Pantex-Cissell B.V.
Winschoten • Holland

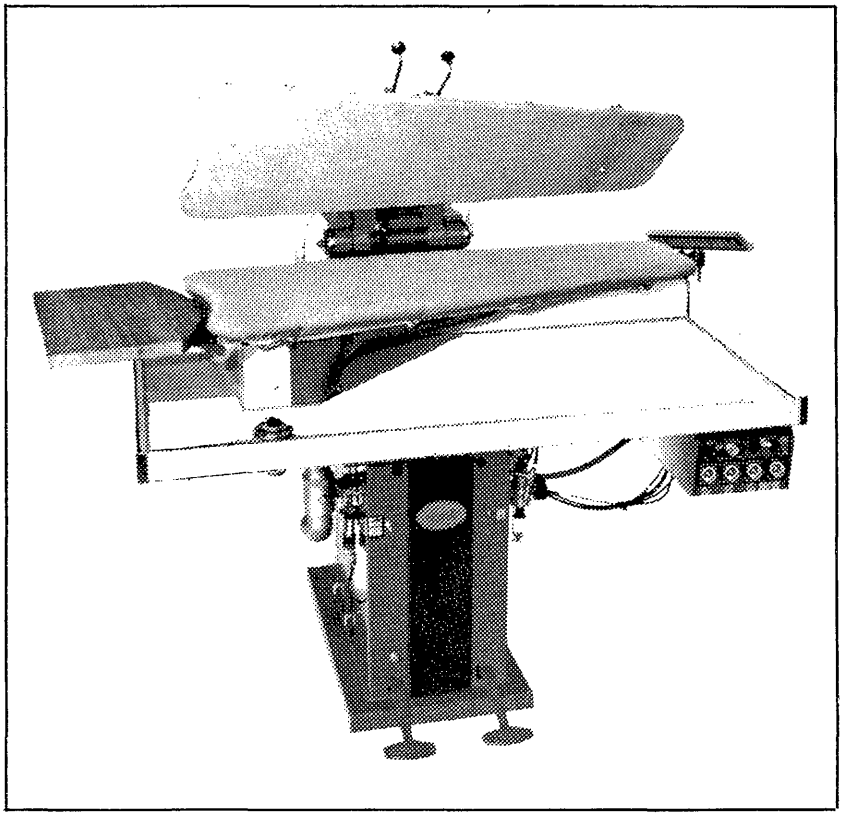
AUTOMATIC PRESSES

Service Manual

LEGGER - AOL45, AOL48

RECTANGULAR LEGGER - ABP439

TOPPER
(PROTECTED) - ATT2434
ATT2434 220



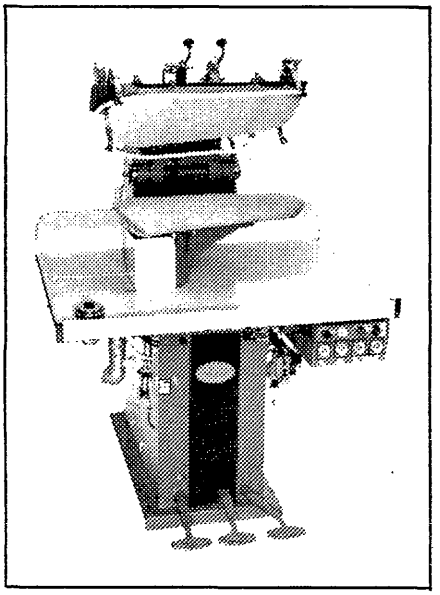


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TABLE OF CONTENTS

AOL45, AOL48, ABP439, ATT2434, ATT2434/220

TESTING

This press has been tested in the Pantex-Cissell factory to determine that it is safe and in working order. Final adjustments must be made to obtain the best results for your garments, using your steam and vacuum in your environment.

The Pantex-Cissell presses are manufactured and tested to the highest standards. The steam pressure vessels have been tested with liquid to a pressure of 250 psi (17bars). They have been tested for leaks with live steam at a pressure 88 psi (6 bars).

On request, we can supply pressure certification and information regarding sizes and wall thickness of the vessel(s).

FOREWORD

Automatically Controlled Presses.

Provides maximum production, a minimum of operator fatigue and does a repeatable quality pressing job.

These fully automatic presses are equipped with four timers which allows programming for steam, vacuum, pressing and length of cycle. The presses have a fabric feel control to assure the best pressing for garments of different materials.

Electrical timers and solenoids are combined with air controls to provide the most modern heavy duty automatic press available.

The press may be operated without the electrical controls as a semi-automatic press if so desired, or during temporary power failures.

Installing the Press

Rear Assembly - See Fig. 1

1. Uncrate the press and remove skid. Move the press into position.

2. Hold the head down and cut the twine that holds the head closed. Allow the head to rise slowly to the open position.

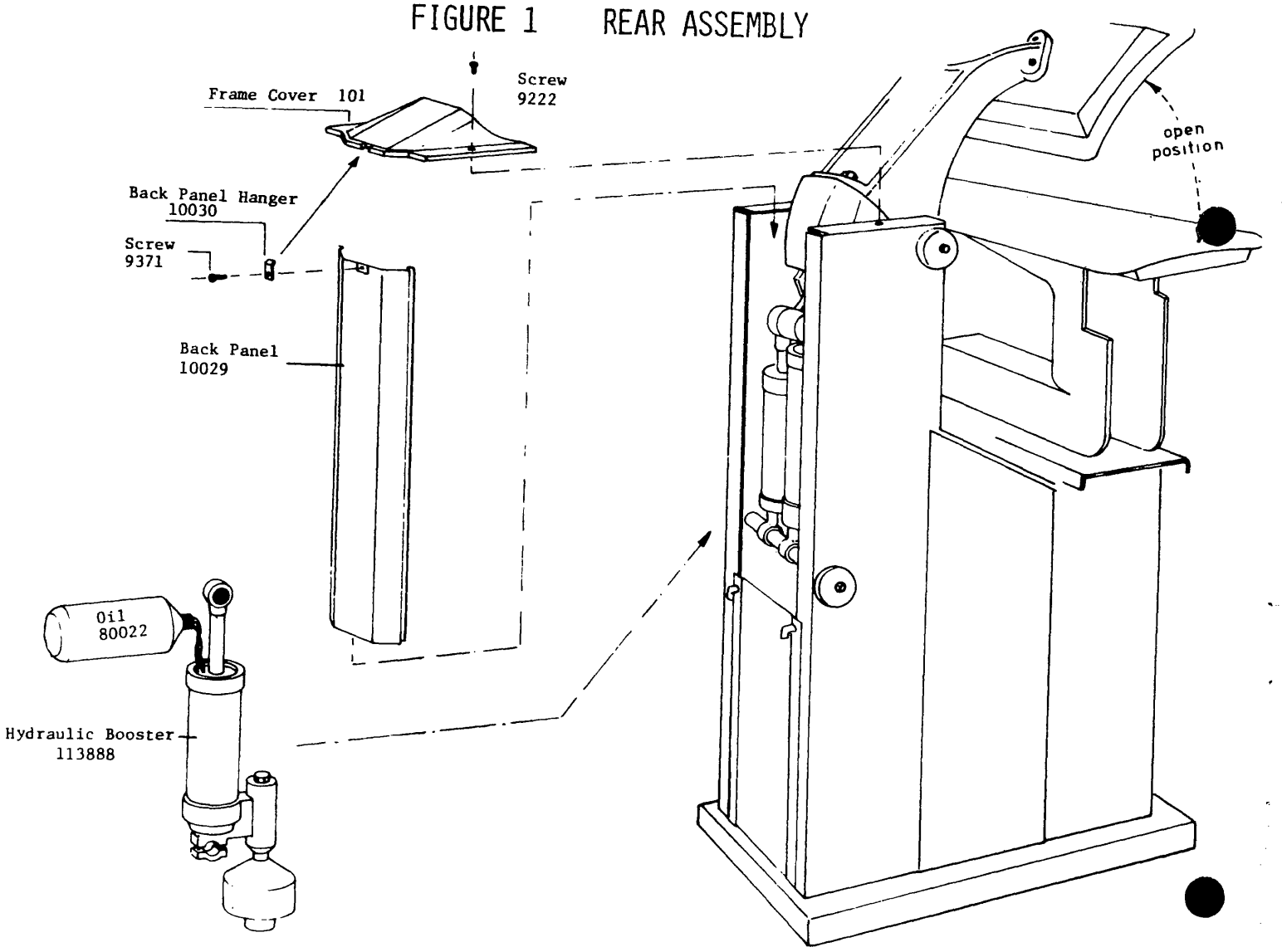
3. Slowly pour 80022 oil in (can or bottle) into the hydraulic booster. Manually open and close the head several times during the filling operation to expel air from the booster. It will require about 90% of container for filling. Wipe up any spilled oil. Operating the press without adding oil at this time may damage the booster.

4. Slide the back panel into the grooves in the rear frame from the top down.

5. Install the frame cover with two screws.

6. Secure the back panel with the back panel hanger and screws.

FIGURE 1 REAR ASSEMBLY



Assembly of the Table & Timer Box See Fig. 2

7. Remove the left hand side strip and angle stay from the table.

8. Slide the table into place and <u>finger tight</u> assemble the bolts in the reinforcing bars to the mounting lugs.

9. Assemble the end cover to the buck support. Assemble the angle stay on the bottom of the table and the left hand side strip on top of the table such that the end cover is sandwiched between. Move the reinforcing bars to line up with the holes in the angle stay.

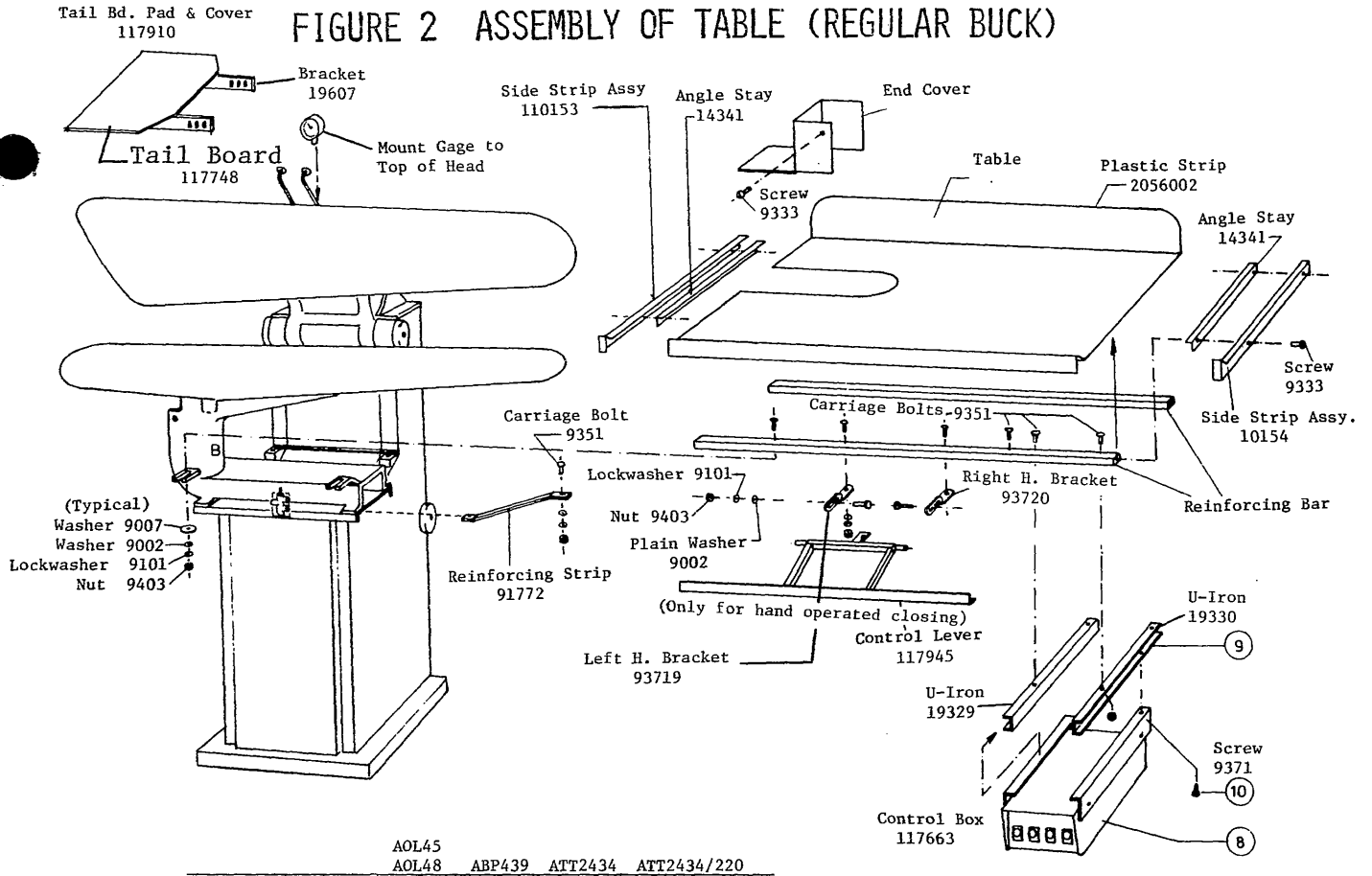
10. Tighten the mounting lug bolts.

11. Assemble the reinforcing support strip to the front reinforcing bar.

12. The hidden actuating control lever under the table is already assembled and should be checked for free movement.

13. Assemble the gage which is sometimes not mounted to the head. An empty threaded hole will be seen adjacent to the left hand valve. The front of the gage should face the operator.

FIGURE 2 ASSEMBLY OF TABLE (REGULAR BUCK)



	AOL45 AOL48	ABP439	ATT2434	ATT2434/220
Reinforcing Bar	116509	116509	116508	116508
Table	93497	93497	93503	93503
End Cover	18745	94097	80853	93249
Table Asm. Complete	122370	-	-	-

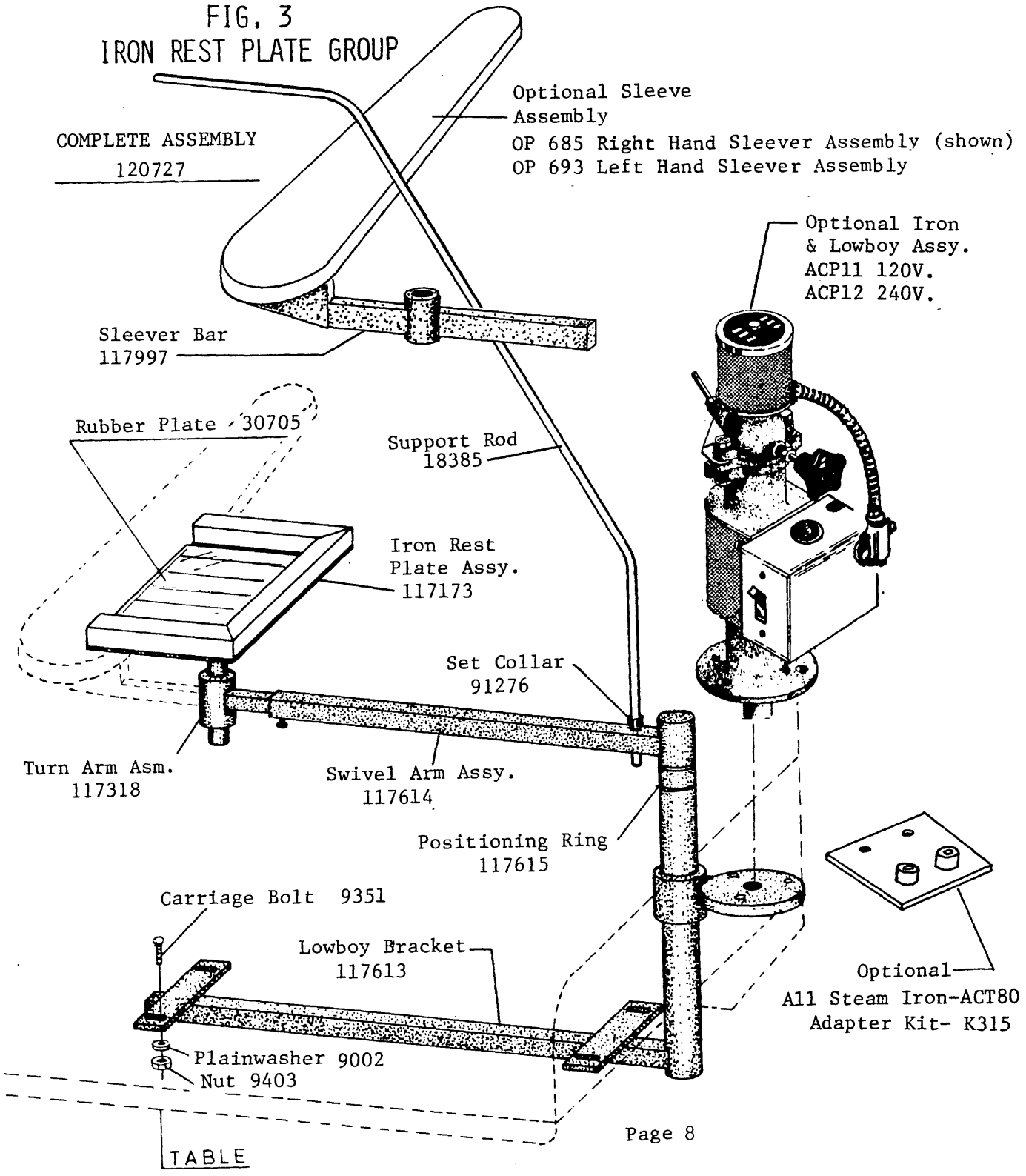
Installing the Press (Continued)

Assemble the Iron Rest Plate Group - See Fig. 3

15. Assemble the Lowboy bracket to the reinforcing bars using the bolts already in the bars. Assemble swivel arm assembly, iron rest plate and support rod to the bracket.

16. Assemble any optional Cissell equipment such as the iron and Lowboy or the sleever assembly. These will be packed in separate containers and are not shipped in the press crate.

FIG. 3
IRON REST PLATE GROUP



Installing the Press (continued)

Steam, Vacuum, Air and Electrical Connections - See Fig. 4

16. Connect a 1/2 inch steam supply line to the press at a pressure of 88 psi (about 6 bars). Use a reducing valve if needed to obtain the correct pressure. The press uses one boiler horsepower (34.5 lbs. per hour) of steam.

17. Connect a 1/2 inch steam return line to the press. Install a 1/2 inch trap good for 88 psi in the line.

18. Connect the vacuum using a 2 inch pipe to the vacuum supply. The vacuum supply should be rated two presses or more. (Example Cissell Dryset model 2D or larger).

19. Connect the air using a 1/2 inch line at 88 psi (about 6 bars). The press is equipped with an air pressure regulator and gage. Read the gage for correct pressure. The average amount of air required is 0.5 S.C.F.M. A 1/2 horspower compressor will operate one to five presses. Important! The press controls are air operated and extreme care should be taken to keep dirt, metal shavings and other foreign substances out of the press to assure proper operation of the valves.

20. See Fig. 4a - Connect the plastic tubing under the table to the bottom of the fabric selector which is mounted to the table. An arrow on the selector indicates the direction of air flow from in to out. The two black plastic tubes are labeled (1) and (6). Connect (1) to the inlet, (6) to the outlet of the selector.

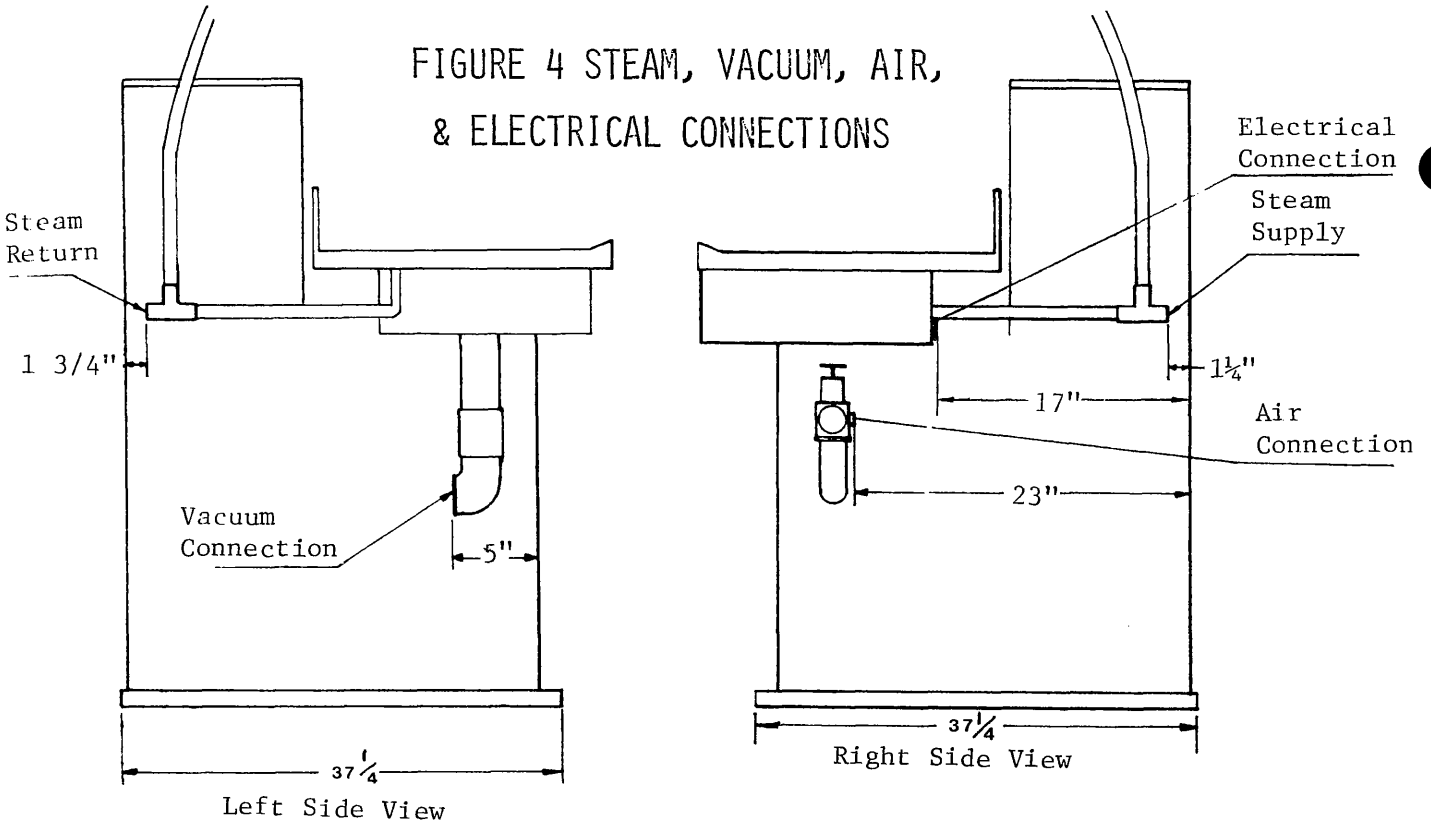
21. Slide the angles of the control box into the U channels until the front of the box is about even with the front of the table. Insert the 9371 screw (10) when the pre-drilled holes are aligned.

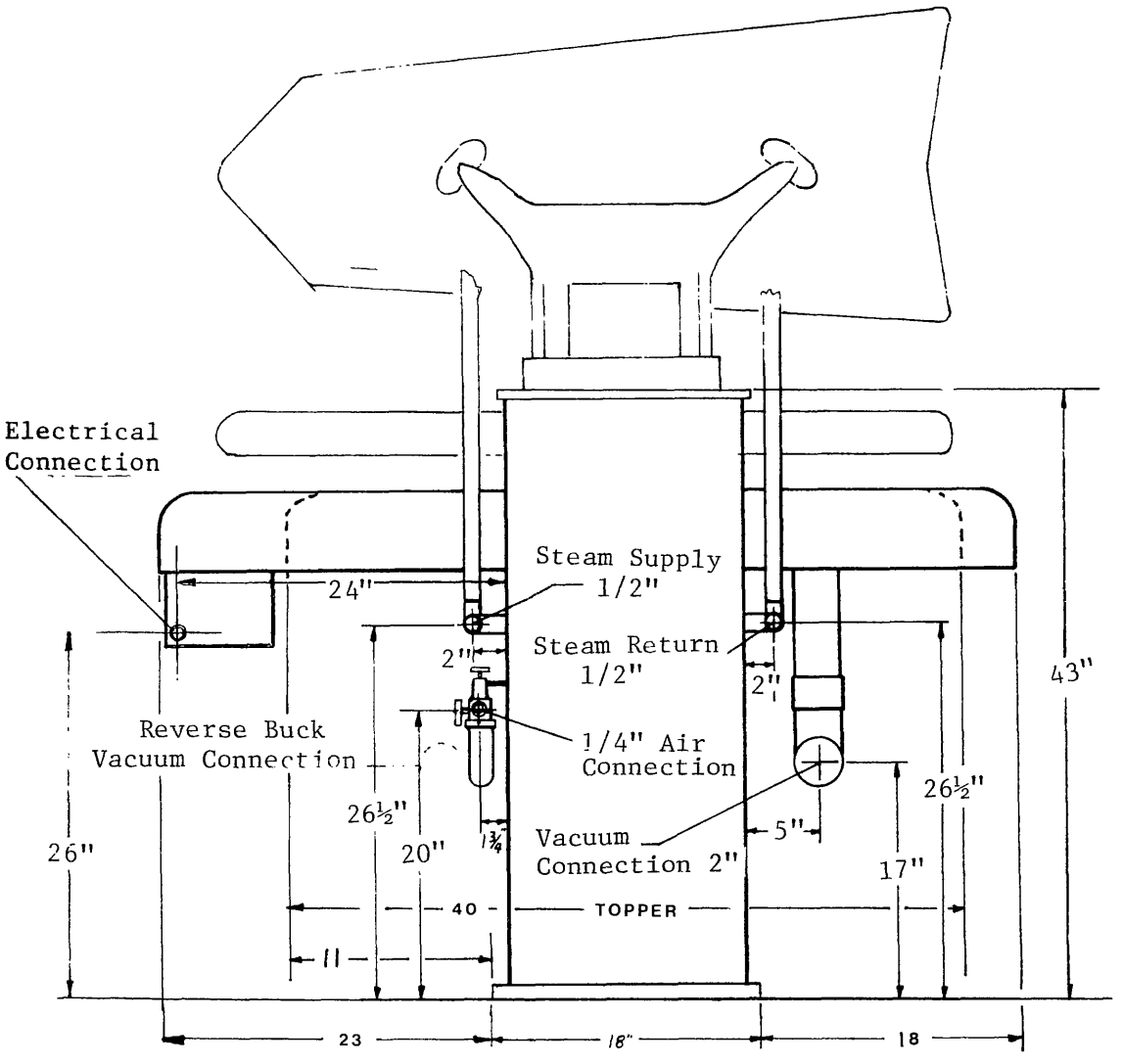
22. See Fig. 4a - Connect the six remaining black plastic tubes (8), (4), (1), (7), (2) and (12) as shown in Fig. 4a.

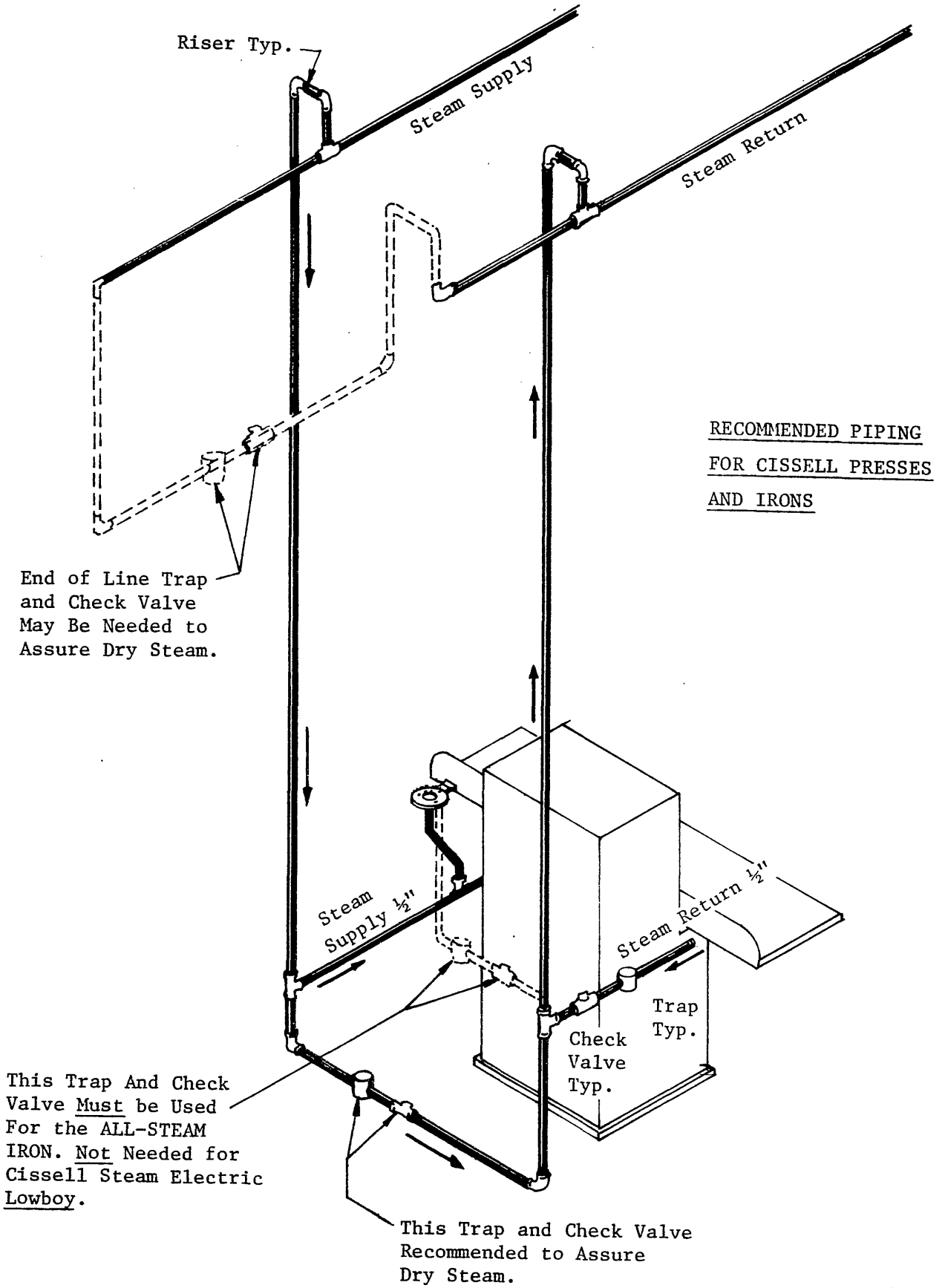
23. Connect the electrical wiring as shown on Fig. 4a - The electrical power required is 120 volts single phase at 1/2 ampere.

All of the controls are 240 volts, the 120 volt machine uses a transformer to obtain the 240 volts for controls. The machine must be properly grounded to the earth ground connection located near the electrical connection block. The wiring connection is in the electrical control box located on the right front of the machine and is accessed by removing the cover plate. Fig. 4b is a line to line wiring schematic for reference. Referring to Fig. 4a there are two openings (1) and (2) on the rear of the control box. Remove the snap-in nameplate front panel located on the front of the press between the foot pedals and find the plastic conduit with two wires connected to the cancel switch, install these through hole (1) and connect the wires to terminals 2 and 4. Bring electrical power to hole (2) in accordance with local electric codes requirement or in the absence of local codes, with the National Electrical Code ANSI/NFPA No. 70-1981. Make wiring connections as shown in Fig. 4a.

FIGURE 4 STEAM, VACUUM, AIR, & ELECTRICAL CONNECTIONS

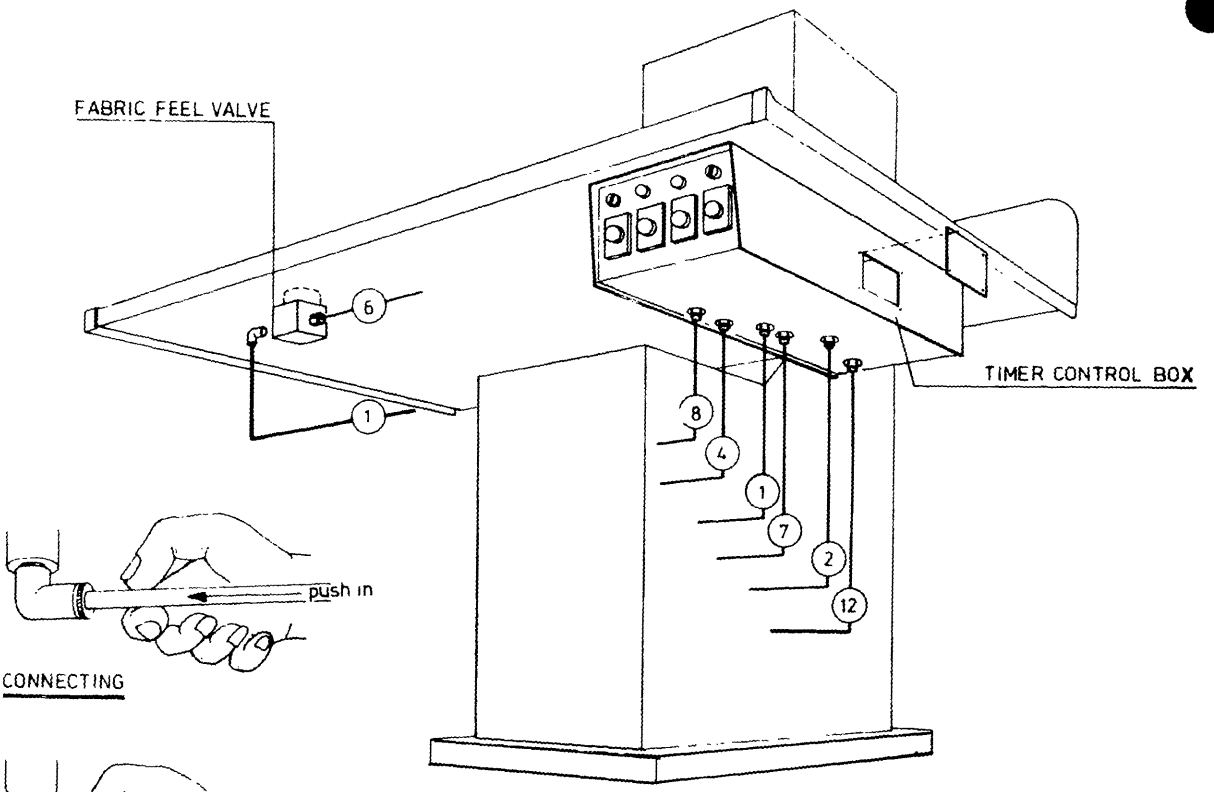




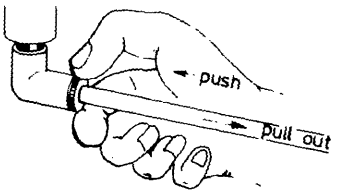


RECOMMENDED PIPING FOR CISSELL PRESSES AND IRONS

FIGURE 4A - AIR TUBING & ELECTRICAL CONNECTIONS

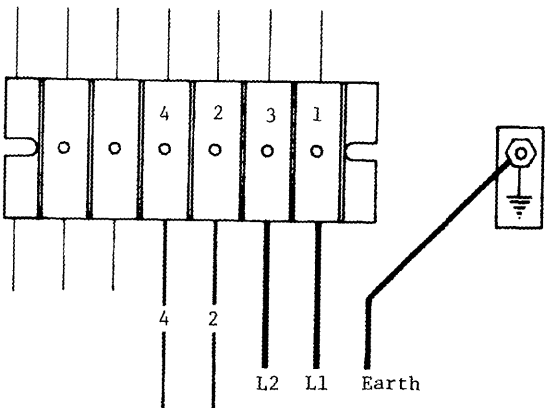


CONNECTING



DISCONNECTING

Terminal Block 70462



ELECTRICAL POWER CONNECTIONS IN CONTROLBOX

Cancel Switch

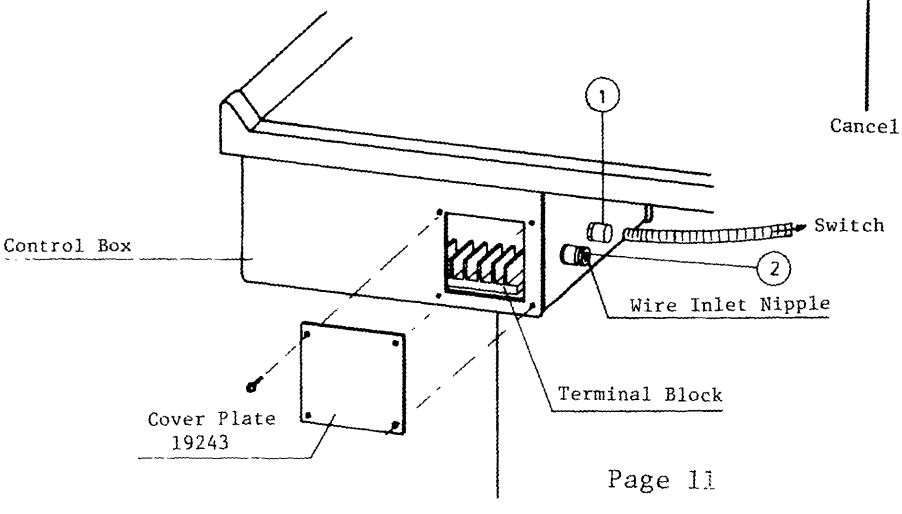
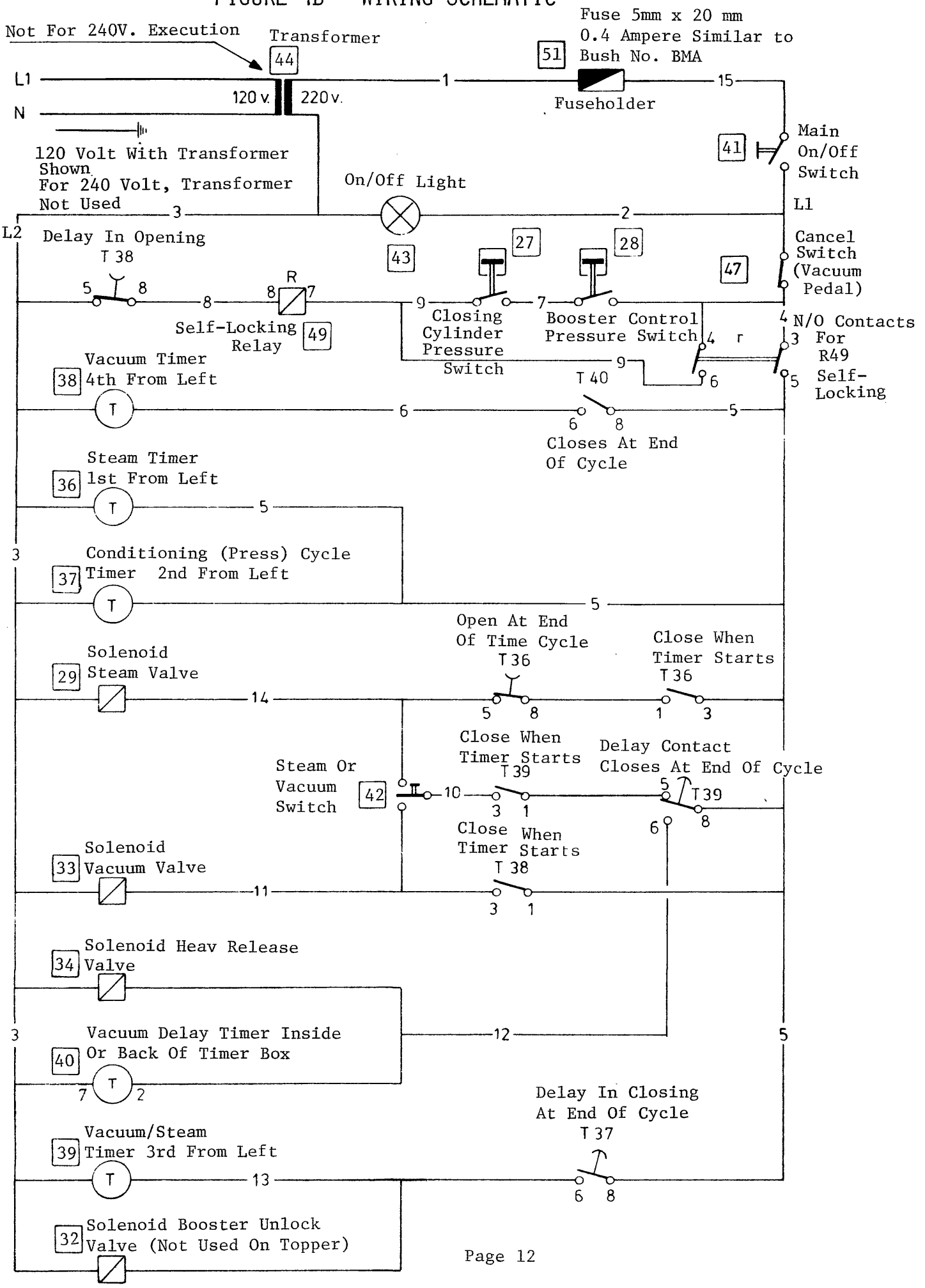


FIGURE 4B - WIRING SCHEMATIC



Part Numbers

Figure 5 shows the assembled press as being made up of different groups of parts. See the corresponding figure number referenced below for service part numbers.

See chart for controls and part numbers for automatic presses on page 27.

Description of the Automatic Press - (See Fig. 5)

The buck of the press is the bottom padded part of the press upon which the garment to be pressed is placed. The head is the upper part of the press. The head is closed with an air cylinder (air motor) (Fig. 24) and has a hydraulic booster assembly (Fig. 23) for applying pressure and locking the press in the closed position. The Fabric Feel control (Fig. 19) located on the table is used to vary the locking pressure for different materials. There is a booster pressure gage mounted on the head which can be easily viewed by the operator.

Two black knobbed levers are located on the head. The left lever (Fig. 20) actuates the locking valve (Fig. 25) which actuates the high pressure booster (Fig. 23) and locks the head down. The right lever on the head is used for manually operating the head valve (Fig. 16) which ports steam to the head.

There is also an air operated cylinder (Fig. 21) which operates the head valve during normal automatic operation.

A hidden, long actuating bar is located under the front edge of the table. When the bar is pressed upward with one hand, the head closes but does not lock. To lock the press, the left black knobbed lever (Fig. 25) located on the head must be actuated with the other hand.

Two foot pedals are located near the floor at the front of the press. The left hand pedal is the vacuum and release pedal. Depressing the left pedal part way actuates the release valve (Fig. 29) and the head opens. Completely depressing the pedal ports vacuum through the buck. The right hand pedal actuates the buck valve (Fig.17) which ports upstream to the buck.

The unlocking bleed cock in the locking valve (Fig. 25) can be used to obtain automatic unlocking and opening of the press head whenever the electrical controls are turned off or during temporary power shortages.

The press is equipped with four electrical timers which control solenoid air valves which in turn control the steam and vacuum air cylinders, air operated valves and other air components to provide automatic steaming, vacuuming, pressing and length of cycle.

The press can be operated as a semi-automatic air operated press when the electrical controls are turned off or during temporary power shortages.

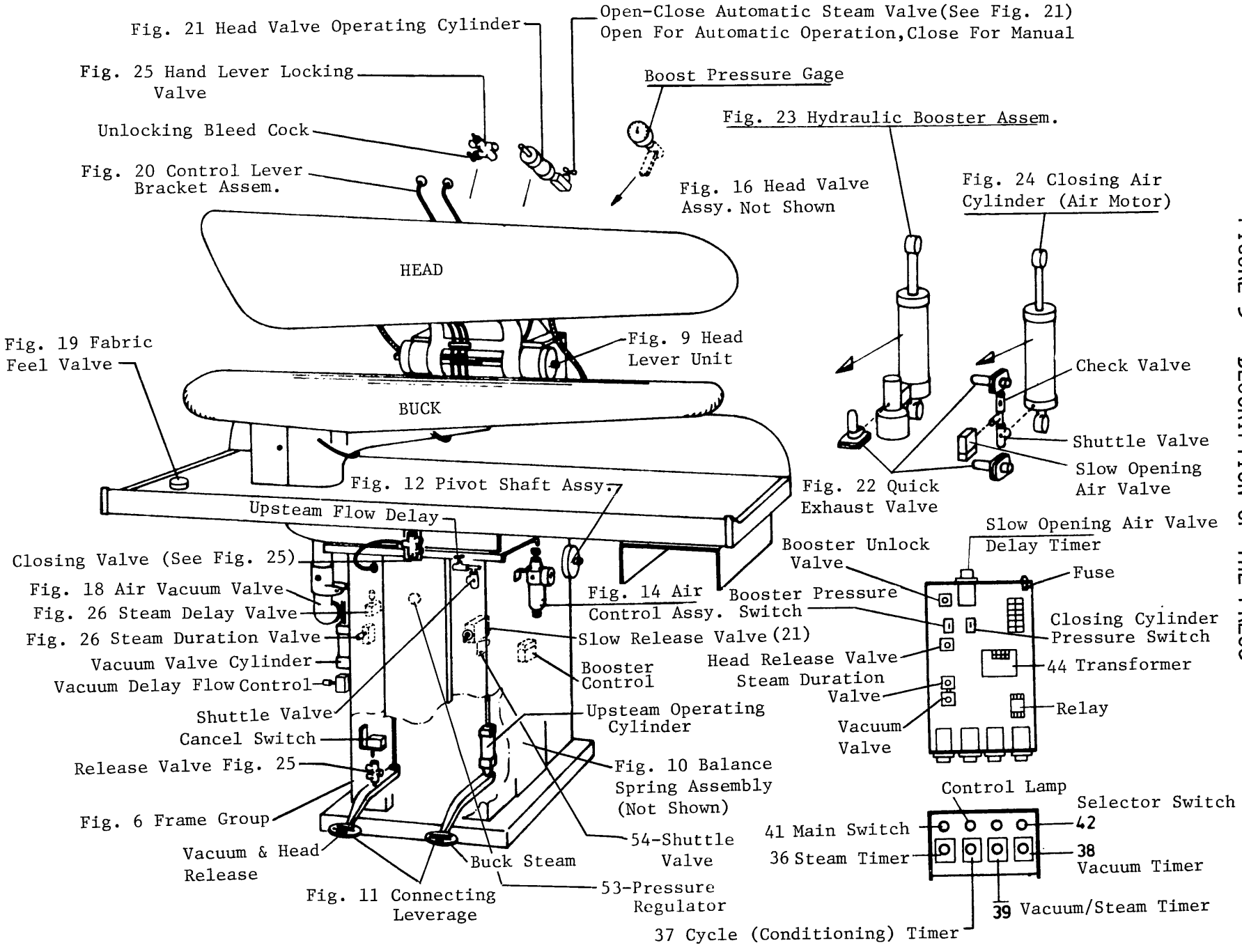


FIGURE 5 - DESCRIPTION OF THE PRESS

Maintenance

1. Once per month check oil level in the booster assembly. Use only 80022 oil. Never use ordinary lubricating oil.

2. Once per month add ordinary lubricating oil into the oil holes of the foot pedals. See Fig. 11.

3. The main pivot of the press head lever is fitted with needle bearings that are factory lubricated for the life of the machine.

4. The water and dirt should be checked in the bowl of the air cleaner daily and cleaned and/or drained when needed.

5. Other lubricating points when needed (use motor oil).
   a. Pivot points of control lever assembly.
   b. Vacuum valve pin and damper shaft.
   c. Buck valve connecting lever at connecting lever bolt.
   d. Control lever bracket assembly.
   e. Head valve linkage.

   Other lubricating points when needed (use grease).
   f. Spring rod guides.

Mechanical Adjustments

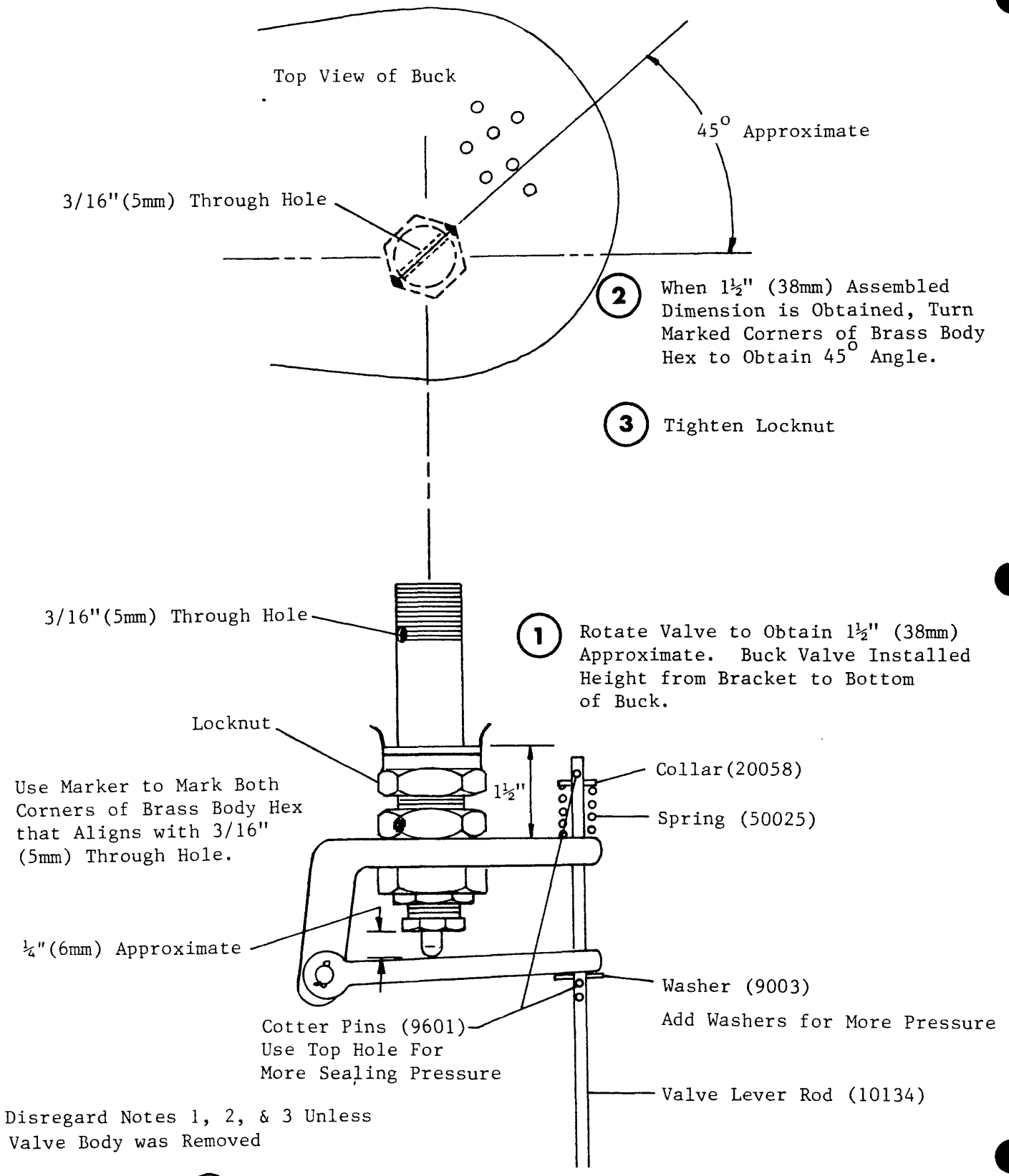
Head Valve - See Fig. 16 - This valve is equipped with an adjusting screw to meter the flow of head steam. Turning the screw counter-clockwise increases the flow of steam. See Fig. 16.

Buck Steam Linkage - Fig. 11 shows the linkage for buck steam operation. The valve lever rod visible under the table can be rotated by hand. With no pressure on the foot pedal turn this rod counter-clockwise as viewed from the top so that no steam flows into the buck. Depression of the right hand pedal should then give a good flow of steam. If there is a poor flow of steam because the pedal doesn't have enough travel, then turn the valve lever rod clockwise. If a good adjustment cannot be made adjust the buck valve, see below.

Buck Valve - This valve is set at the factory and normally would not be adjusted. In order to increase the buck steam, loosen the jam nut and turn the hex stem box counter clockwise. See Fig. 17.

Balance Springs - See Fig. 10. The balance springs are adjusted at the factory. The setting of the springs is a compromise between the closing speed and the opening speed of the head. To speed the buck opening, compress the springs more by adjusting the balance spring head which will require more closing force thus increasing the time required to close the press. Conversely extending the springs more allows faster closing and slower opening.

BUCK VALVE ADJUSTMENT



GENERAL TROUBLE SHOOTING LIST

Automatic Presses

1. Press Does Not Close

	POSSIBLE CAUSE	SOLUTION
a.	Insufficient or no air pressure at all.	Check compressor pressure.
b.	Air control assembly has either been wrongly adjusted or is blocked by dirt.	Adjust air control assembly #2 at 88 psi (6 bar) and clean, if necessary.
c.	Closing valve #6 under the table (AOL) or center foot pedal (ATT) does not work.	Adjust valve in such a manner, that it has a clearance of 1/32 to 1/16 with regard to the operating lever or foot pedal.
d.	Air line to closing air cylinder leaks or is blocked.	Screw off air line to closing air cylinder and check passage.
e.	Exhaust valve of air cylinder is defective	Check exhaust valve #7 and replace cup if necessary. Repair kit (#30017).
f.	Closing air cylinder cup is faulty.	Check closing air cylinder; if too much air blows out of upper cover, replace the "U" packing. (Repair Kit 117727)
g.	Protecting bar assembly out of adjustment.	Adjust protecting bar assembly to energize sensing switchs (#62) for maximum safety.
h.	Protecting bar group main air pressure solenoid valve (#65) defective.	Repair or replace kit #117695.
i.	Defective protecting bar group relay #63.	Replace relay.
j.	Manual reset button (#64) defective of protecting bar group.	Replace.

2. Press Closes Too Slowly

a.	Air pressure too low.	Increase reducing valve to 88 psi (6 bar).
b.	Tension of balance spring set high.	Reduce spring tension by unscrewing balance spring head (#121).
c.	Press works mechanically too heavy.	Lubricate press, see table of contents. (Maintenance)

Press Closes Too Slowly (continued)

	POSSIBLE CAUSE	SOLUTION
d.	Supply line to air cylinder is too small.	Enlarge supply. (½ inch dia.)
3.	Press Opens Too Slowly	
a.	Defective exhaust valve either from booster or air cylinder	Closs press without high pressure. If press opens correctly when releasing the operating lever, exhaust valve of air cylinder is o.k. In this case the exhaust valve of booster is defective (repair kit 30017).
b.	Defective booster	See description of booster.
c.	Springs tensions is insufficient.	Tighten springs by turning the balance spring head (#121) clockwise. Note: Tighten both springs equally.
d.	Slow release valve #21 defective (legger only).	Repair or replace.
e.	Slow release flow control valve #24 (legger only).	Set switch to the "O" position. If head contunues to open slow, repair or replace slow release valve #21. If head opens faster, adjust or replace slow release flow valve #24.
4.	Press Closes, But Gives No High Pressure	
a.	Unlocking bleed cock of hand lever valve leaks or is open.	Close or replace unlocking bleed cock. (#40268).
b.	Foot pedal release valve on left foot pedal leaks or remains open.	1. Adjustment of the valve not correct. Clearance 1/32 to 1/16 inch. 2. Defective "O" ring.
c.	Defective booster.	See description of booster.
d.	Hand lever locking valve leaks.	Disassemble hand lever locking valve 13 and replace "O"-ring or valve.
e.	Line to booster leaks.	Check air hose for leakages.
f.	Exhaust valve of booster leaks.	Disassemble exhaust valve (#110025) and check diaphram. Repair kit #30017.

Press Closes, But Gives No High Pressure (continued)

	POSSIBLE CAUSE	SOLUTION
g.	Defective fabric feel valve.	Check to see if there is any air pressure from fabric feel valve. If no air pressure or very little adjustment of air pressure, replace or repair the fabric feel valve. Kit #113963.
h.	Defective solenoid booster unlock valve #32 (legger only).	Repair or replace valve. Check to make sure spring is attached to plunger.
i.	Defective booster control valve #20 (legger only).	Repair or replace (repair kit 117006).
j.	Defective solenoid head release valve #34.	Repair or replace valve. Check to make sure spring is attached to plunger.
k.	Defective solenoid head release valve #34.	Repair or replace valve. Check to make sure spring is attached to plunger.
5.	Press Closes, But Does Not Open By Foot Pedal	
a.	Exhaust valve, either on booster or of air cylinder does not work correctly.	Close press with high pressure. If press opens correctly when releasing operating lever, exhaust valve of air cylinder is in order. In this case exhaust valve of booster causes the trouble and must be repaired. Kit (#30017).
b.	Booster is defective.	See description of booster.
c.	Foot pedal release valve #10 on left foot pedal does not work.	re-adjust valve. Clearance between pedal and valve should be 1/32 to 1/16 inch.
d.	Defective booster control #20 (legger only).	Repair or replace valve. (repair kit 117006).
e.	Defective solenoid booster unlock valve #32 (legger only)	Repair or replace valve. Check to make sure spring is attached to plunger.
6.	Automatic Cycle Will Not Start After Head Is Locked Down With High Pressure	
a.	No power (indicator light is off).	1. Check to make sure power is turned on to the press. 2. Check fuse.

Automatic Cycle Will Not Start After Head Is Locked Down With High Pressure (continued)

a.	No power (power on indicator light is off).	3. Check to make sure main switch #41 is turned on. 4. Check transformer #44 repair or replace.
b.	Closing cylinder (#27) or booster control (#28) pressure sensing switch is defective.	The pressure switch may be adjusted by means of a slotted screw located top center of switch.
c.	Defective self-locking relay #49.	Replace.
d.	Defective timer #T38	Replace
e.	Cancel Switch #47	Cancel switch out of adjustment or defective.

7. Head Will Not Release Automatically But Will Release With Foot Pedal

a.	Timer #39 defective	Replace timer.
b.	Solenoid head release valve #34 defective.	Repair or replace. Check to make sure spring is attached to plunger.

8. Head Will Not Go To Zero Pressure During Automatic Cycle (Legger Only)

a.	Timer #37 defective.	Replace timer.
b.	Solenoid booster unlock valve #32 is defective.	Repair or replace. Check to make sure spring is attached to plunger.
c.	Booster control valve #20 is defective.	Repair or replace (Kit #117006).
d.	Defective shuttle valve #23.	Repair or replace.

9. No Steam On Automatic Cycle

a.	Defective steam timer #36.	Replace timer.
b.	Defective steam valve solenoid #29.	Repair or replace valve. Repair kit #117156. Check to make sure spring is attached to plunger.
c.	Defective shuttle valve #35.	Repair or replace.

	POSSIBLE CAUSE	SOLUTION
10.	No Vacuum On Automatic Cycle	
a.	Steam/vacuum switch #42 not set properly.	Turn switch to vacuum symbol.
b.	Timer #39 defective.	Replace timer.
c.	Timer #37 defective.	Replace timer.
d.	Solenoid vacuum valve #33 defective.	Repair or replace valve (kit # 117156). Check to make sure spring is attached to plunger.
e.	Vacuum delay flow control #18 defective.	Adjust flow control or replace
f.	Vacuum valve actuating air cylinder #19 is defective.	Replace air cylinder.
g.	Defective vacuum valve #111788	Repair or replace (kit 117782)
11.	Head Steam Valve Is Leaking	
a.	Valve disc is damaged.	Replace valve disc. (#30024)
b.	Seat is damaged.	Replace seat. (#20032)
c.	Spring is broken or out of adjustment.	Replace spring (#50010) or increase spring tension by mounting a ring behind the spring. If disc holder (#20167) or cover are too far driven in they have to be replaced.
d.	Operating cylinder jams.	Check operating cylinder, clean and grease it.
12.	Head Steam Valve Leaks On The Outside	
a.	O-ring worn out or faulty.	Replace O-ring 30023. Packing set screw with teflon tape can remove leakage.
b.	Teflon gasket 30049 leaks.	Replace teflon gasket (#30049).
13.	Buck Steam Valve Leaks	
a.	Valve 30594 is damaged.	Replace valve (30594).
b.	Seat is damaged (older types do not have a removable seat).	Clean or replace seat (#15081).
c.	Check if spring tension (out side of valve) is sufficient.	Spring tension can be increased by turning the valve lever rod.
d.	Buck steam valve leaks at thread of housing.	disassemble valve and tighten before re-assembling.

14. Buck Steam Valve Leaks On The Outside

	POSSIBLE CAUSE	SOLUTION
a.	O-ring worn out or faulty.	Replace O-ring (30023).
b.	Teflon gasket 30049 leaks.	Try to tighten jam nut. If tightening jam nut does not work, replace teflon gasket (30049).

15. During Closing Of Press No Head Steam Is Released Automatically.

a.	Steam delay valve of automatic head steam is blocked.	Open steam delay valve entirely and re-adjust it.
b.	Head steam valve cylinder is jamming or cup packing leaks.	If cup packing leaks, air will pass through the front cover. Replace cup (30092). Otherwise supply hose has to be loosened and checked for allowing air to pass through during closing. If so, check cylinder and operate it.

16. Head Steam Releases Automatically But Continuously

a.	Steam duration valve #4 is blocked or closed.	Open steam duration valve entirely and re-adjust it.
b.	Head steam valve #3 cylinder does not come back, is jamming.	Clean operating cylinder and/or replace spring (#50046).

17. Head Steam Valve Releases Too Much Or Too Little Steam

a.	Passage of head steam valve is either too big or too small.	Opening of valve can be adjusted by means of a set screw (80604) on front side of valve.

18. Buck Steam Valve Releases Too Much Or Too Little Steam

a.	Passage of buck steam valve is either too big or too small.	See table of contents - Adjustments - Buck Steam Valve

19. No Release Of Vacuum When Depressing Left Pedal

a.	Set collar on vacuum valve connecting rod not adjusted properly.	Take off front panel and adjust set collar 17858. Clearance between operating lever - valve and set collar has to be ± 1/16.

20. Vacuum Continuous, After Pedal Has Been Released

	POSSIBLE CAUSE	SOLUTION
a.	Spring of the valve is defective.	Replace spring 50009.
b.	Vacuum valve connecting rod is not lined up with valve lever 113794.	Adjust valve accordingly.

21. Press Makes A Loud Banging Noise When Head Is Released

a.	Operator error (High pressure was applied before the head was completely closed).	Head must be in contact with the buck before high pressure is applied.

22. Trouble Shooting List Of The Hydraulic Booster (#113888)

See Fig. 23

What to do if:
1. Press opens too slowly.
2. Booster gives no pressure.
3. Press looses pressure during cycle.
4. Loss of oil/loss of pressure.

When disassembling the booster, all packings and O-rings should be replaced.

At least once a year the hydraulic oil in the booster should be replaced, because oil reduces its viscosity.

Trouble Shooting List Of the Hydraulic Booster

1. Press opens slowly
   a. Booster nut 174 has been driven in, hindering back flow of oil. If the booster nut is slightly driven in, it might be possible to adjust booster valve 10306 somewhat higher (see fig. 7). Otherwise a new booster nut has to be installed.

   b. Air booster spring 50092 is broken or does not have sufficient tension any more. Requires replacement.

2. Booster gives no pressure. Check to make sure that the booster is getting air pressure. Remove air line to booster and operate the hand lever locking valve. Check to make sure booster is full of hydraulic oil (80022).

3. Press looses pressure during cycle.
   a. Check, if air supply line is leaking.

   b. It may be that there is a leakage between check valve stem 30595 and seat. If necessary, replace valve and adjust seat. Former presses have been equipped with a metallic valve instead of a plastic one. Such metallic valve may be fixed by installing an O-ring. Old parts can simply be replaced by 30595.

c. Back up ring 30025 and O-ring 30029 require replacement. Damages of back up ring can be hardly located, because of small cracks. check also O-ring 30032; after longer use this O-ring can be damaged.

d. Check if seat between plunger 10520 and booster valve 10306 is damaged (always to be replaced at the same time).

e. Check O-ring 30081 (damages do not occur very often).

f. Check O-ring 30083.

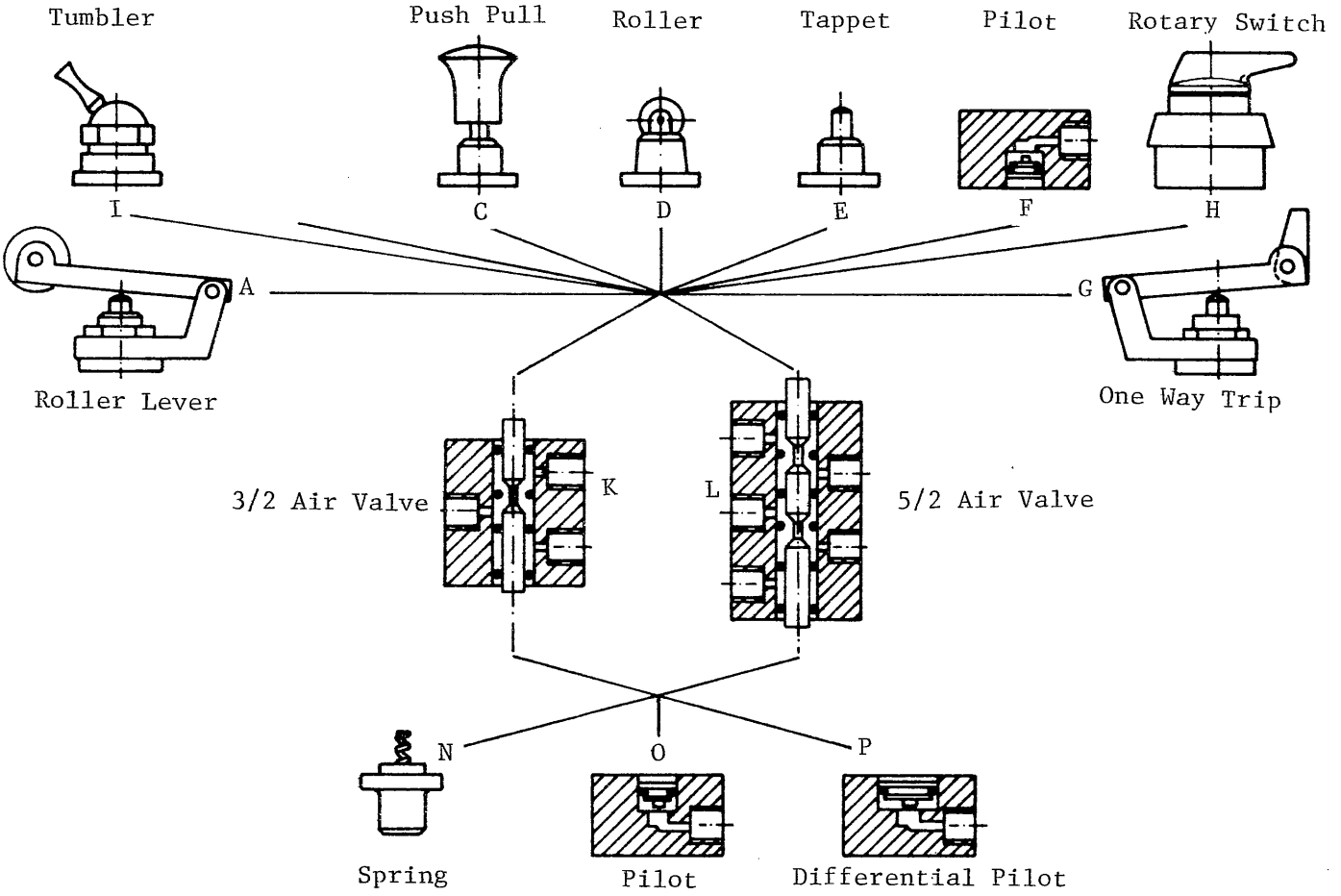
4. Loss of oil and eventual loss of pressure.
   a. Check valve stem 30595 does not work, not allowing the oil to flow back. Oil will then accumulate in the top of the booster at piston rod guide 124.

   b. Back up ring 30084 and O-ring 30082 let oil pass through so that it can enter into the exhaust valve. In most cases this is indicated to be located by a greasy oil vapour, which blows out of the exhaust valve during opening of the press. (The exhaust valve is mounted in front of air inlet of booster). Check also, if piston rod 1884 has been damaged. Sometimes this rod can be repaired by rubbing with very fine sandpaper in longitudinal direction (only slight damages)

5. Press slows down badly at closing.
   a. Refill oil on booster (use only oil with Pantex No. 80022).

   b. In case of loss of oil see point 4.

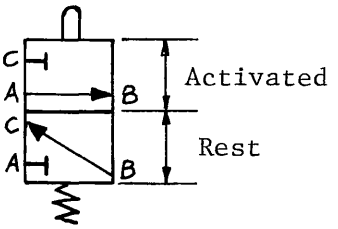
Please note, when mounting the booster between the shafts, that upper and lower fastening points must be lined up absolutely vertically.



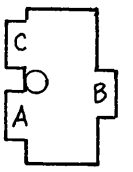
CODE	NAME	NUMBER	REPAIR KIT
F-K-O	3/2 Pilot/Pilot Valve 1/8"	117000	117006
A-K-N	3/2 Roller Lever/Spring 1/8"	117004	117003
F-L-O	5/2 Pilot/Pilot Valve 1/8"	117005	117006
F-L-P	5/2 Differential/Pilot Valve 1/4"	117007	117284
D-K-O	3/2 Roller/Spring Valve 1/8"	117021	117001
D-K-N	3/2 Roller/Spring Valve 1/8"	117105	117003
G-K-N	3/2 One Way Trip/Spring Valve 1/8"	117121	117003
F-K-N	3/2 Pilot/Spring Valve 1/8"	117175	117006
F-K-O	3/2 Pilot/Pilot Valve 1/4"	117212	117284
A-K-N	3/2 Roller Lever/ Spring Valve 1/4"	117237	117248
E-K-N	3/2 Tappet/Spring Valve 1/8"	117242	117003
F-L-N	5/2 Pilot/Spring Valve 1/8"	117265	117006
E-K-O	3/2 Tappet/Pilot Valve 1/8"	117002	117001
C-K-O	3/2 Push Pull Knob/Pilot Valve 1/8"	117281	117249
F-K-N	3/2 Pilot/Spring Valve 1/4"	117368	117284
H-L-N	5/2 Rotary Switch/Spring Valve 1/8"	117511	117003
I-K-N	3/2 Tumbler/Spring Valve 1/8"	117651	117003

Manually Operated

(Schematic drawing)

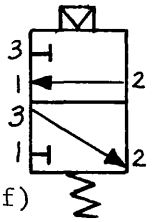


Actual Valve
113788

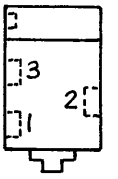


The above schematic is for manually operated air valves showing the function of the valve at rest (bottom section) and at the activated position (top section).
Although the valve has only 3 ports (a, b & c), this is a schematic way of showing how the valve works internally.

Air Operated Valve



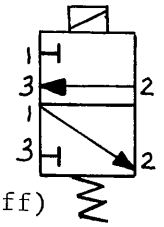
Actual Valve
117175



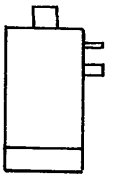
The above schematic is for an air operated air valve showing the function of the valve at rest (bottom section) and in the activated position (top section).
Although the valve has only 3 ports (1, 2, 3), this is a schematic way of showing how the valve works internally.

Electrical Operated Valve

Schematic Drawing



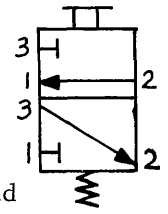
Actual Valve
117366



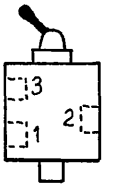
The above schematic is for an electrically operated air valve showing the function of the valve at rest (bottom section) and in the activated position (top section).
Although the valve has only 3 ports (1, 2, 3), this is a schematic way of showing how the valve works internally.

Manually Operated with Tumbler Switch

Schematic Drawing



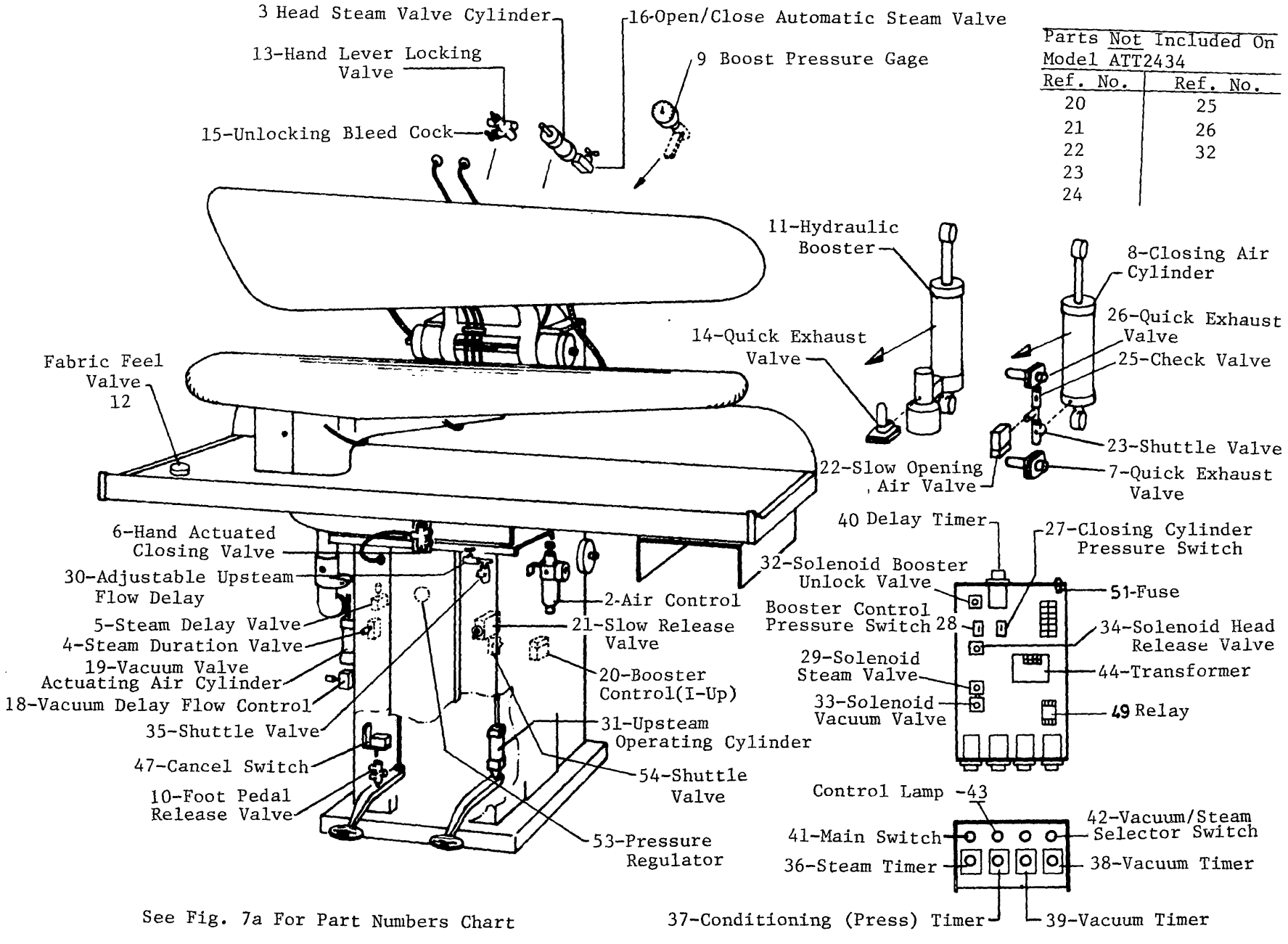
Actual Valve
117651



The above schematic is for a manually operated (with tumbler switch) air valve showing the function of the valve at rest (bottom section) and in the activated position (top section).
Although the valve has only 3 ports (1, 2, 3), this is a schematic way of showing how the valve works internally.

ATT2434, AOL AND ABP
AUTOMATIC AIR & ELECTRICAL CHART FOR
CONTROLS & FITTING PART NUMBERS

Ref.	Part Description	Part No.	Fitting Description	Part No.
1	Gauge	80706		
2	Air Control Assy.	113 362	Elbow Adaptor	45124
3	Head Steam Valve Cylinder	110 156		
4	Steam Duration Valve	80 846	Elbow Adaptor	45125
5	Steam Delay Valve	80 846	Elbow Adaptor	45125
6	Hand Activated Closing Valve	113 788	SwivelTee/Straight Adp	45163/45130
7	Quick Exhaust Valve	110 025		
8	Closing Air Cylinder	117 725	Straight Adaptor	45125
9	Boost Pressure Gage	80 864	Elbow Adaptor	45132
10	Foot Pedal Release Valve	113 788	Elbow Adaptor	45132
11	Hydraulic Booster	113 888		
12	Fabric Feel Valve	See Page 48	Elbow Adp/Straight Adp	45155/45184
13	Hand Lever Locking Valve	113 788	Elbow Adaptor	45124/45132
14	Quick Exhaust Valve	110 025	Elbow Adaptor	45155
15	Unlocking Bleed Cock	40 268		
16	Open-Close Automatic Steam Valve	80 845	Elbow Adaptor	45132
18	Vacuum Delay Flow Control	80 846	Elbow Adaptor	45125
19	Vacuum Valve Actuating Air Cylinder	116 972		
20	Booster Control	117 175	Elbow Adp/Swivel Adp Elbow Adaptor	45134/34179 45125
21	Slow Release Valve	117 651	Elbow Adaptor	45125
22	Slow Opening Air Valve	117 175	Elbow Adp/Straight Adp	45125/45128
23	Shuttle Valve	117 214		
24	Slow Release Flow Control	80 694		
25	Check Valve	117 106		
26	Quick Exhaust Valve	110 025	Elbow Adaptor	45132
27	Closing Cylinder Pressure Switch	70 424	Elbow Adaptor	45125
28	Booster Control Pressure Switch	70 424	Elbow Adaptor	45125
29	Solenoid Steam Valve Assy.	117 739	Elbow Adaptor	45125
30	Adjustable Upsteam Flow Delay	115 021	Straight Adp/Elbow Adp	45128/45125
31	Upsteam Operating Cylinder	116972	Straight Adaptor	45128
32	Solenoid Booster Unlock Valve	117 366	Elbow Adaptor	45125
33	Solenoid Vacuum Valve	117 739	Elbow Adaptor	45125
34	Solenoid Head Release Valve	117 010	Tee Adaptor	45127
35	Shuttle Valve	113 155	Elbow Adaptor	45125
36	Timer - Steam	70 435		
37	Timer - Cycle (Conditioning)	70 435		
38	Timer - Vacuum	70 435		
39	Timer - Vacuum	70 435		
40	Timer - Delay	70 435		
41	Main Switch Switch Element	70 479 70 480		
42	Selector Switch Switch Element	70 479 70 498		
43	Control Lamp Holder Indicator Control Lamp	70 481 70 482 70 483		
44	Transformer 120V - 220V	70 564		
47	Cancel Switch	70 001		
48	Terminal Block	70461		
49	Relay 220V - 50/60 Hz Relay Base	70 458 70 459		
50	Fuse Holder	70 112		
51	Fuse	70 579		
52	Closing Air Cylinder	117723		
53	Pressure Regulator	117849		
54	Shuttle Valve	117214		



Parts Not Included On Model ATT2434	
Ref. No.	Ref. No.
20	25
21	26
22	32
23	
24	

See Fig. 7a For Part Numbers Chart

FIGURE 7 AIR & ELECTRICAL COMPONENTS (LEGGERS & TOPPERS)

Operation of the Automatic Press (See Fig. 7)

First set the electrical controls on the press for automatic operation. Four timers and two other controls are located on the face of the control box to which the electrical connections were made.

Set the left steaming timer (36) to two seconds. This determines the amount of time which both the buck steam and the head steam will flow into the garment.

The next timer (37) controls the length of cycle which includes the time set on the steaming timer plus the press time. Now set the cycle timer (37) to four seconds. This will give us two seconds of steaming plus two seconds of press time for a total time of four seconds.

NOTE: The cycle timer (37) must be set to a longer time than the steam timer (36) to provide press time which is the difference in time.

The third timer (39) will provide extra steaming or if so desired the third timer (39) will provide extra vacuum. To make a selection of extra steaming or extra vacuuming, a two position rotary selector switch (42) located in the upper right of the panel must be set to steaming (counter clockwise) or to vacuuming (clockwise). If neither extra steam or vacuum is desired, set the third timer (39) to zero. Set the selector switch (42) to vacuum and the timer (39) to 5 seconds.

The last timer (38) controls the vacuum cycle. Set this timer (38) to two seconds.

The last control (41) in the upper left of panel is the electrical power on-off switch. Turn this switch clockwise (I) and the indicator "on" light will glow, to indicate automatic mode of operation. Turn this switch counter-clockwise (0) for semi-automation mode of operation.

Select a garment to be pressed and set the fabric feel gage to the type of fabric. Lay the garment on the buck of the press.

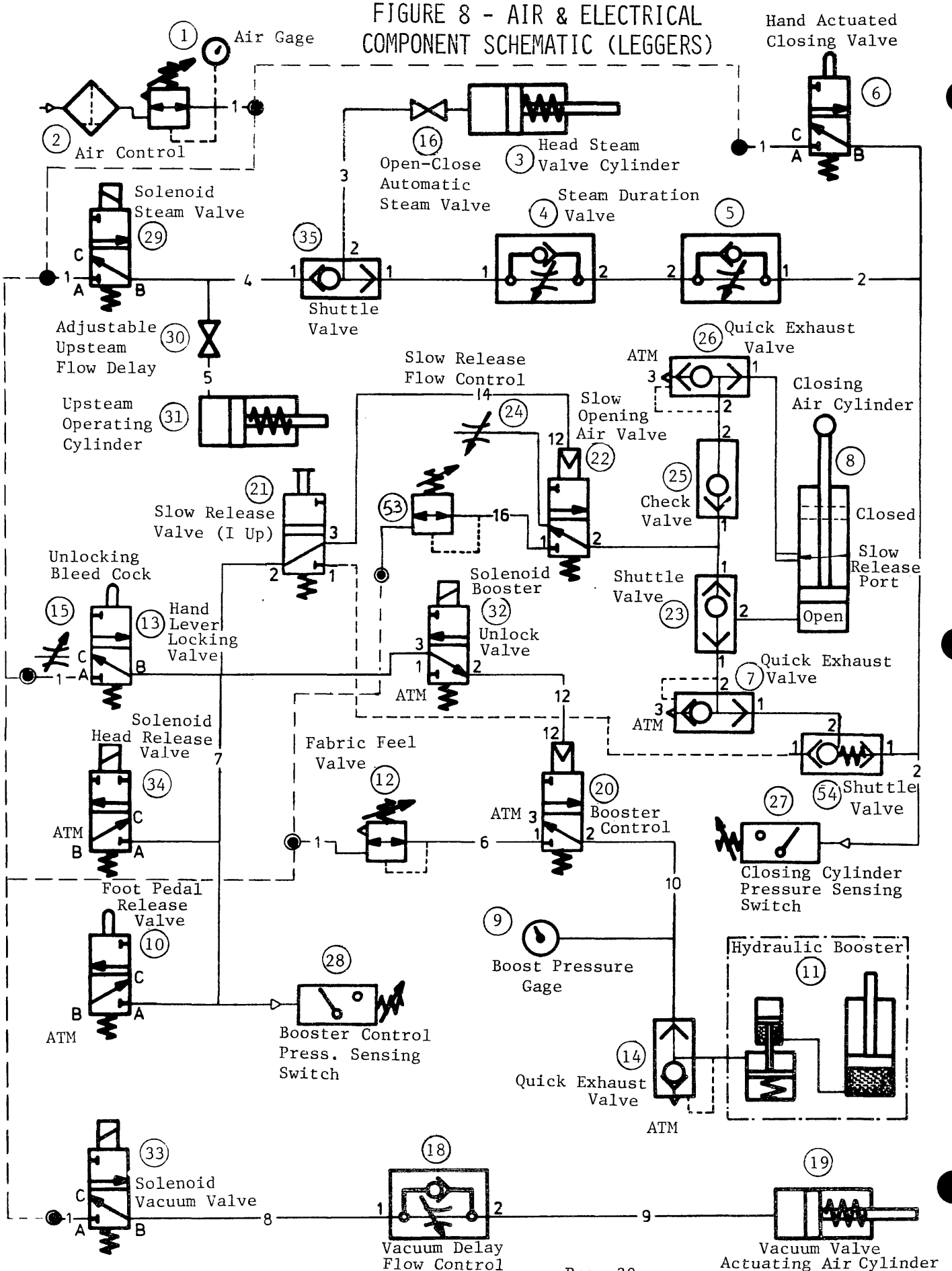
Press upwards on the actuating bar with one hand which will cause the head to close. Depress the left hand locking lever on the head with the other hand and the press will lock and the automatic cycle will commence. Warning! The head must be closed when the locking lever is depressed or poor pressing will result and the booster may be damaged.

With the press set as described above, there will be two seconds of steam, two seconds of press time , five seconds of vacuum drying with the head down and two seconds of vacuum drying with the head up.

An additional feature of this press is a slow head release control (21) located on the right front of the main press frame. The slow head release is when the control is set in the (I) up position. In the (I) up position and the press set as above there will be two seconds of steam, two seconds of conditioning, head will partially open, five seconds of vacuum drying, the head will release and finally two seconds of vacuum drying with the head up.

Another feature is an externally adjustable vacuum delay timer (40) located on the back of the control box. Set this timer to one second. This will delay the final two seconds of vacuum drying to commence one second after the head is released.

FIGURE 8 - AIR & ELECTRICAL COMPONENT SCHEMATIC (LEGGERS)



(Leggers)

How the Electrical and Air Controls Work - See Fig. 7 & Fig. 8

Plant air enters the air control (2) where it is cleaned of dirt and water. The control should be adjusted to give a reading of 88 psi (6 bars) on the system air gage (1). The control air flows to the hand actuated closing valve (6) and to the fabric feel valve (12). The fabric feel valve is really a pressure reducer and the reduced pressure is connected to the air operated booster control valve (20).

Control air pressure also flows to the solenoid steam valve (29), to the hand lever locking valve (13), to the solenoid vacuum valve (33) and to the air operated slow opening valve (22).

When automatic operation of the head steam is desired, the open-close automatic steam valve (16) is open. When the hand actuated closing valve (6) is operated, air flows to the quick exhaust valve (7), to the center loaded shuttle valve (23), then to the closing air cylinder (8) and the head closes.

When the piston head passes the slow release port in the side of the cylinder air shuttles the quick exhaust valve (26) and air flows to and closes the check valve (25).

At the same time air pressure closes the contacts in the closing cylinder pressure sensing switch (27). Also air flows through an adjustable orifice in the steam delay valve (5), free flows through the steam duration valve (4), through shuttle valve (35), through the open automatic steam valve (16) to the head steam valve cylinder (3) which operates the head steam valve. The adjustable orifice in steam delay valve (5) should be adjusted so that steam commences as soon as the head is closed.

If the hand actuated closing valve (6) is released at this time, the head will open. To keep the head down, the hand lever locking valve (13) must be depressed with the other hand while continuing to hold the closing valve (6). Warning! The head must be fully closed when the hand locking lever (13) is depressed or poor pressing will result and the booster could be damaged. Air flows from the locking valve (13) to and through the solenoid booster unlock valve (32) and actuates the air controlled booster valve (20), this allows air to flow through the booster control (20), to the boost pressure gage (9) on to the quick exhaust valve (14) then to the hydraulic booster and the head is locked down with the boost pressure set with the fabric feel valve.

Actuation of the hand locking lever (13) also causes air pressure to flow to the slow opening air valve (22) which allow air to flow through valve (22), through the center loaded shuttle valve (23) to again pressurize the closing air cylinder (8).

At the same time the hand locking lever (13) also causes air pressure to flow to and close the contacts in the booster control pressure sensing switch (28) to the solenoid head release valve (34) and to a closed foot pedal release valve (10).

Both hand levers can now be released and the head stays closed and locked.

It is now that the electric timers start the automatic cycle. The control circuit is energized when both the closing cylinder (27) and the booster control (28) pressure sensing switches are closed and the main switch (41) is closed.

How the Electrical and Air Operated Controls Work (Continued)

Set the steam timer (36) to say 2 seconds and this energizes the solenoid steam valve (29) by porting air pressure through valve (29) through the adjustable upsteam flow volume valve (30) to the upsteam operating cylinder (31). At the same time air flows to shuttle valve (35), through the open automatic steam valve (16) to the head steam valve cylinder (3). This times 2 seconds of head steam and buck steam. The electrical power flows to the solenoid steam valve through contacts in the steam timer (36), one set of contacts opens at the end of 2 seconds.

The next timer (37) controls the length of cycle which includes the time set on the steaming timer plus the conditioning time. Set the cycle timer (37) to four seconds. This will give us two seconds of steaming plus two seconds of conditioning time for a total time of four seconds.

NOTE: The cycle timer (37) must be set to a longer timer than the steam timer (36) to provide conditioning time which is the difference in time.

The third timer (39) will provide extra steaming or if so desired the third timer (39) will provide extra vacuum. To make a selection of extra steaming or extra vacuuming, a two position rotary selector switch (42) located in the upper right of the panel must be set to steaming (counter clockwise) or to vacuuming (clockwise). If neither extra steam or vacuum is desired, set the third timer (39) to zero. Set the selector switch (42) to vacuum and the timer (39) to 5 seconds.

The last timer (38) controls the vacuum cycle. Set this timer (38) to two seconds.

As soon as the steaming stops, control is shifted to the conditioning (press) cycle timer (37) whose one set of contacts are open preventing the vacuum/steam timer (39) from running and from energizing the solenoid booster unlock valve (32). The garment in the press conditions for 2 seconds (4-2) after steaming stops at which time the contacts in cycle timer (37) close and starts the vacuum/steam timer (39) which in our case has been set for vacuum of 5 seconds. When the contacts in cycle timer (37) close they also energize the solenoid booster unlock valve (32) which ports control pressure from the booster control valve (20) to atmosphere at the booster unlock valve (32). When this happens the boost pressure is ported to atmosphere through booster control valve (20) and then through the quick exhaust valve (14) and the head is unlocked.

When the vacuum/steam timer starts,power to the solenoid vacuum valve (33) is fed through two sets of contacts in the vacuum/steam timer (39) and through contacts in the rotary switch (42). Energizing the solenoid vacuum valve (33) causes air pressure to flow through valve (33), to the vacuum delay flow control valve (18) and then to the vacuum valve actuating air cylinder (19) which opens the vacuum valve. Vacuum will be on for 5 seconds.

At the end of 5 seconds, one set of contacts in the steam/vacuum timer (39) open and the other set switches to connect power to the vacuum delay timer (40) and to the solenoid head release valve (34).

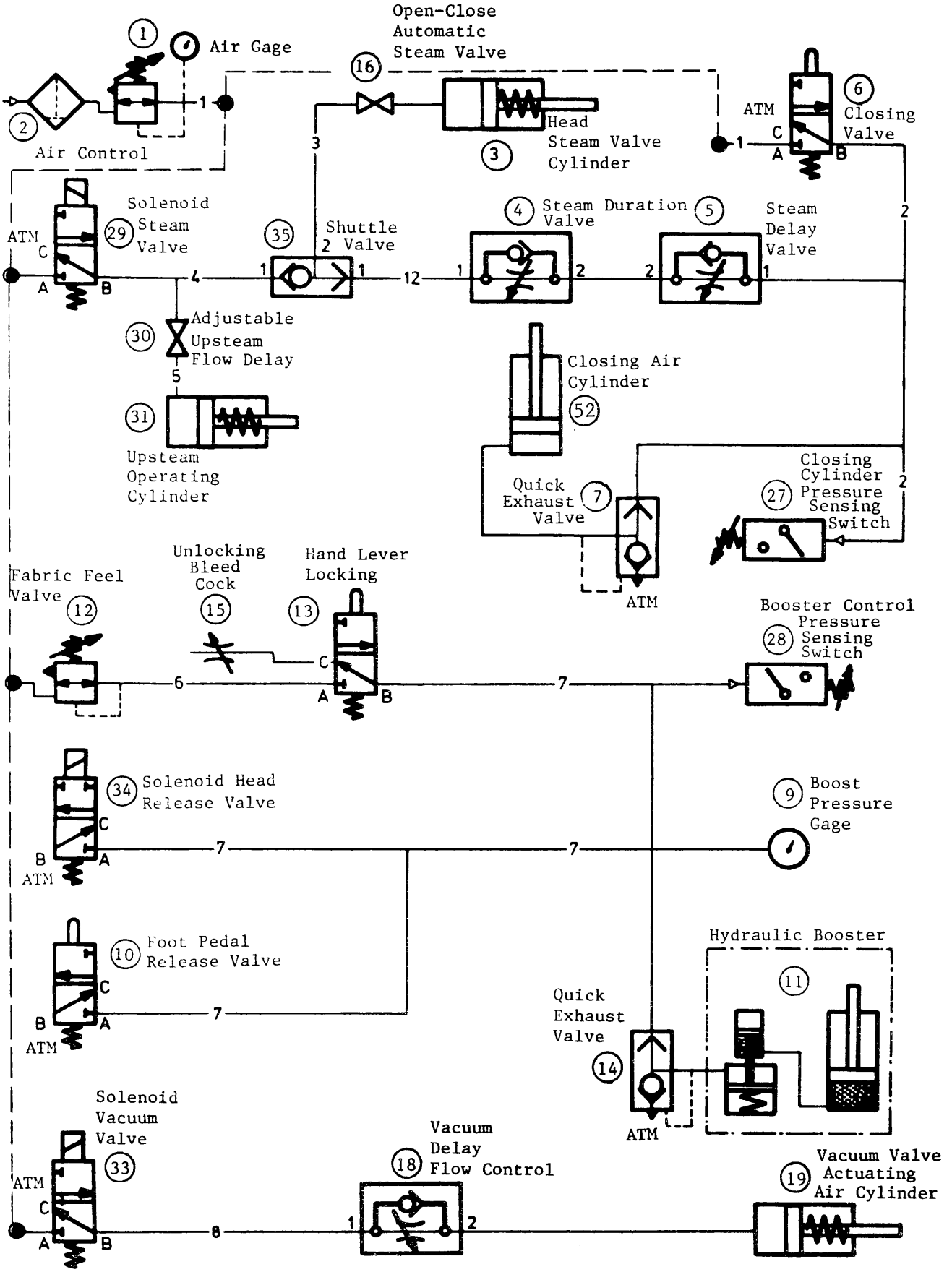
Energizing the solenoid head release valve (34) removes the pressure from the slow opening air valve (22) allowing the pressure in the closing air cylinder (8) to bleed off through the center loaded shuttle valve (23), through the slow opening valve (22), through the slow release valve (21) (in the (I) up position) through the adjustable slow release flow control valve (24) to atmosphere. As the piston in the closing air cylinder (8) passes the slow release port in the side of the cylinder, the shuttle in the quick exhaust valve shifts and the cylinder (8) is

dumped to atmosphere and the head quickly opens.

The delay timer (40) was set to say 1 second and this delay timer (40) commenced to run at the termination of the steam/vacuum timer (39) which is at the same time that the solenoid head release valve (34) was energized. A set of contacts in delay timer (40) are open for one second and then close to complete a power circuit to the vacuum timer (38) which has been set for 2 seconds. One set of contacts in the vacuum timer (38) close to energize the solenoid vacuum valve (33) for 2 seconds. The termination of the vacuum timer (38) and the momentary opening of one set of contacts in timer (38) opens the self-locking circuit going to the two pole relay (49) which drops out the relay and signals the end of the press cycle.

Beginning with Legger Serial No. 08822947, a pressure regulator (53) and shuttle valve (54) have been added. This allows for faster head release when the toggle switch (21) is in the up position.

FIGURE 8A - AIR & ELECTRICAL COMPONENT SCHEMATIC (TOPPERS)



How the Electrical and Air Operated Control Work (Topper) - See Fig. 8a

Automatic toppers require two hands to move and hold the garment on the press buck. For this reason, the automatic topper is equipped with a middle foot pedal which is used for closing the head. Also these presses are equipped with a "protection" device which shuts down and opens the press in case something other than a garment (like a hand) is in the path of the closing head.

The foot pedal operates the closing valve (6) which pressurizes the closing cylinder pressure sensing switch (27) air flows through the quick exhaust valve (7) to the closing air cylinder (8) and the head closes. Also air is metered through the steam delay valve (5), free flows through the head duration valve (4), through the shuttle valve (35), through the open automatic steam valve (16) and operates the head steam valve cylinder (3). If the foot pedal was released at this time, the head would open.

To lock the head down, one hand is used to actuate the left hand locking lever (13) which sends air pressure to the booster pressure sensing switch (28), to the boost pressure gage (9), to the solenoid head release valve (34) to the foot pedal release valve (10) and finally to the quick exhaust valve (14) which ports the pressure controlled by the fabric feel valve (12) to the hydraulic booster (11). The head is now locked and the hand lever and foot pedal can be released and the head will stay down. Just before both controls are released, an electrical circuit is completed through the main switch (41), the closing cylinder pressure switch (27) and the booster pressure sensing switch (28) to the two pole self locking relay which energizes the timer circuit.

When the foot pedal is released, closing valve (6) allows the pressure to pressure switch (27) to the head steam valve cylinder and to the closing air cylinder (8) to bleed to atmosphere and finally allows the cylinder (8) to exhaust through the quick exhaust valve (7).

Set the steam timer (36) to say 2 seconds and this energizes the solenoid steam valve (29) by porting air pressure through valve (29) to shuttle valve (35) through the open automatic steam valve (16) to the head steam valve cylinder (3). This times 2 seconds of head steam and buck steam.

The next timer (37) controls the length of cycle which includes the time set on the steaming timer plus the conditioning time. Set the cycle timer (37) to four seconds. This will give us two seconds of steaming plus two seconds of conditioning time for a total time of four seconds.

NOTE: The cycle timer (37) must be set to a longer time than the steam timer (36) to provide conditioning time which is the difference in time.

The third timer (39) will provide extra steaming or if so desired the third timer (39) will provide extra vacuum. To make a selection of extra steaming or extra vacuuming, a two position rotary selector switch (42) located in the upper right of the panel must be set to steaming (counter clockwise) or to vacuuming (clockwise). If neither extra steam or vacuum is desired, set the third timer (39) to zero. Set the selector switch (42) to vacuum and the timer (39) to 5 seconds.

The last timer (38) controls the vacuum cycle. Set this timer (38) to two seconds.

How the Electrical and Air Operated Controls Work (Topper) (Continued)

As soon as the steaming stops, control is shifted to the conditioning (press) cycle timer (37) whose one set of contacts are open preventing the vacuum/steam timer (39) from running. The garment in the press conditions for 2 seconds (4-2) after steaming stops at which time the contacts in cycle timer (37) close and starts the vacuum/steam timer (39) which in our case has been set for vacuum of 5 seconds.

Power to the solenoid vacuum valve (33) is fed through two sets of contacts in the vacuum/steam timer (39) and through contacts in the rotary switch (42). Energizing the solenoid vacuum valve (33) causes air pressure to flow through valve (33) to the vacuum delay flow control valve (18) and then to the vacuum valve actuating air cylinder (19) which opens the vacuum valve. Vacuum will be on for 5 seconds.

At the end of 5 seconds, one set of contacts in the steam/vacuum timer (39) open and the other set switches to connect power to the vacuum delay timer (40) and to the solenoid head release valve (34).

Energizing the solenoid head release valve (34) allows the hydraulic booster (11) pressure to flow to atmosphere through release valve (34) and finally to exhaust through quick exhaust valve (14) and the head quickly opens.

The delay timer (40) was set to say 1 second and this delay timer (40) commenced to run at the termination of the steam/vacuum timer (39) which is at the same time that the solenoid head release valve (34) was energized. A set of contacts in delay time (40) are open for one second and then close to complete a power circuit to the vacuum timer (38) which has been set for 2 seconds. One set of contacts in the vacuum timer (38) close to energize the solenoid vacuum valve (33) for 2 seconds. The termination of the vacuum timer (38) and the momentary opening of one set of contacts in timer (38) opens the self locking circuit going to the two pole relay (49) which drops out the relay and signals the end of the cycle.

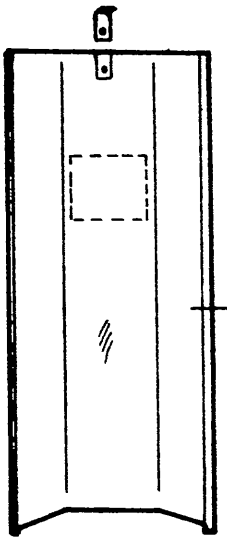
Protecting Bar Group (Toppers) (See Fig.29)

Topping of pants requires the use of both hands to hold the garment on the buck. In order to close the head, a center foot pedal is used. Whenever the center foot pedal is used, a safety protecting bar surrounds the head such that the press head closing is cancelled should an object (such as a hand) get in the closing path of the head. The protection bar requires electrical power from a separate supply on air operated press or is taken from the electrical control box on automatic presses which already have an electrical supply.

Tripping of the protection bar opens one or both sensing switches which allows two self locking circuits to open. One opens the magnetically held manual reset circuit. The second opens a relay circuit which cuts off power to and causes closing of the main air pressure solenoid valve and also in the case of an automatic press cuts off power to all controls. The machine is reactivated by pushing the manual reset button.

In summary, tripping of the protection bar causes the head to open by shutting off the air supply and also by shutting off the electrical power on automatic presses.

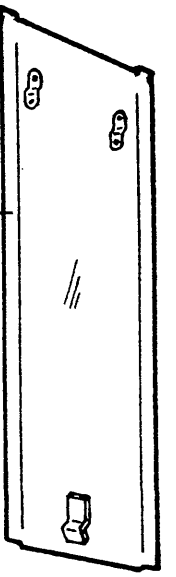
FIG. 6 FRAME GROUP

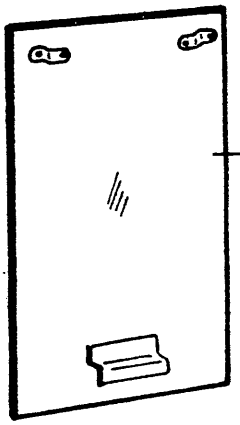


Back Panel
10029

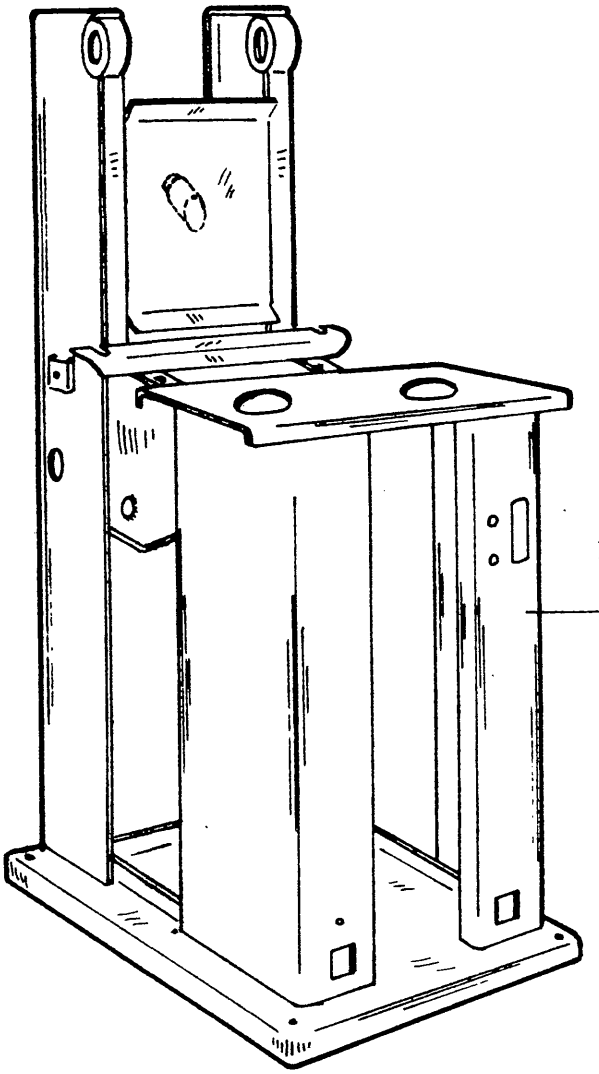
Frame Cover
101

Side Panel
Assy R.H.
10024

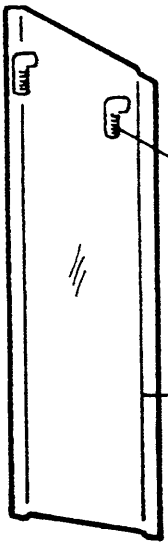




Back Cover
10025

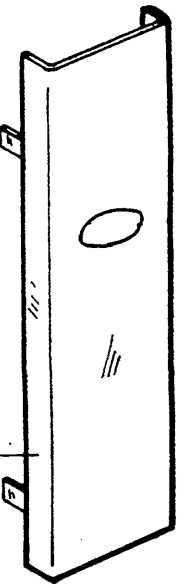


Frame Assy
110257



Southco
Fastener
CA 80 001

Side Panel
Assy L.H.
10022



Front
Plate
Assy
110845

FIG. 9 HEAD LEVER UNIT

CHART

Pin	Cotter	
10050	9602	(2 req'd)
10047	9603	(2 req'd)
10046	9603	(2 req'd)

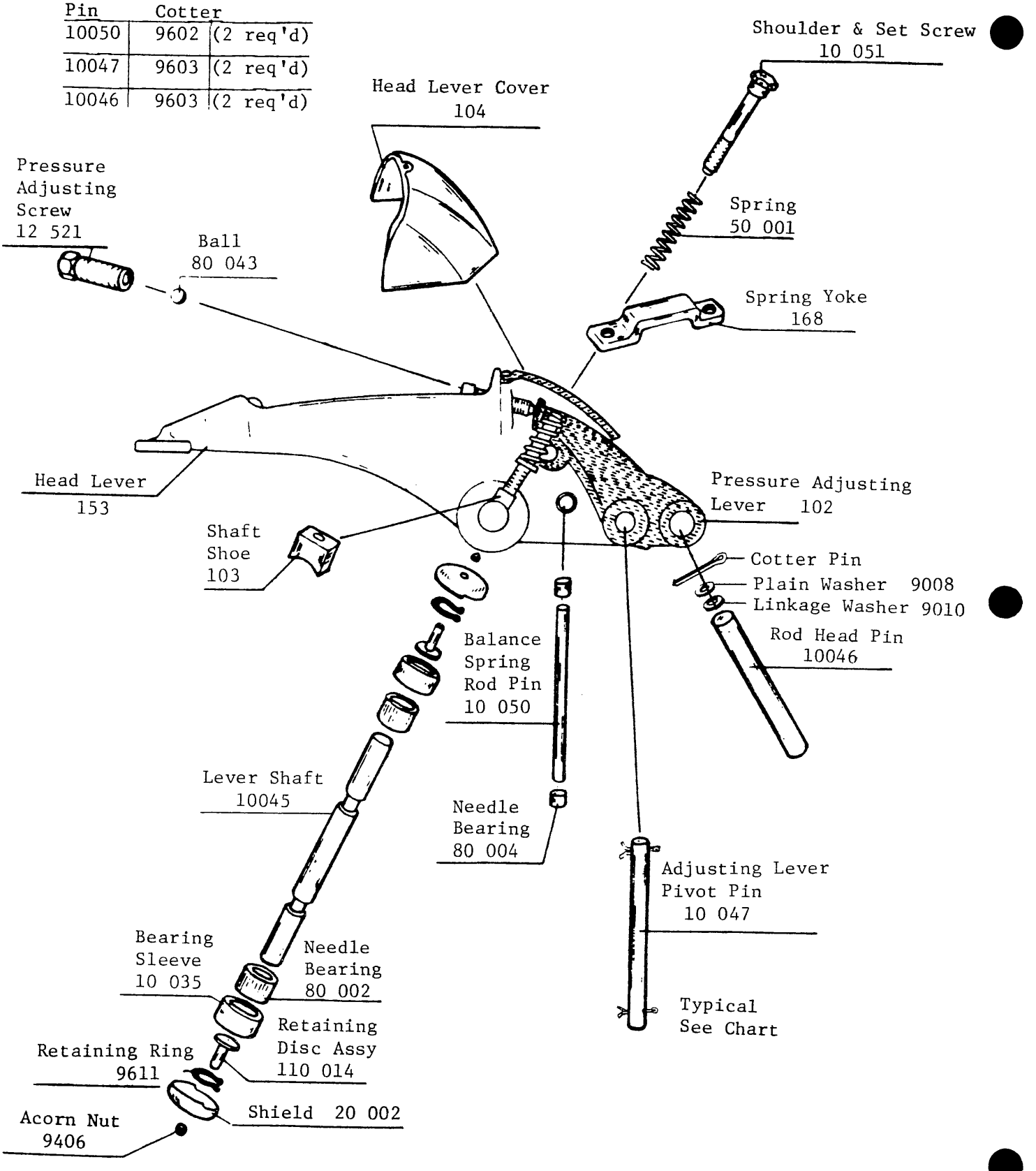


FIG. 10 BALANCE SPRING ASSY.

BALANCE SPRING

Model	Inner	Outer
AOL45	50042	---
AOL48	50042	---
ABP439	50042	---
ATT2434	50011	50012

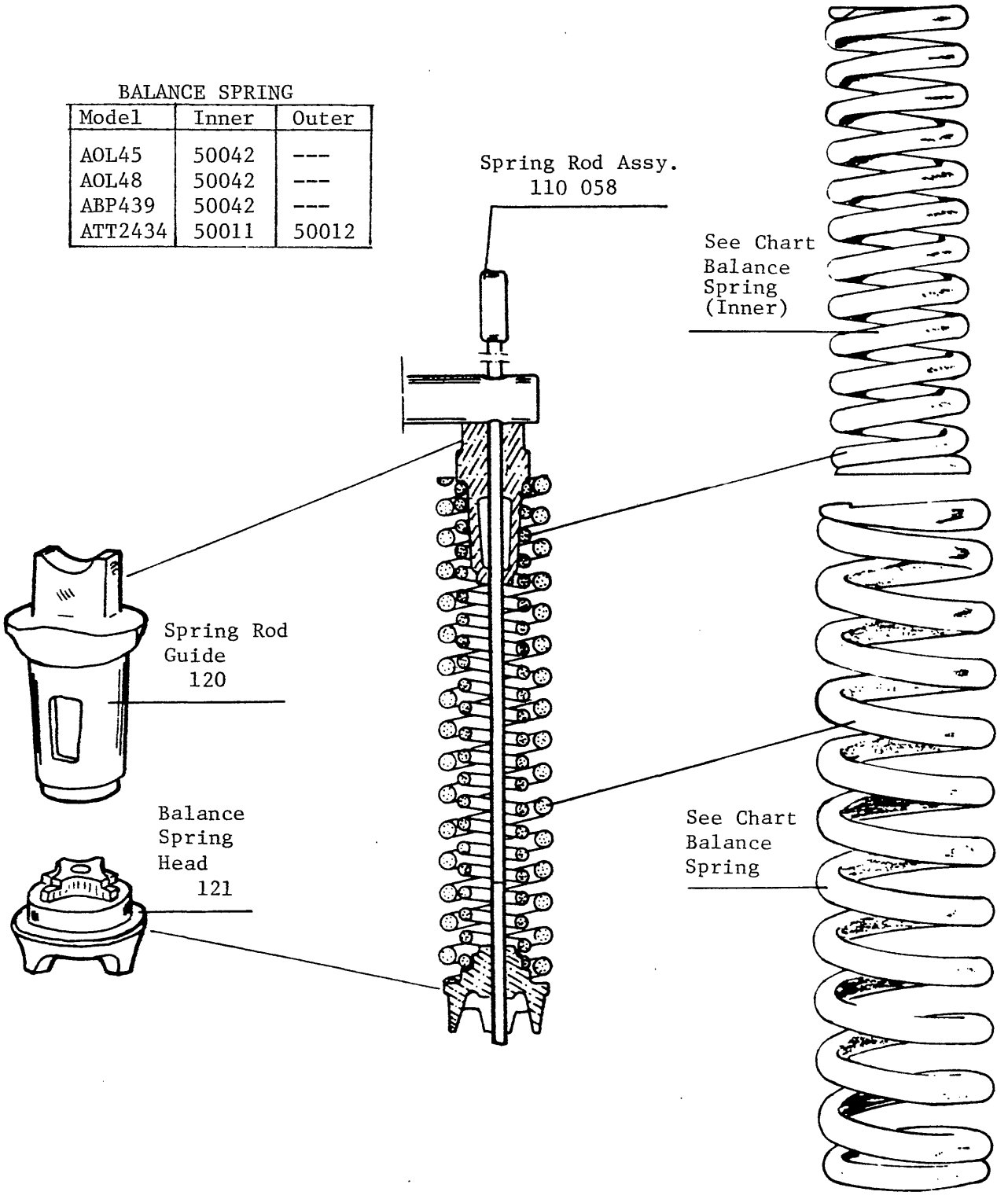


FIG. 11 CONNECTING LEVERAGE

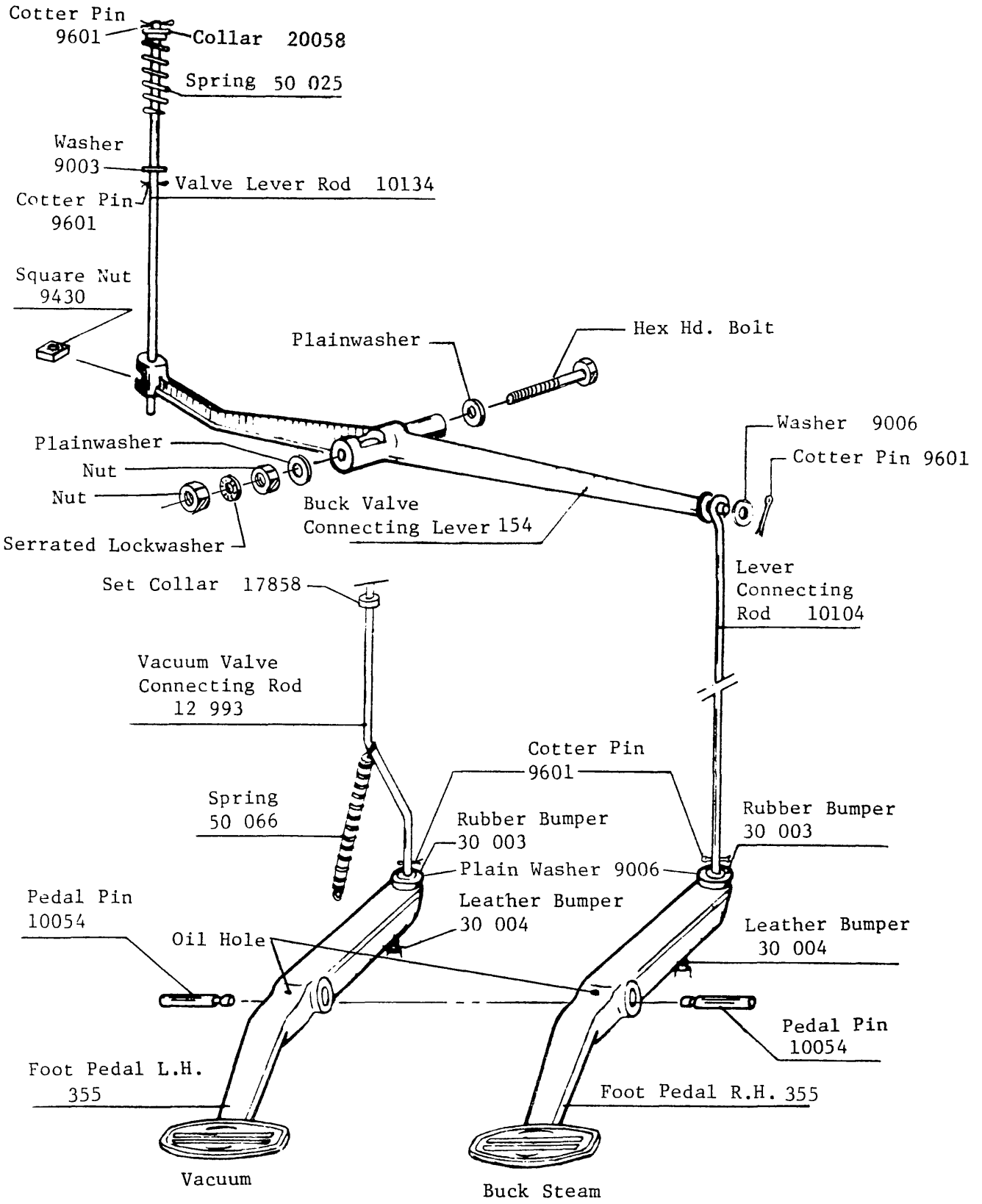


FIG. 12 PIVOT SHAFT ASSY.

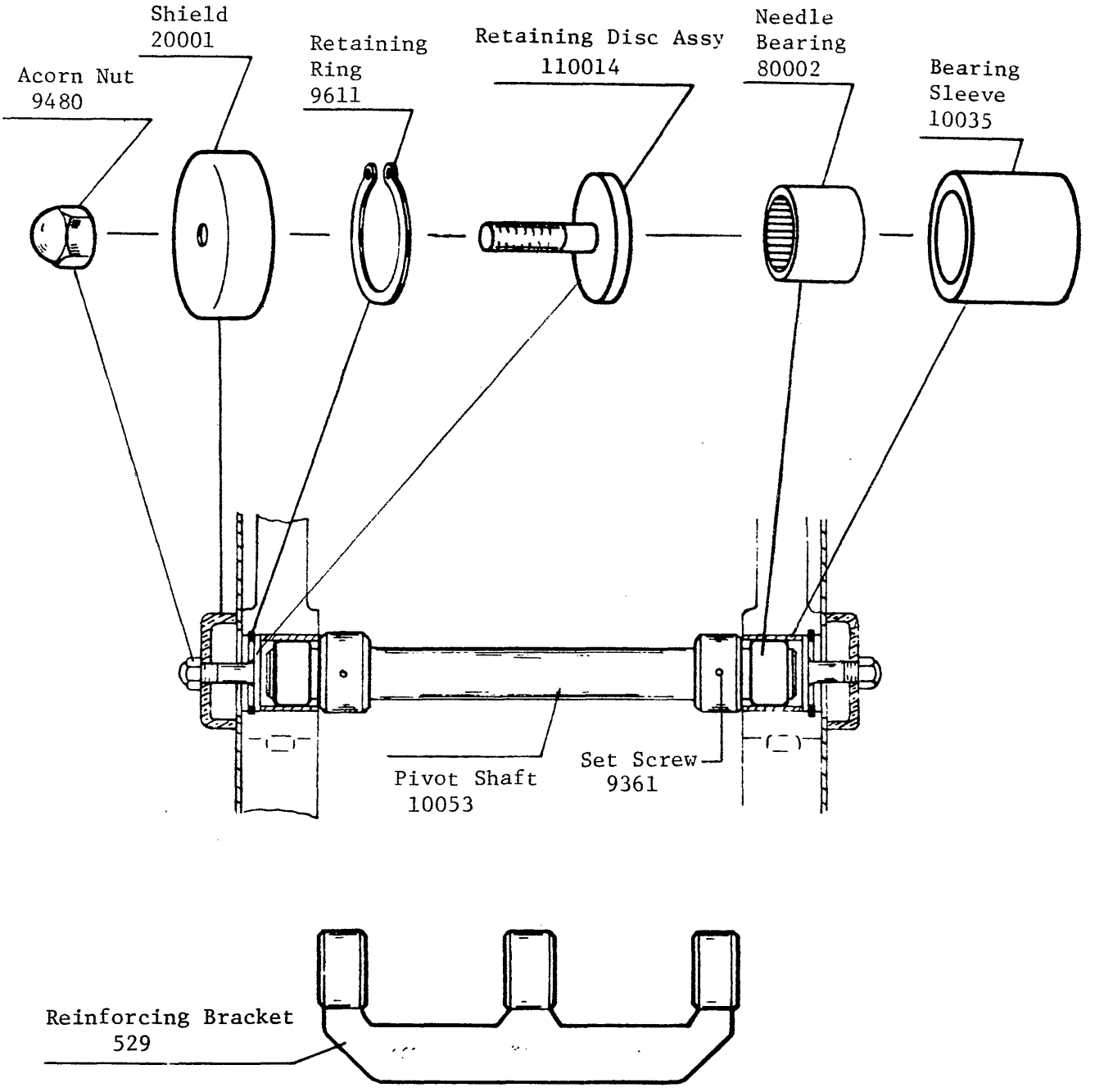
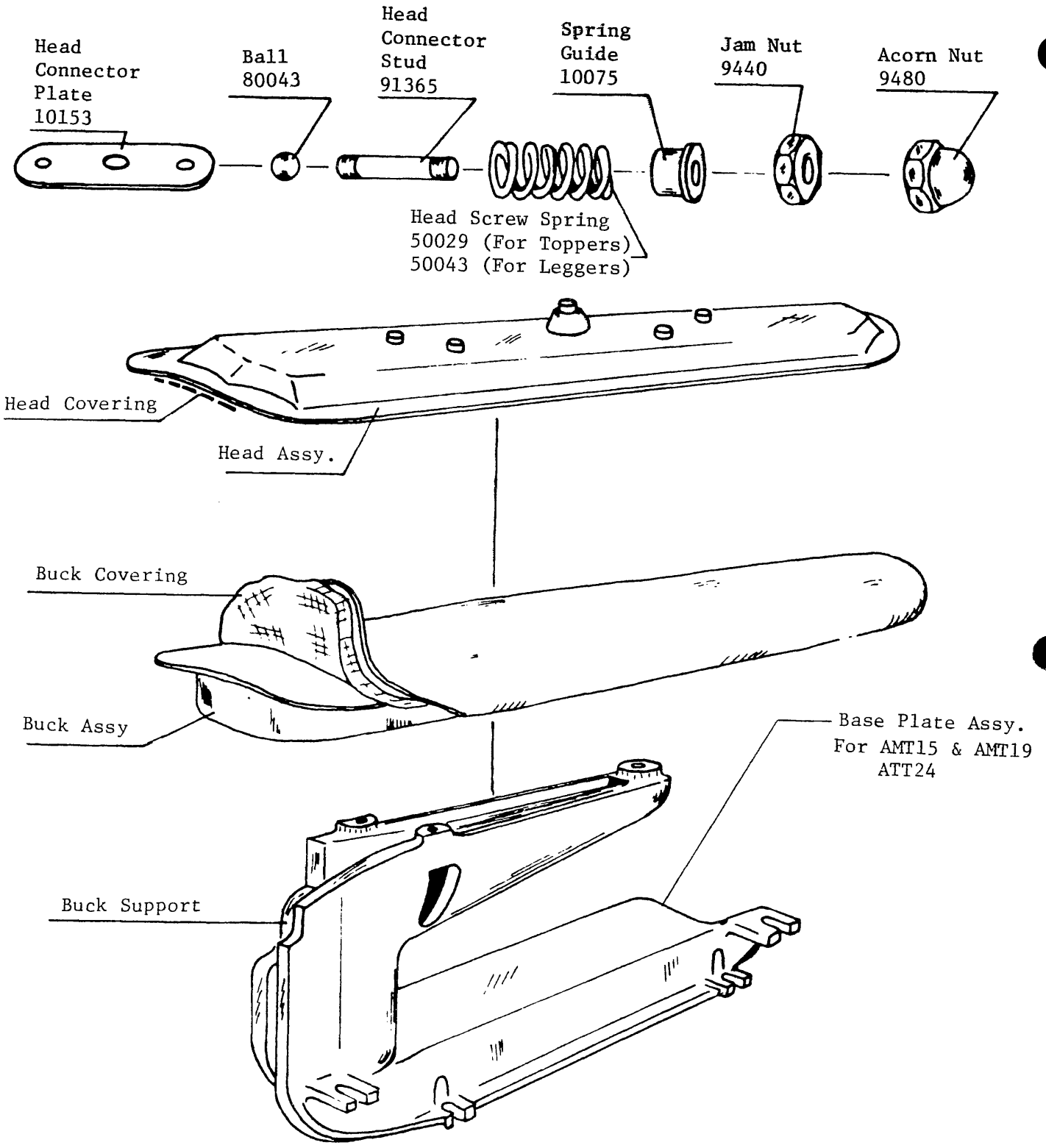
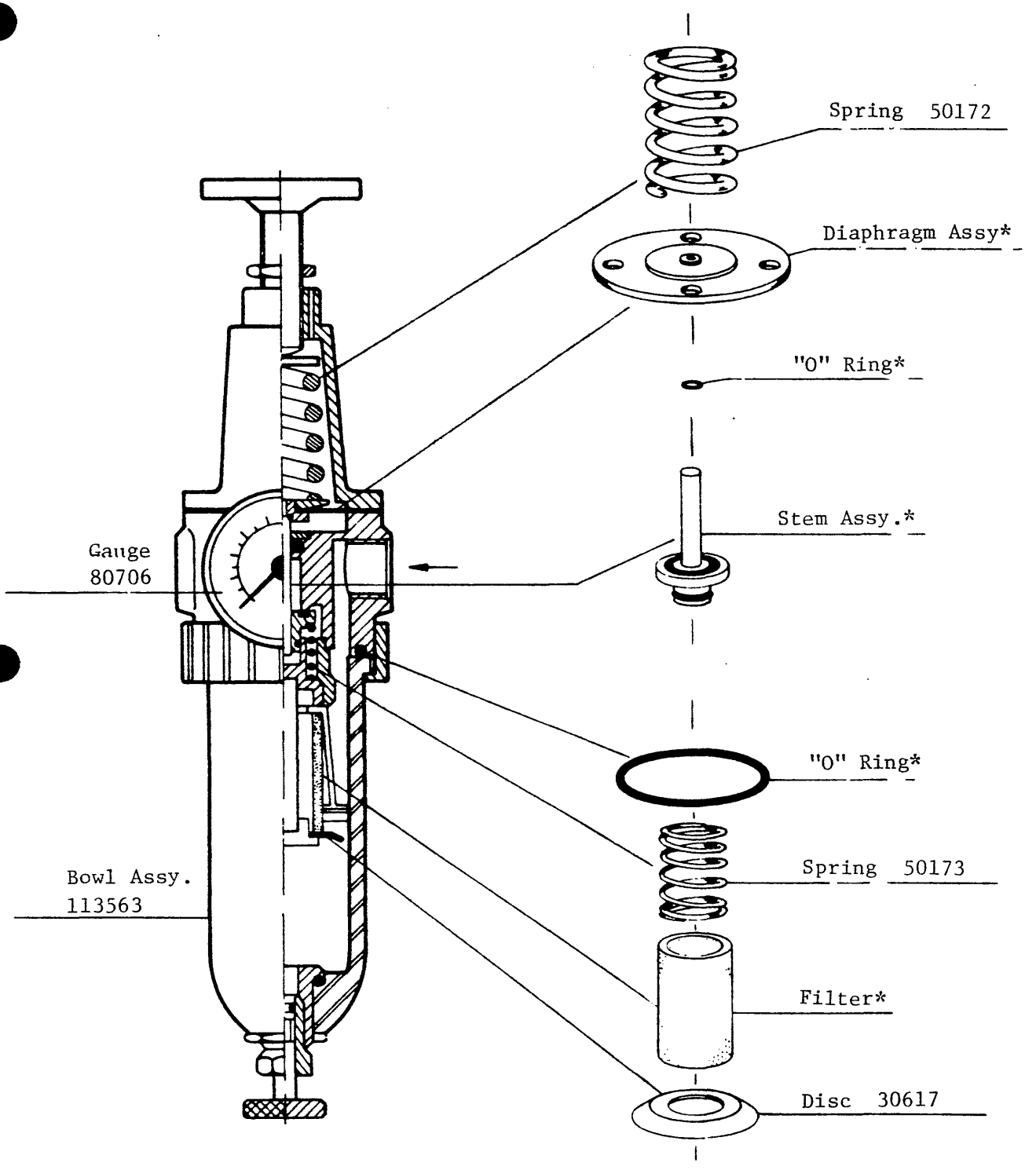


FIG. 13 PRESS SHOE GROUP



Model	Head Assy.	Buck Assy.	Head Covering	Buck Covering	Buck Support
AOL45	114999	114998	116558	116557	152
AOL48	114315	102029	117722	117721	152
ABP439	102030	102032	116556	116555	152
ATT2434	114058	102026	117766	117765	Base Plate Assy.

FIG. 14 AIR CONTROL ASSY.
113362



*Repair Kit 113661

FIG. 15 STEAM CONNECTIONS

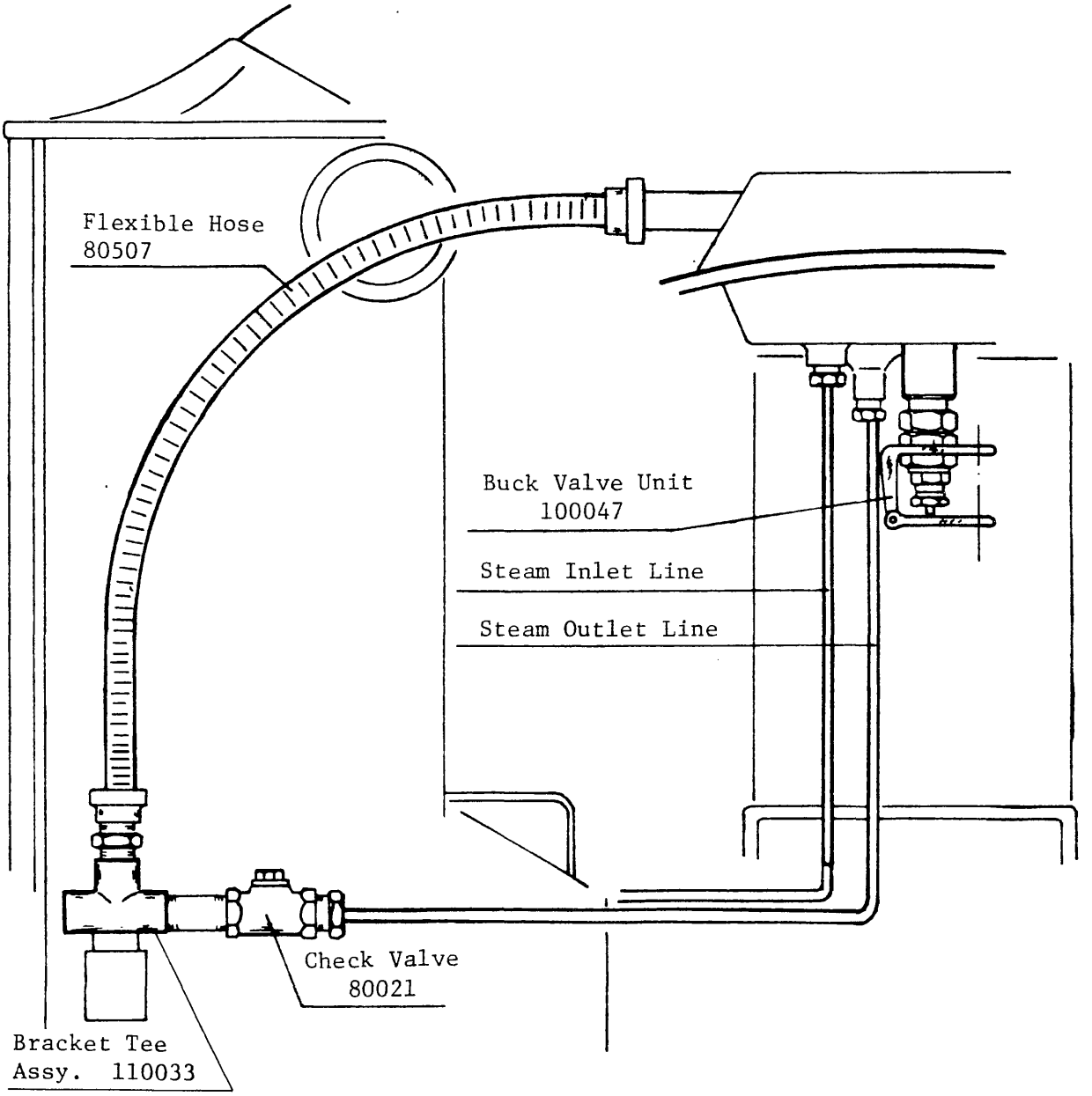
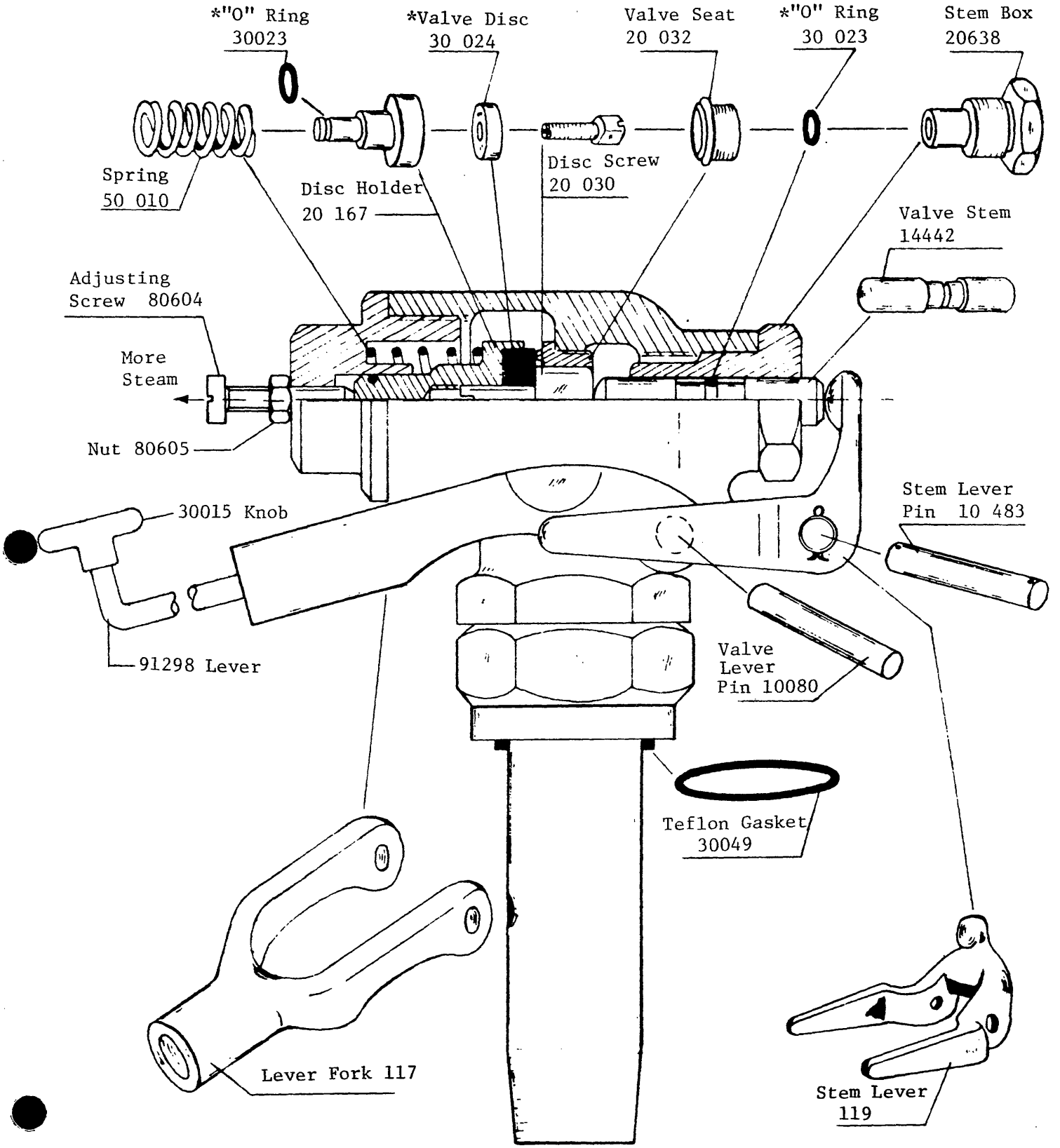
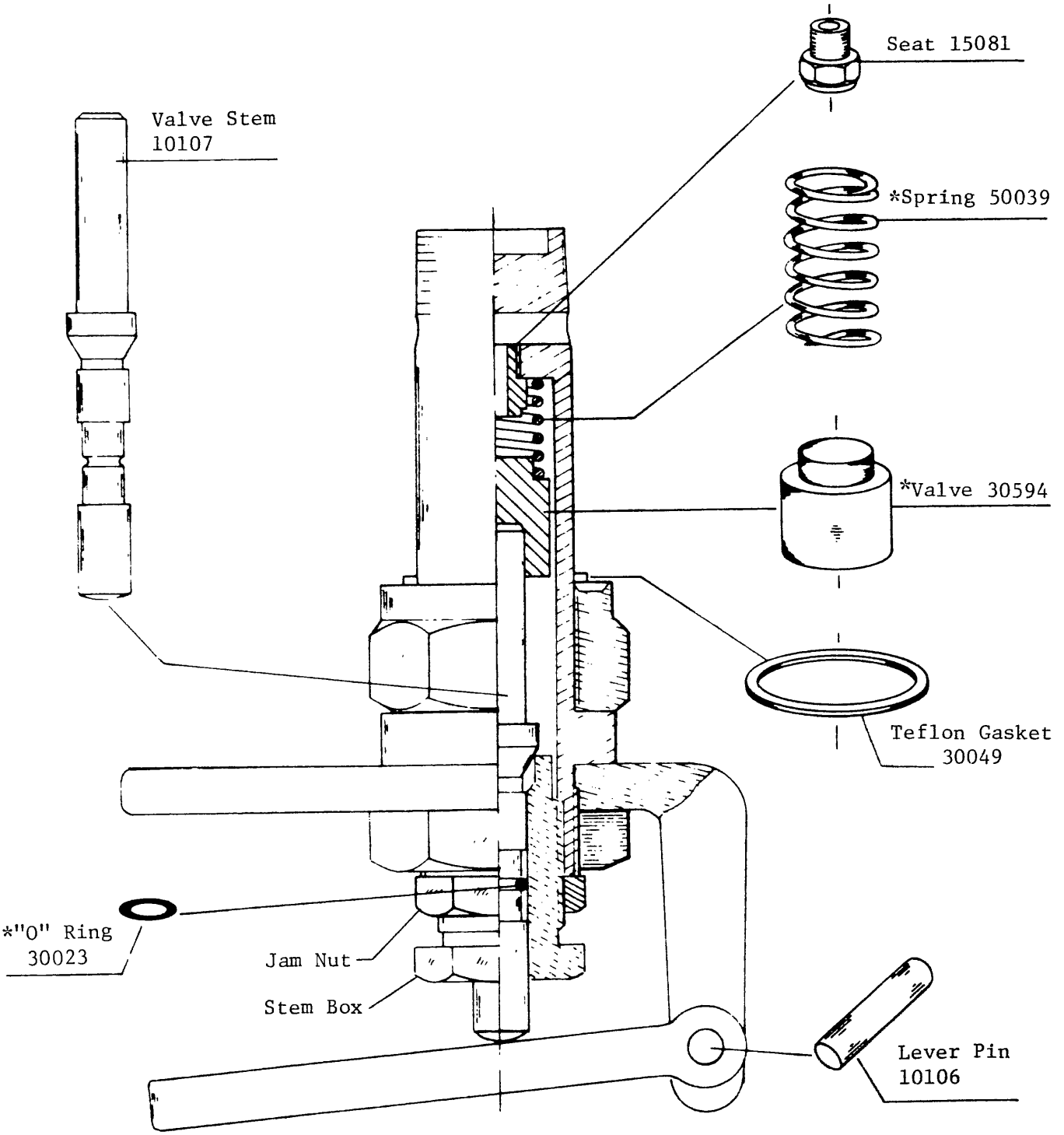


FIG. 16 HEAD VALVE ASSY
110 241



*Spare Parts

FIGURE 17 BUCK VALVE UNIT 100047



*Recommended Spare Parts

FIGURE 18

AIR VACUUM VALVE ASSY. 2"
111788

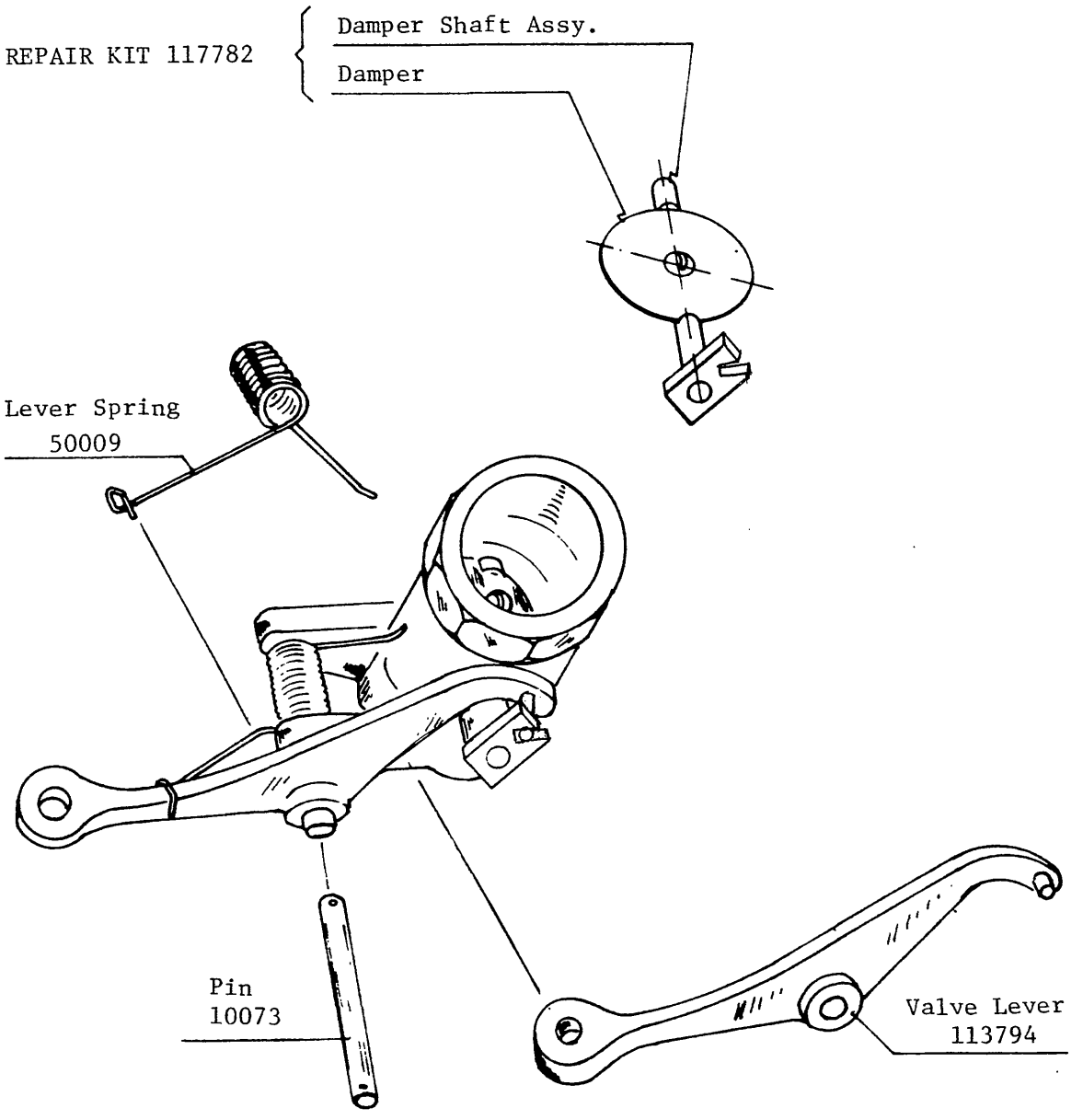


FIG. 19 FABRIC FEEL VALVE

113960	(0	3 Bar)
113961	(0	5 Bar)
113962	(0	6 Bar)

*Set Spare Parts 113963

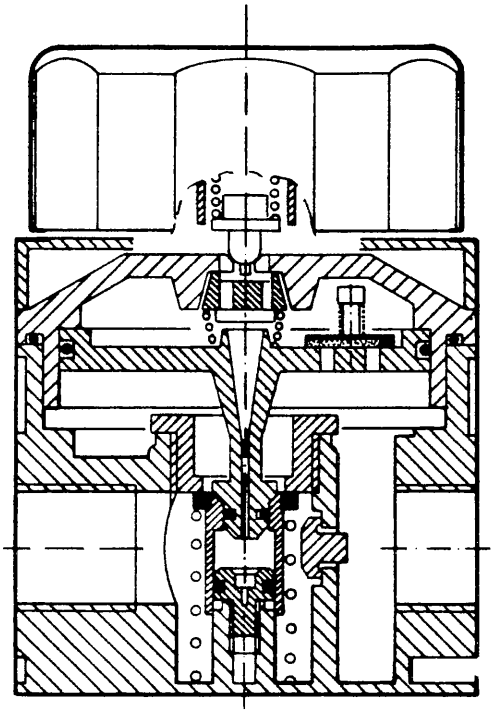


FIG. 20 CONTROL LEVER BRACKET ASSY

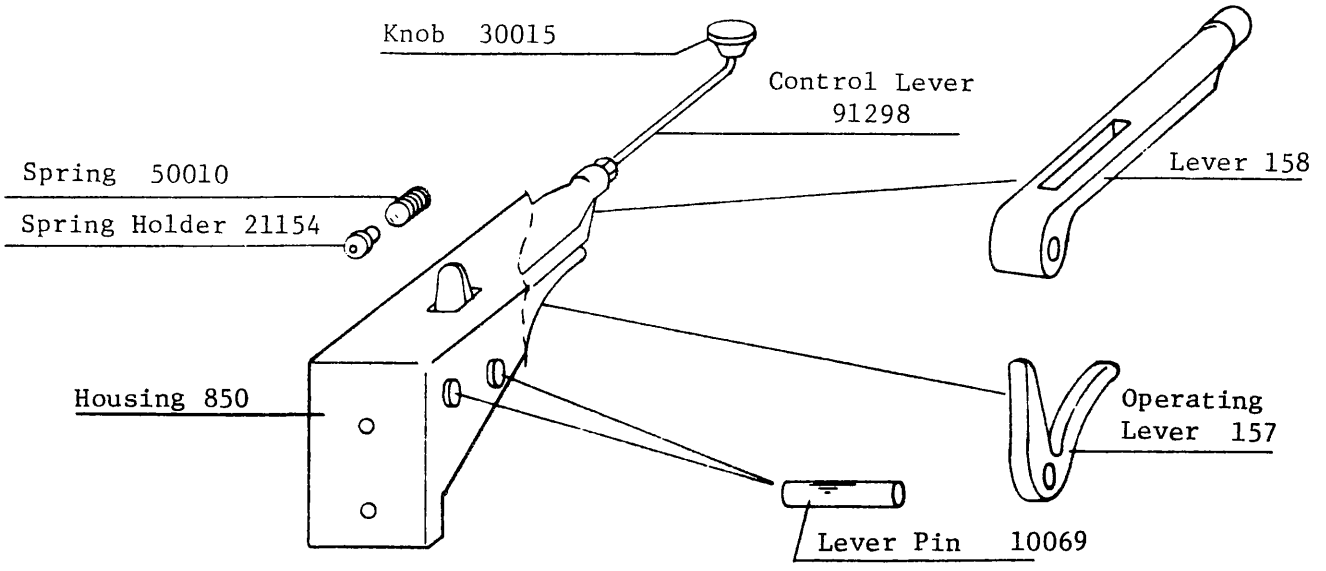


FIG. 21 HEAD VALVE OPERATING CYLINDER 110156

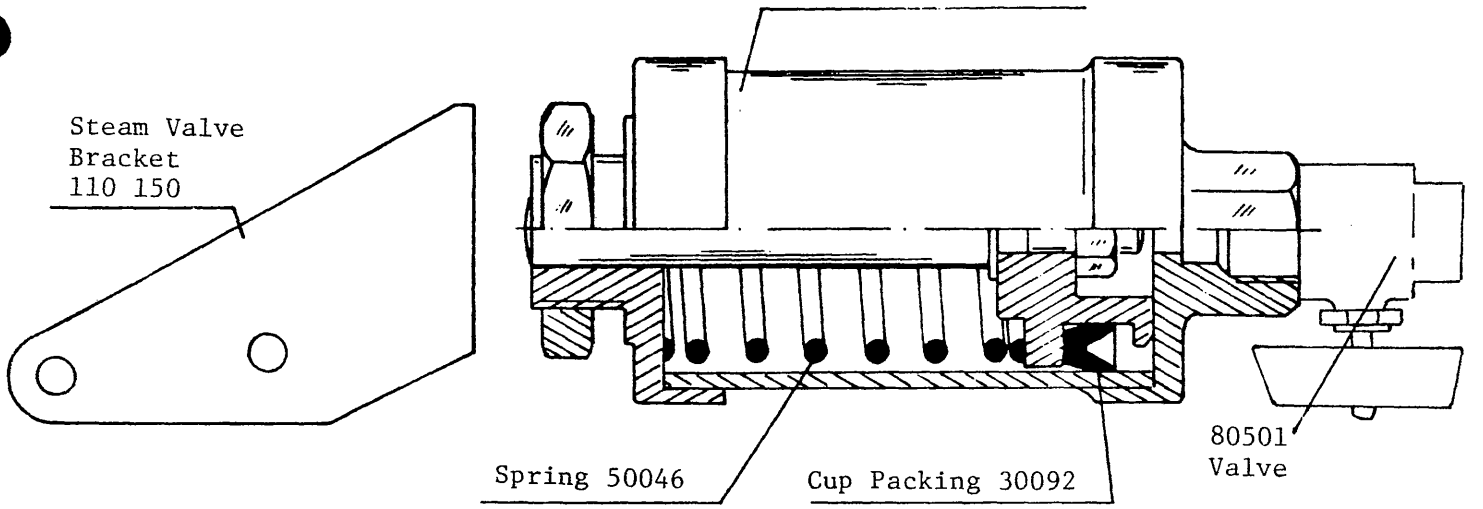


FIG. 22 QUICK EXHAUST VALVE ASSY.

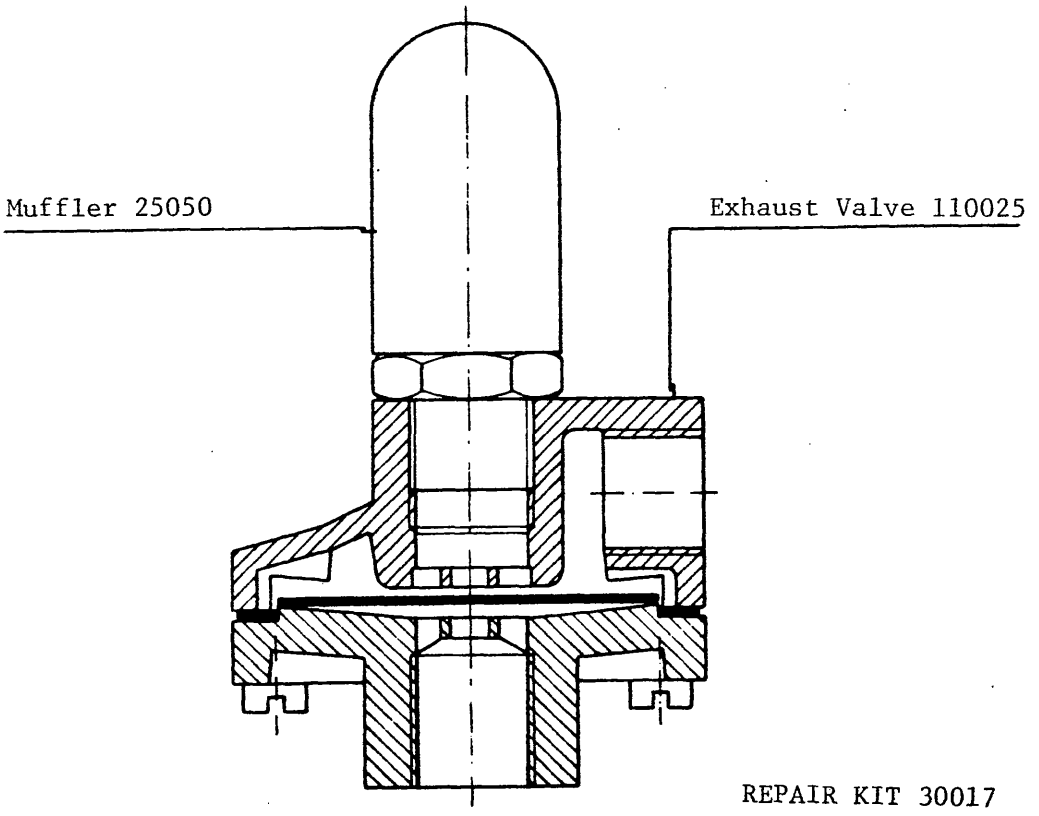


FIG. 23 HYDRAULIC BOOSTER ASSY. 113888

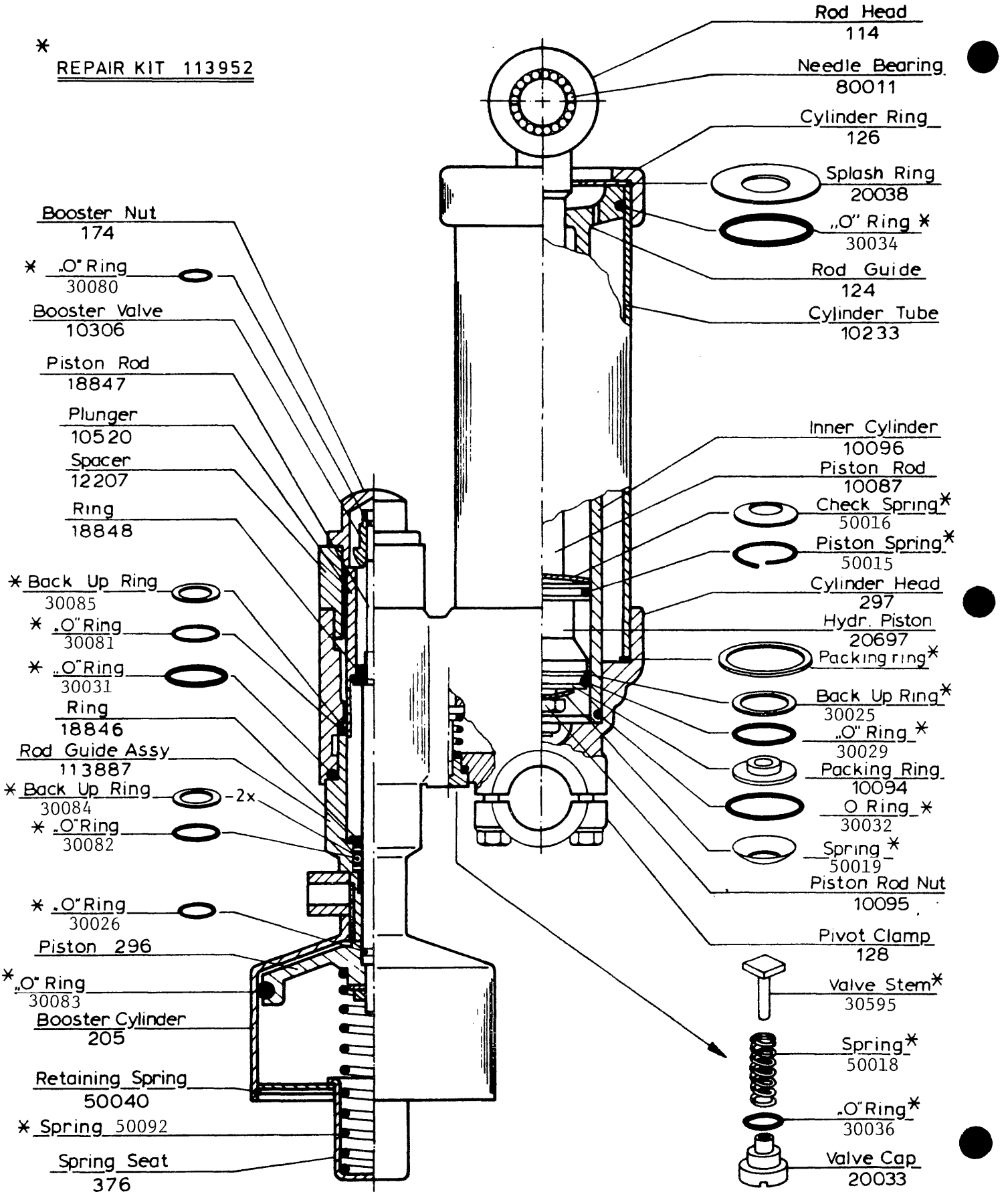
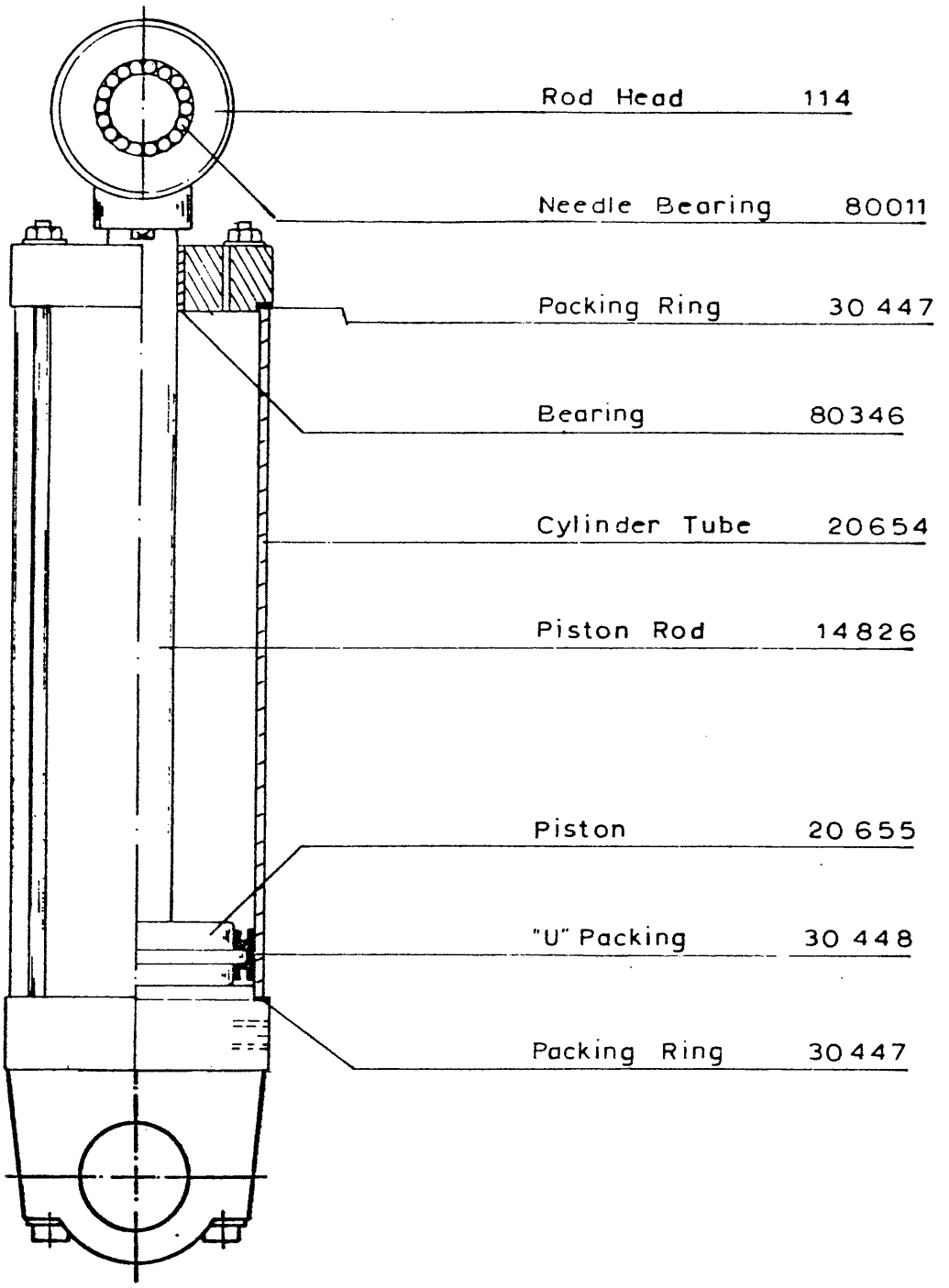


FIG. 24 CLOSING AIR CYLINDER AIR MOTOR UNIT

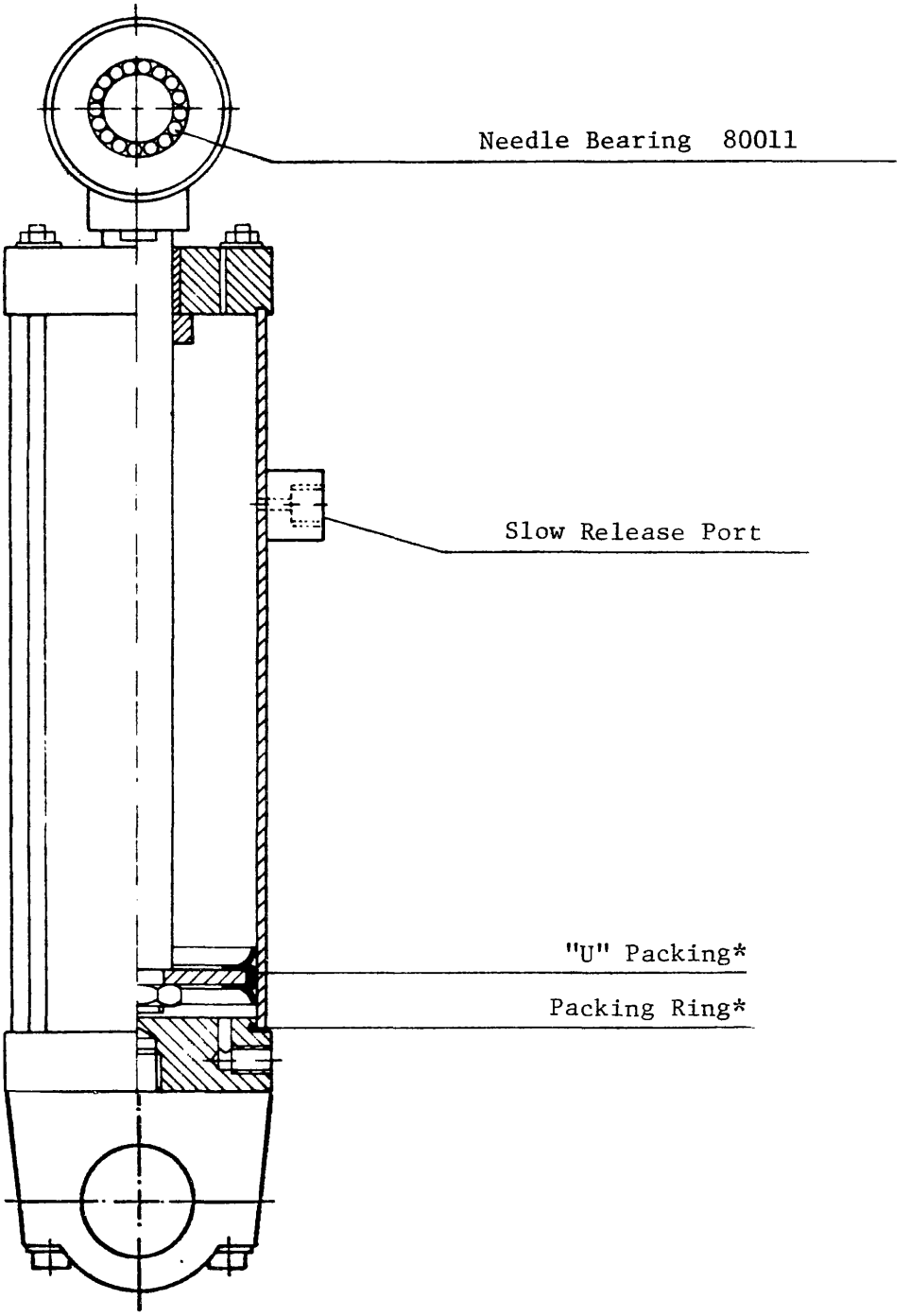
117723



* Repair Kit 117727

FIG. 24 A CLOSING AIR CYLINDER

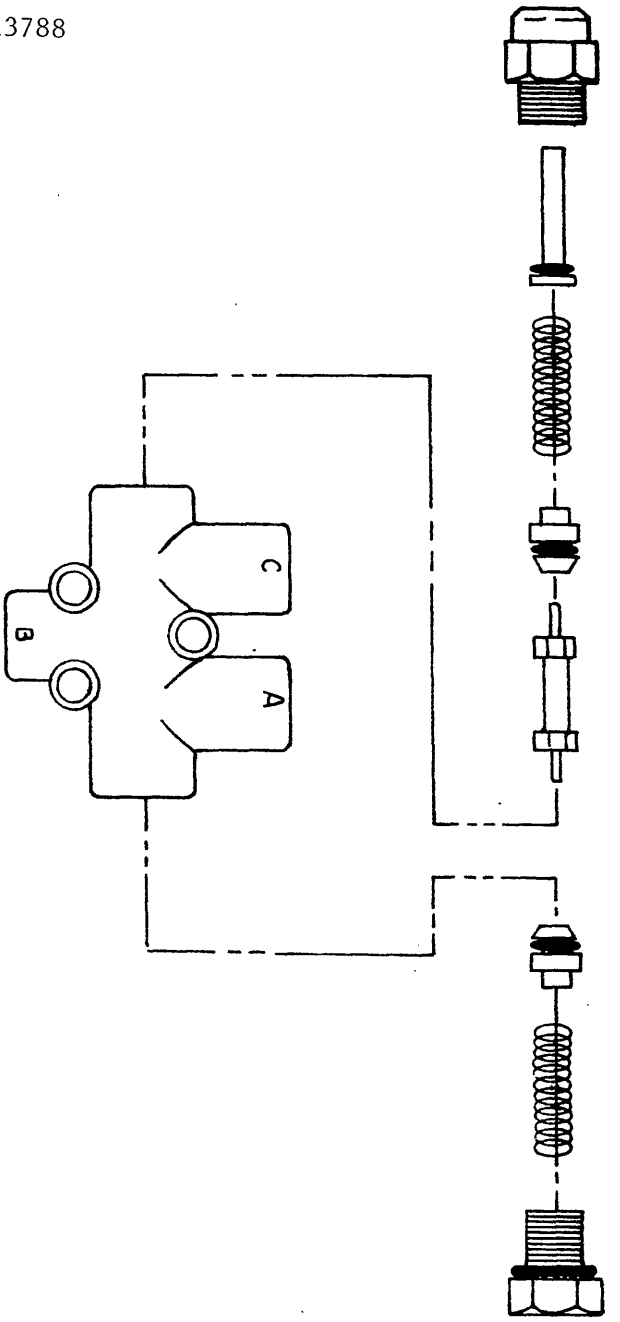
AIR MOTOR UNIT 117725



*Repair Kit 117727

FIG. 25 AIR VALVE

113788



Used Four Places For -

Hand Lever Locking Valve

Closing Valve

Release Valve

Vacuum Valve (Reverse Buck)

Repair Kit - 113662

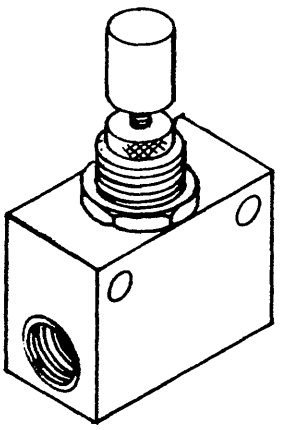


FIG. 26 AIR FLOW CONTROL VALVE
80846

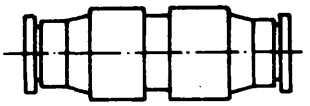
Used Three Places For -

Steam Duration Valve

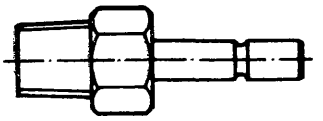
Steam Delay Valve

Vacuum Valve (Reverse Buck)

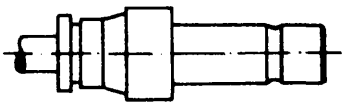
FIGURE 27 METRIC PUSH-IN TUBE FITTINGS



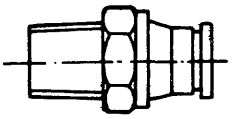
STRAIGHT CONN.
45142 _ ϕ5
45148 _ ϕ8



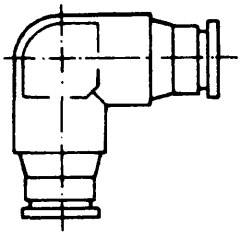
STRAIGHT STEM ADAPTOR
45143 _ ϕ5 x 1/8" bsp
45147 _ ϕ8 x 1/4" ,,



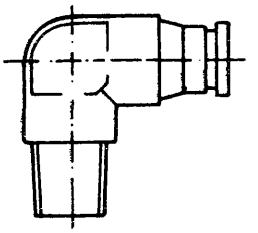
REDUCING CONN.
45131 _ ϕ5 x ϕ8



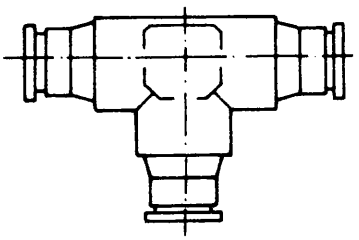
STRAIGHT ADAPTOR
45128 _ ϕ5 x 1/8" bsp.
45129 _ ϕ5 x 1/4" ,,
45130 _ ϕ8 x 1/4" ,,
45166 _ ϕ10 x 3/8" ,,
45184 _ ϕ8 x 3/8" ,,



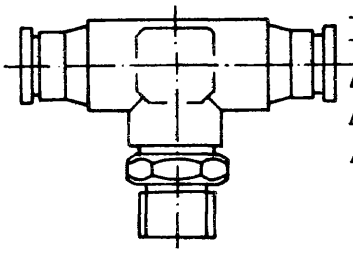
ELBOW CONN.
45141 _ ϕ5
45149 _ ϕ8



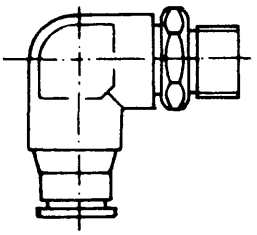
ELBOW ADAPTOR
45124 _ ϕ8 x 1/4" bsp
45125 _ ϕ5 x 1/8" ,,
45132 _ ϕ5 x 1/4" ,,
45134 _ ϕ8 x 1/8" ,,
45155 _ ϕ8 x 3/8" ,,
45172 _ ϕ10 x 1/4" ,,



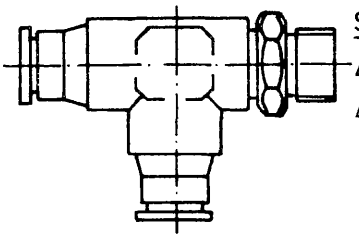
TEE CONNECTOR
45135 _ ϕ8
45136 _ ϕ5



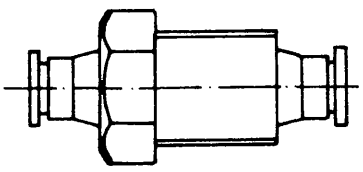
TEE ADAPTOR
45126 _ ϕ8 x 1/4" bsp.
45127 _ ϕ5 x 1/8" ,,
45133 _ ϕ8 x 1/8" ,,



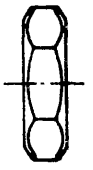
SWIVEL ELBOW AD.
45164 _ ϕ 5 x 1/8" bsp.
45165 _ ϕ 8 x 1/4" ,,
45180 _ ϕ 8 x 1/8 ,,



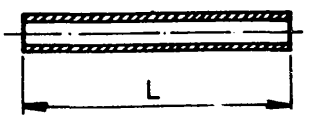
SWIVEL TEE ADAPTOR
45163 _ ϕ8 x 1/4" bsp
45179 _ ϕ8 x 1/8 ,,



BULKHEAD CONN.
45161 _ ϕ5 _ m 15 x 1

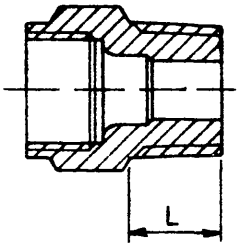


BULKHEAD LOCKNUT
45162 _ m 15 x 1



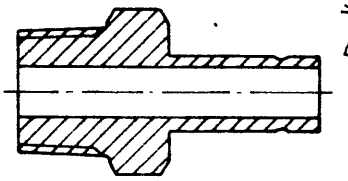
NYLON TUBE
ϕ5 x L
ϕ8 x L
ϕ10 x L

FIGURE 28 METRIC TUBE FITTINGS



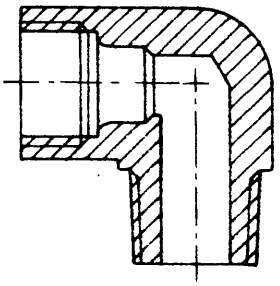
MALE ADAPTOR

45110 _ Φ12 x 1/2" bspt
45111 _ Φ12 x 3/8" ..
45139 _ Φ12 x 1/4" ..
45144 _ Φ10 x 3/8" ..
45145 _ Φ10 x 1/4" ..
45150 _ Φ10 x 1/2" ..
45151 _ Φ 5 x 1/8" ..
45152 _ Φ 5 x 1/4" ..
45174 _ Φ10 x 1/2" .. (L=10)



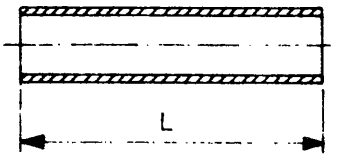
STRAIGHT STEM ADAPTOR

45138 _ Φ10 x 3/8" bspt.



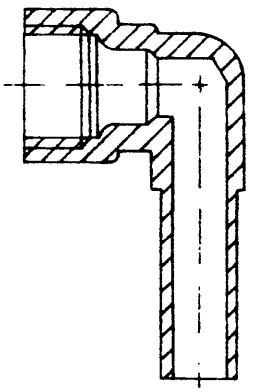
MALE ELBOW ADAPTOR

45112 _ Φ12 x 3/8 bspt
45113 _ Φ12 x 1/2 ..
45137 _ Φ10 x 3/8 ..
45153 _ Φ 5 x 1/8 ..
45154 _ Φ 5 x 1/4" ..
45158 _ Φ10 x 1/4" ..
45176 _ Φ10 x 1/2" ..



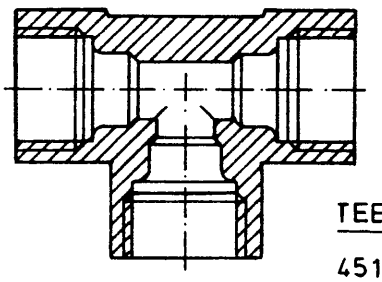
COPPER TUBE

Φ10 x L
Φ12 x L
Φ 5 x L



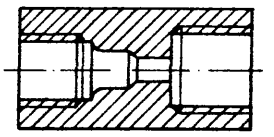
STEM ELBOW CONNECTOR

45156 _ Φ 12
45170 _ Φ 10



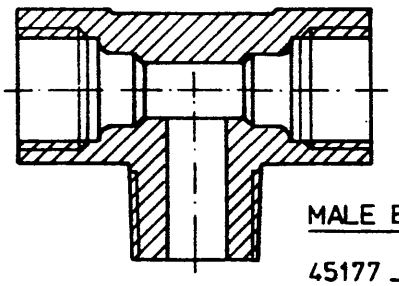
TEE CONNECTOR

45159 _ Φ 10
45171 _ Φ 5
45178 _ Φ 12



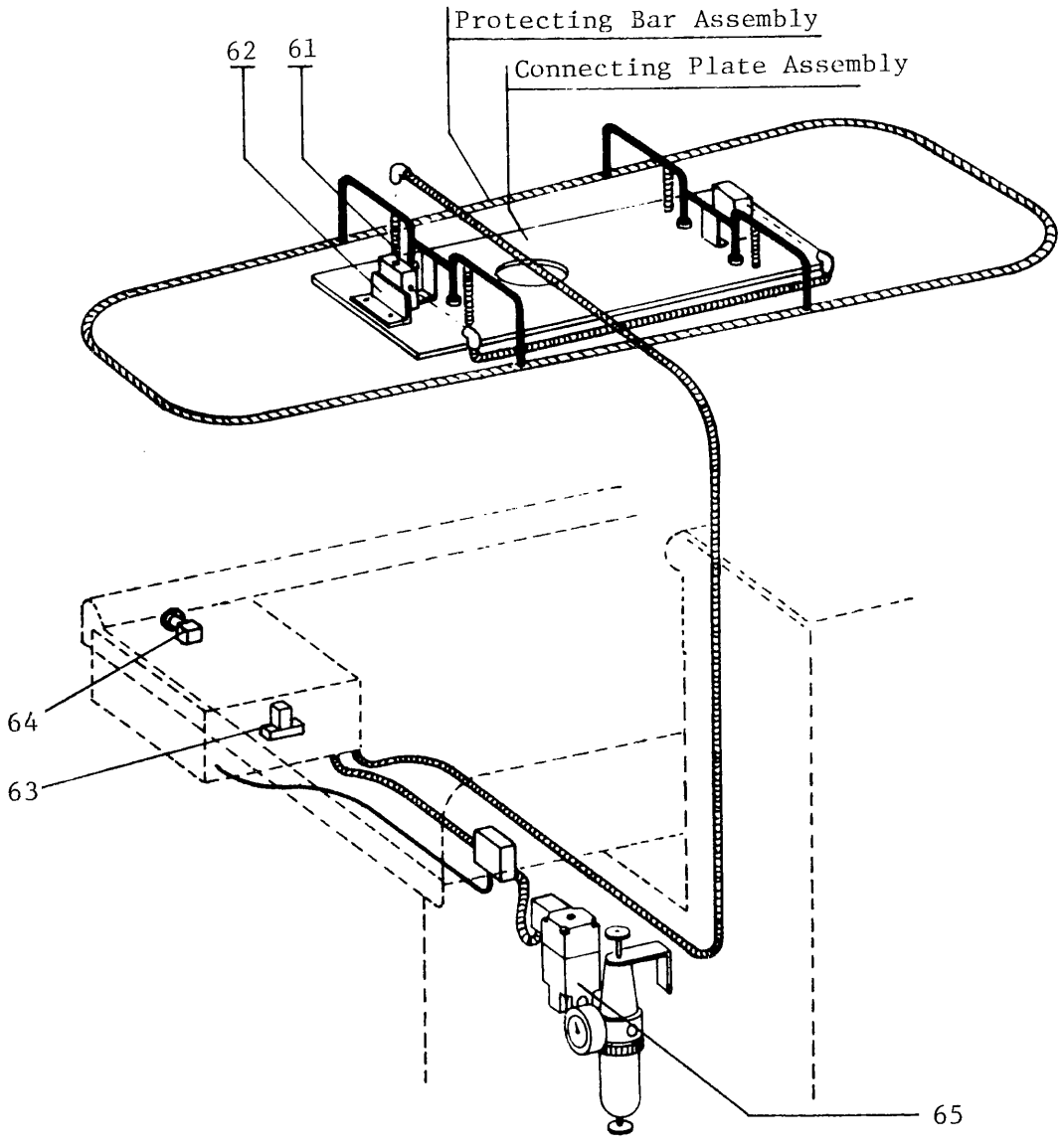
STRAIGHT ADAPTOR

45160 _ Φ5 x 1/8"



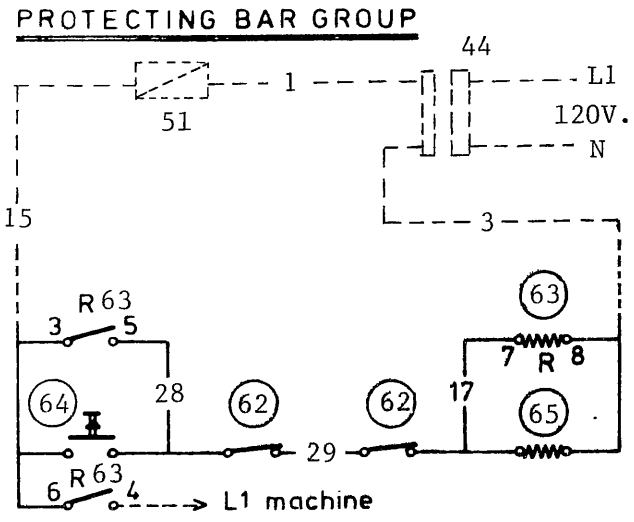
MALE ELBOW ADAPTOR

45177 _ Φ12 x Φ12 x 3/8" bspt.



PROTECTING BAR GROUP - AUTOMATIC PRESSES

FIGURE 29



Model No.	Protecting Bar Asm.	Connecting Plate Asm.
ATT243	100919	113054
ATT2434	100887	113054

SPARE PARTS

61	Spring - - - - - - - - - - - - - -	50047
62	Sensing Switch - - - - - - - - -	70537
63	Relay 220V 50/60 Hz- - - - - - -	70458
	Relay Base - - - - - - - - - - -	70459
64	Manual Reset Button- - - - - - -	70480
65	Main Air Pressure Solenoid Valve 220V/50 Hz 220V/60 Hz	117693

REPAIR KIT REFERENCE SHEET

Repair Kit:

117156	For 117739 Solenoid Valve Assembly
113952	For 113888 Booster Assembly
113660	For 100801 Utility Closing Cylinder
117727	For 117725 Legger Closing Cylinder
113661	For 113362 Air Control Cylinder
113963	For 113961 Fabric Feel Valve
117782	For 111788 Vacuum Valve
117006	For 117175 Air Valve
113662	For 113788 Air Valve