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.

CISSELL MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY, STATUTORY OR OTHERWISE, CONCERNING THE EQUIPMENT OR PARTS INCLUDING, WITHOUT LIMITATION, A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OR A WARRANTY OF MERCHANTABILITY. THE WARRANTIES GIVEN ABOVE ARE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. CISSELL NEITHER ASSUMES, NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT, ANY OTHER WARRANTY OR LIABILITY IN CONNECTION WITH THE MANUFACTURE, USE OR SALE OF ITS EQUIPMENT OR PARTS.

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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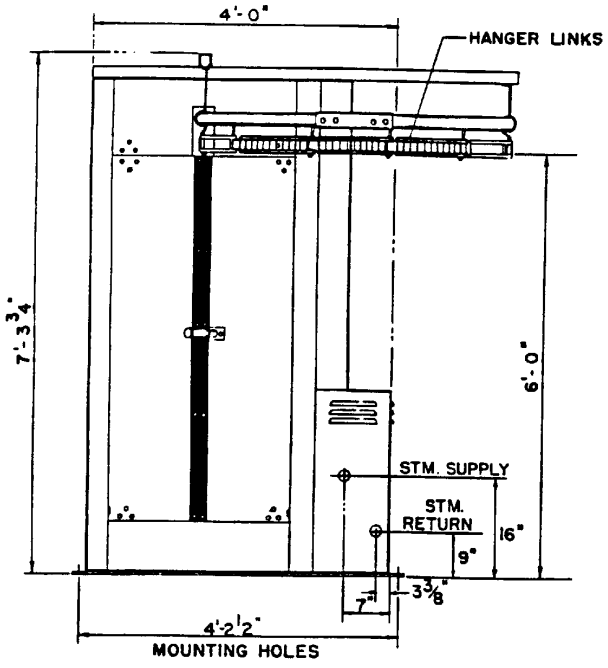
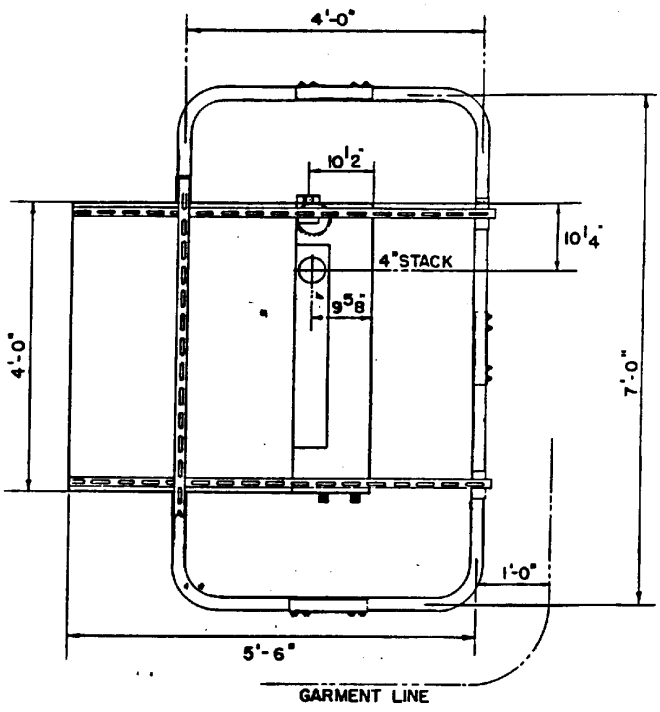
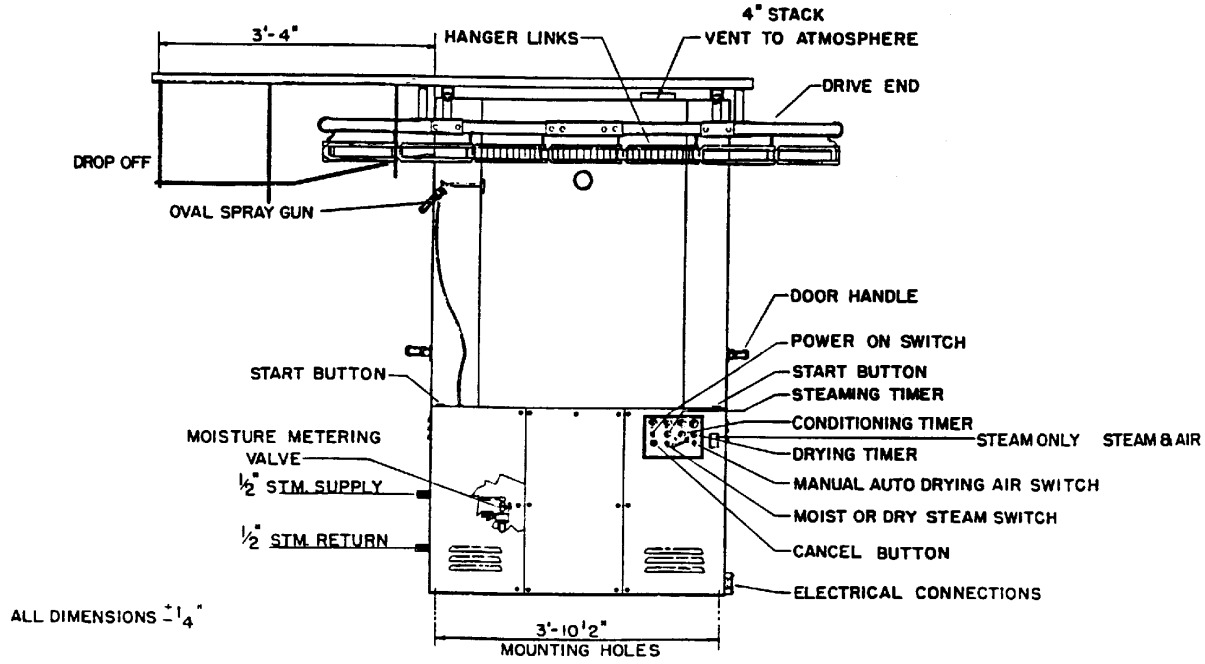




END VIEW

PLAN VIEW



SIDE VIEW

REAR POWER STRUT BRACKETS ARE MOUNTED UPSIDE DOWN FOR SHIPPING PURPOSES. FIG. 1

WHEN INSTALLING POWER STRUTS, BE SURE TO INSTALL REAR BRACKETS AS ILLUSTRATED IN FIG. 2.

FIG. 1

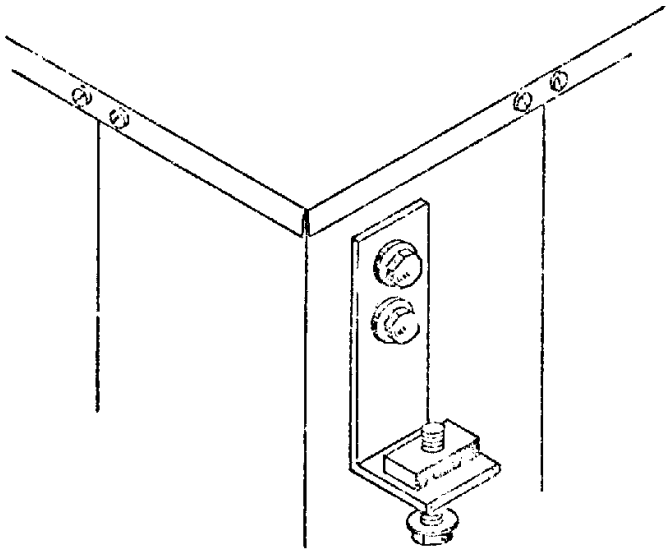
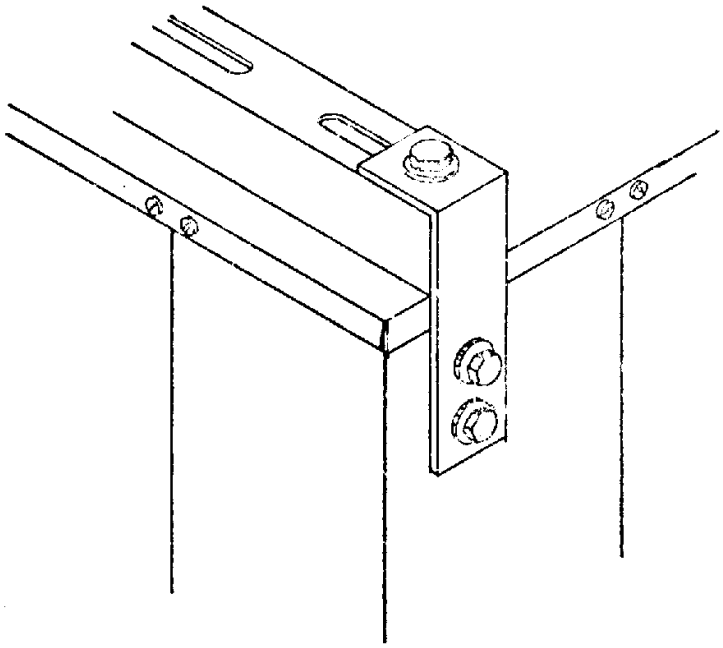


FIG. 2



STEAM PIPING INSTALLATION INSTRUCTIONS

Refer to illustration on next page

IMPORTANT: INSTALL STEAM PIPING IN ACCORDANCE WITH ALL LOCAL REGULATIONS AND REQUIREMENTS

1. Set and anchor Tunnel in position. Machine should be level to assure proper steam circulation.

2. To prevent condensate draining from headers to Tunnel, piping should have a minimum riser 12" above each respective header as illustrated. Do not make steam connection to header with a horizontal or downwardly facing tee or elbow.

3. Whenever possible, horizontal runs of steam lines must drain, by gravity, to respective steam header. Water pockets, or an improperly drained steam header will provide wetsteam, causing improper operation of Tunnel. If pockets or improper drainage cannot beeliminated, install a by-pass trap to drain condensate from the low point in the steam supply header to the return.

4. In both the steam supply and steam return line, it is recommended that each have a 1/2" union and 1/2" globe valve. This will enable you to disconnect the steam connections and service the Tunnel while your plant is in operation.

5. When Tunnel is on the end of a line of equipment extend headers at least 4 ft. beyond Tunnel. Install globe valve, union, check valve and by-pass trap at end of line. If gravity return to boiler, omit trap.

6. Insulate steam supply and return line for safety of operator and safety while servicing Tunnel.

7. Keep Tunnel in good working condition. Repair or replace any worn or defective parts.

8. If steam is dirty, it may be advisable to install a filter or blow-down ahead of tunnel.

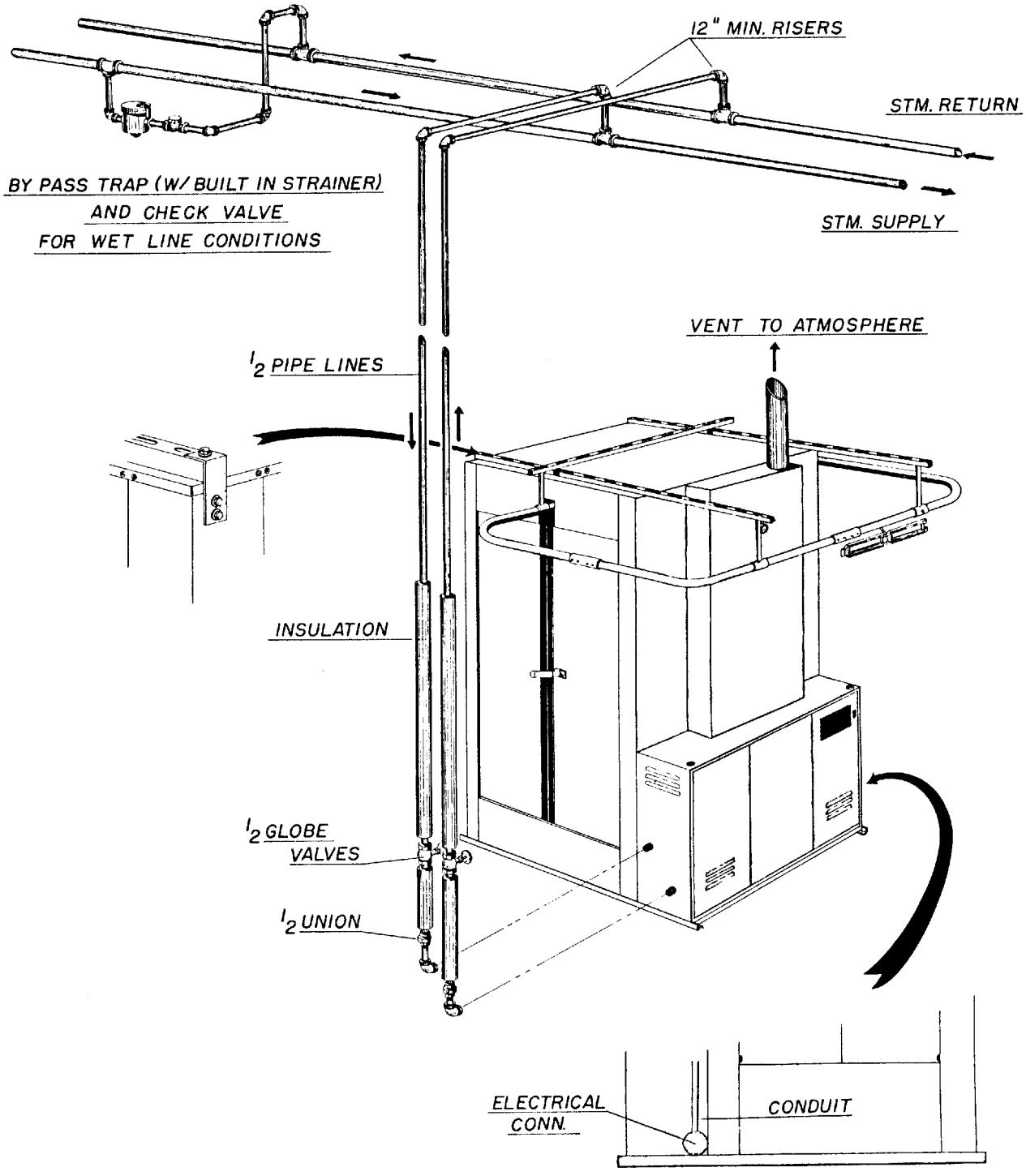
Maintenance

The interior of the tunnel will turn white as the protective zinc oxide coating forms. Do not try to remove this coating.

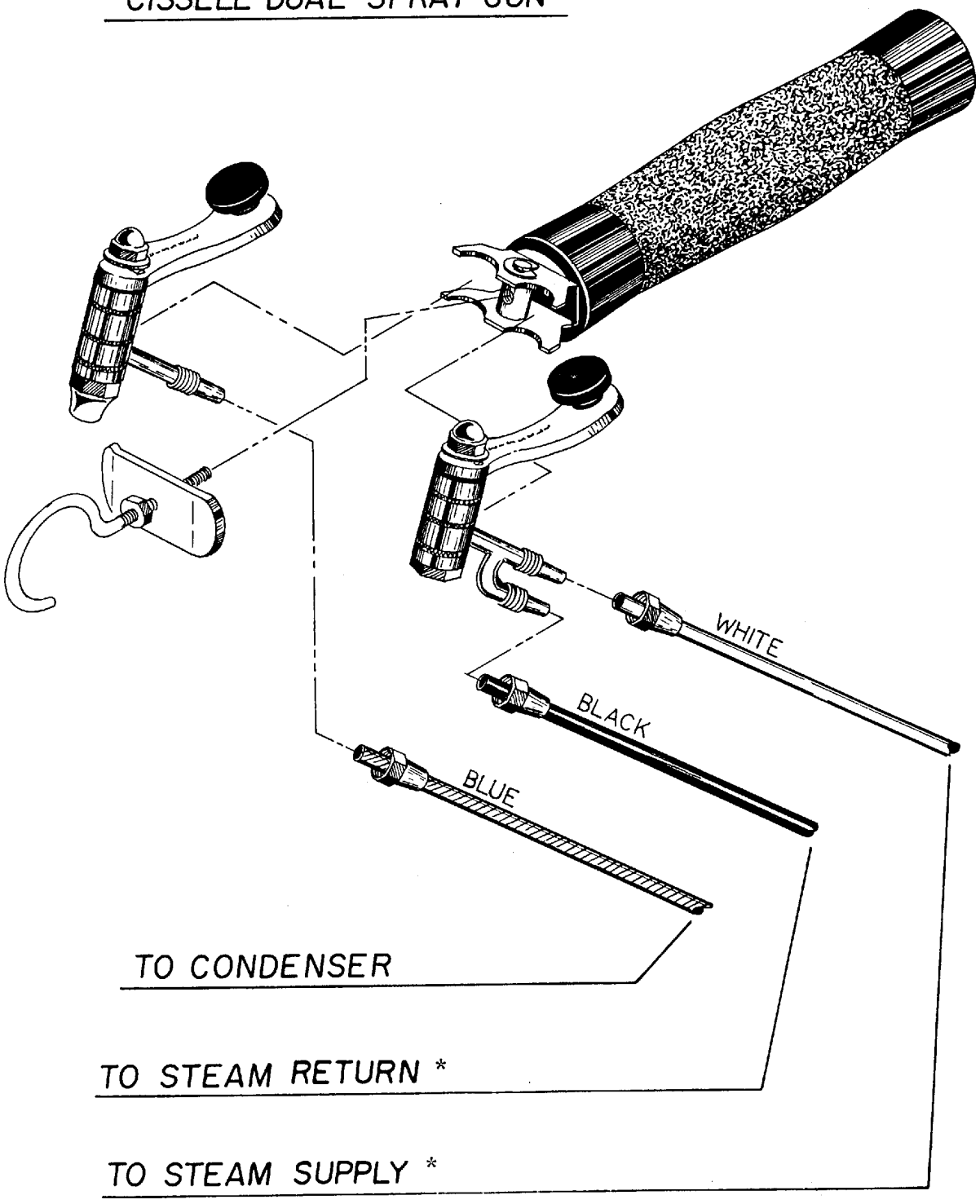
Do remove lint, dust, and boiler compound or red rust which is entrained by the steam.

Touch-up scratches and chips in the paint.

A good car wax will extend life of the painted surface.


12" MIN. RISERS
STM. RETURN
BY PASS TRAP (W/ BUILT IN STRAINER)
AND CHECK VALVE
FOR WET LINE CONDITIONS
STM. SUPPLY
VENT TO ATMOSPHERE
1/2 PIPE LINES
INSULATION
1/2 GLOBE VALVES
1/2 UNION
ELECTRICAL CONN.
CONDUIT

HOSE CONNECTIONS FOR CISSELL DUAL SPRAY GUN



*NOTE: This connection works best in most installations. Should there be excessive condensate in the spray, reverse these two connections. Use the configuration that has the best results.

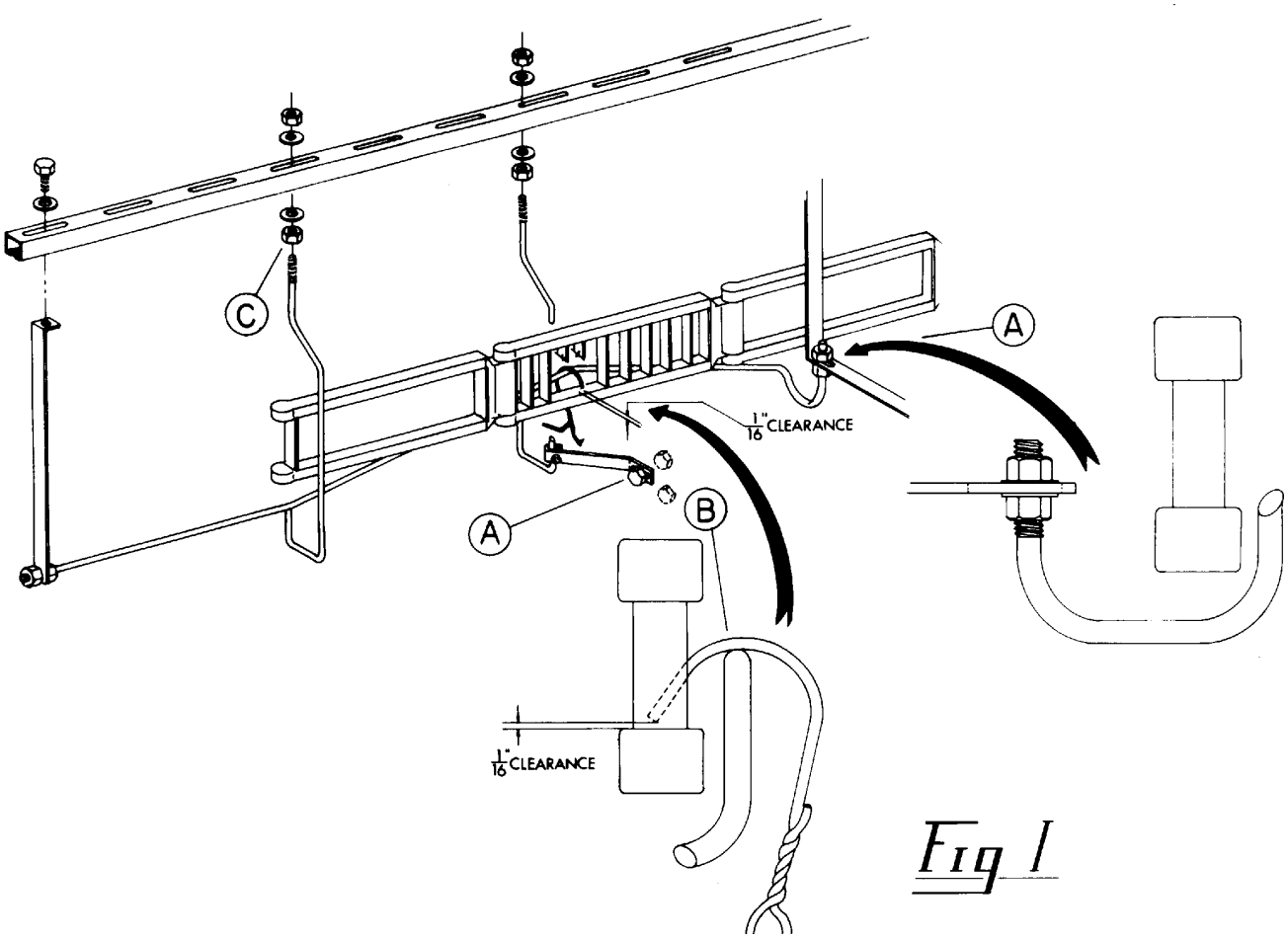


Fig 1

ADJUSTING DROP-OFF

IMPORTANT!

1. Warning! When placing hanger on conveyor, open end of hanger must point toward cabinet. A hanger placed on the conveyor backwards may result in a damaged garment.

2. Any make of wire hanger with sufficient clearance may be used on the automatic tunnel conveyor, but all hangers should be the same to insure proper drop-off.

3. Adjust drop-off so that it barely misses the conveyor links by adjusting nuts on the bracket inside of tunnel as illustrated above in A of Figure 1.

4. Using the selected hanger, then adjust the height of the drop-off as illustrated above in B of Figure 1.

5. Adjust lower end of drop-off to desired height for proper sliding of garment and for proper feed to screw conveyor if used (C of Figure 1).

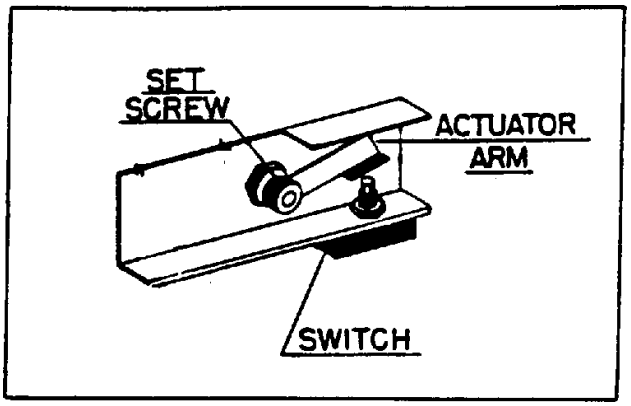
6. Run a few garments through the tunnel and check to be sure that there is clearance at the top of hanger, and that drop-off operation is smooth. If hanger does not have enough clearance perhaps a change in hanger is needed. If the drop-off is not smooth, repeat steps 3 through 5 above.

ADJUSTMENT OF DOORS

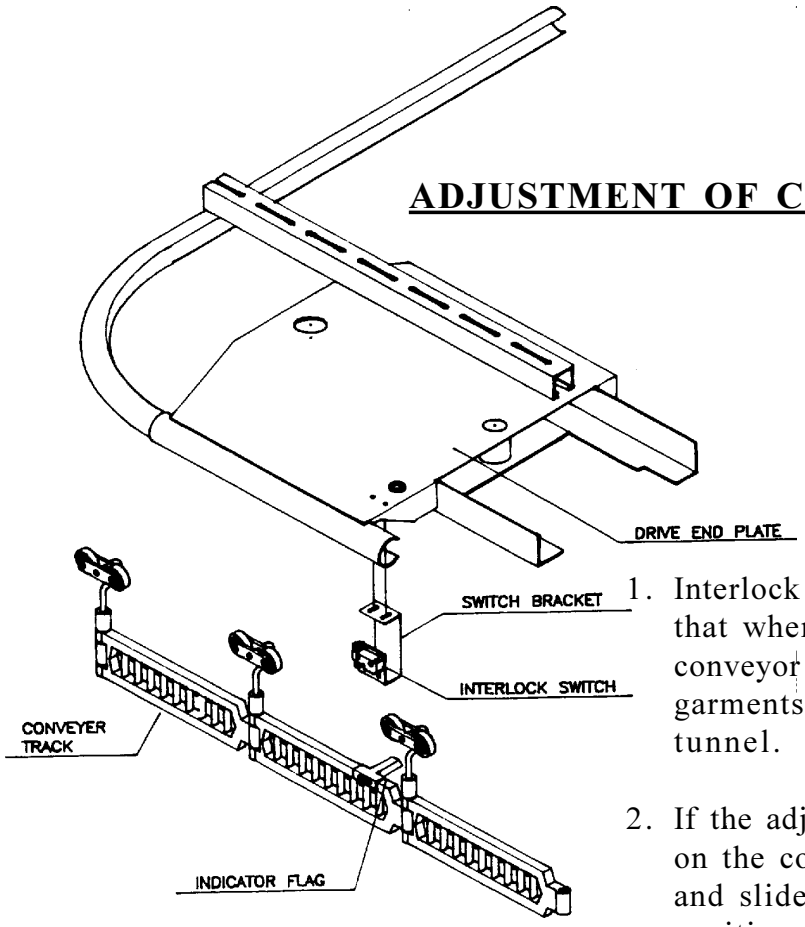
1. Loosen the set screws that hold the Actuator arm onto the door lever.

2. Open the doors until they are wide enough for garment travel; hold in place.

3. Press Actuator arm onto door switch so that switch is completely depressed. Tighten set screws onto door lever.



ADJUSTMENT OF CONVERTER INTERLOCK

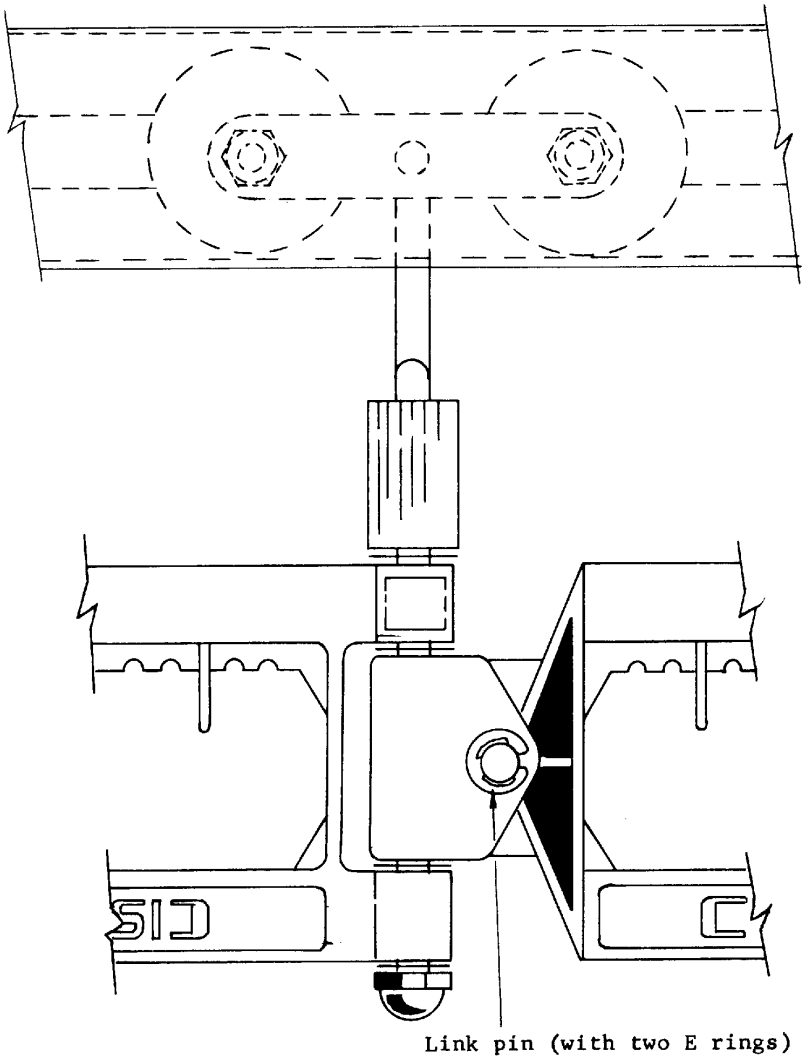


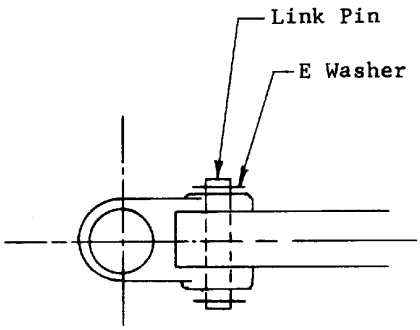
1. Interlock switch should be positioned so that when a flag indicator activates the conveyor interlock switch, a load of garments are completely inside the tunnel.

2. If the adjustment is off, loosen the screws on the conveyor interlock switch bracket and slide bracket until properly positioned.

INSTALLATION INSTRUCTIONS

For Connecting Floor Model Link Sections on Conveyor





1. Move connecting link preferably to a straight portion of the track.

2. Insert the connecting pin (as illustrated) and replace the “E” ring in the Groove of the pin.

   NOTE: Inspect “E” ring to be certain that it has snapped securely into the groove of the pin.

DOOR INTERLOCK
SWITCH ADJUSTMENT

1. With doors in closed position the switch should be set as shown in Figure "A".

2. Figure "B" shows correct cam and roller alignment with doors in open position. To check cam and roller alignment press start button and when the doors stop in the open position, turn off main power switch. Check to see that the roller is centered in the notch on the cam hub. If the cam has not rotated a full 180º to allow roller to drop into notch, adjust the switch clockwise (up) approximately 1/16". If the cam has rotated more than 180º, adjust the switch counter clockwise (down) approximately 1/16". Repeat until roller drops into notch.

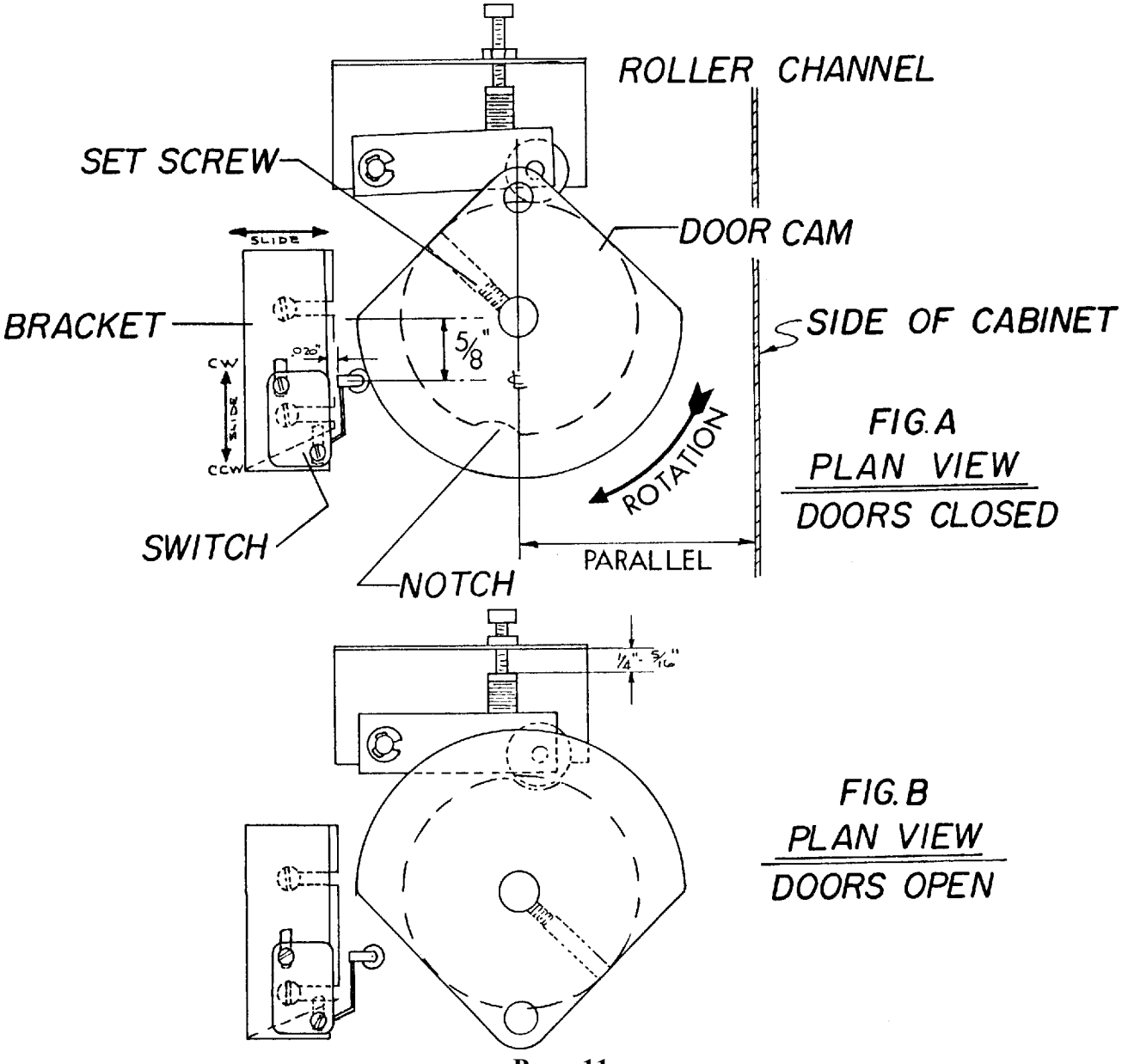


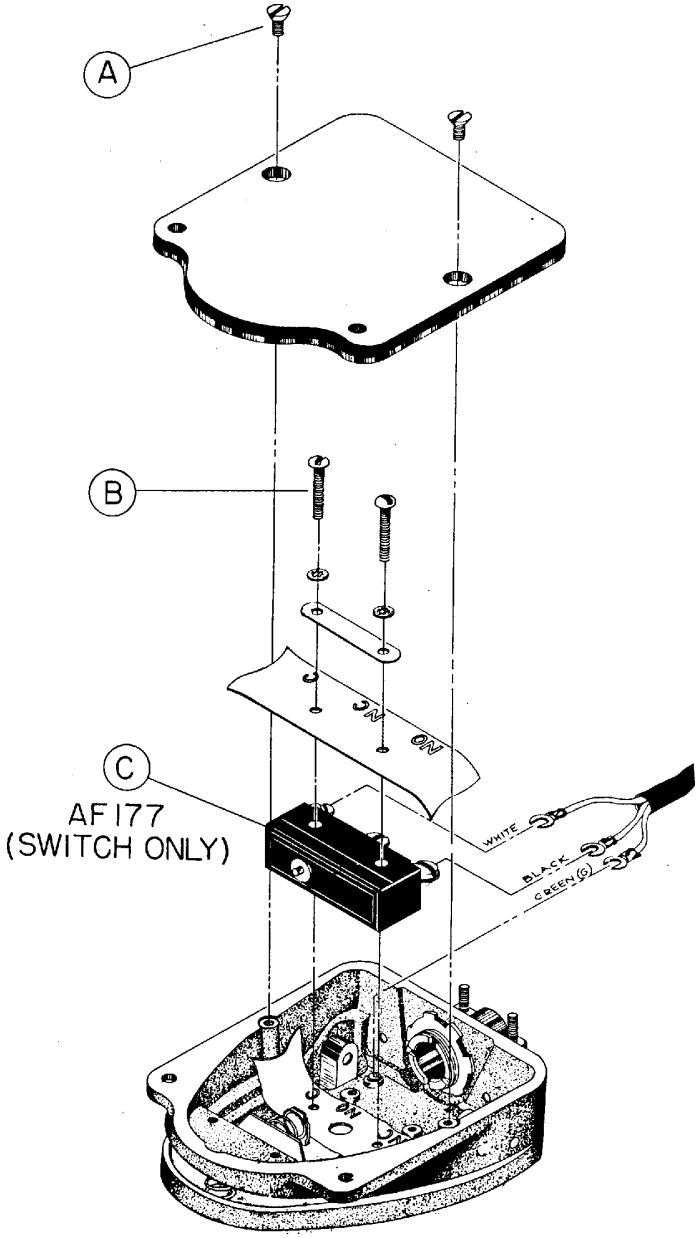
FIG. A
PLAN VIEW
DOORS CLOSED

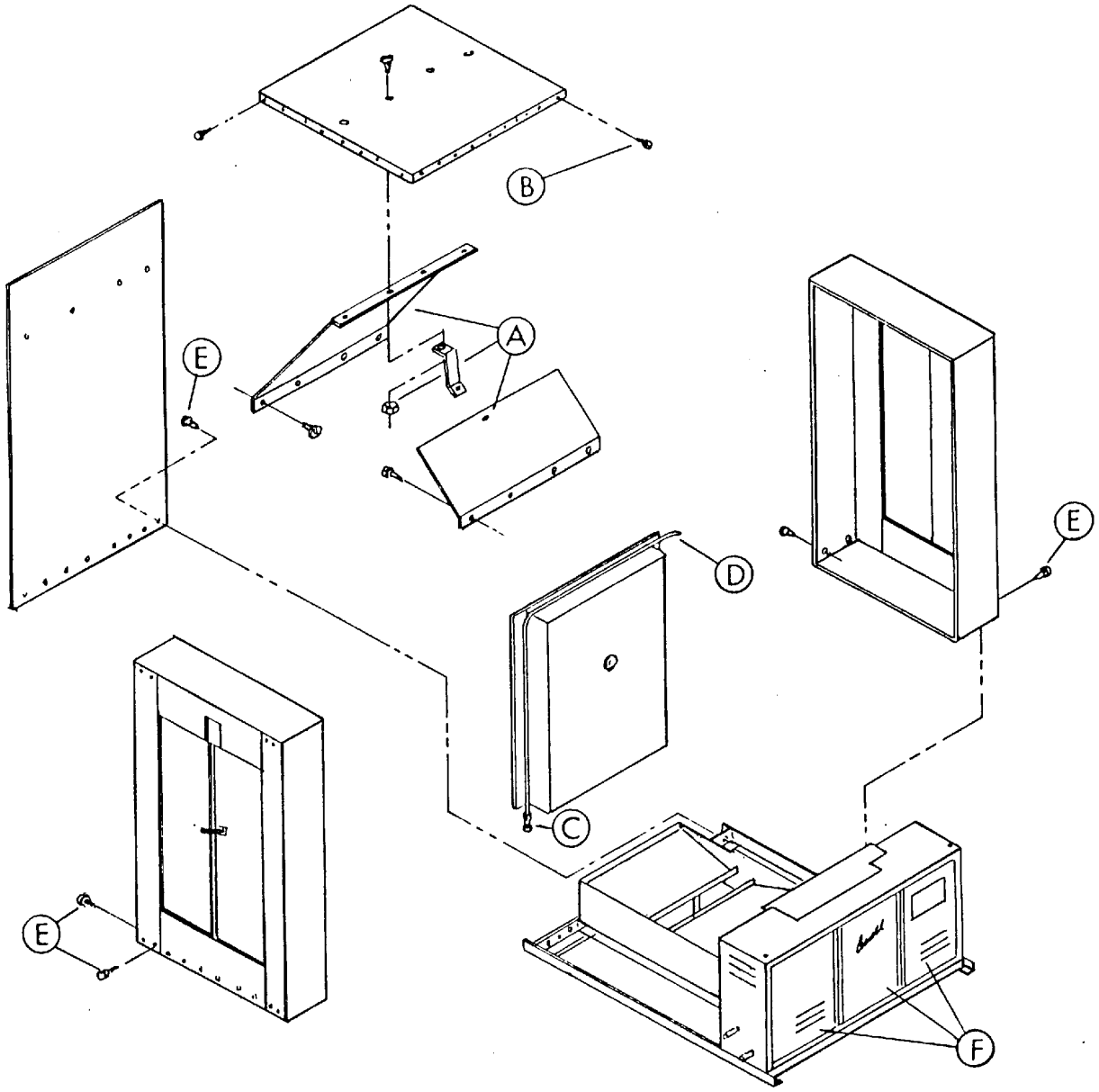
FIG. B
PLAN VIEW
DOORS OPEN

INSTALLATION INSTRUCTIONS FOR AF177 MICRO SWITCH

PT527 Foot Pedal Complete
w/3-Wire Cord

1. Turn switch to inverted position and remove screws (A) as illustrated.
2. Lift off base plate pad.
3. Remove screws marked (B) as shown.
4. Remove washers, plate, insulation and switch.
5. Remove wires from old switch. Reinstall wires on new switch (C) and tighten securely.
6. Reinstall switch, insulation, plate, washers and screws. Tighten securely.
7. Reinstall base-plate-pad and screws. Tighten securely.



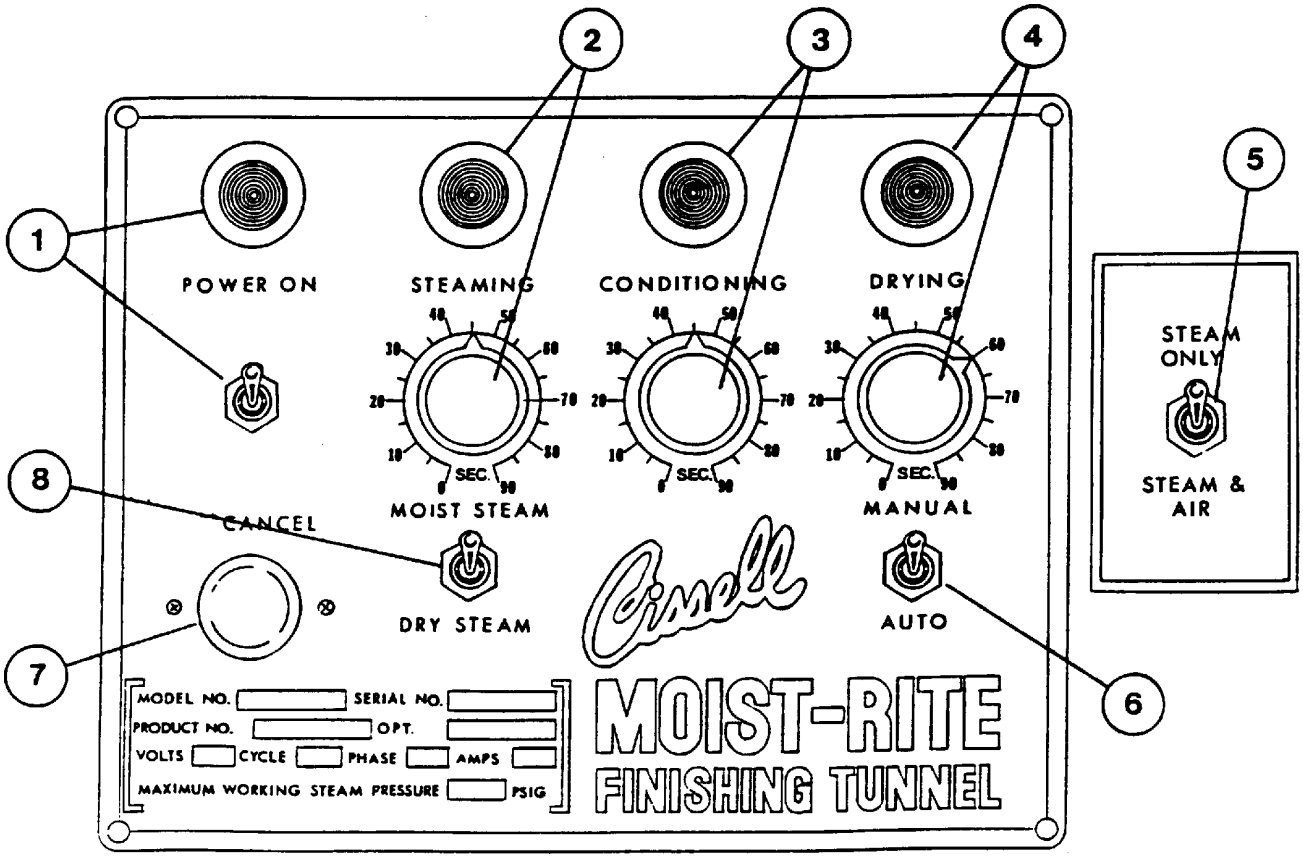


INSTRUCTIONS FOR DISASSEMBLING TUNNEL

1. Remove nuts, bolts, and screws holding Drip Pans (A) in place and remove Drip Pan.
2. Remove screws (B) around the top and remove top.
3. Remove Center Door and open End Doors (F).
4. Remove Thermometer Bulb by loosening clip that holds it.
5. Break Union (C) and disconnect Copper Tube (D) to Condenser.
6. Remove Upper Linkage between Doors and remove Door Spring.
7. Remove Screws (E) located around the bottom of the Tunnel and the top of Controls Section.
8. Remove End Sections and Side Panels.
9. To reassemble, follow procedure in reverse.

CONTROL PANEL OPERATION

1. POWER ON SWITCH - Turns power on and Indicator Lamp glows when machine is ready to operate.
2. STEAMING TIME CONTROL DIAL - Select time duration in seconds of steaming cycle. Suggested time is 45 seconds. Indicator Lamp glows during steaming cycle.
3. CONDITIONING TIME CONTROL DIAL - Select time duration in seconds of conditioning cycle. Suggested time is 45 seconds. Indicator Lamp glows during conditioning cycle.
4. DRYING TIME CONTROL DIAL - Select time duration in seconds of drying cycle. Suggested time is 60 seconds. Indicator Lamp glows during drying cycle.
5. STEAM ONLY/STEAM & AIR SWITCH - During the steam cycle, if you select "Steam & Air", a forceful combination speeds finishing of heavy garments. Normal setting is "Steam Only".
6. MANUAL/AUTO SWITCH - During the drying cycle, if "Manual" is selected, drying time is extended for heavy garments until you return to "Auto" for automatic cycling.
7. CANCEL BUTTON - Push during operation to cancel current cycle. Press "Start" again to re-activate tunnel.
8. MOIST STEAM/DRY STEAM SWITCH - Select dry or moist steam for steaming cycle to best suit the type of garments being finished. If "Moist Steam" is selected, the amount of moisture may be adjusted by a needle valve inside the left side of the cabinet. Suggested setting is 1/4 to 1/2 turn open. Adjust for desired results.



TUNNEL OPERATING INSTRUCTIONS

1. Turn power switch on and set timer dials and cycle switches as shown on separate "Control Panel Operation" page.

2. Hang garments to be finished on conveyor at the loading station. The group of three links with vertical dividers is a loading station and there are four loading stations. Hang 3 to 5 garments equally spaced on each link. The open end of the hanger must point toward conveyor.

3. Depress the foot switch or one of the pushbuttons on the top of control console. The doors will open, the load will enter the tunnel, the door close, and the finishing cycle begins. Refer to "Control Panel Operation" page for functions during cycle.

4. While finishing is in progress, load the next loading station.

5. When the first load is finished, machine will stop, then press foot switch or pushbutton again. Doors will open, conveyor will advance, the first load exits onto drop-off, and the second load enters, doors close and cycle begins over.

6. Repeat operation until last load is finished. Press foot switch or pushbutton to exit last load. Then turn off power.

7. Experimentation with timer dials and switches may be necessary to achieve desired results for different types of fabrics.

CAUTION: For proper operation, time must be non-zero on the three timer dials.

TROUBLE SHOOTING CHART

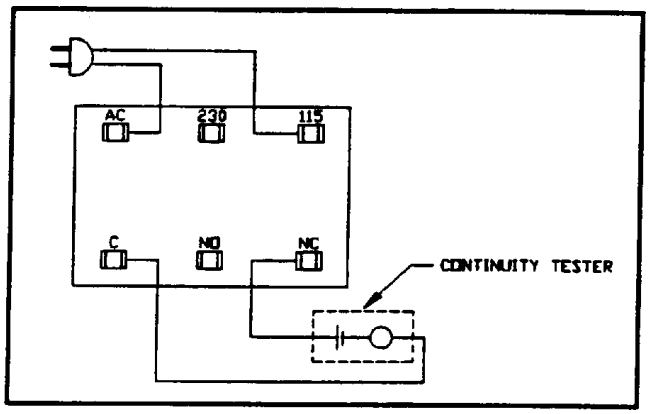
PROBLEM	CAUSE	REMEDY
Machine will not operate.	Electric power off.	Turn power on.
	Loose or broken wires.	Inspect and repair.
	Defective start switch.	Check and replace if needed.
	Door cam out of adjustment (switch not engaged).	Adjust according to instructions on Page 9.
Machine advances to "OFF" position when started.	Advance button is stuck or defective.	Check and replace if needed.
	Defective wiring.	Inspect, clean terminals and repair.
	No time on timers.	Adjust timer knobs to give non-zero time.
Machine re-cycles continuously.	Start button is stuck or defective.	Check and replace if needed.
	Defective wiring.	Check, clean terminals and repair.
Timing too short on one of the three settings.	Defective potentiometer.	Check and replace if needed.
	Potentiometer knob incorrectly set.	Reset and tighten knob.
	Defective wiring or short circuit.	Inspect wiring, clean terminals and repair.
	Dip switch settings on timer not correct.	Check dip switch settings, 3 & 4 should be on, the rest off.
Timing too long on one of the three settings or will not proceed through cycles.	Defective potentiometer.	Check & replace if needed.
	Defective timer.	Check & replace if needed.
	Loose or broken wires.	Inspect wiring & repair.
	Dip switch settings on timer not correct.	Check dip switch settings, 3 & 4 should be on, the rest off.
No water fog at steam jet; steam too dry.	Water metering valve turned off.	Open 1/4 to 1/2 turn.
	Water solenoid valve defective.	Check & replace if needed.
	Water line clogged.	Locate line & clean.
	Water solenoid valve not energized.	Inspect wiring & repair.
	Defective steam timer.	Check & replace if needed.
Steam too wet; excessive moisture in cabinet.	Moisture metering valve open too wide.	Open 1/4 to 1/2 turn.
	Steam trap not functioning properly.	Check, clean, and replace if needed.
	Condensate line strainer clogged.	Check, clean, and replace if needed.
	Dip switch settings on timer not correct.	Check dip switch settings, 3 & 4 should be on, the rest off.

HOW TO CHECK TIMER

1. Connect either 115V or 230V to the input of the timer as shown.

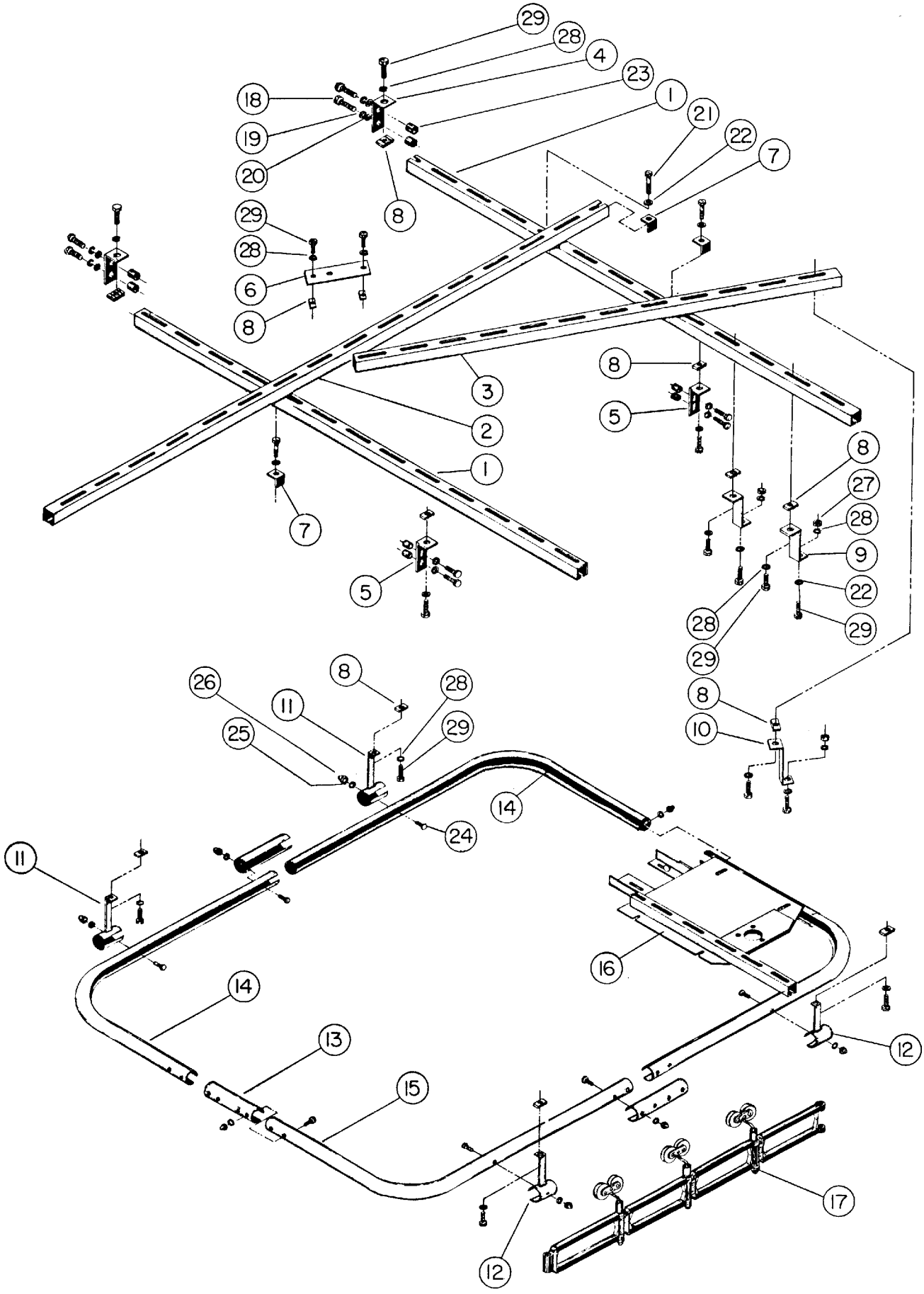
2. Connect continuity light or OHM meter between the common and the normally closed connectors on the timer as shown. The light should glow (there should be continuity).

3. If timer is set for maximum time, light should be out in 90 seconds. If time is less than 90 seconds at maximum setting, make sure the dip switches on the FG-453 are set with 3 and 4 "on" and the rest "off". If light does not go out, timer is bad.



TROUBLE SHOOTING CHART

PROBLEM	CAUSE	REMEDY
Door will not open.	Door cam out of adjustment (switch not engaged).	Adjust according to instructions on Page 9.
	Defective start switch or foot switch.	Replace switch.
	Loose or broken wire.	Replace or repair.
Doors open and continue to open and close.	Defective door interlock switch.	Replace switch.
	Door interlock switch out of adjustment.	Adjust switch.
Door open and conveyor advance short distance, door close and steam cycle start.	Conveyor interlock out of adjustment.	Adjust indicator flag on conveyor link.
	Conveyor safety switch out of adjustment.	Adjust switch.
Door open; conveyor will not advance.	Conveyor safety switch out of adjustment.	Adjust switch.
	Defective Conveyor motor.	Replace motor.
	Defective relay.	Replace relay.
	Defective or broken wiring.	Repair or replace wire.
Conveyor continues to run, will not stop.	Defective Conveyor interlock switch.	Replace switch.
	Interlock switch out of adjustment.	Adjust switch bracket.
Conveyor out of time, will not stop at proper position.	Conveyor interlock switch out of adjustment.	Adjust indicator flag on conveyor links.
Drying Blower will not operate.	Main blower motor defective.	Check and replace if needed.
	Main blower drive belt broken or slipping.	Check and replace if needed.
	Blower relay defective.	Check and replace if needed.
	Defective wiring.	Inspect and repair.
	Defective timer.	Check and replace if needed.
Excessive noise during Drying Cycle.	Loose main blower wheel.	Reset and tighten.
	Loose V belt drive sheave.	Reset and tighten.
	Belt blower shaft.	Check and replace if needed.
	Worn blower shaft bearing.	Check and replace if needed.
	Defective blower wheel.	Check and replace if needed.
	Foreign object in blower wheel.	Remove foreign object.
Excessive noise during cycle.	Loose exhaust blower wheel.	Reset and tighten.
	Bent exhaust motor shaft.	Check and replace if needed.
	Defective exhaust blower wheel.	Check and replace if needed.
	Foreign object in exhaust blower wheel.	Remove foreign object.
Excessive loss of steam & heat around cabinet door (exhaust blower not operating).	Exhaust blower motor defective.	Check and replace if needed.
	Blower wheel loose or defective.	Tighten or replace.
	Defective wiring.	Inspect and repair.
	Defective timer.	Check and replace if needed.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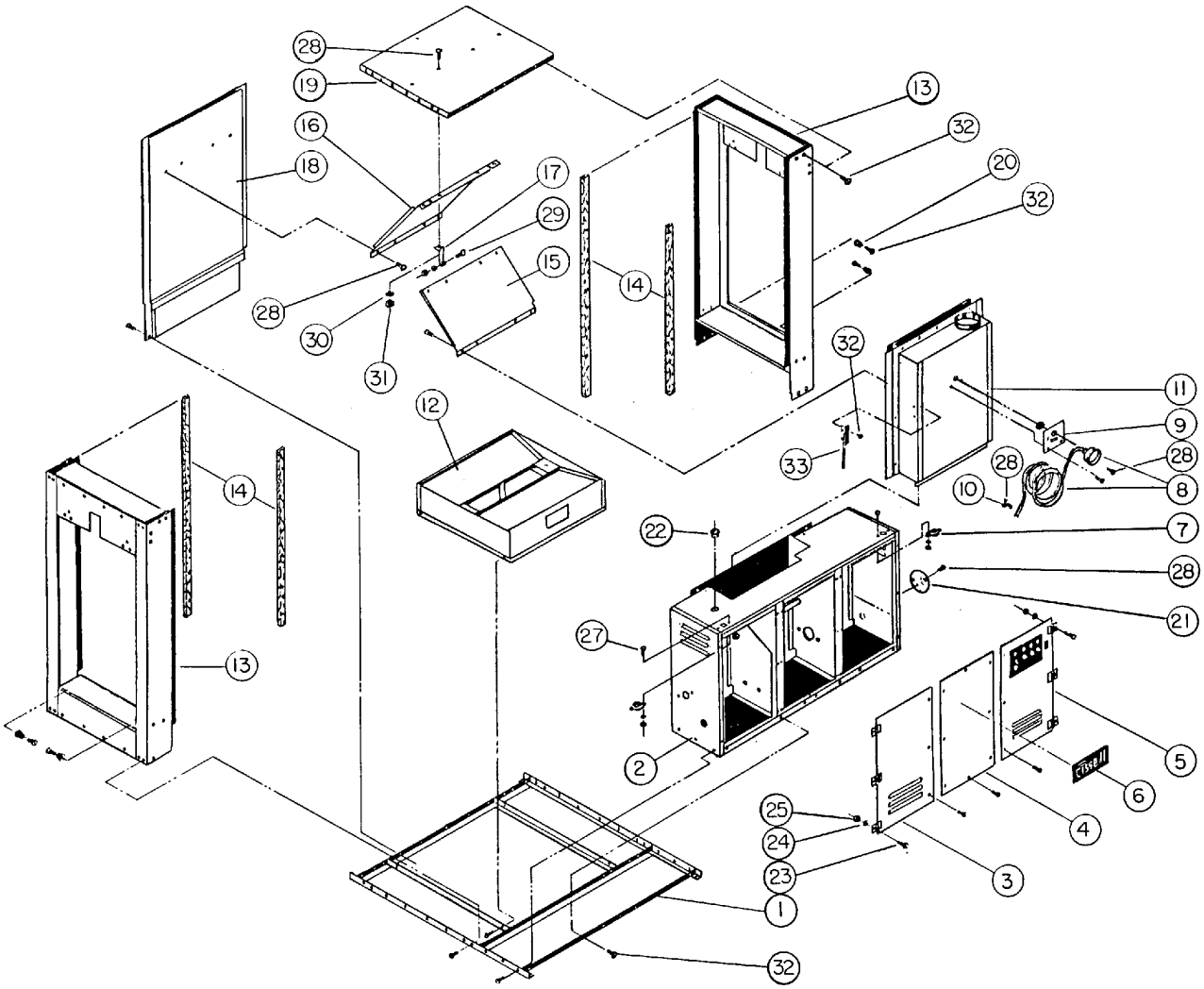
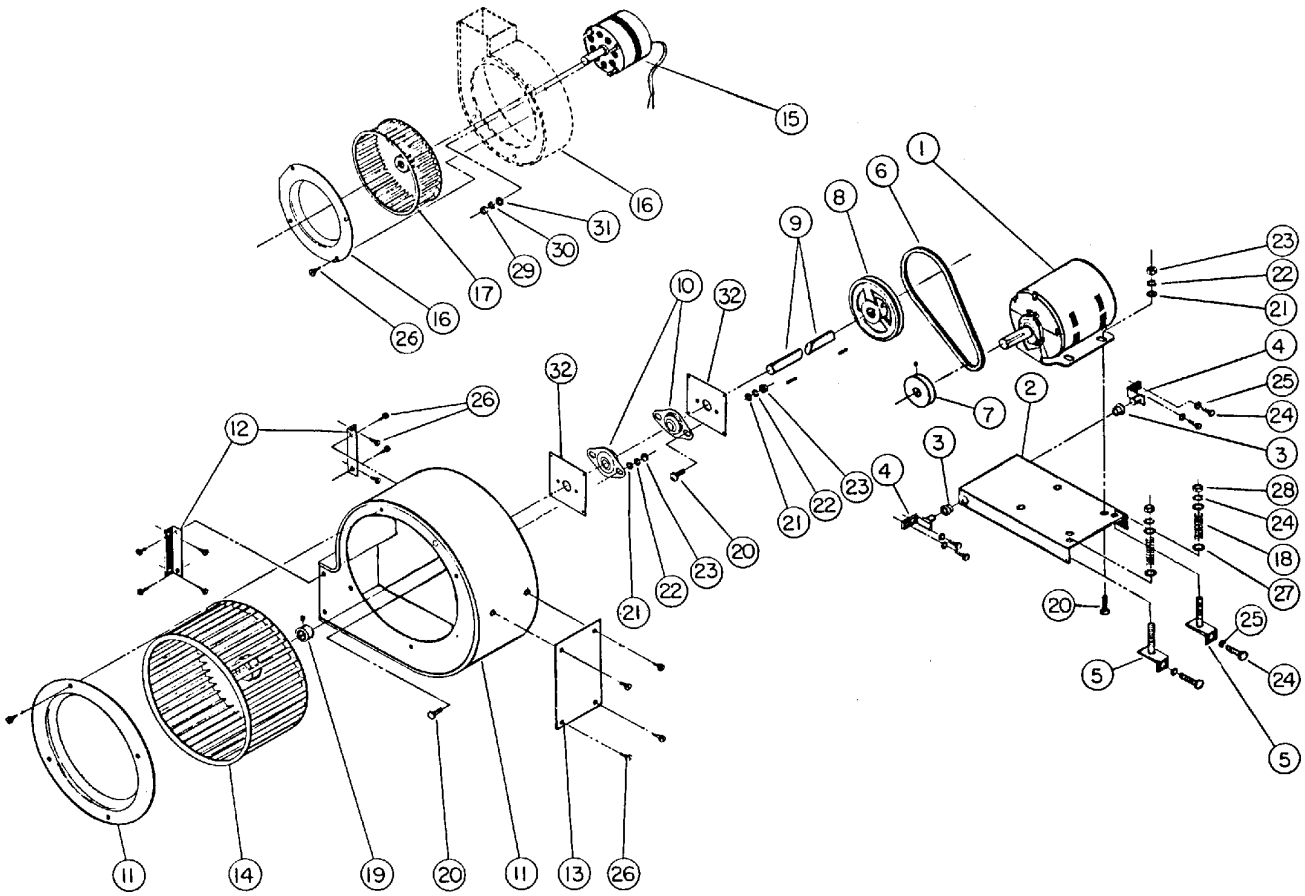
Ref. No.	Part No.	Description
1	SC134	Conveyor Power Strut
2	SC351	Dropoff Power Strut
3	SC135	Short Power Strut
4	SC145	Rear Strut Mount Bracket
5	SC144	Front Strut Mount Bracket
6	C2191	Splice
7	SC136	Power Strut Insert
8	C220	Strut Nut
9	SC299	Drive End Short Mount Bracket
10	SC300	Drive End Long Mount Bracket
11	SC141	Long Conveyor Hanger
12	SC138	Short Conveyor Hanger
13	C107	12” Coupling
14	SC227	Rear Conveyor Track
15	SC109	Front Conveyor Hanger
16	SC858	Drive Assembly
17	-----	Link Assembly (See Separate Page)
18	FG267	1/4” - 20 x 1 1/4” Cap Screw
19	TU2846	1/4” Split Lockwasher
20	TU2847	1/4” Flat Washer
21	SC167	3/8” - 16 x 2 1/2” Hex Hd. Bolt
22	IB140	3/8” Flat Washer
23	SC153	Spacer
24	C562	1/4” - 20 x 7/16” Coupler Screw
25	CB92	1/4” Washer
26	C396	1/4 - 20 Crown Nut
27	TU4787	3/8” - 16 Hex Nut
28	VSB134	3/8” Split Lockwasher
29	IB139	3/8” - 16 x 1 1/4 Hex Hd. Bolt

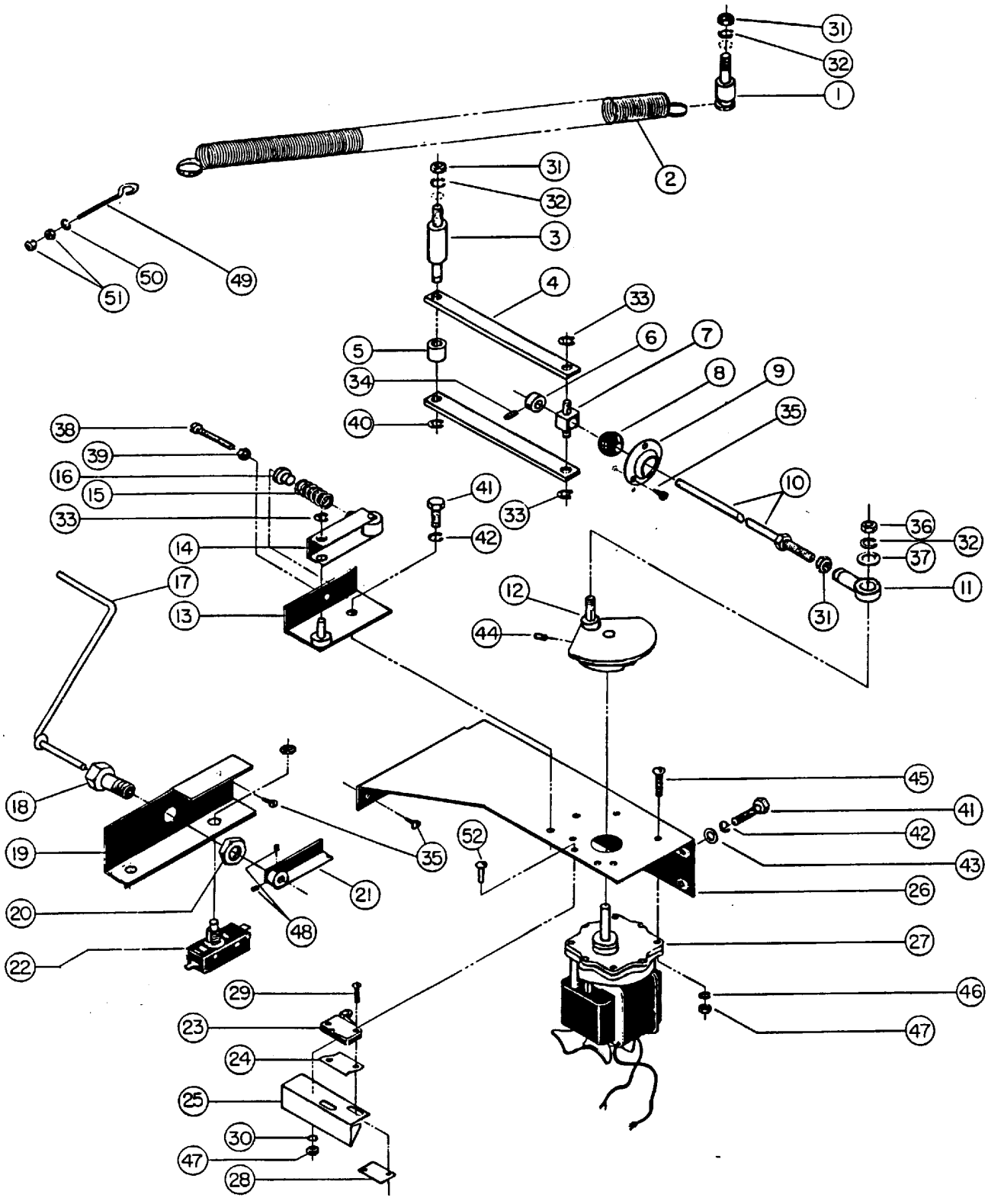


JACKET ASSEMBLY

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	SC1	Base Frame Assembly	17	SC143	Drip Pan Bracket
2	SC132	Control Cabinet	18	SC81	Side Panel
3	SC123	Steam Access Door	19	SC102	Steam Cabinet Top
4	SC103	Air Chamber Cover	20	SC246	Door Bumper
5	-----	Control Panel (See Separate Page)	21	TU2335	Junction Box Cover
			22	TU2373	7/8" Snap Bushing
6	TU8013	Cissell Nameplate	23	TU3479	#10 - 32 x 7/16" Sq. Sh. Screw
7	PT111	Pushbutton Switch	24	PT210	#10 I.T. Lockwasher
8	TU3593	Thermometer	25	TU2842	#10 - 32 Hex Nut
9	SC194	Mounting Bracket	26	TU3147	#8 Speed Nut
10	F645	1/4" Tube Clamp	27	ET208	#6 - 32 x 1/4" Screw
11	SC82	Air Duct	28	M263	#8 x 3/8 Screw
12	SC131	Air Plenum	29	M262	#8 - 32 x 3/8" Truss Screw
13	SC130	End Section	30	M271	#8 I.T. Lockwasher
14	SC129	Panel Alignment Strip	31	TU3266	#8 - 32 Hex Nut
15	SC114	Front Drip Pan	32	TU7733	#8 - 18 x 1/2" Self-Drill Screw
16	SC115	Rear Drip Pan	33	SC348	Hanger Bracket



Ref. No.	Part No.	Description
1	MTR81	Motor - 220/50/1
	MTR82	Motor - 110/60/1
2	SC187	Motor Mount Plate
3	SC203	Grommet - 3/8”
4	SC193	Motor Mount Bracket
5	SC198	Hold Down Bracket
6	SC10	“V” Belt
7	SC11	1/2” Bore Sheave (60 Hz)
	SC251	1/2” Bore Sheave (50 Hz.)
8	SC12	5/8” Bore Sheave
9	SC149	Blower Shaft
10	SC811	Pillow Block Bearing
11	SC6	Blower Housing
12	SC236	Housing Angle
13	SC49	Housing Support
14	SC790	Blower Wheel
15	MTR170	Blower Motor
16	SC8	Blower Housing
17	SC7	Blower Wheel
18	SC197	Spring
19	SC361	Wheel Spacer
20	FB124	5/16” - 18 x 1” Hex Screw
21	VSB130	5/16” Flat Washer
22	TU2814	5/16” Lock Washer
23	C249	5/16” - 18 Hex Nut
24	CB36	1/4” - 20 x 1/2” Hex Screw
25	RC349	1/4” Split Lock Washer
26	M263	#8 x 3/8” Screw
27	TU2847	1/4” Flat Washer
28	TU4934	1/4” - 20 Hex Nut
29	TU4942	#10 - 32 Hex Nut
30	PT210	#10 I.T. Lock Washer
31	TU4820	#10 Flat Washer
32	SC812	Plate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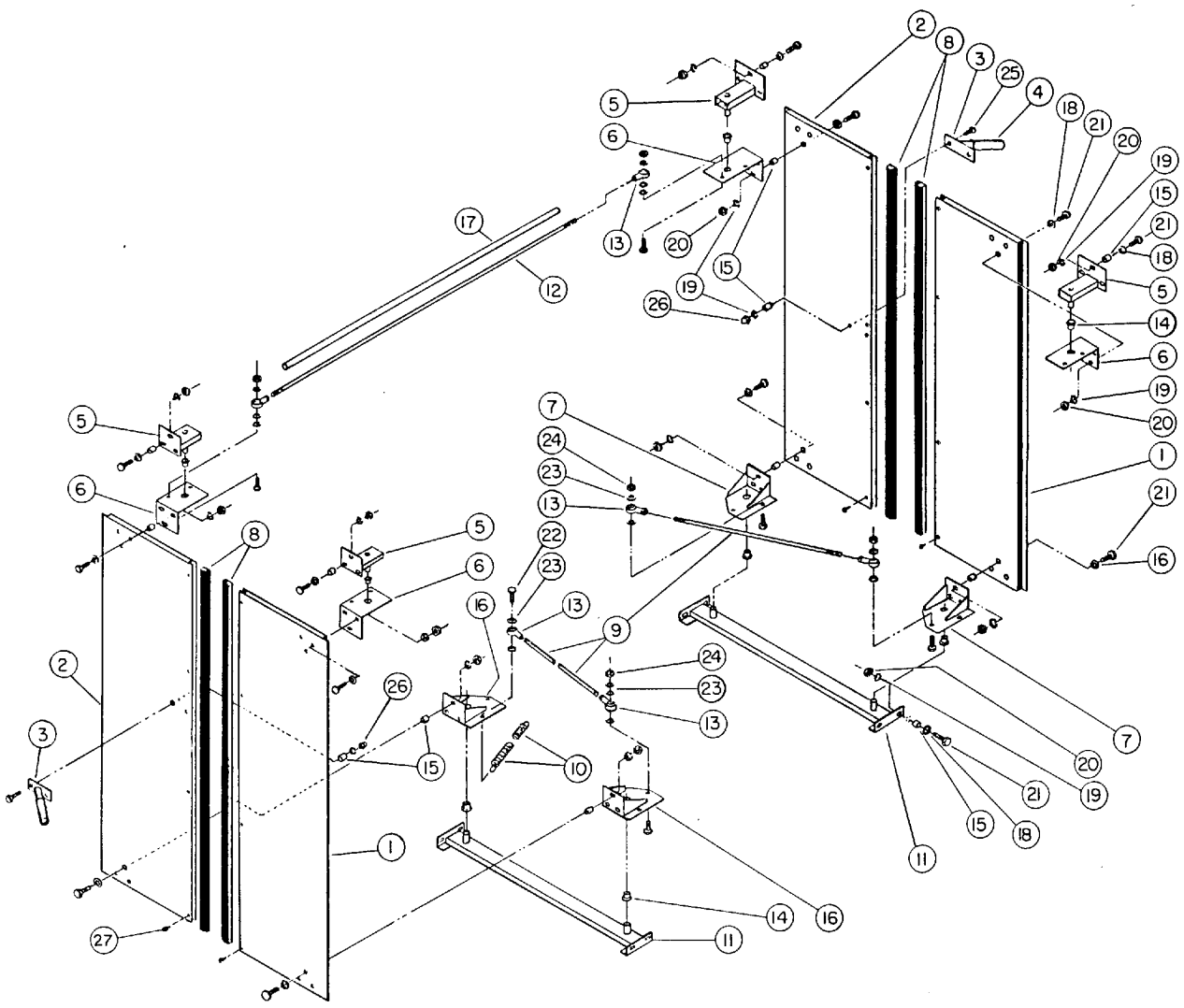
Ref. No.	Part No.	Description
1	SC307	Spring Pivot
2	TU2089	Tension Spring
3	SC887	Door Swivel Pin
4	SC355	Door Activating Link
5	SC356	Spacer
6	SC324	Retaining Collar
7	SC888	Door Activating Pivot Pin
8	SC311	Nylon Bead
9	SC310	Bead Retainer Plate
10	SC320	Door Activating Rod
11	SC14	Female Rod End
12	SC315	Door Activating Cam
13	SC342	Roller Mtg. Bracket
14	SC343	Roll Channel Assembly
15	SG048	Spring
16	SC277	Adjustment Tab
17	SC712	Actuator Kit
18	SC712	Actuator Kit
19	SC297	Safety Switch Mtg. Bracket
20	OP235	Nut (For BearingBolt)
21	SC712	Actuator Kit
22	FG140	Safety Switch
23	TU3445	Switch
24	M373	Insulator
25	SC314	Interlock Switch Bracket
26	SC313	Motor Mtg. Bracket
27	SC271	Gear Motor
28	SC306	Switch Mtg. Bracket
29	TU3297	#4 - 40 x 5/8” Rd. Hd. Screw
30	AT368	#8 Split Lockwasher
31	V56	5/16” x 24 Hex Nut
32	TU2814	5/16” Split Lock Washer
33	FB201	1/16” x 3/4” Cotter Pin
34	SC362	3/32” x 7/16” Roll Pin
35	M263	#8 x 3/8” Sheet Metal Screw
36	C249	5/16” x 18 Hex Nut
37	VSB130	5/16” Cut Washer
38	C377	#10 - 32 x 3/4 Mech. Screw
39	TU2842	#10 - 32 Hex Nut
40	F358	“E” Ring
41	CB36	1/4” - 20 x 1/2” Cap Screw
42	TU2846	1/2” Split Lock Washer
43	TU2847	1/4” Flat Washer
44	P126	1/4” - 20 x 1/4” Set Screw
45	TU6191	#8 - 32 x 1 1/8” Rd. Hd. Screw
46	M271	#8 Lock Washer
47	TU3266	#8 - 32 Hex Nut
48	SC796	#10 - 32 x 3/16” Set Screw
49	J10	#10 x 24 x 2 3/8 Eye Bolt
50	FB187	#10 Lock Washer
51	FB185	#10 x 24 Hex Nut
52	AT383	#8 - 32 x 1/2 Machine Screw

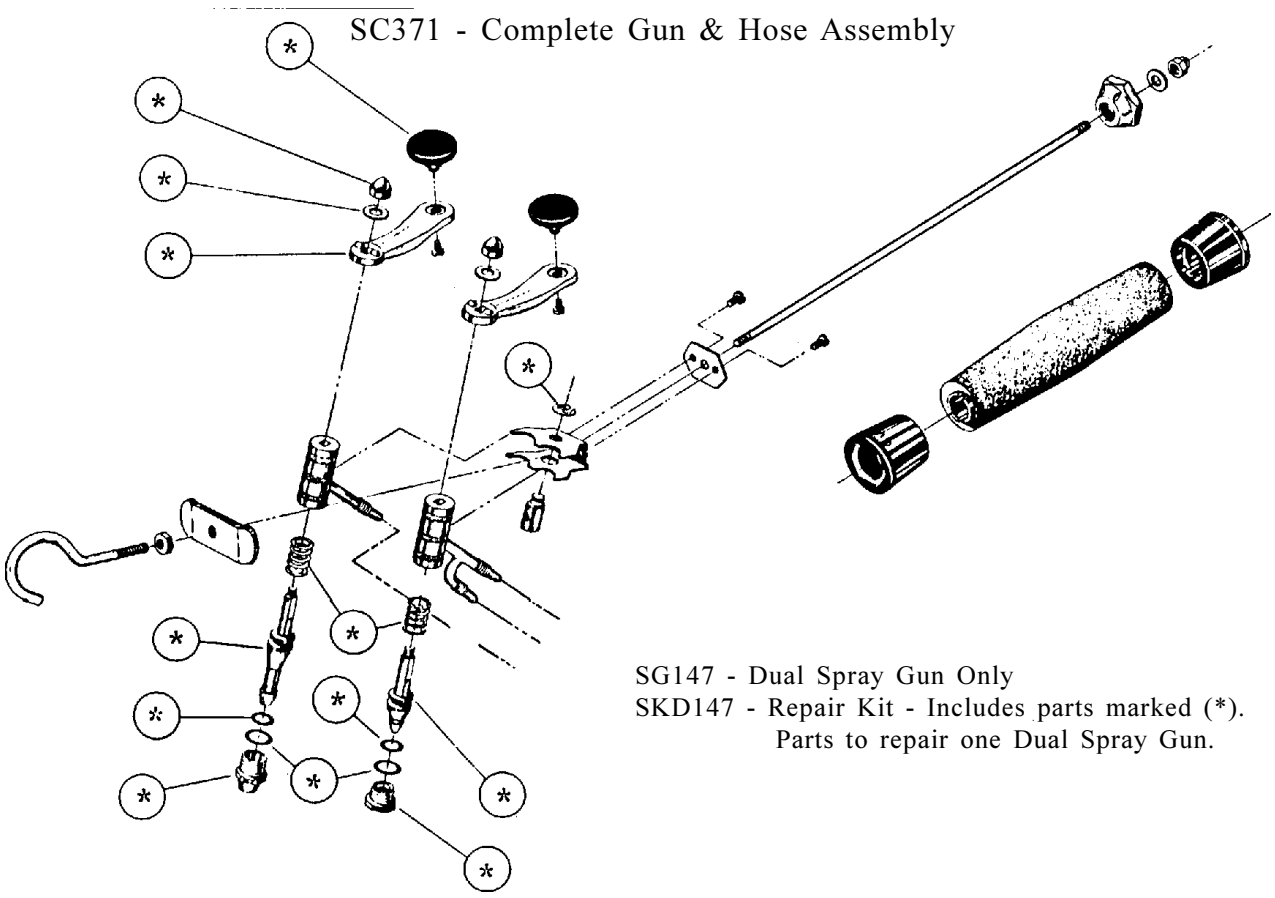


DOORS AND LINKAGE

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	SC94	Door Assembly	17	SC261	Support Tube
2	SC98	Door Assembly	18	TU2847	1/4" Flat Washer
3	SC23	Door Handle Weldment	19	TU2846	1/4" Split Lock Washer
4	SC93	Handle Grip	20	TU4934	1/4" - 20 Hex Nut
5	SC61	Upper Pivot Arm Weldment	21	FG267	1/4" - 20 x 1 1/4" Hex Hd. Cap Screw
6	SC55	Upper Mounting Bracket Weldment	22	FB124	5/16" - 18 x 1" Hex Hd. Cap Screw
7	SC53	Lower Left Mtg. Bracket	23	VSB130	5/16" Flat Washer
8	SC36	Door Seal	24	AT215	5/16" x 18 Hex Nut
9	SC58	Short Door Link	25	FB189	1/4" - 20 x 1" Hex Hd. Cap Screw
10	TU2089	Tension Spring	26	C396	1/4" - 20 Crown Nut
11	SC19	Pivot Bar Weldment	27	M263	#8 x 3/8" S.M.S.
12	SC59	Long Door Link			
13	SC14	Female Rod End			
14	IB76	Bearing			
15	SC153	Spacer			
16	SC50	Lower Right Mounting Bracket			

DUAL SPRAY GUN & HOSE ASSEMBLY FOR FINISHING TUNNEL

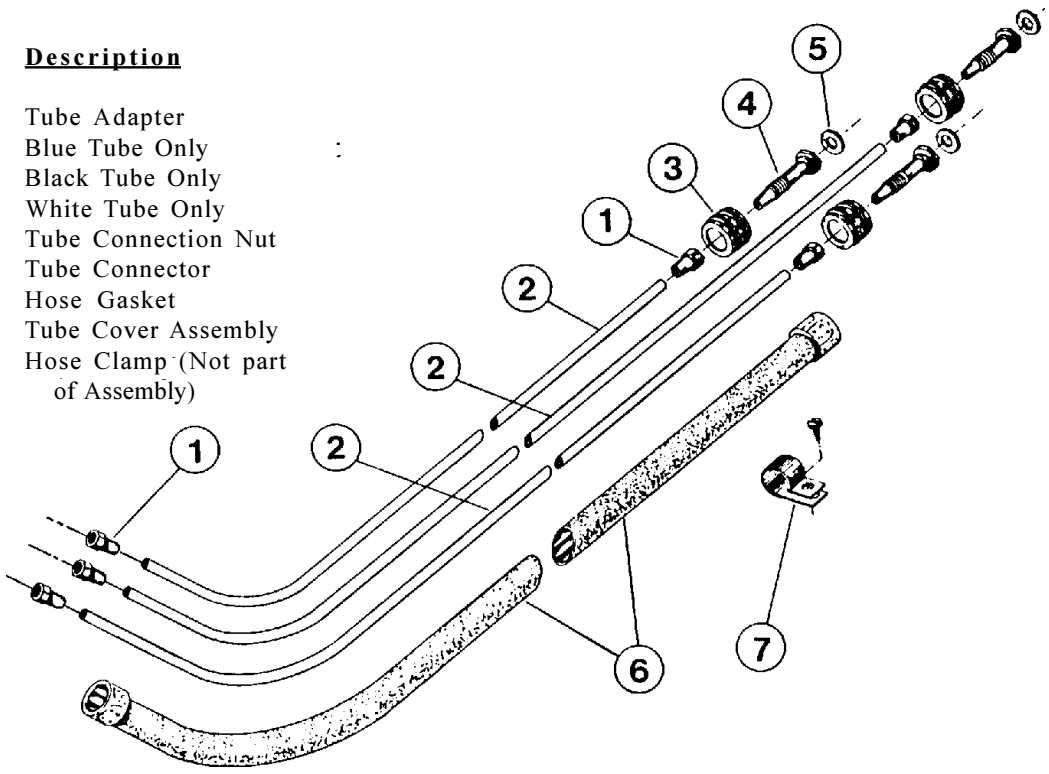
SC371 - Complete Gun & Hose Assembly



SG147 - Dual Spray Gun Only
SKD147 - Repair Kit - Includes parts marked (*). Parts to repair one Dual Spray Gun.

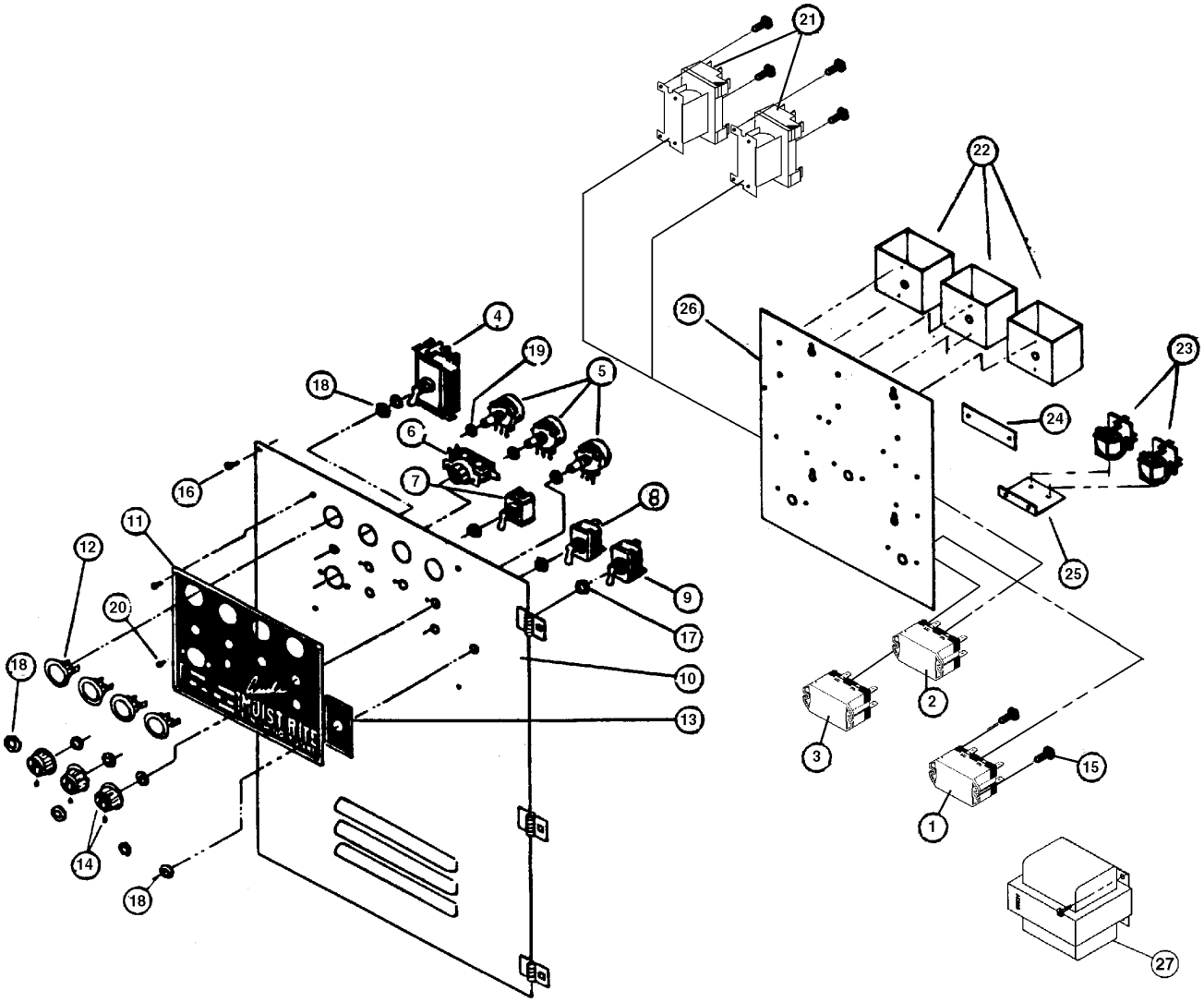
SC370 - Hose Assembly Only

Ref. No.	Part No.	Description
1	SG122	Tube Adapter
2	SC367	Blue Tube Only
	SC368	Black Tube Only
	SC369	White Tube Only
3	SG11	Tube Connection Nut
4	SG126	Tube Connector
5	SG25	Hose Gasket
6	SG137	Tube Cover Assembly
7	AF123	Hose Clamp (Not part of Assembly)



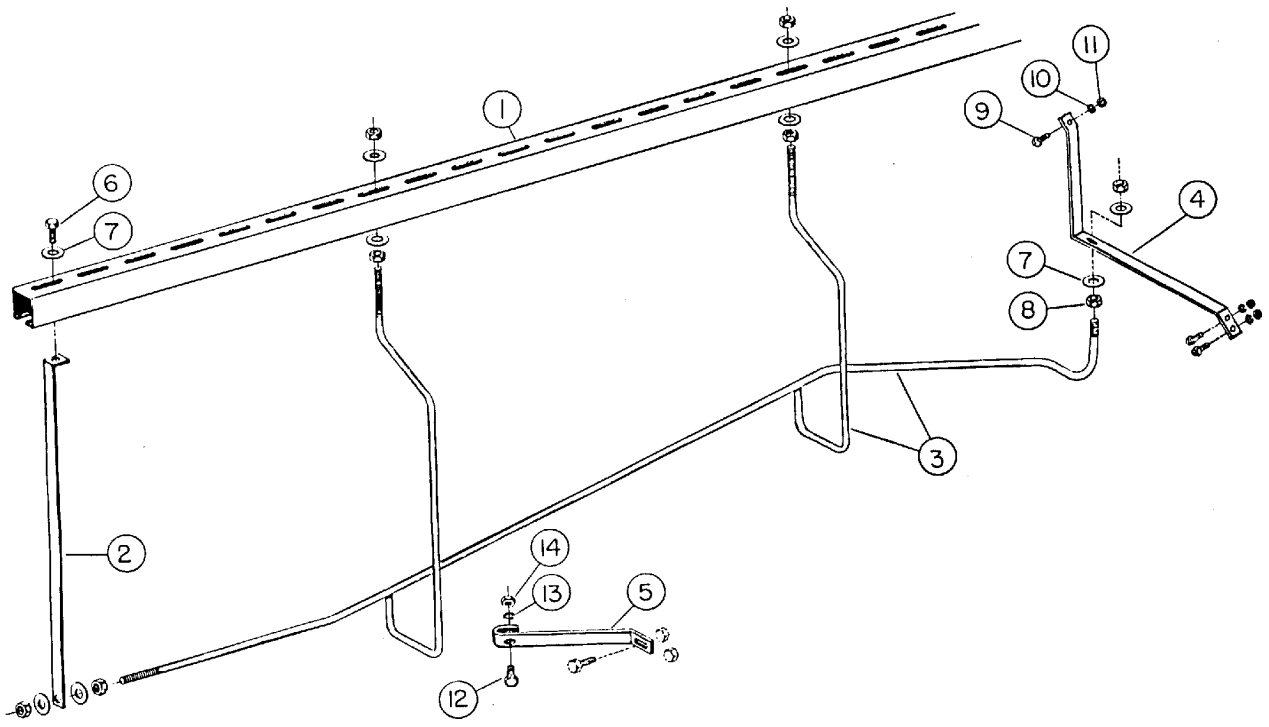
CONTROL PANEL

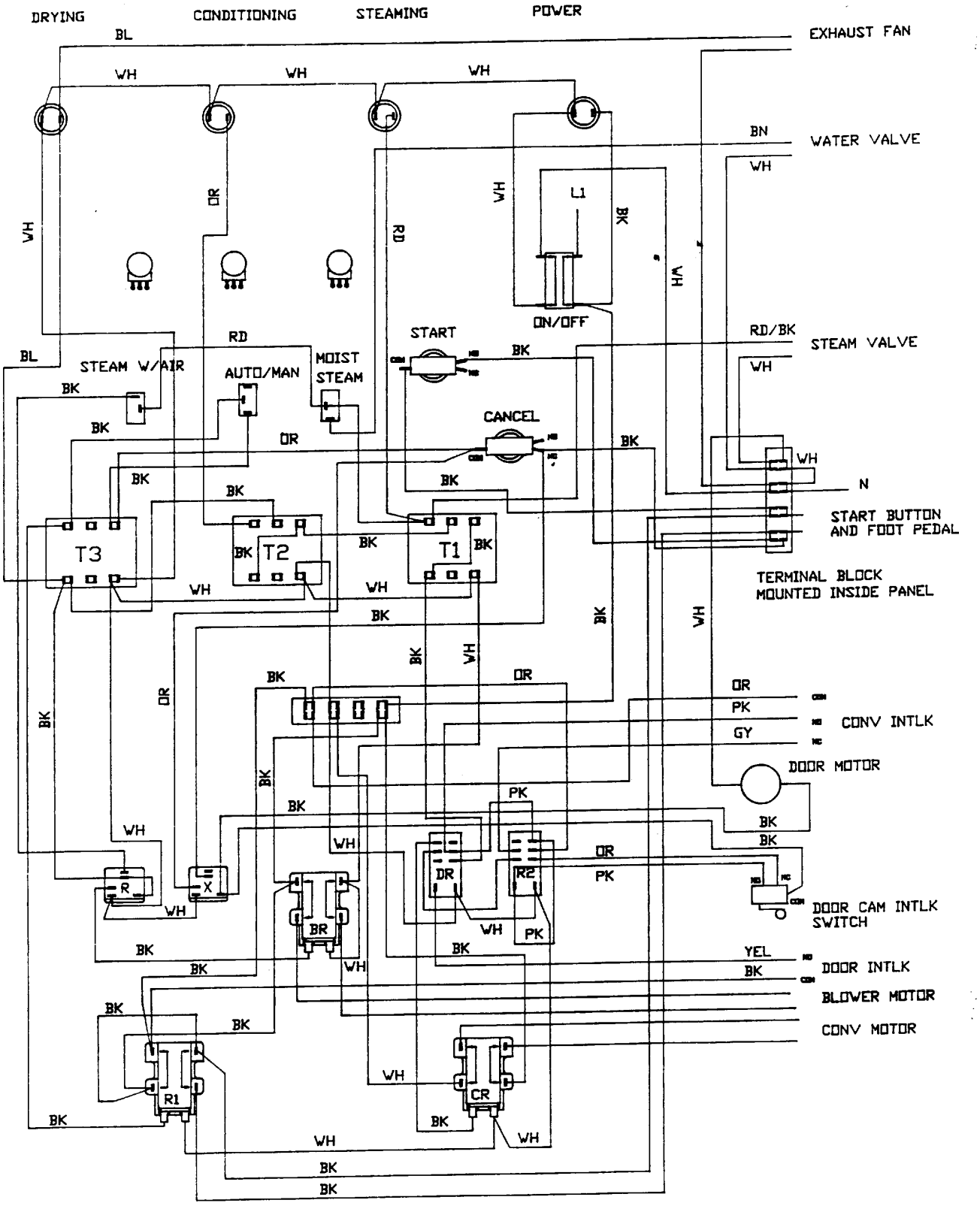
Ref. No.	Part No.	Description
1	TU13224	Steam-Air Relay 120V
2	TU13224	Blow Relay 120V
3	TU13224	Conveyor Relay 120V
4	TU264	Toggle Switch (Main)
5	SC18	Linear Tape Pots
6	PT111	Push Button Switch
7	FG147	Toggle Switch (Moisture)
8	AF185	Toggle Switch (Man/Auto)
9	FG147	Toggle Switch (Steam-Steam w/Air)
10	SC375	Control Panel Weldment
11	SC113	Name Plate
12	M102	Amber Light
13	SC347	Steam-Air or Steam Only
14	PT118	Timer Knob
15	M262	#8 - 32 x 3/8" Truss Hd. Scw.
16	TU7733	#8 - 18 x 1/2" Self Drill Screw
17	TU3805	#8 - 15/32" x 32 Hex Nut
18	AT246	3/8" - 32 Hex Nut
19	OP251	1/2" Internal Tooth Lockwasher
20	ET208	#6 - 32 x 1/4" Binder Hd. Screw
21	TU13182	120V Control Relay
22	FG453	Electronic Timer
23	PT182	120V Control Relay
24	TU8629	4 Pole Terminal Board
25	SC874	Relay Bracket
26	SC889	Timer Mounting Plate
27	TU4660	Transformer



DROP OFF ASSEMBLY PARTS

Ref. No.	Part No.	Description
1	SC351	Power Strut
2	SC308	External Support
3	SC372	Drop Off Welded Assembly (Opposite)
	SC283	Drop Off Welded Assembly (Standard)
4	SC309	Internal Support
5	SC353	Adjustment Bracket
6	TU3124	3/8" - 16 x 3/4" Cap Screw
7	IB140	3/8 Cut Washer
8	TU4787	3/8" x 16 Hex Nut
9	TU3480	10 - 24 x 3/8" Machine Screw
10	FB187	#10 Split Lock Washer
11	FB185	#10 - 24 Hex Nut
12	FB124	5/16" - 18 x 1" Cap Screw
13	TU2814	5/16" Split Lockwasher
14	C249	5/16" - 18 Hex Nut




DRYING
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STEAM VALVE
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TERMINAL BLOCK
MOUNTED INSIDE PANEL
CONV INTLK
DOOR MOTOR
DOOR CAM INTLK
SWITCH
DOOR INTLK
BLOWER MOTOR
CONV MOTOR
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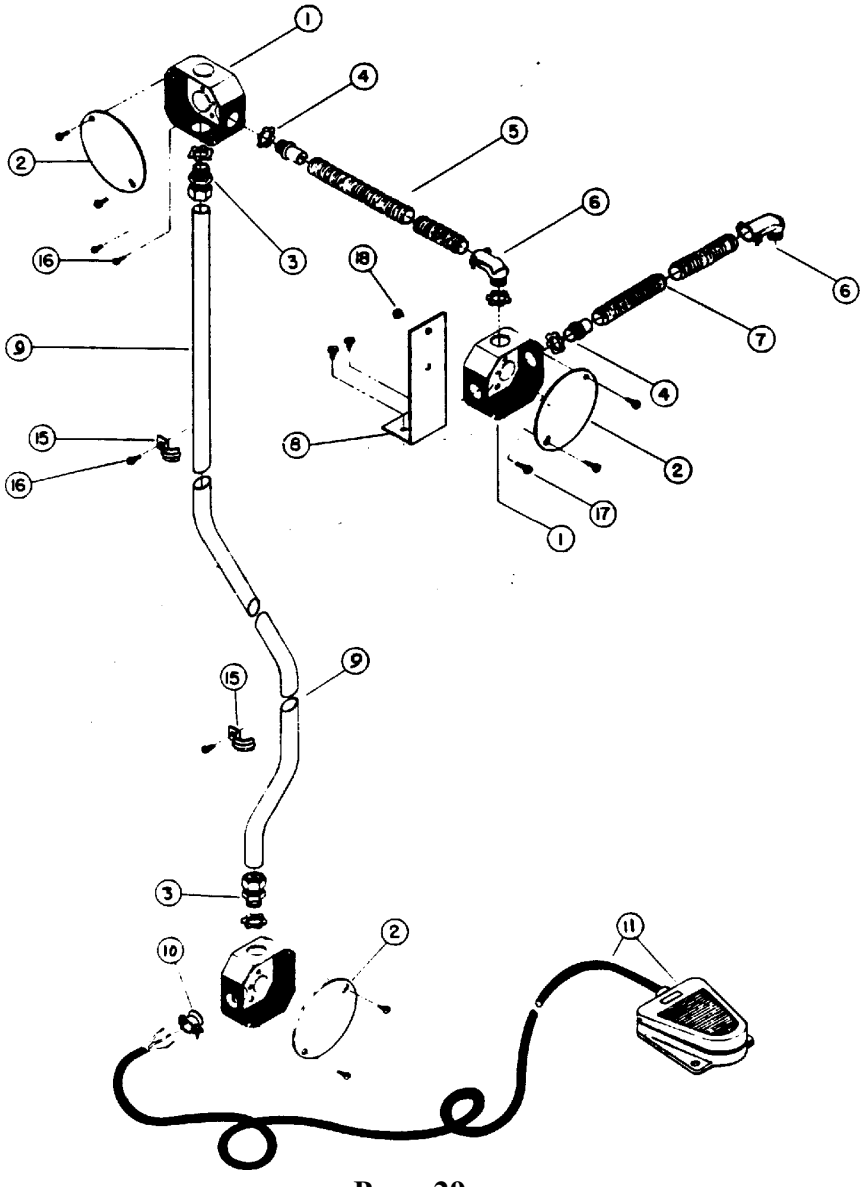
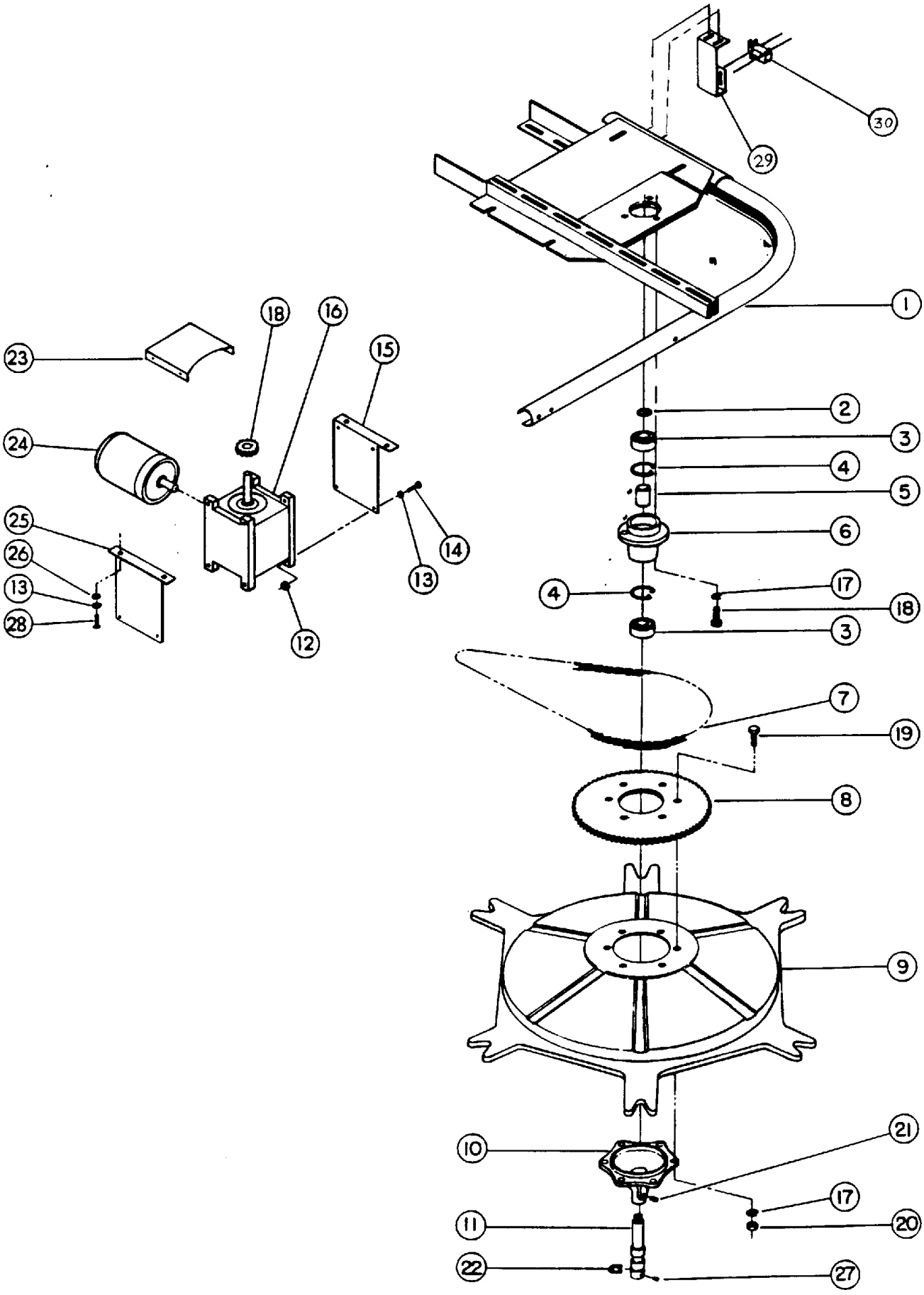
Ref. No.	Part No.	Description
1	TU2334	Junction Box
2	TU2335	Junction Box Cover
3	TU5002	Straight Connector
4	F875	Straight Connector
5	50-4600-249	3/8" Cable 9 3/4"
6	F876	90° Connector
7	50-4600-249	3/8" Cable 15 3/4"
8	SC298	Junction Box Bracket
9	SC332	1/2" Conduit
10	M155	Strain Relief
11	PT527	Foot Switch w/3 Wire Cord
12	C332	Conduit Strap
13	M263	#8 - 3/8 S.M. Screw
14	M348	#10 x 3/8" Screw
15	TU2842	#10 - 32 Hex Nut

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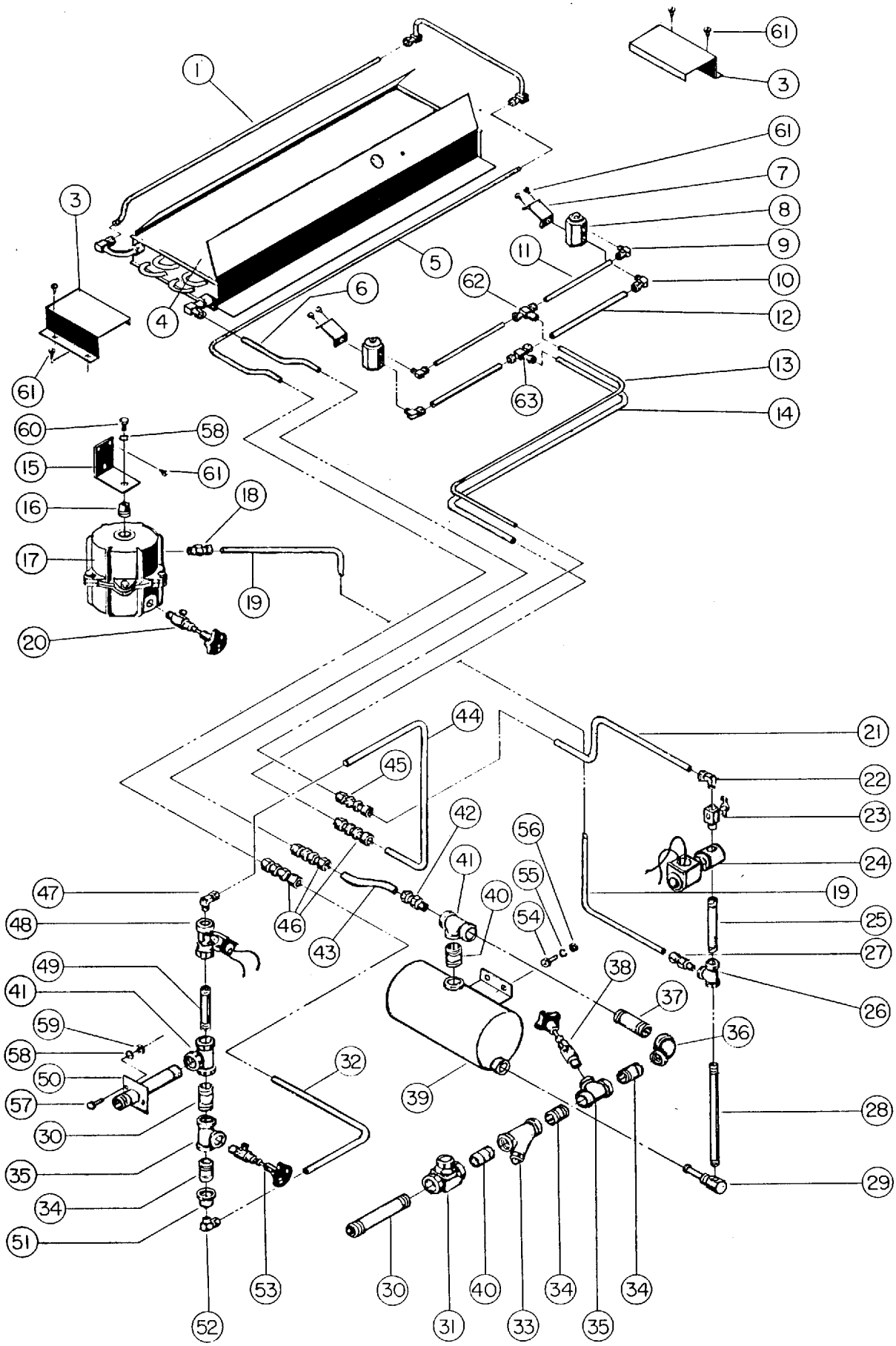
CONVEYOR DRIVE END

Ref. No.	Part No.	Description
1	SC858	Drive Weldment
2	C227	Washer
3	C217	Sprocket Bracket
4	C143	Retaining Ring
5	C228	Sleeve Spacer
6	C129	Bearing Housing
7	C400	Chain #40
8	C130	Sprocket - 60 Tooth, 40 Pitch
9	C119	Link Drive Sprocket
10	C125	Sprocket Support
11	C1337	Sprocket Shaft
12	TU4787	Hex Nut - 3/8”
13	VSB134	Lockwasher - 3/8”
14	IB139	3/8” - 16 x 1 1/4” Screw
15	C1534	Gearbox Angle
16	C1539	Gearbox
	C1540	Gearbox Assembly - includes Gearbox, Mounting Angles, and Hardware
17	TU2814	Lockwasher - 5/16”
18	C12312	Pinion Gear
19	C363	5/16” - 18 x 1 1/4” Screw
20	C249	5/16” - 18 Hex Nut
21	TU3282	5/16” - 18 x 3/8” Set Screw
22	C139	External Retainer
23	SC302	Sprocket Guard
24	MTR152	Motor - 60 Hz.
	MTR154	Motor - 50 Hz.
25	C1532	Gearbox Angle
26	IB140	Washer - 3/8”
27	C196	#8 - 32 x 5/16” Set Screw
28	TU3124	3/8” - 16 x 3/4” Screw
29	SC896	Switch Mounting Bracket
30	SC901	Conveyor Interlock Switch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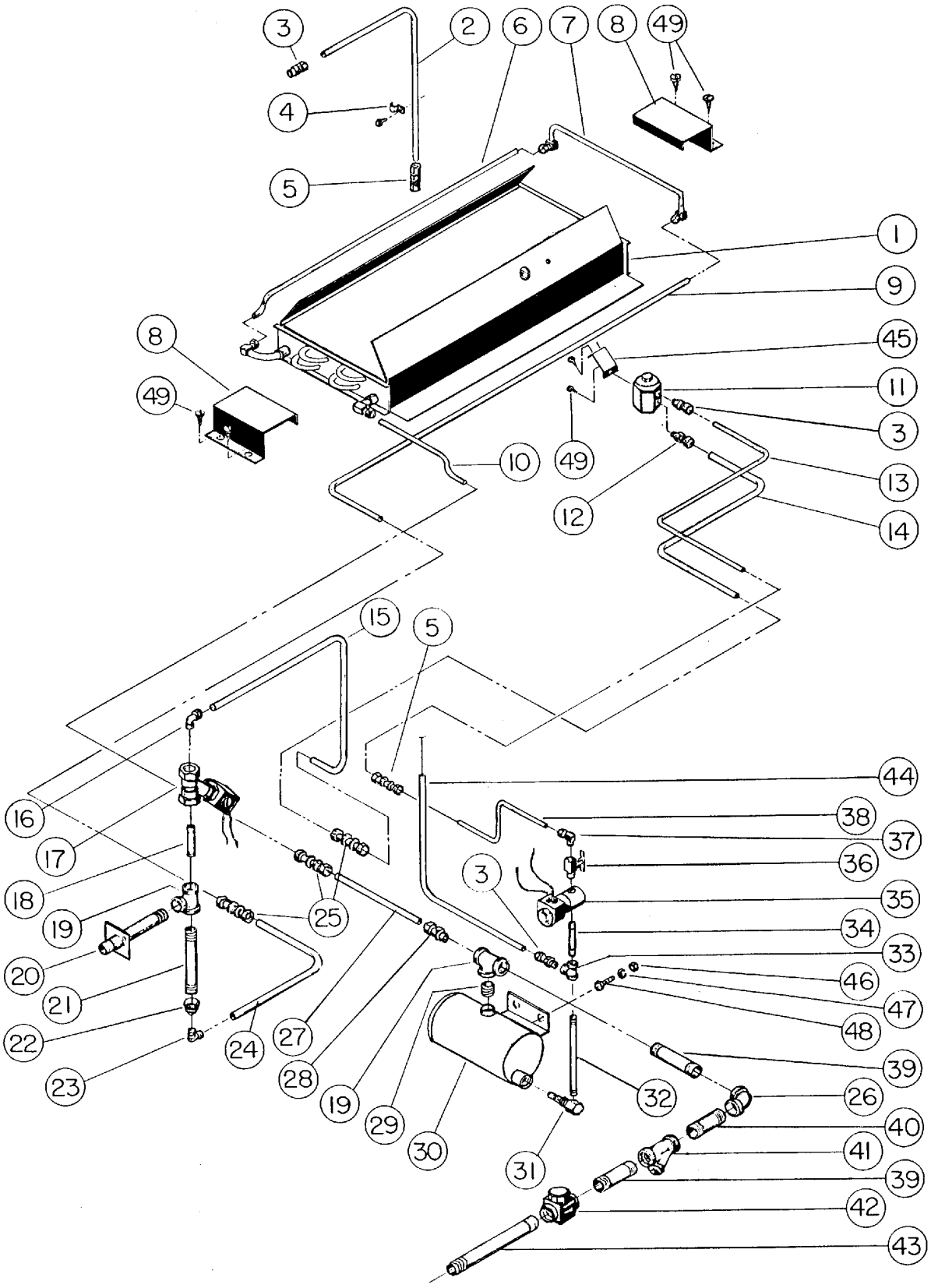
STEAM PIPING - 50 HZ

Ref. No.	Part No.	Description
1	SC110	Rear Boil Off Tube
2	SC158	Cross Over Tube
3	SC262	Coil Holddown
4	SC257	Steam Coil Assembly
5	SC111	Front Boil Off Tube
6	SC60	Return Tube
7	SC260	Steam Jet Bracket
8	SC108	Steam Jet Assembly
9	TU2722	1/8" x 1/4" Elbow
10	SC46	1/4" x 3/8" Elbow
11	SC285	1/4" x 7 3/8" Copper Tube
12	SC284	3/8" x 7 1/8" Copper Tube
13	SC168	Mixing Jet Tube (Water)
14	SC169	Mixing Jet Tube (Steam)
15	SC360	Condenser Bracket
16	F578	Pipe Plug
17	SGC4	Condenser
18	OP225	1/8" Pipe x 5/16" Straight Connector
19	SC364	Condenser Tube
20	SGV12	Water Valve Assembly
21	SC182	Water Tube
22	TU2722	1/8" M.P.T. x 1/4" O.D.T. Elbow
23	FG160	1/8 Metering Valve
24	SC9	Condensate Solenoid Valve 120 V., 50 or 60 Hz.
25	SC218	1/8" x 1 1/2" Pipe Nipple
26	OP449	1/8" Pipe Tee
27	OP297	1/8" Pipe x 1/4" T. Straight Connector
28	SC217	1/8" x 7" Pipe Nipple
29	SC170	Strainer Assembly
30	OP292	1/2" x 2 1/2" Pipe Nipple
31	SC404	1/2" Steam Trap
32	SC181	Steam Supply Tube
33	SC16	1/2" "Y" Strainer
34	TU4725	1/2" x 1 1/2" Pipe Nipple
35	SG45	1/2" Tee
36	TU4593	1/2" Elbow
37	OP292	1/2" x 2 1/2" Pipe Nipple
38	SGV40	Return Valve (Ball Check)
39	SC164	Water Chamber
40	OP290	1/2" x 2" Pipe Nipple
41	SC219	1/2 x 3/8 x 1/2 Reducing Tee
42	AT308	3/8" Pipe x 3/8" Tube Straight Connector
43	SC183	Short Return Tube
44	SC180	Steam Tube
45	SC215	1/4" Bulkhead Union
46	SC214	3/8" Bulkhead Union
47	SC253	3/8" Pipe x 3/8" Tube Elbow
48	PT326	Steam Solenoid Valve 120 V., 50 or 60 Hz.
49	SC211	Strainer Nipple Assembly
50	SC196	Steam Supply Pipe
51	SC220	1/2" x 1/4" Bell Reducer
52	SF46	1/4" P. x 3/8" T. Elbow
53	SGV13	Steam Valve
54	TU5439	5/16" - 18 x 3/4" Cap Screw
55	VSB130	5/16" Flat Washer
56	C249	5/16" - 18 Hex Nut
57	RC344	1/2" - 20 x 3/4" Cap Screw
58	TU2846	1/4" Split Lock
59	TU4934	1/4" - 20 Hex Nut
60	CB36	1/4" - 20 x 1/2" Cap Screw
61	M263	#8 x 3/8" Screw
62	SC286	1/4" Compression Tee
63	SC287	3/8" Compression Tee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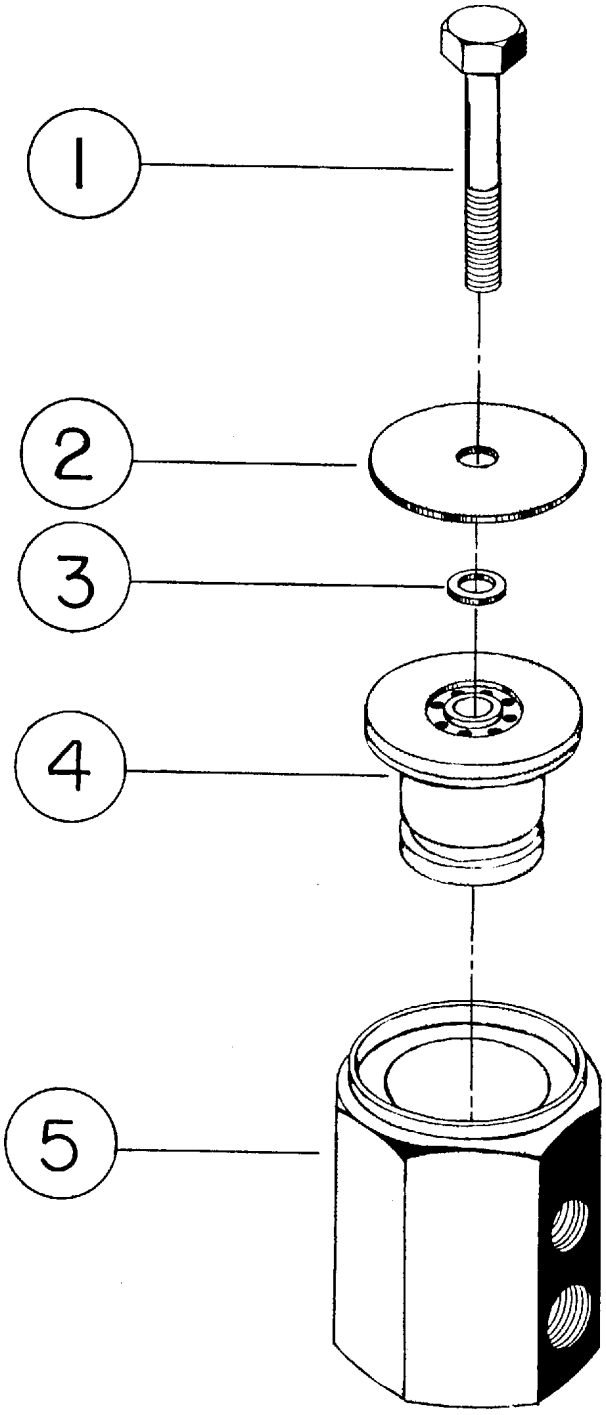
STEAM PIPING - 60 HZ

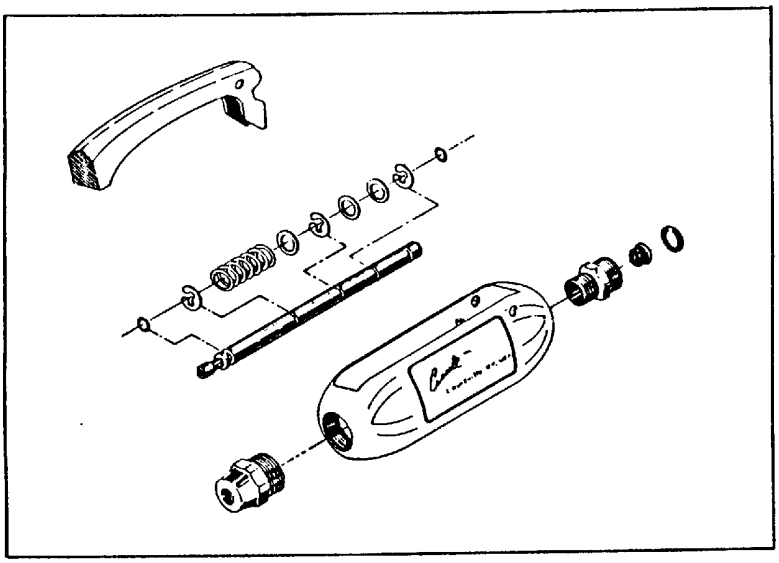
Ref. No.	Part No.	Description
1	SC257	Steam Coil Assembly
2	SC186	Long Condenser Tube
3	OP297	1/8” Pipe x 1/4” Tube Straight Connection
4	F646	5/16” Clamp
5	SC215	1/4” Bulkhead Union
6	SC110	Rear Boil Off Tube
7	SC158	Cross Over Tube Assembly
8	SC262	Coil Holdown Bracket
9	SC111	Front Boil Off Tube
10	SC60	Return Tube
11	SC108	Mixing Jet Assembly (See Separate Page)
12	SC216	1/4 M.P.T. x 3/8” O.D.T. Straight Connector
13	SC168	Mixing Jet Tube (Water)
14	SC169	Mixing Jet Tube (Steam)
15	SC180	Steam Tube
16	SC253	3/8” M.P.T. x 3/8” O.D.T. Elbow
17	PT326	3/8” Solenoid Steam Valve
18	SC211	Strainer Nipple Assembly
19	SC219	1/2” x 3/8” x 1/2” Reducing Tee
20	SC196	Steam Supply Pipe Weldment
21	OP296	1/2” x 5” Pipe Nipple
22	SC220	1/2” x 1/4” Bell Reducer
23	SF46	1/4” M.P.T. x 3/8” O.D.T. Elbow
24	SC181	Steam Supply Tube
25	SC214	3/8” Bulkhead Union
26	TU4593	1/2” Elbow
27	SC183	Short Return Tube
28	AT308	3/8” M.P.T. x 3/8” O.D.T. Straight Connector
29	OP290	1/2” x 2” Pipe Nipple
30	SC164	Water Chamber
31	SC170	Strainer Assembly
32	SC217	1/8” x 7” Pipe Nipple
33	OP449	1/8” Pipe Tee
34	SC218	1/8” x 1 1/2” Pipe Nipple
35	SC9	1/8” Condensate Solenoid Valve
36	FG160	1/8” Metering Valve
37	TU2722	1/8” M.P.T. x 1/4” O.D.T. Elbow
38	SC182	Water Tube
39	OP292	1/2” x 2 1/2” Pipe Nipple
40	OP290	1/2” x 2” Pipe Nipple
41	SC16	1/2” Y Strainer
42	SC404	1/2” Steam Trap
43	OP308	1/2” x 4” Pipe Nipple
44	SC185	Short Condenser Tube
45	SC260	Steam Jet Bracket
46	C249	5/16” - 18 Hex Nut
47	VSB130	5/16” Flat Washer
48	TU5439	5/16” - 18 x 3/4” Cap Screw
49	M263	#8 x 3/8” Screw

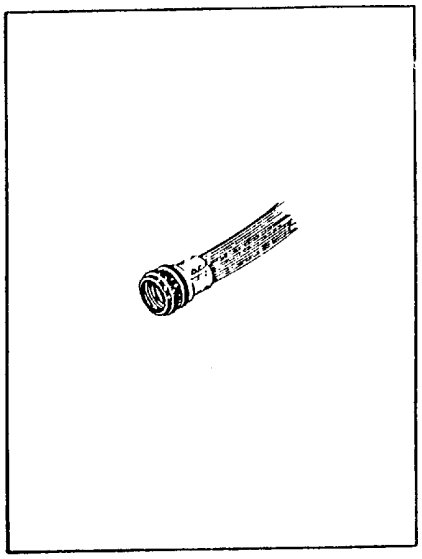


MIXING JET ASSEMBLY - SC108

Ref. No.	Part No.	Description
1	SC166	Screw, 1/4" - 20 x 2"
2	SC107	Steam Spreader Disc
3	PT359	Washer
4	SC105	Mixing Jet Insert
5	SC106	Mixing Jet Body

WATER SPRAY GUN - OVERHEAD TYPE





Water Spray Gun

Complete Assembly - SG043
Repair Kit - SK043 Consists of:
(Parts to repair one spray gun)

Plunger Tube Asm.	1 ea.
Strainer	1 ea.
Nozzle	1 ea.
Gaskets	2 ea.

Water Hose Assembly

Includes fittings, gaskets, and ferrules at each end of hose

Part No.	Description
SG114	4' 4" Long
SG37	5' Long
SG68	7' Long
SG115	9' 9" Long
SG87	11' Long
SG155	20' Long

HOW TO SERVICE CISSELL WATER-SPRAY GUN:

A. Close Spray Gun Valve when replacing Parts on Gun.

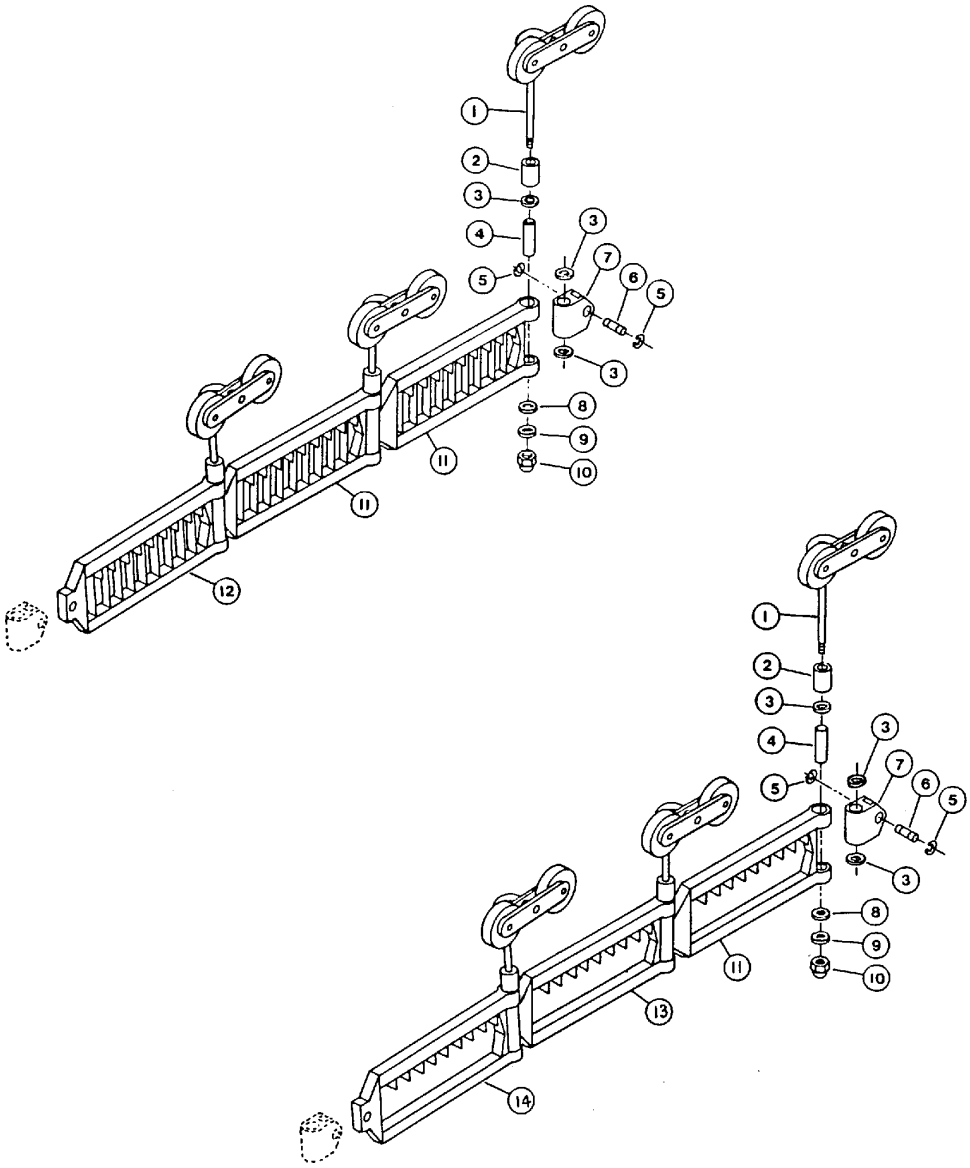
B. Do not use Pliers on knurled connections as they can be tightened sufficiently with fingers.

C. To clean or replace Strainer
Unscrew Hose Nut on Hose and remove Strainer
Clean by blowing out sediment with air hose or mouth.
Replace Strainer if damaged, or if sediment is too hard to be thoroughly removed by cleaning.

D. Should Gun show leakage into Housing or leakage from Orifice when NOT in use:

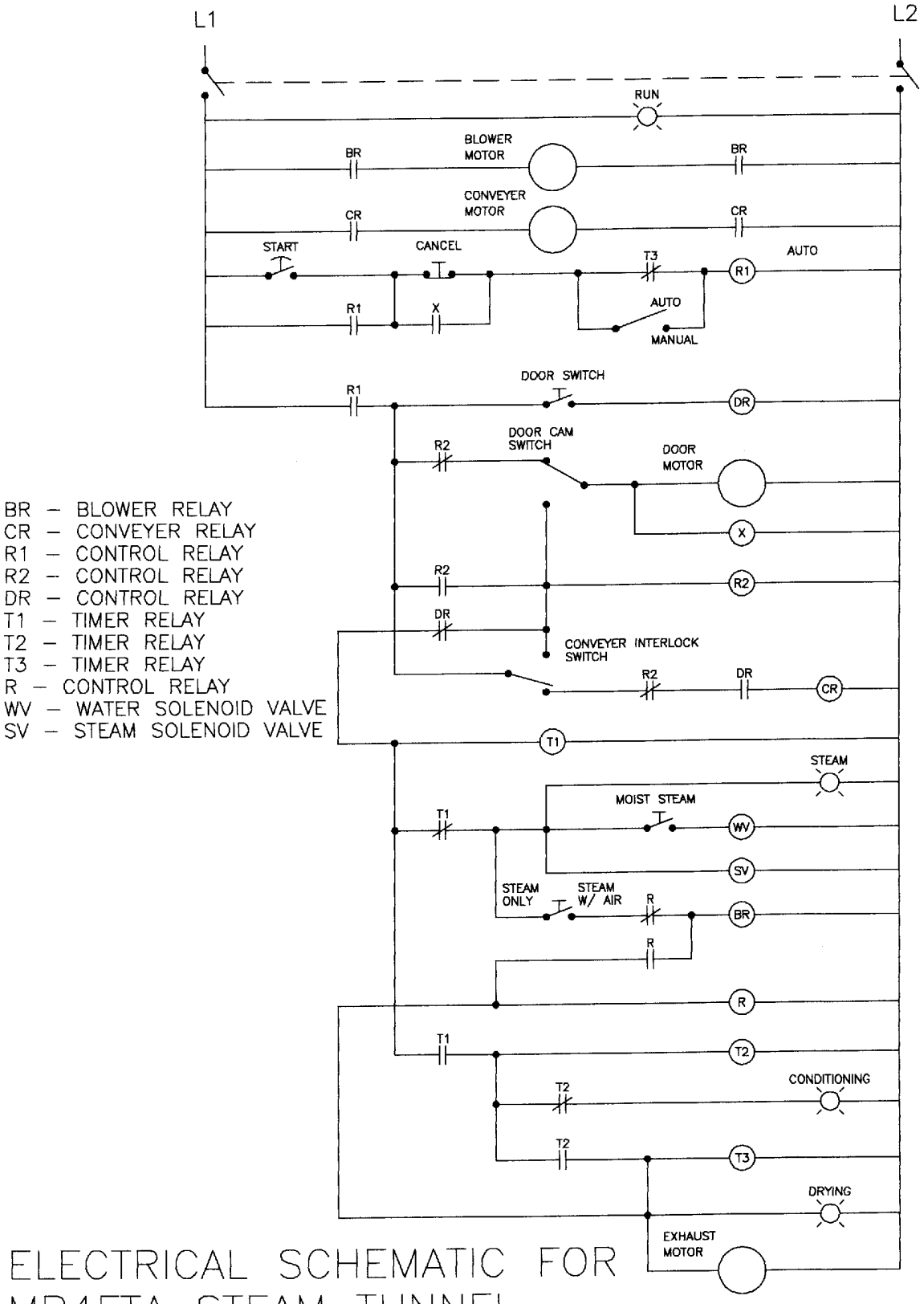
1. Remove Pivot Pin (holding Handle in position), and Orifice Slide back and lift out Plunger Tube. Remove the two "O" Rings and replace with new "O" Rings.
2. While Plunger Tube is out, check rubber seal in end of Tube. Surface of rubber seal must extend 1/64" beyond front end of Tube. Seal must also be tight in tube. If not, do not attempt to repair, but replace with new Plunger Tube, as Seal must be installed at Factory under carefully controlled conditions.
3. To clean Orifice, blow with mouth or air gun.
4. To Reassemble Gun, place Orifice over end of Plunger Tube (end with seal) and insert through thread hole in end of Gun. Lift the end of plunger Tube over stop (in middle of housing) so that Flat Washer (at end of Spring) rests against this stop. Insert end of Tube into hole at Hose end of Gun. Push firmly against stop, compressing Spring and screw orifice into place, securely against end of housing. Then separate Washers between "E" Rings and slide tips of Handle between the two Flat Washers. Align holes in Housing and Handle and drive in Pivot Pin. Be certain Strainer has been set in place, in end with threaded hose connection. Connect Hose. Spray Gun now is ready for service.

E. Should Gun leak at Hose Connections:
Check and retighten Hose Nut. If leak persists, remove Hose Gasket and replace with a new one. Reconnect Gun to Hose and securely tighten Hose Nut.



CONVEYOR LINKS

Ref. No.	Part No.	Description
1	C1727	"J" Bolt Assembly
2	C343	Drive Collar
3	C1735	Link Washer
4	C1601	Link Bushing
5	F489	"E" Ring
6	C110	Swivel Connector Pin
7	C109	Swivel Connector
8	C1784	Load Washer
9	C147	3/8" Flat Washer
10	C149	3/8" Crown Nut
11	C892	Type "S" Floor Link
12	C894	Type "S" Floor Connector Link
13	C118	Type "B" Floor Link
14	C195	Type "B" Floor Connector Link

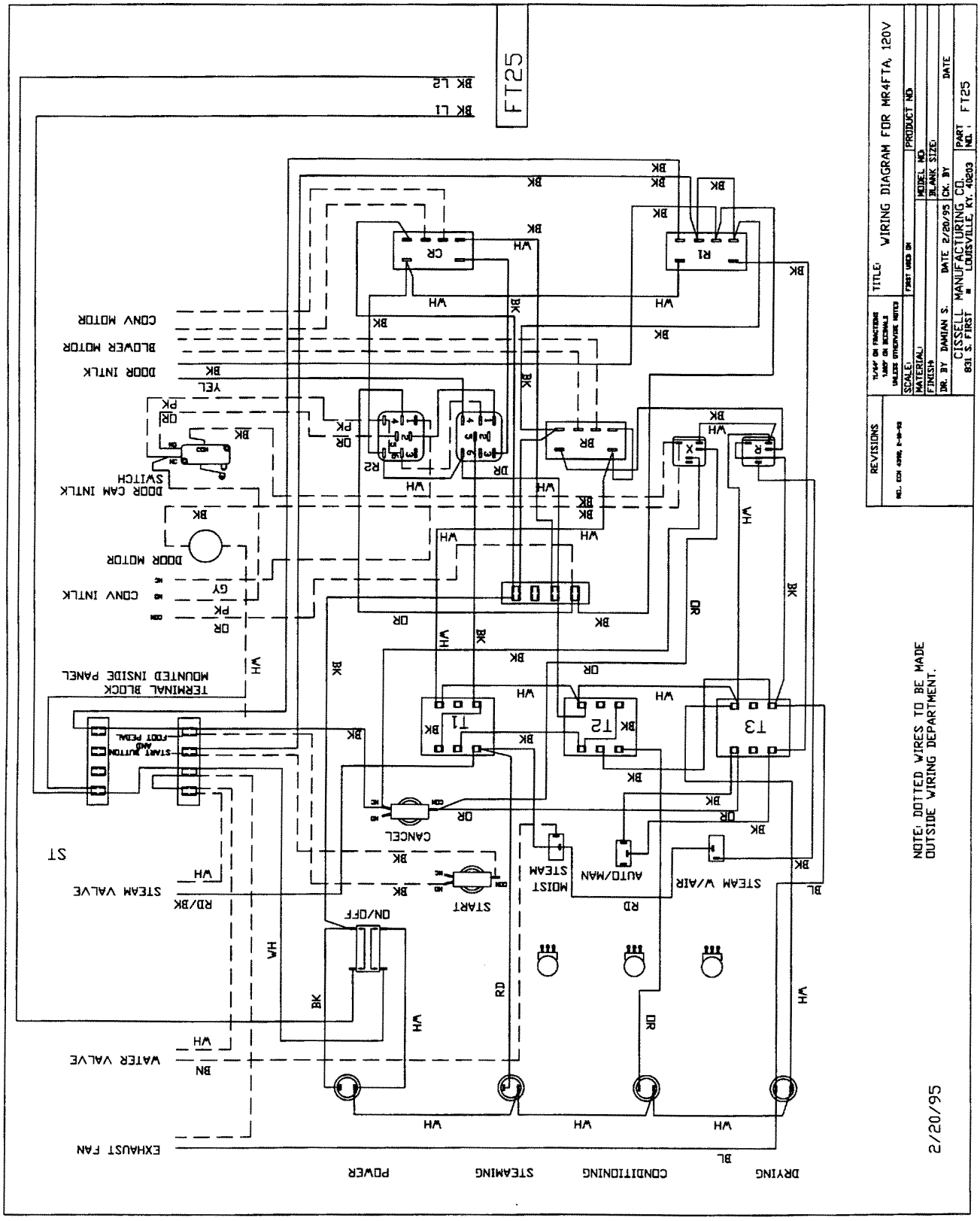


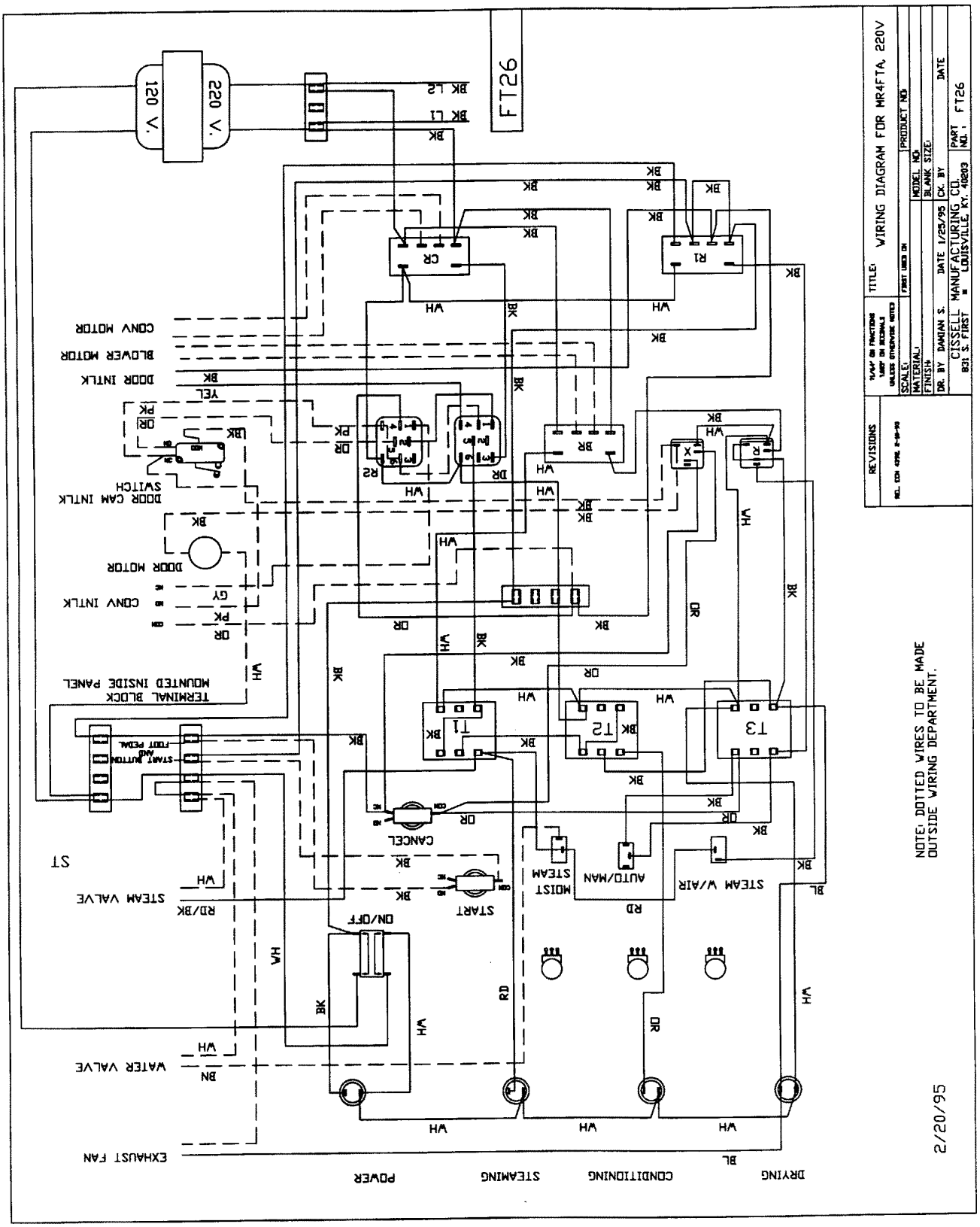
ELECTRICAL SCHEMATIC FOR MR4FTA STEAM TUNNEL

120V/60/1PH

240V/60/1PH

220V/50/1PH


FT25
TITLE: WIRING DIAGRAM FOR MR4FTA, 120V
CISSELL MANUFACTURING CO.
LOUISVILLE, KY. 40203
PART NO.: FT25
DR. BY DAMIAN S. DATE 2/20/95
CK. BY
MODEL NO.
PRODUCT NO.
BLANK SIZE
DATE
REVISIONS
SCALE:
MATERIAL:
FINISH
CONV MOTOR
BLOWER MOTOR
DOOR INTLK
DOOR CAM INTLK SWITCH
DOOR MOTOR
CONV INTLK
TERMINAL BLOCK MOUNTED INSIDE PANEL
START BUTTON AND FOOT PEDAL
CANCEL
START
MOIST STEAM
AUTO/MAN
STEAM W/AIR
ON/OFF
STEAM VALVE
WATER VALVE
EXHAUST FAN
CR
R1
R2
T1
T2
T3
POWER
STEAMING
CONDITIONING
DRYING
NOTE: DOTTED WIRES TO BE MADE OUTSIDE WIRING DEPARTMENT.
2/20/95


FT26
120 V.
220 V.
L2
L1
CR
R1
CONV MOTOR
BLOWER MOTOR
DOOR INTLK
DOOR CAM INTLK SWITCH
DOOR MOTOR
CONV INTLK
TERMINAL BLOCK MOUNTED INSIDE PANEL
START BUTTON AND FOOT PEDAL
CANCEL
START
ON/OFF
MOIST STEAM
AUTO/MAN
STEAM W/AIR
ST
STEAM VALVE
WATER VALVE
EXHAUST FAN
T1
T2
T3
POWER
STEAMING
CONDITIONING
DRYING
NOTE: DOTTED WIRES TO BE MADE OUTSIDE WIRING DEPARTMENT.
2/20/95
REVISIONS
TITLE: WIRING DIAGRAM FOR MR4FTA, 220V
CISSELL MANUFACTURING CO.
831 S. FIRST ■ LOUISVILLE, KY. 40203
PART NO.: FT26