



INSTALLATION OPERATION AND SERVICE MANUAL

G2000 SERIES GAS BAKE AND ROAST DECK OVENS



FOR YOUR SAFETY:
DO NOT STORE OR USE GASOLINE
OR OTHER FLAMMABLE VAPORS OR
LIQUIDS IN THE VICINITY OF
THIS OR ANY OTHER
APPLIANCE

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

PLEASE READ ALL SECTIONS OF THIS MANUAL
AND RETAIN FOR FUTURE REFERENCE.

THIS PRODUCT HAS BEEN CERTIFIED AS
COMMERCIAL COOKING EQUIPMENT AND
MUST BE INSTALLED BY PROFESSIONAL
PERSONNEL AS SPECIFIED.

IN THE COMMONWEALTH OF MASSACHUSETTS
THIS PRODUCT MUST BE INSTALLED BY A
LICENSED PLUMBER OR GAS FITTER. APPROVAL
NUMBER: G-1-07-05-28

For Your Safety:

Post in a prominent location, instructions to be
followed in the event the user smells gas. This
information shall be obtained by consulting
your local gas supplier.

Users are cautioned that maintenance and repairs must be performed by a Garland authorized service agent using genuine Garland replacement parts. Garland will have no obligation with respect to any product that has been improperly installed, adjusted, operated or not maintained in accordance with national and local codes or installation instructions provided with the product, or any product that has its serial number defaced, obliterated or removed, or which has been modified or repaired using unauthorized parts or by unauthorized service agents. For a list of authorized service agents, please refer to the Garland web site at <http://www.garland-group.com>. The information contained herein, (including design and parts specifications), may be superseded and is subject to change without notice.

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IMPORTANT INFORMATION

WARNING:

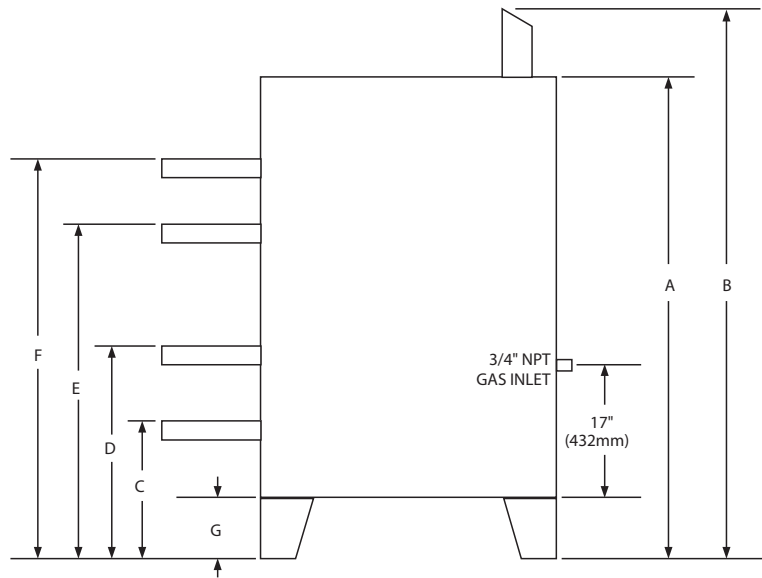
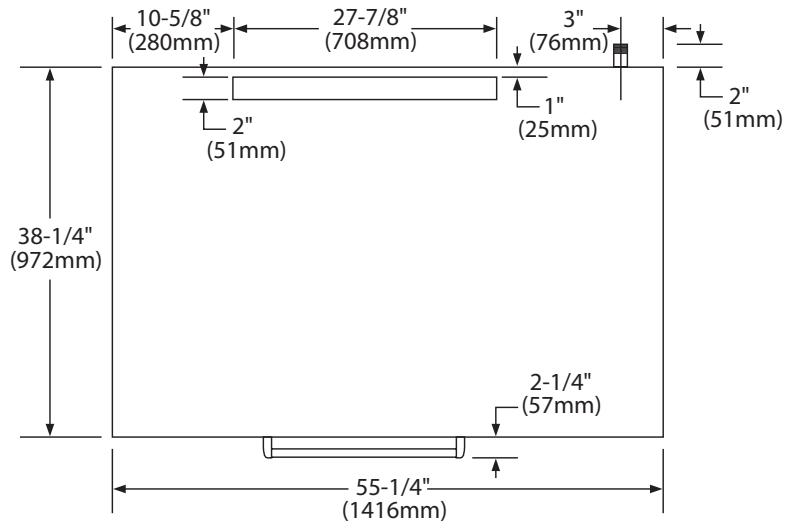
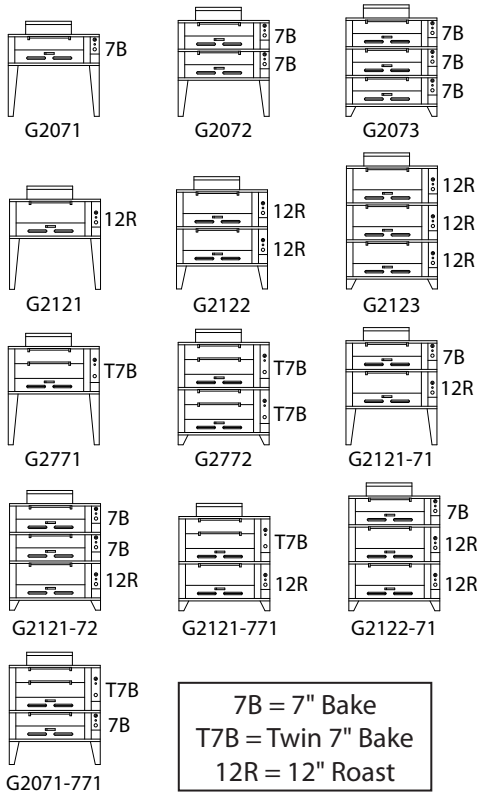
This product contains chemicals known to the state of california to cause cancer and/or birth defects or other reproductive harm. Installation and servicing of this product could expose you to airborne particles of glass wool/ceramic fibers. Inhalation of airborne particles of glass wool/ceramic fibers is known to the state of california to cause cancer. Operation of this product could expose you to carbon monoxide if not adjusted properly. Inhalation of carbon monoxide is known to the state of california to cause birth defects or other reproductive harm.

Keep appliance area free and clear of combustibles.

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DIMENSIONS AND SPECIFICATIONS, G2000 SERIES



All Models	Natural	Propane
Manifold Operating Pressure	5.5" WC (13.7 Mbar)	10.0" WC (24.9 Mbar)
Minimum Supply Pressure	7.0" WC (17.4 Mbar)	11.0" WC (27.4 Mbar)

Clearances To Combustible Wall	
Sides	Back
1" (25mm)	6" (152mm)

MODEL	A	B	C	D	E	F	G	Total BTU
G2071	50" (1270mm)	58" (1473mm)	40 1/2" (1041mm)				31" (787mm)	40,000
G2072	58 1/2" (1486mm)	66 1/2" (1689mm)	31 1/2" (800mm)	49" (1243mm)			22" (559mm)	80,000
G2073	60" (1524mm)	68" (1727mm)	15 1/2" (394mm)	33" (838mm)	50 1/2" (1283mm)		6" (152mm)	120,000
G2121	55" (1397mm)	63" (1600mm)	40 1/2" (1041mm)				31" (787mm)	40,000
G2122	60 1/2" (1537mm)	68 1/2" (1740mm)	23 1/2" (597mm)	46" (1168mm)			14" (356mm)	80,000
G2123	75" (1905mm)	83" (2018mm)	15 1/2" (394mm)	38" (965mm)	60 1/2" (1537mm)		6" (152mm)	120,000
G2771	60" (1524mm)	68" (1727mm)	40 1/2" (1041mm)	50 1/2" (1283mm)			31" (787mm)	50,000
G2772	62 1/2" (1587mm)	70 1/2" (1791mm)	15 1/2" (394mm)	25 1/2" (648mm)	43" (1092mm)	53" (1346mm)	6" (152mm)	100,000
G2121-71	63 1/2" (1613mm)	71 1/2" (1816mm)	31 1/2" (800mm)	54" (1372mm)			22" (559mm)	80,000
G2121-72	65" (1651mm)	73" (1854mm)	15 1/2" (394mm)	38" (965mm)	55 1/2" (1410mm)		6" (152mm)	120,000
G2121-771	57 1/2" (1460mm)	65 1/2" (1664mm)	15 1/2" (394mm)	38" (965mm)	48" (1219mm)		6" (152mm)	90,000
G2122-71	70" (1778mm)	78" (1981mm)	15 1/2" (394mm)	38" (965mm)	60 1/2" (1537mm)		6" (152mm)	120,000
G2071-771	60 1/2" (1537mm)	68 1/2" (1740mm)	23 1/2" (597mm)	41" (1041mm)	51" (1295mm)		14" (356mm)	90,000

OVEN SPECIFICATIONS

General

Construction:

Ovens are of the sectional type with each section operating independently. Sectional type with each section operating independently. Sectional design makes it easy to add additional sections as required. Heavy duty modular construction minimizes the use of hard to clean screws and bolts on the exterior of the oven. Cleaning is easier and more complete. Sections are supported on heavy steel legs, which are easily changed as sections are added. Oven legs are standard equipment.

Bake Section:

Bake section interior is 42" x 32" x 7" each section. The 3/4" corderite deck is provided as standard equipment. A 12 gauge steel hearth may be substituted if specified before placing order.

General Purpose Section:

Two compartments 42" x 32" x 7" each section. Each provided with its own deck and door. Standard deck is 3/4" thick corderite. A 12 gauge hearth may be substituted if specified before placing order.

Roast Sections:

The 12" roast interior is 42" x 32" x 12". Interior of the 16" sections is 42" x 32" x 16". A 12 gauge steel hearth is provided as standard for both 12" gauge steel hearth is provided as standard for both 12" and 16" sections. A corderite deck is available as an optional extra.

Burners:

Each oven is heated by two "U" shaped lance ported burners firing directly on heavy steel tread plate between the burners and the deck. In each oven section, a heavy duty throttling/snap action gas thermostat controls burners to provide a 150° to 500° Fahrenheit temperature range affording low temperature holding feature. Each section is further provide with an independent ON/OFF gas valve and 100% safety pilot system.

Venting:

Flue deflector is provided to meet ventilation system requirements. Internal flues connect for stacking.

Oven Door:

Oven door is engineered with precise balance and exceptional durability. Door opens to full width of oven cavity and to exact level of horizontal oven deck for unobstructed loading. Door will support tin excess of 250 pounds of load.

INTRODUCTION

Garland Variety Ovens

The dependable line of Garland Variety Heavy Duty Bake and Roast Ovens are designed for use where quality foods are prepared in mass quantity. These ovens are ideal for hotels, hospital, schools, larger cafeterias, dining rooms and all other high production operations.

Basic Variety Oven sections are designed for stacking to provide an infinite choice of bake and roast combinations. Independently operated oven sections with separate controls, afford the advantage of cooking a variety of products at difference temperatures at the same time.

GARLAND'S new Variety Oven line was designed to give years of dependable service. Engineering excellence assures customers of quality construction and products that perform well. This addition to the GARLAND family of commercial cooking products is testimony to the dedicated efforts of our employees, who have pride in their workmanship and therefore, build better products that reflect this spirit.

INTRODUCTION Continued

Rating Plate

When corresponding with the factory or your local authorized factory service center regarding service problems or replacement parts, be sure to refer to the particular unit by the correct model number (including the prefix and suffix letters and numbers) and the warranty serial number. The rating plate affixed to the unit contains this information.

We suggest installation, maintenance and repairs should be performed by your local authorized service agency listed in your information manual pamphlet.

In the event you have any questions concerning the installation, use, care or service of the product, write or call our Product Service Department.

This product must be installed by professional personnel as specified. Garland/U.S. Range products are not approved or authorized for home or residential use, but are intended for commercial applications only. Garland / U.S. Range will not provide service, warranty, maintenance or support of any kind other than in commercial applications.

Location of the Oven

Appliances shall be installed in a location in which the facilities for ventilation permit satisfactory combustion of gas and proper venting. Appliances shall be located so as not to interfere with proper circulation of air within the confined space. When buildings are so tight that normal infiltration does not provide the necessary air, outside air shall be introduced.

Clearances

NOTE: Unit must be installed with no less than 6 inches (152mm) clearance from combustible construction at both sides and rear. Installation to non-combustible construction is (0") clearance at both sides and rear. The unit suitable for installation on combustible floors.

INSTALLATION

Pre-Installation Instructions

The importance of proper installation of commercial gas cooking equipment cannot be over stressed. Proper performance of the equipment is dependent, in great part, on the compliance of the installation with the manufacturer's specifications. The installation and connections must comply with local codes, or in the absence of local codes, with CAN/CGA-B149 installation code or with the National Fuel Gas code, ANSI Z 223.1/NFPA No. 54 – latest edition.

All burner adjustments and setting shall be made by a qualified gas technician.

- A. The type of gas for which the unit is equipped is stamped on the data plate located behind lower front panel. Connect a unit stamped "NAT" only to natural gas; connect a unit stamped "PRO" only to propane gas.
- B. If it is a new installation, have gas authorities check meter size and piping to assure that the unit is supplied with sufficient amount of gas pressure required to operate the unit.
- C. If it is additional or replacement equipment, have gas authorities check pressure to make certain that existing meter and piping will supply fuel at the unit with not more than 1/2" water column pressure drop.

INSTALLATION Continued

- D. Obtain a pressure regulator to deliver gas at the pressure shown on the rating plate. This unit is supplied with a pressure regulator.

NOTE: When checking pressure be sure that all other equipment on the same gas line is on. A pressure regulator is supplied with GARLAND equipped. Set regulator to deliver gas at pressure shown on rating plate. Installation must conform with the national Fuel Gas Code ANSI Z223.1-Latest Edition/NFPA No. 54-Latest Edition and/or local code to assure safe and efficient operation.

NOTE: In Canada, the installation shall be in accordance with CAN/CGA-B149.1 NATURAL GAS INSTALLATION CODE or CAN/CGA-B149.2 PROPANE GAS INSTALLATION CODE and local codes where applicable.

NOTE: The appliance and its individual shut-off (supplied by others) must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 PSI (3.45kPa).

The appliance must be isolated from the gas supply piping by closing its individual manual shut-off (supplied by others) during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 PSI (3.45 kPa).

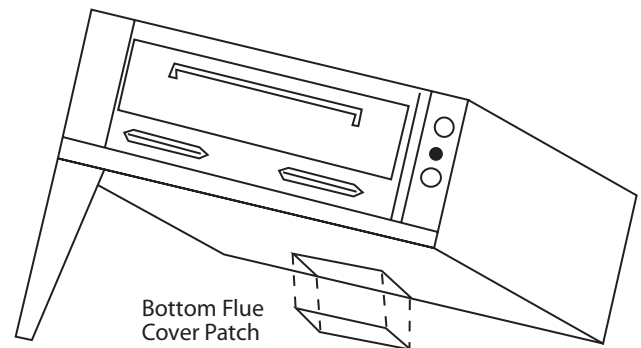
NOTE: Adequate clearance must be provided for servicing and proper operation.

Legs

Raise the front of the oven. Position the legs inside the front corners of the angle from frame. Start each bolt, threading them into the weld nuts on the angle base frame. Four (4) bolts and four (4) washers must be used to secure each leg in place. Tighten the bolts evenly and securely. Raise and block the rear of the oven and fasten the rear legs as above.

Assembly of Two-Section Oven

Before raising the upper section into its proper position, check at the rear centre of the underside of the upper section (as per drawing). The rectangular flue opening should be open. If the flue opening is covered, remove the "Bottom Flue cover Patch" and discard.



Be sure that the top trim cap (stainless steel angle iron square frame) is not installed on the lower or middle ovens. Place 2 x 4's on the top of the lower or middle ovens. Place 2 x 4's on the top of the lower oven section – about 6" in from each side, running front to back. Raise the top section and position it on the 2 x 4's so that the front, rear and sides of the top section line up with the lower section. The internal upper flue will telescope over the internal lower flue.

The upper oven section bottom frame will telescope or capture the bottom unit. It is not necessary to bolt the section together.

Installation of Oven Vent

1. The most efficient system for ventilating this oven is a properly designed hood. This hood should extend 6 inches beyond the front and sides of the oven and the back, unless oven is against a fire resistive wall. The design of the hood should be such that it will not pull the heat too rapidly out of the oven through the flue.

INSTALLATION Continued

The flue deflector provided (Fig. 1) should be installed to prevent this situation from occurring. Set the flue deflector in place over the flanges of the internal flue. The sloped opening of the flue deflector will be to the front. Fasten the side flanges of the flue deflector by means of the sheet metal screws provided.

2. If the oven must be connected to a direct flue, this flue should rise 10 feet above the roof of the building in which the oven is installed, or 10 feet above any portion of a building within a horizontal distance of 10 feet. The draft hood provided must be installed. In addition, it is necessary that barometric draft control (available from Garland) be installed. (See Fig. 2)

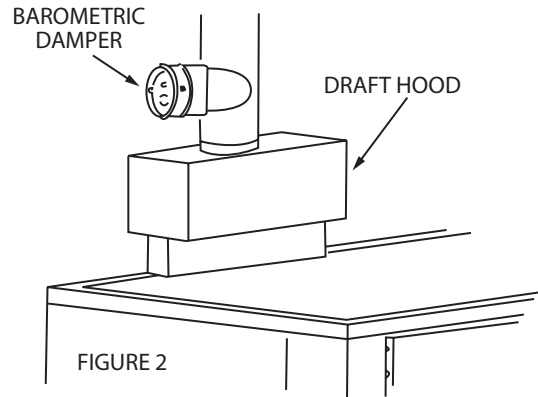
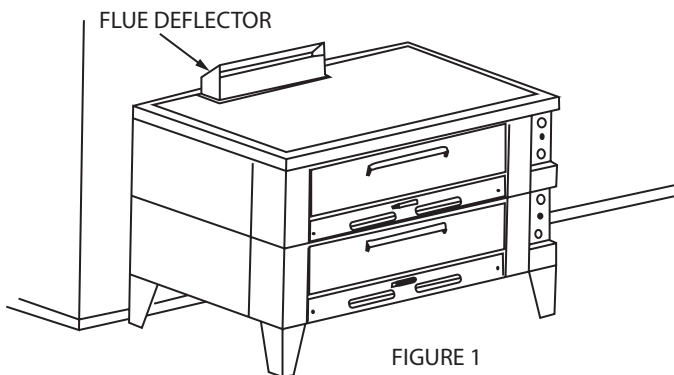
The draft hood should be positioned with its vertical bottom opening over the vertical flanges of the oven flue. The flanges of the draft hood should be to the sides and front. Fasten the draft hood to the oven by means of sheet metal screws through the holes on each side flange at the bottom of the draft hood.

The barometric damper must be installed to conform with the applicable instructions packed with the barometric damper. The relief opening of the barometric damper should be located so that it is not obstructed by any part of the oven or adjacent constructions.

The barometric damper should be installed as close to the draft hood as possible, while conforming to code requirements.

Under no circumstances should flue pipe with less than a 6 inch diameter be installed between the oven and the chimney termination.

If more than one appliance is connected to a single vent, the vent shall be sized in accordance with sound engineering principles.



Top Trim Installation

The front of the top trim is formed as a channel. Open the upper oven door. Hold the top trim with the rear raised and slide its lower flange into position in the oven opening between the right and the left front columns. Lower the top trim into position over the oven top. The top trim does not require that it be bolted or fastened into position.

Ovens with Optional Light Feature

Important: This appliance must be electrically grounded in accordance with local codes, or in the absence of local codes, the Canadian Electrical Code C22.1 or with the National electrical code ANSI/NFPA No. 70 (latest edition whichever is applicable).

Warning – Electric Grounding Instructions

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

A wiring diagram is attached to the back of the unit.

Gas Connection-Single & Multiple Ovens

Single Oven

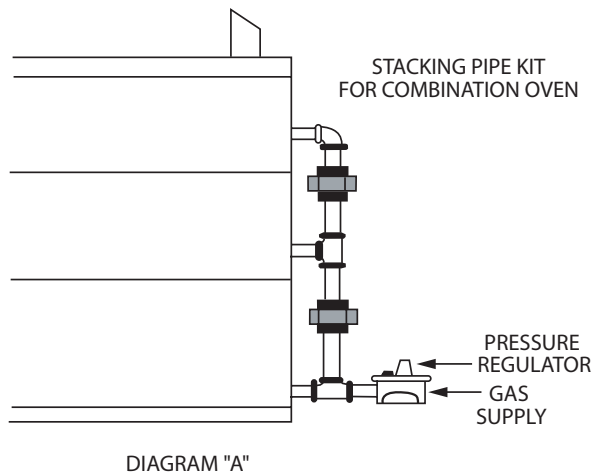
Install the pressure regulator (supplied) with the outlet (arrowhead) connected to the tail pipe. The $\frac{3}{4}$ " N.P.T. inlet of the pressure regulator must be considered in piping the gas supply. Each group of ovens should be supplied (by others) with an in-line manual shut off valve.

INSTALLATION Continued

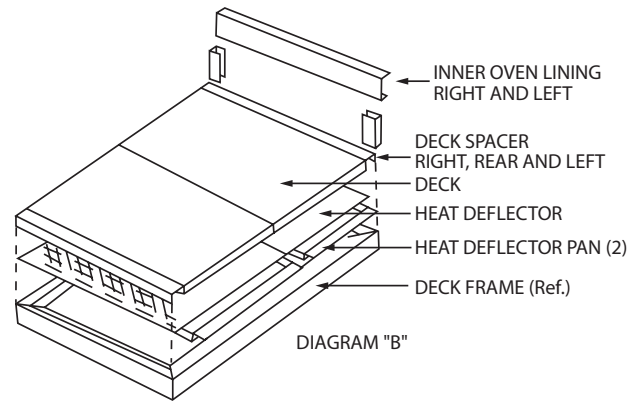
Each stack of oven sections may be piped individually as described above. Each stack should be provided with its own manual gas shut off valve as described. If the ovens are to be piped using all of the materials provide, refer to diagram "A".

Multiple Ovens

If the ovens are to be stacked, they may be piped as shown in the diagram "A". Again, as stated above, a readily accessible gas shut off valve of an approved type should be installed in the supply line.



The steel hearth is designed as a one-piece welded assembly and will pass through the oven door opening. The rear of the steel hearth assembly rests on the heat deflectors inside the rear angle support. Centre the steel hearth assembly within the oven. Install the aluminized inner oven linings provided, as shown in Diagram "B".



IMPORTANT: All gas burners and pilots need sufficient air to operate and large objects should not be placed in front of this appliance which would obstruct the air flow through the front.

Installation Of Oven Heat Deflectors, Corderite/Steel Hearths & Inner Oven Linings

All models require that two part oven heat deflectors (heavy gauge diamond plate) and two heat deflector pans (in oven with corderite deck material) or one heat deflector pan (in oven with steel deck), be installed above the oven burners to give even heat throughout the oven. Install the heat deflector pan(s) in the centre of the oven deck frame. Install the heat deflectors on top of the heat deflector pans, with the rough side up.

Both deflectors should be brought together to make the centre seam as tight as possible.

The corderite hearth assembly consists of two sections installed within deck spacers, as shown in Diagram "B". Install the two (2) aluminized inner oven linings in the front and rear channels by first placing the rear of each in each rear channel. Then raise the front of each aluminized inner oven linings over and down into the front channels.

Ventilation and Air Supply

Proper ventilation is highly important for good operation. The ideal method of venting a gas deck oven is through the use of a properly designed canopy which should extend 6" beyond all sides of the appliance and 6'6" from the floor.

A strong exhaust fan will create a vacuum in the room. For an exhaust system vent to work properly, replacement air must enter the room in which the vent is located. For proper air balance, contact your local H.V.A.C. contractor.

Installation of a Direct Flue

When the installation of a canopy type exhaust hood is impossible, the oven may be direct vented. Before direct venting check your local codes on ventilation.

If the unit is to be connected directly to a direct flue, it is necessary that an 8" draft diverter be installed to insure proper ventilation. First remove the canopy diverter (shown in Diagram "A"), and replace with a Garland designed down draft diverter (P/N1056497 painted or 1056496 stainless steel). Connect directly to the Garland designed down draft diverter with your stove pipe.

INSTALLATION Continued

NOTE: Each oven has been factory tested and adjusted prior to shipment. It may be necessary to further adjust the oven as part of a proper installation. Such adjustments are the responsibility of the installer.

Adjustments are not considered defects in material and workmanship, and they are not covered under the original equipment warranty.

Do Not Undersize The Vent Pipe! This can cause resistance to flow and impede good efficiency.

OPERATION

Once the equipment has been installed and tested by qualified professional personnel, the oven is ready for operation. If the pilot is not lit, proceed as follows:

1. Check the oven gas valve. It should be in the "OFF" position. If not, turn this valve to the "OFF" position.
2. Remove the lower front panel by turning the special self-retaining fasteners.
3. Ignition of the pilot is made by passing a lighted taper through the access hole in the front air shield, or by removing this shield while pressing in and holding the red reset button of the oven safety valve. This button is reached through the access hole in the centre section of the side control panel. Release the red button after the pilot has been lit, approximately 45 seconds. If the pilot does not remain lit, repeat after waiting 5 minutes.
4. After the oven pilot is lit, replace the front air shield and lower front panel.

Burn Off – Deck Curing

Many of the parts used in the oven have a thin protective oil covering. This oil should be burned off before the oven is used for production of food. The following burn off procedure will also service to "cure" the oven hearth. If the curing procedure is not followed, there is a potential for the deck material to crack.

Turn the oven thermostat dial back to the 300°F setting and run the oven at this temperature for at least an hour. Repeat at 400°F and 500°F. the total "curing" process is accomplished in a 3 hour period of time.

The oven may now be shut down by turning the gas control valve to the "OFF" position and turning the thermostat back to its lowest setting.

NOTE: You cannot turn the oven off just by turning the oven thermostat down. You must turn the gas valve to the "OFF" position.

It will not be necessary to extinguish the oven pilot unless the oven is to remain unused for a long period of time.

After the hearth is "cured", the oven is ready for operation.

1. If the oven pilot has been extinguished, go through steps 1 through 4, as previously listed.
2. All models that have the corderite hearths should be preheated for no less than one (1) hour. This will bring the oven interior to the desired temperature and will provide time for the hearth and the oven interior surfaces to absorb and store heat required for optimum oven performance. All models that have steel hearths will require approximately 25 minutes to preheat.
3. After preheating, the oven is ready for use.
4. Distribute the load evenly on the deck. Space pans equally from each other and the side of the oven.
5. Planning will avoid unbalanced baking as a result of adding product after loading goods have started to bake.
6. Do not open door unnecessarily. Repositioning of product is not required in most cases.

OPERATION Continued

7. When using the G-2771 or the G-2772 General Purpose Oven for the same product, load the upper compartment first, then the lower compartment. It is normal for the upper compartment (in this specific model only) to be 30°F to 60°F lower in temperature than the lower chamber. When product is done in the lower compartment, remove same. Check upper compartment, allowing additional time if required.
8. Before loading, preheat oven at least 25°F higher than desired temperature for Strong bottoms and Light tops. When loading of oven is completed, turn control down to desired temperature. For products requiring Strong tops, turn oven temperature control up 25°F for the final 8 – 10 minutes of baking.

The following is intended only as guide. Temperature and time requirements will be affected by specific recipes, varying methods of food preparation, quality of ingredients and personal preferences, as well as numerous other factors. Your own techniques, coupled with the recommendations of this guide, will permit you to establish your own chart.

User Guide – Timetable for Roasting

CUT	WEIGHT (LB.)	OVEN ° F	INTERNAL TEMP. °F	MIN./LB.
Beef				
Standing Rib	6-8	300°-235°	140° Rare	23-25
Standing Rib (7 Rib)	20-25	300°	160° Rare	27-30
			125° Rare	11
			140° Med	12
			150° Well	13
Round (Rump & Shank Off)	50	250°	140° Med	12
Rolled Rib	5-7	300°-350°	140° Rare	32
			160° Med	38
			170° Well	48
Rib Eye	4-6	350°	140° Rare	18-20
			160° Med	20-22
			170° Well	22-24
Tenderloin (1/2)	2-3	425°	140° Rare	45-60
Whole	4-6	425°	140° Rare	45-60
Rolled Rump (High Quality)	4-6	300°-325°	150°-170°	35-40
Sirloin Tip (High Quality)	3 1/2-4	300°-325°	150°-170°	35-40
Veil				
Leg	5-8	300°-325°	170°	23-35
Loin	4-6	300°-325°	170°	30-35
Rib (Rack)	3-5	300°-325°	170°	35-40
Rolled Shoulder	4-6	300°-325°	170°	40-45

Note: This list is intended only as a guide

Chart continued on next page

OPERATION Continued

User Guide – Timetable for Roasting continued

CUT	WEIGHT (LB.)	OVEN ° F	INTERNAL TEMP. °F	MIN./LB.
Lamb				
Leg	5-8	300°-325°	175°-180°	30-35
Shoulder	4-6	300°-325°	175°-180°	30-35
Rolled	3-5	300°-325°	175°-180°	40-45
Cushion	3-5	300°-325°	175°-180°	30-35
Pork, (Fresh)				
Loin Centre	3-5	325°-350°	170°	30-35
Half	3-5	325°-350°	170°	35-40
Blade/Sirlion	3-4	325°-350°	170°	40-45
Picnic Shoulder	5-8	325°-350°	185°	30-35
Rolled	3-5	325°-350°	185°	40-45
Cushion Style	3-5	325°-350°	185°	35-40
Boston Shoulder	4-6	325°-350°	185°	45-50
Leg (Fresh Ham)				
Whole -Bone In	10-14	325°-350°	185°	25-30
Whole -Boneless	7-8	325°-350°	185°	40-45
Half - Bone In	5-7	325°-350°	185°	40-45
Pork, (Smoked)				
Ham (Uncooked)				
Whole	10-14	300°-325°	160°	18-20
Half	5-7	300°-325°	160°	22-25
Shank/Butt	3-4	300°-325°	160°	35-40
Ham (Cooked)				
Whole	10-14	325°	130°	15
Half	5-7	325°	130°	18-24
Picnic Shoulder	3-5	300°-325°	170°	35
Shoulder Roll	2-3	300°-325°	170°	35-40
Canadian Style Bacon	2-4	300°-325°	160°	35-40
Poultry (All Not Stuffed)				
Chicken-Roasters	2 1/2-3	325°		36
Turkeys	14-16	300°		22
	25-30	350°		16
Ducks	4-5	325°		36

Note: This list is intended only as a guide

OPERATION Continued

User Guide – Timetable for Baking

PRODUCT	OVEN °F	TIME
Breads		
White Bread	375°-425°	30-40 Min.
Wheat Bread	375°-425°	30-40 Min.
Rye Bread	400°	40-60 Min.
Corn Bread (Individual)	375°-425°	25-30 Min.
Cakes		
White Sheet	375°	30-35 Min.
Yellow Sheet	375°	30-35 Min.
Angel Food	400°	20-30 Min.
Devil's Food	350°	20-30 Min.
Cookies		
Sugar	375°	15 Min.
Chocolate Chip	375°	15 Min.
Butter	400°	10-15 Min.
Macaroons	350°	20 Min.
Pies		
Apple	400°-425°	50-60 Min.
Cherry	400°-425°	50-60 Min.
Pumpkin	375°-425°	30-40 Min.
Custard	375°-425°	30-40 Min.
Rolls		
Clover Leaf	400°	15-20 Min.
Parkerhouse	400°-425°	15-20 Min.
Biscuits	425°	20 Min.
Danish Pastry	375°	20-30 Min.

Note: This list is intended only as a guide

MAINTENANCE

We suggest maintenance and repairs to be performed by an GARLAND AUTHORIZED SERVICE AGENT. The listing provided with your oven is titled "Maintenance and Repair Centres".

Painted Finishes

Establish a regular cleaning schedule. Any spills should be wiped off immediately.

The oven should be permitted to cool down before cleaning exterior surfaces. Wipe exposed, cleanable surface when cool with a mild detergent and hot water. Stubborn residue spots may be removed with a light weight, non-metallic scouring pad. Dry thoroughly with a clean cloth.

Stainless Steel

For routine cleaning, just wash with a hot water and detergent solution. Wash just a small area at a time or the water will evaporate leaving the chemicals behind causing streaking.

Rinse the washed area with a clean sponge dipped in a sanitizing solution. Wash just a small area at a time or the water will evaporate leaving the chemicals behind causing streaking.

Rinse the washed area with a clean sponge dipped in a sanitizing solution and wipe dry with a soft clean cloth before it can dry.

Use a paste (of water and a mild scouring powder) if you have to, but never rub against the grain. All stainless steel has been polished in one direction. Rub with the polish lines to preserve the original finish. Then thoroughly rinse as before.

To prevent fingerprints, there are several stainless steel polishes on the market that leave an oily or waxy film. Do not use on surfaces that will be in contact with food.

Stainless Steel may discolour if overheated. These stains can usually be removed by vigorous rubbing with a scouring powder paste.

Use only stainless steel, wood or plastic tools, if necessary, to scrape off heavy deposits of grease and oil. Do not use ordinary steel scrapers or knives as particles of the iron may become imbedded and rust. STEEL WOOL SHOULD NEVER BE USED.

Oven Interior

Standard aluminized steel interior surfaces. The oven linings, back linings and top linings are formed with heavy gauge steel with aluminum fused into its surface. This provides a reflectance of heat back to the food being prepared. The aluminum virtually eliminates the possibility of rust formation.

To clean the aluminized interior, use a concentrated detergent on a plastic pad to remove burned on soil. DO NOT use steel wool, oven cleaners or abrasive powders. These will remove the aluminum. Rinse with warm water on soft cloth. Be sure to remove all traces of detergent. Any discoloration which may remain after the soil build-up has been removed will not affect the performance of the oven.

Cleaning of Oven Hearth

The oven hearth should be kept clean and free of carbon by using a long handled, stiff wire brush or scraper to loosen burned on carbon. Sweep the hearth clean with a soft brush. You may use a damp cloth to wipe the hearth, but **DO NOT FLOOD THE HEARTH WITH WATER OR USE A VERY WET CLOTH!** If excess water is used, the hearths may crack upon next use.

ADJUSTMENTS

Oven Door

The Garland oven door has adjustability as a design feature. Although it is factory set, the tension can be adjusted to suit the operator's preference. In addition, after a long period of hard use, the tension can be readjusted as required.

1. Where the top trim cap overlaps the columns, it must be removed to permit their removal.
2. Open the oven door, reach over the top of the oven, lift the rear of the top trim cap up, sliding it forward towards the draft hood (or flue diverter). This will move the lower front flange of the top trim cap far enough forward so that the entire trim cap may be raised up. Slide the trim cap back over the oven top to clear the columns.
3. Remove the lower front panel by turning the special self retaining fasteners. Loosen but do not remove the screws which fasten the lower front panel supports to the right and left side frames.
4. Remove the screw from the inner top corner of each column. Remove the columns by pulling each down and out. You now have access to each adjustable spring hook.
5. The spring hook passes through a bracket. A 1/4 x 20 nut is on the spring hook forward of the bracket. If it is available, use a 7/16" deep socket in the ratchet wrench to turn the nut clockwise to increase spring tension or counter-clockwise to relieve spring tension.
6. The oven door is properly adjusted if the door remains fully open and if the spring tension carries the door to the full closed position from the half-closed position.
7. Replace the columns. Retighten the lower front panel support screws. Replace the lower front panel. Slide the top trim cap forward so that its rear rides on top of the oven, and its lower front flange can be repositioned between the columns. Push the trim cap back so that its rear and side flanges fit down over the oven.

Thermocouple Replacement

NOTE: each oven has been factory tested and adjusted prior to shipment. It may be necessary to further adjust the oven as part of a proper installation. Such adjustments are the responsibility of the installer. Adjustments are not considered defects in material or workmanship, and they are not covered under the original equipment warranty.

Accessibility of the control manifold is gained by removing the lower control level panel (held by one sheet metal screw) and the control panel (fastened by sheet metal screws in its upper and lower front corners). Retain both parts and the sheet metal screws for reassembly. Access to the burner manifold is attained by removing the lower front panel and the front air shield.

The unit is provided with an oven safety valve. Its sensing element (or thermocouple) is replaceable. The properly adjusted pilot flame provides a blue flame enveloping the end of the thermocouple tip for 3/8" to 1/2. The thermocouple should glow dull red.

The pilot adjustment valve is in an elbow above the shut off valve.

A thermocouple nut should be started and turned all the way in by hand. An additional quarter turn with a small wrench will then be sufficient to seat the lock washer and maintain adequate contact. A too loose or too tight connection of the thermocouple nut to the automatic pilot valve can prevent the thermocouple from activating the valve. A visual examination of the thermocouple lead should be made to make sure that there are no cracks or ruptures. Every effort has been made to ensure trouble-free performance of this system with a minimum of service.

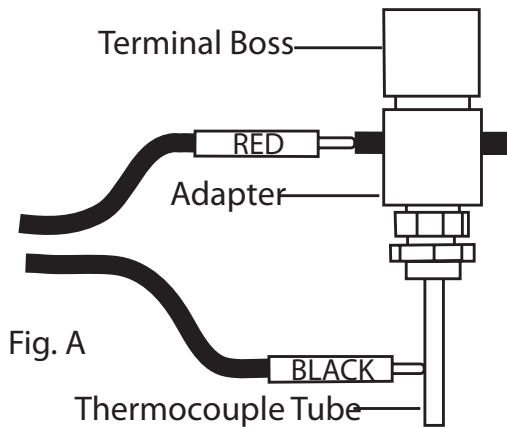
Magnet Assembly & Thermocouple Test

Heating the thermocouple tip by the pilot flame produces an electrical potential that is used to energize the magnet that, in turn, holds open the main and pilot valves. When the pilot is "OUT" or improperly adjusted, insufficient heat is applied to the thermocouple tip to produce adequate electrical generation that results in the control shutting itself off.

If, while following the proper lighting procedures, the magnet cannot be made to "HOLD", inspect the pilot flame for proper size and adjustment (see pilot burner adjustment). If the magnet will still not hold, make the following checks:

ADJUSTMENTS Continued

Closed Circuit Test



To make the closed circuit test, remove the thermocouple lead from the magnet contact. Place an adapter in the magnet contact and turn the thermocouple into the adapter, finger tight. Connect millivolt meter leads to adapter and thermocouple lead as shown in Figure "A".

Re-light pilot. Read meter after pilot has been burning three minutes. If pilot will not continue burning, depress and hold red button to check thermocouple output for this closed circuit check. If sufficient (normal output is 20 to 28 millivolts) millivolt output is noted, (less than 176 millivolts), replace thermocouple.

After checking the thermocouple in closed circuit, blow out the pilot flame, watching the millivolt meter. The magnet should continue to hold for a drop of at least five millivolts. If the magnet doesn't hold for a drop of five millivolts, you would have a false safety condition and frequent pilot outages. After this closed circuit check is made with the main burner off, the main burner should then be operated with the millivolt meter in position to check the effect of the main burner on the millivolt output.

Open circuit Test

1. Disconnect thermocouple from safety valve.
2. Attach thermocouple to millivolt test instrument.
3. Heat sensor end of thermocouple with flame, monitoring millivolt meter.
4. If millivolt reading is below 17 millivolts, replace thermocouple.

Oven Burners

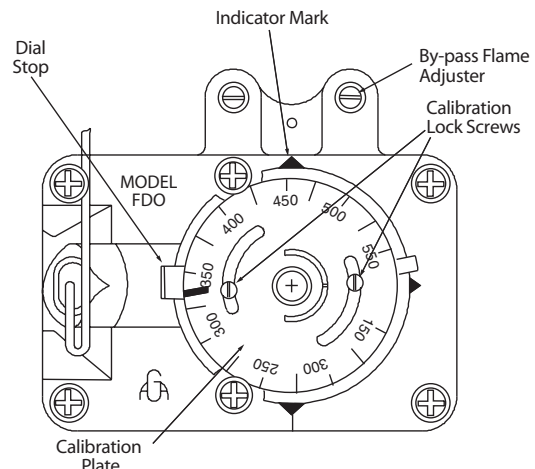
The oven burner orifices are fixed and cannot be adjusted. Proper rate is achieved if the gas supply pressure is adequate. Pressure may be checked by the 1/8" N.P.T. manifold pressure tap. Properly adjusted oven burner air shutters will

Provide for a distinct blue flame over the entire port area of the burners, at full rate. If readjustment has been made, tighten the air shutter screw to prevent movement of the air shutter.

Thermostat Operation

It is normal for a hydraulic thermostat cycling with a temperature swing of 45° to 50°. When checking calibration, first; allow the thermostat to cycle a minimum of four (4) times, second; place your temperature sensor in the geometric centre of the empty oven, two inches (2") off the oven deck. When the thermostat cycles off, write down that temperature, wait until the temperature cycles on and write the temperature down. Average the two readings. That average should be $\pm 20^\circ$ of the set point temperature.

Example: Thermostat set point is 300°, first cycle Off at 325°. Cycle back ON at 291°. The average of 325° and 291° is 309°. The thermostat is cycling eight degrees (8") above the dial setting. This thermostat is within the $\pm 20^\circ$ tolerance and the appliance is under warranty, have the authorized agent calibrate the thermostat. If the thermostat is beyond 50°, have the thermostat replaced.



ADJUSTMENTS Continued

Instructions for FDO Heavy Duty Control

This model FDO is a precision made instrument, carefully set at the factory to accurately control oven temperatures, from 500°F (260°C) to 150°F (66°C). All adjustments are accessible from the front of the appliance after removing the dial. To remove dial, grasp knob portion and pull straight out.

By-Pass Adjustment

1. With oven cold, turn dial counter-clockwise slowly from "Low Stop", until bypass seat just snaps on.
2. Remove Dial.
3. With screwdriver, turn bypass flame adjuster screw counter-clockwise to increase the bypass flame, or clockwise to decrease the entire burner flame to a minimum stable flame.
4. Replace dial. CAUTION: While making this adjustment, if the oven should become heated while the dial is set at a low range below 350°F (177°C), the bypass flame will shut off completely. If this occurs, turn dial counter-clockwise slowly until bypass gas snaps on. Then check bypass adjustment as stated.

Recalibration

Field recalibration is seldom necessary, and should not be resorted to unless poor cooking results, definitely proves that the control is not maintaining the temperature to which the dial is set. To check oven temperature when recalibrating, use an indicating potentiometer or a reliable mercury oven thermometer.

NOTE: no attempt to recalibrate the oven control should be made within the warranty period. If the control is out \pm 20°F from the dial setting, have authorized agent calibrate under warranty. If the control is out more than 50°, have the thermostat replaced, (if within the warranty period), if someone other than the authorized agent attempts recalibration during the warranty period, there will be no warranty on the control that was tampered with.

1. Place the thermocouple of test instrument or thermometer in the geometric centre of the oven.
2. Light the main burner. Observe which indicator mark aligns with the low stop position of the dial. Use this indicator mark for all settings.
3. Turn dial so 400°F (240°C) lines up with the "Low Stop" indicator mark.
4. Allow the oven, or appliance, to heat and thermostat too cycle three times. After sufficient time, check temperature. If the temperature does not read with \pm 20° of the dial setting, recalibrate as follows:
5. Pull dial straight off without turning thermostat shaft.
6. Hold calibration plate and loosen the two calibration screws until the plate can be moved independently of the control.
7. Turn calibration plate so that the instrument or thermometer reading is in line with the indicator mark. Hold plate and tighten screws firmly.
8. Replace dial.
9. NOTE: If the above adjustment is prevented by the two loosened calibration lock screws being in contact with the ends of the screw clearance plate to the proper location, reassemble screws in the other tapped holes designed for them.

 **Garland**[®]