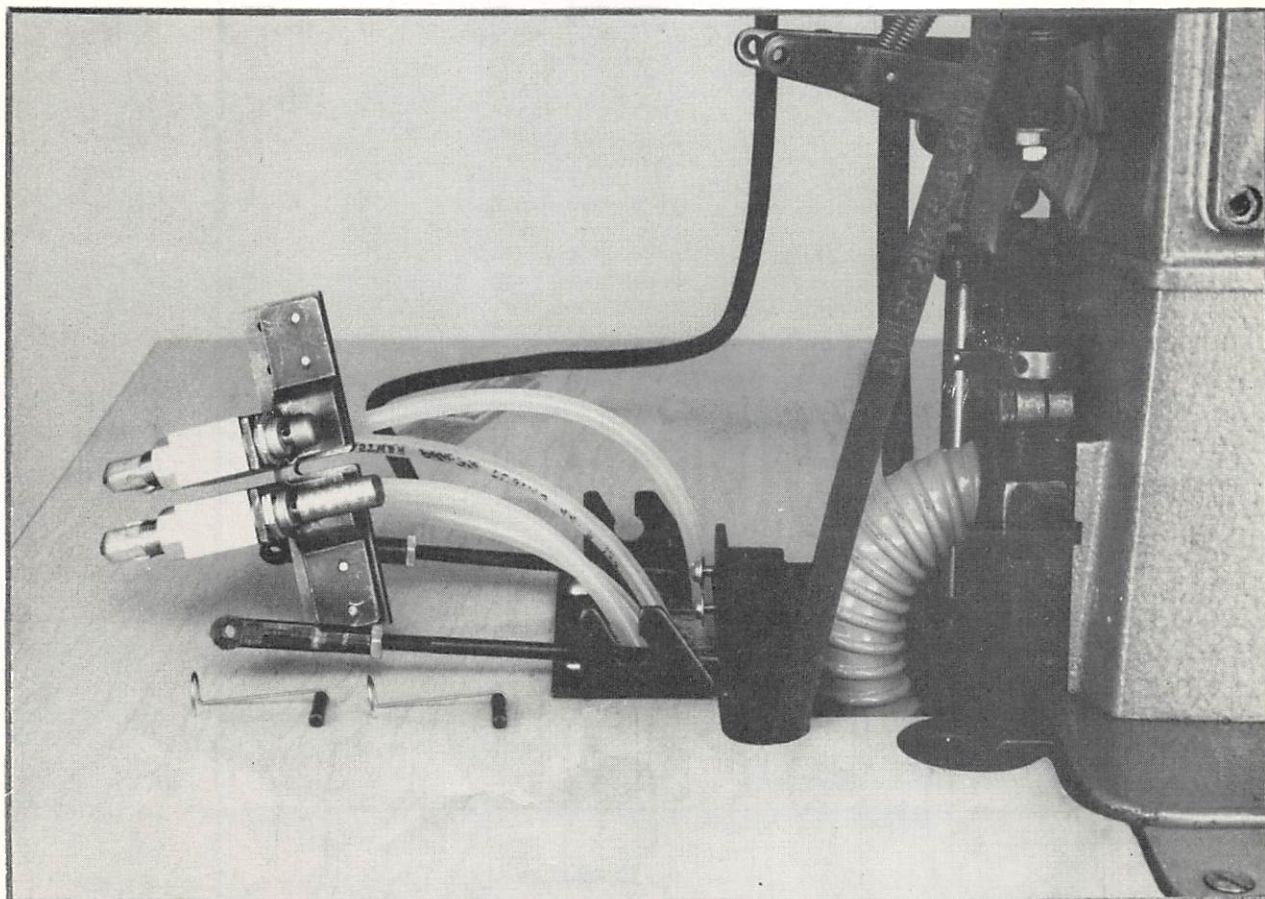
With machines having a stitch cycle of fourteen stitches or more, the best adjustment will normally be with the adjusting screw extended to maximum (approximately 1 3/4").

If the machine tends to double cycle, decrease the delay time. If false starts occur, increase the delay time.



One-Shot Valve 492062

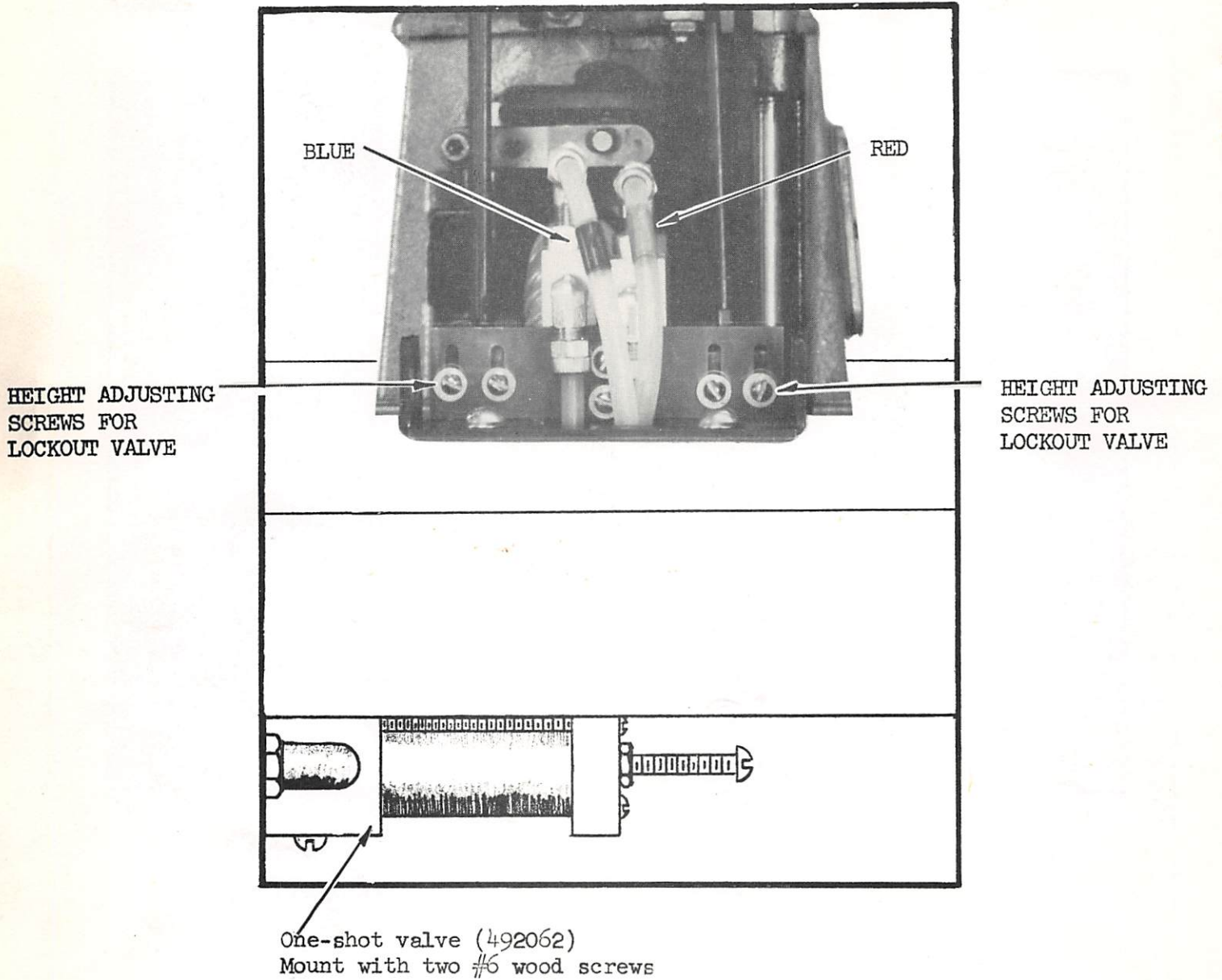
THE SINGER PNEUMATIC CLAMP LIFT-CYCLE START DEVICE 495069



TIPPING MACHINE TO MAKE ADJUSTMENTS

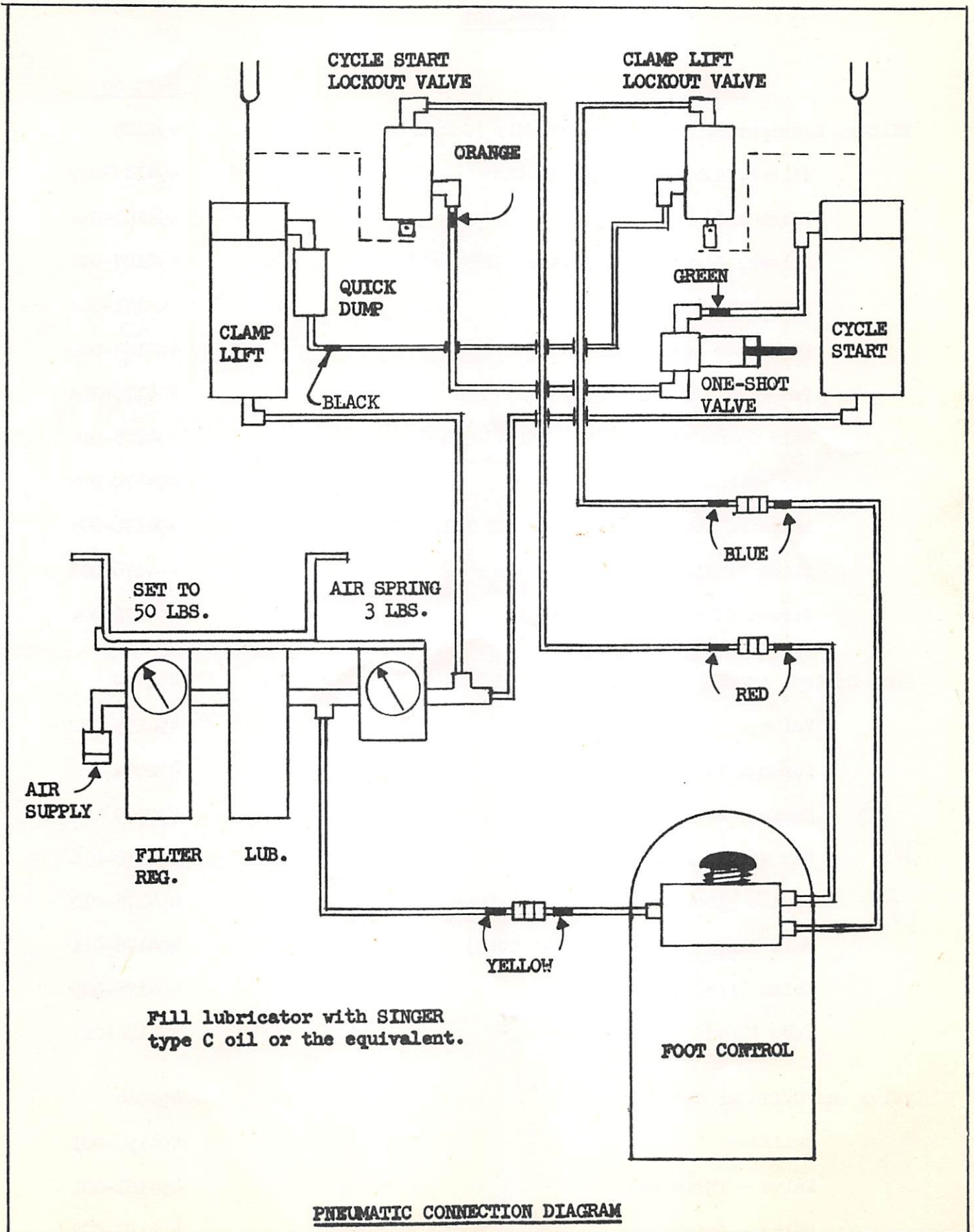
- 1 - With all air and electric power "OFF".
- 2 - Loosen the two screws in the center of the lockout valve mounting bracket.
- 3 - Pull the valve assembly up and to the rear.
- 4 - The machine can now be tipped back without interference.

THE SINGER PNEUMATIC CLAMP LIFT-CYCLE START DEVICE 495063



ONE-SHOT VALVE MOUNTING

THE SINGER PNEUMATIC CLAMP LIFT-CYCLE START DEVICE 495069



PARTS LIST

<u>Description</u>	<u>Part No.</u>
Filter, Lubricator, Regulator Assembly (Complete)	492109
Filter, Lubricator, Regulator	494187-009
Lubricator	494187-011
Filter, Regulator (w/guage 0-160 psi)	494187-007
Qwik-Change Coupler	494171-001
Regulator (Air Spring)	494187-002
Tee (1/8 NPT X 1/4" Tube)	494176-013
Male Connector (1/8 NPT X 1/4" Tube)	494176-010
Tee, Female (1/8 NPT)	494176-002
Reducing Street Elbow (1/8 NPT X 1/4 NPT)	494176-005
Close Nipple (1/8 NPT)	494176-003
Street Elbow, 45° (1/8 NPT)	494176-004
Foot Control Assembly (Complete)	491739
Valve	494155-002
Spring, First Stage	492092
Spring, Second Stage	492079
Hex Nipple (1/8 NPT)	494176-018
Female Elbow (1/8 NPT X 1/4" Tube)	494176-012
Male Elbow (1/8 NPT X 1/4" Tube)	494176-011
Union (1/4 Tube)	494176-009
Tube (1/4)	494176-017
Valve and Cylinder Assembly	492064
Cylinder	494156-001
Valve - Three Way	494161-001
Valve - Quick Dump	494197-003

Valve and Cylinder Assembly (Cont'd.)	492064
Connecting Rod Clevis	491654
Actuator Spring	494179-002
Spring Guard	494176-001
Nut (1/4" Tube)	494176-008
Sleeve (1/4" Tube)	494176-007
Male Elbow (1/8 NPT X 1/4" Tube)	494176-011
Tube (1/4" Tube)	494176-017
Plunger Extension	492064-004
 One-Shot Valve Assembly	 492062
Valve - One Shot	494155-001
Male Elbow (1/8 NPT X 1/4" Tube)	494176-011

THE SINGER PNEUMATIC CLAMP LIFT
AND CYCLE START DEVICE 495069

TABLE CUTOUT
FOR
270-CLASS MACHINE

USE # 12 X 1" LG. PAN
HEAD SCREWS (4)
(5/32 DRILL)



CUT OUT

HINGE
PLATE

HINGE
PLATE