Pants Topper

Model A

OWNER'S MANUAL

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THIS MANUAL MUST BE GIVEN TO THE EQUIPMENT OWNER.

MAN39 9/98 2C WB

WARRANTY

The Cissell Manufacturing Company (Cissell) warrants all new equipment (and the original parts thereof) to be free from defects in material or workmanship for a period of one (1) year from the date of sale thereof to an original purchaser for use, except as hereinafter provided. With respect to non-durable parts normally requiring replacement in less than one (1) year due to normal wear and tear, including, but not limited to, cloth goods, valve discs, hoses, and iron cords, and with respect to all new repair or replacement parts for Cissell equipment for which the one (1) year warranty period has expired, or for all new repair or replacement parts for equipment other than Cissell equipment, the warranty period is limited to ninety (90) days from date of sale. The warranty period on each new replacement part furnished by Cissell in fulfillment of the warranty on new equipment or parts shall be for the unexpired portion of the original warranty period on the part replaced.

With respect to electric motors, coin meters and other accessories furnished with the new equipment, but not manufactured by Cissell, the warranty is limited to that provided by the respective manufacturer.

Cissell's total liability arising out of the manufacture and sale of new equipment and parts, whether under the warranty or caused by Cissell's negligence or otherwise, shall be limited to Cissell repairing or replacing, at its option, any defective equipment or part returned f.o.b. Cissell's factory, transportation prepaid, within the applicable warranty period and found by Cissell to have been defective, and in no event shall Cissell be liable for damages of any kind, whether for any injury to persons or property or for any special or consequential damages. The liability of Cissell does not include furnishing (or paying for) any labor such as that required to service, remove or install; to diagnose troubles; to adjust, remove or replace defective equipment or a part; nor does it include any responsibility for transportation expense which is involved therein.

The warranty of Cissell is contingent upon installation and use of its equipment under normal operating conditions. The warranty is void on equipment or parts; that have been subjected to misuse, accident, or negligent damage; operated under loads, pressures, speeds, electrical connections, plumbing, or conditions other than those specified by Cissell; operated or repaired with other than genuine Cissell replacement parts; damaged by fire, flood, vandalism, or such other causes beyond the control of Cissell; altered or repaired in any way that effects the reliability or detracts from its performance, or; which have had the identification plate, or serial number, altered, defaced, or removed.

No defective equipment or part may be returned to Cissell for repair or replacement without prior written authorization from Cissell. Charges for unauthorized repairs will not be accepted or paid by Cissell.

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For warranty service, contact the Distributor from whom the Cissell equipment or part was purchased. If the Distributor cannot be reached, contact Cissell.

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ILLUSTRATED PARTS

SPECIFICATIONS

Electric Motor.....	1/3 H.P., 115V. or 230V., 60 Cycle, AC, 1 Phase
.....	220V., 50 Cycle, AC, 1 Phase
Operating Steam Pressure.....	100 P.S.I.G. (5.8 Bars) Maximum
Boiler Horsepower (Approx.).....	3/4 (7.3 kw)
Steam Supply Line.....	1/2" Pipe (1.3 cm)
Steam Return Line.....	1/2" Pipe (1.3 cm)
Net Weight.....	230 Pounds (104.5 kg)

Note: Specifications are subject to change without prior notice.

GENERAL INFORMATION

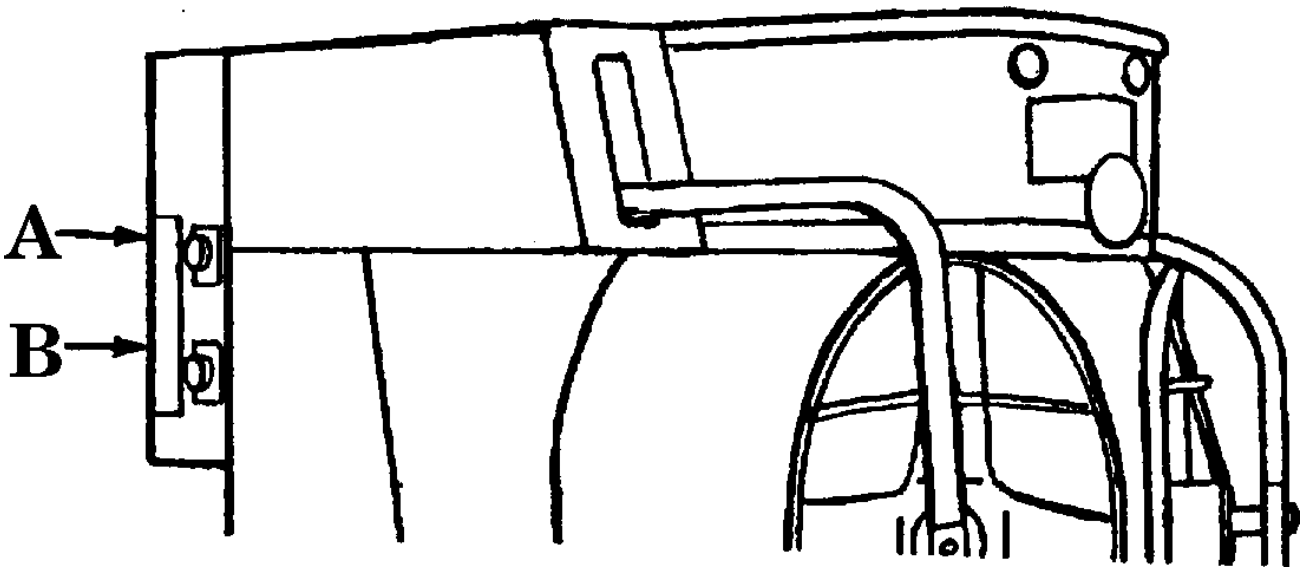
IMPORTANT: The air line filter was removed from the machine for shipping. When installing the unit, fasten the air line filter to the regulator as shown in the "Air Line Assenbly" drawing in the Parts section of this manual.

UNCRATING: Set crate upright, remove sides and top. Remove the two rear base bolts and lift from crate.

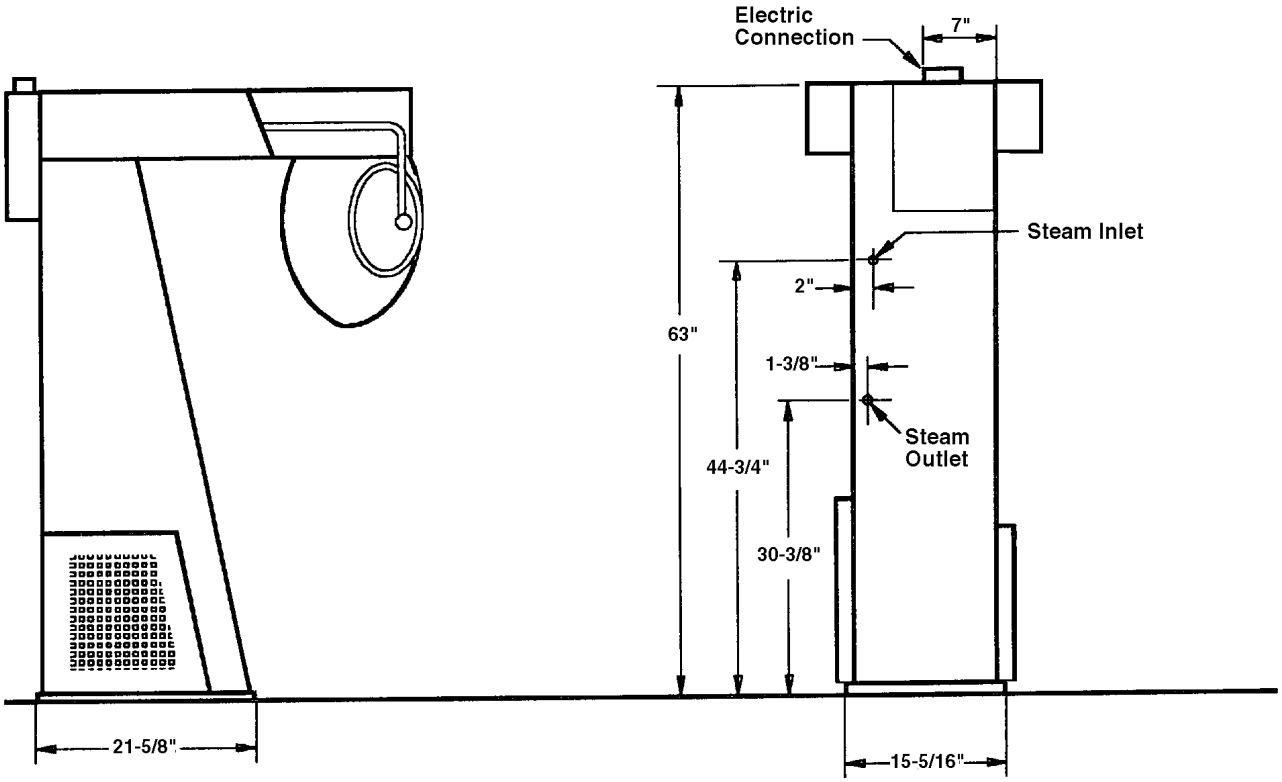
PROTECTIVE PLASTIC COVER: Do not remove plastic cover from the nylon pants topper bag until machine is installed and is ready for operation.

AUTOMATIC STEAM TIMER: The Automatic Steam Timer (A) is adjustable from 0 to 60 seconds, and is set at the factory for 4 seconds normal steaming. Adjust as required.

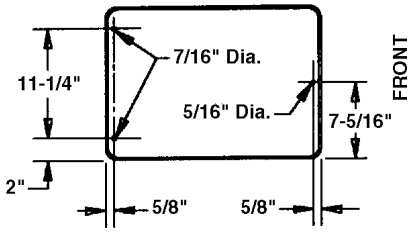
AUTOMATIC AIR TIMER: The Automatic Air Timer (B) is adjustable for 0 to 60 seconds and is factory set for 25 seconds for normal drying. Adjust as required.



PANTS TOPPER - MODEL A - DIMENSION DRAWINGS



BASE MOUNTING HOLES



Dimensions given in inches plus/minus 1/2" and are subject to change without prior notice

ELECTRICAL CONNECTIONS

IMPORTANT: Consult your local electrical codes before making any connections, and be certain that the connections conform with all applicable codes.

The standard Pants Topper has single phase motors. Before installation, check nameplates on motor and control box for rated voltage and current specifications. Make electrical connections as indicated on the wiring diagram attached to machine.

For single phase current, connect power leads, L1 and L2, to an approved fused disconnect switch in power line.

For standard, single phase machine to three phase current, connect power leads, L1 and L2, to any two terminals of an approved fused disconnect switch in the three phase power line.

For three phase current, connect power leads L1, L2, and L3 to the three terminals of an approved fused disconnect switch in the three phase power line. The motor must rotate clockwise when facing the belt and pulley. If rotation is incorrect, transpose any two leads connecting the power line, and rotation of motor will reverse.

STEAM CONNECTIONS

Refer to drawing on opposite page for steam supply and return connections.

All horizontal runs must drain by gravity to respective steam header. Portions that cannot drain to header must drain by gravity to machine, without water pockets. Each steam header must drain, by gravity, to boiler or condensate return tank.

To prevent condensate draining from steam headers to machine, make steam connections (to each respective header) with a 12 inch or more, vertical riser. Do not make steam connections to a header with a horizontal or downwardly facing tee or elbow.

Water pockets or an improperly drained steam line (or header) will provide wet steam, causing unnecessary wetting-out of buck padding.

Before installing check valve, trap and strainer, connect steam supply to machine from globe valve (A). Open globe valve (A) to flush any foreign matter that may be in castings or pipes. Open globe valve (C) to flush foreign matter from return connections, then connect steam return from valve (C) to machine with check valve, trap, and strainer as shown. If steam is gravity returned to boiler, omit trap.

NOTE: For successful operation of machine, install trap as close to floor and as near machine as possible. Inspect trap carefully for inlet and outlet marks and install according to manufacturer's instructions.

IMPORTANT: A separate steam trap must be used with each machine.

CAUTION: Before operating Pants Topper, open globe valves in steam lines. Check carefully for steam leaks and see that trap is operating properly. Under no circumstances should machine be operated until hot. Operating the machine cold will wet the nylon bag and padding. To dry a wet bag or pad, depress the ON manual Air switch. Air will operate continously until OFF Air switch is pressed.

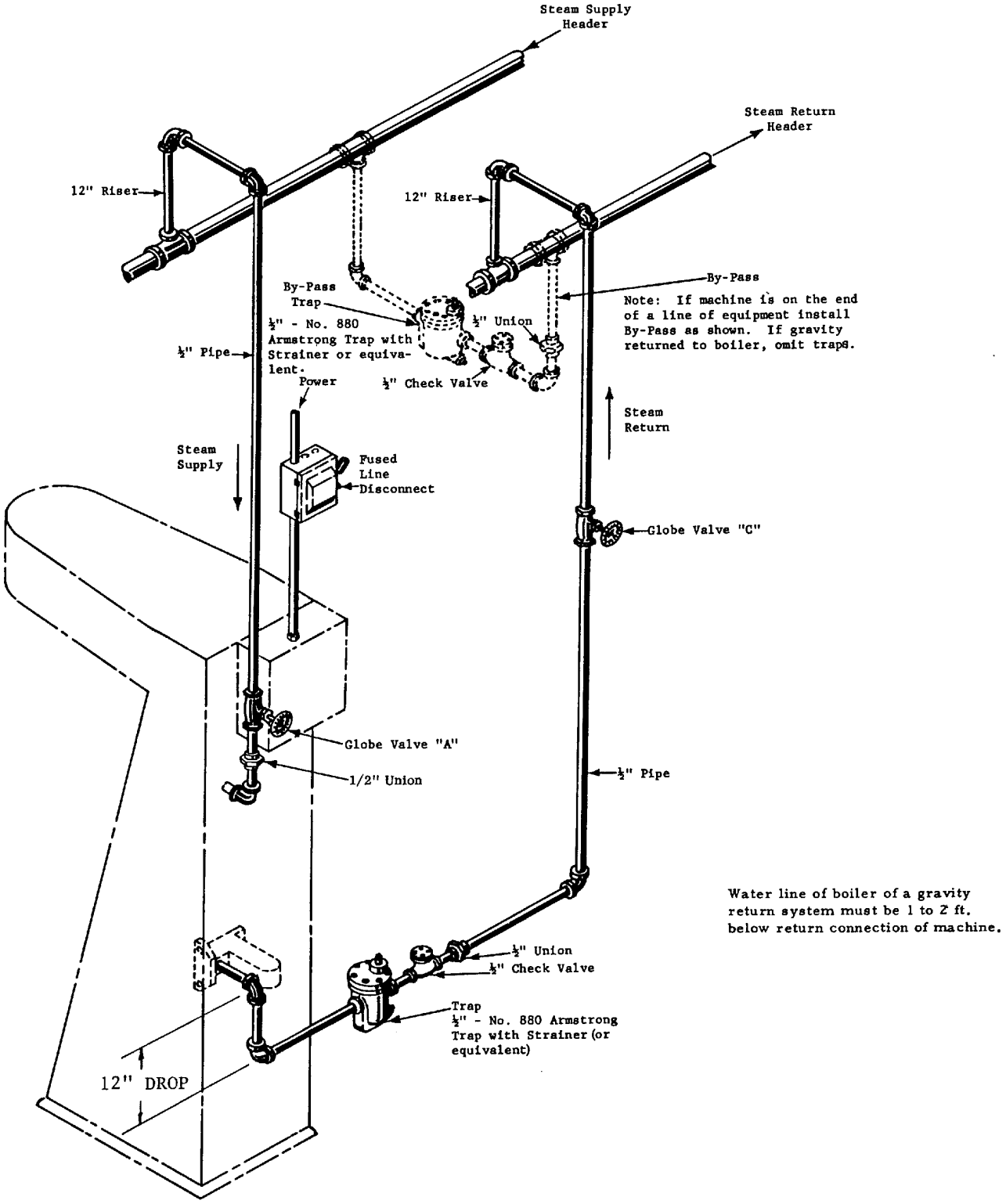

Steam Supply Header
Steam Return Header
12" Riser
12" Riser
By-Pass Trap
½" - No. 880 Armstrong Trap with Strainer or equivalent.
½" Union
By-Pass
Note: If machine is on the end of a line of equipment install By-Pass as shown. If gravity returned to boiler, omit traps.
½" Pipe
Power
½" Check Valve
Steam Return
Steam Supply
Fused Line Disconnect
Globe Valve "C"
Globe Valve "A"
1/2" Union
½" Pipe
Water line of boiler of a gravity return system must be 1 to 2' ft. below return connection of machine.
½" Union
½" Check Valve
Trap ½" - No. 880 Armstrong Trap with Strainer (or equivalent)
12" DROP

Fig. 2

OPERATING INSTRUCTIONS

CAUTION: Timer Adjustments

STEAM: Must not be greater than 6 seconds (Average setting 4-5 Seconds)	AIR: Must not be less than 20 seconds (Average Setting 25 Seconds)

NOTE: Straighten Pockets; Button Pocket Flaps; Button or Snap front of Waist Band, But Do Not Close Zipper.

1. Grip rear top portion of bag and puff waist expander forward until it locks.

2. Lift trousers onto form, placing back center of waist band high onto waist expander.

   Pull trousers forward; hook, button or snap front of waist band.
   Do not close zipper of pants.

3. Continue to hold forward tension on trousers and push "bag release" knob. Allow automatic tension of waist expander to draw front of trousers onto face of buck.

4. Adjust and center pants to highest position on buck. Align crotch; do not raise pants too high as crotch must remain loose in buck opening to prevent wrinkling of crotch area.

5. To soften pleats (Before making respective pleat lays), push PRE-STEAM BUTTON. Steam Timer controls pre-steaming automatically.

   NOTE: Excessive moisture will de-lusterize Rayon acetates. This may be minimized by using "air" while steaming; or shortening of steam cycle by depressing fully "off" air switch. Do not use the pre-steaming operation on rayon acetates.

6. Smooth out material and lay each pleat separately, working from fly toward pleat being layed. Align pleat with leg crease; close pleat holder. If too much material is encountered during laying of pleats, trousers are too high on the buck and too low on the rear expander. If too little material is available to lay the pleat properly, the trousers may be too low on the buck and too high on the expander.

7. Push AUTOMATIC Button. Steam and Air Timers control steam followed by air automatically.

   Leg-out during the final phase of the automatic cycle of the Topper.

8. Place creased trousers on hanger and make necessary touch-ups on Puff Iron before placing pants on finish rail.

POSITIONING PANTS ON TOPPER

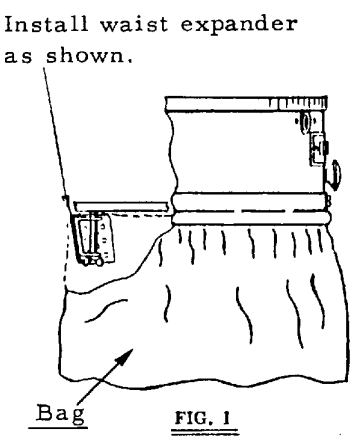


FIG. 1

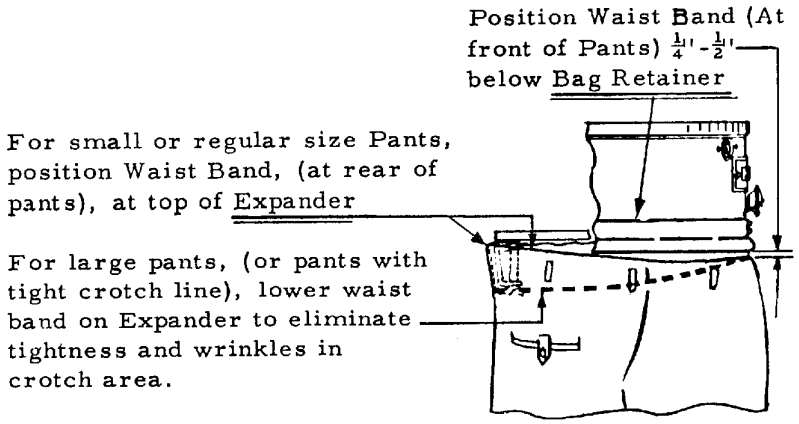
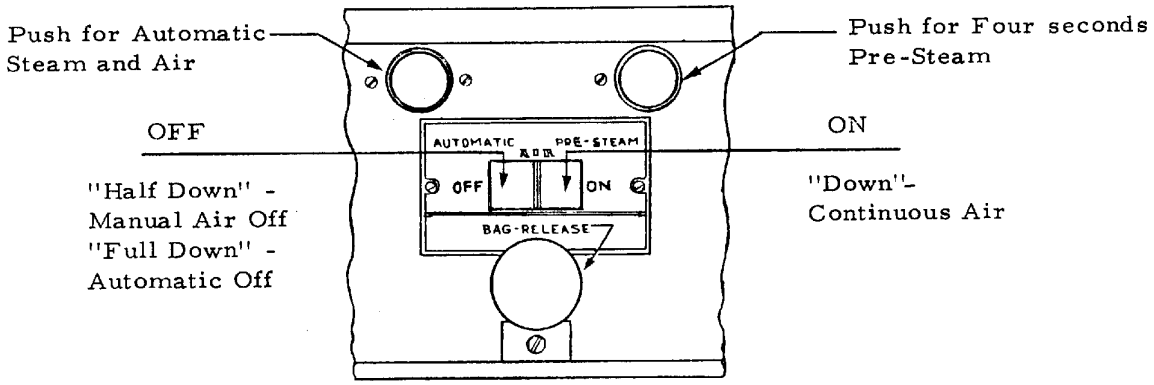


FIG. 2



OPERATING INSTRUCTIONS

(A) At "Start-Up" (or after "Idle Periods" of operation) preheat before operating:

a. Lower pleat clamps onto padded buck; Operate Topper on "Manual Air" continuously for about one (1) minute.

(B) Either PRE-STEAM or AUTOMATIC Steam-Air cycle may be cancelled by pushing "OFF" Air Switch fully down.

(C) For Suede, Chamois or leather trimmed trousers, use manual air switch to provide air "while steaming", as full air pressure is required to hold pants taut during steaming cycle.

(D) Tops Trousers, slacks, shorts (Lightweight or Heavyweight) sizes 28 to 50.

NOTE: Top small sizes, (including boys pants and small size ladies slacks) on 1M Puff Iron.
Top large sizes on end of utility press.

INSTRUCTIONS FOR OPERATING AIR PRESSURE CONTROL

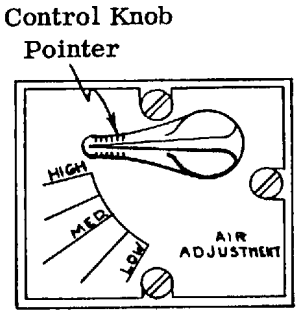


FIG. 1

Normally, set the air pressure control knob horizontally in the position illustrated, (Fig. 1).

For light weight materials (which may be stretched), set the control knob in the LOW position, (or to any intermediate position), to give the desired air pressure. If desired, the topper may be operated continuously with the control knob set in a position providing the air pressure found most suitable by the operator.

INSTRUCTIONS FOR OPERATING AIR PRESSURE CONTROL

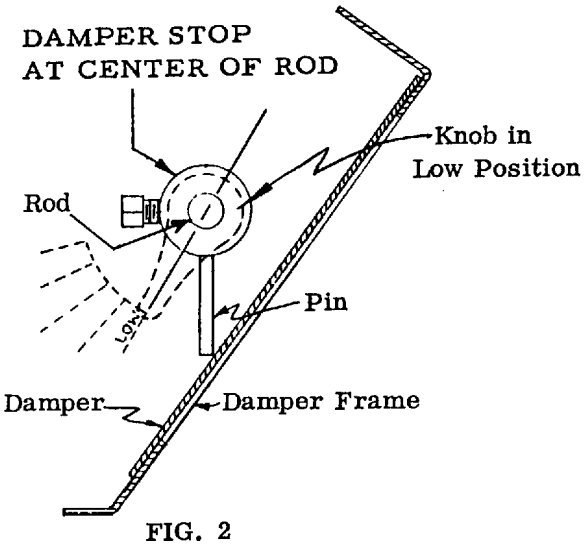


FIG. 2

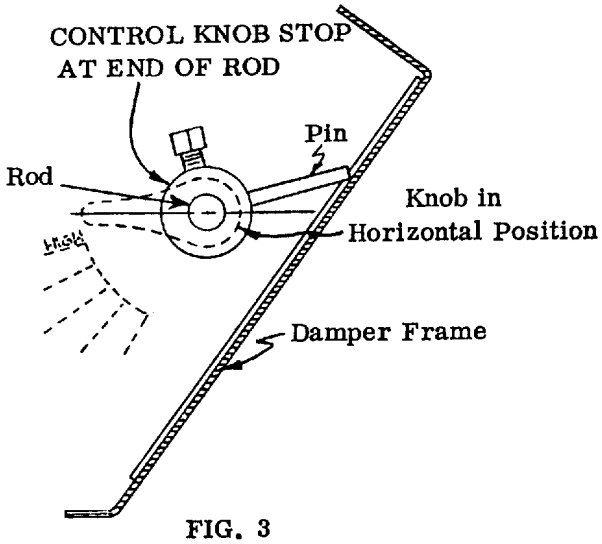


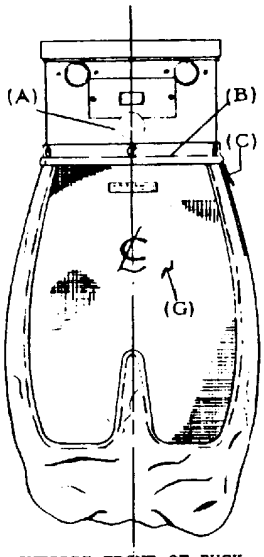
FIG. 3

1. Turn off electric power and remove Top Cover.
   Note: Check to see that the set screw of the Knob is tighten securely against the flat on the end of the rod.

2. Place the pointer of the control knob at the low position (Fig. 2), with damper fully closed, push the pin on the damper stop (in center of rod) down until it hits the damper, tighten set screw securely.

3. Rotate the pointer upward until the knob is in a horizontal position (Fig. 3), push the pin on the control knob stop (on the end of rod) against the damper frame as shown in Fig. 3. Tighten set screw securely.

INSTALLATION OF
PANTS TOPPER BAG & BOOTS
ON CISSELL PANTS TOPPER



OUTSIDE FRONT OF BUCK
Fig. 1

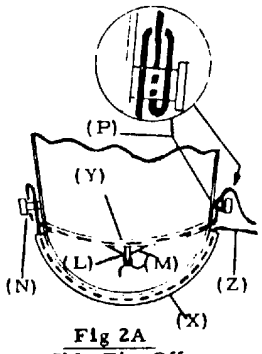


Fig 2A
Side Tie-Off
For SN 1397 & Up

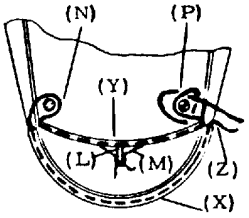
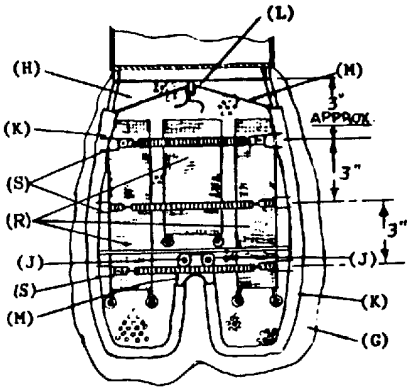


Fig. 2
Bottom Tie-Off
For SN 1396 & Below



INSIDE BAG, VIEW OF BUCK
Fig. 3

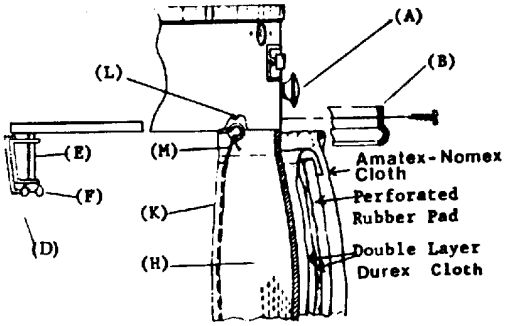


Fig. 4

1. Place bag in position on buck, Fig. 1. Center top edge of Pants Topper bag with center of knob (A). Install retainer (B) over drawstring sheath (X), Fig. 2 or 2A. Tighten three sheet metal screws. Open zipper (C) Fig. 1.

2. Loop drawstring over spool (N) Fig. 2 or 2A. Place drawstring sheath in groove (Y). Loop drawstring around spool (P) as shown; pull loose ends of drawstring tightly and tie-off at (Z).

3. Place expander assembly (D) Fig. 4 inside of bag on slide stud (E) and fasten securely with wing nut (F).

4. Align Pants Topper Bag (G) on buck (Fig. 1). Slip drawstring (M) over spool (J)Fig. 3. Pull drawstrings tight toward top of buck so that drawstring sheath (K) is equally distributed around outer edges of perforated metal buck (H). Holding strings tight, tie-off to eyelet (L).

5. Install Buck springs (S) by placing hooks over drawstring through sheath (K) as illustrated in Fig. 3.

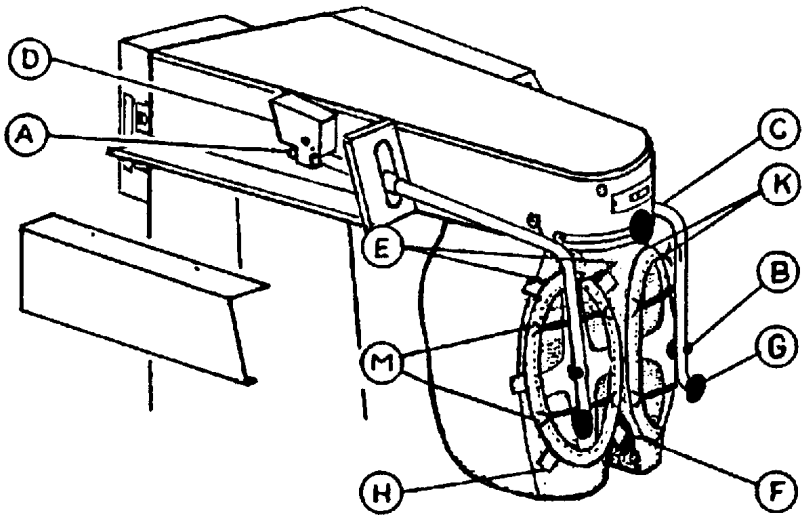
INSTALLATION OF BOOTS

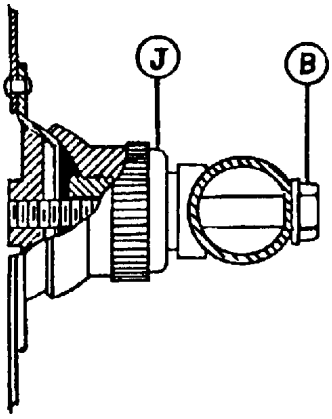
Pull boots (R) Fig. 3 up for removal. To install new boots, pull down over frames. See that boot frames are tight against buck.

PLEAT SETTER COVER ASSEMBLY INSTALLATION

1. Place cover over pleat clamp (E), pull draw strings (K) tight and tie. See illustration below.

2. Hook one end of each pleat clamp spring (M) on left side of cover, pull tight and hook on right side of cover.





Adjustable Clamp Support

OVAL PLEAT CLAMP ADJUSTMENT WITH ADJUSTABLE CLAMP SUPPORT
REFER TO ILLUSTRATION ABOVE.

1. Remove cover from side of unit. Loosen cap screw (A) in arm expander and cap screw (B) in adjustable support.

2. Rotate and slide arm (C) in counterweight (D) to position pleat clamp (E) on buck. Place pleat clamp in vertical position and align inside edge of pleat clamp with edge of buck crotch (F).

3. Apply pressure on arm knob (G) to provide pressure between pleat clamp (E) and buck. Hold pressure and retighten cap screw (A) of arm expander.

4. With a thin card (H) check uniformity of pressure between edges of pleat clamp (E) and buck. If unequal, rotate pleat clamp slightly to obtain a uniform pressure around all edges.

5. Re-tighten nut (B) of adjustable support. Note: Whenever tightening nut (B), do not apply pressure to knob (G) or arm (C), as this will disturb the pleat clamp setting.

6. Top a pair of trousers.

    A. If pleat clamp (E) makes an impression (too tight), loosen cap screw (B) and rotate adjustment nut (J) counter-clockwise to reduce pressure. Retighten cap screw (B).

    B. If pleat clamp does not hold pleat (too loose), loosen cap screw (B) and rotate adjustment nut (J) clockwise to increase pressure. Retighten cap screw (B).

NOTE: Each pleat clamp must engage the padded buck uniformily with a slight pressure. Heavy pressure may produce a hard finish and show seam imprinting. A very light pressure may allow pleat lay to shift during the air cycle, and show wrinkles with an improperly shaped pleat. Adequate holding of the pleat lay during the air cycle is aided by the surface texture of the pleat clamp and the buck cover.

PANTS TOPPER BAG:

KEEP BAG CLEAN. In operation, bag collects dust, lint, etc., greatly reducing its efficiency. Launder bag at frequent intervals as determined by its soiled condition.

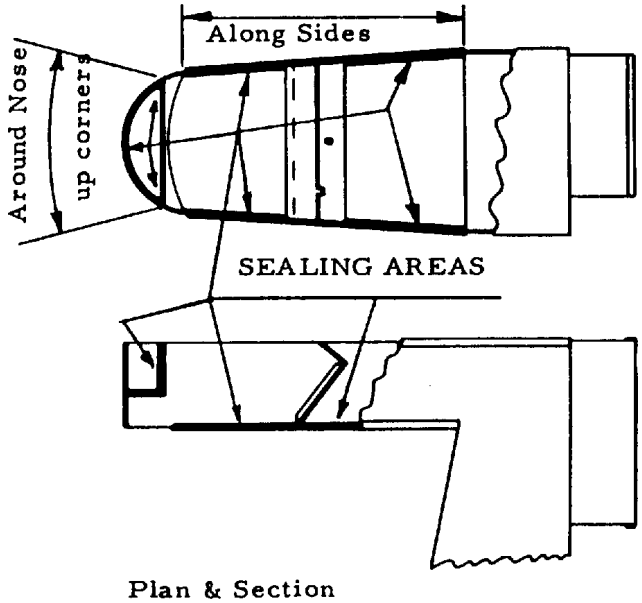
The Cissell Pants Topper bag has a double liner to extend pad life and to distribute steam uniformily.

REPAIR HOLES OR WORN SPOTS in bag to extend its useful life: REPLACE when worn beyond repair. A defective or worn bag will cause topper to operate unsatisfactorily. KEEP A SPARE BAG IN STOCK.

CAUTION

Use only genuine CISSELL PT474 bags. The fabric for the Cissell Bag is especially woven (and cut to an exact pattern) to give the correct porosity and shape for proper steaming and drying. Remember, your CISSELL PANTS TOPPER depends on the bag for proper operation.

Correct padding is necessary to obtain proper finishing. The Cissell buck pad is constructed of a high, heat-resisting synthetic air foam, and perforated for rapid steaming and full air flow through entire buck area. Replace a worn-out pad only with a Cissell perforated pad. Keep a spare pad in stock. Do not use more than 1 pad.



Plan & Section

RESEALING EDGES FOR STEAM & CONDENSATE LEAKS

When leak appears:

1. Remove top.
2. Using sealing compound Permatex #2 or equilvalent;

Generally apply sealing compound evenly along area of "Leak". Allow sealing compound to set and air dry for approx. 2 hours before putting topper back in service. Sealing compound will not harden. If necessary, remove switches from control box in Nose, when fixing leaks in this area.

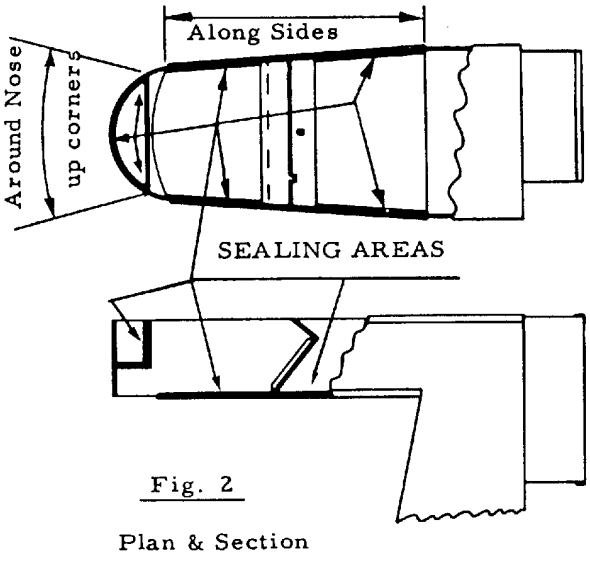


Fig. 2

Plan & Section

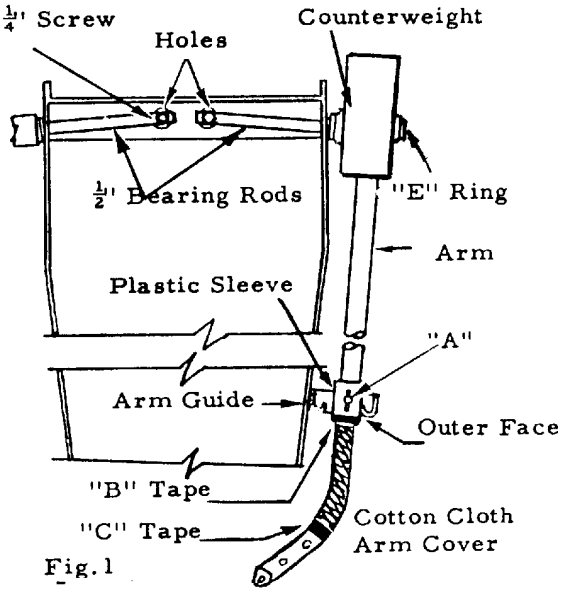


Fig. 1

PLASTIC SLEEVE POSITION AND TAPING FIG. 1

1. Position plastic sleeve on arm in center of arm guide, and align slot with hole in arm. Fasten plastic sleeve securely with #8 Tap Tight Screw at "A" (Fig. 1).
2. Position end of cloth arm cover in contact with end of plastic sleeve.
3. Using Scotch Brand pressure sensitive Tape #471 or equivalent;

Tape Plastic Sleeve at "B" securely attaching end of Sleeve to cloth arm cover.
(Minimum 2-3 wraps)
Pull end of cloth arm cover at "C" to remove slack.
Tape cloth arm cover at "C" securely attaching end of cover to arm.

BEARING ADJUSTMENT FIG. 1

To Adjust Bearing:

1. Remove Top
2. Loosen 1/4" machine screw holding the bearing rod to the metal bracket.
3. Slide screw in hole of bracket to bring the plastic sleeve into contact with the outer face of the arm guide.
4. Hold the "E" Ring on the Bearing Rod against outer faces of counterweight and retighten 1/4" screw.
5. Re-install top on machine.

RESEALING EDGES FOR STEAM & CONDENSATE LEAKS FIG. 2

When Leak Appears:

1. Remove Top
2. Using sealing compound Permatex #2 or equivalent:

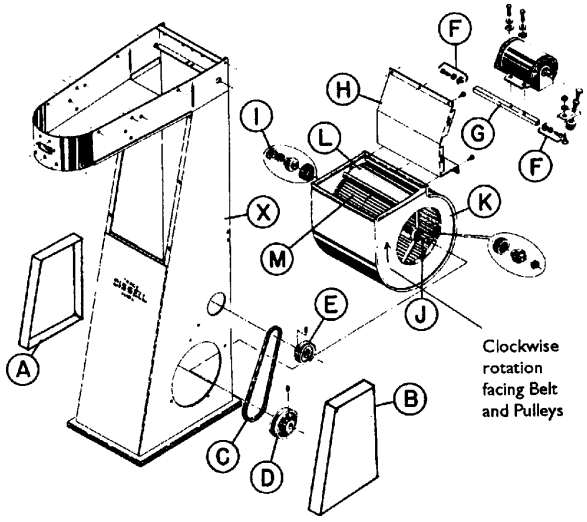
Generously apply sealing compound evenly along of "Leak".
Allow sealing compound to set and air dry for approx. 2 hours before putting Topper back in service.
Sealing compound will not harden.
If necessary, remove switches from control box in Nose, when fixing leaks in this area.

MOTOR AND BLOWER ASSEMBLY REMOVAL

IMPORTANT: Before performing service, turn off power, close steam lines and allow machine to cool.

1. Remove Blower Guard (A) and Belt Guard (B).
2. Remove Belt (C) and Sheaves (D) & (E).
3. Remove wires from motor.
4. Remove Screw, Lockwasher, and Washer (F) from both ends of Motor Support (G). Remove Motor and Support from Housing (X).
5. Remove Rear Access Panel (H).
6. Remove Thrust Collar (I) from Blower Shaft. (J).
7. Remove Blower Housing (K).
8. Remove Cut-Off Panel (L) and lift Blower Wheel (M).

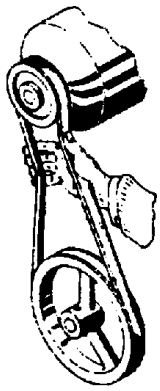
NOTE: To re-install, reverse procedure. When placing Blower Wheel in Housing, be sure blades are cupped towards rectangular opening. Be sure that the two sheaves have the set screws facing the outside.



BELT TENSION ADJUSTMENT AND PULLY ALIGNMENT

Improper belt tension or misalignment of pulleys may cause bearing and/or belt failures

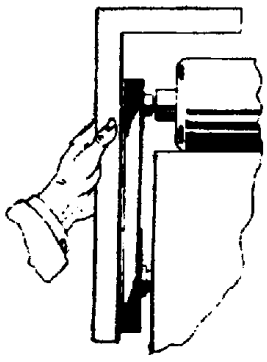
The illustration at the right indicates recommended belt tension, determined by grasping the belt as shown and when pressure is applied, a deflection of approximately one inch will occur.



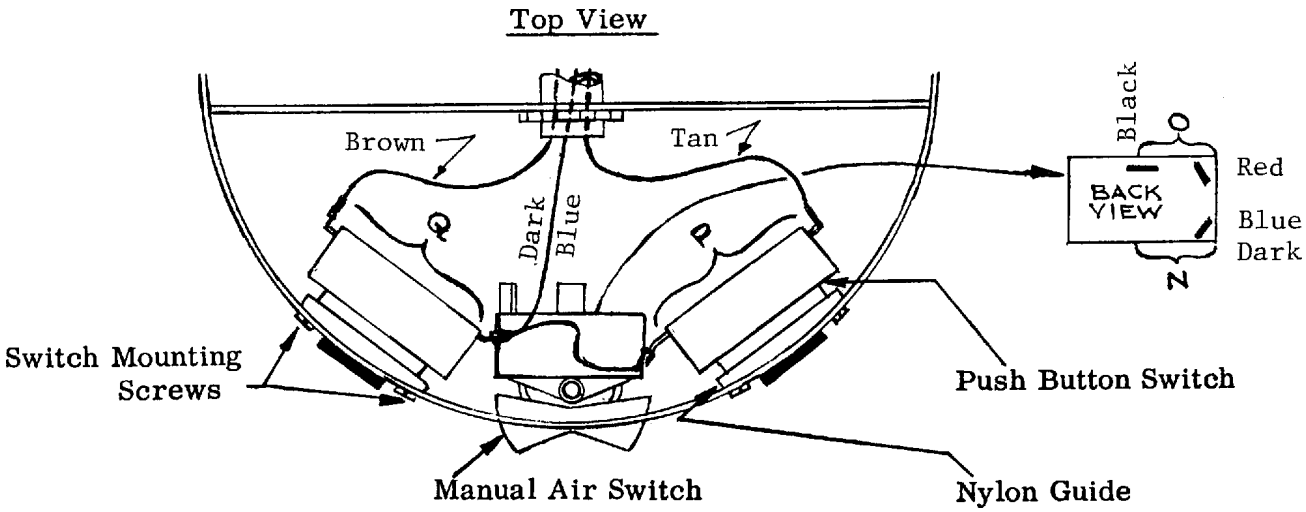
If the deflection is much more than indicated, slippage may occur and wear out the belt.

If deflection is less than indicated, the belt is too tight and will shorten the life of the bearings. Excessive tension will actually pull the shaft through the oil film and allow metal to metal contact. Noisy blower operation will also occur.

The illustration at the right shows the preferred method for checking correct alignment of the pulleys. Excessive misalignment produces increased belt wear and can produce lateral motion of the wheel and shaft to the point that considerable noise can develop.



CONTROL SWITCHES REPLACEMENT



INSTRUCTIONS FOR REPLACING PUSH BUTTON SWITCHES & NYLON GUIDES ON CISSELL PANTS TOPPER

1. Cut off Steam & Electricity. Allow machine to cool.
2. Remove Top Panel.
3. Disconnect Switch Leads.
4. Remove Four Switch Mounting screws.
5. Remove old Switches & Guides. Install New Switches & Guides in Reverse Order.
6. See Sketch above.

KNOB ADJUSTMENT "MAKE TEST WITH ELECTRIC CURRENT OFF"

If timer does not click at zero when rotating pointer knob to zero, then make the following adjustment:

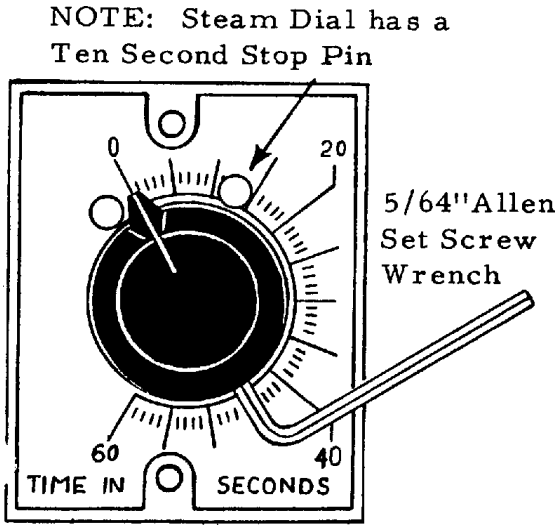
1. Securely tighten set screw in knob on to shaft of Timer; with Pointer in any position. (Use 5/64 Allen set screw wrench).

2. Rotate Knob slowly back and forth until you hear the switch click; stop rotating. The Switch is in (not the pointer) zero position at this time.

3. Carefully loosen Knob set screw without moving position of Timer Shaft.

4. Set Knob of Pointer in zero position on dial, then securely tighten set screw.

5. Rotate Knob clockwise 8 seconds, more or less, then rotate knob counter-clockwise to zero position. Switch should click at this point.



MAINTENANCE INSTRUCTIONS

IMPORTANT - Shut-off steam and electric power before performing Maintenance Operations.

ELECTRIC MOTOR LUBRICATION:

SLEEVE BEARINGS: Motors with wool-packed sleeve bearings are oiled at the factory for two years normal operation. After two years normal operation, add annually 1/2 teaspoon electric motor oil or SAE-10 to each bearing. For 24 hours per day operation, add one teaspoon of oil annually.

BALL BEARING: Motors having ball bearings are packed with sufficient grease for approximately TEN YEARS of normal operation. After ten years of normal operation, the bearings and housing should be cleaned thoroughly. Repack each bearing and the cavity back of the bearing 1/3 full with G. E. Ball Bearing grease.

CHECK VOLTAGE AND CURRENT:

Your Topper is wired for a given voltage and current as stamped on name plate. Motor, Timers, Relays and Solenoid are for Single Voltage and Single current only. If machine is to be operated on any voltage and current, other than specified above, **THE MOTOR, RELAYS, TIMERS AND SOLENOID MUST BE REPLACED WITH UNITS CORRESPONDING TO THE VOLTAGE AND CURRENT ON WHICH THEY ARE TO BE OPERATED.**

GENERAL CLEANING:

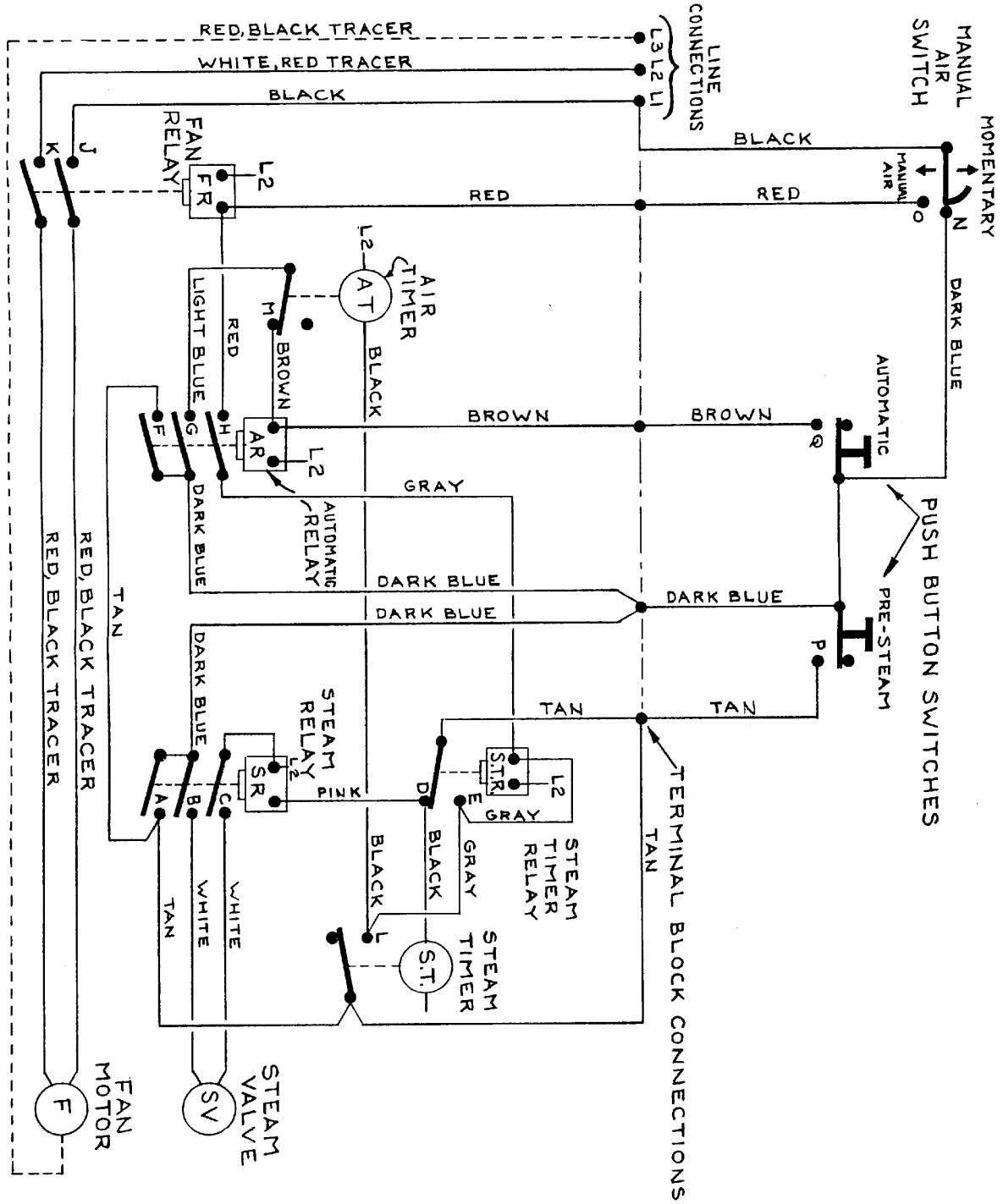
Every six months remove top cover, rear panel, front panel, blower and belt guards and clean thoroughly with a vacuum cleaner or air hose.

LUBRICATING SLIDES

Every week apply heat and water resistant lubricant to slide rail. Too much lubricant will soil bag. Johnson stick wax may be used.

CISSELL

SIMPLIFIED WIRING DIAGRAM PTW-3
FOR CISSELL PANTS TOPPER
1 PHASE OR 3 PHASE - 230 VOLTS
1PHASE-115 VOLT

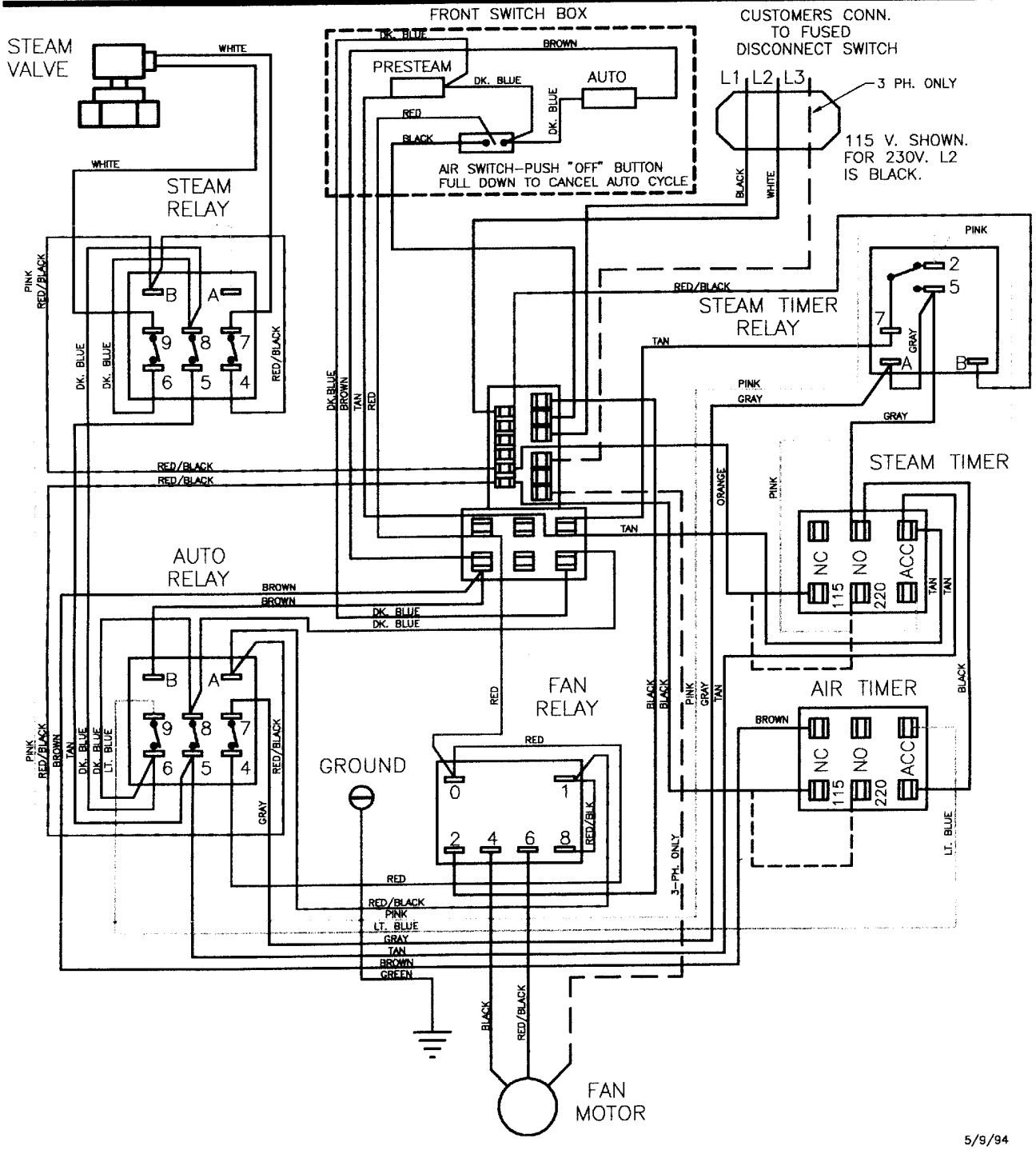


Cissell
LOUISVILLE, KENTUCKY

WIRING DIAGRAM

PTW 28

PANTS TOPPER "A", "AC", "AL"
120 OR 240V 1PH., OR 240V 3PH.
(PARTS MUST MATCH SUPPLY VOLTAGE)



TROUBLE SHOOTING SERVICE CHART

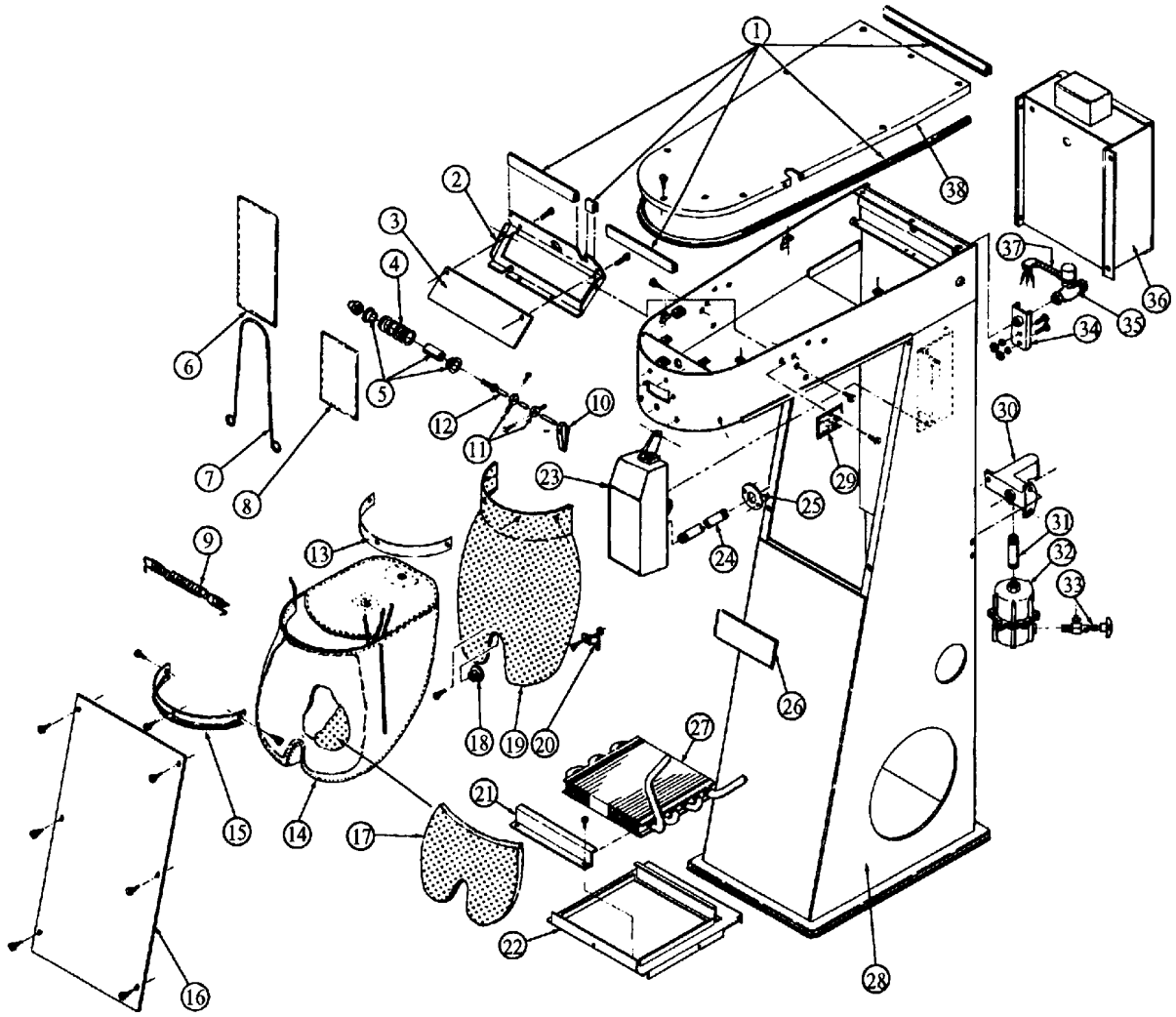
TROUBLE	CAUSE	REMEDY
(1) No Steam	Steam valve OFF	Open gate valve in steam supply line
(2) Steam solenoid valve does not operate	Contacts B or C of steam relay do not close	Replace relay
	Steam valve coil open	Replace coil
	Steam valve coil partially shorted, hums, doesn't operate.	Replace coil
	Steam valve hums, doesn't operate, 220V. and 110V.unit	Replace 220V. with 110V. coil
(3) Steam leaks continously through buck	Solenoid valve leaks	Inspect needle stem and seat, replace if bad
	Bead/nut fittings on preheater tubes	Remove top, check fittings and tighten.
	Loose teflon seat in solenoid	Tighten seat or replace if too loose.
(4) Water drips from buck or support	Bead/nut fittings on preheater tubes.	Remove top, check fittings and tighten.
	Ventilating fan moving air over buck and support	Relocate fan or shield air stream so it wil not cool the buck or support
	Leaking steam solenoid valve.	Inspect needle stem and seat, replace if bad.
	Steam cycle too long.	Reset steam timer, do not exceed 6 seconds
	Loose seat in solenoid valve.	Tighten seat or replace if too loose.
(5) Wet Steam	Trap not operating.	Check size and operation of the trap. Repair or \ replace if required.
	Check valve sticking.	Be sure installation is correct.
	Steam return line shut off.	Open steam return line gate valve.
	No risers installed in steam lines.	Install risers in supply and return lines as shown.
	Supply line has loop or fall in horizontal run that is below machine inlet.	Eliminate loop or install a by-pass trap from lowest point of loop or fall
	Heavy condensate in supply header does not drain rapidly to boiler.	Install a by-pass trap header to drain off condensate before reaching supply inlet.
	More than one machine connected to trap.	Install a separate trap for each machine.
	Back pressure in steam return line.	Inspect traps of all machines to determine whether one or more traps are standing open; or whether another trap is discharging towards return line connection of Pants Topper. Correct trap installations and perform steps necessary to eliminate back pressure in return line. Return line must drain by gravity to condensate return tank; and return tank must be adequately vented.
(6) No Steam-Steam relay (SR) does not operate when Pre-steam button is pushed	Operating circuit relay (SR) open at contact D (Steam Timer Relay,STR)	Replace Relay
	Coil, Relay (SR) open	Replace Relay
	Operating circuit relay (SR) open at either contact N (manual oir switch), or contact P (Pre-steam push-button switch)	Test contacts N and P; replace defective switch or push-button switch.

TROUBLE SHOOTING SERVICE CHART

TROUBLE	CAUSE	REMEDY
(6) Continued No Steam-Steam relay (SR) does not operate when pre-steam button is pushed.	Relay (SR) hums, when energized, doesn't operate; coil partially shorted	Replace relay (SR)
	Relay (SR) hums, when energized, doesn't operate; wrong voltage relay	Replace with correct voltage relay (SR)
(7) No Steam or Air, Steam relay (SR) does not operate when Automatic button is pushed	Operating circuit relay (SR) open at contact F (Automatic relay AR)	Replace relay
	Operating circuit relay (AR) open at contact N (Manual air switch) or contact Q (Automatic push-button)	Test contacts N and Q; replace defective parts
	Coil relay (AR) open	Replace relay (AR)
	Relay (AR) hums when energized, doesn't operate, coil partially shorted	Replace relay (AR)
	Relay (AR) hums when energized, doesn't operate, wrong voltage relay	Replace with correct voltage relay
(8) No Steam, steam timer relay remains energized, prevents operation of steam relay (SR), when Pre-steam button is pushed. NOTE: Timed Air only when Automatic button is pushed	Contact P (Pre-steam button) does not open	Replace Pre-steam push-button
	Contact Q (Automatic Push-button) does not open	Replace Automatic push-button
	Contact A (Steam Relay SR) doesn't open when coil (SR) is de-energized	Replace relay (SR)
	Contact F (Automatic relay AR) does not open when coil of (AR) is de-energized	Replace relay (AR)
	Defective Air timer (AT), timer has no time-out,may have bad motor, or contact M may be welded closed	Replace Air timer (AT)
	Air timer does not time-out, wrong voltage timer	Replace with correct voltage timer
(9) Timed Steam Stops, when Pre-steam button is released. NOTE: Timed steam obtained as long as Pre-steam button is held down	Holding circuit for Steam Relay (SR) open at contact A (SR)	Replace relay (SR)
	Holding circuit for Steam relay (SR) open, loose terminal connections	Inspect terminal connections, wires, etc. and tighten all connections.

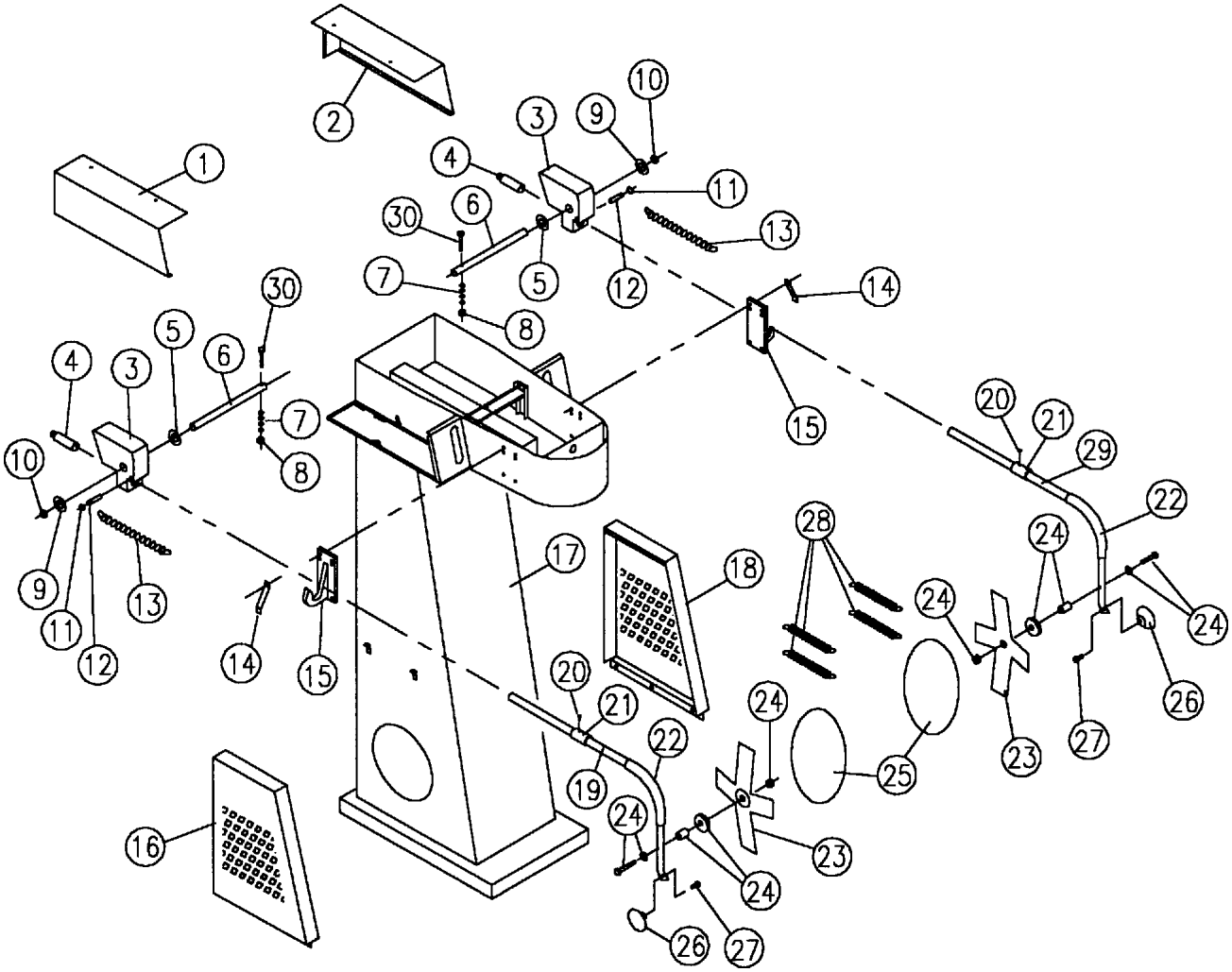
TROUBLE SHOOTING SERVICE CHART

TROUBLE	CAUSE	REMEDY
(10) Timed Steam and Timed Air Stops when Automatic button is released. NOTE: Timed Steam followed by Timed Air obtained as long as automatic button is held down, repeating cycles (steam, air steam, etc.)	Holding circuits for relays (SR) and (AR) open, bad wire connection on dark blue wire from Pre-steam button to terminal block in control box	Inspect terminal connections on dark blue wire, tighten loose connections
	Holding circuit for Steam relay (SR) open at contact A (SR), and the holding circuit for relay (AR) open at contact G (AR) or contact M (AT)	Test contacts M (AR), A (SR), and G (AR). If bad, replace Air timer (AT), Steam relay (SR), ar Air relay (AR)
(11) Timed Steam, but no Timed air, when Automatic button is pushed. NOTE: Timed Air is obtained after Timed Steam, by holding the Automatic button	Holding circuit for Automatic relay (AR) open at contact G (AR)	Replace relay (AR)
	Holding circuit for Automatic relay (AR) open at contact M (AT)	Replace Air timer (AT)
	Holding circuit for relay (AR) open, bad wire terminal connection	Inspect and tighten all terminal connections.
(12) Timed Steam, but no Air when Automatic button is pushed	Coil open, Fan relay (FR)	Replace Fan relay (FR)
	Contact H, Automatic relay (AR) does not close when it is energized	Replace Automatic relay (AR)
	Contact J or K, Fan relay (FR), does not close when it is energized	Replace Fan relay (FR)
	Fan motor will not run	Inspect wire connections or replace motor
(13) Timed Steam, but Air does not shut off automatically	Defective Air timer (AT)	Replace Air timer (AT)
	Manual Air switch is in ON position	Switch to OFF position
	Fan relay (FR) does not release when de-energized. Defective relay	Replace Fan relay (FR)
	Automatic button defective	Replace Automatic push-button
(14) Steam doesn't shut off automatically NOTE: May be stopped by switching Manual Air switch OFF	Steam Timer relay (STR) defective	Replace Steam Timer Relay (STR)
	Steam Timer (ST) defective	Replace Steam Timer (ST)
(15) Control does not shut off automatically	Contact G (AR) doesn't open	Replace Automatic relay (AR)
	Light blue terminal of contact G (AR) is touching dark blue terminal	Bend terminals to prevent touching

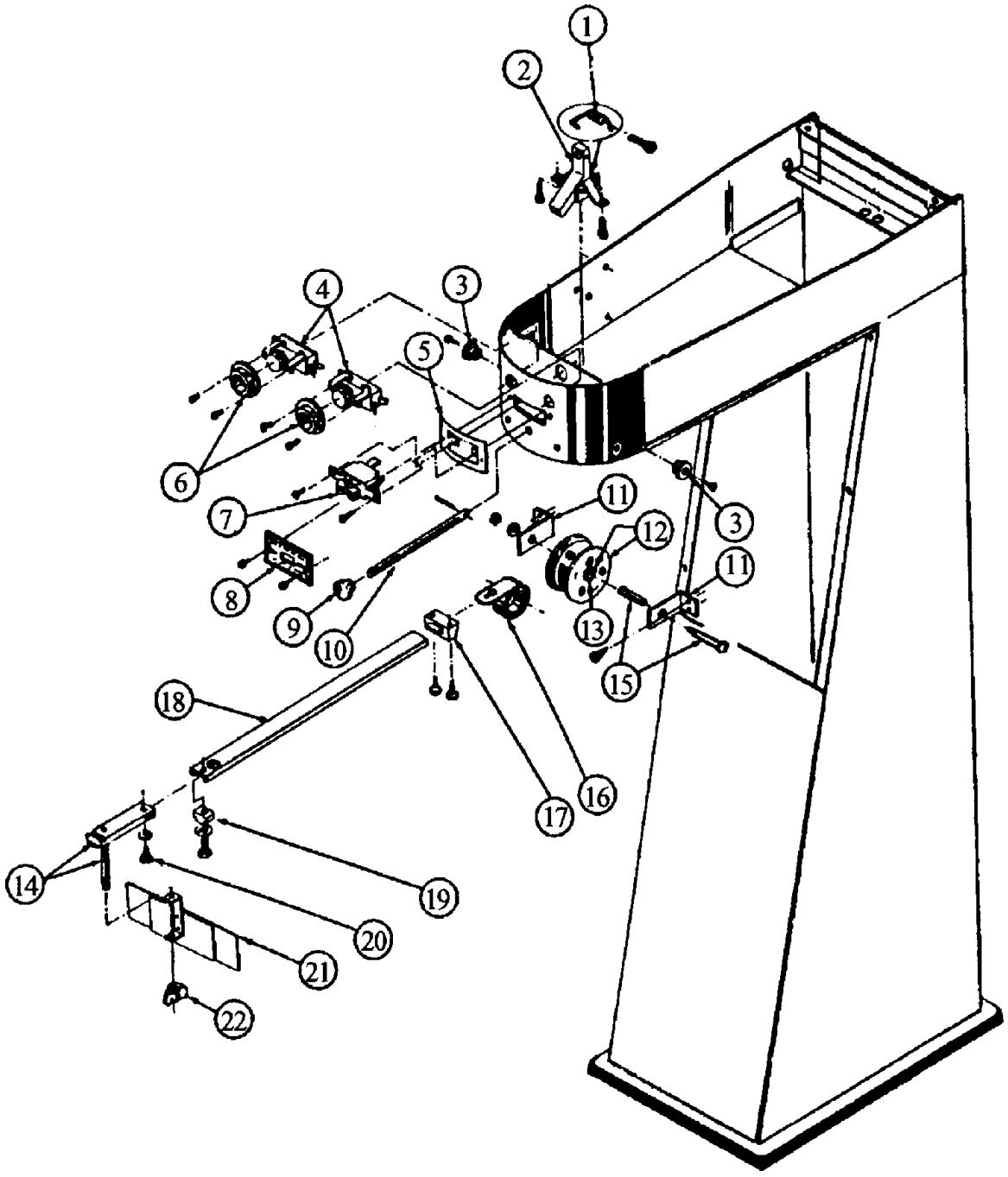


Ref. No.	Part No.	Description
1	PT143	Steam Seals
2	PT14	Damper Frame
3	PT30	Damper
4	V345	Spring
5	PT116	Spring Glands & Sleeve
6	PT22	Large Steam Boot
7	PT20	Large Boot Rod
8	PT548	Small Steam Boot
9	PT52	Spring
10	PT146	Damper Adjustment Knob
11	PT113	Damper Stop w/screw
12	PT144	Damper Adjustment Rod
13	PT127	Steam Sheild
14	PT474	Bag/Pad Assembly
15	PT75	Bag Retainer
16	PT3	Front Panel
17	PT59	Padding for Bag
18	PT8	Spool Guide
19	AT348	Buck
20	PT23	Coil Clamp
21	PT6	Coil Holder

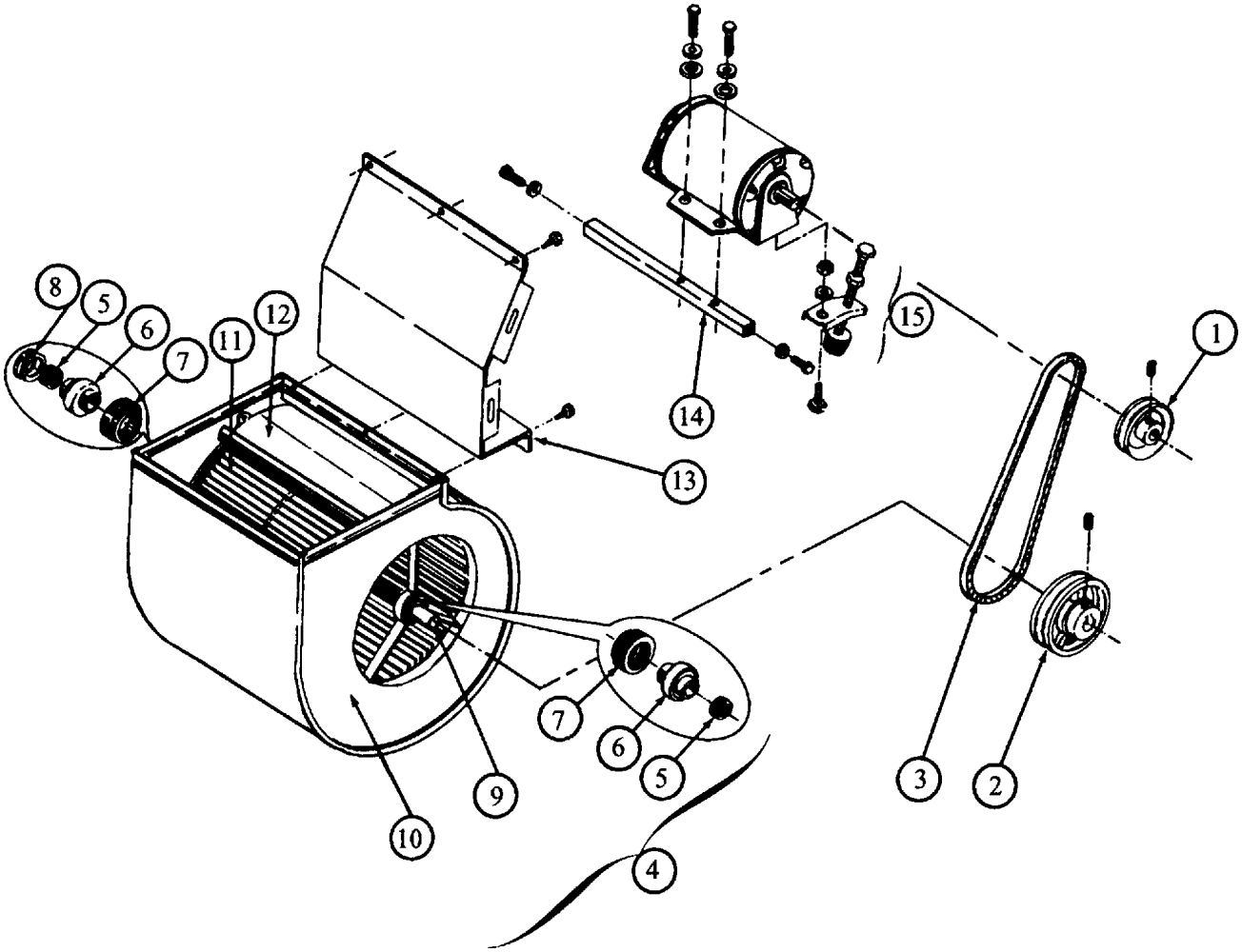
Ref. No.	Part No.	Description
22	PT153	Steam Coil Support
23	PT97	Steam Chamber
24	F226	Pipe, 1/2" x 7"
25	F225	Spacer Ring
26	TU8013	Cissell Nameplate
27	PT29	Steam Coil
28	PT602	Housing, Model B
	PT596	Housing, Model A
29	PT109	Air Adjustment Plate
30	PT24	Steam Manifold
31	LB20	Pipe, 1/2" x 3'
32	SGC2	Condenser
33	OP302	Valve Assembly
34	PT108	Valve Bracket
35	PT326	Solenoid Valve, 120V
	PT327	Solenoid Valve, 240V
36	PT124	Control Box, 120V
	PT431	Control Box, 240V
37	PT398	3/8" x 5" cable
38	PT2	Housing Top



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	PT549	Left Arm Cover	17	PT602	Housing, Model B
2	PT613	Right Arm Cover		PT596	Housing, Model A
3	PT551	Counterweight	18	PT559	Belt Guard
4	PT57	Arm Expander	19	PT557	Left Arm
5	PT563	Pivot Spacer	20	TU7733	#8 x 1/2" Screw
6	PT552	Shaft	21	PT31	Plastic Sleeve
7	P104	Washers	22	PT589	Arm Cover
8	TU4934	1/4" Hex Nut	23	TP165	Long Spider
9	IB76	Bearings	24	PT166	Support Assembly
10	PT211	“E” Ring	25	PT32	Oval Pleat Clamp
11	SGO53	“E” Ring	26	PT42	Arm Knob
12	PT595	Pin	27	601603103	1/4 - 28 x 1/2" Hex Screw
13	PT594	Spring	28	PT52	Clamp Spring
14	TU2105	Activator Spring	29	PT588	Right Arm
15	PT624	Arm Latch	30	FG267	1/4 - 20 x 1 1/4" Hex Screw
16	PT558	Blower Guard			

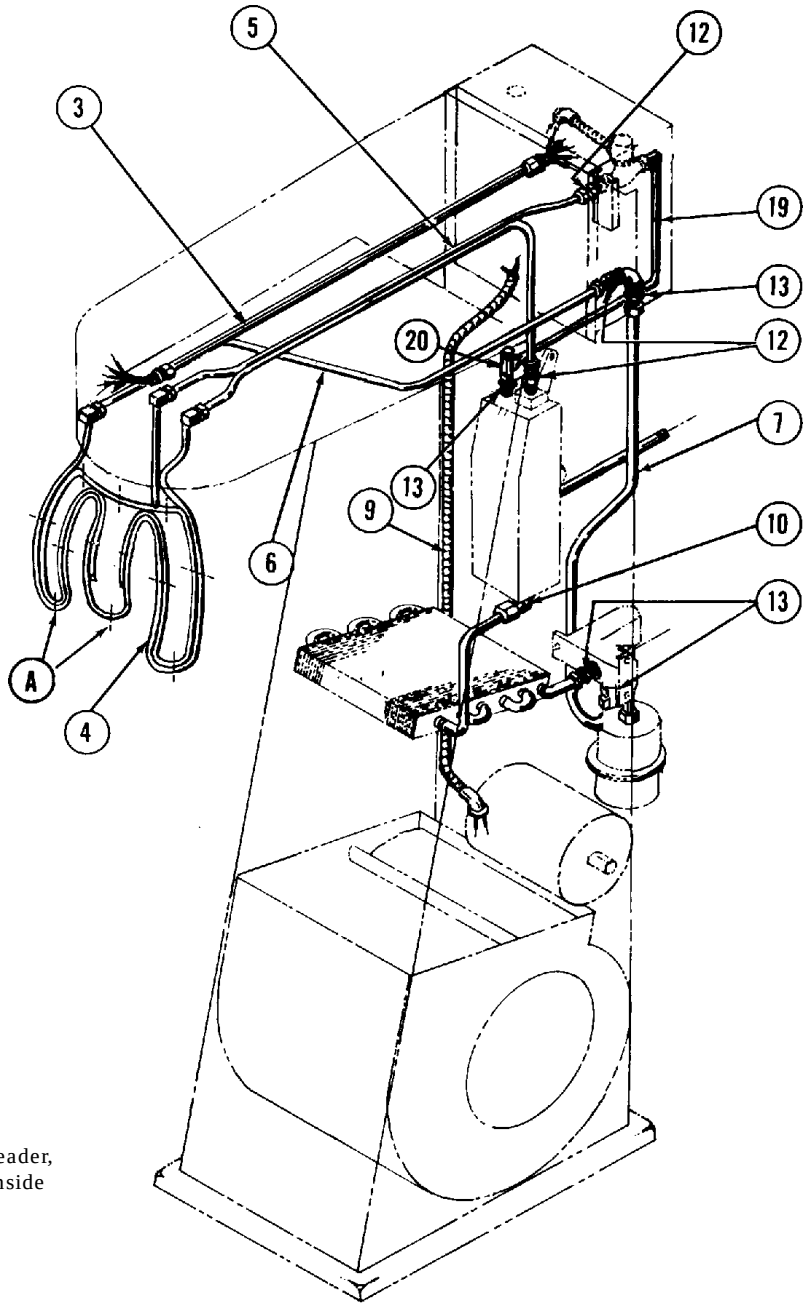


Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	PT49	Release Latch Spring	12	PT71	Spring Bobbin w/bearings
2	PT68	Release Latch Assembly	13	TU49	Bearings
3	PT164	Drawstring Tie-off	14	PT28	Slide Assembly
4	TU9028	Push Button Switch	15	PT152	Bearing Spacer
5	PT142	Air Switch Support Plate	16	PT46	Negator Spring
6	PT107	Switch Spacer	17	PT61	Spring Guide
7	PT74	Manual Air Switch	18	PT27	Track
8	PT18	Control Plate	19	PT63	Slide Stop
9	OP182	Control Knob	20	PT62	Spring Lock Pivot Screw
10	PT44	Bag Release Rod	21	AT397	Waist Expander Assy.
11	PT72	Bobbin Mounting Bracket	22	PT34	Wing Nut



MOTOR BLOWER ASSEMBLY

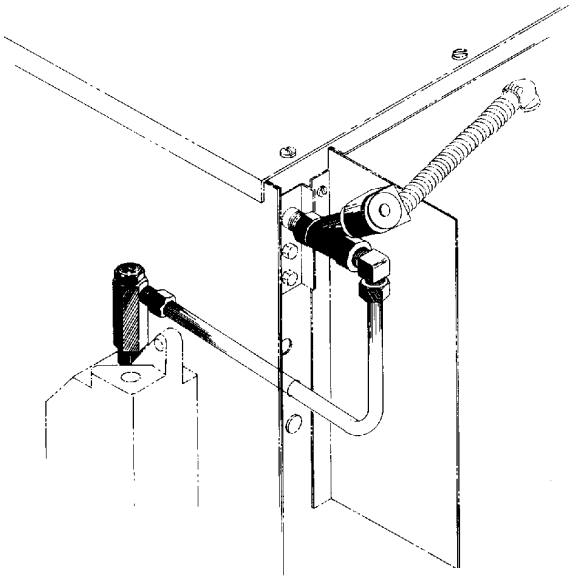
Ref.No.	Part No.	Description
1	TU2318	Motor Sheave
2	TU2323	Gear Sheave
3	PT87	V-Belt
4	PT80	Blower Assembly
5	F374	Thrust Washer
6	F371	Bearing Assembly
7	F373	Bearing Insulator Cup
8	F372	Thrust Collar
9	F366	Shaft, 3/4" x 16 1/2"
10	PT89	Blower Housing
11	F368	Blower Wheel
12	F367	Cut-Off Assembly
13	PT180	Rear Access Panel
14	PTA47	Motor Support
15	F365	Belt Adjustment Assembly



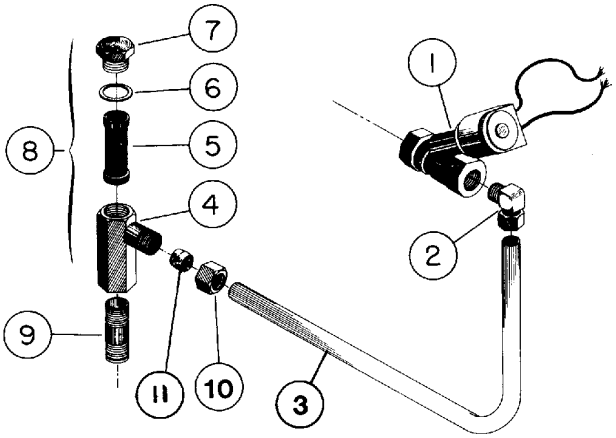
Note "A": Location of PT-23 coil header, to attach PT-91 coil to inside surface of AT348 Buck.

PIPING AND TUBING PARTS

Ref. No.	Part No.	Description
3	PT45	Control Switch Conduit
4	PT91	Steam Coil Assembly
5	PT92	Upsteam/Preheat Tube
6	PT93	Steam Return Tube, 3/8"
7	PT94	Steam Return Tube, 1/2"
9	504641292	Motor Cable, Specify Length
10	PT99	Ell Compression Fitting
12	SF59	Tube, 1/4" P x 3/8" T
13	FB75	Straight Compression Fitting
19	PT923	Copper Tube, 1/2"
20	PT343	Strainer Assembly, See Separate Page for Parts

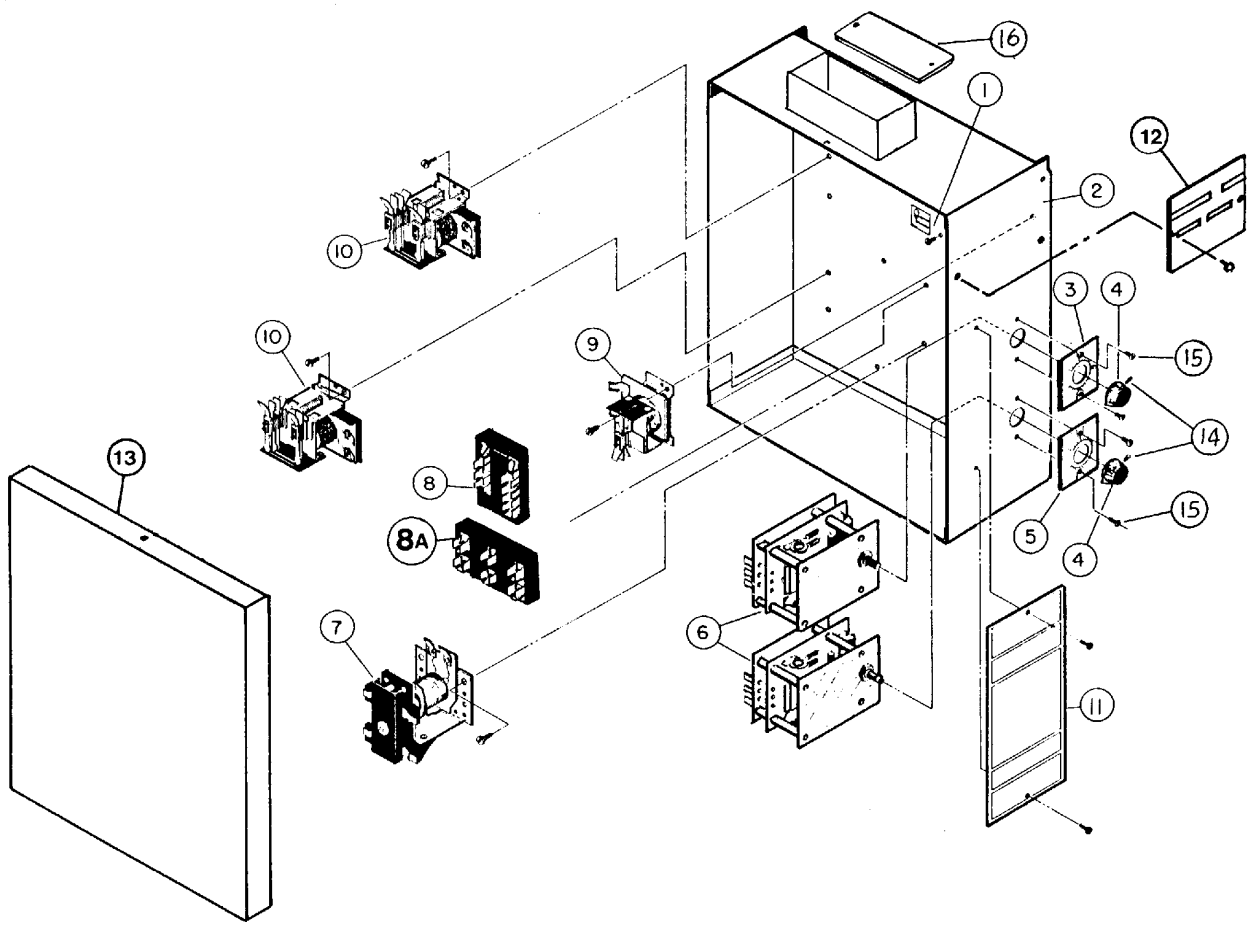


INSTALLATION & LOCATION



SOLENOID VALVE AND PARTS

Ref.No.	Part No.	Description
1	PT326	Solenoid Valve (120V, 50/60 Hz)
	PT422	Replacement Coil (120V)
	PT327	Solenoid Valve (240V, 50/60 Hz)
	PT423	Replacement Coil (240V)
2	PT344	Elbow w/nut and bead
3	PT923	Tube, 1/2"
4	PT342	Strainer Body
5	PT133	Strainer Screen
6	PT132	Gasket
7	PT131	Cap
8	PT343	Strainer Assembly (Consists of Parts No. 4,5,6,7)
9	PT345	Pipe, 3/8" x 2"
10	PT279	Compression Nut
11	FB145	Compression Bead



ELECTRIC CONTROL BOX

Ref.No.	Part No.	Description
1	PT185	Earth Sign (Ground)
2	PT515	Control Box
3	PT351	Steam Timer Plate
4	PT118	Timer Knob (2 req'd)
5	PT348	Air Timer Plate
6	FG453	Timer (2 req'd)
7	TU13224	Fan Relay (110V)
	TU13225	Fan Relay (220V)
8	TU9343	Terminal Block
8A	TU9342	Terminal Block
9	PT182	Steam Timer Relay (115V)
	PT183	Steam Timer Relay (230V)
10	PT121	Steam or Automatic Relay (115V)
	PT122	Steam or Automatic Relay (230V)
11	PT37	Timer Nameplate
12	F1179	Rating Nameplate
13	PT5	Control Box Cover
14	C196	Set Screw
15	LB291	#6-32 x 3/8" Screw
16	SB180	Junction Box Cover
	PT547	Wire Harness (Not Shown)