



**ISO 9001 : 2000 REGISTERED**

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**OPERATOR'S MANUAL  
HOLMAN CONVEYOR BAKERS  
MODELS 314HX, 318HX, 418HX**

**FOR SERVICE INFORMATION  
U.S. AND CANADA CALL: 1-800-225-3958  
24 HOURS/DAY 7 DAYS/WEEK**

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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. 1 each Baking oven with heaters with conveyor belt in place.  
**Remove heating element shipping supports.**
- B. 1 each Stainless Steel Unload Tray & 1each Stainless Steel Load Up Tray.

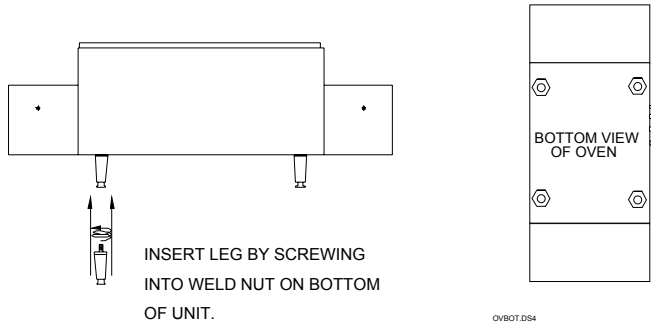
**ASSEMBLY AND INSTALLATION**

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

**WARNING:** BEFORE INSTALLING UNIT(S), CHECK WITH LOCAL POWER COMPANY TO DETERMINE ACTUAL VOLTAGE AT JOB SITE. NEVER PLUG A 208 VOLT UNIT INTO 240 VOLTS OR A 240 VOLT UNIT INTO 208 VOLTS.

**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.

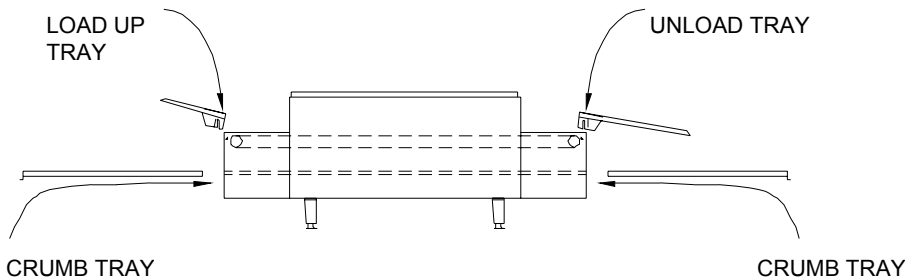
- A. Attach legs by screwing into weld nuts, as shown



- B. Anti-Skid pads are available that adhere to the foot section of each leg to prevent sliding.  
**CAUTION:** Use of these pads are not approved for use in food service by the National Sanitation Foundation.

- C. Place oven on a counter. The load and unload ends must be at least 6" from any vertical combustible surfaces. Allow sufficient space for operating personnel.

- D. Install load and unload trays as shown.

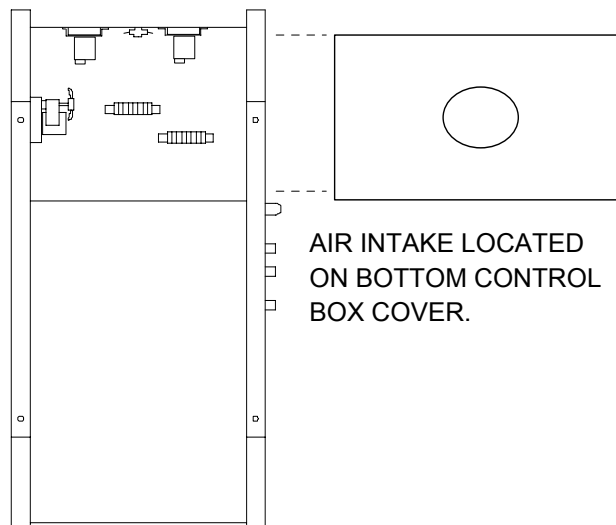


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**ASSEMBLY AND INSTALLATION (CONT)**

- E. Models 314HX and 318HX are supplied with a 10 gauge cord and 6-30P plug for installation into a 6-30R grounded receptacle.
- F. Model 418HX is supplied with a power supply connection terminal block. Have an electrician connect input power to the unit in accordance with local electrical codes.
- G. 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.
- H. 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.



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- I. 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 out the unit until the internal temperatures have been decreased.
- J. If a problem is discovered during start up procedures, immediately switch the Master On/Off switch to the OFF position and notify the Holman Service Department at **1-800-225-3958** (24 hours 7 days a week). Service will be arranged for you.

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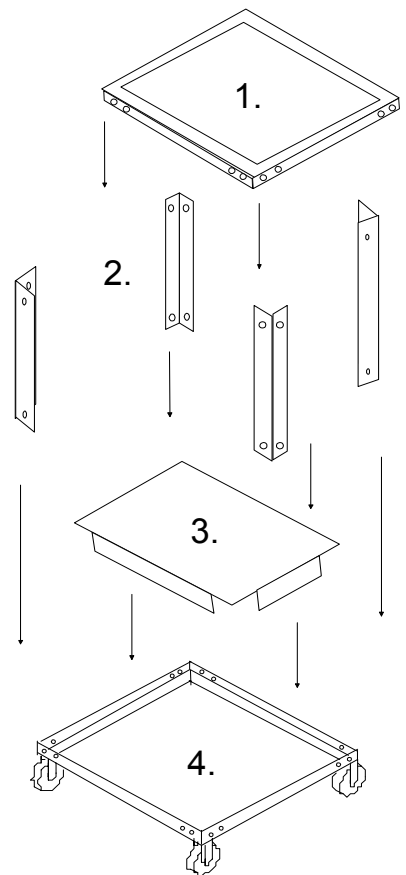
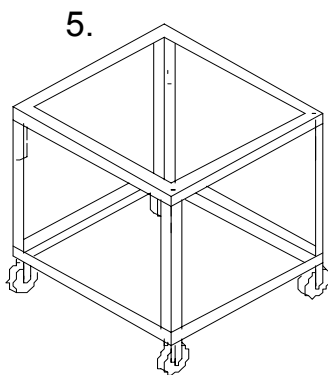
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### Cart Assembly Instructions

The following should be included in the container:

- A. 1 each top frame.
- B. 4 each side angles.
- C. 1 each bottom tray.
- D. 1 each bottom frame with casters attached.
- E. 1 each bag of hardware ( 32 screws with nuts and lock washers).

1. TOP FRAME
2. SIDE ANGLES
3. BOTTOM TRAY
4. BOTTOM FRAME WITH CASTERS
5. COMPLETED STAND



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1. Attach side angles to the inside edge of bottom frame using (4ea) 1/4-20 slotted truss screws per angle.
2. Fitting top frame over the side angles, attach side angles to the inside edge of top frame using 1/4-20 slotted truss screws.
3. Place bottom tray over the bottom frame.

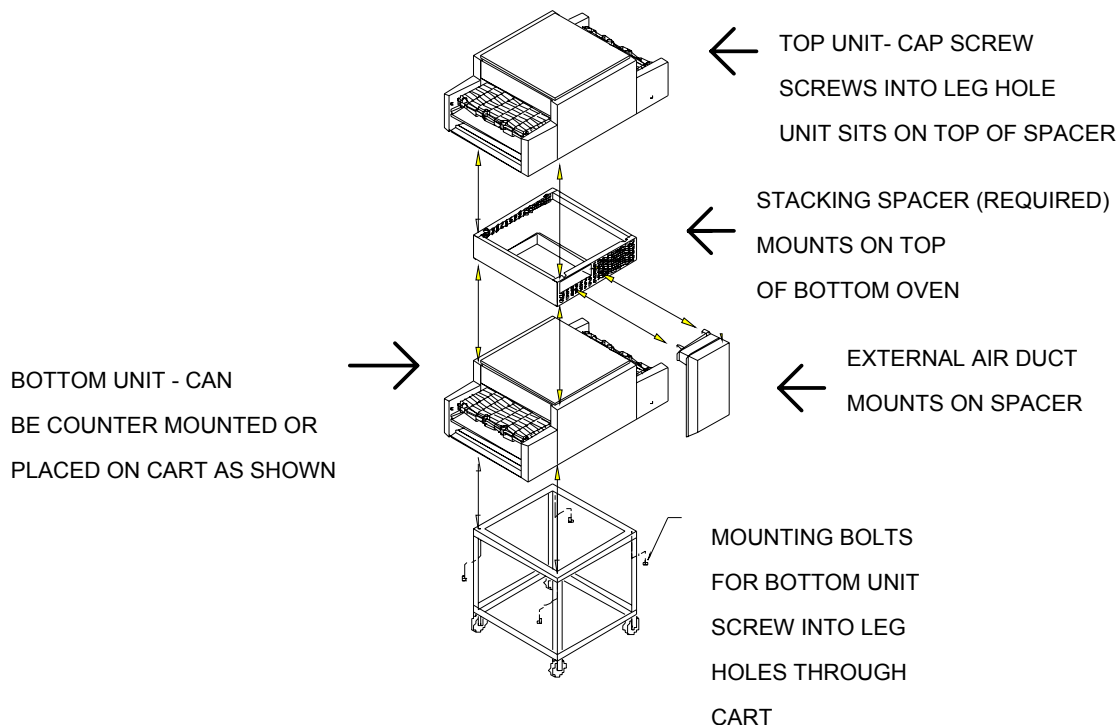
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**ASSEMBLY AND INSTALLATION (CONT.)**

**H. Stacking Instructions**

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

- 1). If cart is to be used with units, place bottom unit on cart and align leg hole of unit to holes in top portion of cart. Insert 3/8" bolts through cart and into leg holes to secure bottom unit to cart as shown below.
- 2). Place stacking spacer on top of bottom oven with **internal** air duct facing up and toward the rear of the oven.
- 3). 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.
- 4). Screw cap screws (4ea.) into leg holes on top oven.
- 5). 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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**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 fastest time setting.
- B. Allow 10 to 15 minutes for unit(s) to warm up.
- C. Baking in these units is a combination of top and bottom heat and belt speed. Some products require more top heat than bottom while other products may require lower top heat than bottom heat. Every product should, therefore, be tested using the separate Top and Bottom Heat controls and the Conveyor Speed Control to arrive at the correct balance of heat and belt speed. When changing heat and/or Conveyor Belt speed settings allow approx. 5 minutes for the oven to stabilize itself at the new settings.

**NOTE: HOLMAN COOKING EQUIPMENT DOES NOT RECOMEND THE USE OF A SHINY ALUMINUM PAN WHEN BAKING PIZZA BECAUSE, WHEN USING A SHINY ALUMINUM PAN, THE HEAT IS REFLECTED AWAY FROM THE PIZZA.**

**COOKING PROCEDURES**

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

<b>PRODUCT</b>	<b>TOP HEAT</b>	<b>BOTTOM HEAT</b>	<b>BELT SPEED</b>
<b>PIZZA</b>			
12" FRESH	350F	450F	8 MINUTES
16" FRESH	300F	450F	12 MINUTES
12" BLANCHED	300F	400F	6 MINUTES
16" BLANCHED	300F	400F	8 MINUTES
12" FROZEN	300F	300F	8 MINUTES
16" FROZEN	350F	350F	12 MINUTES
<b>SANDWICHES</b>			
MEAT/CHEESE	450F	300F	4 MINUTES
MEATBALL	500F	350F	2 MINUTES
BAGEL (OPEN)	500F	400F	2 MINUTES
<b>COOKIES</b>			
1 TO 1 1/2 Oz	200F	250F	12 MINUTES

\*Results may vary from the information provided, which has been determined in research kitchen tests, conducted under controlled conditions at manufactures facilities. Since recipes vary (and even similar products within recipes can vary), the heat settings or the cooking times (the time thought the oven) may require adjustments.

\*\*METHOD OF TIMING: The times shown above have been determined by timing the leading edge of the product as it enters the cooking chamber until the leading edge exits the cooking chamber.

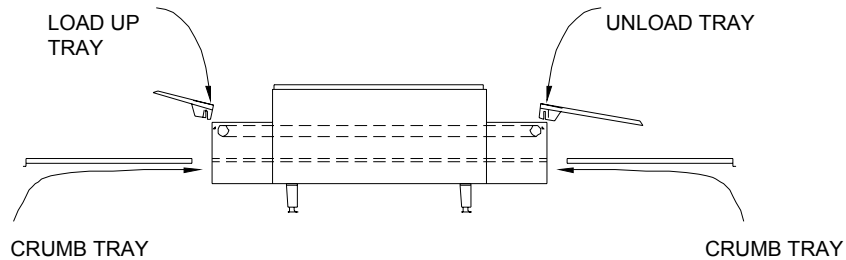
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**CLEANING PROCEDURES**

Preventive maintenance for your Holman oven consists 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.

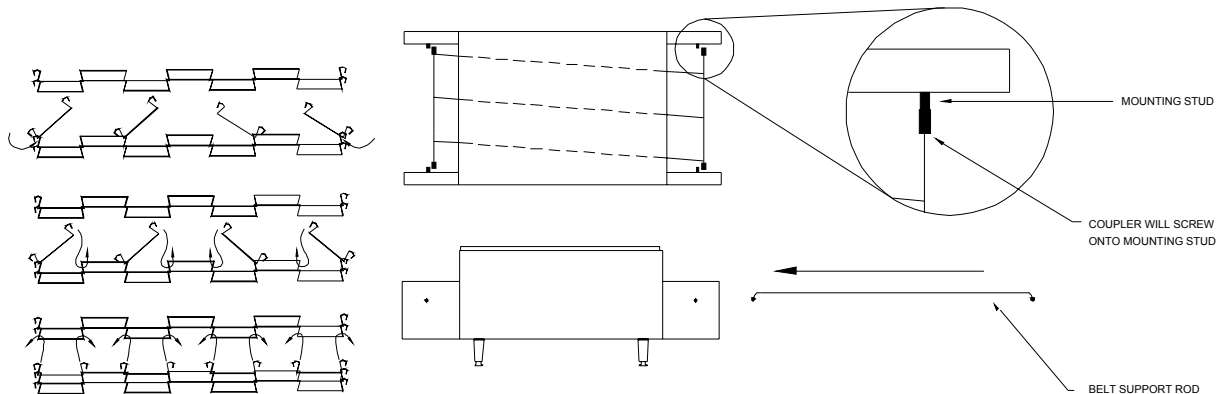
A. Remove Load and Unload Trays (daily) as shown and wash with hot soapy water.



B. Remove the Crumb Trays from both load and unload ends of the oven (daily) as shown above, **(WASH WITH HOT SOAPY WATER ONLY)**.

C. For lightly soiled conveyor surfaces a damp cloth or dry abrasive pad can be used without removing the conveyor belt. (daily)

D. For heavily soiled conveyor surfaces disconnect and remove the conveyor as shown and soak in hot soapy water overnight (as required).



E. If you have removed the Conveyor Belt, then remove the conveyor support system as shown above and clean with a dry abrasive pad (as required).

**NOTE: LUBRICATION OF DRIVE CHAIN WITH A GRAPHITE BASED LUBRICANT IS REQUIRED AS PERIODIC MAINTENANCE. CALL HOLMAN FACTORY SERVICE DEPARTMENT FOR DETAILS.**

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**CLEANING PROCEDURES CONT.**

- F. Clean air intake area of all dust and grease by removing the Control Box Cover and wiping with a dry cloth. Do not spray cleaning fluids into the air intake as this may result in component failure.
- G. Re-assemble unit and check to be sure it is operating properly. Call the Holman Factory Service Department (**1-800-225-3958**) if the unit is not operating properly.

**TROUBLESHOOTING GUIDE**

**A. HEAT LIMIT SWITCH**

Your Holman Conveyor Oven is equipped with an automatically activated HEAT 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 which is located as shown below.

THE HEAT LIMIT SWITCH CAN BE ACTIVATED IF THERE IS NOT A PROPER AMOUNT OF AIR FLOW 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 Crumb Trays (heat reflectors) are in place.

NEVER OPERATE UNIT WITHOUT CRUMB TRAYS IN POSITION AS THIS CAUSES OVERHEATING IN THE CONTROL BOX.

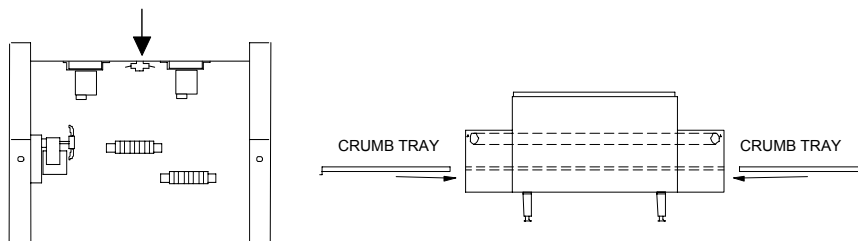
**B. UNIT WILL NOT HEAT, CONVEYOR BELT WILL NOT TURN.**

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. Be sure HEAT LIMIT SWITCH is pushed IN (see below).

**HEAT LIMIT SWITCH LOCATED**

ON FRONT OF CONTROL BOX

BENEATH FRONT EXTENSION.



CUTAWAY VIEW OF CONTROL BOX WITHOUT CONTROL BOX COVER

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TROUBLESHOOTING GUIDE CONT. ON PAGE 7

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**TROUBLESHOOTING GUIDE CONT.**

C. UNIT WILL NOT HEAT, CONVEYOR TURNS FREELY.

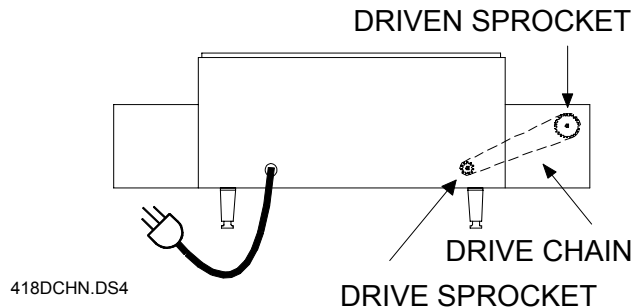
1. Check to see if Top and Bottom Heat Controls have been turned to the maximum setting (500 Deg. F).
2. Press Heat Limit Switch, located on the front section of the Control Box as shown above. If this reactivates the Heater Tubes, see section A page 6.
3. For further assistance call Holman Service Department at **1-800-225-3958 (24 hours/day 7days a week)**.

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 (EXAMPLE: CONVEYOR HOOKED ON CRUMB TRAY OR CRUMB TRAY RAIL).
3. Remove Air Intake Cover as shown on page 8 and spin the Drive Motor rotor Shaft as shown on page 9 (Par. 8). Recheck to see if the Conveyor now turns.

IF CONVEYOR STILL DOES NOT TURN;

4. Remove rear Side Panel and Drive Motor Sprocket (see below). Manually move Conveyor Belt to check for mechanical binding. If Conveyor moves freely, call Holman Service Department (**1-800-225-3958**) as Drive Motor and/or Variable Speed Control may have to be replaced (refer to page 9 for instructions on replacing drive motor).



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

1. Call Holman Service Department (**1-800-225-3958**) as Variable Speed Control may have to be replaced. (refer to page 11 for instructions on replacing the Variable Speed Control).

F. COOLING FAN DOES NOT START.

1. Remove Control Box Cover and check Fan Blade for obstructions.
2. Check Fan Motor Cord for secure connection.
3. Call Holman Service Department as the Fan Switch and/or Fan Motor may have to be replaced (refer to page 8 par. 9 for replacement instructions).

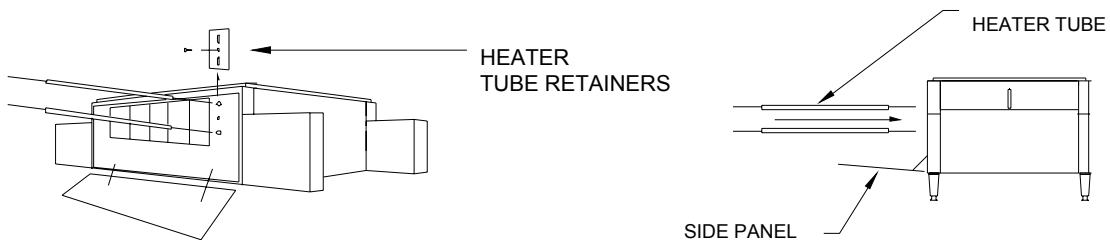
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**MAINTENANCE PROCEDURES**

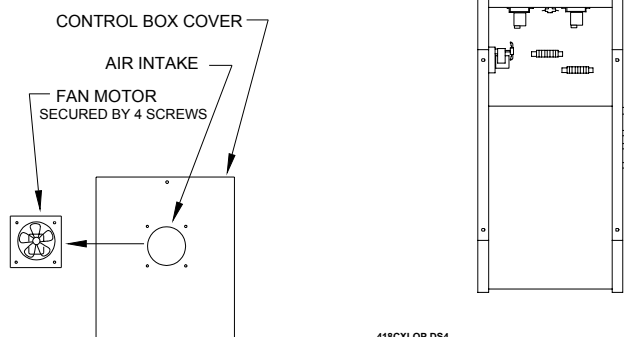
**A. REPLACING HEATER TUBES (see below)**

1. DISCONNECT UNIT FROM POWER SOURCE.
2. Remove left and right side panels by removing the truss head screws in each panel. Pull the top of each panel out slightly and lift up.
3. Disconnect heater tube wires which require replacement from terminal block connections.
4. Remove Heater Tube Retainer by removing retainer screw with washer (retainers are located on power supply side of unit).
5. GENTLY, pull defective Heater Tube out of unit.
6. GENTLY, place new Heater Tube into unit.
7. Replace Heater Tube Retainers.
8. Reconnect heater wires to terminal block connections.
9. Replace side panels and test unit for proper operation. Call Holman Service Department for assistance if required. **(1-800-225-3958)**.



**B. REPLACING FAN MOTOR**

1. DISCONNECT UNIT FROM POWER SOURCE.
2. Remove Control Box Cover with Fan Motor.
3. Unplug power supply cord from Fan Motor.
4. Remove(4)screws which 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.



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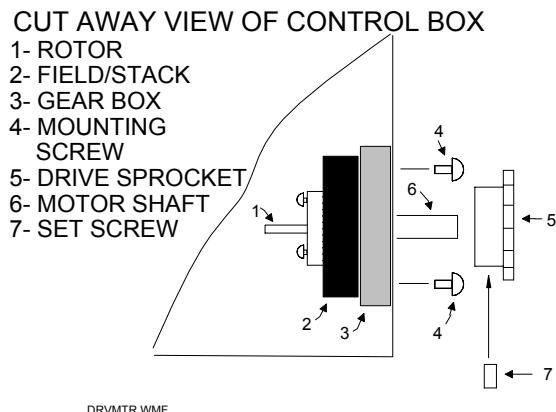
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**MAINTENANCE PROCEDURES CONT.**

**C. REPLACING BELT DRIVE MOTOR**

1. DISCONNECT UNIT FROM POWER SOURCE.
2. Remove right and left side panels by removing the screws in each panel. Pull the top of each panel out slightly and lift up.
3. Remove Control Box Cover by removing the screws holding the panel in place. Pull down and out to remove cover.
4. Remove sprocket from motor shaft by loosening the Set Screw on the sprocket collar. (see below)
5. Disconnect the black and either the blue or the white drive motor leads from the terminal strip on the control side of oven (blue for 240 volt units or white for 208 volt units).
6. Remove the four screws that hold the Drive Motor in place (as shown below).
7. Put the new motor in place and attach loosely with the four screws removed from step 6.
8. Replace the sprocket onto the motor shaft, then replace the Drive Chain onto the sprockets.



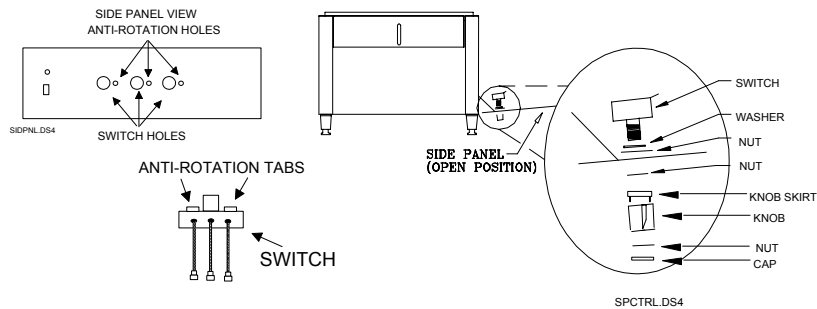
9. Slide the Drive Motor until the Drive Chain has about 1/8" (3.17mm) slack when lightly pushed at the center of its top open run. Tighten the drive motor screws.
10. Connect the drive motor leads into the same terminal block positions as removed from in step 5. Replace the panels and test for proper operation.

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**MAINTENANCE PROCEDURES CONT.**

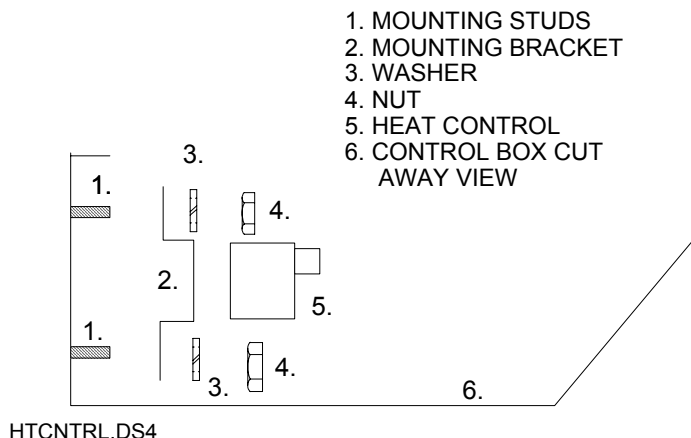
**D. REPLACING THE VARIABLE SPEED CONTROL (see below)**

1. DISCONNECT UNIT FROM POWER SOURCE.
2. Remove the variable speed control knob and the lock nut holding the Variable Speed Control in place.
3. Wires from Variable Speed Control go in to the terminal block located behind the front control panel . Remove wires for the old Variable Speed Control and insert wires for new Variable Speed Control in same positions as shown on wiring diagram on page 13.
4. When replacing the Variable Speed Control in the side panel be sure to reposition the anti-rotation pin in the anti-rotation slot on the panel.
5. Replace lock nut and control knob



**E. REPLACING HEAT CONTROLS**

1. DISCONNECT UNIT FROM POWER SOURCE.
2. Remove the Control Box Cover by removing the two screws and pulling down and out to the front.
3. Remove the lock washers and nuts holding the heat control mounting brackets in place.
4. Place the new control into position and replace mounting nut and washer. Exchange wires one terminal at a time from the defective control to the replacement control.
5. Replace Control Box Cover.



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**PARTS LIST**

<u>PART#QTY.</u>	<u>PAGE#</u>	<u>DESCRIPTION</u>	
200672	3	Not Shown	Shaft Collar
100924	1	Not Shown	Drive Shaft, 314HX
100925	1	Not Shown	Idler Shaft, 314HX
100922	1	Not Shown	Drive Shaft, 318HX, 418HX
100923	1	Not Shown	Idler Shaft, 318HX, 418HX
112262	4	Not Shown	Shaft Bearing
200643	1	8	Sprocket, 25B11 x 5/16
200654	1	8	Sprocket, 25B24 x 3/8
115360	3	11	Control Knob Assembly
200504	1	10	Drive Motor 208-240V 60Hz (units with left to right belt travel)
200509	1	10	Drive Motor 208-240V 60Hz (units with right to left belt travel)
118062	1	11	Speed Control
200561	1	9	Fan Motor 208-240V 60Hz
200562	1	Not Shown	Fan Grill
200569	2	11	Top & Bottom Heat Control
200567	2	11	Heat Control Potentiometer (Top & Bottom Heat)
200566	1	6	Heat Limit Switch
115521	7	14	Copper Jumper, 2 Position
115222	4	14	Copper Jumper, 3 Position
115523	1	14	Copper Jumper, 4 Position

PARTS LIST CONT. PAGE 12

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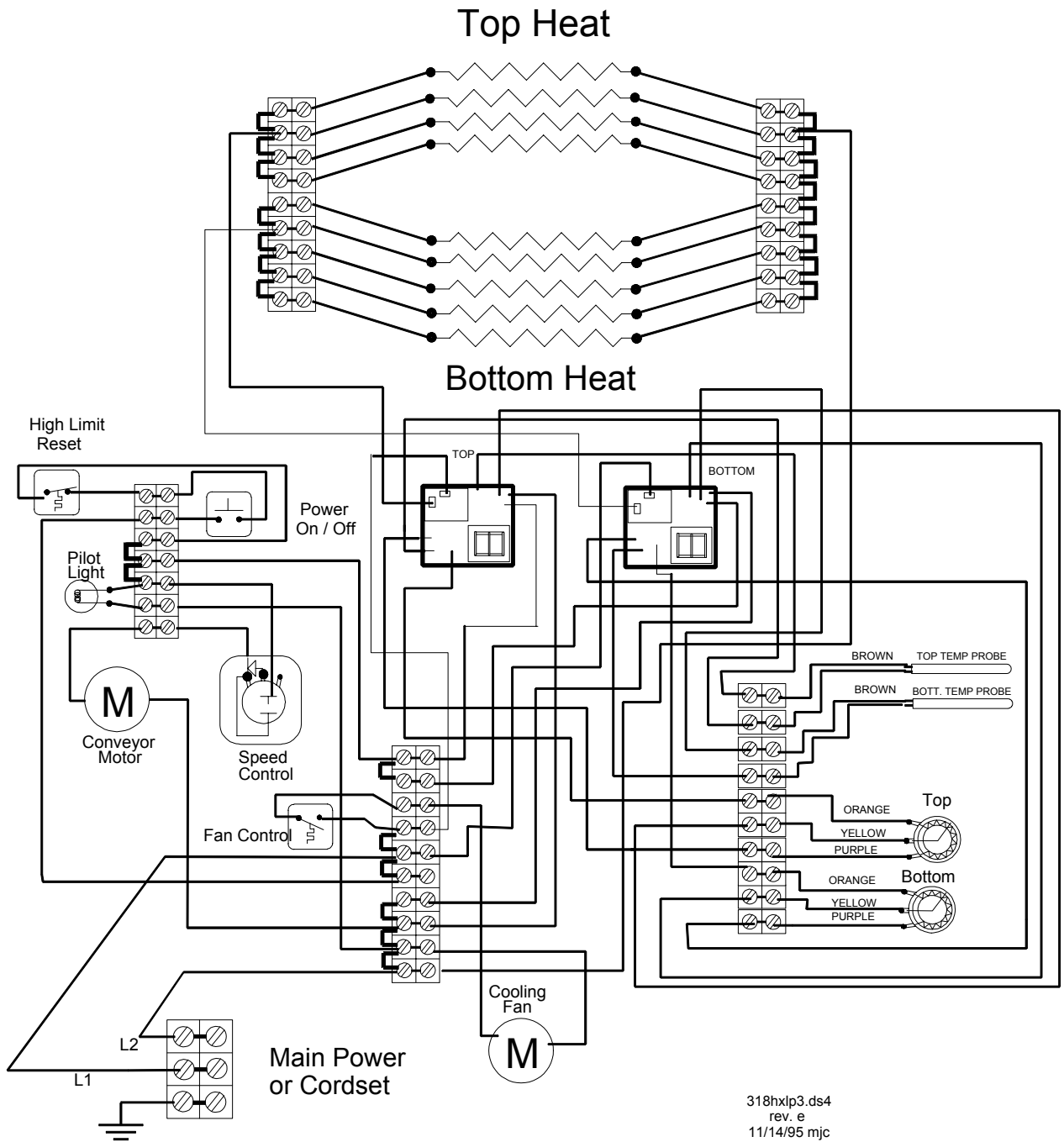
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**PARTS LIST CONT.**

115525	1	14	Copper Jumper, 6 Position
115528	1	15	Copper Jumper, 9 Position
115396	1	14	Terminal Block, 7 Position
115397	1	14	Terminal Block 8 Position
115398	2	15	Terminal Block, 9 Position
115399	1	15	Terminal Block, 10 Position, 314HX & 318HX
200554	2	15	Terminal Block, 12 Position, 418HX
160008	1	5	Conveyor Belt 314HX
160009	1	5	Conveyor Belt 318HX
160011	1	5	Conveyor Belt 418HX
100707	1	5	Belt Support System 314HX
100709	1	5	Belt Support System 318HX
100710	1	5	Belt Support System 418HX
101403	1	1	Unload Tray, 314HX
100403	1	1	Load Up Tray, 314HX
101404	1	1	Unload Tray 318HX, 418HX
101405	1	1	Load Up Tray, 318HX, 418HX
200537	1	Not Shown	Fan Switch
200529	1	11	Contactora (3 phase units only)
197888	9	9	Heater Tube 314HX 208V
197893	9	9	Heater Tube 314HX 220V
197889	9	9	Heater Tube 314HX 240V
197885	9	9	Heater Tube 318HX 208V
197891	9	9	Heater Tube 318HX 220V
197886	9	9	Heater Tube 318HX 240V
197881	12	9	Heater Tube 418HX 208V
197894	12	9	Heater Tube 418HX 220V
197882	12	9	Heater Tube 418HX 240V

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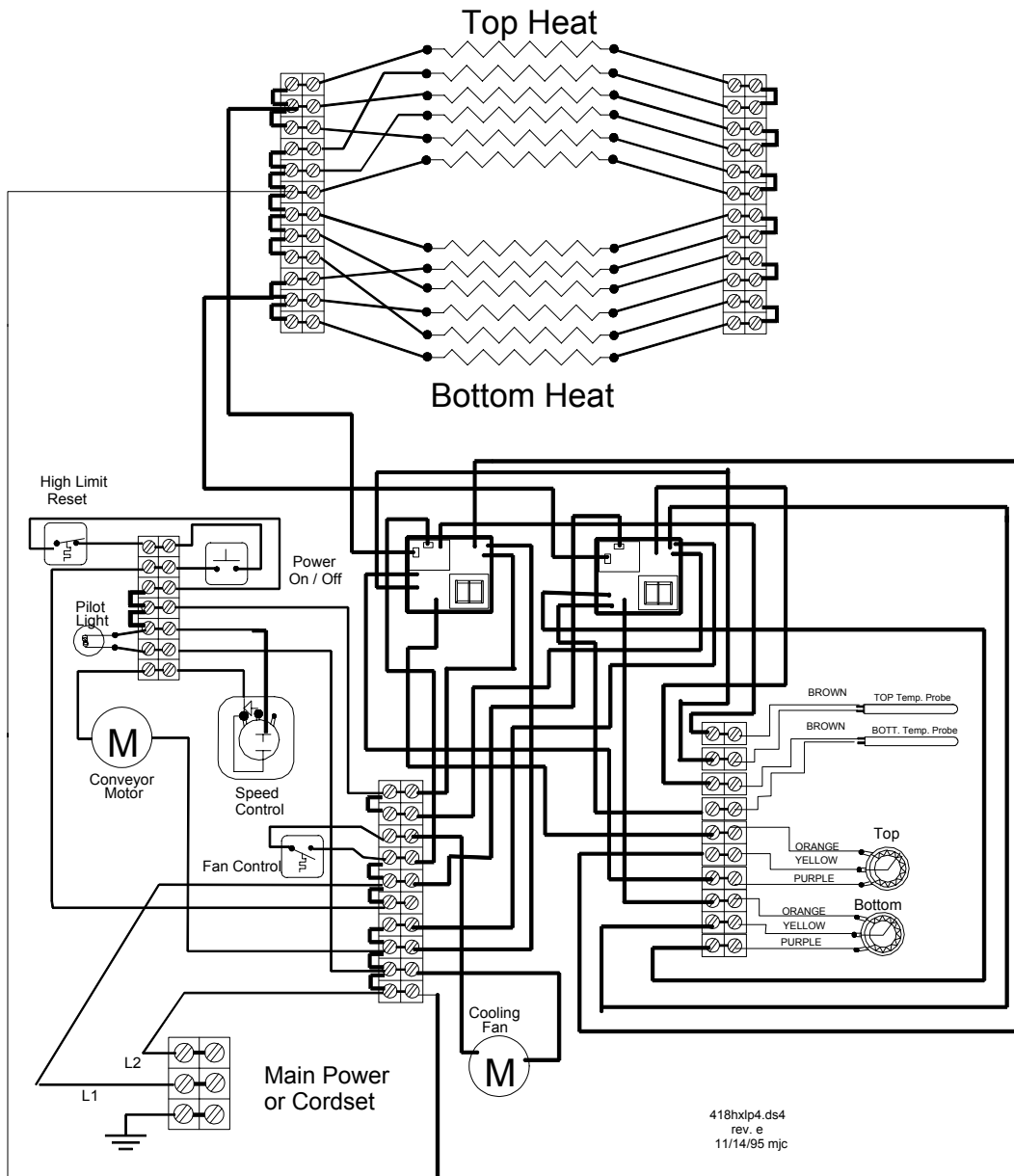
**Wiring Diagram Model 314HX, 318HX 208/240 Volts Single Phase**



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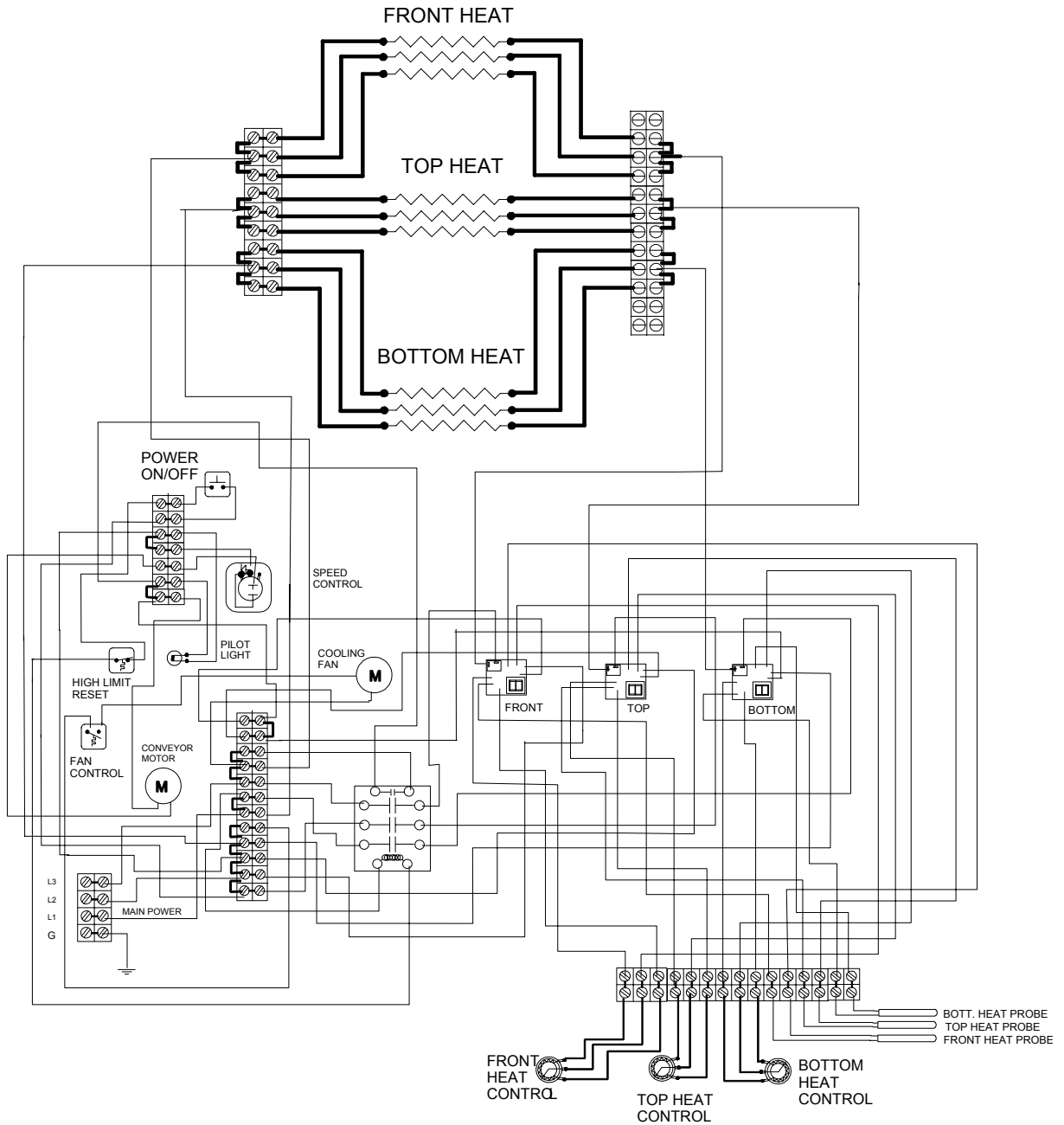
**Wiring Diagram Model 418HX 208/240 Volts Single Phase**





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**Wiring Diagram Model 314HX, 318HX 208/240 VOLTS, 3 PHASE**

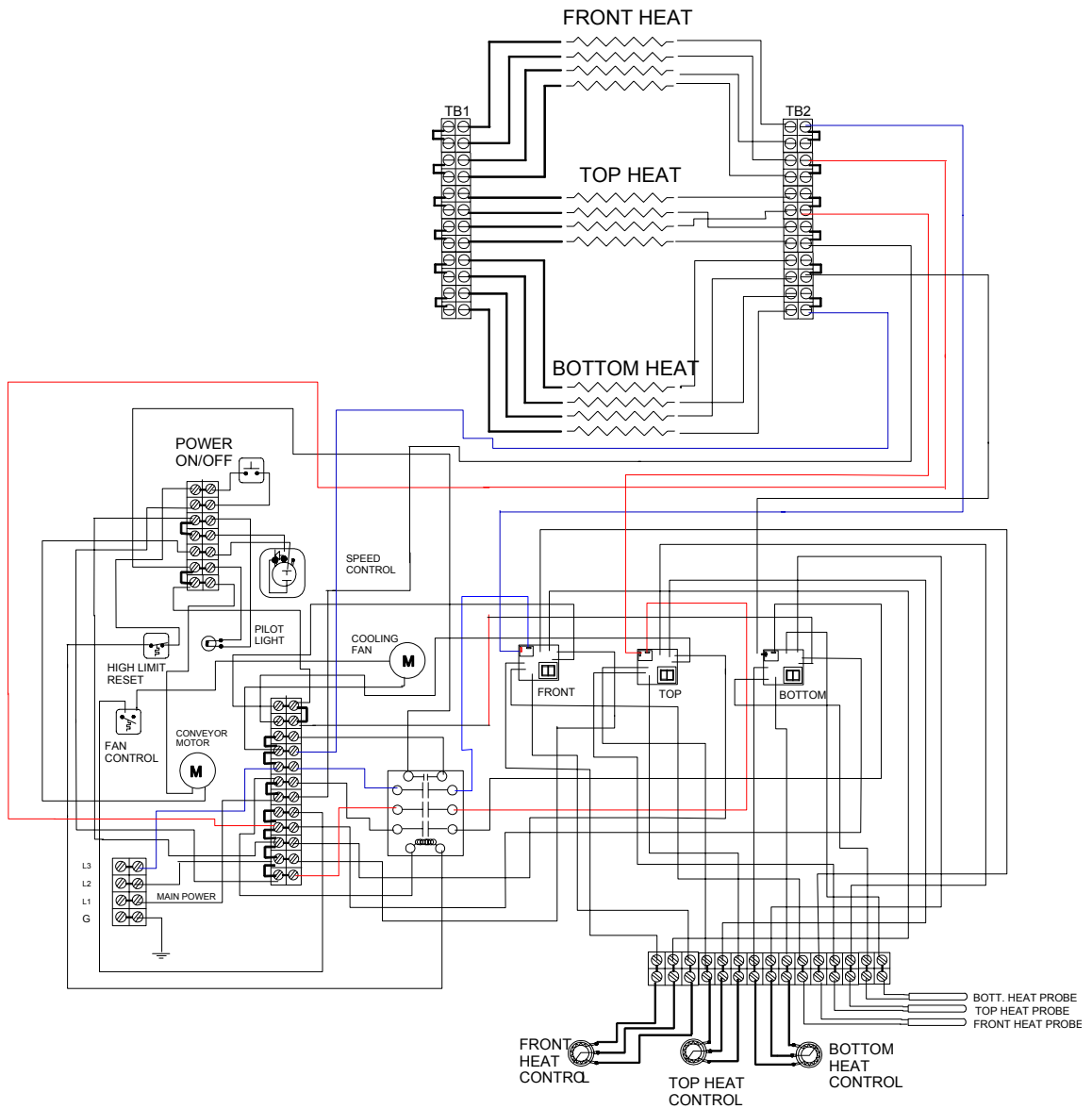


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**Wiring Diagram Model 418HX 208/240 VOLTS, 3 PHASE**



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