



ISO 9001 : 2000 REGISTERED

10 SUNNEN DRIVE, ST. LOUIS, MO/U.S.A. 63143
PHONE (314) 781-2777 FAX (314) 781-3636

**OPERATOR'S MANUAL
HOLMAN CONVEYOR OVENS
MODEL 210HX, 214HX**

**FOR SERVICE INFORMATION
CALL YOUR LOCAL DEALER**

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UNCRATING AND INSPECTION

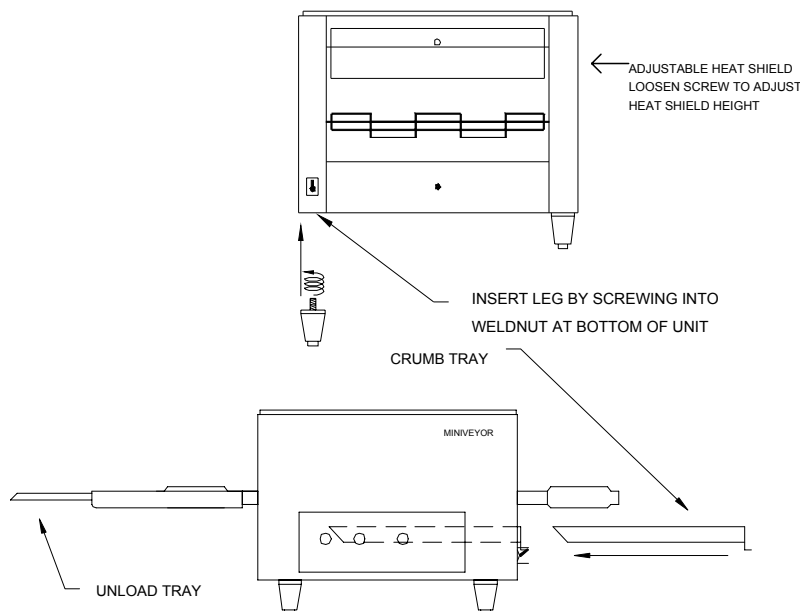
Unpack unit and components from container. Remove all visible packing material, inspect unit for damage. If damage is discovered, file a claim immediately with the carrier that handled the shipment.

The following should be included in the container:

- A. 1ea. oven with heaters and conveyor belt in place and 1ea Stainless Steel Unload Tray.
- B. 4ea. 2 1/2" metal legs.

ASSEMBLY AND INSTALLATION

- A. Attach legs by screwing into weld nuts, as shown below.



- B. Install unit in its operating position. The load & unload ends must be at least 6" from any vertical combustible surfaces. Allow sufficient space for operating personnel. Level by adjusting legs on counter supported units.

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Assembly and Installation Cont.

SAFEGUARDS

- C. All electrical outlets and connections must be in accordance with local electrical codes.

WARNING: MAKE SURE ALL INPUT POWER IS OFF BEFORE INSTALLING OR REMOVING ANY PARTS.

WARNING: BE ABSOLUTELY SURE THE GROUND CONNECTION FOR THE RECEPTACLE IS PROPERLY WIRED. NEVER CONNECT UNIT TO POWER WITHOUT PROPER GROUND CONNECTIONS. IMPROPER GROUND MAY RESULT IN SEVERE INJURY OR FATALITY.

WARNING:

Before connecting, check that the voltage on the rating label is the same as the main supply.

To protect against electric shock, do not immerse any part of this product in water or other liquid.

Unplug from outlet or disconnect from supply when not in use and before cleaning. Allow to cool before removing or installing parts.

Do not operate any appliance with a damaged cord or plug. Do not allow cable to touch hot surfaces, or to hang over edge of a table or counter top.

When in use a fire may occur if the toaster is touching flammable material. If using close to a wall, ensure this is clad with a non-combustible material and adheres to fire prevention regulations.

Correct replacement for detachable fuse is determined by the colour coding at the base of the plug. Never use a plug without the fuse cover fitted. Ensure replacement fuse is the same current value as the original. Replacement fuses should be ASTA approved to BS 1362.

When operating, do not leave appliance unattended. Do not use outdoors.

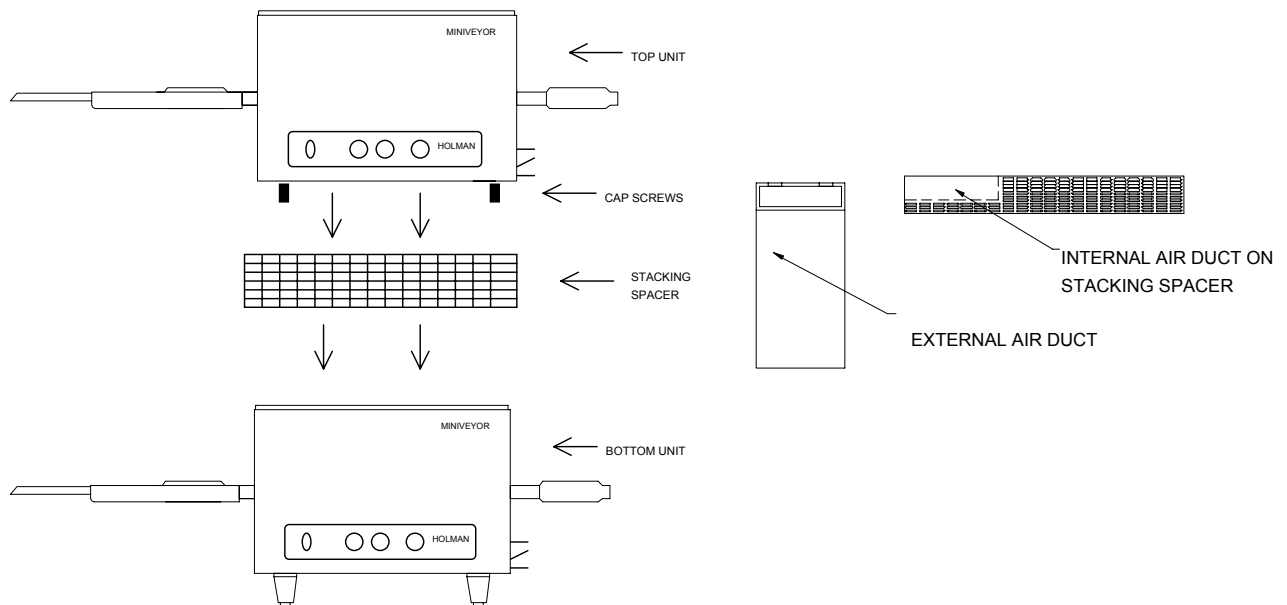
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Assembly and Installation Cont.

D. Stacking Ovens

When stacking two HOLMAN Miniveyor ovens a stacking spacer with external air duct must be used to prevent overheating of the control box in the top oven.

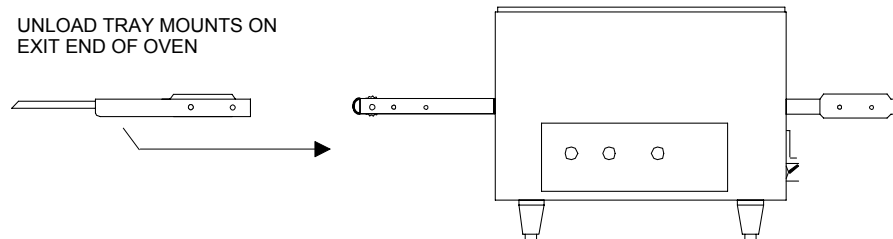
- 1). Place stacking spacer on top of bottom oven with internal air duct facing up and toward the rear of the oven.
- 2). Mount external air duct on stacking spacer as shown below. External air duct must be installed for cooling system of top unit to function properly.
- 3). Screw cap screws (4ea.) into leg holes on top oven.
- 4). Place top oven on stacking spacer. Cap screws will set into cut outs in top of stacking spacer to lock unit into position. **(NOTE) Air intake of top unit must fit over the internal air duct of stacking spacer to allow airflow into the control box of the top oven**



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Assembly and Installation Cont.

- E. Before applying input power to the unit(s) check heating elements for breakage. Do not apply power to the unit(s) if a broken tube is found. If no broken tubes are found apply input power by switching the master on/off toggle to the ON position. Turn both heat controls and conveyor belt speed control to the maximum setting and check all heater tubes and conveyor for proper operation.
- F. Allow approximately 5 to 8 minutes for the fan cooling system to come on, check the air intake area as noted below and be sure that there is a sufficient flow of air into the control box.
- G. If all heaters and conveyor system are operating properly, switch the master On/Off switch to the OFF position and allow unit to cool, the fan will continue to circulate cool air through the unit until the internal temperatures have decreased.
- H. If a problem is discovered during start up procedures, immediately switch the Master On/Off switch to the OFF position and call the your dealer's service Department for assistance.
- I. Install unload tray as shown below.



OPERATION

- A. Switch Master On/Off switch to the ON position and turn top and bottom heat controls to 500F, turn conveyor speed control to maximum setting.
- B. Allow 10 to 15 minutes for unit(s) to heat up.

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OPERATION CONT.

- C. Baking in these units is a combination of heat and belt speed. Some foods may require more top heat than bottom heat; other foods may require low top and bottom heat and slow belt speeds. Every product should be tested using the separate top and bottom heat controls and the variable speed control to arrive at the correct balance of heat and belt speed. When changing heat and/or belt speed settings allow approx. 5 minutes for the oven to stabilize itself.

COOKING PROCEDURES

THE FOLLOWING SUGGESTED SETTINGS FOR THE VARIOUS PRODUCTS LISTED ARE INTENDED TO ASSIST THE USER OF THESE OVENS WITH ARRIVING AT THE CORRECT BALANCE OF HEAT AND SPEED. SOME ADJUSTMENTS MAY HAVE TO BE MADE TO BOTH HEAT AND SPEED DEPENDING ON PRODUCT FRESHNESS, THICKNESS AND DENSITY.

<u>PRODUCT</u>	<u>TOP HEAT</u>	<u>BOTTOM HEAT</u>	<u>BELT SPEED</u>
PIZZA			
12" BLANCHED	300F	400F	6 MINUTES
SANDWICHES			
MEAT/CHEESE	450F	300F	4 MINUTES
MEATBALL	500F	350F	2 MINUTES
BAGEL (OPEN)	500F	400F	2 MINUTES
COOKIES			
1 Oz	200F	250F	10 MINUTES
GARLIC BREAD			
LIGHTLY SEASONED	500F	500F	2 MINUTES
FISH			
SIZZLE PLATTER	400F	500F	6 MINUTES

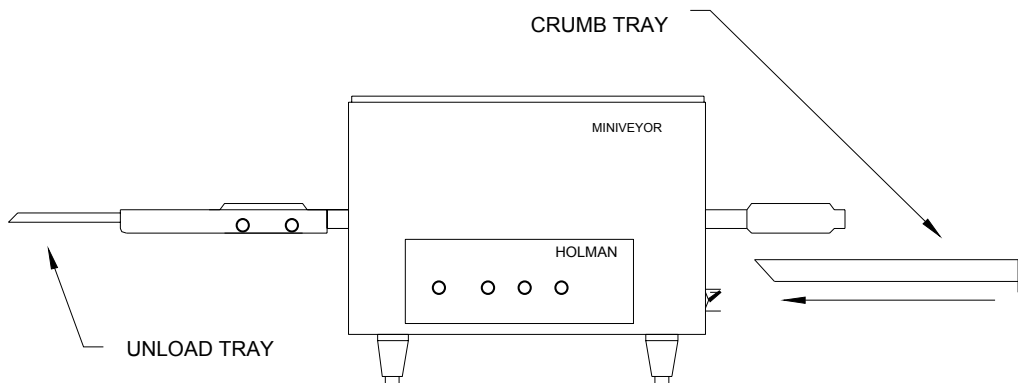
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CLEANING PROCEDURES

Preventive maintenance for your HOLMAN oven consist of the following recommended cleaning procedures. To keep your oven in its top operating condition, these steps should be performed daily or weekly as indicated.

WARNING: HIGH VOLTAGES ARE PRESENT IN THESE UNITS. BE SURE ALL INPUT POWER IS **OFF** BEFORE SERVICING OR CLEANING UNIT.

- A. Remove unload tray.
- B. Remove the crumb tray by sliding out from beneath front extension.



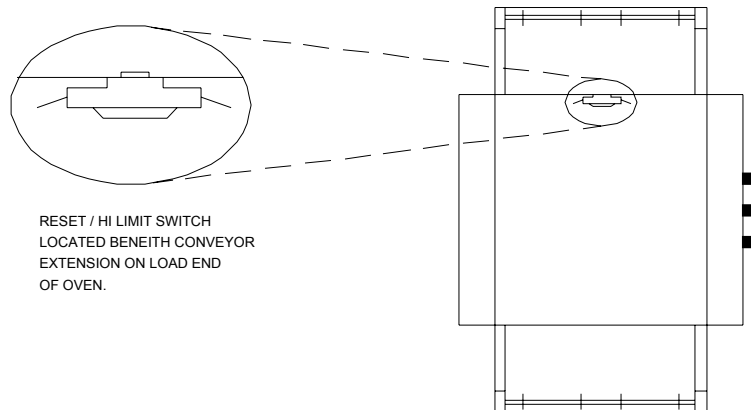
- C. For lightly soiled conveyor surfaces a damp cloth or dry scotch pad can be used without removing the conveyor belt. (daily)
- D. For heavily soiled conveyor surfaces disconnect and remove the conveyor and soak in hot soapy water overnight (as required).
- E. Check air intake area for dust and grease. To clean, remove the control box cover and wipe with a damp cloth.
- F. Re-assemble unit and check to be sure it is operating properly. Call your dealer's service department if the unit is not operating properly.

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TROUBLESHOOTING GUIDE

- A. UNIT WILL NOT HEAT, CONVEYOR WILL NOT TURN.
1. Be sure main circuit breaker is switched to the ON position and there is power at the outlet.
 2. Check to see that the unit is connected to power and Master On/Off is switched to the ON position.
 3. Press Heat Limit Reset Button located on the front section of the control box as shown. If this reactivates the heater tubes, see section C below.
- B. UNIT WILL NOT HEAT, CONVEYOR TURNS PROPERLY.
1. Check to see if top and bottom heat controls have been turned to the maximum setting.
 2. Call your dealer's service department.
- C. HEAT LIMIT SWITCH

Your HOLMAN conveyor oven is equipped with an automatically activated temperature limit switch which interrupts the heater tube connections if the air temperature in the control box exceeds 190F (88C). This limit switch can be reset manually by pushing the button in the center of the switch below.



THE HEAT LIMIT SWITCH CAN BE ACTIVATED IF THERE IS NOT A PROPER AMOUNT OF AIRFLOW BEING GENERATED BY THE COOLING FAN. IF THIS OCCURS:

1. DISCONNECT UNIT FROM POWER SOURCE.
2. Check to see if air intake area (openings in bottom center of control box) is free of dust, grease or other obstructions.
3. Check to see if the crumb tray is in place.

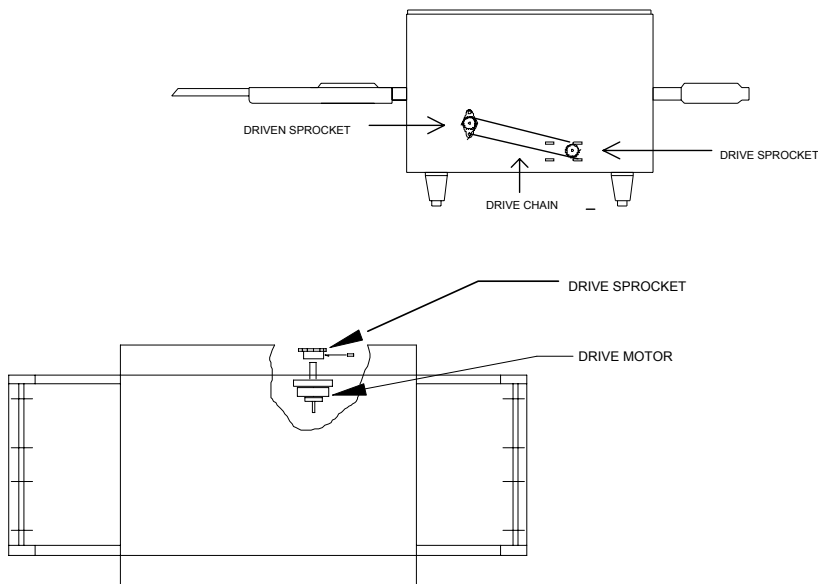
NEVER OPERATE UNIT WITHOUT CRUMB TRAY IN POSITION.
THIS CAUSES OVERHEATING AND THE OVEN WILL SHUT DOWN.

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TROUBLESHOOTING GUIDE CONT.

D. CONVEYOR WILL NOT TURN, UNIT HEATS PROPERLY.

1. DISCONNECT UNIT FROM POWER SOURCE.
2. Check to see if there are obstructions in the conveyor system that may cause a jam.
3. Check input power supply for loose or disconnected wires.
4. Remove rear panel. Remove drive chain and manually move conveyor belt to check for mechanical binding. If conveyor moves freely, call your dealer's service department. The drive motor and/or speed control may have to be replaced.



E. CONVEYOR TURNS AT ONE SPEED REGARDLESS OF SPEED CONTROL SETTING.

1. Call DUALIT service department for assistance. The conveyor speed control may have to be replaced.

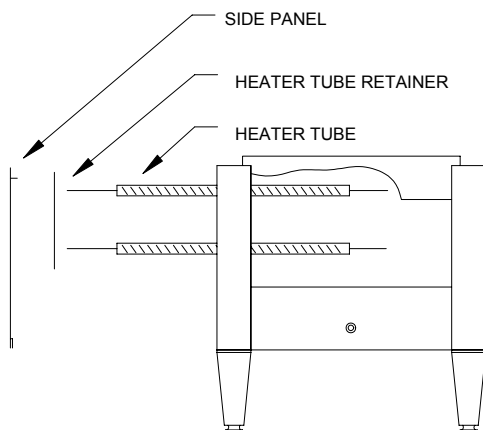
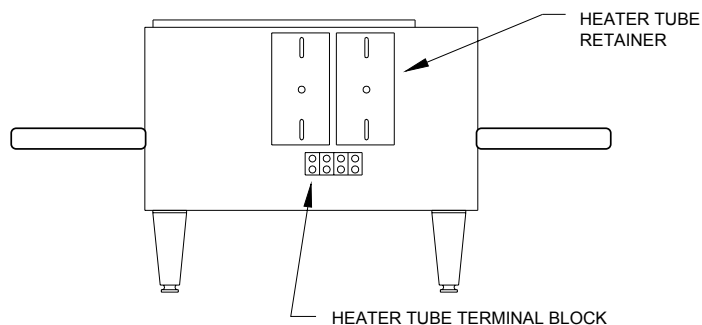
F. COOLING FAN DOES NOT START.

1. Remove control box cover and check fan blade for obstructions.
2. Call DUALIT Service Department. The fan switch and/or fan motor may have to be replaced.

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MAINTENANCE PROCEDURES

- A. REPLACING HEATER TUBES (see below)
1. DISCONNECT UNIT FROM POWER SOURCE.
 2. Remove front and rear panels by removing the truss head screws on each panel. Pull the top of each panel out slightly and lift up.
 3. Disconnect wires for heater tube to be removed from terminal block.
 4. Remove heater tube retainer (one side only) by removing retainer screw with washer.
 5. GENTLY, pull old heater tube out of unit.
 6. GENTLY, place new heater tube into unit.
 7. Replace heater tube retainers.
 8. Reconnect heater tube wires to terminal block.
 9. Replace panels and test unit for proper operation. Call your dealer's service department for assistance if required.

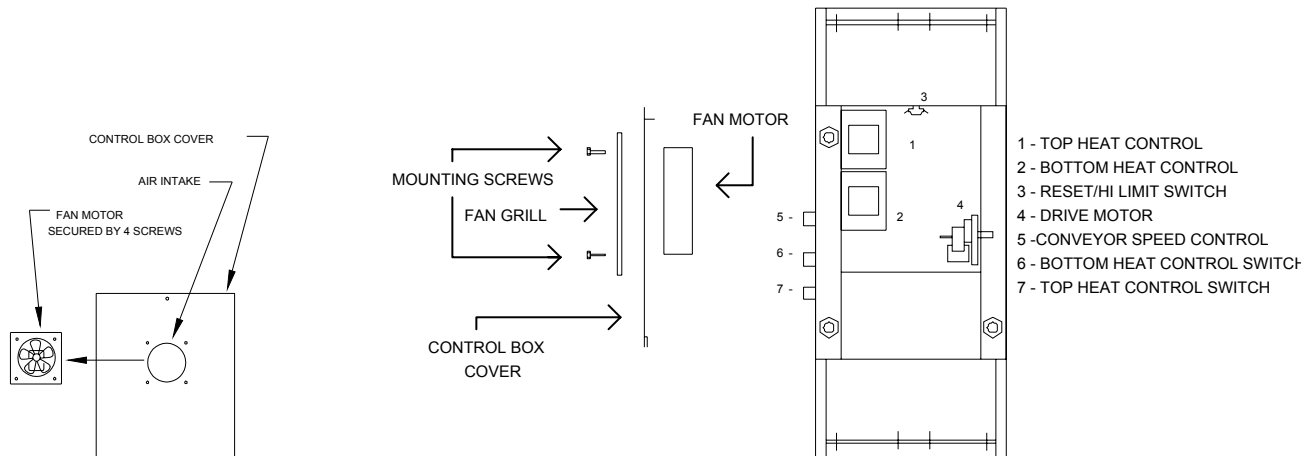


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Maintenance Procedures Cont.

B. REPLACING FAN MOTOR

1. DISCONNECT UNIT FROM POWER SOURCE.
2. Remove control box cover with fan motor attached.
3. Unplug power cord from fan motor.
4. Remove (4) screws that hold fan motor and grill to cover.
5. Put replacement motor and grill in place and secure to the control box cover with screws.
6. Reconnect power supply cord to fan motor.
7. Replace control box cover.



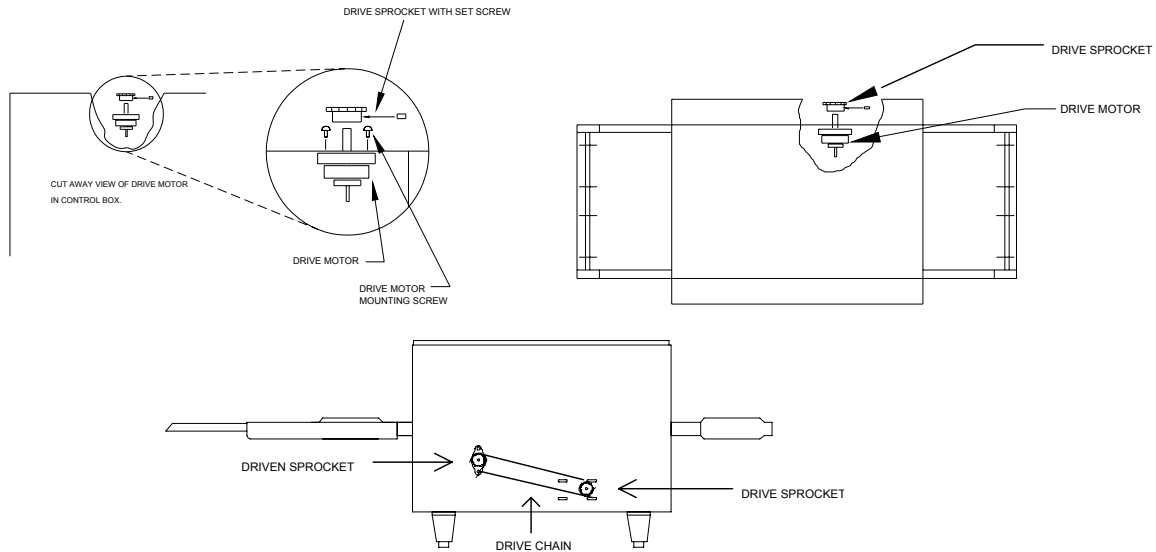
C. REPLACING BELT DRIVE MOTOR

1. DISCONNECT UNIT FROM POWER SOURCE.
2. Remove right side panel and control box cover.
3. Remove drive chain and sprocket from motor shaft by loosening the Allen screw on the sprocket collar.
4. Disconnect the drive motor leads to the internal wiring.
5. Remove the four screws that hold the drive motor in place.
6. Put the new motor in place and attach loosely with the four screws removed from step 5.
7. Replace the sprocket onto the motor shaft, then replace the drive chain onto the sprockets.

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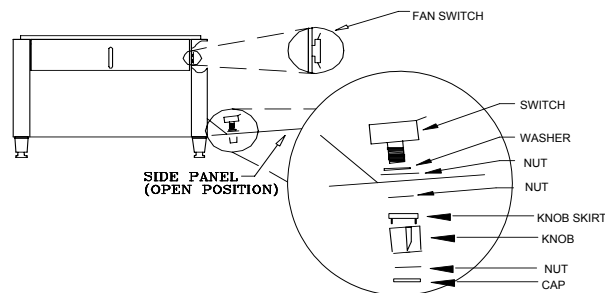
MAINTENANCE PROCEDURES CONT.

8. Slide the drive motor until the drive chain has about 1/8" slack when lightly pushed at the center of its top open run. Tighten the drive motor screws.
9. Rewire the drive motor and replace the panels. Test for proper operation.
10. If motor will not run, recheck electrical connections then call your dealer's service department.



D. REPLACING THE CONVEYOR SPEED CONTROL

1. DISCONNECT UNIT FROM POWER SOURCE.
2. Remove the speed control knob and the locking nut holding the speed control in place.
3. Wires from speed control go in to terminal block located on side chassis. Remove wires for old speed control and insert wires for new speed control in same positions as shown on wiring diagram.
4. When replacing the speed control in the side panel be sure to reposition the anti-rotation pin in the slot as shown.
5. Replace locking nut and control knob.

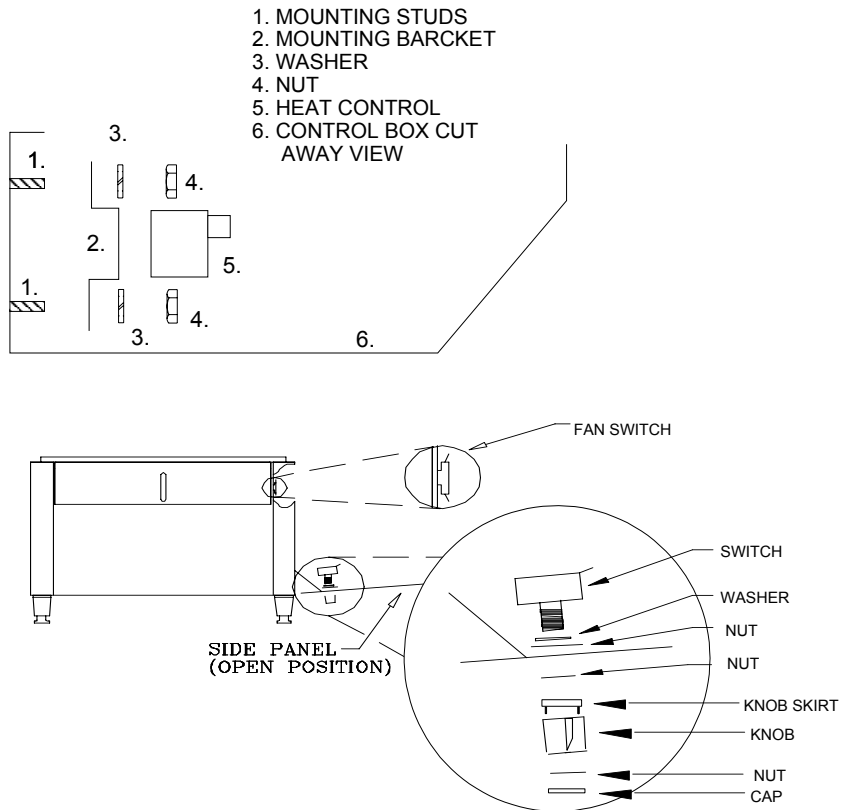


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MAINTENANCE PROCEDURES CONT.

E. REPLACING HEAT CONTROLS

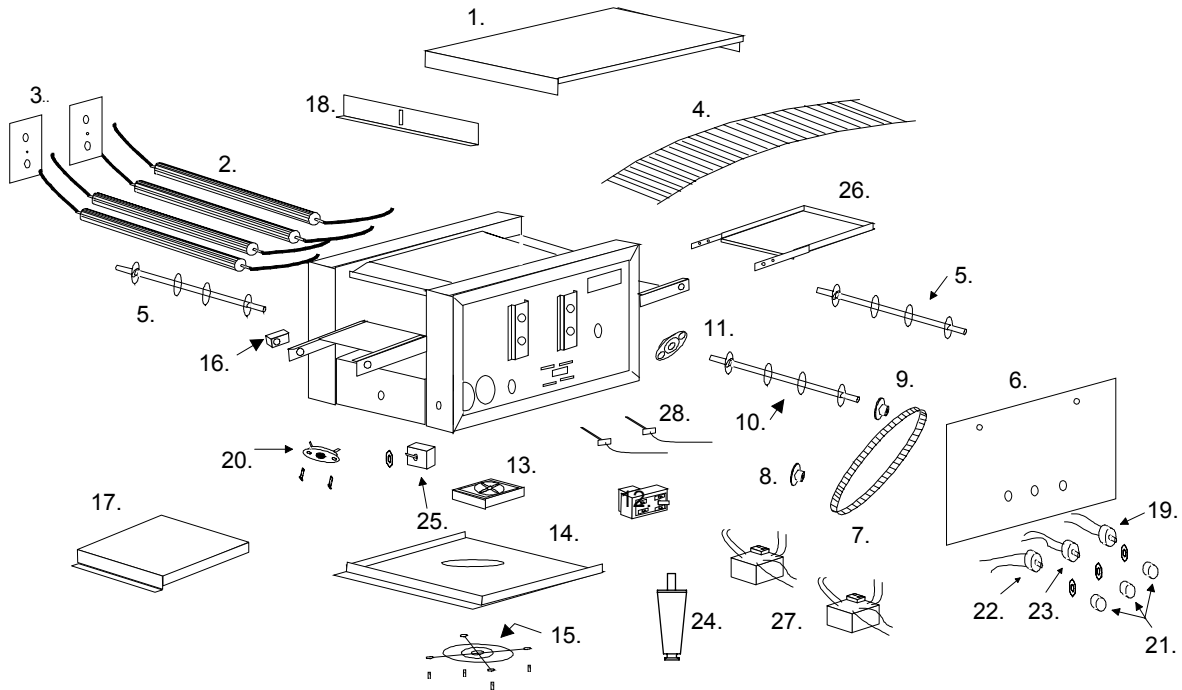
1. DISCONNECT UNIT FROM POWER SOURCE.
2. Place unit on its top cover with the legs pointing up.
3. Remove the control box cover by removing the two screws and pulling down and out to the front.
4. Remove the lock washers and nuts holding the mounting brackets in place as shown below.
5. Place the new control into position and replace mounting nut and washer, exchange wires one terminal at a time from the defective control.
6. Replace control box cover.



REV. 10-23-00 RRD

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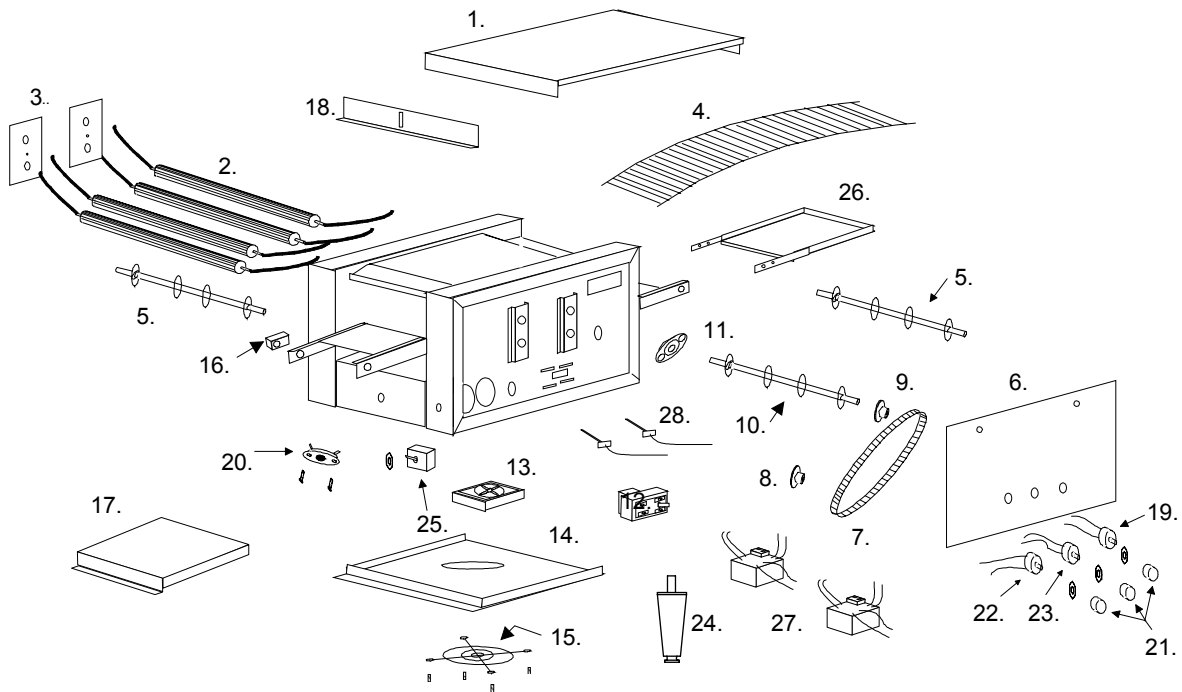
PARTS LIST /EXPLODED VIEW MODEL 214HX



<u>PART #</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>PART #</u>	<u>QTY.</u>	<u>DESCRIPTION</u>		
1).	401288	1	Top Cover	15).	200562	1	Fan Grill
2).	197850	4	Heater Tube	16).	200693	4	Extension Bushing
3).	402129	4	Retainers, Heat Tube	17).	100543	1	Crumb Tray
4).	160007	1	Conveyor Belt	18).	400899	2	Heat Shutter
5).	202905	2	Idler Shaft	19).	118062	1	Speed Control
6).	401998	1	Side Panel (control)	20).	200566	1	Reset Switch
7).	150001	1	Drive Chain	21).	115360	3	Knob, Control Switch
8).	200643	1	Drive Sprocket	22).	200567	1	Heat Control
9).	200653	1	Driven Sprocket	23).	200567	1	Heat Control
10).	100907	1	Drive Shaft	24).	200716	4	Legs
11).	112262	2	Bearing	25).	200543	1	On/Off Toggle
12).	200521	1	Drive Motor	26).	101402	1	Unload Tray
13).	200561	1	Fan Motor	27).	200569	2	Stratford Heat Control
14).	401498	1	Control Box Cover	28).	200568	2	Heat Probe
	401089	2	Nose Guard (Not shown)		200574	1	Fan Switch (Not shown)
	200603	3	Belt Link (Not shown)		401999	1	Side Panel (plug side)
					200427	1	Pilot light (Not Shown)

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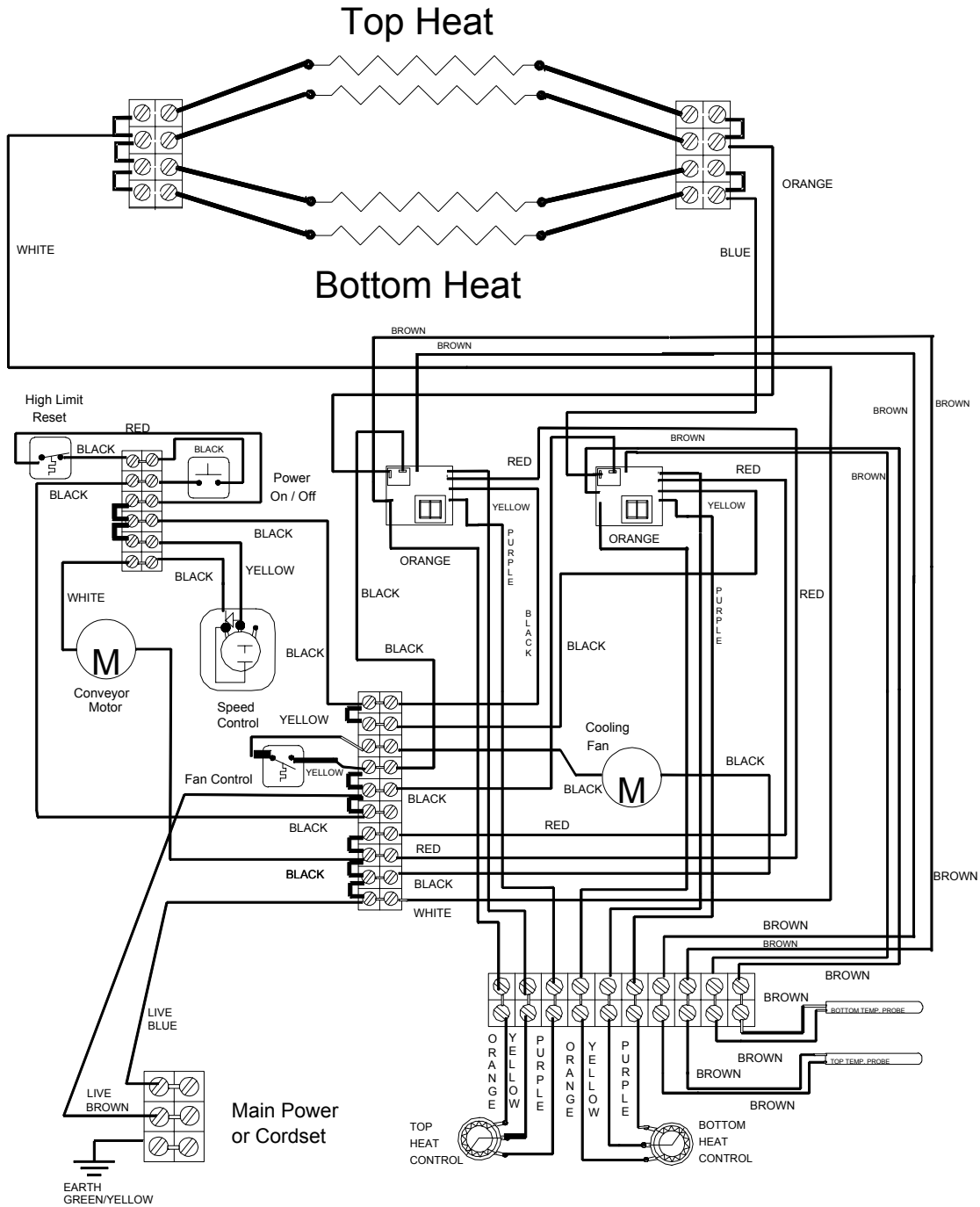
PARTS LIST /EXPLODED VIEW MODEL 210HX



<u>PART #</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>PART #</u>	<u>QTY.</u>	<u>DESCRIPTION</u>		
1).	401287	1	Top Cover	15).	200562	1	Fan Grill
2).	197842	4	Heater Tube	16).	200693	4	Extension Bushing
3).	402189	4	Retainers, Heat Tube	17).	100544	1	Crumb Tray
4).	160003	1	Conveyor Belt	18).	400891	2	Heat Shutter
5).	202904	2	Idler Shaft	19).	118062	1	Speed Control
6).	401998	2	Side Panel (control)	20).	115146	1	Reset Switch
7).	150001	1	Drive Chain	21).	115360	3	Knob, Control Switch
8).	200643	1	Drive Sprocket	22).	200567	1	Heat Control, Bottom
9).	200653	1	Driven Sprocket	23).	200567	1	Heat Control, Top
10).	100906	1	Drive Shaft	24).	200716	4	Legs
11).	112262	2	Bearing	25).	200543	1	On/Off Toggle
12).	200521	1	Drive Motor	26).	101401	1	Unload Tray
13).	200561	1	Fan Motor	27).	200569	2	Stratford Heat Control
14).	401499	1	Control Box Cover	28).	200568	2	Heat Probe
	401131	2	Nose Guard (Not shown)	200574	1	Fan Switch(Not shown)	
	401999	1	Side Panel (plug side)	200427	1	Pilot light (Not Shown)	

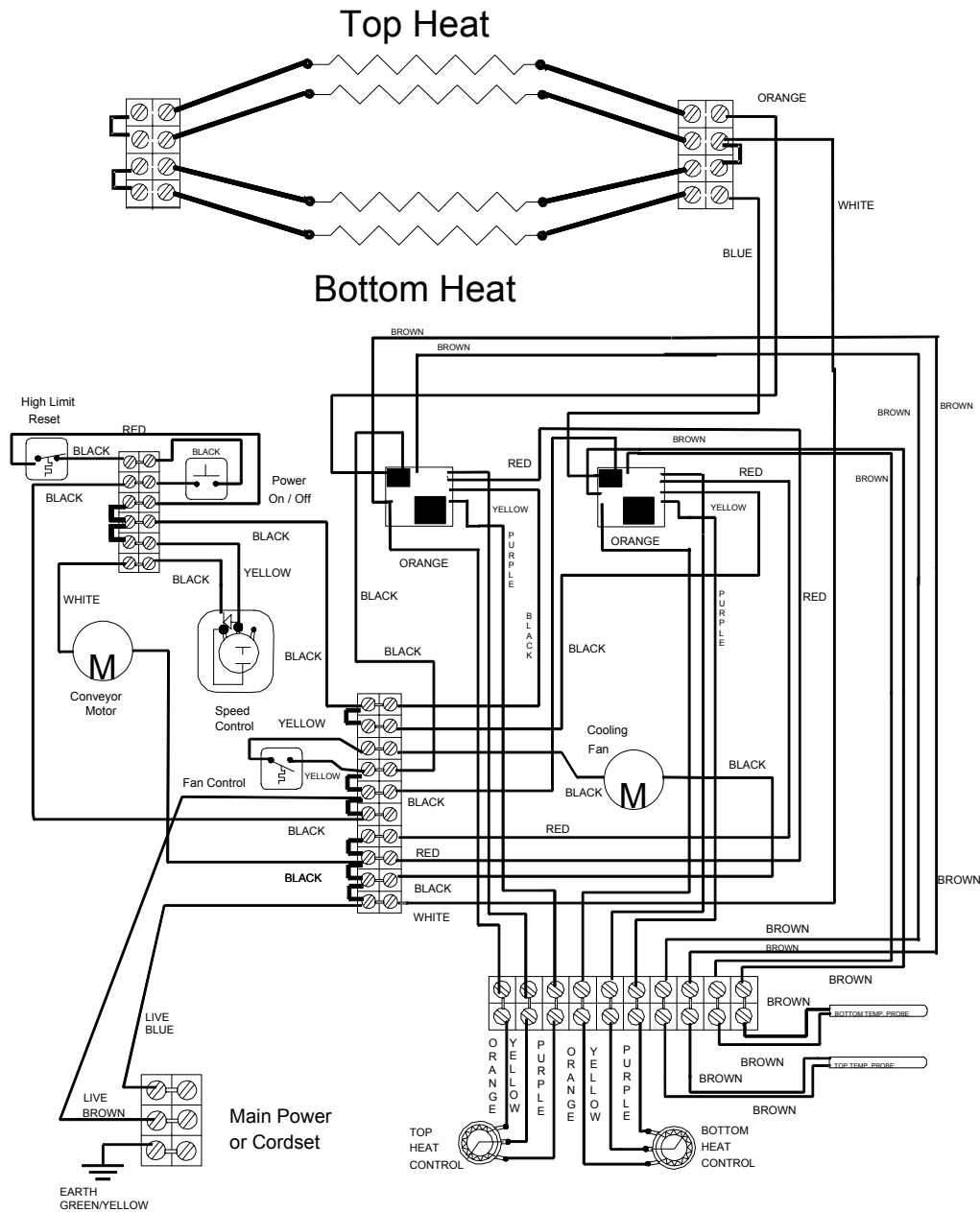
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WIRING DIAGRAM
MODEL 214HX, 240 VOLT 50 Hz 1PH
4.0 kW WIRED PARALLEL



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WIRING DIAGRAM
MODEL 210HX, 240 VOLT 50 Hz 1PH
2.8 kW WIRED SERIES



INTERNATIONAL ONE (1) YEAR EQUIPMENT WARRANTY

All workmanship and materials in “STAR” products are warranted for a period of one year from the date shipped from the factory or one year from the date shown on the proof of purchase of the end-user when purchased through an authorized “STAR” dealer/distributor in a commercial foodservice location.

“STAR’s” obligation under this warranty is limited to the replacement of the defective part(s) only without charge. This warranty is void if damage occurs from improper installation, misuse or abuse, disassembly or tampering of unit for any purpose other than repair by a qualified service agent, wrong voltage, incorrect or fluctuating voltage conditions, wrong gas, improper gas or gas conditions, operated contrary to the installation and operating instructions, operated in an application for which the unit is not suited, or if the unit is not maintained and/or cleaned in a suitable manner.

Any expense in connection with installation, or any cost of making adjustments on a unit to conform to electric or gas service at the point of installation, are not covered by this warranty.

* The warranty period for the JetStar series six (6) ounce popcorn machines is two (2) years.

* The warranty period for the Chrome-Max Griddles is five (5) years on the griddle surface. See detailed warranty provided with unit.

* The warranty period for Teflon/Dura-Tec coatings is one year under normal use and reasonable care. This warranty does not apply if damage occurs to Teflon/Dura-Tec coatings from improper cleaning, maintenance, use of metallic utensils, or abrasive cleaners. This warranty does not apply to the “non-stick” properties of such materials.

* This warranty is not valid on Conveyor Ovens unless a “start-up/check-out has been performed by a Factory Authorized Technician.

In order to make a claim under this warranty; a warranty report must be filed with Star Manufacturing International Inc. in St. Louis, Missouri, U.S.A. by the dealer/distributor through which product was purchased. All details, including serial number and model number of the defective unit, must be included. Failure to file a claim within a 120 Day time period may result in the claim being refused.

“STAR” may forego the necessity of returning the part for inspection dependent upon the expense involved. However, “STAR” requires defective parts to be held in the claimant’s possession for a period of ninety (90) days for possible inspection by a “STAR” representative or designated inspector .

The foregoing warranty is lieu of any and all other warranties, expressed or implied, and constitutes the entire warranty.

PARTS WARRANTY

Parts that are sold for out-of-warranty repair are warranted for a period of ninety days. The part only is warranted; no labor.

SERVICES NOT COVERED BY WARRANTY

1. Labor
2. Mileage and/or travel time
3. Installation and/or adjustment of equipment
4. Operation contrary to the installation and operating instructions
5. Cleaning of equipment
6. Seasoning of griddle plates
7. Voltage conversions/adjustments
8. Gas conversions
9. Pilot light conversion/adjustments
10. Thermostat calibration/adjustments
11. Resetting of circuit breakers or safety controls
12. Replacement of bulbs/lamps
13. Replacement of fuses
14. Damages due to improper installation
15. Damages from abuse or misuse
16. Damage created by acts of God, Acts of War, or Civil Disturbance

STAR MANUFACTURING

10 Sunnen Drive, St. Louis, MO 63143 U.S.A.

(800) 807-9054 (314) 781-2777

Parts & Service (800) 807-9054

www.star-mfg.com