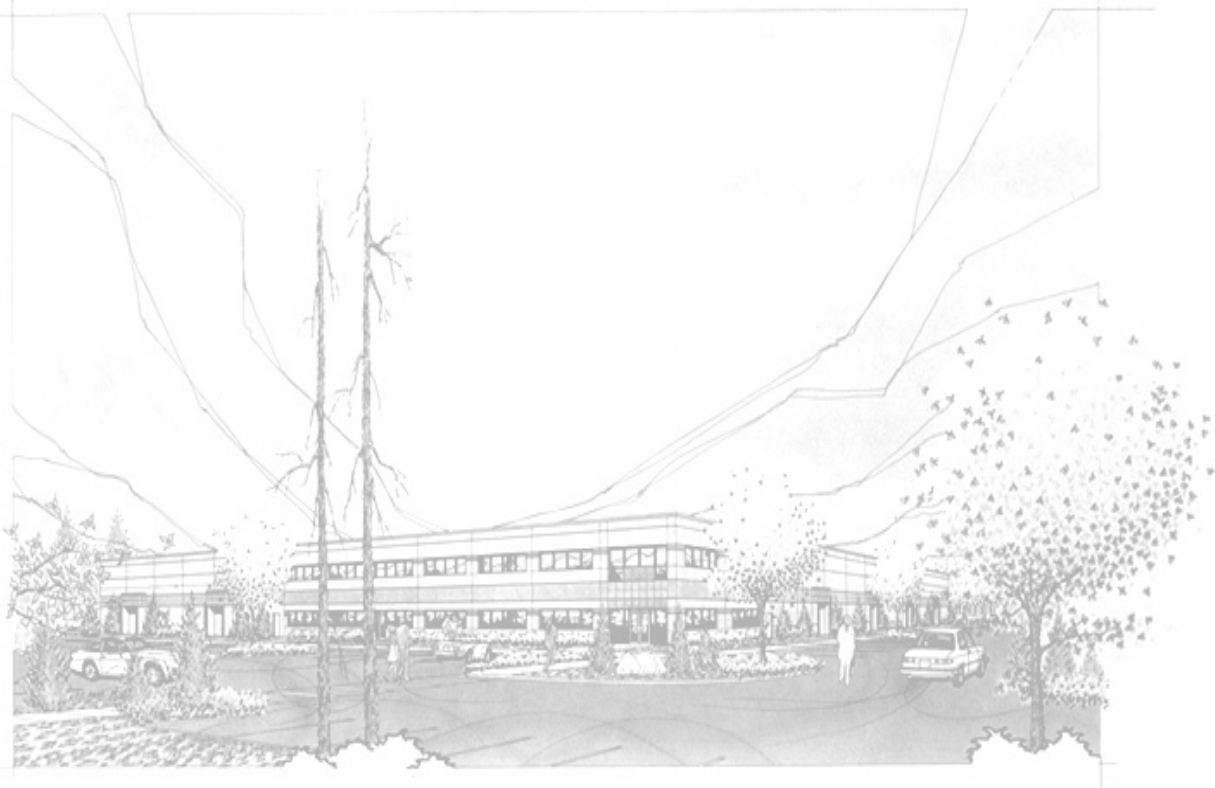


# Lang



**Installation, Operation, Maintenance, & Troubleshooting**  
**Model: EQS-AP** Quarter Size Convection Oven



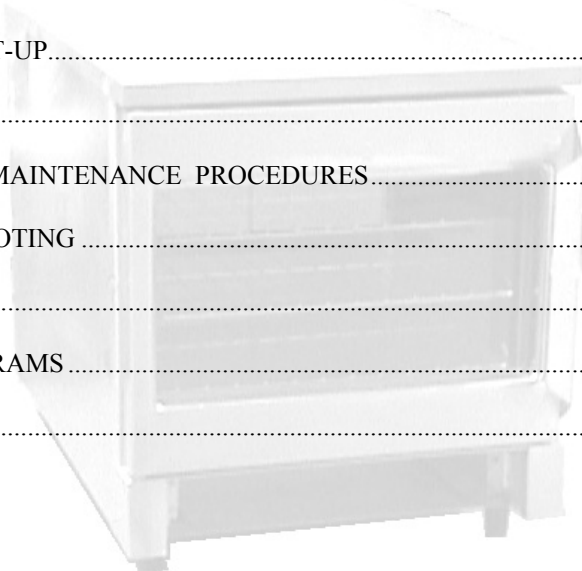
**THIS MANUAL MUST BE RETAINED FOR FUTURE REFERENCE. READ, UNDERSTAND AND FOLLOW THE INSTRUCTIONS AND WARNINGS CONTAINED IN THIS MANUAL.**

**FOR YOUR SAFETY**  
**DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.**  
**POST IN A PROMINENT LOCATION**  
**INSTRUCTIONS TO BE FOLLOWED IN THE EVENT USER SMELLS GAS. THIS INFORMATION SHALL BE OBTAINED BY CONSULTING YOUR LOCAL GAS SUPPLIER. AS A MINIMUM, TURN OFF THE GAS AND CALL YOUR GAS COMPANY AND YOUR AUTHORIZED SERVICE AGENT. EVACUATE ALL PERSONNEL FROM THE AREA.**  
**WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.**

<b>Model #:</b>	<b>Purchased From:</b>
<b>Serial #:</b>	<b>Location:</b>
<b>Date Purchased:</b>	<b>Date Installed:</b>
<b>Purchase Order #:</b>	<b>For Service, Call:</b>

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**CAUTION:** THE OVEN WEIGHS 158 LBS. (71.8 KILOGRAMS). FOR SAFE HANDLING, INSTALLER SHOULD OBTAIN HELP AS NEEDED, OR EMPLOY APPROPRIATE MATERIALS HANDLING EQUIPMENT (SUCH AS A FORKLIFT, DOLLY, OR PALLET JACK) TO REMOVE THE UNIT FROM THE SKID AND MOVE IT TO THE PLACE OF INSTALLATION.



**CAUTION:** ANY STAND, COUNTER OR OTHER DEVICE ON WHICH OVEN WILL BE LOCATED MUST BE DESIGNED TO SUPPORT THE WEIGHT OF THE OVEN (158 LBS.).



**CAUTION:** SHIPPING STRAPS ARE UNDER TENSION AND CAN SNAP BACK WHEN CUT.



**DANGER:** THIS APPLIANCE MUST BE GROUNDED AT THE TERMINAL PROVIDED. FAILURE TO GROUND THE APPLIANCE COULD RESULT IN ELECTROCUTION AND DEATH.



**WARNING:** INSTALLATION OF THE UNIT MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH ELECTRICITY AND PLUMBING. IMPROPER INSTALLATION CAN CAUSE INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT. UNIT MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.



**NOTICE:** The data plate is located behind the oven in the bottom right corner. The oven voltage, wattage, serial number, wire size, and clearance specifications are on the data plate. This information should be carefully read and understood before proceeding with the installation.



**NOTICE:** The installation of any components such as a vent hood, grease extractors, fire extinguisher systems, must conform to their applicable National, State and locally recognized installation standards.



**NOTICE:** During the first few hours of operation you may notice a small amount of smoke coming off the oven, and a faint odor from the smoke. This is normal for a new oven and will disappear after the first few hours of use.



**CAUTION:** ALWAYS KEEP THE AREA NEAR THE APPLIANCE FREE FROM COMBUSTIBLE MATERIALS.



**CAUTION:** KEEP FLOOR IN FRONT OF EQUIPMENT CLEAN AND DRY. IF SPILLS OCCUR, CLEAN IMMEDIATELY, TO AVOID THE DANGER OF SLIPS OR FALLS.



**WARNING:** KEEP WATER AND SOLUTIONS OUT OF CONTROLS. NEVER SPRAY OR HOSE CONTROL CONSOLE, ELECTRICAL CONNECTIONS, ETC.



**CAUTION:** MOST CLEANERS ARE HARMFUL TO THE SKIN, EYES, MUCOUS MEMBRANES AND CLOTHING. PRECAUTIONS SHOULD BE TAKEN TO WEAR RUBBER GLOVES, GOGGLES OR FACE SHIELD AND PROTECTIVE CLOTHING. CAREFULLY READ THE WARNING AND FOLLOW THE DIRECTIONS ON THE LABEL OF THE CLEANER TO BE USED.



**NOTICE:** Service on this, or any other, LANG appliance must be performed by qualified personnel only. Consult your authorized service station directory or call the factory at 1-800-224-LANG (5264), or WWW.LANGWORLD.COM For the service station nearest you.



**WARNING:** BOTH HIGH AND LOW VOLTAGES ARE PRESENT INSIDE THIS APPLIANCE WHEN THE UNIT IS PLUGGED/WIRED INTO A LIVE RECEPTACLE. BEFORE REPLACING ANY PARTS, DISCONNECT THE UNIT FROM THE ELECTRIC POWER SUPPLY.



**CAUTION:** USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY LANG OR THEIR AUTHORIZED DISTRIBUTORS CAN CAUSE BODILY INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT AND WILL VOID ALL WARRANTIES.



# EQUIPMENT DESCRIPTION

## Lang Model: EQS

### Electric Quarter-Size Convention Oven

#### Exterior Construction

- The oven exterior dimensions are 19” (48.26cm) Wide, 24” (60.96cm) High, 28” (71.12cm) Deep (with legs) plus a 1-3/8”(3.49cm) handle extension on the door.
- The Front, Top, and Sides are constructed of stainless steel with an aluminized back and bottom.
- The oven door comes standard with a window and is reversible for either left or right directional opening.
- The door handle is constructed of Stainless Steel and Polymer.
- The oven cavity is insulated with high temperature insulation for efficiency and reduced heat loss.

#### Interior

- The dimensions of the oven cavity are 15-5/8” (39.68cm) Wide, 13” (33cm) High, 14-1/2” (36.83)(cm) Deep.
- The oven is designed for three shelves and comes with three Chrome Plated Racks.
- The interior air deflection baffle is constructed of stainless steel.

#### Operation

- The EQS is a forced air convection oven with a vented oven cavity.
- The air is driven by a 1/6 HP fan motor.

#### Controls

- The EQS comes with the Lang “Accu-Plus” controls which include:
  - \* Easy to use manual control knobs.
  - \* Pulse and two speed fan.
  - \* Solid State temperature sensing and controls.

#### Technical

- Oven operates as shipped on either 208 or 240 Volt Single Phase on a 20 Amp. Circuit. It is shipped with a Power Cord and Plug attached.
- Floor space required is 19” (48.26cm) Wide, 28” (71.12cm) Deep.
- The oven weighs 158 lb. (71.8 Kilograms).
- Each oven is shipped with a stacking kit to stack multiple ovens.

## **4.1 Receiving the Oven**

Upon receipt, check for freight damage, both visible and concealed. Visible damage should be noted on the freight bill at the time of delivery and signed by the carrier's agent. Concealed loss or damage means loss or damage which does not become apparent until the merchandise has been unpacked. If concealed loss or damage is discovered upon unpacking, make a written request for inspection by the carrier's agent within 15 days of delivery. All packing material should be kept for inspection. Do not return damaged merchandise to Lang Manufacturing Company. File your claim with the carrier.

## **4.2 Location**

Prior to un-crating, move the oven as near its intended location as practical. The crating will help protect the unit from the physical damage normally associated with moving it through hallways and doorways.

## **4.3 Un-crating**

The oven will arrive completely assembled inside a wood frame covered by cardboard box and strapped to a skid. **Remove the cardboard cover, cut the straps and remove the wood frame.**

**CAUTION:** OVEN WEIGHS 158 LBS (71.8 kilograms). FOR SAFE HANDLING, INSTALLER SHOULD OBTAIN HELP AS NEEDED, OR EMPLOY APPROPRIATE MATERIALS HANDLING EQUIPMENT (SUCH AS A FORKLIFT, DOLLY, OR PALLET JACK) TO REMOVE THE UNIT FROM THE SKID AND MOVE IT TO THE PLACE OF INSTALLATION.



**CAUTION:** ANY STAND, COUNTER OR OTHER DEVICE ON WHICH OVEN WILL BE LOCATED MUST BE DESIGNED TO SUPPORT THE WEIGHT OF THE OVEN (225 LBS.).



**CAUTION:** SHIPPING STRAPS ARE UNDER TENSION AND CAN SNAP BACK WHEN CUT.



Remove oven from skid and place in intended location.

# INSTALLATION

**DANGER:** THIS APPLIANCE MUST BE GROUNDED AT THE TERMINAL PROVIDED. FAILURE TO GROUND THE APPLIANCE COULD RESULT IN ELECTROCUTION AND DEATH.



**WARNING:** INSTALLATION OF THE UNIT MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH ELECTRICITY AND PLUMBING. IMPROPER INSTALLATION CAN CAUSE INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT. UNIT MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.



**NOTICE:** The data plate is located above the control panel behind the screen mesh. The oven voltage, wattage, serial number, wire size, and clearance specifications are on the data plate. This information should be carefully read and understood before proceeding with the installation.



**NOTICE:** The installation of any components such as a vent hood, grease extractors, fire extinguisher systems, must conform to their applicable National, State and locally recognized installation standards.



## 4.1 Electrical Connection

The oven is supplied with a cord and plug connected. The plug provided is a NEMA-L6-20P. The receptacle is not provided with the oven. The installer should install a **NEMA-L6-20R** close enough to the oven for the plug to reach the outlet.

Follow the receptacle manufacturer's instructions when connecting the receptacle to the power supply.

## 4.2 Oven Voltage

The Lang Model EQS oven can be operated on 208 Volts or 240 Volt source. The Amp draw and KW rating at both voltages are listed in the table below.

MODEL	VOLT	KW	AMPERAGE
EQS-AP	208	3.0	14.0
EQS-AP	240	3.9	16.0



# INITIAL START UP

## **6.1 PRE-POWER ON**

After the oven is installed and connected to power, prior to turning on, verify the following:

- The door opens and closes freely.
- All three racks are in the oven correctly.
- All packing materials have been removed from the inside of the oven.

## **6.2 POWER ON**

When the oven is first turned on the motor will start to run and the indicator lights will light.

**NOTICE:** During the first few hours of operation you may notice a small amount of smoke coming off the oven, and a faint odor from the smoke. This is normal for a new oven and will disappear after the first few hours of use.



## **7.1 GENERAL**

**CAUTION:** ALWAYS KEEP THE AREA NEAR THE APPLIANCE FREE FROM COMBUSTIBLE MATERIALS.



**CAUTION:** KEEP FLOOR IN FRONT OF EQUIPMENT CLEAN AND DRY. IF SPILLS OCCUR, CLEAN IMMEDIATELY, TO AVOID THE DANGER OF SLIPS OR FALLS.



Convection ovens constantly circulate air over and around the product. This strips away the thin layer of moisture and cool air from around the product allowing heat to penetrate more quickly.

Cooking times can be shortened and cooking temperatures can be reduced.

To convert standard deck oven recipes, reduce the temperature 50 degrees and the time by 25%. Make minor adjustments as necessary.

The lower the oven temperature the more even the bake.

Check the product near the end of the initial cooking cycle by turning on the oven light and looking through the oven door windows.

Do not open the oven doors during baking as this will change the baking characteristics of the oven and make it difficult to determine a final program.

If the product is overdone on the outside and underdone on the inside, reduce the baking temperature.

If the product is pulling away from the edge of the pan, the temperature is too high or the cooking time too long.

Load each shelf evenly. Spaces should be maintained equally between the pan and oven walls, front and back.

For best baking results, load the oven from the top to the bottom during random loading.

## **7.2 Setting the Temperature**

Turn the temperature dial until the line on the knob points at the desired temperature.

Allow the oven to preheat before placing product into the oven cavity.

The oven may emit a small amount of smoke the first time it is brought up to temperature. This is caused by the oils associated with the manufacture of the appliance and is a normal condition. The smoke will stop after the oven reaches 350 degrees.

## **7.3 Setting the Time**

Turn the timer dial until the line on the knob points at the desired time.

The timer will countdown once the time is set. When the timer has reached zero, a buzzer will sound continuously. Turn the timer dial to "Off" to stop the buzzer.

# MAINTENANCE & CLEANING

## **8.1 Door Reversal**

Remove the three Phillips screws located at the back of the oven securing the top to the oven.

Remove the top of the oven.

Open door and remove 5/8 bolt in the lower right-hand corner of the opening.

Remove the 5/8-door pin in the upper left hand corner holding the door to the oven.

Lift door off of lower door pin and set to side.

Remove the lower left-hand door pin and re-install into the lower right-hand corner.

Place door on lower door pin and re-install the upper 5/8-door pin into the top of the oven securing door to oven.

Place 5/8 bolt into vacant hole at the lower left of oven.

Re-install top of oven.

Re-install the three Phillip screws at the back securing top to the oven.

## **8.2 Cleaning**

**WARNING: KEEP WATER AND SOLUTIONS OUT OF CONTROLS. NEVER SPRAY OR HOSE CONTROL CONSOLE, ELECTRICAL CONNECTIONS, ETC.**

**CAUTION: MOST CLEANERS ARE HARMFUL TO THE SKIN, EYES, MUCOUS MEMBRANES AND CLOTHING. PRECAUTIONS SHOULD BE TAKEN TO WEAR RUBBER GLOVES, GOGGLES OR FACE SHIELD AND PROTECTIVE CLOTHING. CAREFULLY READ THE WARNING AND FOLLOW THE DIRECTIONS ON THE LABEL OF THE CLEANER TO BE USED.**



- Always start with a cold oven.
- The stainless interiors can easily be cleaned using most domestic or commercial oven cleaners.
- Always follow the cleaner manufacturer's instructions when using any cleaner.
- Care should be taken to prevent caustic cleaning compounds from coming in contact with the blower wheel.
- The oven racks and rack slides may be cleaned by removing them from the oven and soaking them in a solution of ammonia and water.
- The stainless steel door liners and oven front should normally be cleaned with a soap and water solution.
- Discoloration or heat tint may be removed with any of the following cleaners: Penny Brite, Copper Brite, Du-Bois Temp, or Past Nu-Steel.
- Always apply these cleaners when the oven is cold and rub in the direction of the metal's grain.

# TROUBLESHOOTING

## 9.1 Symptoms

What follows is a chart of Symptoms and Possible Causes to aid in diagnosing faults with the oven.

Refer to the Symptoms column to locate the type of failure then to the Possible Cause for the items to be checked.

To test for a possible cause refer to the TEST section and locate the Possible Cause then refer to test to identify test procedures.

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>
Power indicator is not lit.	<ul style="list-style-type: none"><li>• No power to cord outlet</li><li>• Oven unplugged from outlet</li><li>• Failed power cord or plug</li><li>• Failed power switch</li><li>• Failed pilot light</li></ul>
Oven will not heat	<ul style="list-style-type: none"><li>• Failed element</li><li>• Power switch is not ON</li><li>• Failed circuit board</li><li>• Failed temperature sensor</li><li>• Failed temperature selector</li></ul>
Product burning	<ul style="list-style-type: none"><li>• Product is cooked too long</li><li>• Failed temperature sensor</li><li>• Failed circuit board</li><li>• Failed temperature selector</li><li>• Open wire between selector and Circuit Board</li></ul>
Product under done	<ul style="list-style-type: none"><li>• Failed temperature sensor</li><li>• Failed circuit board</li><li>• Failed temperature selector</li></ul>

# TROUBLESHOOTING CONT'D

## 9.2 TESTS

### NOTICE:

Service on this, or any other, LANG appliance must be performed by qualified personnel only. Consult your authorized service station directory or call the factory at 1-800-224-LANG (5264), or WWW.LANGWORLD.COM For the service station nearest you.



### WARNING:

**BOTH HIGH AND LOW VOLTAGES ARE PRESENT INSIDE THIS APPLIANCE WHEN THE UNIT IS PLUGGED/WIRED INTO A LIVE RECEPTACLE. BEFORE REPLACING ANY PARTS, DISCONNECT THE UNIT FROM THE ELECTRIC POWER SUPPLY.**



If an item on the list is followed by an asterisk (\*), the work should be done by a factory authorized service representative.

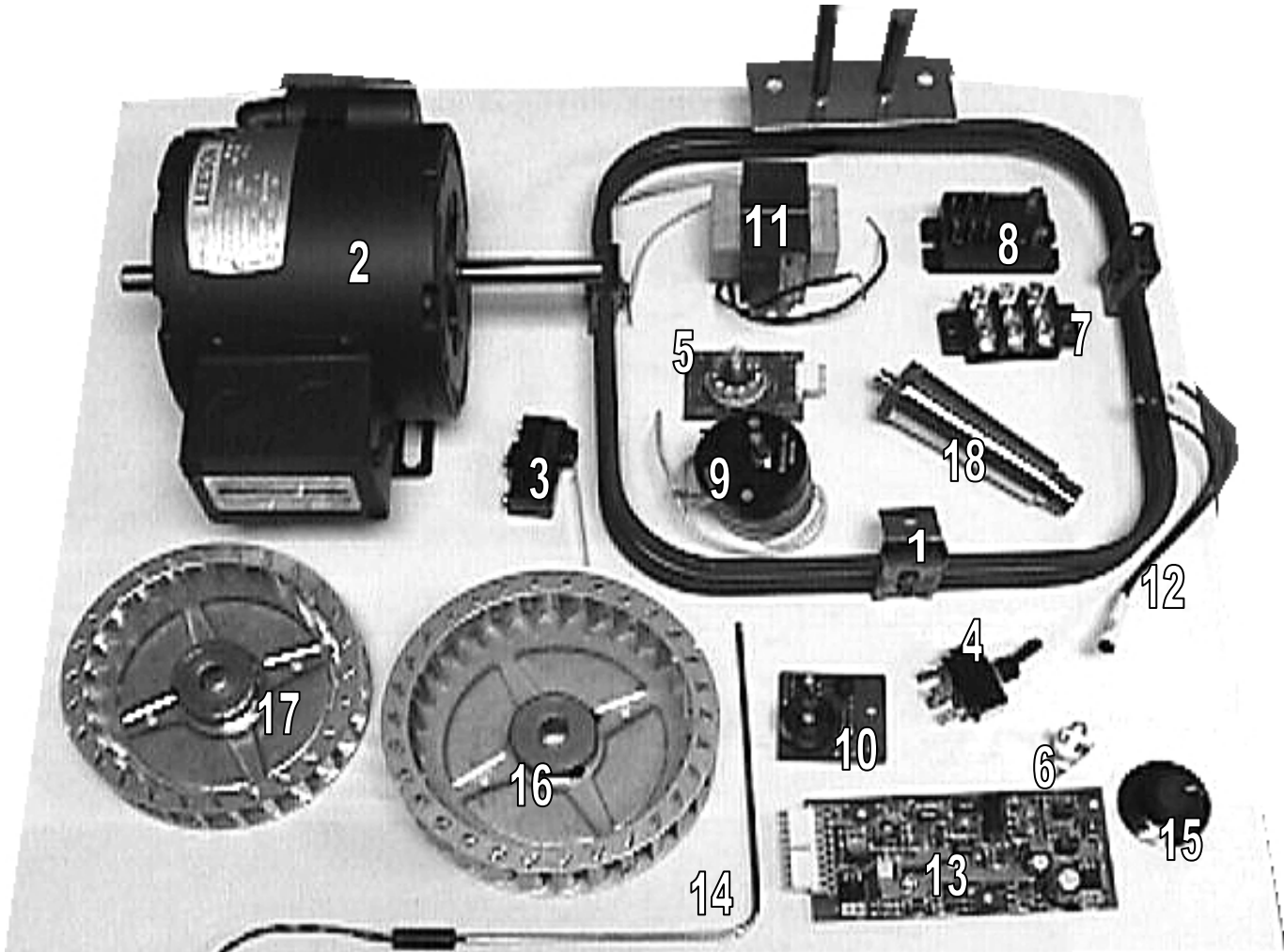
Possible Cause	TEST
Product is cooked too long	<ul style="list-style-type: none"> <li>No test available, operational condition</li> </ul>
Failed temperature sensor	<ul style="list-style-type: none"> <li>Unplug the sensor from the control panel circuit board and check for continuity</li> </ul>
Failed element	<ul style="list-style-type: none"> <li>Remove the wires and check for continuity across the element</li> </ul>
Failed temperature selector	<ul style="list-style-type: none"> <li>Remove the wires and check the resistance on all the settings</li> <li>Call the factory for switch resistance values</li> </ul>
Failed heat contactor	<ul style="list-style-type: none"> <li>Remove the wires from the contactor coil and check for continuity across the contactor coil connection</li> <li>Ensure the contactor moveable points move freely up and down</li> <li>Check for 24 volts at the contactor coil when the computer is running*</li> </ul>
Failed or disconnected safety thermostat	<ul style="list-style-type: none"> <li>Check across the thermostat connectors for continuity</li> </ul>

### CAUTION:

**USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY LANG OR THEIR AUTHORIZED DISTRIBUTORS CAN CAUSE BODILY INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT AND WILL VOID ALL WARRANTIES.**



## PARTS LIST



ITEM #	DESCRIPTION	PART #
1	Element: Oven Heating, 208 Volt 2.7 KW	11090-32
*	Power Cord	25-410
*	Pan	25-420
2	Motor: Convection Fan, 208 Volt	30200-41
3	Switch, Micro, Oven Door	30301-02
4	Switch, Toggle, On-Off	30303-06
4	Switch, Toggle, 2 Speed/Pulse	30303-06
5	Switch, Temperature Control	30304-16
6	Stat fxd, 490 Deg Open	60102-1021
7	Terminal Block	30501-02

## PARTS LIST CONT'D

8	Contactora: 2 Pole, 24 Volt Coil, Motor	30701-05
*	Contactora: 2 Pole, 24 Volt Coil, Heat	30701-04
9	Timer, Electric	30800-05
10	Buzzer, Electric	30802-04
11	Transformer: 240/24	31400-10
12	Pilot Light	31601-07
13	Circuit Board, Temperature Control	40101-19
14	Sensor, Oven Temperature	41100-12
*	Rack: Oven Interior	50200-74
*	Handle, Oven Door	50800-91
*	Spring, Eqs Oven	51001-21
*	Label, Panel	60301-126
15	Knob, Time/Temp. control	70701-28
*	Window, Oven Door	71301-04
16	Fan, Convection Blower	71500-09
17	Fan, Convection Cooling	71500-10
18	Leg, 4" Stainless Steel	72500-02
	<b>* = NOT SHOWN</b>	





**Lang Manufacturing Limited Warranty  
to Commercial Purchasers\*  
(Domestic U.S., Hawaii, &  
Canadian Sales only.)**

Lang Manufacturing Equipment (“Lang Equipment”) has been skillfully manufactured, carefully inspected and packaged to meet rigid standards of excellence. Lang warrants its Equipment to be free from defects in material and workmanship for (12) twelve consecutive months, with the following conditions and subject to the following limitations.

**I.** This parts and labor warranty is limited to Lang Equipment sold to the original commercial purchaser/users (but not original equipment manufacturers), at its original place of installation, in the continental United States, Hawaii and Canada.

Quartz elements are warranted for ninety(90) days from the date of installation.

**II.** Damage during shipment is to be reported to the carrier, is not covered under this warranty, and is the sole responsibility of purchaser/user.

**III.** Lang, or an authorized service representative, will repair or replace, at Lang’s sole election, and Lang Equipment, including but not limited to, safety valves, gas and electric components, found to be defective during the warranty period. As to warranty service in the territory described above, Lang will absorb labor and portal to portal transportation costs (time & mileage) for the first (12) twelve months from the date of installation or eighteen (18) months from date of shipment from Lang Manufacturing, which ever comes first.

**IV.** This warranty does not cover routine general maintenance, periodic adjustments, as specified in operating instructions or manuals, and consumable parts such as quartz elements, or labor costs incurred for removal of adjacent equipment or objects to gain access to Lang Equipment. This warranty does not cover defects caused by improper installation, abuse, careless operation, or improper maintenance of equipment.

**V.** THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EACH OF WHICH IS HEREBY EXPRESSLY DISCLAIMED. THE REMEDIES DESCRIBED ABOVE ARE EXCLUSIVE AND IN NO EVENT SHALL LANG BE LIABLE FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR THE BREACH OR DELAY IN PERFORMANCE OF THIS WARRANTY.

**VI.** Lang Equipment is for commercial use only. If sold as a component of another(OEM) manufacturer’s equipment, or if used as a consumer product, such Equipment is sold AS IS and without any warranty.