



Holman Cooking Equipment, Inc.

Preventive Maintenance Manual For Holman Conveyor Ovens

- Daily
- Weekly
- Monthly
- 6-Month
- Long Term
- Heater Tube
- Misconceptions

Written by
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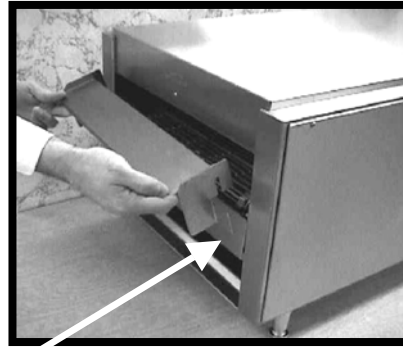
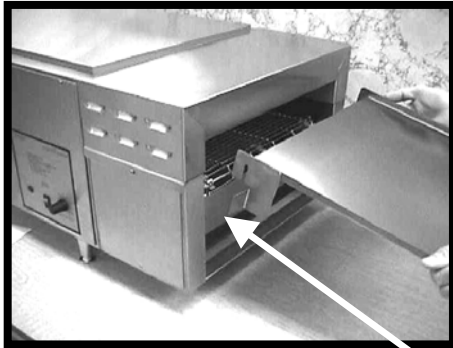
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Jim Morse, Holman - Engineering Manager

DAILY CLEANING PROCEDURES FOR CONVEYOR OVEN MODEL 414HXM

TO KEEP YOUR HOLMAN MODEL 414HXM CONVEYOR OVEN AT PEAK OPERATING EFFICIENCY, THE FOLLOWING INSTRUCTIONS ARE RECOMMENDED:

DISCONNECT UNIT FROM POWER SUPPLY OR TURN POWER OFF AT WALL BREAKER.

- 1) Turn the unit off. Remove the load up and unload trays as shown below.
 - a) For lightly soiled trays, clean with a damp cloth.
 - b) For heavily soiled trays, use an abrasive pad and mild cleaner.



**CRUMB
TRAYS**

- 2) Remove crumb trays from beneath load up and unload end of conveyor belt and clean with a wet cloth and a mild detergent cleaner.
(NOTE: DO NOT USE A CAUSTIC CLEANER TO CLEAN THE CRUMB TRAYS)
- 3) Return crumb trays to the oven.

(NOTE: DO NOT RUN OVEN WITHOUT CRUMB TRAYS INSTALLED)

- 4) Once the oven has cooled, wipe exterior of unit with a damp cloth.



- 5) Wipe fan grill/air intake (located beneath the unit) to remove any dust build up using a damp cloth. Reassemble unit making sure crumb trays are properly installed.



- 6) Check beneath oven to make sure there are no obstructions to the air intake as shown below.



NOTE: Sandwich wraps should not be stored beneath oven.

WEEKLY CONVEYOR BELT CLEANING PROCEDURES FOR CONVEYOR OVEN MODEL 414HXM

1) Turn the unit off and allow oven to cool.

2) **DISCONNECT UNIT FROM POWER OR TURN POWER OFF AT WALL BREAKER.**

3) Remove the Load Up and Unload Trays as shown below.



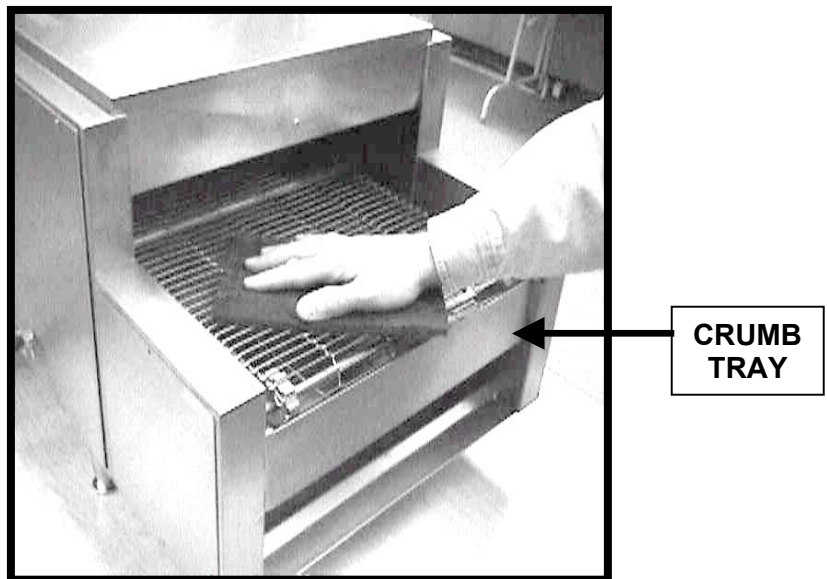
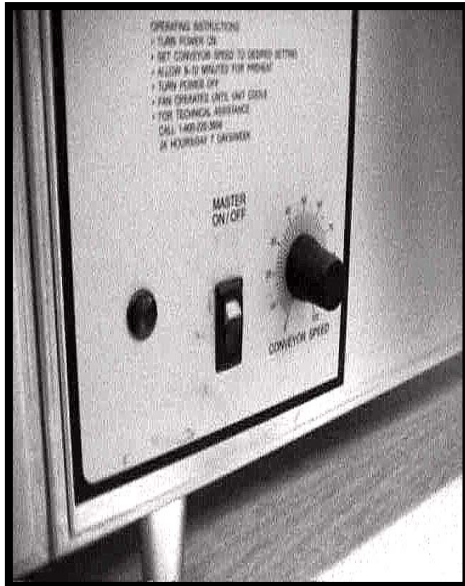
4) Remove Tunnel Extender by first removing screws as shown, and lifting up and away from unit.



5) Using a wire grill brush or dry abrasive pad, clean exposed surface of Conveyor Belt by passing brush or pad, back and forth across the surface of the Conveyor Belt.



- 6) When section of Conveyor belt is clean, remove wire brush or abrasive pad from conveyor surface. Reconnect power or turn power back on. Turn the ON/OFF switch to the **ON** position. Allow the Conveyor Belt to advance to expose another section of belt surface. Turn the ON/OFF switch to the **OFF** position. Disconnect or turn power off at wall breaker.



- 7) Repeat steps 3 and 4 until the entire surface of the Conveyor Belt has been cleaned.
- 8) Remove Crumb Trays from beneath Conveyor Belt and clean with a wet cloth and a mild detergent cleaner.

(NOTE: DO NOT USE A CAUSTIC CLEANER TO CLEAN THE CRUMB TRAYS)

- 9) Return Crumb Trays to oven.

(NOTE: DO NOT RUN OVEN WITHOUT CRUMB TRAYS INSTALLED)

- 10) Reinstall Tunnel Extender and test unit for proper operation.

**IF ASSISTANCE IS REQUIRED, CALL THE HOLMAN COOKING EQUIPMENT FACTORY SERVICE TEAM
AT 1-800-225-3958**

MONTHLY CLEANING PROCEDURES FOR CONVEYOR OVEN MODEL 414HXM

TO KEEP YOUR HOLMAN MODEL 414HXM CONVEYOR OVEN AT PEAK OPERATING EFFICIENCY, THE FOLLOWING INSTRUCTIONS ARE RECOMMENDED:

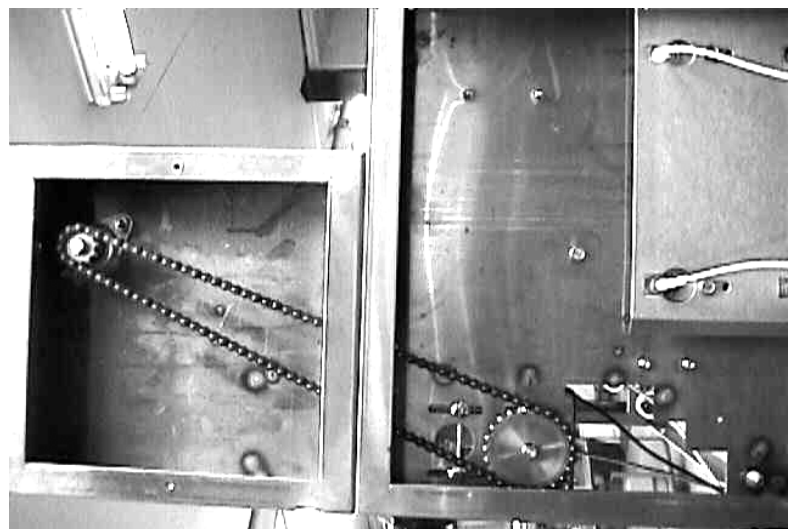
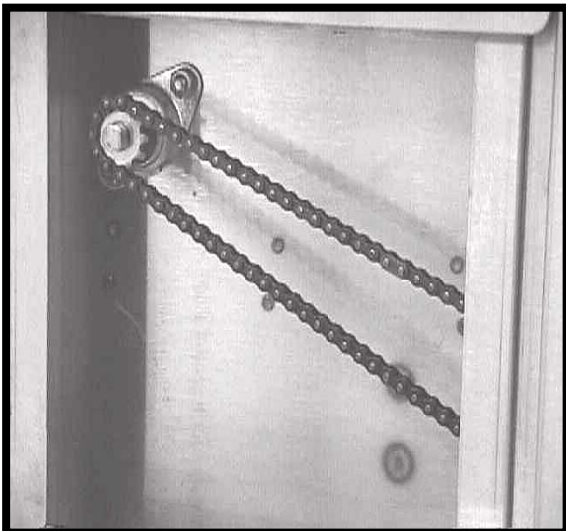
- 1) **WARNING: DISCONNECT UNIT FROM POWER SUPPLY OR TURN POWER OFF AT WALL BREAKER.**



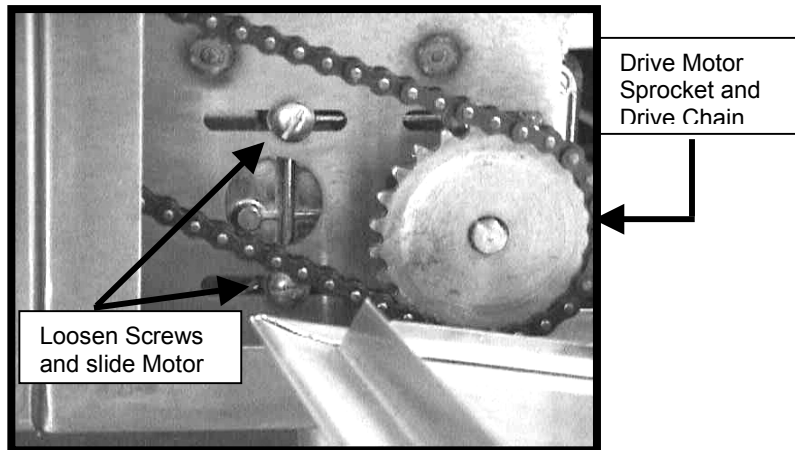
- 2) Working from the power supply side of the oven, locate the small side panel on conveyor extension. Remove two screws holding panel in place and remove panel. Drive chain is now exposed.



- 3) Check drive chain tension. When properly adjusted, chain will have about 1/8" play but will not sag.



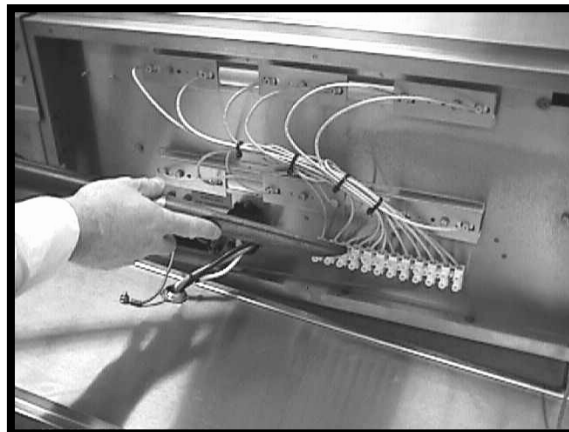
- a) To adjust drive chain tension remove power supply side panel and locate drive motor mounting screws (located behind drive motor sprocket). Loosen screws holding drive motor in place and slide drive motor forward or backward to adjust chain tension. When desired tension is achieved, retighten motor screws.



- 4) Clean air intake (beneath unit) by placing a support under load up end of oven and vacuuming any dust and debris built up on fan grill.



- 5) Return unit to counter and remove screw holding power supply side panel in place. Carefully lift panel up and out. Two ground straps hold panel to oven chassis. **DO NOT REMOVE GROUND STRAPS OR DISCONNECT POWER SUPPLY CORD.** Vacuum any dust and debris from inside of unit (repeat for opposite side).



6) While panels are removed, lubricate drive chain with a synthetic lubricant.



(NOTE: WD40 and similar lubricants are not recommended.)

7) Replace all panels when done. Mounting screws for panels should be started by hand, and then tightened with a screwdriver.

8) For exterior portions of unit that are heavily soiled, an abrasive pad may be used for cleaning. Be sure to pass the pad in the direction of the grain in the metal to maintain surface's finish. Lightly soiled surfaces may be cleaned with a damp cloth and mild cleaner.



9) Reconnect unit to power supply and test for proper operation.

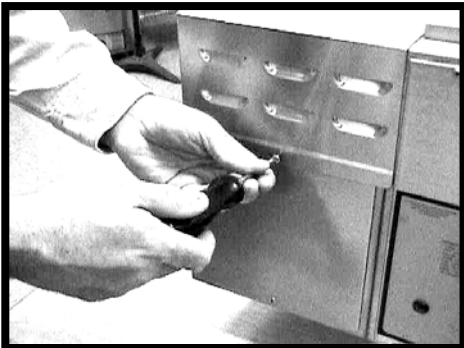
**IF ASSISTANCE IS REQUIRED, CALL THE HOLMAN COOKING EQUIPMENT FACTORY SERVICE TEAM
AT 1-800-225-3958**

6-MONTH CONVEYOR BELT CLEANING PROCEDURES FOR CONVEYOR OVEN MODEL 414HXM

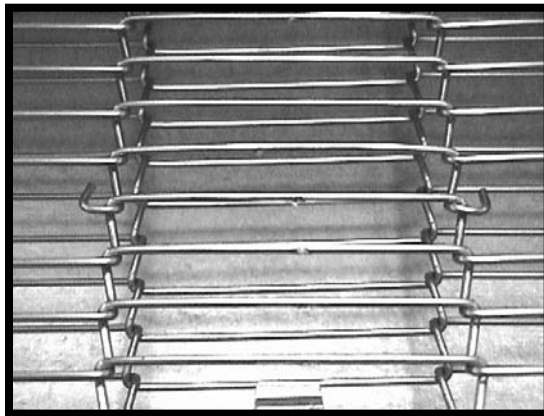
1) Turn the unit off and allow unit to cool. Remove the Load Up and Unload Trays as shown below.



2) Remove Tunnel Extender by first removing screws as shown and lifting up and away from oven.



3) Turn Master On/Off Switch to the **ON** position and allow conveyor to advance until the three **MASTER CLIPS** are visible. Turn the oven off and allow Conveyor Belt to cool before attempting to remove Master Clips.

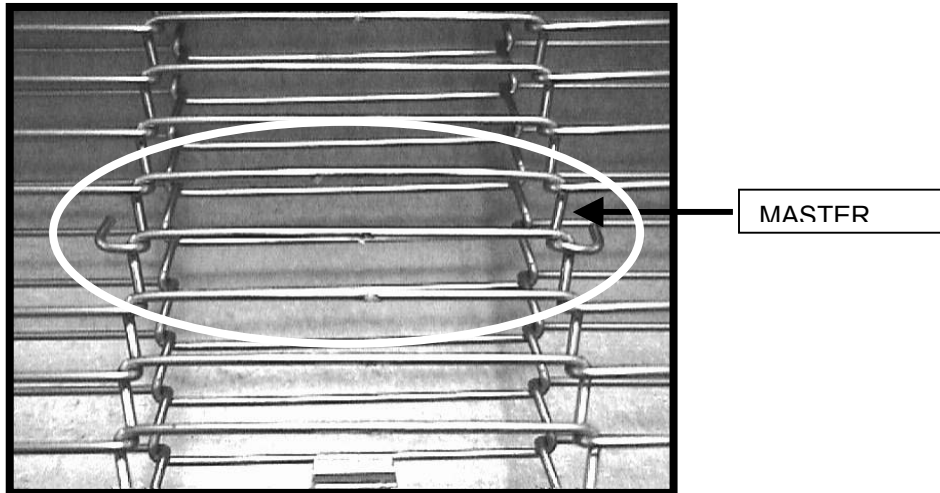


4) **WARNING - DISCONNECT UNIT FROM POWER SUPPLY OR TURN POWER OFF AT WALL BREAKER BEFORE PROCEEDING TO NEXT STEP.**

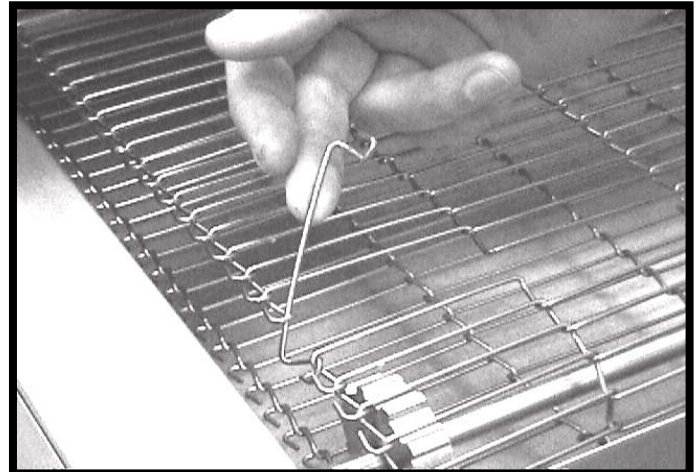
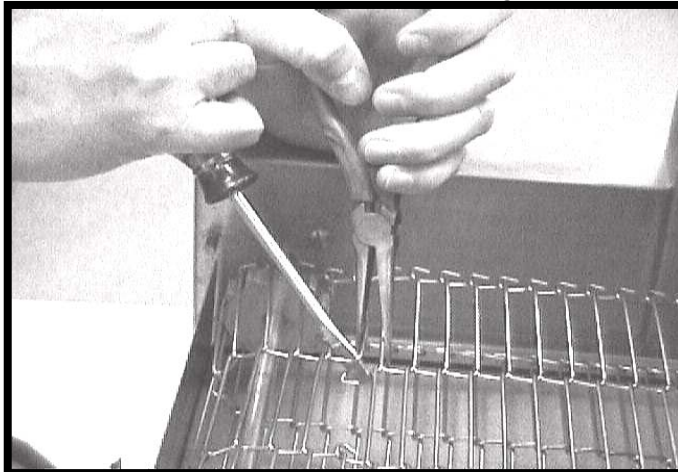


5) Remove Crumb Trays from load-up and unload end of oven.

6) Locate the three MASTER CLIPS in Conveyor Belt.



7) Begin at either side of the Conveyor Belt using a pair of Pliers and a flat tip Screwdriver. Remove the first clip and repeat for remaining clips.

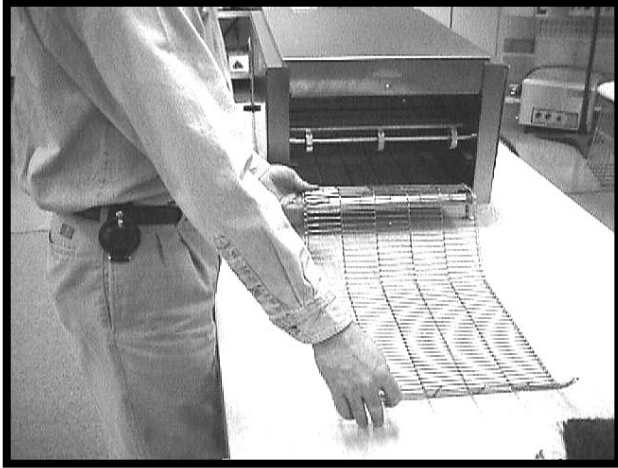


8) Once Master Clips have been removed, carefully open Conveyor Belt.



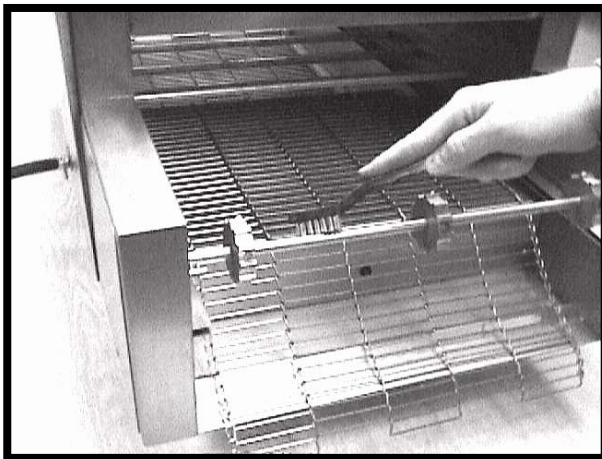
(NOTE: TO PREVENT DAMAGE TO ELEMENTS, DO NOT LET GO OF CONVEYOR BELT.)

9) Pull upper section of Conveyor Belt through oven cavity.



10) Use a small wire brush or abrasive pad to clean metal rods and idler/drive shafts.

(NOTE: DO NOT ATTEMPT TO CLEAN HEATER TUBES.)



11) For heavily soiled Conveyor Belt, remove belt from oven and soak over night in hot soapy water. Pay special attention to position of Conveyor Belt links for re-installation of the Conveyor Belt.

12) Clean interior of oven using a mild cleaner and damp cloth.

(NOTE: DO NOT SPRAY CLEANING SOLUTIONS INTO OVEN CAVITY.)

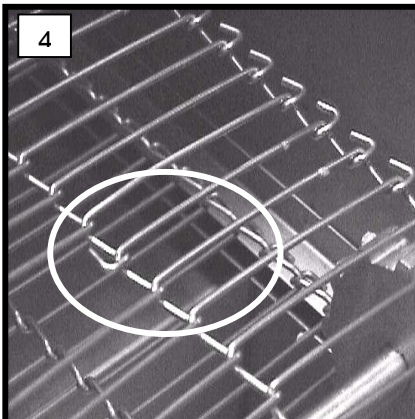
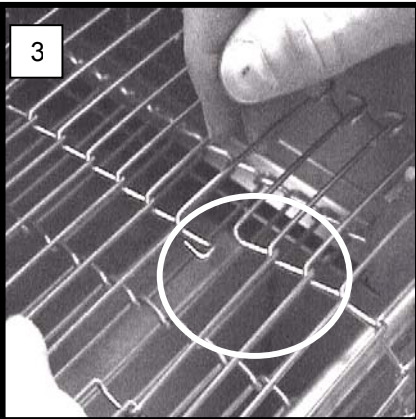
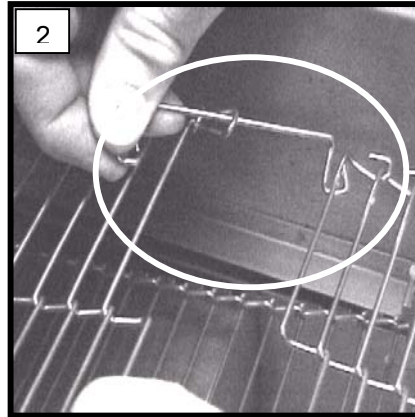
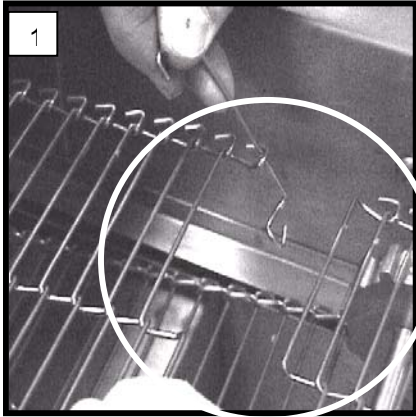
13) Reinstall Conveyor Belt by first lying belt along bottom of the oven cavity.

(NOTE: The smooth side of the belt must be installed to the outside away from the sprockets.)

Next, pull one end of conveyor belt over the lower heater tubes and bring both ends of conveyor belt together.



14) Working from either side of Conveyor Belt, use Master Clips to connect both ends of Conveyor Belt as shown below.



15) Repeat steps from pictures 1 through 4 for remainder of Master Clips.

16) Reinstall Tunnel Extender and Crumb Trays.

17) Reconnect oven to power supply and check for proper operation.

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AT 1-800-225-3958**

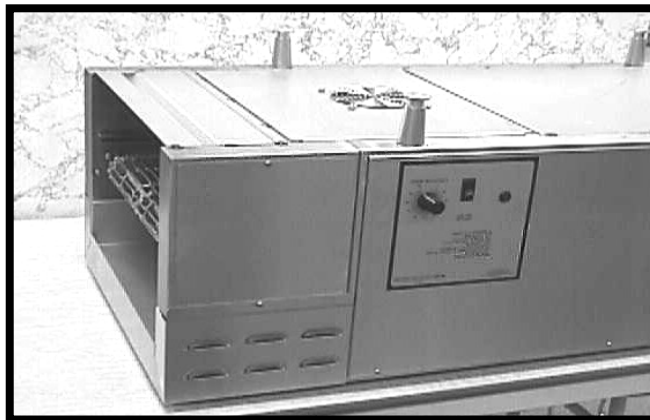
LONG-TERM MAINTENANCE PROCEDURES FOR CONVEYOR OVEN MODEL 414HXM

THE FOLLOWING INSTRUCTIONS ARE INTENDED FOR MAINTENANCE PERFORMED EVERY SIX MONTHS

- 1) **WARNING: DISCONNECT UNIT FROM POWER SUPPLY OR TURN POWER OFF AT WALL BREAKER.**



- 2) With the power off, allow the unit to cool completely. Place oven on top cover as shown below.

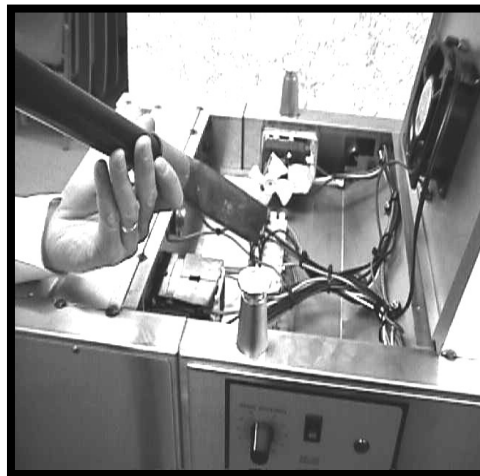


(NOTE: TO PREVENT DAMAGE TO CONTROLS OR ELEMENTS DO NOT SET OVEN ON SIDE PANELS.)

- 3) Remove screws holding control box cover in place. Lift cover up and pull forward to remove.



4) Using a vacuum, clean fan motor and inside of control box.



5) Replace control box cover and fasten with screws. Carefully turn unit over and set on legs.

6) Remove side panels and vacuum compartments as performed under monthly cleaning procedures.

HEATER TUBE REPLACEMENT PROCEDURES FOR CONVEYOR OVEN MODEL 414HXM

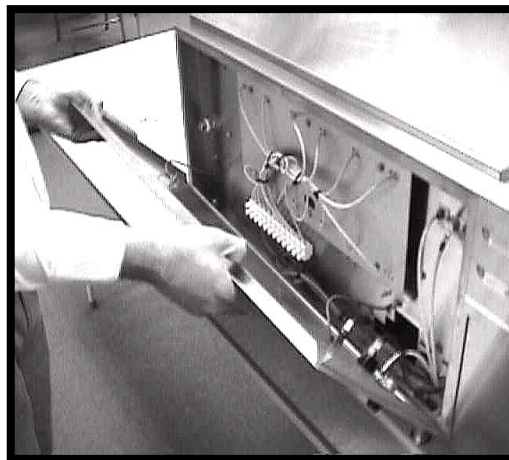
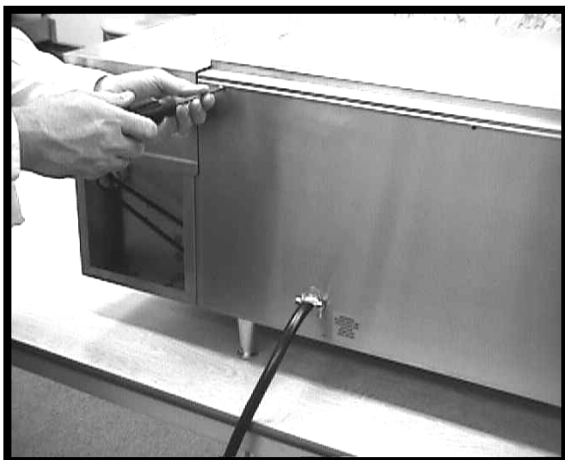
1) **WARNING - DISCONNECT UNIT FROM POWER SUPPLY OR TURN POWER OFF AT WALL BREAKER.**



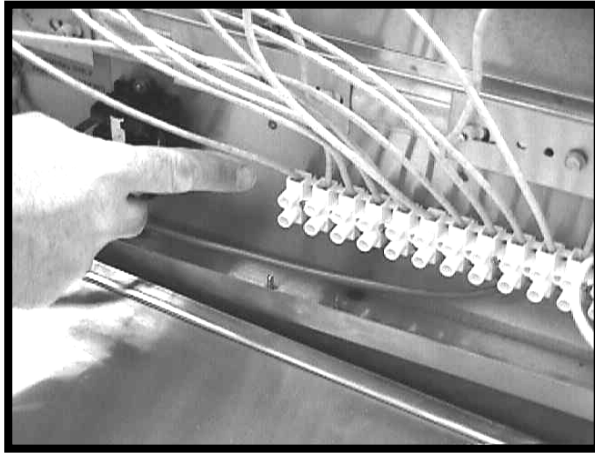
(NOTE: PERFORM THIS MAINTENANCE ONLY WHEN THE CONVEYOR OVEN IS COOL.)

2) Position unit for access to front and rear panels.

3) Remove screws holding front and rear panels. Lift panels up and out to remove.

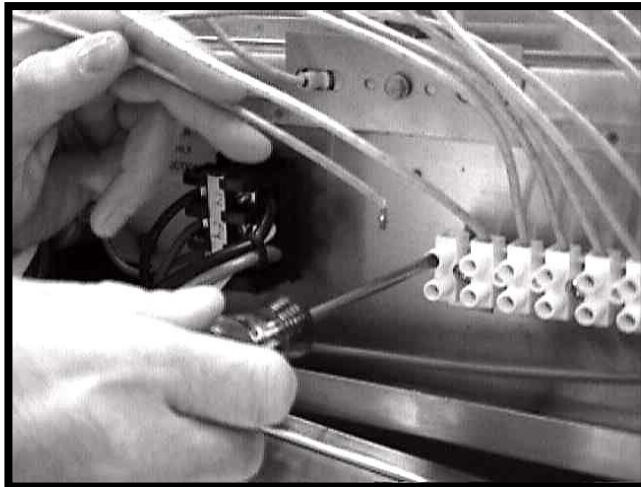


4) Each heater tube has it's own connection to the terminal block as shown.

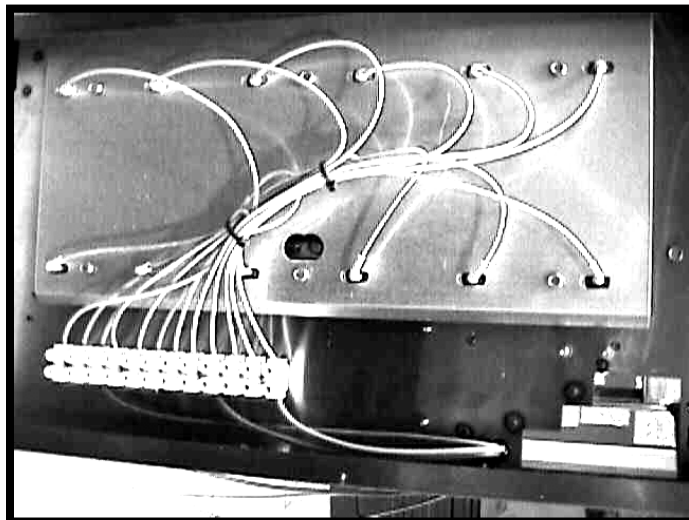


(NOTE: REPLACE ONLY ONE PAIR OF HEATER TUBES AT A TIME AND MARK WIRE LOCATION IN TERMINAL BLOCKS BEFORE DISCONNECTING ANY WIRES.)

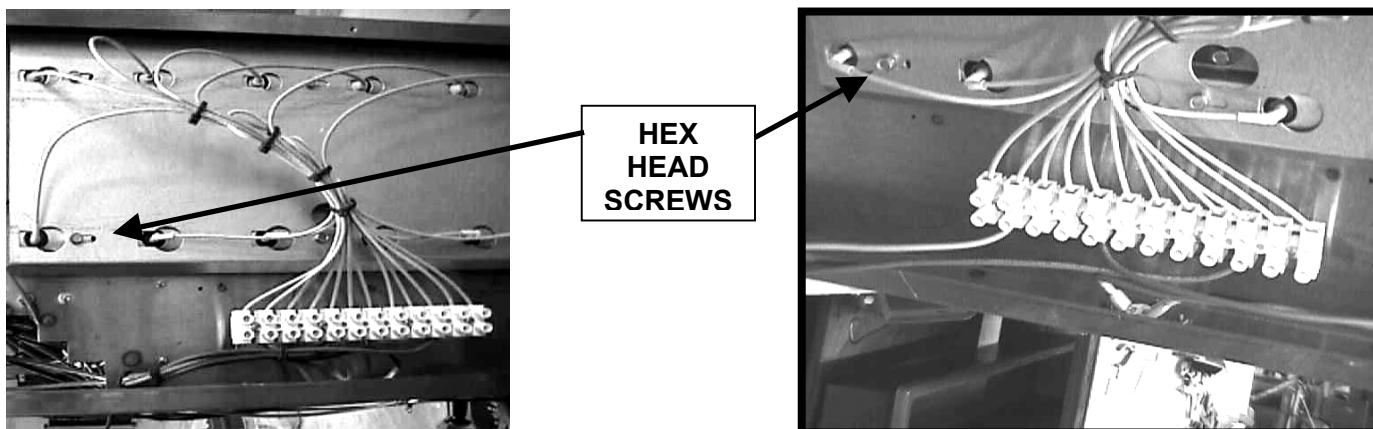
5) Select first pair of heater tubes to be replaced and remove wires from terminal block connections (both ends of the heater tube).



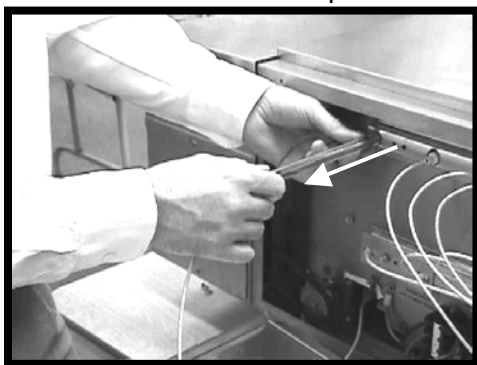
6) The heater tubes are held in place by a heater tube retainer that is accessible on the power supply side of the oven.



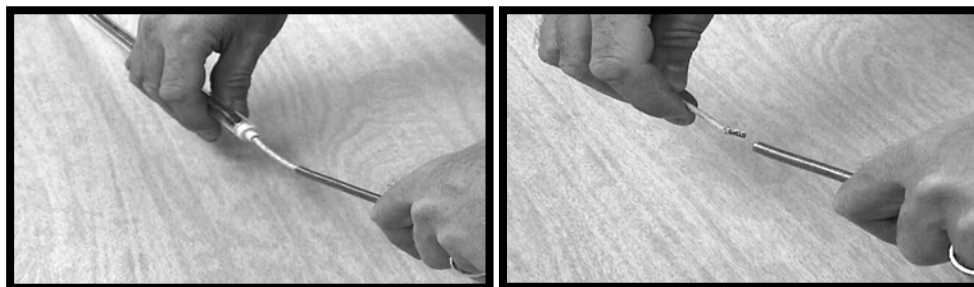
- 7) Loosen the 10/24 hex head screws holding the retainer in place and slide the retainer so the round part of the keyhole slot is directly in front of the heater tube. Tighten one screw to secure the retainer in this position.



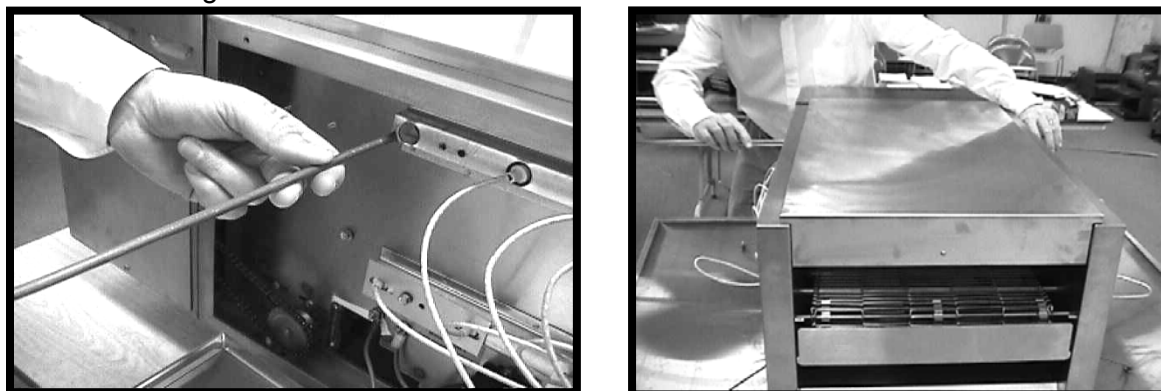
- 8) Gently slide one heater tube out of hole. Repeat for second heater tube.



- 9) Select new heater tube to be installed. To ease installation, a short piece of tubing such as an automotive brake line or sipping straws may be used. Insert heater tube wire into one end of tubing. Slide tubing over length of wire as shown.

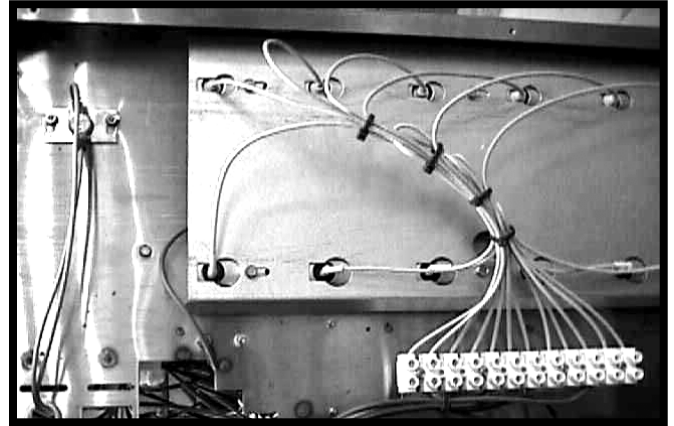
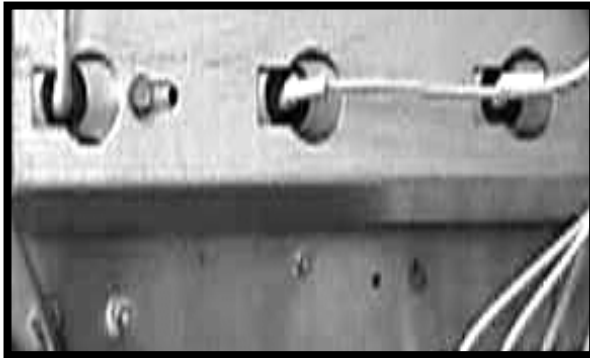


- 10) Insert end of tubing into heater tube hole in unit wall. Gently slide heater tube through hole, guiding tube through hole on other side of the oven.

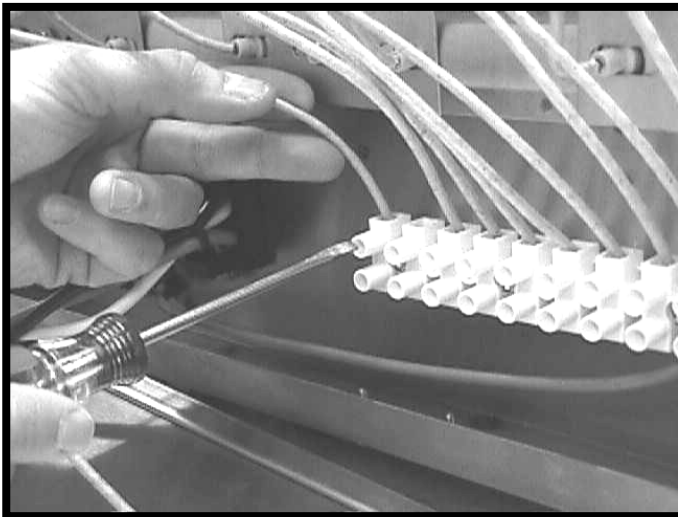


11) Select second heater tube and repeat steps 9 through 11 for next heater tube.

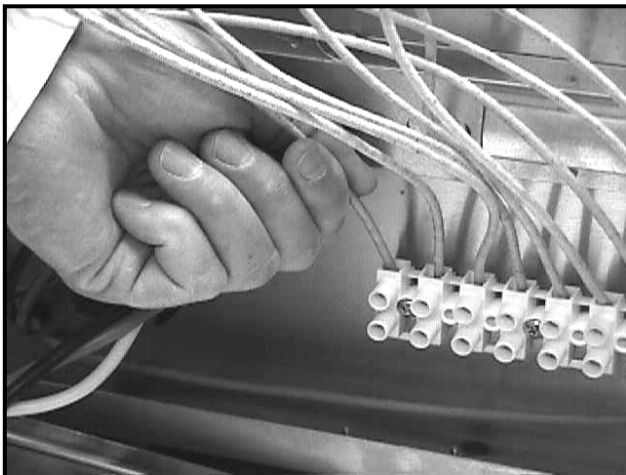
12) When heater tubes are installed, loosen the hex head screw and slide the retainer so the square part of the keyhole is over the heater tubes. Retighten all the hex head screws.



13) Reconnect wires to terminal block and check connections.



14) Tug lightly on wire to ensure a good connection.



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AT 1-800-225-3958**



Holman Cooking Equipment, Inc.

Common Questions, Myths, and Misconceptions Of Holman Conveyor ovens

Misconception: High Voltage (208v typical) is always the same.

Reality: *A unit designed for 208v should operate from 208-215v. This range is typical of local power grids and daily fluctuations. Some municipalities operate at 220 and 240v that would require design variations. Improper voltage can result in reduced control, performance, and reliability. Voltage mismatches or daily fluctuations can be monitored for corrective action.*

Misconception: The under-carriage of your Conveyor oven is a safe haven for paper wraps and utensils.

Reality: *The high-speed fan is the lungs of your unit. The unit has under-clearance to maximize fan performance, cooling, safety, and reliability. Please maximize the air-circulation to your fan and clean the debris on fan-grill often. Note: Beware of paper and plastic wraps being drawn into fan-grill.*

Misconception: Vent hoods can be hard-wired into the Conveyor oven or to the same wall circuit.

Reality: *Your Conveyor oven cannot support the current draw of the unit and a hood. This practice will decrease performance and reliability as well as jeopardize the Underwriter Laboratory's safety certification. Please have a qualified electrician wire your vent hood to a separate circuit.*

Misconception: My Conveyor oven is maintenance-free.

Reality: *Proactive or preventive maintenance (PM) is the best way to protect against a catastrophic failure (Murphy's Law states: components will fail at peak sandwich time). Maintenance provisions include heater-tubes, fan, chain, belt, incoming power, lubrication, working and aesthetic surfaces, overall cleanliness, and ventilation. Refer to weekly, monthly, and long-term maintenance manuals for step-by-step instruction. Owning an emergency repair kit is also recommended.*

Misconception: My heater-tubes will last forever.

Reality: *Your infra-red radiant style heating elements use a quartz sheath. They are extremely effective and efficient in the bake, as well as producing quick rise-time from cold start to full bake. However, just like a light bulb, quartz is brittle and can break from jarring or careless maintenance. Long-term degradation of quartz also occurs from air borne sugars, salts, and debris settling on the sheath. For consistent performance replace your tubes at prescribed intervals.*

"It's what you learn after you know it all that counts." -John Wooden