OPERATING AND MAINTENANCE INSTRUCTIONS FOR WELDOTRON MODEL 7121A SHRINK TUNNEL

Technical Document #1741
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LIST OF ILLUSTRATIONS

TABLE OF CONTENTS

MODELS 7100 SERIES, 7200 SERIES, 7300 SERIES, 7603, 7613 AND 7623 SHRINK TUNNELS

CAUTION

THIS EQUIPMENT HAS BEEN PROPERLY INSPECTED AND FACTORY TESTED. HOWEVER, WHEN THE IN-HOUSE POWER SOURCE IS WIRED INTO THE "MAIN POWER SWITCH" OF THE TUNNEL IN ALL 3 PHASE SYSTEMS, CARE SHOULD BE TAKEN TO CHECK THAT THE CONVEYOR IS PULLED BY THE CONVEYOR DRIVE MOTOR, LOCATED AT THE OUTFEED END OF THE TUNNEL, RATHER THAN PUSHED. IF NOT, TWO LEGS OF THE THREE LEGS WIRED INTO THE MAIN POWER SWITCH SHOULD BE REVERSED.

DO NOT ADJUST OR OPERATE THIS EQUIPMENT PRIOR TO READING THIS MANUAL.

Welcome to the Weldotron Family!

Weldotron is a recognized leader in the industrial packaging industry. Whether you own or lease your Weldotron packaging system you are assured the highest quality in design, workmanship and performance of any packaging system available.

The purpose of this manual is to familiarize you with the Model 7121A Tunnel and to provide instructions for the operation, maintenance and, if necessary, repair of the system.

If certain unique installation requirements arise, or if there are any questions concerning your Weldotron packaging system which are not answered by this manual, one of our courteous customer service representatives will be happy to assist you. Contact your local distributor.

CAUTION

Safety is our prime concern. Weldotron systems include many features to protect personnel. Effectiveness of these features depends largely on the strict observance of proper safety precautions and procedures in the workplace. We strongly recommend a safety program that includes procedures of O.S.H.A., A.N.S.I. and applicable state and local codes.

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1. INTRODUCTION

The Weldotron Model 7121A Shrink Tunnel is a conveyorized heat shrinking device employing electric heating combined with a recirculating air system and a complete range of adjustments. The main components are the blower, the heater bank, the shrink chamber and the package conveyor. Teflon-fiber-glass curtains cover the entrance and exit of the heat chamber to minimize heat loss as packages travel through the tunnel.

1.1 UNPACKING

a. Remove the Shrink Tunnel from its shipping crate and inspect for possible damage. IF ANY DAMAGE IS NOTED, CONTACT CARRIER IMMEDIATELY. DO NOTHING FURTHER UNTIL CARRIER'S AGENT HAS MADE AN INSPECTION OF THE DAMAGE TO THE UNIT. If no damage is present, check for the presence of the following items:

1. Operation and Maintenance Instruction Manual.
2. Hole Plugs, 3/8" Diameter (25 furnished), part no. PG-0063.
3. Blower Motor fuses (F3 & F4) 10 amperes (2 furnished), part no. FZ-1658.
4. Conveyor Motor fuse (F5) 1 ampere slo-blow (2 furnished), part no. FZ-1216.
5. One-half pint can Thermolube, part no. LU-0855.
6. Lubricant applicator brush.

If any of these items are missing, contact the manufacturer immediately.

b. Remove the retaining tape with which the fan blade was secured to the top of the package conveyor.

1.2 MOUNTING OF TUNNEL ON CONVEYOR

Using at least two men, carefully lower the tunnel proper onto the conveyor section. Orient so the conveyor drive motor is at the left of the front (control panel) side of the tunnel. Center the tunnel on the package conveyor section.

2. SPECIFICATIONS

CONVEYOR: Continuously variable package speed adjustment by means of solid state speed control.

SHRINK TEMPERATURE RANGE: Continuously variable with thermostatic control up to 450 degree F.

BLOWER: Equipped with 1/2 HP continuous-duty motor.

CONTROL:

a. Main power switch.

b. Conveyor speed control.

c. Thermostatic heat control with indicating light.

d. Control of overall hot air velocity.

SURFACE AREA REQUIRED: 56 inches x 19 inches.

POWER REQUIREMENTS: 230 volts, 1 phase, 60 cycles, 35 amperes*

HEATER BANK WATTAGE: 7000 watts*

* Special voltages, phases, frequencies or heater bank wattages available on special order.

CHAMBER OPENING: 8-inches high x 16-inches wide

PRE-SHRINK: Equipped with pre-shrink heat zone.

TYPE OF MOUNTING: Floor type, with metal legs and casters.

TYPE OF CONVEYOR: Equipped with live roller package conveyor with package speed continuously variable up to 70 FPM.

AIR-COOLED CONVEYOR ROLLERS: Equipped with conveyor rollers cooling fan for use in sealing polyethylene film.

2.1 ORDERING INSTRUCTIONS

In order to avoid unnecessary delay in filling orders for parts, customers should follow procedures recommended below:

a. State the Machine Name, Model Number, Serial Number.

b. List the Part Number and Part Name of required part exactly as shown on parts list.

c. Specify the quantity desired.

d. Specify when needed.

e. Specify desired shipping method: Parcel Post, Truck, Air Express, etc.

CAUTION

Do not attempt to install, adjust, or operate this machine without first reading the contents of this manual. Although the design of this equipment incorporates safeguards to protect operating and maintenance personnel, care should be used in operating, adjusting and servicing.

2.2 INSTALLATION

a. Place the Shrink Tunnel in the desired location, with required electrical power source available. Make sure the current-carrying capacity of the wiring is heavy enough to assure proper voltage to the tunnel. If the voltage is too low the power company can usually adjust it to the proper level, if the wiring capacity is adequate.

   In choosing a location for the Shrink Tunnel, it is important to avoid a drafty area in the path of cooling or ventilation fans or air-conditioning ducts, as heat may be unintentionally drawn from the tunnel and reduce its efficiency.

b. Shut off the in-house tunnel power-source switch, and throw the tunnel Main Circuit Breaker, (located at the top-left corner on the rear of the tunnel) to its OFF position.

c. Remove the four screws on the tunnel top and remove the top cover plate.

d. Insert the in-house power supply cable-end through the tunnel cut-out and secure cable with the clamp provided. Wire the cable leads to the circuit breaker.

e. Replace and secure the tunnel top cover plate. With the circuit breaker still in the OFF position, turn on the in-house power-source switch.

f. On the rear of the tunnel, there are two power outlet sockets. Connect the conveyor drive motors 4-prong power plug to the corresponding type polarized "twist lock" socket and turn the plug approximately a quarter-turn to lock the plug in place in the socket.

g. Connect the conveyor cooling blower power plug to the polarized three-prong "twist lock" socket and turn the plug approximately a quarter-turn to lock the plug in place in the socket.

f. Adjustable leveling pads are incorporated into the design of this model to permit desired alignment with the Sealer or an existing conveyor. The four leveling pads (located at the leg corners) allow a 4-inch change in the tunnel conveyor height.

3. OPERATION

Refer to Figure 3-1, at the rear of this section for location of controls and adjustments.

3.1 INITIAL OPERATION

a. Throw the MAIN POWER switch to the ON position.

b. Set the CONVEYOR SPEED CONTROL to about its mid-range setting on the scale until exact desired conveyor speed is determined later (based on package size and sealer speed). Note that the speed control scale is in arbitrary units, not in feet-per-minute.

3.2 OPERATION WITH ALL FILMS EXCEPT POLYETHYLENE

a. Set the CONVEYOR COOLING FAN switch to its OFF position.

b. Set the VARIABLE VELOCITY control to HIGH position.

c. Set the thermostat to the temperature recommended by the film manufacturer. Approximate settings for several popular films are as follows:

PVC:	300 degrees F
Polyethylene:	400 degrees F
D925:	300 degrees F

These approximate temperature settings are, of course, affected by the conveyor speed selected, the film gauge and the package size and configuration. The temperature settings should be modified experimentally for best shrink results.

When the proper operating temperature has been reached, the indicator lamp on the thermostat will go out.

d. Arrange the tunnel's heat-control hole plug pattern as follows:

1. At the bottom of the heat chamber, under the conveyor rollers, toward the package entrance end of the tunnel, there is a group of holes extending further than the rest of the tunnel's heat control holes. Generally, these holes should remain unplugged to provide pre-shrink action and to pull the film seam downward, under the bottom of the package, for better appearance. However, these holes should be partially plugged, experimentally, if there is any film burning.

3.2 OPERATION WITH ALL FILMS EXCEPT POLYETHYLENE (CONTINUED)

2. Arrange the rest of the tunnel's hole plug pattern to suit the package configuration. The chamber's top, bottom and side holes may be plugged to minimize shrinkage or unplugged to afford greater shrinkage. For low, flat packages with less than 1-inch side height, the side holes should be completely plugged. For somewhat higher packages, the holes may be only partially plugged to admit side air-flow as required. It is important to remember that, as top and bottom holes are plugged, air-flow is increased from the side air holes and vice versa.

3. Again, as a reminder, it is recommended that the setting of the thermostat be varied, in small increments, for best shrink results.

3.3 OPERATION WITH POLYETHYLENE FILM

NOTE

Conveyor rollers must be non-revolving ("dead") for sealing polyethylene film. Contact a customer service representive to order special rails for dead roller operation.

a. Set the CONVEYOR COOLING FAN switch to its ON position.

b. Set the thermostat to 450 degrees F (maximum heat).

c. Set the CONVEYOR SPEED CONTROL to a setting which is consistant with sealer speed and with production rate requirements.

d. Plug all the "pre-shrink" holes (mentioned in Section 3.2 d.1.).

e. Arrange the rest of the hole plug pattern to suit the configuration of the package, as described in Section 3.2.d.2, except that the bottom holes should be plugged just sufficiently to prevent melting or sticking of the film (the more open holes, the better when using polyethylene).

3.3 OPERATION WITH POLYETHYLENE FILM (CONTINUED)

f. Set the VARIABLE VELOCITY control initially to a point near its LOW position and, if required, advance in small increments toward the HIGH position, experimentally, for best shrink results. It is important to remember that if the hot air velocity is too great, billowing of the film may occur which can cause the film to fold over and stick to itself. A little care in determining the optimum setting will provide excellent results in the production shrinking of polyethylene film.

g. If desired, the outfeed curtains may be removed from the shrink chamber to prevent marring or sticking of the soft polyethylene film as it emerges from the tunnel in a semi-molten state. To remove the outfeed curtains, unscrew the two mounting screws at the top edge of each side of the curtains and remove the curtains and supporting plates. When operating without the curtains, somewhat different settings of the various tunnel adjustments maybe required (such as conveyor speed, and air velocity) to compensate for the heat-loss within the shrink chamber.

CAUTION

When shut-down of the tunnel is desired, be sure to shut it off by means of the MAIN POWER switch on the rear of the unit; otherwise the 2.5 KW section of the heater bank will remain on. It is not sufficient to shut-down by turning the thermostat to its OFF position and the conveyor speed control to its zero speed position.

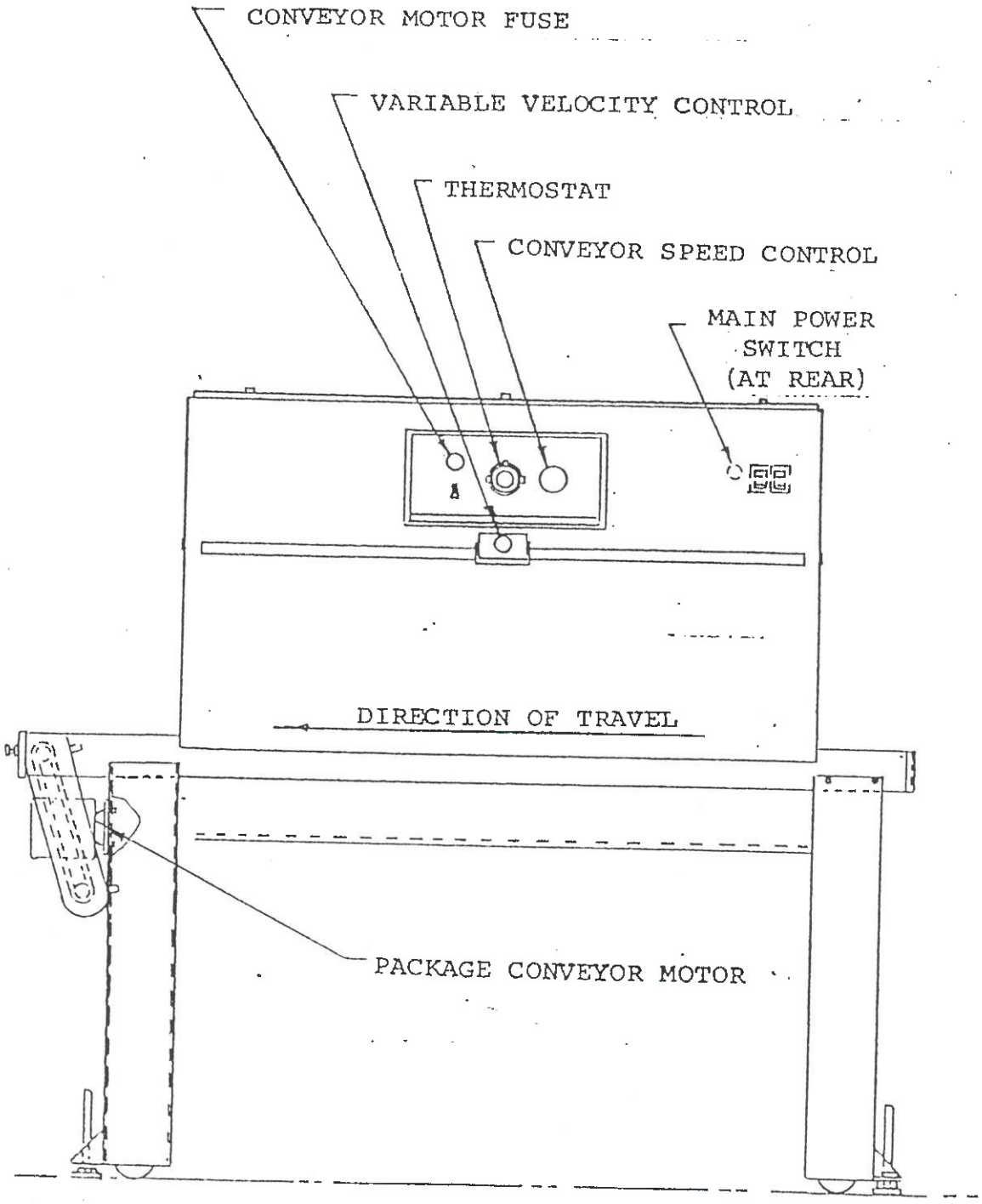


FIGURE 3-1. LOCATION OF CONTROLS AND ADJUSTMENTS

4. MAINTENANCE

To aid in maintaining the high reliability of these Shrink Tunnels, the following maintenance should be provided. Refer to Figure 4-1, at the rear of this section, for locations, as applicable.

4.1 LUBRICATION

4.1.1 Main Blower Motor Bearings

The Main Blower motor bearings should be lubricated once every month by adding a small amount of high temperature machine oil to each of the two oil cups at each end of the motor. Access to the motor is gained by removing the tunnel's top cover plate by turning the 6 captive retaining screws a quarter-turn counterclockwise. See Figure 4-1.

4.1.2 Package Conveyor Chain

The package conveyor chains of the roller conveyor tunnels and conveyor drive chain should be lubricated once every 40 operating hours with Weldotron Thermolube LU-855. The lubricant should be applied liberally, with a brush, to either a hot or a cold chain with the conveyor running slowly. It is extremely important to use only Weldotron Thermolube LU-855, as this lubricant is especially formulated to withstand the high temperatures encountered within the shrink chamber.

4.1.3 Points Not Requiring Lubrication

The following items are permanently lubricated and require no further lubrication:

Cooling fan motor for cooling main blower motor

Package conveyor drive motor main bearings

Package conveyor shaft bearings

4.2 CLEANING

4.2.1 Live Roller Conveyor

The silicone rubber covering on the live roller conveyor should be inspected regularly to assure that no scrap pieces of film are wrapped around the rollers to cause sticking or marring of packages. To clean, run the conveyor until the affected rollers are within the heated chamber. Allow the rollers and film residue to heat up to soften the film, then carefully advance the conveyor to stop the rollers outside the heat chamber for cleaning. Use a clean cloth and a detergent, such as Mr. Clean and wipe the rollers thoroughly. Use a clean dry cloth to dry the rollers.

If the rollers have accumulated an excessive amount of film scrap which cannot be removed by the use of the detergent, heat up the affected rollers within the heat heat chamber, as described above, then carefully advance the conveyor to stop the rollers outside the chamber for cleaning. Scrape the film residue from the rollers carefully, using a dull, blunt-edged tool to prevent damage to the roller covering.

CAUTION

DO NOT use any sharp instrument, such as a razor blade or screwdriver blade, nicking or splitting of the silicone rubber may result, requiring replacement of the roller covering.

4.3 PACKAGE CONVEYOR TENSION ADJUSTMENT

4.3.1 Roller Adjustment

The adjustment of package conveyor chain tension should be checked occasionally to insure that it is not excessive as this would cause unnecessary wear of the sprockets and the idler shafts upon which the sprockets revolve.

To check or adjust tension, shut off power to the tunnel. Lift both conveyor chains with the fingers and judge the tension. It should allow lifting of the chains approximately one-inch at a point about 6-inches from the sprockets at either end of the machine. both chains should have approximately the same tension. If it is necessary to adjust the tension, refer to Figure 4-2. Loosen all 4 bolts "A". Extend or retract the extension frame to achieve proper tension of both conveyor chains. Tighten all 4 bolts to retain proper tension.

4.4 PACKAGE CONVEYOR REPLACEMENT

4.4.1 Roller Covering Replacement

Under conditions of heavy, continuous use, the silicone rubber covering of the conveyor rollers may eventually require replacement. To replace this covering proceed as follows:

a. Remove the cotter pins and flat washers from the front end (end nearest the control panel side of the tunnel) of each conveyor chain spacer rod. Remove the spacer rods. With heat off, run conveyor, as required, for access to the rods. Spread the conveyor chains apart and remove the conveyor rollers.

b. Remove the old roller covering tubing from each roller and discard. If necessary, carefully slit tubing to remove.

c. Thoroughly clean all rollers, using fine steel wool if necessary. Make sure all rollers are completely smooth and free of residue and burrs.

d. Fit the new silicone rubber tubing onto each roller and work on, by hand, at least half-inch. At the opposite end of the tubing fit and hold, by hand, an air supply hose of moderate pressure. While the tubing is slightly expanded by the air pressure, push the tubing onto the roller and work it into final position of the roller. The rollers are now ready for reinstallation on the conveyor.

e. Replace rollers on conveyor by inserting the roller-ends into the chains. Place a spacer rod at approximately every 18-inches along the conveyor. Place flat washers (1) on each end and secure the spacer rods using the cotter pins.

f. Check conveyor tension. Tension should be such that it is possible to lift both conveyor chains approximately one-inch at a point about six-inches from the sprockets at either end of the tunnel. Both chains should have approximately the same tension. If it is necessary to adjust the tension, adjust by using the procedure described in Section 4.3.1.

4.5 REPLACEMENT OF IDLER SHAFT AND SPROCKETS

After long, continuous service the conveyor sprocket oilite bearings, or the idler shaft, may eventually require replacement due to wear. To replace either, proceed as follows:

a. Locate the joining links on both conveyor chains. Run conveyor, as required, and stop the conveyor with the joining links positioned in an accessible location on the top side of the conveyor, near the infeed end and idler sprockets. The joining links can be distinguished by the presence of a connecting link retainer on the outside edge of both conveyor chains. Remove both retainers by spreading their split end and sliding them out of the groove in the pin.

b. Remove the joining links from both chains. Both chains are now open. Refer to Figure 4-2. Using an Allen-wrench, loosen both screws "D" and raise idler roller "E" to a vertical position. Pass both conveyor chains under the roller and swing the ends of the chains down so the chains hang down the infeed end of the tunnel.

c. Using a Phillips-head screwdriver, remove both end-plates "B" of Figure 4-2. Using a wrench, loosen and remove both bolts "C" and their locking jam-nuts from the idler shaft. Remove the entire shaft, sprocket and idler-roller assembly from the tunnel.

d. Remove the idler-roller mounting-support collars and both of the sprockets from the shaft. Examine the shaft for wear. If wear is excessive, replace the shaft. If wear is not excessive, loosen both Allen-head screws "F" and turn both roller skid assemblies 180 degrees from their original orientation and retighten both screws "F". By doing this, the shaft can now be replaced on the shrink tunnel 180 degrees from its original orientation for continued use without replacement.

e. Examine the bearings in both sprockets. If required, replace both sprockets. Install all components of the shaft, in the manner shown in Figure 4-2.

f. Replace the entire assembly on the shrink tunnel by means of bolts "C", reorienting 180 degrees (as mentioned in d., above) if required. Center both shaft-ends approximately equally in height at the center-range on both bolts "C". Do not tighten the locking jam-nuts yet.

g. With idler-roller "E" in a vertical position, swing the conveyor chains up (under the idler-roller) and connect the joining links together with the connecting link retainers. Adjust chain tension using the procedure described in Section 4.3.1.

h. Check the leveling of both roller skid assemblies and, if necessary, adjust leveling by means of both screws "F" to assure firm contact with the underside of the top conveyor rollers for proper rotation of the rollers during tunnel operation.

i. Position both shaft-ends equally on bolts "C" to a height at which a straight-edge about 18-inches long, when placed on top of the conveyor rollers, will contact every roller equally at any point across the width of the rollers. This assures a completely level conveyor roller surface. Tighten the locking jam-nut on both bolts. Replace both end-plates "B".

j. By means of screws "D" adjust the height of the idler roller "E" so that its top surface will be identical in height to the height of the top surface of the conveyor rollers, as measured with a straight-edge placed atop the rollers and the idler roller. When correct, tighten the adjustment by means of screws "D".

4.6 CONVEYOR-MOTOR BRUSH REPLACEMENT

The package conveyor drive-motor brushes should be inspected about two or three times a year to determine if brush replacement is required. Brushes should be replaced before their lengths are reduced to less than 1/4-inch.

The motor brushes are located at the rear end of the motor on opposite sides of the motor. To gain access to the brushes for inspection or replacement, unscrew the brush caps and withdraw the brushes and their compression springs.

4.7 CONVEYOR MOTOR POWER SUPPLY DIODE REPLACEMENT

If the package conveyor will not run, note if Conveyor Motor Fuse holder is illuminated signifying that the fuse has blown (holder is located on the control panel). If the fuse has blown, replace it with a good one. If the conveyor fuse blows again, perform the checks and tests listed in Troubleshooting Section 5, Trouble 3. If this does not clear up the trouble, the probable cause is that the encapsulated power supply diode unit(s) are defective (REC1 and/or REC2 on the schematic diagram). To check the condition of the diode unit, proceed as follows:

a. Shut off the tunnels' MAIN POWER switch. To gain access to the diode units, remove the tunnels' top cover plate by turning the 6 captive retaining screws a quarter-turn counterclockwise. The rear of the tunnel's control panel is now visible. The diode units are located toward the bottom-rear of the panel and are the two 1-1/8-inch square by 3/8-inch thick units with 4 screw-terminals and wires attached to each unit. (Units are marked with the part number TB-1778.)

b. On each diode unit, using pliers, disconnect one AC wire from its terminal and either the plus (+) or the minus (-) wire from its terminal. Let the wires hang free near their terminals without touching the terminals or any nearby items.

c. Using a volt-ohmmeter (such as a Simpson Model 620 or equivalent) set to its R x 1 scale, connect the meter's minus (-) lead to the diode's plus (+) screw terminal, and connect the meter's plus (+) lead to the diode's minus (-) screw terminal. If the diode assembly is good, a meter reading of between 50 to 70 (approx.) ohms should be obtained. If, however, a reading of either approximately 12 ohms or 100 or higher ohms is obtained, the diode unit is defective and should be replaced. This test applies to both of the diode units.

d. If a diode assembly is defective, note the wire numbers of the wires running to each screw terminal and remove and replace the diode unit with a new one. Replace the wires to the proper terminals.

e. Replace the tunnel's top cover plate and secure by turning the captive screws a quarter-turn.

4.8 HEATER BANK REPLACEMENT

If the shrink tunnel will not develop or maintain proper operating temperature, one or both of the electric heater bank may be defective. Before one or both of the heater banks are replaced, however, the following tests should be made.

Refer to Figure 4-1 for component locations and the circuit schematic. Remove the tunnel's top cover plate.

a. Check that in-house power to the tunnel is on.

b. Check that main circuit breaker is operative.

c. Using an Amprobe (or equivalent clamp-on type ammeter) around one of the heater cables to the 2.5 KW heater, a reading of 11 (nominal) amperes should be obtained (at 230 volts input to the tunnel). If no reading, or a substantially lower reading is obtained, the 2.5 KW heater is open or defective and should be replaced.

d. With tunnel power on, turn the thermostat's knob to the highest temperature position. The thermostat's indicating lamp should light., If the lamp does not light, the thermostat is defective and should be replaced.

e. Using an Amprobe (or equivalent) clamp-on ammeter) around one of the heater cables to the 4.5 KW heater, a reading of 19.5 (nominal) ampheres should be obtained (at 230 volts input to the tunnel). If no reading, or a substantially lower reading is obtained, the 4.5 heater bank is open or defective and should be replaced.

f. To replace the heater elements, remove the tunnel's left-side access cover by unscrewing the retaining screws. Remove the sheet-metal screws on the cover of the connection box of the heater bank and remove the cover.

g. Unscrew the terminal lugs and cables to the heater banks. Pull the four heater bank power cables out of the entrance hole.

h. Pull out the heater bank from the tunnel.

i. Push in the new heater bank. Orient the same way as the old heater. The two size banks may be distinguished by the fact that the 4.5 KW bank's heater element wire is a larger diameter than the 2.5 KW element. When replacing, be sure to push in fully as otherwise there will be an air leak which will prevent proper heating and will cause a drop in air velocity.

j. Reconnect the heater bank cables.

k. Replace the sheet-metal heater bank cover, and replace the tunnel's left side access cover.

4.9 REPLACEMENT OF CONVEYOR DRIVE CHAIN AND SPROCKET

After long, continuous service, the drive chain and sprockets may wear and require replacement. To replace either, proceed as follows:

a. Shut off the tunnel's MAIN POWER switch.

b. Remove chain guard "A" (Refer to Figure 4-3) by removing its mounting screws "B".

c. Loosen motor mounting bolts "C" and nut plate "D".

d. Find connecting link of chain and remove it. The chain will be open now. Replace the chain and connecting link by new ones.

e. Loosen the set screw of sprockets "E" and "F" and pull out the sprockets. Replace these sprockets by new ones, if sprocket teeth have wear.

f. Tighten the set screws to secure the sprockets on respective shaft.

g. Put the chain on sprockets and connect the ends by connecting link.

h. Push down the motor to remove excessive sag and secure it by tightening the mounting bolts "C" and nut plate "D".

i. Put the chain guard "A" in place and secure it by mounting screws "B".

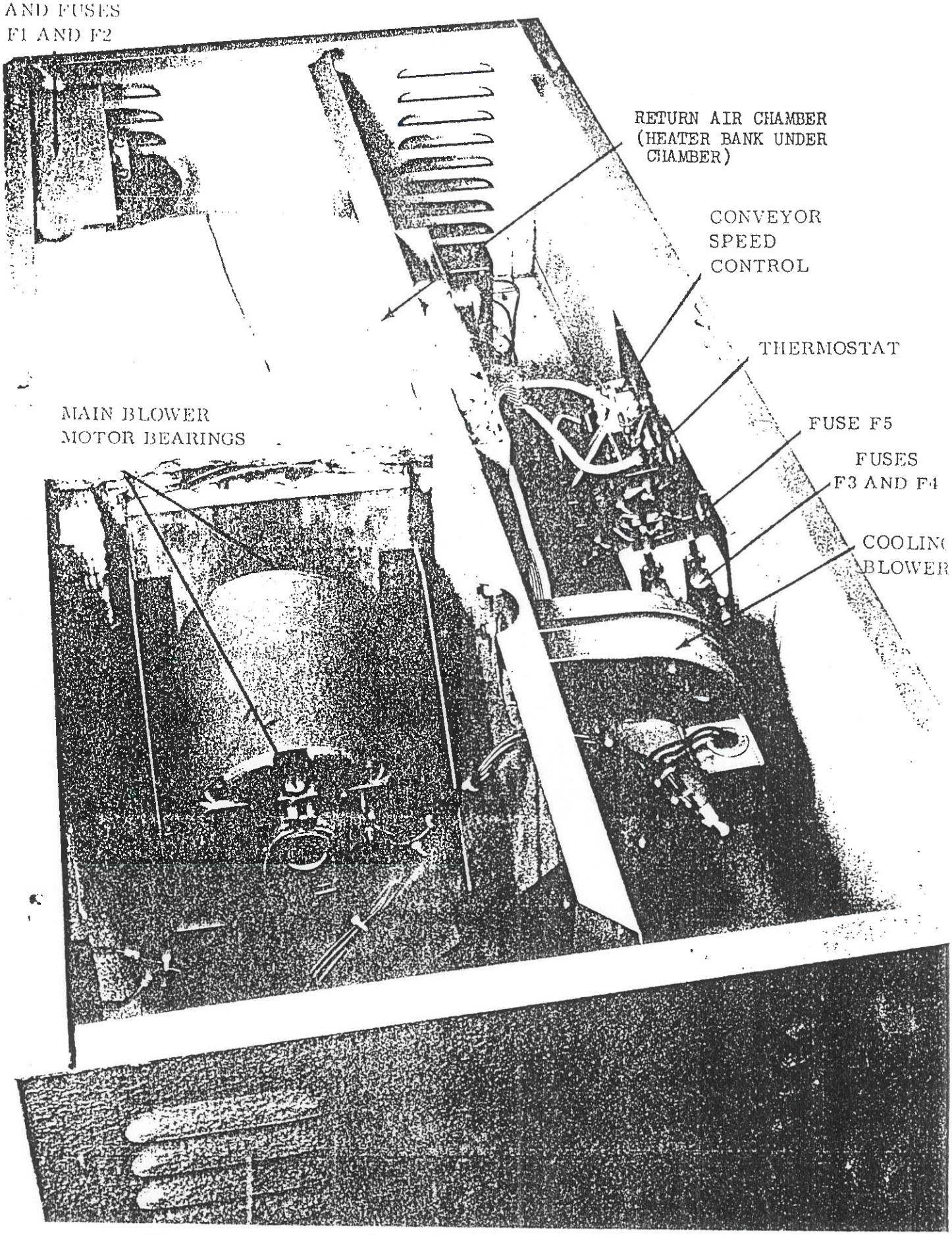


Figure 4-1. Interior View Showing Components

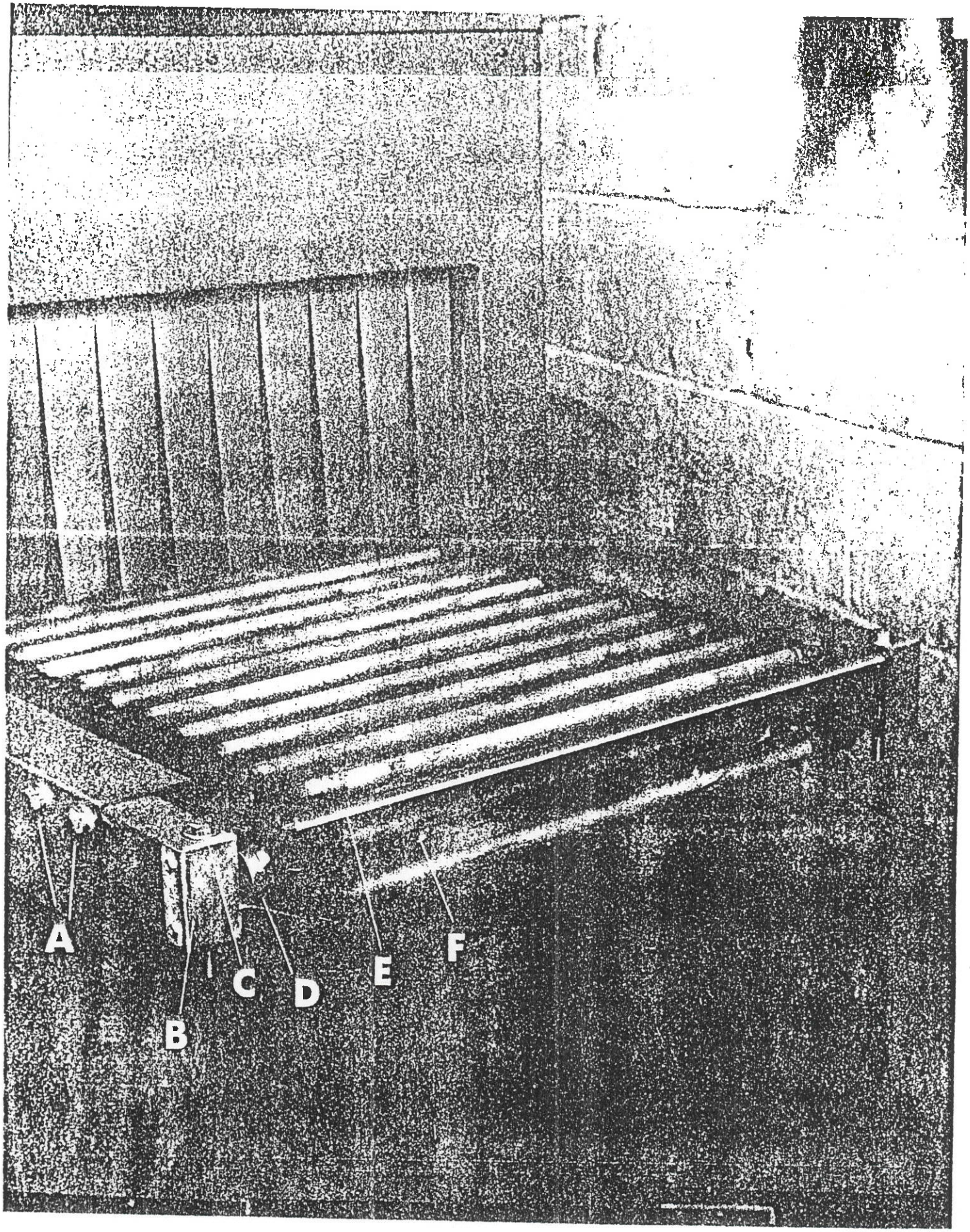


Figure 4-2. Conveyor Maintenance

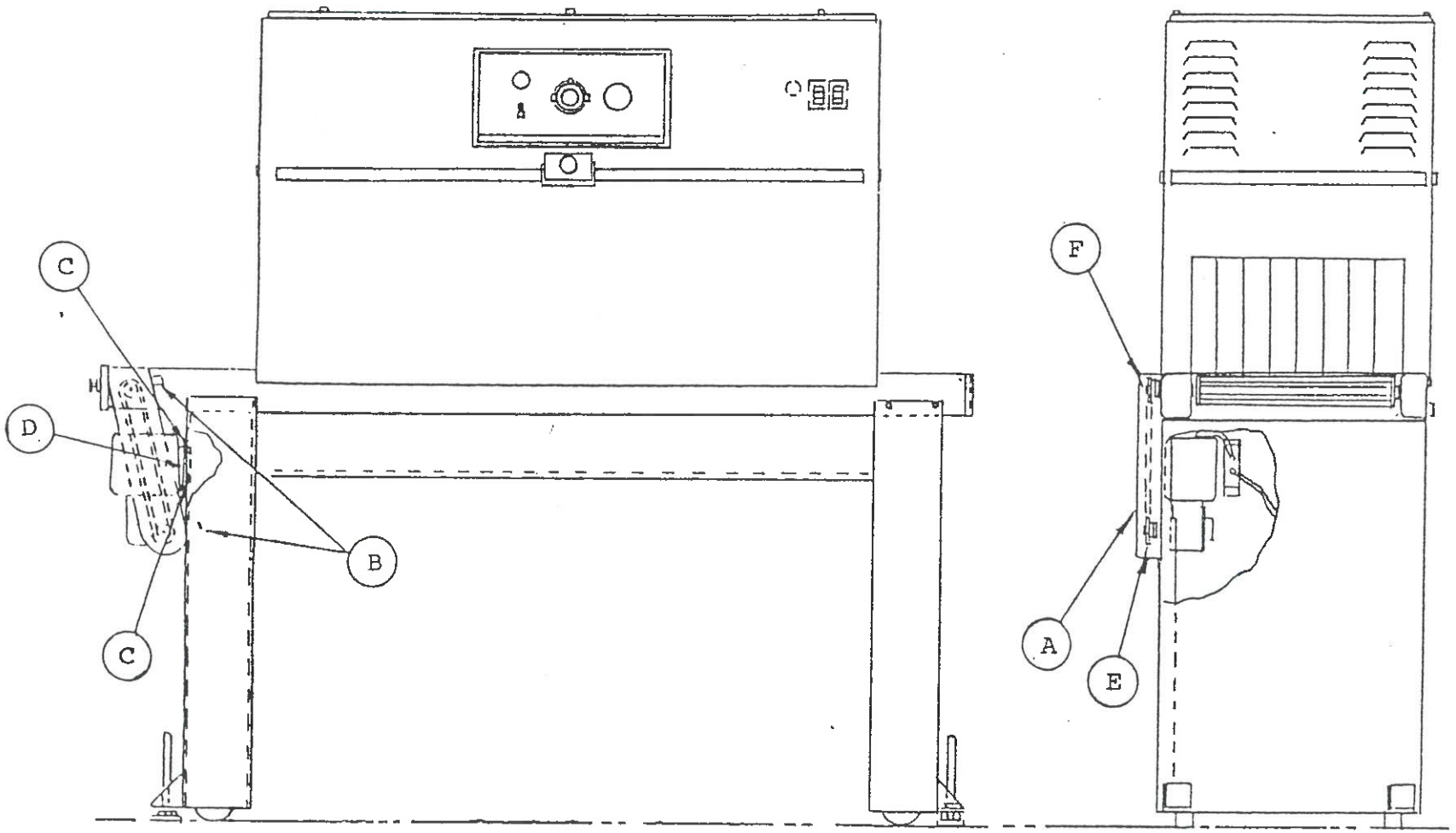


FIGURE 4-3. REPLACEMENT OF CONVEYOR DRIVE CHAIN & SPROCKET

4.9 REPLACEMENT OF CONVEYOR DRIVE CHAIN AND SPROCKET

After long, continuous service, the drive chain and sprockets may wear and require replacement. To replace either, proceed as follows:

a. Shut off the tunnel's MAIN BLOWER switch.

b. Remove chain guard "A" (Refer to Figure 4-3) by removing its mounting screws "B".

c. Loosen motor mounting bolts "C" and nut plate "D".

d. Find connecting link of chain and remove it. The chain will be open now. Replace the chain and connecting link by new ones.

e. Loosen the set screw of sprockets "E" and "F" and pull out the sprockets. Replace these sprockets by new ones, if sprocket teeth have wear.

f. Tighten the set screws to secure the sprockets on respective shaft.

g. Put the chain on sprockets and connection ends by connecting link.

h. Push down the motor to remove excessive sag and secure it by tightening the mounting bolts "C" and nut plate "D".

i. Put the chain guard "A" in place and secure it by mounting screws "E".

5. TROUBLESHOOTING CHART

The following chart is provided to aid in determining the source of troubles which may be encountered. For checking any electrical troubles the use of test equipment such as a small volt-ohmmeter, and an Amprobe (or equivalent) clamp-on type ammeter is required.

In performing the tests and checks which follow, carefully inspect for loose components, wires touching moving parts, broken cables or wires, poor connections, etc. while testing the transformers, switches, motors, etc. Refer to Figure 3-1 for location of controls and adjustments, Figure 4-1 for interior component locations, and the Schematic Diagram.

TROUBLE	PROCEDURE
1. Inadequate film shrinkage.	a. Check that all adjustments are as described in Sections 3.1; 3.2 and 3.3 (as applicable). b. Check that tunnel is not in windy location near fans or other drafts which would lift curtains allowing heat to escape. c. Check for adequate voltage supply to tunnel. d. Check conveyor speed. Maybe too high for particular film and package. Also, temperature setting maybe too low. e. Readjust dampers, temperature, etc. until proper combination is obtained for good shrink, as described in Section 3 et al. f. Check for lack of heat or defective heater coils, as in Section 4.8.
2. Excessive film shrinkage with splitting of packages.	a. Check for proper film type, gauge and condition. b. Check that all adjustments are as described in Sections 3.1; 3.2 and 3.3 (as applicable). c. Check conveyor speed. Maybe too low for particular film and package. d. Poor film seal. Check quality of film seal prior to tunnel entry.

TROUBLE	PROCEDURE
2. (Continued)	e. Conveyor rollers not revolving properly. Check tension adjustment as per Section 4.3 and lubrication as per Section 4.1.2. f. Readjust dampers, temperature, etc. until proper combination is obtained for good shrink, as described in Section 3. et al. g. Make sure that conveyor belt or roller covers are clean, as in Section 4.2, film residue particles could cause film to stick and become cloudy if package movement through heat were erratic due to sticking to dirty rollers, or belt pitting.
3. Conveyor speed erratic or too slow (with or without blowing of conveyor motor fuse F6 on control panel).	a. Remove the conveyor drive chain as described in Section 4.9. Pull conveyor by hand. Conveyor should move freely. If not, check for presence of foreign object jamming conveyor chain, conveyor rollers or conveyor belt. b. Check lubrication as in Section 4.1.2. c. Check conveyor chain tension as in Section 4.3. d. Check condition of conveyor motor brushes, as in Section 4.6. e. Check for worn or binding idler sprockets or shafts, as in Section 4.5. f. Check tension of brush spring on speed control transformer TR-0611.
4. Conveyor does not run and/or blows conveyor motor fuse F6 on control panel.	a. Check all of #3 troubles above. b. Check for defective power supply diodes, as in Section 4.7.
5. No tunnel heat, or low tunnel heat with air blowing.	a. Check for adequate power and voltage from in-house supply. b. Check and make tests as in heater bank replacement of Section 4.8.

6. MODEL 7121A TUNNEL REPLACEMENT PARTS LIST

The replacement parts list on the pages which follow have been prepared to assist in the ordering and stocking of parts needed for normal replacement purposes.

When ordering parts, state part number, part description and machine model number, on which part is to be used. Specify the quantity desired, when needed and desired shipping method.

D-7121A-0001 Main Assembly Model 7121A

ITEM NO.	PART NO.	DESCRIPTION
8	SK-17065	Sprocket
9	SK-17066	Sprocket
18	MR-17161	Motor
20	A-7121-4009	Chain, Conveyor Drive
21	CH-0413	Connecting Link
33	A-7121-4010	Line Cord 1814, Type SJ 300V
34	BU-0101	Bushing, Snap
35	BU-0636	Bushing, Strain Relief

D-7121-0002 Tunnel Sub-Assembly

ITEM NO.	PART NO.	DESCRIPTION
2	B-7121-0007	Control Panel Assembly
4	D-7121-0009	Blower, Motor & Motor Mount Assembly
5	C-7121-0010	End Cover Lower & Curtain Assembly
6	C-7121-0011	Damper Control Assembly
9	B-7121-0102 P3	Moulding Cap
10	B-7121-0102 P4	Moulding Cap
11	MO-0640A	Moulding Cap
14	B-7121-0103	Butterfly Valve
21	PG-1888	Recept .4 wires, 20A, 250V Leviton #5195
22	TR-0403	Transformer, PCR BMS-44
25	KB-1101	Knob
26	BW-0631	Blower
53	BU-0101	Bushing
54	CQ-0778	Wire Joint
55	LG-1053	Lug, Forked
56	LG-0280	Lug
58	CU-1769	Circuit Breaker

6. MODEL 7121A TUNNEL REPLACEMENT PARTS LIST (CONTINUED)

D-7121-0040 Conveyor Assembly

ITEM NO.	PART NO.	DESCRIPTION
2	7121-0029	Take-Up Assembly (Drive Roller)
3	7121-0030	Roller Assembly
5	SK-1317	Sprocket (Drive)
7	A-7121-4008	Chain
8	CH-0682	Chain Conn. Link
13	SK-1062	Sprocket, Idler
14	BU-11436	Bushing
17	PN-17102	Pin, Cotter

7. DRAWINGS AND PARTS LISTS

DESCRIPTION	DRAWING NO.	PARTS LIST NO.
7121A Tunnel Assembly	D-7121A-0001	P/L-7121A-0001
Tunnel Assembly	D-7121-0002 (2 Sheets)	P/L-7121-0002
Conveyor Assembly	D-7121-0040	P/L-7121-0040
7121A Tunnel Schematic	B-7100-200	

PART NO.
PL 7121A-0001
SHEET 1 OF 2

NOTE:
ITEM NO. PRECEDED BY "A" INDICATES SEPARATE PARTS LIST.

MODEL USED ON 7121A

ASSY. USED ON

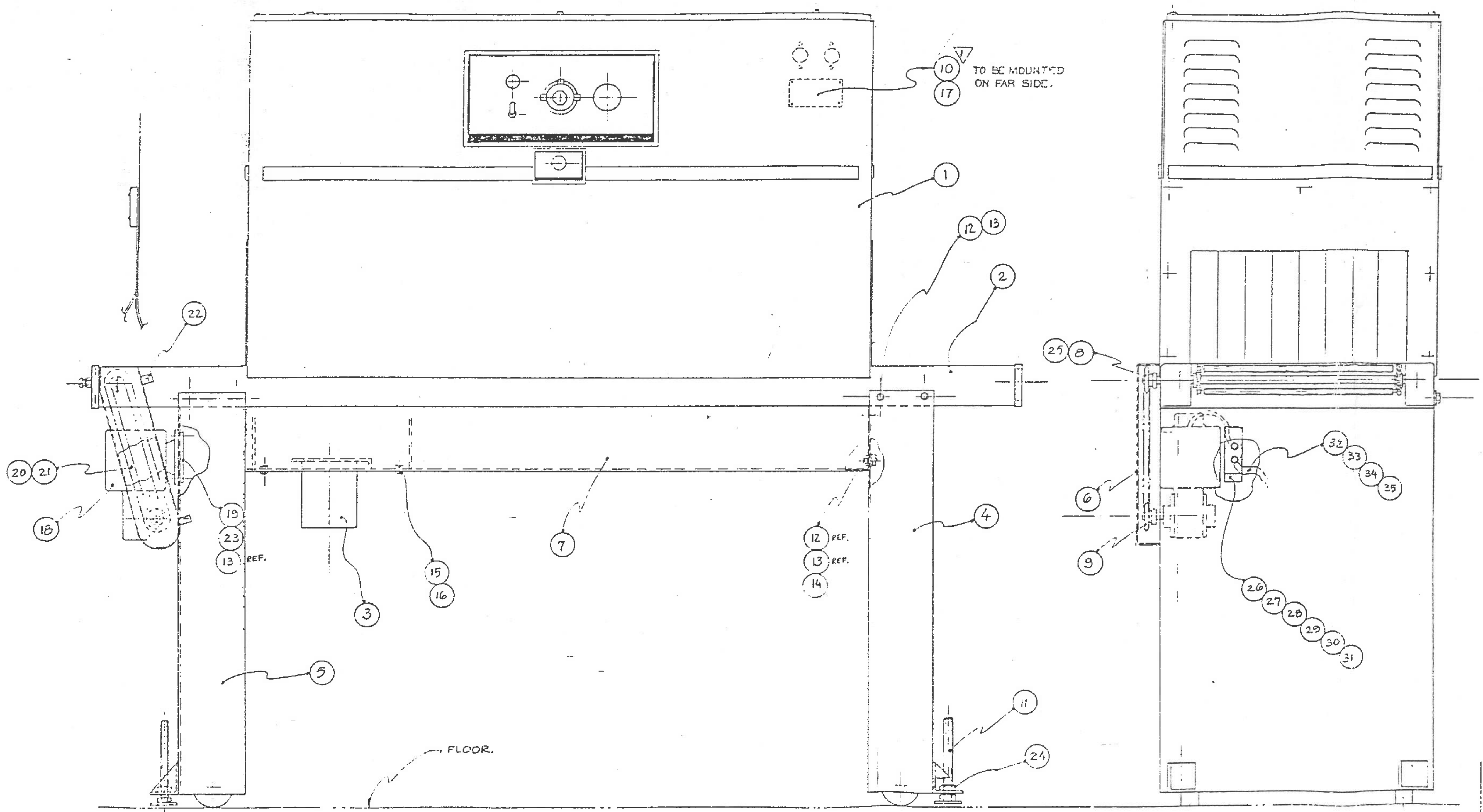
NO. REQ'D PER ASSY.

D 7121A0001 — MAIN ASSEMBLY FOR TUNNEL # 7121A

ITEM	SIZE	PART NUMBER	REV	DESCRIPTION	P/N FINISH	QTY
A 1	D	7121 0002		TUNNEL SUB-ASS'Y	—	1
A 2	D	7121 0040		CONVEYOR ASS'Y.	—	
A 3	P/L	7121 0044		COOLING FAN ASS'Y	—	1
A 4	D	7121 0005		LEG ASS'Y.	PAINT FH 2865	1
A 5	P/L	7121 0401		LEG WELDMENT DRIVE END.	PAINT FH 2865	1
6	D	7121 4002		COVER.	PAINT FH. 2865	1
7	B	7121 0101		SIDE DROP PANEL	PAINT FH 2865	2
8		SK 1706 5		SPROCKET. 40 B11 - 1/2 BOSTON # 36054	—	1
9		SK 1706 6		SPROCKET 40 B 11 - 5/8 BOSTON # 14950	—	1
10	B	LB 1811		NAME PLATE PATENT IDENTIFICATION	—	1
A 11	B	7221 0305		LEVELING PAD WELDMENT ASS'Y.	—	4
12		SS 0067		SCREW. HEX. HD. MACH. # 1/4-20 x 3/4	—	16
13		WA 9186		WASHER, LOCK. # 1/4	—	24
14		NT 0627		NUT. HEX. # 1/4-20	—	8
15		SS 1355		SCREW - HEX. HD. # 8-32. X 1/2 LG.	—	8
16		WA 0692		WASHER FLAT. # 8.	—	8
17		SS 1733		SCREW PAN HD SHT. METAL # 4 X 1/4 LG	—	4
18		MR 1716		GEAR MOTOR BODINE # B530EX-30H TYPE NSH-34RH	—	1
19	B	7121 4004		NUT PLATE	PAINT FH 2865	1
20	A	7121 4009		CHAIN, CONVEYOR DRIVE.	—	1
21		CH 0413		CONNECTING LINK # 40	—	1
22		SS 1676		SCREW PAN HD. MACH. SHEET METAL TYPE A	—	2
23		SS 0190		SCREW HEX. HD. MACH. # 1/4-20 X 1 LG	—	4
24		NT 2784		NUT. HEX. # 5/8-11	—	4
25	A	1600 1133	P2	KEY	—	1
26	B	7121 0167		BOX GROUND	PAINT FH 2865	1
27	B	7100 0202		SCHEMATICS	—	1
28	C	7121 0205		WIRING DIAGRAM	—	1

REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY
NEW RELEASE	4187	Satish	8-27-85											
1	4311	Satish	2-12-86.											

ITEM NO.	NOMENCLATURE



SYM	DESCRIPTION
1	MOVED ITEMS 10 & 17 FROM THE LEFT TO THE RIGHT.
	NEW RELEASE

REVISIONS

TUNNEL ASSY.

D 7121A - 0001

PART NO.
PL 7121A-0001

SHEET 2 OF 2

NOTE:
ITEM NO. PRECEDED BY "A" INDICATES SEPARATE PARTS LIST.

MODEL USED ON

ASSY. USED ON

NO. REQ'D PER ASSY.

D7121A0001 MAIN ASS'Y FOR TUNNEL # 7121A

ITEM	SIZE	PART NUMBER	REV	DESCRIPTION	P/N FINISH
29		SS0340		SCREW BIND. HD MACH. #10-32 x 3/4 LG	—
30		WA2230		WASHER LOCK #10	—
31		NT0287		NUT. HEX. #10-32.	—
32		PG0065		PLUG 4 WIRE 20A 250V EAGLE #E76	—
33	A	7121401 0		LINE CORD	—
34		BU0101		BUSHING SNAP-HEYCO # SB-4375	—
35		BU0636		BUSHING STRAIN. RELIEF HEYCO-GP-3	—
36					

REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY

PART NO. D7121-0002
SHEET 1 OF 3

NOTE: ITEM NO. PRECEDED BY "A" INDICATES SEPARATE PARTS LIST.

MODEL USED ON	7121
ASSY USED ON	D7121-C01F1
NO. REQ'D. PER ASSY.	1

ITEM	SIZE	DWG. NO						LET.	DESCRIPTION	FINISH	P/N	QTY
	D	7	1	2	1	-	002		TUNNEL SUBASSEMBLY	P/N	F1	
A1	D	7	1	2	1	-	0006		TUNNEL WELDMENT		-	1
A2	B	7	1	2	1	-	0007		CONTROL PANEL ASS'Y		-	1
A3	C	7	1	2	1	-	0008		HEATER BOX ASSEMBLY		-	1
A4	D	7	1	2	1	-	0009		BLOWER, MOTOR & MOTOR MOUNT ASSY		-	1
A5	C	7	1	2	1	-	0010		END COVER LOWER & CURTAIN ASS'Y		-	2
A6	C	7	1	2	1	-	0011	1	DAMPER CONTROL ASSEMBLY		-	1
7						-						
~~8~~									~~[illegible]~~			~~2~~
9	B	7	1	2	1	-	0102		MOULD'G CAP (MAKE FROM MD-0640A)	*	F3	4
10	B	7	1	2	1	-	0102		" " (" " " ")	*	F4	1
—				M	O	-	0640A		MOULD'G, ESSEX HDWRE (USED TO MAKE 7121 [illegible])	*		
12												
13	v			P	G	-	1035		RECEPTACLE, 3 WIRE (EAGLE-LOCK) EAGLE #899		-	1
14	B	7	1	2	1	-	0103		BUTTERFLY VALVE		-	1
15	B	7	1	2	1	-	0104		SHAFT (DAMPER)		-	1
A16	C	7	1	2	1	-	0105		AIR RETURN BOX		-	1
17	B	7	1	2	1	-	0106		INSULATION COVER		-	1
18	C	7	1	2	1	-	0107		TOP COVER		-	1
19	C	7	1	2	1	-	0105		BACK COVER, HEATER BOX		-	1
~~20~~	~~B~~	~~7~~	~~1~~	~~1~~	~~0~~	~~-~~	~~196~~		~~COVER, BOTTOM~~		-	-
21	v			P	G	-	1888		RECEPT. 4 WIRE, 20A, 250V - LEVITON # 5195		-	1
22	v			T	R	-	0403		TRANSFORMER, PER BMS-44		-	1
23	v			R	E	-	5990		VARISTOR [illegible]		-	1
24	S			L	B	-	1755		DIAL PLATE, VARIABLE VEL. CONT.		-	1
25	v			K	B	-	1101		KNOB, POINTER		-	1
26	v			B	W	-	0631		BLOWER, GRAINGER # 2C915		-	1
27												
28	v			I	S	-	3739		INSULATION, (1X30X48) J.M. [illegible]		-	1/2

REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO
1	482	DAS	[illegible]	7	707	[illegible]	[illegible]										
2	559	T.O.	[illegible]	8	893	[illegible]	[illegible]										
3	578	RE	[illegible]	9	1702	[illegible]	[illegible]										
4	643	[illegible]	[illegible]	10	[illegible]	[illegible]	[illegible]										
5	688	[illegible]	[illegible]	11	2510	Z.G.	11-5-81										
6	732	[illegible]	[illegible]	12	—	Satish	3-85										

PART NO. PL 7121-002.
SHEET 5 OF 5

NOTE:
ITEM NO. PRECEDED BY "A" INDICATES SEPARATE PARTS LIST.

MODEL USED ON	7121
ASSY USED ON	DT121 -00111
NO. REQ'D. PER ASSY.	1

ITEM	SIZE	DWG. NO.	LET.	DESCRIPTION	FINISH	P/N	QTY
						P/N	
58	V	CU-1769		CIRCUIT BREAKER		-	1
59	V	CO-0609		CONN. CABLE CLAMP 3/4		-	1
60	B	E58-155		BRACKET		-	1
61	V	WA-0692		#8 WASHER, FL.		-	2
62	V	SS-0536		RD HD. SCREW #8-32 x 7/8 LG		-	2
				OPTIONALS			
1	C	7121-0810		CIRCUIT BREAKER Box Assy. FOR: 208, 230V - 3PH MACHINE USED ON TD-2131			OPTIONAL
A2	B	TD-1533-0010	P1	INTERNAL WIRING KIT.			1
A3	B	TD-1533-0010	P2	INTERNAL WIRING KIT.			1

REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	B

PART NO.
PL 7121-0040
SHEET 1 OF 2

NOTE:
ITEM NO. PRECEDED BY "A" INDICATES SEPARATE PARTS LIST.

MODEL USED ON

ASSY. USED ON

NO. REQ'D PER ASSY. 1

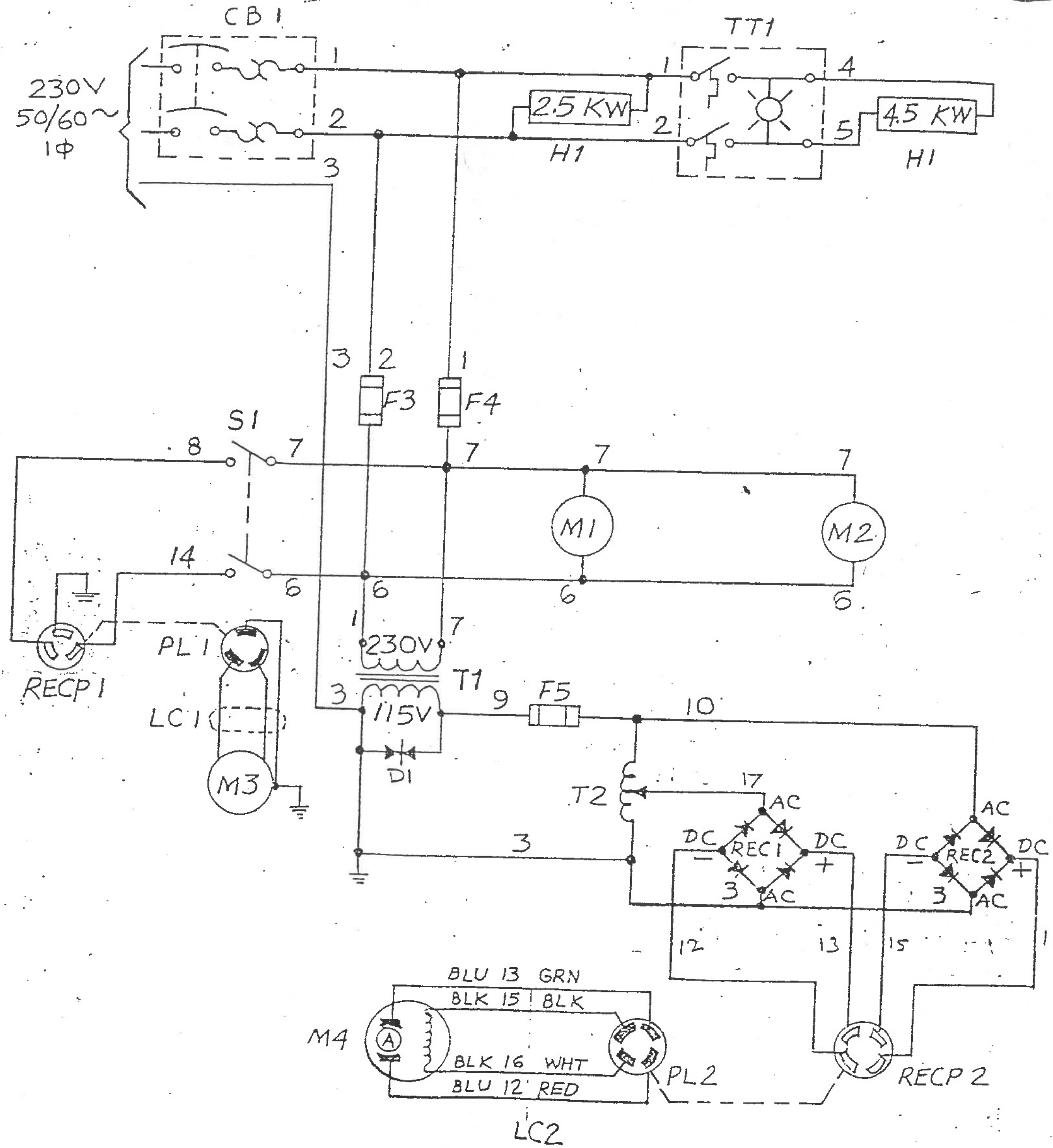
ITEM	SIZE	PART NUMBER	REV	DESCRIPTION	P/N FINISH	QTY
	D	7121004D		CONVEYOR ASS'Y.		
A 1	P/L	7121040 2		ASS'Y CONVEYOR WELDED FRAME	PAINT FH 2865	1
A 2	B	7121 0029		TAKE-UP ASS'Y (DRIVE ROLLER)	—	2
A 3	B	7121 0030		ROLLER ASS'Y.	—	9
A 4	C	7121 0031		ROLLER SUPPORT ASS'Y	PAINT FH 2865	1
5		SK1317		SPROCKET, DRIVE. BOSTON # KSB 12-2	—	2
A 6	B	7121 0041		ROLLER SKID ASS'Y	—	2
7	A	7121 4008		CHAIN, CONVEYOR	—	2
8		CH0682		CHAIN CONN. LINK HEWITT ROBINS # MJ-40CL	—	2
9	B	7121 0163	P1	COVER END	PAINT FH 2865	1
10	B	7121 0163	P2	COVER END	PAINT FH 2865	1
11	A	7121 4005		DRIVE SHAFT.	BLACK OXIDE	1
12	B	7121 0165		SHAFT, IDLER (END)	BLACK OXIDE	1
13		SK1062		SPROCKET, IDLER. 12T x 1/2P	—	2
14		BU1143 6		BUSHING. BRONZE B.1012-7	—	2
15	C	7121 0168		RAIL.	BLACK OXIDE	2
16	A	7121 4007		TIEROD.	ZINC PLATE	9
17		PN1710 2		PIN. COTTER, CHISEL POINT 3/64 DIA X 1/4 LG ZINC PL.	—	18
18		WA0692		WASHER - FLAT. # 8	—	18
19	B	7121 0235		IDLER ROLL INTERMED.	—	1
20	B	7121 0190		EXTENSION, CONVEYOR FRAME, DRIVE END	PAINT FH 2865	1
21	A	7121 0191		EXTENSION, CONVEYOR FRAME. CENTRE	PAINT FH 2865	1
22	A	7121 0192		EXTENSION, CONVEYOR FRAME INFEED R.H	PAINT FH 2865	1
23	A	7121 0193		EXTENSION, CONVEYOR FRAME INFEED L.H	PAINT FH 2865	1
24	C	7121 0231	P1	IDLER ROLLER EXT. R.H.	PAINT FH 2865	1
25	C	7121 0231	P2	IDLER ROLLER EXT L.H.	PAINT FH 2865	1
26	B	7121 0232		NUT PLATE	CAD PLATE	2
27	B	7121 0233		END CAP	PAINT FH 2865	2
28	B	7121 0243		PIVOT COLLAR.	—	2

REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY
NEW RELEASE	4187	Satish	8-27-85											
1	4311	Satish	2-12-86											

PART NO.	NOTE:	MODEL USED ON	7121 A
PL 7121-0040	ITEM NO. PRECEDED BY "A" INDICATES SEPARATE PARTS LIST.	ASSY. USED ON	P/L 7121 A-0C
SHEET 2 OF 2		NO. REQ'D PER ASSY.	1

	SIZE	PART NUMBER	REV	DESCRIPTION	P/N FINISH	QTY
	D	7121 0040		CONVEYOR ASS'Y.		
29		SS13722		SCREW, SHT. METAL PAN HD. # 8-32 x 1/2 LG	–	6
30		SS01900		SCREW HEX, HD. CAP # 1/4-20 x 1 LG.	–	2
31		SS09566		SCREW, HEX. SOC. SET # 1/4-20 x 1/4 LG.	–	4
32		SS16766		SCREW, SHT. METAL, PAN HD #6-32 x 1/2	–	16
33		SS07633		SCREW SHT. METAL FLAT HD. #8-32 x 5/8	–	8
34		PN16122		ROLL PIN 1/8 DIA x 1 LG.	–	2
35		WA03611		WASHER, FLAT # 1/4	–	8
36		WA08377		WASHER, FLAT # 5/16	–	10
37		NT01999		NUT HEX # 5/16-18	–	4
38		SS20999		SCREW HEX HD. MACH. # 5/16-18 X3 LG.	–	2
39		SS12988		SCREW HEX. HD. MACHINE. # 5/16-18 X 1/2	–	4
40		WA01955		WASHER, LOCK # 5/16	–	4
41		SS19555		SCREW, SOC. HD. CAP. # 6-32 x 3/8 LG.	–	2
42		SS05755		SCREW, # 1/4-20 x 1/2 ROUND HD.	–	6

REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY	DATE	REV	ECO	BY



PARTS LIST

WELDOTRON CODE NO	ITEM NO	NOMENCLATURE	NO REQ
FZ1658	F3, F4	FUSE 10A, 250V, SLOW-BLOW, FUSETRON # FRN 10	2
FZ1216	F5	FUSE-1A, 110V, SLOW BLOW, LITTELFUSE, 3AG # 313001	1
MR0711	M1	MOTOR 50~	1
MR0265		60~	1
BW0631	M2	MOTOR, COOLING BLOWER 1/30 HP, 3020RPM, 230V, DAYTON # 2C915	1
MR1036	M3	MOTOR, FAN-1/20 HP, 1500RPM, 230V, 60~, DAYTON # 3M001	1
MR2416	M4	MOTOR, CONVEYOR-1/15 HP, 57RPM, 115VDC-BODINE # B-2410-30H	1
CU1769	CB1	CIRCUIT BREAKER	1
SW1304	S1	TOGGLE SWITCH, DPST, 10A, 250V, CARLING # 2X467	1
CO0607	TT1	TEMPERATURE CONTROL, WELDOTRON DWG NO A-MS85	1
TR0403	T1	TRANSFORMER, WELDOTRON DWG NO B-MS44	1
TR0611	T2	TRANSFORMER-VARIABLE, 0-120V, .231KVA, STACO # 171BU	1
HT0683	H1	HEATER BANK, 7KW, 225V, 1Φ, WELDOTRON DWG NO BMS106	1
TB7025	REC 1,2	D.C. POWER SUPPLY	2
PG0588	PL1	PLUG, 3 WIRE, 20A, 250V, EAGALOCK - EAGLE # 825	1
PG1035	RECP1	RECEPT. 3 WIRE, 20A, 250V, EAGALOCK - EAGLE # 899	1
PG1888	RECP2	RECEPT. 4 WIRE, 20A, 250V, LEVITON # 5195	1
CR0310	LC1	LINE CORD - 14/3 TYPE "SJ", 300V	4 FT
CR2078	LC2	LINE CORD - 18/4, TYPE "SJ", 300V	6 FT
PG0065	PL2	PLUG, 4 WIRE, 20A, 250V - EAGLE # 876	1
RE5990	D1	VARISTOR	1

CURRENT RATING 34 AMPS

USED ON FWO # 21288

REVISIONS

SYM	DESCRIPTION	ECO NO.	DATE/BY
10	ADDED "D1"; TB7025 WAS TB4671	1805A	GA 6-2-76
9	REMOVED RE-2442	1753	DC 1/26/76
8	REMOVED CAP 1 & 2 CC2392 (.01uf @ 300V 2 REQ'D)		1-22-74
7	REDRAWN	NC ECO	6/24/74

DRN. S.R. KASAT — DATE 6/24/74
CHK. — DATE
APP. J. Chandler — DATE 6/24/74
MAT'L
FINISH

weldotron corporation

TITLE: SCHEMATIC DIAGRAM
BENCH TUNNEL
7100 SERIES
230V, 50 OR 60 C/S, 1 PH.

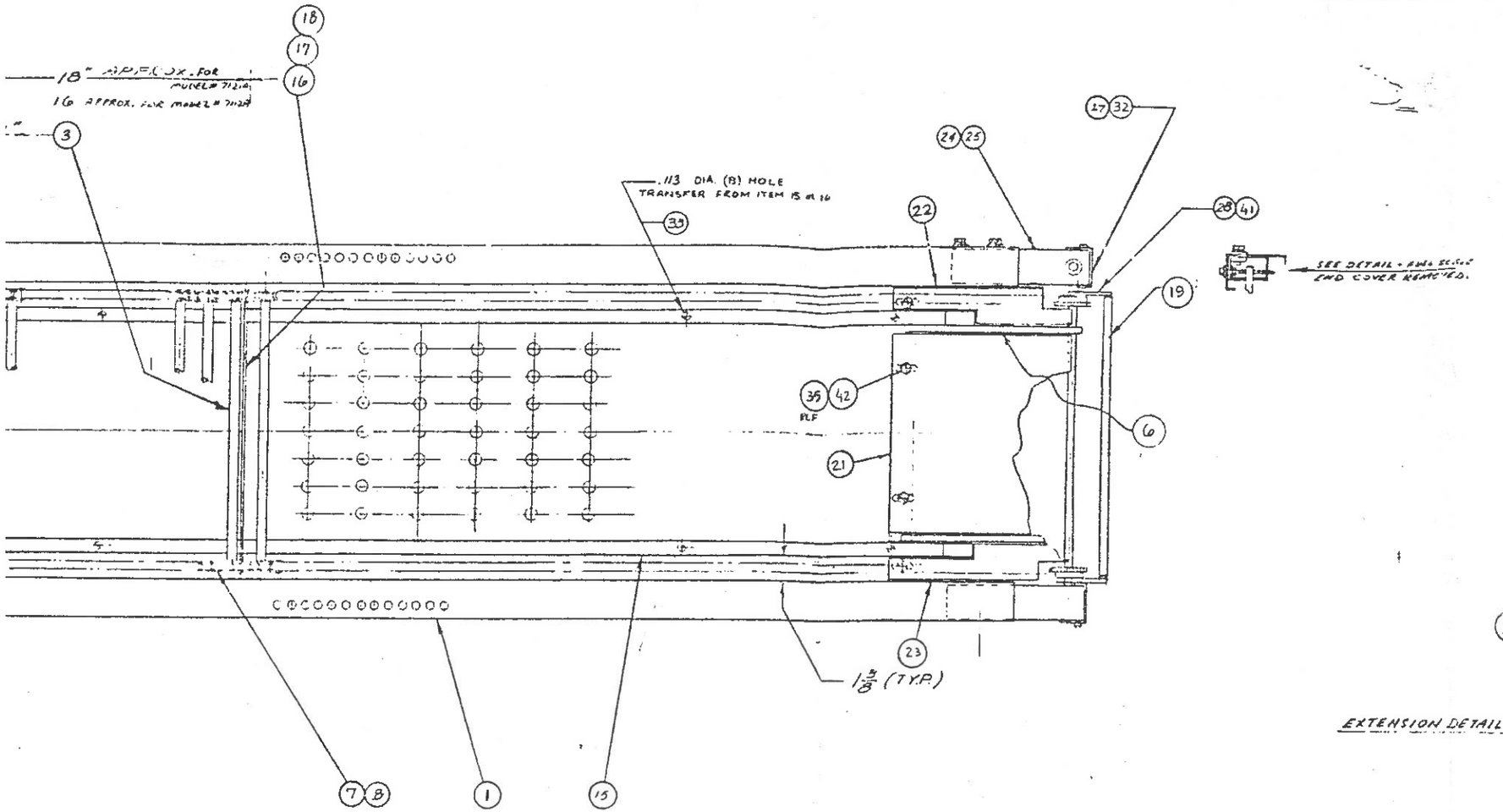
TOL. UNLESS SPECIFIED: FRA ±1/64, DEC ±.005, ANGLE ±1/2°

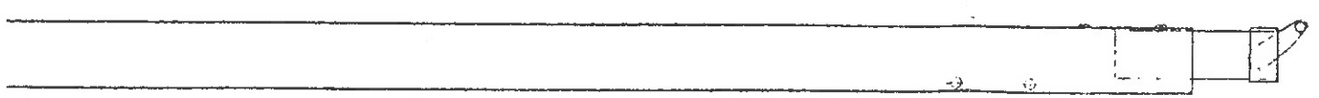
PART NO.	MODEL NO.	NEXT ASSEMBLY	NO REQ'D PER MACH

SCALE | SIZE: B | PART NO.: 7100-2001 | REV.: 10

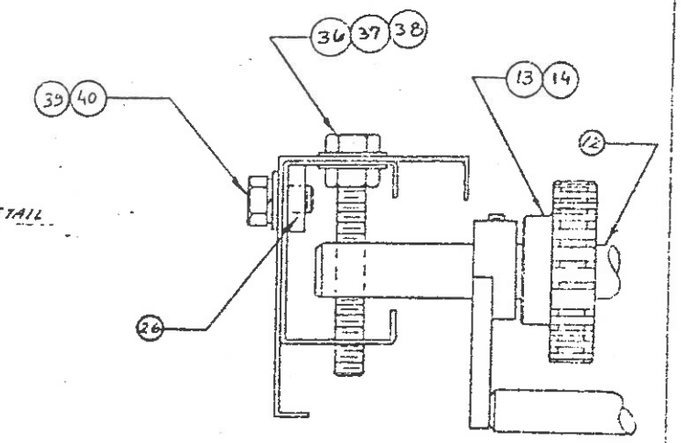
B 7100-20 10

PARTS LIST		
ITEM NO.	NOMENCLATURE	NO REQ





EXTENSION DETAIL



D 7121A 0010

LIMITED WARRANTY AND DISCLAIMER

WELDOTRON CORPORATION warrants to the original Buyer that, except as to expendable items such as elements, tapes, fuses, etc., all equipment and parts manufactured by WELDOTRON shall be free from defects in material or workmanship for a period of ninety (90) days from the date of shipment (the "warranty period"). The extent of WELDOTRON'S liability under this warranty is limited solely to the repair or replacement of any such defective part at no charge to Buyer, except for the costs of freight and installation which shall be borne by Buyer, and provided that Buyer shall, if WELDOTRON so requests, return any such defective part to WELDOTRON, freight prepaid, for inspection and determination by WELDOTRON as to the nature of the defect.

Notwithstanding the foregoing, WELDOTRON shall be relieved of all liability and obligations under the warranty set forth herein if:

a. The equipment is used, operated or maintained in any manner other than in accordance with WELDOTRON'S instructions and recommended maintenance procedures as set forth in the operating manual which shall be shipped with the equipment;

b. The equipment is misused, abused or neglected in any way;

c. The equipment is altered, modified or changed, or any additional part is installed, unless WELDOTRON shall have previously consented in writing to such alteration, modification, change or installation;

d. The equipment is operated with any additional accessory or part, whether or not WELDOTRON is the manufacturer thereof, unless WELDOTRON shall have previously consented in writing to the operation of the equipment with such accessory or part;

e. Any materials, packages, containers, pallets or loads which are to be conveyed and/or wrapped are not in a condition to permit their being properly handled by the equipment;

f. The equipment is serviced or repaired by any person not previously approved by WELDOTRON in writing; or

g. The Buyer fails to notify WELDOTRON in writing of any defect, breakdown, accident or malfunction of the equipment within seven (7) days of the discovery of such defect or the occurrence of such breakdown, accident or malfunction.

With respect to component parts not manufactured by WELDOTRON and as to which WELDOTRON is the beneficiary of any warranty, Buyer shall have, for a period of one (1) year from the date of shipment of the equipment to Buyer, whatever rights and remedies, if any, that are available to WELDOTRON with respect to such warranty, provided that Buyer shall fully reimburse WELDOTRON for all costs of enforcing such warranty.

Except for the express warranty set forth above that the equipment shall be free of any defects in material or workmanship during the warranty period:

a. No affirmation of fact or promise by WELDOTRON with respect to the capacity, suitability or performance of the equipment, whether or not such affirmation or promise is set forth herein, shall constitute any type of warranty as to the equipment, and

b. THERE ARE NO ADDITIONAL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

Except as specified by WELDOTRON in writing, WELDOTRON does not warrant that the equipment, as manufactured, conforms to any particular insurance regulations or electrical codes or that the equipment contains any particular safety features. Buyer assumes full responsibility for compliance with all applicable statutes, codes and regulations, whether federal, state or local.

Under no circumstances shall WELDOTRON have any liability for any type of incidental or consequential damages arising from the use, loss of use or defective performance of the equipment. WELDOTRON'S liability is expressly limited to the repair or replacement of defective parts.

This Limited Warranty extends only to the original buyer and is not transferable to subsequent owners, purchasers or possessors of the equipment.

1532 So. Washington Avenue (at I-287)
Piscataway, New Jersey 08854
Telephone: (201) 752-6700 (212) 227-6663
TWX 710-997-9502

weldotron®