operator manual

Impinger® Low Profile
Series 1600

This document includes:

- Safety Notices
- Specifications
- Installation Instructions
- Operating Instructions
- Cleaning Instructions
- Warranty Statement



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P/N: 2810081

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IMPORTANT WARNING AND SAFETY INFORMATION

NOTE:	This manual contains important safety and installation-operation instructions. Require all operators to read this manual thoroughly before installing, operating or servicing this equipment. Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death.
WARNING:	This appliance is not intended for use by young children or infirm persons unless they have been adequately supervised by a responsible person to ensure that they can use the appliance safely. Young children should be supervised to ensure that they do not play with the appliance.
DANGER!	Do not work around conveyor belt with long hair, loose clothing, or dangling jewelry. Getting caught in the belt could result in serious injury.
DANGER!	For your safety, do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.
DANGER!	Do not spray aerosols in the vicinity of this appliance while it is in operation.
DANGER!	If the power supply cord appears to be damaged, do not attempt to operate the unit. Contact a service agent or qualified electrician to repair!
DANGER!	Do not use parchment paper when placing food product through the toaster! Use of such materials may cause a fire and should never be placed in the toaster.

· Obtain from your local gas provider and post in a prominent location instructions to be followed in the event gas odors are detected.
· It is required that the oven be placed under a ventilation hood to provide for adequate air supply and ventilation.
· Minimum clearances must be maintained from all walls and combustible materials. See “spacing instructions” for additional information.
· Keep the oven free and clear of combustible material.
· Adequate clearance for air openings to the combustion control chamber on both sides of the oven is required.
· Do not obstruct the ventilation holes in the control panels, as these provide the combustion air for the burner and cooling air for the controls.
· The oven is to be operated only on the type of gas and/or electricity as shown on the specification plate.
· The power burner will not operate and gas will not flow through the burner without electrical power.
· This manual should be retained for future reference.
· The electrical wiring diagram is located under the control box covers.

PURCHASER'S RESPONSIBILITY

It is the responsibility of the purchaser to:

1. See that the gas and electric services for the oven are installed on site in accordance with the manufacturer's specification.
2. Unload, uncrate, and install the oven in its proper location; in accordance with this installation / operation manual.
3. See that the gas and electric services are connected properly by a qualified installer of your choice. *For installation in the State of Massachusetts: Installation of this oven must be performed by a licensed plumber or gas fitter.* All such connections must be in accordance with applicable code requirements. Refer to Page 9 for specific code references.
4. Arrange for inspection and operation check-out by an Authorized Service Technician as described below:

Do not attempt to operate the oven until connection of utility service has been fully inspected by an Authorized Service Technician or a Lincoln Foodservice Products, LLC Service Representative. This service is required by Lincoln Foodservice Products, LLC in order to assist the purchaser in proper start-up of the oven on site. Please note the specific details on the Warranty and make certain connections are made to proper utility services.

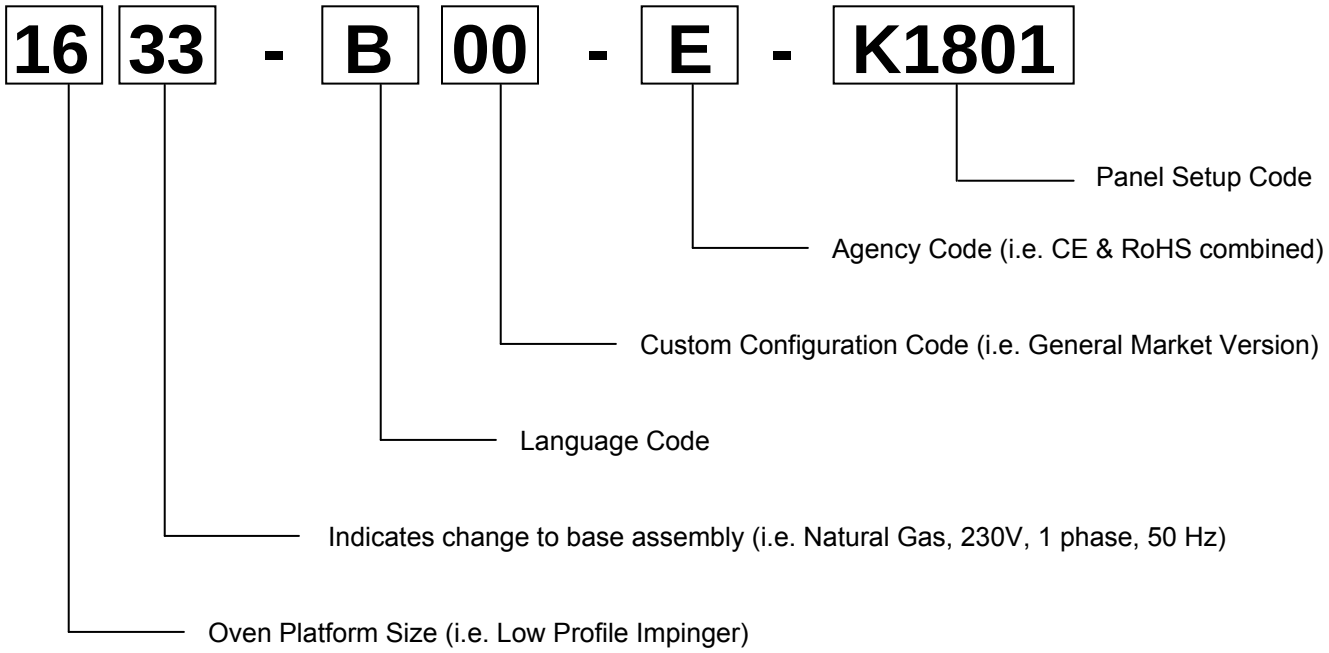
The warranty shall not apply if the oven(s) are started up and operated prior to the utilities and oven being inspected and check out made by an Authorized Service Technician or a Lincoln Foodservice Products, LLC Service Representative.

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MODEL NUMBER KEY

EXAMPLE: 1633-B00-E-K1801



CODE	LANGUAGE	COUNTRY		CODE	LANGUAGE	COUNTRY
0	English	Dom. & Int. Default		N	Finnish	Finland
B	French	France/Luxembourg		O	Restricted	---
C	German	Germany		P	Norwegian	Norway
D	Italian	Italy		Q	English	Japan
E	Spanish	Spain		R	Swedish	Sweden
F	English	UK/India/Africa/Hungary		S	English	Australia
G	Spanish	Mexico/Latin America		T	Mandarin	China
H	Portuguese	Portugal		U	Restricted	---
I	Not Used	---		V	English	Pacific Rim/Korea
J	Danish	Denmark		W	English	Middle East
K	Dutch & French	Belgium		X	Not Used	---
L	Dutch	Netherlands		Y	Not Used	---
M	Greek	Greece		Z	Not Used	---

AGENCY CODE TABLE

CODE	AGENCY
N	No Agency
E	CE & RoHS compliance combined
U	US & Canada compliance only
A	Advantage style oven to be phased-out
B	Australia AGA

UTILITY SPECIFICATIONS REQUIRED – ELECTRIC

Model	Energy	Power	Voltage	Current	Phase	Hz	Recommended Electrical Specifications
*1621-xxx-E-Kxxx	Electric	22 kW	400/230 VAC	42 Amps	3	50 Hz	5 Wires, 3 Poles 1N-1G
*1622-xxx-E-Kxxx	Electric	22 kW	120/208 VAC	81 Amps	3	60 Hz	5 Wires, 3 Poles 1N-1G
*1623-xxx-E-Kxxx	Electric	22 kW	120/240 VAC	70 Amps	3	60 Hz	5 Wires, 3 Poles 1N-1G
*1624-xxx-E-Kxxx	Electric	22 kW	220 VAC	70 Amps	3	60 Hz	5 Wires, 3 Poles 1N-1G
*1628-xxx-E-Kxxx	Electric	22 kW	380/220 VAC	44 Amps	3	50 Hz	5 Wires, 3 Poles 1N-1G
*1629-xxx-E-Kxxx	Electric	22 kW	415/240 VAC	40 Amps	3	50 Hz	5 Wires, 3 Poles 1N-1G

UTILITY SPECIFICATIONS REQUIRED – GAS

Model	Energy	Power	Voltage	Current	Phase	Hz	Recommended Electrical Specification	Gas
*1600-xxx-E-Kxxx	Nat. Gas	110,000 BTU	120 VAC	14 Amps	1	60 Hz	3 Wires, 1 Pole 1N-1G	****110,000 BTU at 7 in. H_2O column
*1601-xxx-E-Kxxx	L.P. Gas	110,000 BTU	120 VAC	14 Amps	1	60 Hz	3 Wires, 1 Pole 1N–1G	****110,000 BTU at 11 in. H_2O column
*1633-xxx-E-Kxxx	Nat. Gas	H_s 33 kW	230 VAC	4 Amps	1	50 Hz	3 Wires, 1 Pole 1N-1G	H_s 33 kW/hr at 17.4 mB H_2O column
*1634-xxx-E-Kxxx	L.P. Gas	H_s 36 kW	230 VAC	4 Amps	1	50 Hz	3 Wires, 1 Pole 1N-1G	H_s 36 kW/hr at 27.4 mB H_2O column
1635-xxx-E-Kxxx	Nat. Gas	110,000 BTU	230 VAC	4 Amps	1	50 Hz	3 Wires, 1 Pole 1N-1G	110,000 @ 1.7 kPa

** Reference Model Key*

Electrical Supply for Australia:
Single Phase: 240VAC, 50Hz / 20 Amp: one neutral & one earth/ground.
Three Phase: 240/415 VAC / 20 Amp; three active, one neutral & one earth/ground.

** In Australia, use a 10 Amp General Purpose Outlet

All ovens require separate service and dedicated neutral.

GAS PRESSURE CONVERSION CHART			
Inches of Water Column	KPa	m-Bar	Millimeters of Water Column
3.5	0.87	8.70	88.9
4.5	1.12	11.2	114.3
7	1.74	17.40	177.8
10	2.48	24.87	254.0
10.5	2.61	26.11	266.7
11	2.73	27.36	279.4
14	3.48	34.81	355.6
14.5	3.61	36.05	368.3

***NOTE: For proper operation, the gas valve requires a nominal inlet pressure of 7 inches H_2O column for natural gas and 11 inches of H_2O column for L.P. gas. A minimum inlet pressure of 1.0 inch of H_2O above the manifold setting (NAT. manifold 3.5" H_2O, L.P. manifold 10" H_2O) must be maintained with no pressure drop from the no load to full load condition. The maximum inlet pressure must be maintained at or below ½ PSIG (14.5 inches H_2O column). Refer to the chart on the left for pressure conversions.

SPACING

The right and left side of the oven must have a minimum 3-inch (75mm) clearance from all surfaces. The oven rear, WITH COOLING DUCTS ATTACHED, requires no clearance. The front of the oven requires a minimum 36-inch (914.4mm) clearance from all surfaces. An 18-inch (457mm) clearance on both sides of the oven may be required for service accessibility. In case other cooking equipment is located on both sides of oven, a minimum 24-inch (609mm) clearance is required for that equipment.

NOTE: Do not install ovens in any area with an ambient temperature in excess of 95°F / 35°C. Doing so will cause damage to the unit(s).

CAUTION: OVEN(S) MUST BE OPERATED ON APPROVED BASE ONLY.

VENTILATION

A VENT IS REQUIRED: Local codes prevail. These are the "authority having jurisdiction" as stated by the NATIONAL FIRE PROTECTION ASSOCIATION, INC. in NFPA 96 latest edition. In addition, to be in compliance with the NFPA 54 Section 10.3.5.2, this unit must be installed with a ventilation hood interlock that prevents the unit from operating when the ventilation hood is off. For further ventilation information, see below.

VENTILATION GUIDELINES

A ventilation hood is required to remove heat and cooking odors. For gas ovens, a ventilation hood is also required to remove the products of combustion. The hood and HVAC installation must meet local codes to gain approval by the authority having jurisdiction. Requirements may vary throughout the country depending on the location by city, county, and state. Obtain information from the authority having jurisdiction to determine the requirements for your installation. Obtain information and review copies of codes or documents that will be used to inspect and approve your installation. Your ventilation hood supplier and HVAC contractor should be contacted to provide guidance. A properly engineered and installed ventilation hood and HVAC system will expedite approval and reduce oven maintenance costs. Proper ventilation is the oven owner's responsibility.

The ventilation hood must operate in harmony with the building HVAC system. It typically requires between 2500 and 6000 CFM exhaust. (The "Efficiency" of various hood designs makes it necessary to specify such a wide range of ventilator CFM.) Make up air must be supplied by either a hood design or the HVAC system. This will vary with hoods from various manufacturers.

CAUTION: Prevent airflow through the cooking chamber. Air must NOT be directed onto the oven front, side or rear of the oven.

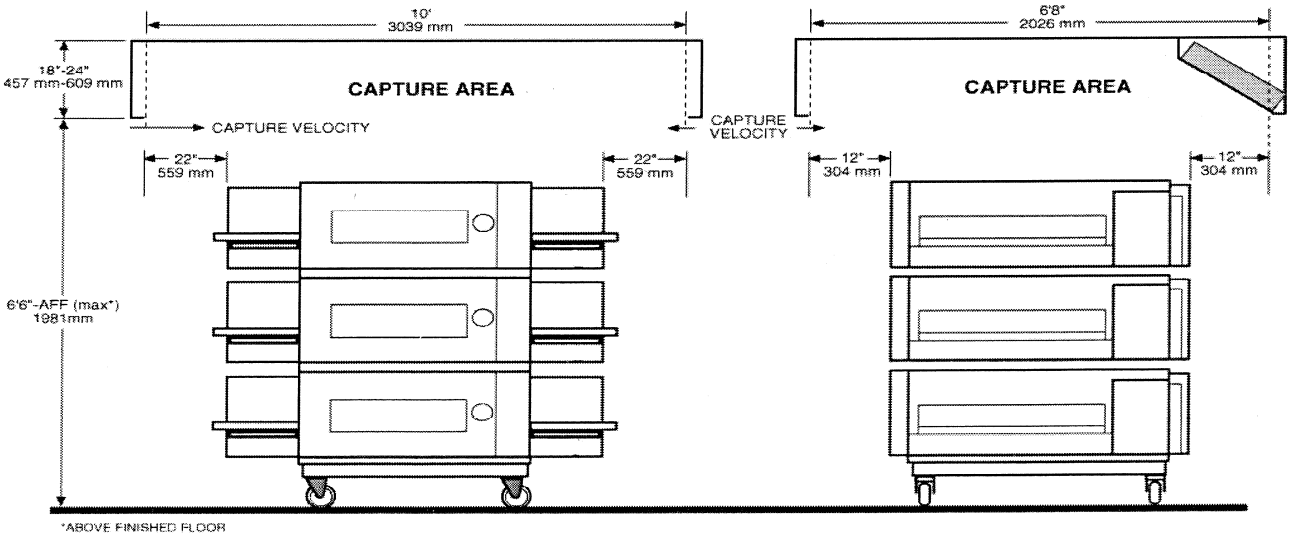
Performance will be evaluated during Start-up Checkout by conducting a smoke candle test. The hood must capture all smoke from the oven. This is required to assure proper performance of the oven and to eliminate additional service calls that occur when ambient temperatures are too high. In all cases, the ambient temperature around the oven must be less than 95° F / 35° C when the oven is operating. In certain localities, other chemical or gaseous methods of detecting adequate capture will be the requirement to meet the local code authority.

The drawing shown below is a typical installation and is intended to be a guideline. It is not a rigid specification. Hood dimensions and the positioning of the hood over the oven will vary with hood manufacturers.

NOTE: Lincoln can provide oven spec sheets that show the dimensions of the oven, KW or BTU ratings and other information that will be useful to both the ventilation hood supplier and the HVAC contractor.

CANOPY VENTILATION RECOMMENDATIONS

(Hood shown as dimensional for island mount-size reductions may be possible for wall mount units.)



SMOKE CANDLE TEST – VENTILATION SYSTEM VERIFICATION

OVEN SET-UP FOR THIS TEST:

1. This test is to be done on the bottom oven of a multiple oven system, or a single oven.
2. The conveyor must be off.
3. The oven temperature must be set and operating at 550°F/288°C.

TEST PROCEDURE:

Note: Use Lincoln Smoke Candle #369361 (in Australia, an alternate method of coloring the air may be used).

1. Wear heat resistant gloves to prevent burns to your hands.
2. Put the smoke candle in a cake pan approximately 8 inches (200 mm) x 8 inches (200 mm) x 2 inches (50 mm) deep or equivalent.
3. Open the optional access window in the oven door, or insert candle through conveyor opening.
4. Light the fuse of the smoke candle and immediately put the pan and candle into the center of the oven cavity, on the conveyor belt. (Close the access window or door.)
5. Observe the smoke pattern coming out of the oven openings and the collection of this smoke by the ventilation system.
6. **The ventilation system must capture all the smoke from the oven.**

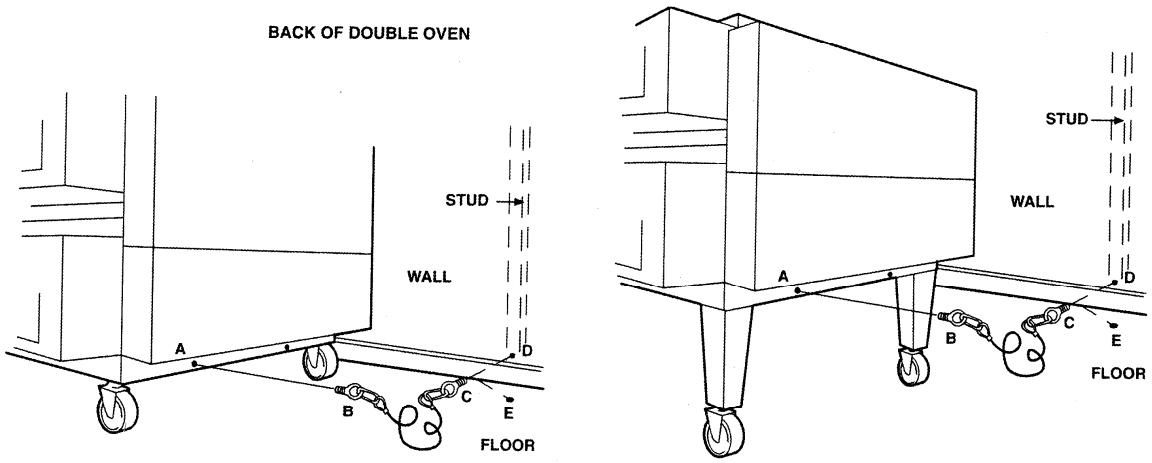
RESTRAINT REQUIREMENT – GAS OVEN(S) ON CASTERS, U.S. AND AUSTRALIA

1. The installation shall be made with a gas connector that complies with the Standard for Connectors for Movable Gas Appliances, ANSI Z21.69 latest version, and a quick disconnect device that complies with the Standard for Quick Disconnect Devices for Use With Gas Fuel, ANSI Z21.41 latest version.

   IN CANADA: The installation shall be made with gas connectors that comply with Canadian Code CSA 6.16 latest version and quick disconnects complying to Canadian Code CSA 6.9 latest version.

   IN AUSTRALIA: To be installed in accordance with AS 5601-2004 and 4563-2004 Gas Installation Code.

2. The installation of the restraint must limit the movement of the oven(s) without depending on the connector, the quick disconnect device or its associated piping to limit the oven movement.
3. If the restraint must be disconnected during maintenance or cleaning, it must be reconnected after the oven has been returned to its originally installed position.



OPERATIONS

1. Screw lifting eye “B” of cable assembly to hole “A”.
2. Screw eye bolt “C” of cable assembly to stud in wall “D” or floor anchor “E”.

NOTE: Installation point is the same for single, double or triple stack oven(s).

GENERAL INFORMATION

The instructions that follow are intended as a guide for preparing for the installation of the Impinger® Conveyor Ovens, Series 1600.

First and foremost, each crate should be examined before signing the Bill of Lading to report any visible damage caused by the trucker in transit, and to account for the proper number of crates.

UNLOADING

When the oven arrives it should consist of:

1. A crate containing oven body, conveyor, fingers, crumb pans, and pan stop. (Some models may have the conveyor packed separately.)
2. A package containing the stand and top.

It is recommended that you have a material-handling device available to unload.
DO NOT LIFT EXCESSIVE WEIGHT!

IF THERE IS APPARENT DAMAGE:
UNITED STATES AND CANADA: Arrangements should be made to file a claim against the carrier, as Interstate Commerce Regulations require that the consignee initiate a claim.
ALL SHIPMENTS TO OTHER COUTRIES: Freight terms will be developed and extended on an individual basis.

Proper and secure storage facilities should be arranged for the oven(s). If necessary, protect it from outdoor or damp conditions at all times before installation.

UNCRATING
When you have all the crates unloaded, open the crates and remove the plastic covers. Inspect at once for concealed damage. If anything appears to be damaged, contact the appropriate persons immediately to file a damage claim. After completing this inspection, finish unpacking the oven and all other components. **Be sure to remove the cardboard from the plenum shroud.** Move all components inside near the area where they will be assembled in the order in which they will be assembled.

THE OVEN WILL CLEAR THROUGH A 30" (762 mm) DOORWAY BY USING THE FOLLOWING PROCEDURE:

1. Model 1600 Series
   A. Remove conveyor; see page 21 for instructions. (Some units may have conveyor packed separately.)
   B. Remove front doors by lifting the doors from the hinge plates.
   C. Place oven front on a four-wheel moving dolly and it will clear a 30" (762 mm) doorway.
   NOTE: Use care not to damage hinge plates on oven front.



CAUTION: DO NOT LIFT THE UNIT BY EITHER OF THE CONTROL BOXES.

CODE REFERENCE



WARNING
INT'L (CE): This appliance must be properly grounded at time of installation. Failure to ensure that this equipment is properly grounded can result in electrocution, dismemberment or fatal injury.

GAS CODE REFERENCE

Safe and satisfactory operation of this oven depends to a great extent upon its proper installation, and it should be installed, as applicable in accordance with the National Fuel Gas Codes, ANSI Z223.1/NFPA 54, latest version, Manufacturers' installation Instructions and local municipal building codes.

1. The oven and its individual shut off valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of ½ psig (3.45kPa).
2. The oven must be isolated from the gas supply piping system by closing its individual manual shut off valve during any pressure testing of the gas supply system at test pressures equal to or less than ½ psig (3.45kPa).

IN MASSACHUSETTS: The minimum length of a flexible gas supply hose is thirty-six (36") inches.
IN CANADA: The installation of these appliances is to be in accordance with CSA B149.1 latest version – Natural Gas and Propane Installation Code – and/or local codes.
IN AUSTRALIA: To be installed in accordance with AS 5601-2004 and 4563-2004 Gas Installation Code.

CODE REFERENCE (CONTINUED)

ELECTRICAL CODE REFERENCE

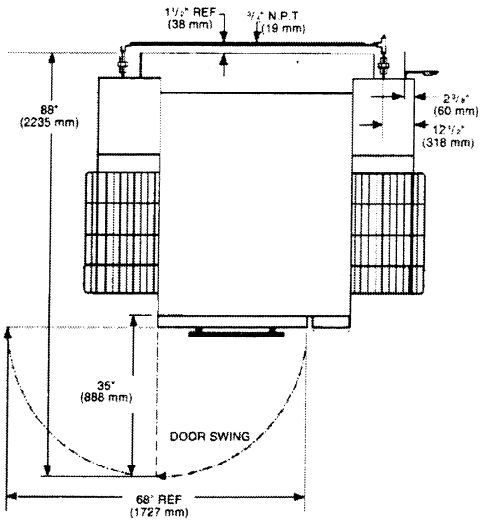
When installed, this appliance must be electrically grounded and its installation must comply with the National Electric Code, ANSI-NFPA 70, latest edition, the Manufacturers' Installation Instructions, and applicable local municipal building codes.

IN CANADA: All electrical connections are to be made in accordance with CSA C22.1 – Canadian Electrical Code and/or local codes.

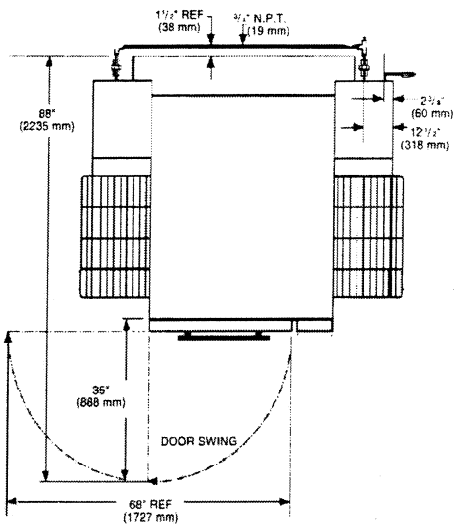
ALL OTHER COUNTRIES: Local gas and/or electrical codes will prevail.

1. Strain Relief is provided with each oven. International Dealer/Distributors provide applicable power cord/plug for each customer.
2. All pole disconnection switch 3mm open contact distance.
3. To prevent electrical shock, an equal potential bonding ground lug is provided in the back. This allows the oven to be connected to an external bonding system.
4. If used as double or triple stack and each oven has its own disconnection switch, all switches should be close together.

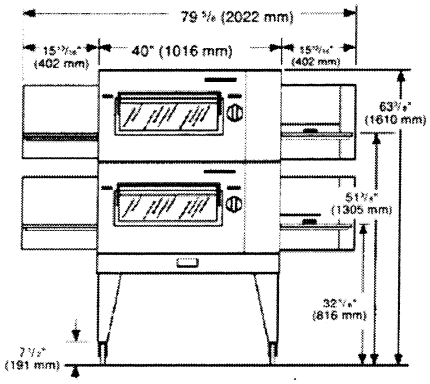
EXTERIOR DIMENSIONS - 1600-000-A



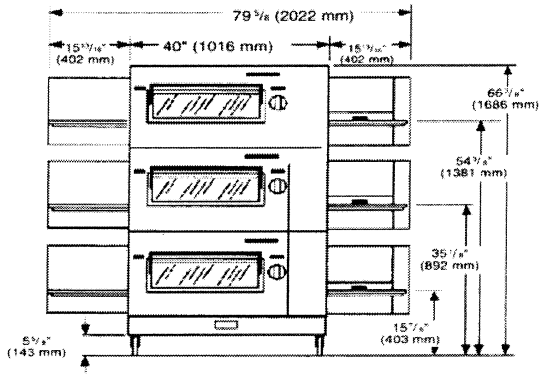
TOP VIEW GAS



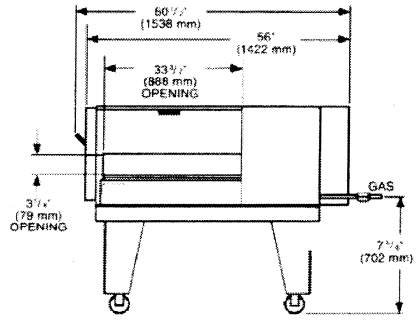
TOP VIEW ELECTRIC



FRONT VIEW DOUBLE



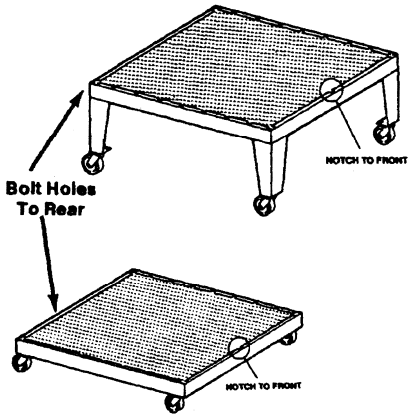
FRONT VIEW TRIPLE



SPECIFICATIONS

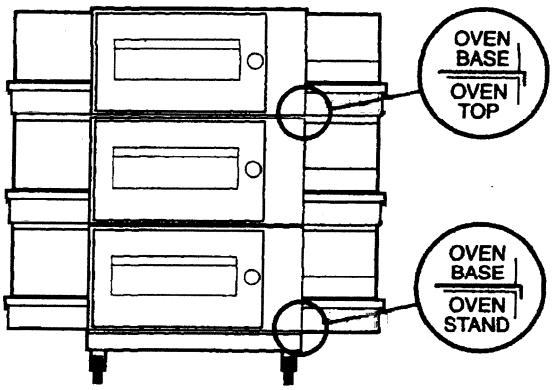
BODY: Stainless Steel
POWER: Gas and/or Electric
DB LEVEL: ≤ 77dba
OPERATING TEMPERATURE RANGE: 300°-600°F (149°-316°C)

ASSEMBLY INSTRUCTIONS



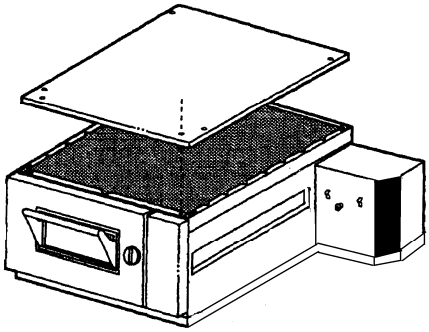
1. Oven stand has a small notch (see figure above) to locate front of stand. Notch should be located under oven door when oven is placed on stand. Using a carpenter's level, level all four (4) sides of the stand. Also, bolt holes should be located at rear of stand.

   NOTE: The oven top is packed with the oven stand. Remove top from stand before assembly.



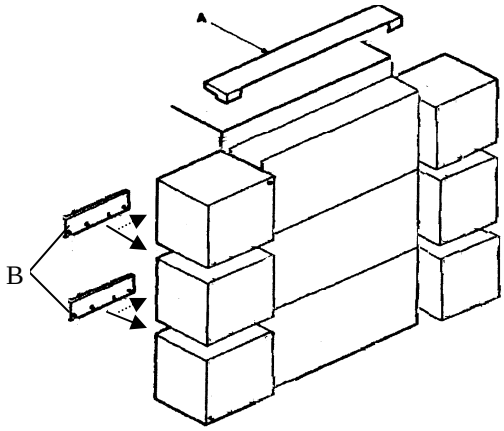
2. Remove the oven from the dolly and set it on the stand. Be sure that the oven sets squarely on the stand and is fully seated.

   If you purchased a multiple oven, place the second and third ovens on top of the first. Be sure that they set on squarely and are fully seated.



3. NOTE: When stacking ovens, remove the cover mounting screws to provide a flush fit.

   Install oven top with #8-32 screws provided.

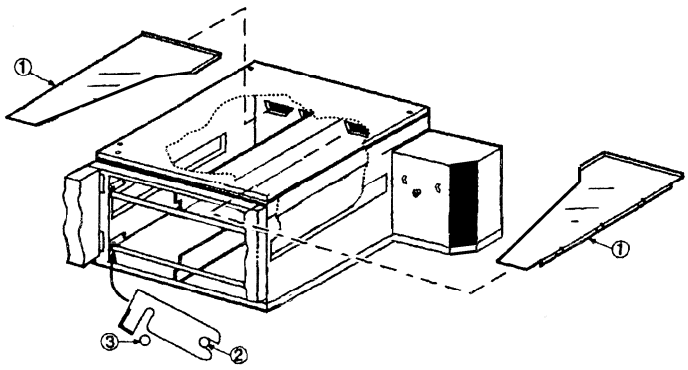


4. Install duct cover top cap (A), and right and left air baffles (B) should be attached between the control boxes on both sides of the ovens (as illustrated above below). Use #8 screws provided.

5. Before installing the finger supports in the oven(s), be sure all of the packing materials are removed from the plenum shroud.

   Install air return baffles (1), two top and two bottom, as shown.

   Install the finger supports by hooking the Rear Retaining Pin (2) and swinging the finger support into position (3) as shown to the right.

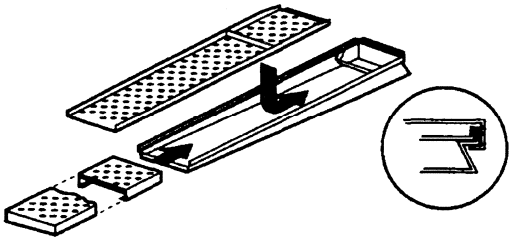


ASSEMBLY INSTRUCTIONS (CONT'D)

6. Assemble Fingers as shown to the right.

   Insert columnating plate so the step goes under the lip of the finger housing and the plate lies flush with the housing side edge.

   Install cover by sliding it on the small end of the finger housing.



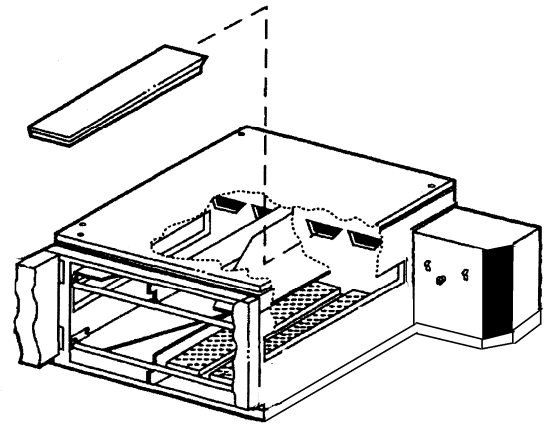
7. To install close-off plates, use close-off plate as a template and drill three (3) mounting holes. Use #29 drill. Use three (3) screws supplied to mount close-off plate.

   There are two styles of finger housings. Four (4) rights and four (4) lefts. The plenum has openings which dictate which style is used. Check each finger housing "Style" to determine which plenum opening will accept it.

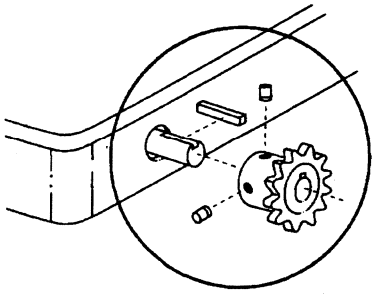
   Install assembled finger through door opening starting with lower left.

   Install fingers in the oven by sliding it over the plenum flange and setting the front of the finger on the retaining bracket. Be sure that the finger sets squarely over the plenum flanges and the holes point in the proper direction. Top fingers point down, bottom fingers point up. Repeat until all eight (8) fingers are installed.

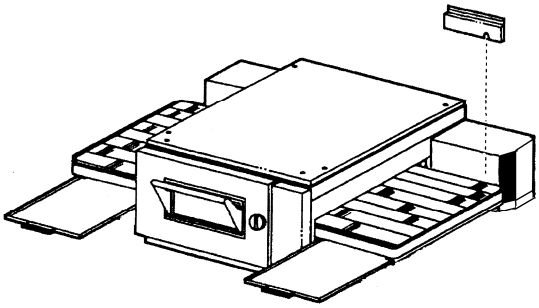
NOTE: The customer MUST tell you what position to place the assembled fingers in, for their application.



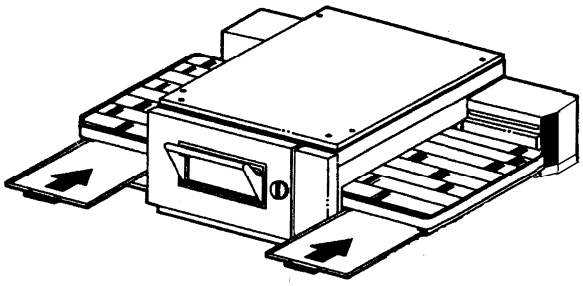
Assembly instructions continued on next page.



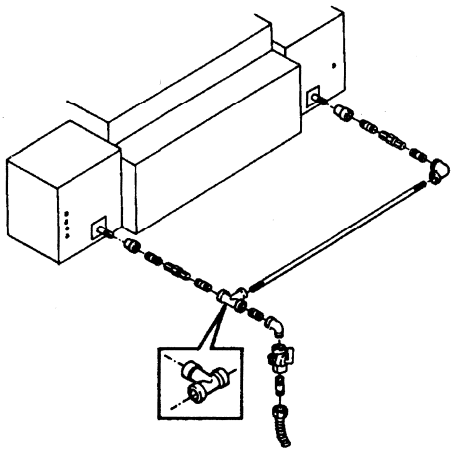
8. Install Conveyor Drive Sprocket on Conveyor Drive Shaft as shown. NOTE: Edge of Drive Sprocket should be flush with end of Drive Shaft.

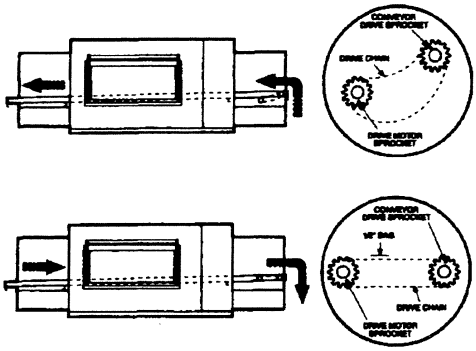


10. Install Chain Guard Cover by sliding guard onto retaining clips.



11. Slide the conveyor crumb pans into the rails on the under side of the conveyor.

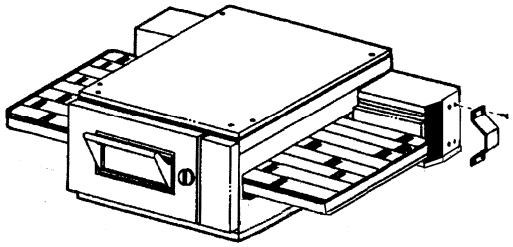




9. Insert the conveyor through the opening in the right side. Sprocket should be to the right side of the conveyor.

   Slide conveyor through the oven chamber until the locking bar on driving end of the conveyor is approximately 2”-3” (50.8 – 76.2 mm) into the oven chamber. Install drive chain by placing it over the drive sprocket and placing it over the conveyor sprocket.

   Lift conveyor just enough to allow you to pull the conveyor to you until the locking bar is outside of the oven cavity. At the same time, push the conveyor downward so that the bar locks on the outside of the oven wall.



12. Electric Models 1622, 1623, 1628 and 1629 use control box standoffs that must be mounted to the left and right side of the control box as shown above.

    You are now ready for services to be connected. This should be done by licensed electricians and plumbers. See “Specifications” on page 5 and “Code References” on Page 9.

13. The gas piping manifold kit should be installed as shown to the left.

DO NOT ATTEMPT TO OPERATE THE OVEN until connection of utility service and installation has been fully inspected (START-UP CHECKOUT) by an Authorized Service Technician or a Lincoln Foodservice Products, LLC Service Representative. This service is required by Lincoln Foodservice Products, LLC to insure the oven(s) is/are properly installed and in proper working order. The warranty becomes effective upon verification of proper installation.

The warranty shall not apply if the oven(s) are started up and operated prior to the "START-UP CHECKOUT" being performed by an Authorized Service Technician or a Lincoln Foodservice Products, LLC Service Representative.

WARNING: ELECTRICAL GROUNDING INSTRUCTIONS FOR MODELS 1600 AND 1601 ONLY

This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.

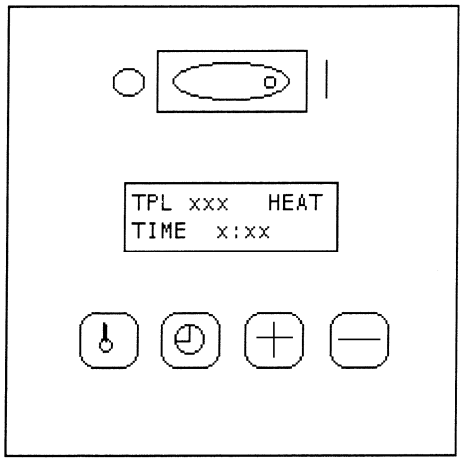
WARNING: If the supply cord appears to be damaged, do not attempt to operate unit. Contact service agent or qualified technician to repair.

INFORMATION ON USE OF OVEN

As explained in "Concepts," the Impinger Conveyor Oven functions by directing high velocity streams of heated air directly upon the food products. Because air is the heat source it is effective even on sensitive foods. Compared to conventional ovens and even convection ovens the cook time of products in the Impinger Conveyor Ovens can be as much as two (2) to four (4) times faster. Several factors may affect the cooking time of any special product such as: 1) oven temperature setting, 2) conveyor speed, 3) position of columnating plates in the oven, and 4) adjustments of the two baffles on the conveyor openings.

We encourage you to experiment with the oven by trying different temperature settings and belt speeds. Also try to control the cooking of the product by rearranging the optional columnating plates.

PROGRAMMING DIGITAL ADVANTAGE 1600-000-A SERIES TOUCH PAD



TPL = Left Oven Temperature
TPR = Right Oven Temperature
HEAT = Will turn on and off to indicate when heat mode is cycling.

INTRODUCTION: START-UP AND SHUTDOWN
For the operator, the panel has power-up, run, and program menu modes. To start the oven, turn the power switch "ON." To shut down the oven, turn the power switch "OFF."

FRONT PANEL LAYOUT
The front panel contains four (4) momentary pushbuttons: TEMP, TIME, PLUS, and MINUS. There is a 2-line x 16-character VFD display.

PROGRAM MODE
The program mode allows the operator to change the setpoint(s) of the oven temperature and the conveyor speed. To enter the PROGRAM MODE: Depress and hold the TEMP and TIME pushbuttons together for 5 seconds. The Run Mode display will clear and the word SETPOINT will appear. If no changes are made within 5 seconds the display will revert back to the previous settings.
There are two types of setpoints: TEMP and TIME. Press the TEMP or TIME key to choose the desired setpoint to change and then press the UP or DOWN keys to the desired setting. After 5 seconds these settings will remain in memory.

TEMPERATURE SETPOINTS
For Digital Impinger Low Profile ovens, there are two setpoints: LEFT OVEN and RIGHT OVEN. Press the TEMP button once to set the left oven temperature and press the TEMP button again to set the right oven temperature. Pressing the TEMP pushbutton, the display will show the current setting. Pressing the PLUS or MINUS pushbuttons will raise or lower the setpoint. In Fahrenheit, F mode, the temperature is adjusted in 5-degree increments. When in Centigrade, C mode, the temperature adjustment will be in 1-degree increments. Pressing and holding the PLUS or MINUS keys will allow the settings to "roll" at a much faster rate. When the desired temperature is indicated, release all keys. After 5 seconds the selected setpoints will be stored and remain in memory.

TIME SETPOINT
There is one setpoint for the conveyor speed. The speed can be set as follows:
1:00 to 9:55 in 5 second increments
10:00 to 12:45 in 15 second increments
13:00 to 19:30 in 30 second increments
20:00 to 30:00 in 1 minute increments
The accuracy specification is +/- 3%.

JUMPING BETWEEN MENUS
Pressing the TIME pushbutton while in the TEMP setting mode (and vice versa) will cause the menu selection to jump over to that mode.

DIAGNOSTIC MESSAGES

The Digital Impinger Low Profile ovens have diagnostic messages within the control. Upon the unexpected event that there is a failure in the oven operation the following messages will appear in the control.

RP FAIL (Right Probe Failure)
LP FAIL (Left Probe Failure)
This occurs when there is no temperature signal being sent to the controller from the baking chamber.

BELT JAM
This occurs when the conveyor motor fails.

CONVEYOR

The conveyor for Digital Imnpinger Low Profile ovens has a different drive cog than the Full Featured Low Profile ovens. The drive cog on the conveyor for the Digital Advantage Low profile oven has a 15-tooth cog where all other Low Profile ovens have a 10-tooth cog.
CAUTION: On installations where a Digital Advantage Low Profile oven is stacked with a Full Featured Low Profile oven, THE CONVEYORS CANNOT BE INTERCHANGED. INTERCHANGING CONVEYORS WILL AFFECT COOKING TIMES.
The conveyor for the Digital Advantage Low Profile ovens will have a label to identify proper use.

ADVANTAGE OVENS ONLY

REVERSING SWITCH

The Digital Impinger Low Profile oven has a belt direction reversing switch on the back of the oven.

FUNCTIONS

THERMAL CUT-OUT SWITCH

The Digital Impinger Low Profile unit includes a “safety thermal cut-out switch” for your protection. This safety related device is designed to insure that the Impinger Low Profile unit will not overheat and damage the unit. In the unlikely event that the Impinger Low Profile unit would exceed the specified operating temperature range, the “safety thermal cut-out switch” will activate, thus blocking power to the Impinger Low Profile unit and causing it to turn off.

CAUTION: In order to avoid a hazard due to inadvertent resetting of the thermal cutout, this appliance must not be supplied through an external switching device, such as a timer or connected to a circuit that is regularly switched on and off by the utility.

MANUAL QUEST ENERGY MANAGEMENT SYSTEM OPERATING INSTRUCTIONS

(OPTIONAL)

1. Press button on control box side panel to illuminate button and engage the Quest energy savings option. The oven is now in energy savings mode.
2. To bring the oven out of energy saving mode, simply press the button again to allow for normal operation. When the oven is in normal operating mode, the side panel button is no longer illuminated.

NOTE: When starting up the oven after the Quest system has been installed, the main fan may take upwards of sixty seconds to begin running. This is normal operating procedure.

AUTO QUEST ENERGY MANAGEMENT SYSTEM OPERATIING INSTRUCTIONS

(AUTO QUEST MODELS ONLY)

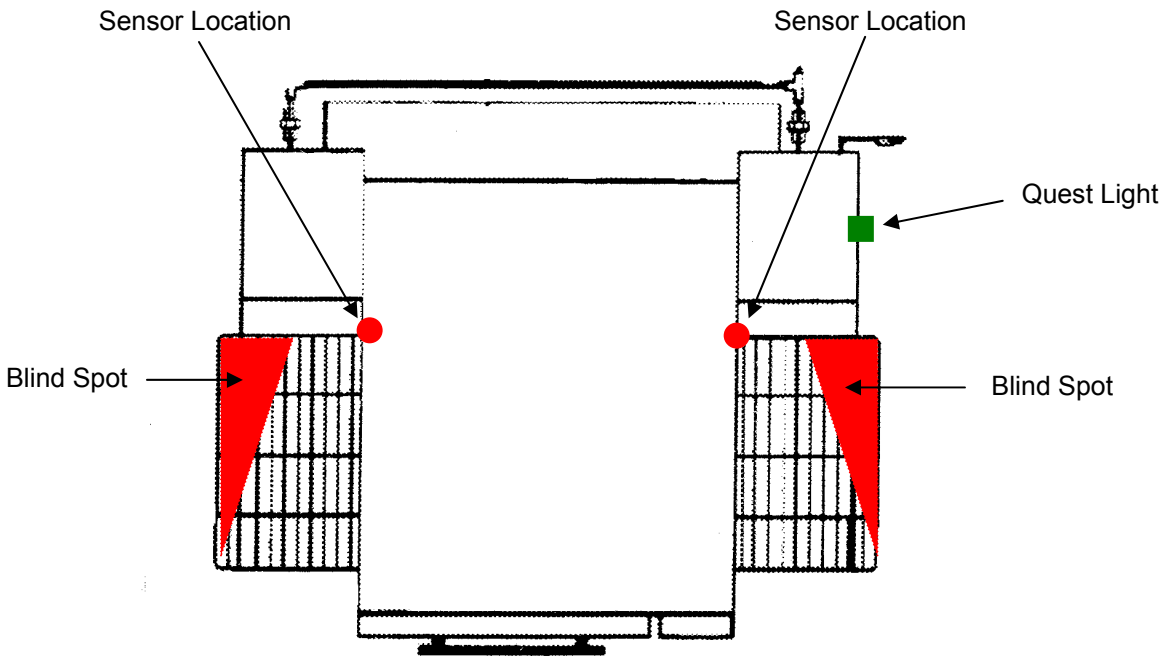
AutoQuest is designed to provide energy savings automatically when the oven is not being utilized for extended periods of time yet maintain normal operating temperature for immediate use when needed. Currently, AutoQuest will activate after 14 minutes of inactivity during normal daily operation or 34 minutes after the unit is first turned on in the morning (20 minute oven warm-up + 14 minutes). When AutoQuest has been activated the following will occur:

- Conveyor Belt will stop moving
- Fan Motor will slow down (noticeably quiet)
- Quest light will illuminate green (located on right side of control box)

In order to bring the oven back to normal operation, simply place food on the input side of the conveyor or open the access door and place the item in the oven. AutoQuest sensors will note the placement of food product on the end of the conveyor or when opening the access door. Sensor activation starts the conveyor and raises the rpm of the main fan motor, thus returning the oven to normal operation. The AutoQuest light will not be illuminated while oven is in normal operation.

NOTE: Care should be taken to place the food item entirely on the conveyor to avoid the “blind spots” located on conveyor end (see illustration below).

CAUTION: If you wish to change the conveyor direction, it is important to turn the oven off and restart to allow for proper sensor readings.



Top View of Oven

WARNING: Do not work around conveyor with long hair, loose clothing, or dangling jewelry. Getting caught in the belt could result in serious injury.

OPERATOR MAINTENANCE

DANGER: Disconnect power supply before servicing or cleaning this unit. Safeguard power so it cannot be accidentally restored. Failure to do so could result in serious injury.

DANGER: If using a multiple-stack configuration, please note that each unit has its own disconnect switch. Make sure that all switched are in the "OFF" position before beginning maintenance or cleaning.

To maintain maximum efficiency of the oven, it is necessary to keep it clean and all louvers on the oven must be cleaned regularly. Oven use and type of product will actually determine the frequency of cleaning. The conveyor drive chain should be checked during the weekly cleaning cycle to see if it has become loose. Loose chain operation will DAMAGE the conveyor drive motor.

If the oven fails to operate, check the circuit breaker to be sure it is turned on. Also, check the fuses on the control panel to be sure that they are good before you call the Authorized Service Agency. The name and phone number of the Authorized Service Agency should be located at the bottom of the data plate.

PREVENTIVE MAINTENANCE

Although this oven has been designed to be as trouble free as possible, periodic preventive maintenance is essential to maintain peak performance. It is necessary to keep the motors, fans, and electronic controls free of dirt, dust, and debris to insure proper cooling. Overheating is detrimental to the life of all components mentioned. The periodic intervals for preventive cleaning may vary greatly depending on the environment in which the oven is operating.

You must discuss the need for preventive maintenance with your Authorized Service Agent to establish a proper program. If there are any questions that the service agency cannot answer, please contact the Lincoln Foodservice Technical Service Department.

CLEANING INSTRUCTIONS

CAUTION: Unit must be cool to touch and disconnected from power source prior to cleaning. Do not use power-cleaning equipment, steel wool, or wire brushes on stainless steel or aluminized stainless (AZ) surfaces.

DAILY

1. Clean exterior surfaces of the oven by wiping down with a mild detergent and clean water or a commercial stainless cleaner.
2. Clean crumb pans and guards by washing with a mild detergent solution and rinsing with clean water.
3. Clean the interior by sweeping up all loose particles, then wash with a mild detergent solution and rinse with clean water.
4. Clean the conveyor belt by wiping with a cleaning cloth or brushing with a soft wire brush. Lincoln catalog #369217.

NOTE: DO NOT USE A CAUSTIC OR AN ALKALINE BASE CLEANER ON INTERIOR OF THE OVEN. THIS WILL RUIN THE ALUMINIZED FINISH OF THE OVEN INTERIOR.

On the exterior of oven, deposits of baked-on splatter, oil, grease, or light discolorations may be removed with any of several commercial cleaners. Consult with your local supplier.

CAUTION: When using cleaning solutions, be sure they meet local and national health standards.

WEEKLY

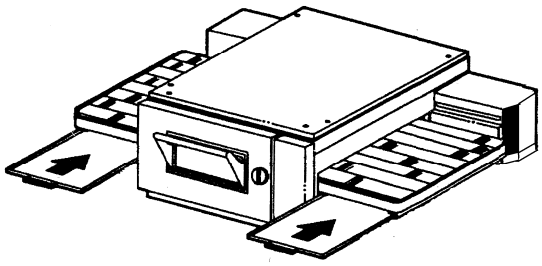
1. Remove fingers, disassemble and clean. See instructions below.
2. Remove conveyor, disassemble and clean. See instructions on page 21.

NOTE: Be sure to clean and inspect the ventilation hood, in accordance with the ventilation hood manufacturer's specifications.

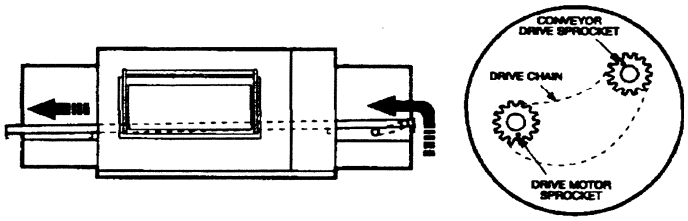
FINGER REMOVAL AND DISASSEMBLY FOR CLEANING

1. Open door and remove upper fingers. Note any particular placement of fingers that you may have, such as fully closed, half-closed or fully open columnating plates.
2. Remove conveyor and then remove bottom fingers.
3. For finger disassembly, see page 13.
4. Reassemble fingers in reverse order with the step of the columnating plate facing downward so it fits under the lip of the finger housing.
5. Reinstall fingers in oven. Be sure that they are fully seated over the plenum flanges and the holes are pointing toward the conveyor.

CONVEYOR REMOVAL FOR CLEANING

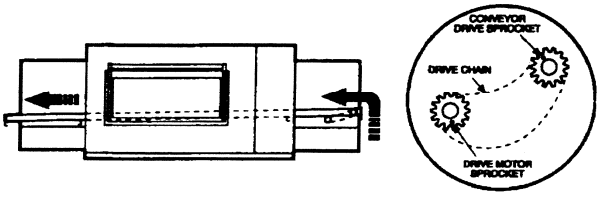


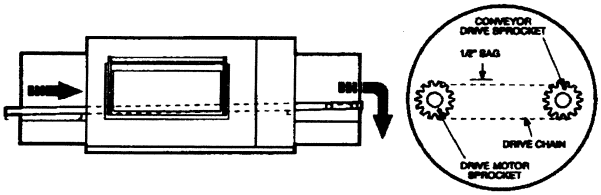
1. Remove chain guard cover and conveyor crumb pans.



2. Lift right end of conveyor and push in approximately 3” (76 mm). Remove drive chain. Pull conveyor out the right end. Place on table or work surface.

CONVEYOR RE-INSTALLATION

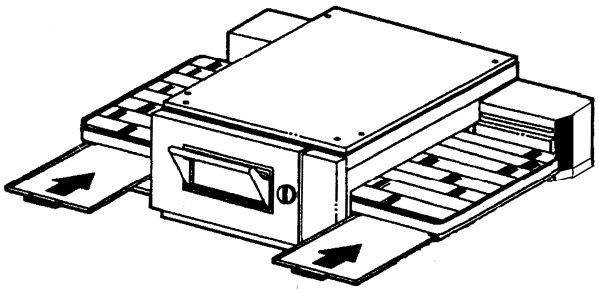




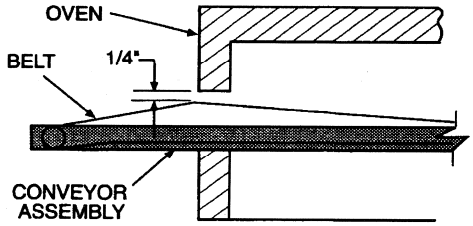
3. REINSTALL CONVEYOR IN OVEN: Slide conveyor through the oven chamber until the locking belt on drive end of the conveyor is approximately 2”-3” (50.8 – 76.2 mm) into the oven chamber.

   Install drive chain by placing it over the driving sprocket and placing it over the conveyor sprocket.

   Lift conveyor just enough to allow you to pull the conveyor to you until the locking bar is outside of the oven cavity, at the same time push the conveyor downward so that the bar locks on the outside of the oven wall.



4. Reinstall conveyor crumb pans and chain guard cover.



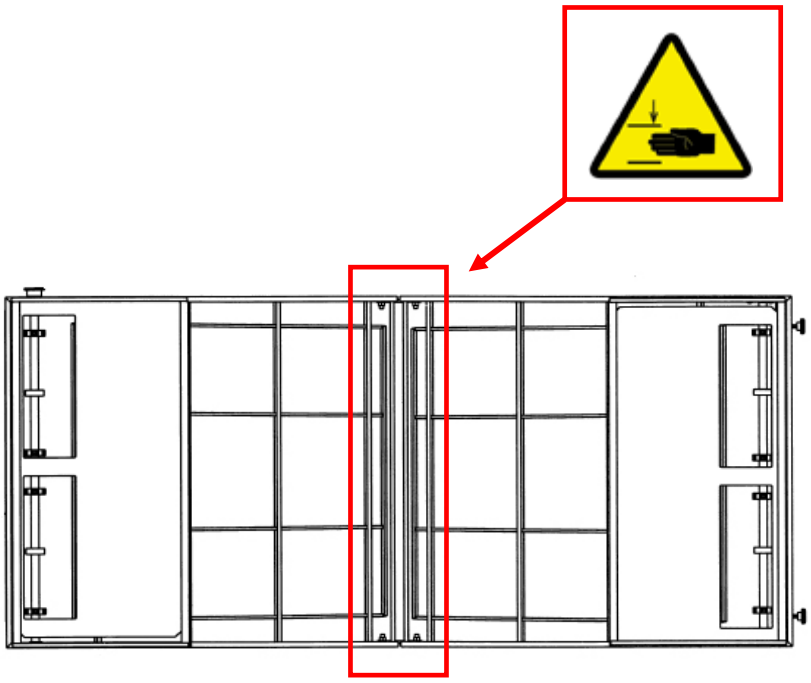
5. Set tension on the conveyor belt. The belt should be able to be lifted enough to allow it to be ¼” (6 mm) from the top of the conveyor opening on the oven. DO NOT OVER TIGHTEN THE BELT!

WARNING: BELT MAY BE HOT!

FOLDING CONVEYOR (if applicable)

The following safety notice pertains to ovens that have the folding conveyor option.

WARNING: FOLDING CONVEYORS HAVE A “PINCH POINT” IN THE CENTER SECTION OF THE ASSEMBLY. ALWAYS KEEP HANDS AWAY FROM THE CENTER SECTION OF THE FOLDING CONVEYOR. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY!



TOP VIEW OF
CONVEYOR ASSEMBLY

HOW TO OBTAIN SERVICE

If the oven fails to operate, check the circuit breaker to be sure it is turned on (on a gas oven check the manual gas valve to insure it is in the ON position), and check the fuses on the back of the oven to be sure that they are good before you call the Authorized Service Agency. The name and phone number of the Authorized Service Agency should be located on the oven or contact the factory at (800) 678-9511 for the name of the nearest Authorized Service Agency.

APPENDIX A – LABEL DEFINITIONS

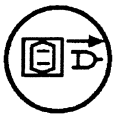


CAUTION – HOT SURFACE

POWER ON



CLOCK, TIME SWITCH, TIMER



DISCONNECT POWER



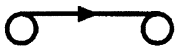
TRANSFORMER



TEMPERATURE, HEAT



DANGEROUS VOLTAGE



CONVEYOR



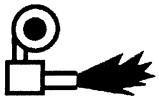
EQUIPOTENTIALITY GROUND



FAN



PROTECTIVE EARTH GROUND



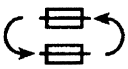
BURNER



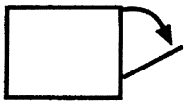
EARTH GROUND



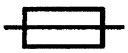
HEAT CYCLE



CHANGE FUSES



READY, TIMER INDICATOR



FUSE



RESET

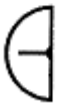
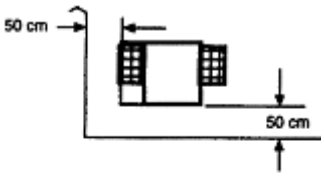
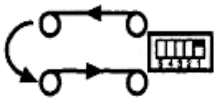


POWER OFF



HIGH TEMPERATURE, HEAT

APPENDIX A – LABEL DEFINITIONS (CONT'D)

A	AMPS
V	VOLTS
kW	KILOWATTS / HR
	TYPE OF GAS
	AC
	½ COOK TIME
	ALARM, BURNER FLAME OUT
	SERVICE ACCESSIBILITY, PROVIDE MINIMUM REAR AND SIDE CLEARANCE
	ORIFICE – MAIN
	ORIFICE – LOW FIRE
	<u>MODEL SERIES 1600</u> TO MOVE BELT DIRECTION MOVE SWITCH #1 TO NEXT POSITION
RT	RIGHT
LT	LEFT

LIMITED WARRANTY FOR COMMERCIAL PRODUCTS

LIMITED WARRANTY
Lincoln Foodservice Products, LLC ("Lincoln") warrants this product to be free from defects in material and workmanship for a period of one (1) year from the date of purchase.

During the warranty period, Lincoln shall, at Lincoln's option, repair, or replace parts determined by Lincoln to be defective in material or workmanship, and with respect to services, shall re-perform any defective portion of said services. The foregoing shall be the sole obligation of Lincoln under this Limited Warranty with respect to the equipment, products, and services. With respect to equipment, materials, parts and accessories manufactured by others, Lincoln's sole obligation shall be to use reasonable efforts to obtain the full benefit of the manufacturer's warranties. Lincoln shall have no liability, whether in contract, tort, negligence, or otherwise, with respect to non-Lincoln manufactured products.

WHO IS COVERED
This Limited Warranty is available only to the original purchaser of the product and is not transferable.

EXCLUSIONS FROM COVERAGE
- Repair or replacement of parts required because of misuse, improper care or storage, negligence, alteration, accident, use of incompatible supplies or lack of specified maintenance shall be excluded
- Normal maintenance items, including but not limited to, light bulbs, fuses, gaskets, O-rings, interior and exterior finishes, lubrication, conveyor belt, motor bushes, broken glass, etc. adjustments and calibrations for temperatures, speed and air flows
- Failures caused by improper or erratic voltages
- Improper or unauthorized repair
- Changes in adjustment and calibration after ninety (90) days from equipment installation date
- This Limited Warranty will not apply to any parts subject to damage beyond the control of Lincoln, or to equipment which has been subject to alteration, misuse or improper installation, accidents, damage in shipment, fire, floods, power changes, other hazards or acts of God that are beyond the control of Lincoln
- This Limited Warranty does not apply, and shall not cover any products or equipment manufactured or sold by Lincoln when such products or commercial equipment is installed or used in a residential or non-commercial application. Installations not within the applicable building or fire codes render this Limited Warranty and any responsibility or obligations associated therein null and void. This includes any damage, costs, or legal actions resulting from the installation of any Lincoln commercial cooking equipment in a non-commercial application or installation, where the equipment is being used for applications other than those approved for by Lincoln.

LIMITATIONS OF LIABILITY
The preceding paragraphs set forth the exclusive remedy for all claims based on failure of, or defect in, products or services sold hereunder, whether the failure or defect arises before or during the warranty period, and whether a claim, however instituted, is based on contract, indemnity, warranty, tort (including negligence), strict liability, implied by statute, common-law or otherwise , and Lincoln its servants and agents shall not be liable for any claims for personal injuries, incidental or consequential damages or loss, howsoever caused. Upon the expiration of the warranty period, all such liability shall terminate. THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL, IMPLIED OR STATUTORY NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE SHALL APPLY. LINCOLN DOES NOT WARRANT ANY PRODUCTS OR SERVICES OF OTHERS.

REMEDIES
The liability of Lincoln for breach of any warranty obligation hereunder is limited to: (i) the repair or replacement of the equipment on which the liability is based, or with respect to services, re-performance of the services; or (ii) at Lincoln's option, the refund of the amount paid for said equipment or services.
Any breach by Lincoln with respect to any item or unit of equipment or services shall be deemed a breach with respect to that item or unit or service only

WARRANTY CLAIM PROCEDURE
Customer shall be responsible to:
- Immediately advise the Dealer or Lincoln's Authorized Service Agent of the equipment serial number and the nature of the problem.
- Verify the problem is a factory responsibility. Improper installation or misuse of equipment, are not covered under this Limited Warranty.
- Cooperate with the Service Agency so that warranty service may be completed during normal working hours.
- Travel Time not to exceed two hours and mileage not to exceed one hundred (100) miles.

GOVERNING LAW
Limited Warranty shall be governed by the laws of the state of Delaware, USA, excluding their conflicts of law principles. The United Nations Convention on Contracts for the International Sale of Goods is hereby excluded in its entirety from application to this Limited Warranty

Lincoln Foodservice Products, LLC
1111 North Hadley Road
Fort Wayne, Indiana 46804
USA
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