HOBART

SERVICE

# DGC5 & HGC5 SERIES FULL SIZE GAS CONVECTION OVENS

# CUSTOMER MAINTENANCE MANUAL

**SPECIFICATION SHEETS**

**INSTALLATION / OPERATION MANUAL**

**SERVICE MANUAL**

**HOBART SERVICE PARTS STORE**

**CATALOG OF REPLACEMENT PARTS**

F48016

Item # _____

Quantity _____

C.S.I. Section 11400

HOBART
701 S Ridge Avenue, Troy, OH 45374
1-888-4HOBART • www.hobartcorp.com

# HGC5 SERIES GAS CONVECTION OVENS

## STANDARD FEATURES

- Stainless steel front, sides and top
- Painted legs
- Stainless steel doors with double pane windows
- 50,000 BTU/hr. burner per deck
- Electronic spark ignition
- ½ H.P. two speed oven blower motors. 120/60/1 with 6' cord and plug, 7.7 amps total draw.
- Solid state temperature controls adjust from 150° to 500°F
- 60 minute timer per deck with audible alarm
- Oven cool switch for rapid cool down
- Porcelain enamel on steel oven interior
- Five nickel plated oven racks with eleven rack positions per deck
- ¾" rear gas connection with combination gas pressure regulator and safety solenoid system
- One year limited parts and labor warranty

## STANDARD FEATURES (D models only)

- Computer controls with digital time and temperature readouts. 99-hour timer with audible alarm. Roast and Hold cycle. One hundred programmable menu selections. Shelf I.D. programming.
- 24 hr. timer with audible alarm

## OPTIONS

- ❑ Independently opening doors
- ❑ Stainless steel doors without windows
- ❑ Second year extended limited parts and labor warranty
- ❑ Casters
- ❑ 208V or 240V, 60 Hz, 1 phase two speed blower motor, ½ H.P. 208V, 4.2 amps; 240V, 3.6 amps.

## MODELS

- ❑ **HGC501** – Single Deck Gas Convection Oven
- ❑ **HGC501D** – Single Deck Computer Control Gas Convection Oven
- ❑ **HGC502** – Double Deck Gas Convection Oven*
- ❑ **HGC502D** – Double Deck Computer Control Gas Convection Oven*

* Double deck ovens are supplied as separate units with a stacking kit.

## ACCESSORIES

- ❑ Stainless steel open stand with adjustable rack supports, stainless steel shelf and choice of adjustable feet or casters
- ❑ Stainless steel rear enclosure
- ❑ Extra oven rack(s)
- ❑ Stainless steel drip pan
- ❑ Flexible gas hose with quick disconnect and restraining device.
- ❑ Down draft flue diverter for direct vent connection

Specifications, Details and Dimensions on Inside and Back.

HGC5 SERIES GAS CONVECTION OVENS

# HGC5 SERIES
# GAS CONVECTION OVENS

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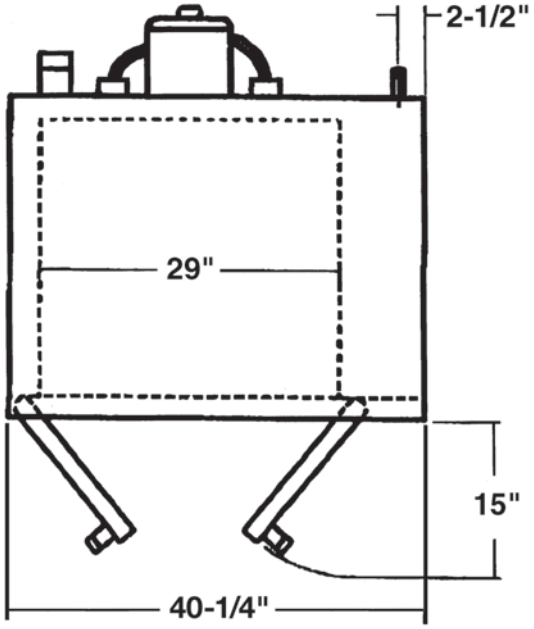
**IMPORTANT**

1. A combination gas pressure regulator and safety solenoid system is included in this unit. Natural gas is 5.0" w.c., propane gas is 10.0" w.c.
2. An adequate ventilation system is required for commercial cooking equipment. Information may be obtained by writing to the National Fire Protection Association, Batterymarch Park, Quincy, MA 02289. When writing, refer to NFPA No. 96.
3. These units are manufactured for installation in accordance with ANSZ223.1A (latest edition), National Fuel Gas Code. Copies may be obtained from the American Gas Association, 1515 Wilson Blvd., Arlington, VA 22209.
4. 

| **Clearances:** | **Combustible** | **Non-Combustible** |
|---|---|---|
| Rear | 0" | 0" |
| Right Side | 2" | 0" |
| Left Side | 1" | 0" |

5. This appliance is manufactured for commercial installation only and is not intended for home use.
6. The installation location should not experience temperatures below -20°C (-4°F).

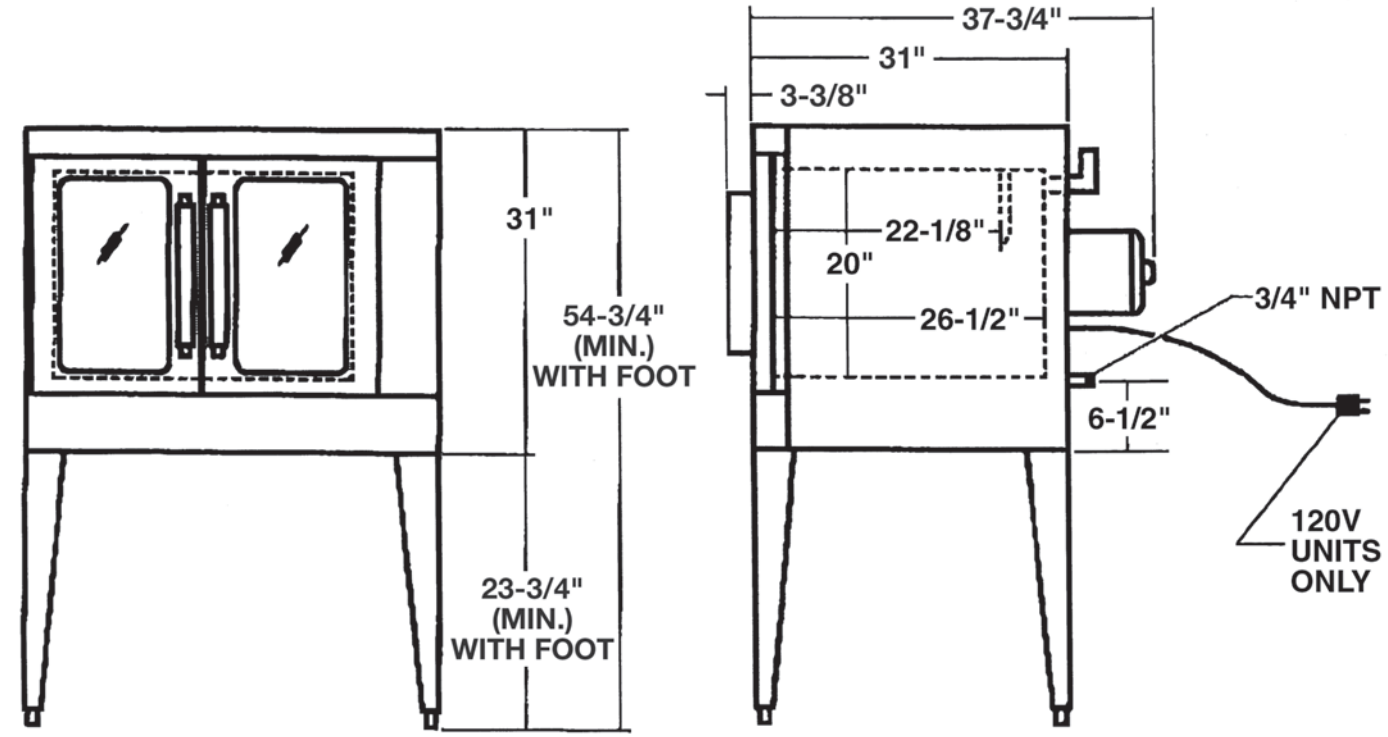


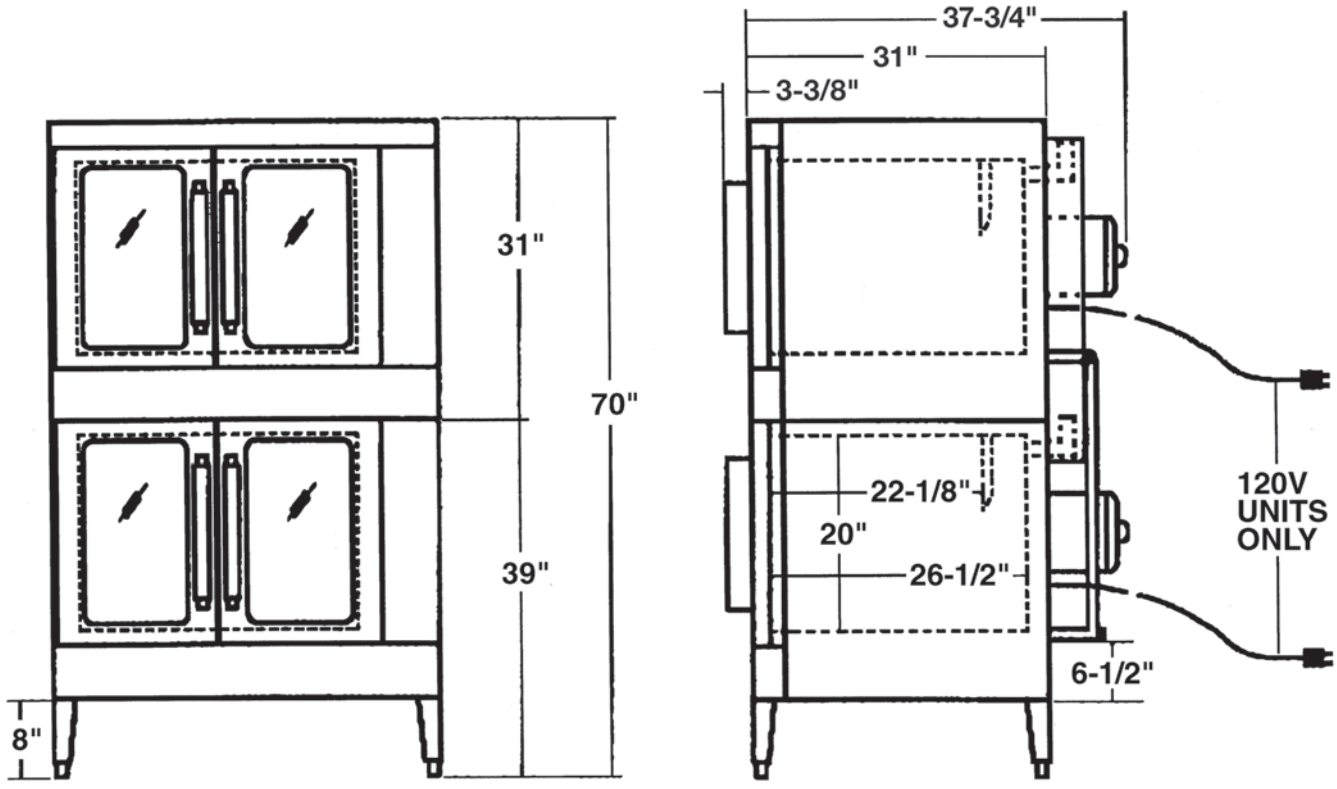

**SPECIFY TYPE OF GAS WHEN ORDERING.**

**SPECIFY ALTITUDE WHEN ABOVE 2,000 FT.**

| MODEL NO. | WIDTH | DEPTH (INCLUDES HANDLES) | HEIGHT | BTU/HR. PER OVEN | TOTAL BTU/HR. | ELECTRICAL | WEIGHT | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | WITH SKID AND PACKAGING | | WITHOUT SKID AND PACKAGING | |
| | | | | | | | LBS. | KG | LBS. | KG |
| **HGC501 HGC501D** | 40¼" | 41⅛" | 54¾" | 50,000 | 50,000 | 120/60/1 | 462 | 210 | 407 | 185 |
| **HGC502 HGC502D** | 40¼" | 41⅛" | 70" | 50,000 | 100,000 | 120/60/1 | 924 | 420 | 814 | 370 |

## DETAILS AND DIMENSIONS



# HGC5 SERIES
# GAS CONVECTION OVENS

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## SPECIFICATIONS

**General:** Gas convection oven. Basic deck **(HGC5/HGC5D)** is without legs; may be ordered separately for replacement, for stacking 2-high or for mounting on legs. **HGC501/HGC501D** single basic deck on 23¾" legs with feet. 23¾" legs can adjust an additional 1" in length. Legs with casters are adjustable from 28" to 29⅛" in length. **HGC502/HGC502D** two basic HGC5 decks on 8" legs.

**Construction:** Stainless steel front, sides and top, painted legs. Porcelain enamel on steel oven interior. Simultaneously operated stainless steel doors with windows. Two interior oven lights per deck. Non-sag insulation applied to the top, rear and sides, bottom and doors.

Oven interior measures 29"w x 22⅛"d x 20"h. Five nickel plated oven racks per deck measure 28¼" x 20½". Eleven position nickel plated rack guides with positive rack stops per deck.

**Controls:** Temperature controls adjust from 150° to 500°F. 60-minute timer with audible alarm. Oven cool switch for rapid cool down.

**D Models only:** Computer controls with digital time and temperature readouts. 99-hour timer with audible alarm. Roast and Hold cycle. One hundred programmable menu selections. Shelf I.D. programming.

**Gas:** One 50,000 BTU/hr. burner per deck. 100,000 BTU/hr. for Model HGC502. Electronic spark igniter.

**Electrical:** One ½ H.P. two-speed oven blower motor per deck. 120/60/1 power supply required. 6 foot cord and plug. 7.7 amps total draw.

### IMPORTANT

**WHEN ORDERING:** The following must be specified:

1) The type of gas
2) The altitude when above 2,000 ft.




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# DGC5 SERIES GAS CONVECTION OVENS

## STANDARD FEATURES

- Stainless Steel Front, Sides, Top and Back
- Painted Legs
- Solid Stainless Steel Doors
- 44,000 BTU/hr. Burner per Section
- Electronic Spark Ignition
- ½ H.P. Two Speed Oven Blower Motors. 115/60/1 with 6' Cord and Plug, 9 Amps.
- Side Mounted Solid State Temperature Controls Adjust from 150° to 500°F
- 60 Minute Timer with Audible Alarm per Section
- Oven Cool Switch for Rapid Cool Down
- Porcelain Enamel on Steel Oven Interior
- Five Nickel Plated Oven Racks with Eleven Rack Positions per Section
- ¾" Rear Gas Connection with Gas Pressure Regulator and Manual Shut-Off Valve

## OPTIONS

- ❑ Stainless Steel Legs
- ❑ Stainless Steel Doors with Windows
- ❑ Cook & Hold Control
- ❑ Casters

## MODELS

- ❑ DGC501 – Single Deck Gas Convection Oven
- ❑ DGC502 – Double Deck Gas Convection Oven
- ❑ DGC504 – Single Deck Gas Convection Oven with Open Stand

## ACCESSORIES

- ❑ Extra Oven Rack(s)
- ❑ Stainless Steel Drip Pan
- ❑ Down Draft Flue Diverter for Direct Vent Connection
- ❑ Stacking Kit (DGC501 only)

Specifications, Details and Dimensions on Inside and Back.

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DGC5 SERIES GAS CONVECTION OVENS

# DGC5 SERIES GAS CONVECTION OVENS

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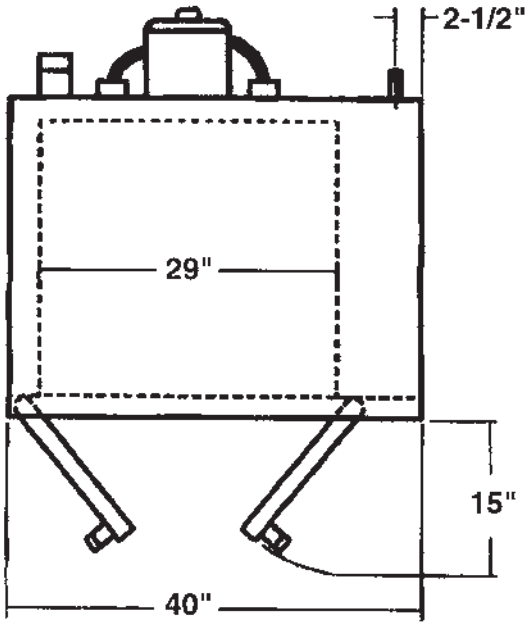
**IMPORTANT**

1. A gas pressure regulator sized for this unit is included. Natural gas 3.5" W.C., propane gas 10.0" W.C.
2. An adequate ventilation system is required for commercial cooking equipment. Information may be obtained by writing to the National Fire Protection Association, Batterymarch Park, Quincy, MA 02289. When writing, refer to NFPA No. 96.
3. These units are manufactured for installation in accordance with ANSZ223.1A (latest edition), National Fuel Gas Code. Copies may be obtained from the American Gas Association, 1515 Wilson Blvd., Arlington, VA 22209.
4. Clearances:

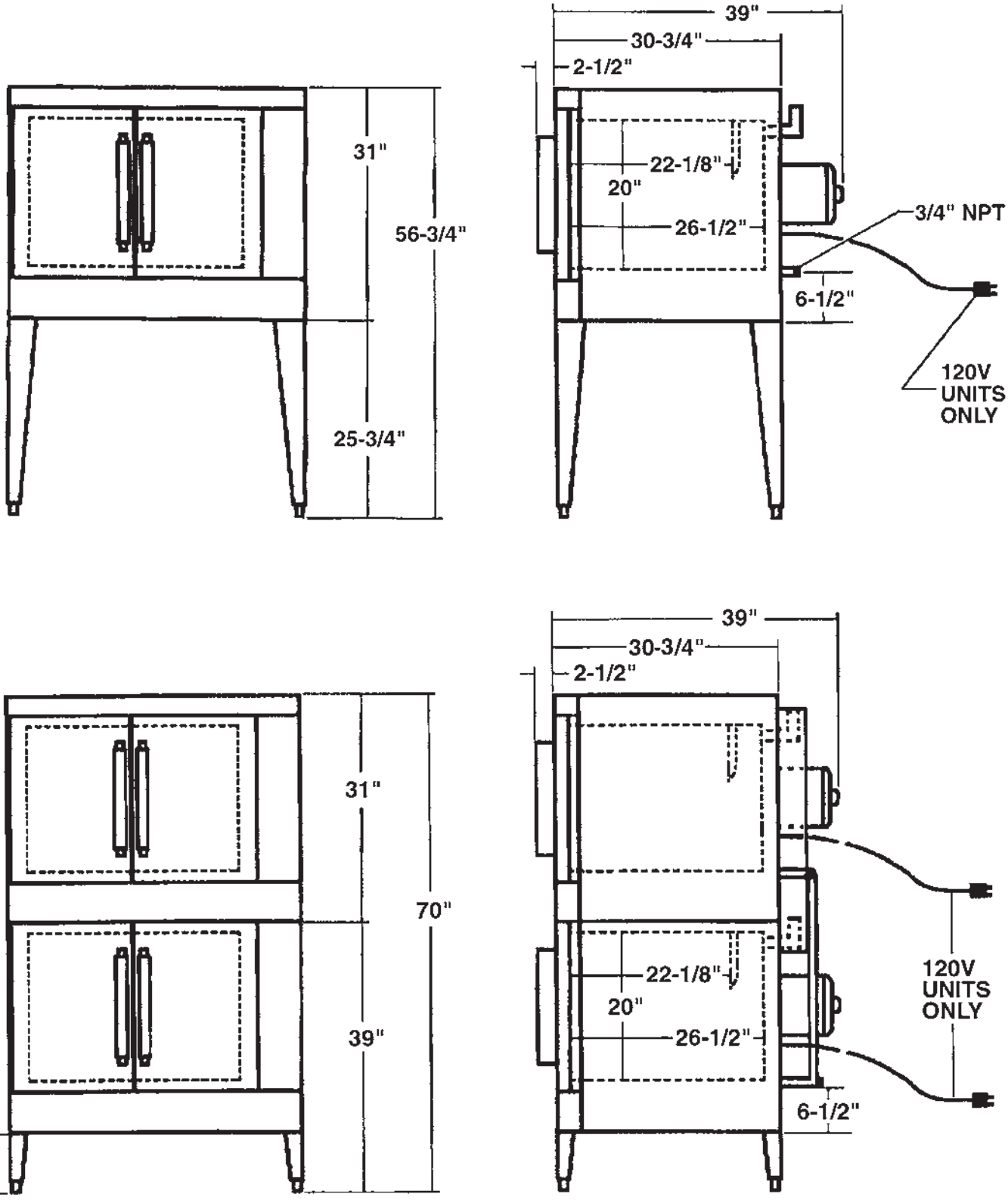
| | Combustible | Non-combustible |
|---|---|---|
| Rear | 6" | 0" |
| Sides | 6" | 0" |

5. This appliance is manufactured for commercial installation only and is not intended for home use.




| MODEL NO. | WIDTH | DEPTH (INCLUDES HANDLES) | HEIGHT | BTU/HR. PER OVEN | TOTAL BTU/HR. | ELECTRICAL | APPROX. SHP. WT. LBS. |
|---|---|---|---|---|---|---|---|
| DGC501 | 40" | 41½" | 56¾" | 44,000 | 44,000 | 115/60/1 | 483 |
| DGC502 | 40" | 41½" | 70" | 44,000 | 88,000 | 115/60/1 | 1,180 |

## DETAILS AND DIMENSIONS



# DGC5 SERIES GAS CONVECTION OVENS

HOBART
701 S Ridge Avenue, Troy, OH 45374
1-888-4HOBART • www.hobartcorp.com

## SPECIFICATIONS

**General:** Gas convection oven. Basic section **(DGC5)** is without legs; may be ordered separately for replacement, for stacking 2-high or for mounting on legs. **DGC501** single basic section on 25¾" legs. **DGC502** two basic DGC5 sections on 8" legs.

**Construction:** Stainless steel front, sides and top, painted legs. Porcelain enamel on steel oven interior. Independently operated solid stainless steel doors open a full 180 degrees. Two interior oven lights per section. Non-sag insulation applied to the top, rear and sides, bottom and doors.

Oven interior measures 29" w x 22⅛" d x 20"h. Five nickel plated oven racks per section measure 28¼" x 20½". Eleven position nickel plated rack guides with positive rack stops per section.

**Controls:** Side mounted solid state temperature controls adjust from 150° to 500°F. 60-minute timer with audible alarm. Oven cool switch for rapid cool down.

**Gas:** One 44,000 BTU/hr. burner per section. 88,000 BTU/hr. for Model DGC502. Electronic spark igniter.

**Electrical:** Two-speed ½ H.P. oven blower motor per section. 115/60/1 power supply required. 6 foot cord and plug. 9 amps total draw.

### IMPORTANT

**WHEN ORDERING:** The following must be specified:

1) The type of gas
2) The altitude when above 2,000 ft.

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# INSTALLATION & OPERATION MANUAL

ITW Food Equipment Group

VULCAN

HOBART

WOLF

## GAS CONVECTION OVENS

MODELS

VC4GD
VC4GC
VC5GD
VC6GD
VC6GC

HGC5
HGC5X
HGC5D
HGC5DX

WKGD


**For additional information on Vulcan-Hart or to locate an authorized parts and service provider in your area, visit our website at www.vulcanhart.com**

ITW FOOD EQUIPMENT GROUP, LLC P.O. BOX 696, LOUISVILLE, KY 40201-0696 • TEL: 502-778-2791

www.hobartcorp.com
www.vulcanhart.com

**FORM 31123 Rev. P (Sept 2019)**

# IMPORTANT FOR YOUR SAFETY

**THIS MANUAL HAS BEEN PREPARED FOR PERSONNEL QUALIFIED TO INSTALL GAS EQUIPMENT, WHO SHOULD PERFORM THE INITIAL FIELD START-UP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL.**

**POST IN A PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION CAN BE OBTAINED FROM THE LOCAL GAS SUPPLIER.**

## IMPORTANT

**IN THE EVENT A GAS ODOR IS DETECTED, SHUT DOWN UNITS AT MAIN SHUTOFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.**

## 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.**

**IN THE EVENT OF A POWER FAILURE, DO NOT ATTEMPT TO OPERATE THIS DEVICE.**

# Installation, Operation and Care of GAS CONVECTION OVENS

## KEEP THIS MANUAL FOR FUTURE REFERENCE

# GENERAL

All models feature a solid state temperature control. Most models have the option for a programmable oven controller. One hour dial timer is standard; five hour timer is optional. (Except VC5 - a 5 hr. timer is standard). Two-speed 1/2 HP (0.37 kw) electric motor is standard equipment. Each oven is furnished with 5 racks; additional oven racks are available. The burner input rating for each oven is 50,000 BTU/hr.

Porcelain interior is standard on all models.

VC6GD, VC6GC, HGC5X, and HGC5DX oven models have cavities that are 4 inches (102 mm) deeper than standard models.

Standard ovens are 120 V, 60 Hz, 1 PH and include cord and plug. Optional electrical specifications of 208/240 V are available and require hard wire connection.

Independently opening doors are standard; simultaneous door opening is optional (except on a VC5). Hobart models are standard with simultaneous doors.

Other options include: an open stand with lower storage rack, roast and hold, and a stacking kit for mounting one oven on top of another.

Convection Ovens are produced with quality workmanship and material. Proper installation, usage and maintenance of your oven will result in many years of satisfactory performance.

It is suggested that you thoroughly read this entire manual and carefully follow all of the instructions provided.

**FEATURES AND OPTIONS**

| Model | Thermostat | Timer | Oven Lights | Programmable | Legs | Stand with Storage Rack | Voltage* |
|---|---|---|---|---|---|---|---|
| Standard size | Solid State | 1 Hr. (VC5 has 5 hr timer) | Std. | Opt. (except VC5) | 23 3/4 (603 mm) | Opt. | 120/60/1 Std.<br>208/60/1 Opt.<br>240/60/1 Opt.<br>240/50/1 Opt.<br>220/380 (3W)/50/3 Opt.<br>220/380 (4W)/50/3 Opt.<br>240/415 (4W)/50/3 Opt. |
| Deep size | Solid State | 1 Hr. Std. | Std. | Opt. | 23 3/4 (603 mm) | Opt. | |
| Stacked Ovens | | | | | 8” (203 mm) | | |

*VC5 Only available in 120/60/1

# INSTALLATION

Before installing, verify that the electrical service and type of gas supply (natural or L.P.) agree with the specifications on the rating plate, located behind the top trim panel on the front of the oven. If the supply and equipment requirements do not agree, do not proceed with the installation. Contact your dealer or Vulcan-Hart Company immediately.

## UNPACKING

This oven was inspected before leaving the factory. The transportation company assumes full responsibility for safe delivery upon acceptance of the shipment. Immediately after unpacking, check for possible shipping damage. If the oven is found to be damaged, save the packaging material and contact the carrier within 15 days of delivery.

Carefully unpack the oven and place it in a work-accessible area near to its final installed position.

Do not use the doors or their handles to lift the oven.

## LOCATION

The equipment area must be kept free and clear of combustible substances.

When installed, minimum clearance from combustible construction must be 1 inch (25 mm) at the left side, 2 inches (51 mm) at the right side and 0 inch (0 mm) at the rear. Minimum clearance from noncombustible construction must be 0 inch (0 mm) at the left side, 0 inches (0 mm) at the right side and 0 inch (0 mm) at the rear. The oven may be installed on combustible floors.

The installation location must allow adequate clearances for servicing and proper operation. For solid state and digital control models, there must be 18 inches (457 mm) of clearance on the right side of the oven from any open flame.

The oven must be installed so that the flow of combustion and ventilation air will not be obstructed. Adequate clearance for air openings into the combustion chamber must be provided. Make sure there is an adequate supply of air in the room to allow for combustion of gas at the oven burners.

Do not permit fans to blow directly at the oven. Wherever possible, avoid open windows next to the oven. Avoid wall-type fans which create air cross currents within the room.

## INSTALLATION CODES AND STANDARDS

**In the United States of America:**

1. State and local codes.
2. National Fuel Gas Code, ANSI/Z223.1/NFPA #54 (latest edition). Copies may be obtained from The American Gas Association, Inc., Accredited Standards Committee Z223 @ 400 N. Capital St. NW, Washington, DC 20001 or the Secretary Standards Council, NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471.

   **NOTE: In the Commonwealth of Massachusetts,**
   All gas appliances vented through a ventilation hood or exhaust system equipped with a damper or with a power means of exhaust shall comply with 248 CMR.

3. *Vapor Removal From Cooking Equipment*, NFPA-96 (latest edition). Copies may be obtained from The National Fire Protection Association, Batterymarch Park, Quincy, MA 02169-7471.

4. National Electrical Code, ANSI/NFPA-70 (latest edition). Copies may be obtained from The National Fire Protection Association, Batterymarch Park, Quincy, MA 02169-7471.

**In Canada:**

1. Local codes.

2. CSA B149.1 Natural Gas and Propane Installation Code.

3. CSA C22.1 Canadian Electric Code (latest edition).

The above are available from the Canadian Standard Association, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5N6.

## INSTALLING BASIC OVEN

The basic oven must be installed on legs or be mounted on a modular stand. Installations on concrete bases or other supports restricting air circulation underneath the oven is not advisable and may void the warranty.

### Ovens Mounted on Casters

Ovens mounted on casters must use a flexible connector (not supplied by Vulcan) that complies with the Standard for Connectors for Movable Gas Appliances, ANSI Z21.69 • CSA 6.16 and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI-Z21.41 • CSA 6.9. In addition, adequate means must be provided to limit movement of the appliance without depending on the connector and the quick-disconnect device or its associated piping to limit appliance movement. Attach the restraining device at the rear of the oven as shown in Fig. 1.

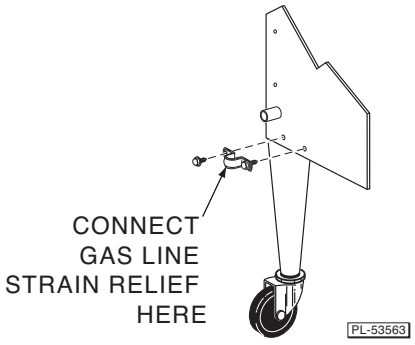



**Fig. 1**

Remove two screws from the rear of the oven and install the tie-down strap shipped with the casters using these screws (Fig. 1). Attach the gas line strain relief to the tie-down strap at the rear of the oven (Fig. 1).

If disconnection of the restraint is necessary, turn off the gas supply before disconnection. Reconnect this restraint prior to turning the gas supply on and returning the oven to its installation position.

Separate instructions for installing casters to the oven are included with the casters.

Note: If the oven is installed on casters and is moved for any reason, it is recommended that the oven be releveled front to back and side to side.

### Assembling the Legs to the Oven

The legs must be installed on the bottom of the oven. Gently position the oven on its side, taking care not to scratch or damage it.

Attach each of the four leg assemblies to the bottom of the oven with the 24 bolts and lockwashers (six per leg). Carefully raise the oven to its normal position.

### ASSEMBLING THE STAND TO THE OVEN

Attach each of the four leg assemblies to the bottom of the oven with the 24 bolts and lockwashers (six per leg). Carefully raise the oven to its normal position.

Attach the undershelf to the legs with eight bolts and lockwashers (two per leg).

Install the rack guides into the undershelf at desired locations (for pan or flat rack), then attach the rack supports to the top end of the rack guides. Attach rack supports to the leg assembly by removing one middle bolt and reattaching back through the end holes in the rack support (Fig. 2).

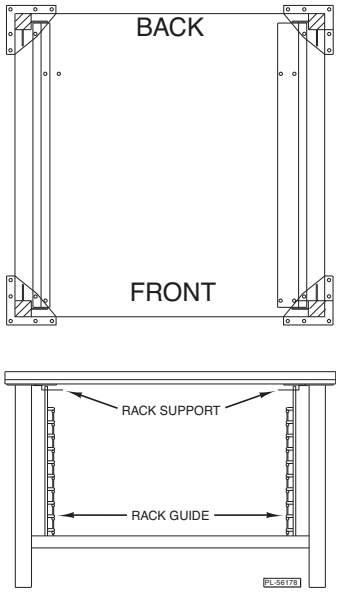



**Fig. 2**

### ASSEMBLING STACKED OVENS

Unpack the ovens and stack kit. Position the oven to be used as the bottom oven on its back for access to the oven bottom, taking care not to scratch or damage it. The gas pipe protrudes beyond the back; provide for this when the oven is tipped back by resting it on suitable spacers (2 x 4" [51 x 102 mm], etc.). Attach the four leg or caster assemblies with the 24 bolts and lock washers.

Place the lower oven (with legs or casters) on the floor and remove two $^{7}/_{16}$ inch (11mm) diameter knockouts on each side of the exterior top. Install two locating studs to bottom of the top oven per stacking kit instructions. Remove the vent guard from the top oven.

Move the oven with legs to the installed position and place upper oven on top of lower oven placing the locating studs in the knockouts.

Install the stacking flue (Fig. 3) with the four screws provided.

Connect the piping between the top oven and bottom oven. For all gas supply connections, pipe joint compound must be resistant to the action of propane gases.

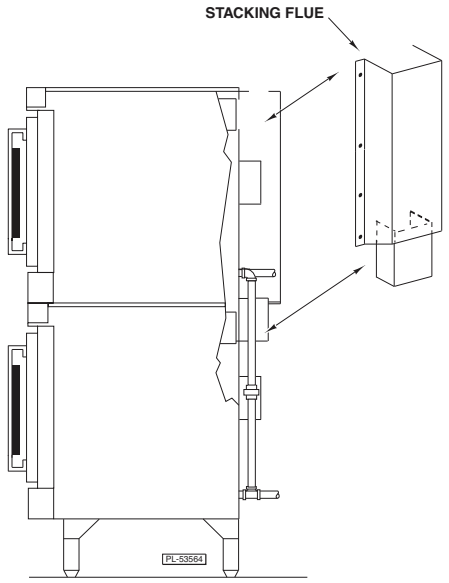



**Fig. 3**

### LEVELING

Make sure that the oven racks are level in the final installed position. If the oven is installed on legs, turn the adjustable feet in or out to level the oven front-to-back and side-to-side. For non-stacked ovens on casters loosen set screws and turn casters in or out to level the oven front to back and side to side. Retighten set screws after leveling.

## GAS CONNECTION

### GAS DATA

| MODEL | INPUT RATING | | MANIFOLD PRESSURE | |
|---|---|---|---|---|
| | Natural | L.P. GASES (Propane) | Natural | L.P. GASES (Propane) |
| All models | 50,000 BTU/hr | 50,000 BTU/hr | 5.0" W.C. (1.245 kPa) | 10" W.C. (2.5 kPa) |
| Standing Pilot | 50,000 BTU/hr | 50,000 BTU/hr | 3.7» W.C. (0.93 kPa) | 10» W.C. (2.5 kPa) |

Gas supply connections and any pipe joint compound must be resistant to the action of propane gases.

Location of the gas inlet is at the rear of the oven. Codes require that a gas shutoff valve must be installed in the gas line ahead of the oven.

Connect gas supply after leveling the oven. The gas supply line must be at least the equivalent of 3/4 inch (19 mm) iron pipe. Make sure the pipes are clean and free of obstructions, dirt or pipe joint compound.

The ovens are equipped with fixed burner orifices which coincide with installation elevation.

Standard oven with electronic ignition is provided with a regulator integral to the gas solenoid valve and requires no external regulator.

Ovens with standing pilot must use external regulator provided with unit, set to pressures as indicated in above gas data chart.

**NOTICE** The gas pressure regulator provided with Standing Pilot must be used. This regulator is set for an outlet pressure of 3.7" W.C. (0.93 kPa) natural gas and 10" W.C. (2.5 kPa) propane gas.

**⚠ WARNING Prior to lighting, check all joints in the gas supply for leaks. Use soap and water solution. Do not use an open flame.**

**A. Check all joints prior to the gas valve (solenoid) before lighting unit.**

**B. Check all joints beyond gas valve (solenoid) after unit is lit.**

After piping has been checked for leaks, all piping receiving gas should be fully purged to remove air.

## TESTING THE GAS SUPPLY SYSTEM

When gas supply pressure exceeds 1/2 psig (3.45 kPa), the oven and its individual shutoff valve must be disconnected from the gas supply piping system.

When gas supply pressure is 1/2 psig (3.45 kPa) or less, the oven should be isolated from the gas supply system by closing its individual manual shutoff valve.

## BURNER AIR ADJUSTMENT

Although main burner air is adjusted before shipment, it should be checked at the time of installation. Excessive air will cause flames to lift off a burner when cold or may cause flash-back during normal cycling of oven, particularly when propane gas is used.

Insufficient air will cause flames to burn with a yellow tip and result in carbon accumulation in the flame chamber and heat exchanger tubes.

Contact your local Vulcan-Hart servicer if required.

## VENT SYSTEM

**DO NOT** obstruct the flow of flue gases from the flue located on the rear of the oven. It is recommended that the flue gases be ventilated to the outside of the building through a ventilation system installed by qualified personnel.

Ovens may use an optional down-draft diverter flue method. This optional down-draft diverter must be purchased from the oven manufacturer and vented to the outside; otherwise, the installation of any such device will void all oven certifications and warranties. This oven is suitable for connection to Type B Gas Vent when used with the draft hood provided.

From the termination of the flue to the filters of the hood venting system, a minimum clearance of 18 inches (457 mm) must be maintained.

Information on the construction and installation of ventilating hoods may be obtained from *Vapor Removal from Cooking Equipment*, NFPA Standard No. 96 (latest edition), available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

## ELECTRICAL CONNECTIONS

**⚠ WARNING Electrical and grounding connections must comply with the applicable portions of the National Electrical Code and/or other local electrical codes.**

**⚠ WARNING Appliances equipped with a flexible electric supply cord are provided with a three-prong grounding plug. It is imperative that this plug be connected into a properly grounded three-prong receptacle. If the receptacle is not the proper grounding type, contact an electrician. Do not remove the grounding prong from this plug.**

VC series ovens with 120 V/60 Hz/1 PH electrical specification are equipped with a cord and plug as standard equipment.

A wiring diagram is located on the inside of the control housing.

### ELECTRICAL DATA

| Models | V/Hz/PH | Minimum Circuit Ampacity<br>Maximum Protective Device<br>AMPS |
|---|---|---|
| **All models*** | 120/60/1 | 15 |
| | 208/60/1 | 15 |
| | 240/60/1 | 15 |
| | 240/50/1 | 15 |
| | 220/380 (3W)/50/3 | 15 |
| | 220/380 (4W)/50/3 | 15 |
| | 240/415 (4W)/50/3 | 15 |

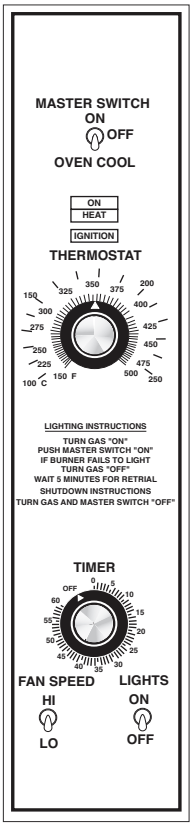
Compiled in accordance with the National Electric Code, NFPA-70 (latest edition).

*VC5 only available in 120/60/1

# OPERATION

**⚠ WARNING The oven and its parts are hot. Use care when operating, cleaning or servicing the oven.**

**CONTROLS**




PL-53562

| | | |
|---|---|---|
| **Master Switch** | ON | — Turns oven control circuits on. |
| | OFF | — Turns oven control circuits off. |
| | OVEN COOL | — Allows the fan motor to run with the doors ajar to speed ovencooling. |
| **On** Light (Amber) | | — Lit when Master Switch is ON. |
| **Heat** Light (White) | | — Comes on and goes off when the burner cycles on and off. |
| **Ignition** Light (Red) | | — Comes on if burner fails to ignite. When lighting the oven, the IGNITION light flashes. |
| **Thermostat** | | — Controls oven temperature during cooking operation. |
| **Timer** | | — Sets the bake time. Buzzer sounds continuously after timer counts down to 0. Oven does not turn off. Turn Timer to OFF to stop buzzer. When oven is not in use, keep Timer at OFF position. |
| **Fan Speed** Switch | | — Allows you to select HI or LO Fan Speed. |
| **Lights** Switch | | — Turns the lights in the oven ON or OFF. |

**CONTROLS** (Standing Pilot)

**Master Switch**

| | | |
|---|---|---|
| ON | — | Turns oven control circuits on. |
| OFF | — | Turns oven control circuits off. |
| SHABBOS | — | Puts oven in Sabbath mode allowing oven to operate when doors are open. |
| **On** Light (Amber) | — | Lit when Master Switch is ON or in Shabbos mode. |
| **Heat** Light (White) | — | Lit when thermostat calls for more heat. |
| **Thermostat** | — | Controls oven temperature during cooking operation. |
| **Timer** (1 Hour) | — | Sets the bake time. Buzzer sounds continuously after timer counts down to 0. Oven does not turn off. Turn Timer to OFF to stop buzzer. When oven is not in use, keep timer in OFF position. |
| **Fan** Speed | — | Allows you to select HI or LOW Fan Speed. |
| **Lights** Switch | — | Turns the oven lights ON or OFF. |

## BEFORE FIRST USE

Before using the oven for the first time, it must be “burned in” to release any odors that might result from heating the new surfaces in the chamber.

1. Using a clean, damp cloth, wipe the inside of the oven including the racks.
2. Close the oven doors.
3. Push the Master Switch to ON.
4. Turn the Thermostat to 300°F (149°C) and allow the oven to cycle for 2 hours or until no odor is detected before pushing the Master Switch to OFF.

## LIGHTING MODEL VC4GD, VC5GD AND VC6GD OVENS

1. Turn the main gas supply ON.
2. Push the Master Switch to ON.
3. If the burner fails to light, push Master Switch OFF. Wait 5 minutes for retrial.

If the oven does not light after three trials, turn off the main gas valve and call a qualified servicer.

## SHUTDOWN INSTRUCTIONS

1. Turn Master Switch to OFF.

## EXTENDED SHUTDOWN

1. Push Power Switch to OFF.
2. Turn gas and electrical power supplies OFF.

## USING MODEL VC4GD AND VC6GD OVENS

### Preheating

1. Select the proper rack arrangement for the product to be cooked. Refer to RACK ARRANGEMENTS, page 18.
2. Make sure the doors are closed.
3. Push Master Switch to ON. The amber ON light will come on, indicating that power to the oven is on.
4. Set the two-speed FAN SWITCH to the desired setting (without Roast & Hold models).
5. Set thermostat as desired. The HEAT light will come on and remain on until the oven reaches set temperature (approximately 10 to 15 minutes for settings from 300 to 400°F (149 to 204°C)). Refer to SUGGESTED COOKING GUIDELINES for temperatures and times for various products.

   If the burner fails to light, the red IGNITION light will come on and remain on.
6. Prepare product and place in suitable pans. When the white HEAT light goes off, the oven has reached the desired preheat temperature.

**LIGHTING OVEN** (Standing pilot)

**⚠ WARNING The oven fan continues to run when the oven door is opened. The oven contains hot air and steam. Stay clear while opening the door.**

1. Turn on main gas supply.
2. With Master Switch in OFF position, lift access door in lower trim, light pilot while holding red button on control panel.
3. Keep holding button for 30 seconds after pilot ignites.
4. Once steady pilot flame in achieved, close access door.
5. Set to desired temperature and fan speed.
6. Turn Master Switch to ON for weekly operation or SHABBOS for Sabbath Mode operation.
7. If ignition fails, turn Master Switch to OFF position. Wait 5 minutes and repeat steps 1 through 6.

**SHUTDOWN INSTRUCTIONS**

1. Turn Master Switch to OFF position.

**EXTENDED SHUTDOWN**

1. Turn Master Switch to OFF position.
2. Turn main gas and electrical power supplies off.

**Cooking**

1. Open doors and load the product into the oven. Place pans in the center of the racks. Close doors.
2. Set the Timer. After the preset time lapses, turn Timer to OFF position to stop alarm.
3. When product is done, open doors and carefully remove cooked product from the oven. Care should be taken when wiping up spills, as oven is still hot.

**End of Day**

1. Turn Thermostat to lowest setting.
2. Push Master Switch to OVEN COOL. Leave door ajar while the fan is on to cool the oven.
3. When oven has cooled sufficiently, flip Master Switch to OFF.
4. Turn gas valve to OFF and clean oven.

**Extended Shutdown**

Repeat Steps 1 through 3 of End of Day. Unplug oven and shut off manual gas valve.

**CONSERVING ENERGY— ALL MODELS**

- Turn off unused equipment.
- Adjust menu patterns and cooking/baking schedules for optimum equipment use.
- Reduce thermostat settings in slack periods since gas equipment heats up and recovers quickly.
- Preheat only to required cooking temperature for specific food — not higher.
- Do not open the oven door unless absolutely necessary.
- Keep area around the oven door clean and free of food particles.
- Any obstruction that prevents the door from closing completely will adversely affect oven efficiency.

## QUICK START / MANUAL SETTINGS

Figure 1.2

Turn the oven on and the display will show the last used setting.

TEMPERATURE:

1. Press the TEMP button, the set temperature will flash. **(Fig. 1.2)**

2. Enter the desired temperature using the keypad. The new temperature will flash. *(If needed, press the TEMP key and hold for 3 seconds, to display the internal oven temperature. The actual internal oven temperature will continue to be displayed as long as the key is depressed and for 3 seconds after the key is released. The default temperature display is the set temperature.)*

3. Press the OK button to accept.

Figure 2.2

Figure 3.2

COOK TIME:

1. Press the TIME button, the set time will flash. **(Fig. 2.2)**

2. Enter the desired time in hours and minutes using the keypad. The new time will flash. *(Example: Enter 1, display shows "00:01." Enter 120, display shows "01:20")*

3. Press the OK button to accept or the X key to cancel.

Figure 4.2

FAN SPEED:

1. Press the FAN button to toggle through fan speeds: HI, LOW, or OFF. **(Fig. 3.2)** *(If gas heat source is selected, choosing fan off will disable heat. Verify that this setting matches the heat source of your oven.)*

START COOK CYCLE:

1. Press the START button. Display will show count down time. (More than 1 hour = HR:MIN, Less than 1 hour = MIN:SEC)

ADD TIME FEATURE:

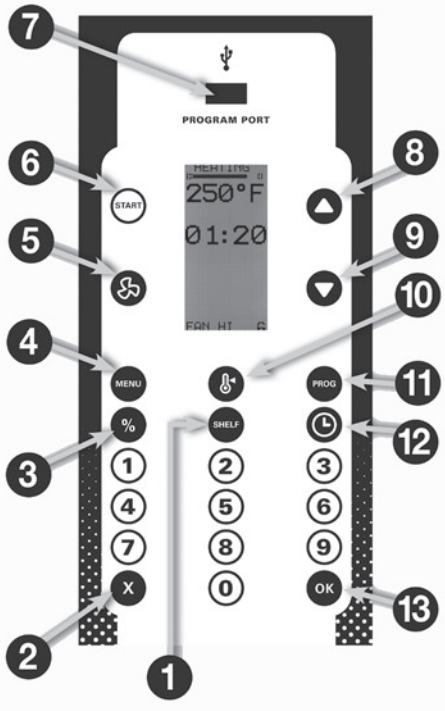
1. ADD TIME to the current cooking cycle by pressing any of the Number Pad keys.

2. You may add from 1 to 10 minutes by pressing a number pad key during the timing cycle of any cook time. *(Note the"0" key represents 10 minutes of add time)*

***NOTE:** When the actual temperature is more than 10°F, below set temperature, the display will say HEATING **(Fig. 4.2)**, with a heating progress bar shown below the HEATING. When the actual temperature is less than 10°F, below the set point, the HEATING display will change to READY.*

## DISPLAY PANEL GUIDE

1. **SHELF key,** used to assign menu items to up to 6 different shelves. The computer will track up to 6 menu items in 6 shelf positions.
2. **X key,** used to EXIT or cancel programming or operational functions.
3. **% key,** used to program the power level in 10% increments.
4. **MENU key,** used to select a menu item.
5. **FAN key,** used to set the fan speed.
6. **START key,** used to start a cooking timing cycle.
7. **PROG. PORT,** used with standard USB thumb drive, to import software updates and to upload cooking menus created externally with the C3700 menu editor.
8. **UP arrow,** used to scroll through menu and programming functions in the UP direction.
9. **DOWN arrow,** used to scroll through menu and programming functions in the DOWN direction.
10. **TEMP key,** used to set the cooking temperature, manually. Press and hold for 3 seconds to display the actual internal oven temperature.
11. **PROG key,** used to access all programming functions.
12. **TIME key,** used to set the cook time, manually.
13. **OK key,** used to accept programmed inputs.



## RECOMMENDED TEMPERATURES AND TIMES FOR ROASTING

Meat roasting is most satisfactory at temperatures of 225 to 325°F (107 to 163°C) for beef, lamb, poultry and ham; 325°F (163°C) for fresh pork as recommended by USDA and American Meat Institute.

A pan, approximately 12 x 20 x 1" (305 x 508 x 25 mm) full of water, may be placed in the oven bottom. This water supplies humidity to reduce shrinkage. Water should be added if necessary during roasting.

Roasting pans should be no deeper than necessary to hold drippings (usually 2 to 2½" (51 to 64 mm).

Cooking time and shrinkage may vary with roasting temperature, cut, grade of meat and degree of doneness. Smaller cuts will generally show greater time savings than larger cuts at a given temperature.

### ROASTING TEMPERATURE CHART

| PRODUCT | TEMP °F | TEMP (°C) | APPROXIMATE TIMES |
|---|---|---|---|
| **Standing Rib Roast** — Oven Ready | 250 | (121) | 3 to 4 Hrs. — Rare<br>4 to 4½ Hrs. — Med. |
| **Rolled Rib Roasts** — 20 to 22 lb (9.1 to 10 kg) | 275 | (135) | 4 Hrs. — Med. |
| **Veal Roast** — 15 lb (6.8 kg) | 300 | (149) | 3 Hrs. — Med. Well |
| **Turkeys** — 15 to 20 lb (6.8 to 9.1 kg) | 300 | (149) | 3 Hrs. |
| **Meat Loaf** — 8 to 10 lb (3.6 to 4.5 kg) | 350 | (177) | 45 to 60 Minutes |

## COOKING HINTS

Forced air convection cooking is faster than conventional oven cooking, and therefore overcooking is more common. Do not cook products faster than is practical for the best results. Since forced air convection supplies heat to the surface of the product, the thicker or more massive a product is for its type, the longer it will take to absorb enough heat to cook.

The oven will cook or bake full or partial loads at standard recipe temperatures. As with any oven, you may wish to use a temperature of up to 25 F° (-4 C°) higher or lower than the recipe for the particular product result that you prefer.

When established, convection oven times and control settings should be noted on your recipe.

## SUGGESTED COOKING GUIDELINES

Recommended temperatures, times and number of racks are intended as a guide only. Adjustments must be made to compensate for variations in recipes, ingredients, preparation and personal preference in product appearance.

The oven does not require special recipes. Excellent results can be obtained from any good commercial recipe with reduced cooking times.

## RECOMMENDED TEMPERATURES, TIMES AND NUMBER OF RACKS FOR BAKING

| PRODUCT | TEMPERATURE °F | (°C) | TIME IN MINUTES | NO. OF RACKS |
|---|---|---|---|---|
| **Cakes** | | | | |
| Sheet Cakes | | | | |
| 18 x 26 x 1" (457 x 660 x 25 mm) pan | | | | |
| Scaled 4½ to 6 lb (2 to 2.7 kg)/pan | 325-360 | (163-182) | 20 to 23 | 5 |
| Scaled 6 to 7½ lb (2.7 to 3.4 kg)/pan | 335-350 | (168-177) | 22 to 25 | 4 |
| Sheet Cakes | | | | |
| 18 x 26 x 2" (457 x 660 x 51 mm) pan | 300-325 | (149-163) | 25 to 35 | 4 |
| Scaled 10 to 12 lb (4.5 to 5.4 kg)/pan | 300-325 | (149-163) | 25 to 35 | 3 |
| Or, two 12 x 18 x 2" (305 x 457 x 51 mm) pans | | | | |
| Scaled 5 to 6 lb (2.3 to 2.7 kg)/pan | | | | |
| **Angel or Sponge Cakes** | | | | |
| Sheet Pans 18 x 26 x 1" (457 x 660 x 25 mm) | | | | |
| Scaled 5 to 6 lb (2.3 to 2.7 kg)/pan | 300-325 | (149-163) | 15 to 20 | 4 |
| **Loaf or Tube Pans** | 315-340 | (157-171) | 20 to 30 | 3 – 4 |
| **Cupcakes** | 350-400 | (177-204) | 6 to 12 | 4 |
| **Frozen Fruit Pies** | 350-375 | (177-191) | 30 to 45 | 3 – 4 |
| **Pumpkin or Custard Pies** | 300-350 | (149-177) | 30 to 45 | 3 – 4 |
| **Cobblers** | | | | |
| 12 x 18 x 2" (305 x 457 x 51 mm) or 12 x 20 x 2½" (305 x 508 x 64 mm) | 350-400 | (177-204) | 30 to 45 | 3 – 4 |
| **Meringue Pies** | 350-425 | (177-218) | 6 to 10 | 2 – 4 |
| **Fruit Turnovers** | | | | |
| 18 x 26 x 1" (457 x 660 x 25 mm) pans | 350-375 | (177-191) | 15 to 25 | 3 – 5 |
| **NOTE:** Pies and cobblers; fruit, custard and pumpkin pies in pie pans should be placed on 18 x 26 x 1" (457 x 660 x 25 mm) pans for baking. | | | | |
| **Cookies** | | | | |
| Rolled or Pressed | 350-400 | (177-204) | 6 to 12 | 3 – 5 |
| Drop | 350-400 | (177-204) | 6 to 15 | 3 – 5 |
| **Brownies** | 350 | (177) | 12 to 20 | 4 – 5 |
| **Yeast Breads NOTE**: Yeast breads should be fully proofed for best results. | | | | |
| **Rolls** — 1 oz (28 g) | 350-400 | (177-204) | 5 to 10 | 3 – 4 |
| 1½ to 2½ oz (43 to 71 g) | 350-400 | (177-204) | 8 to 15 | 3 – 4 |
| **Loaf Bread** — 1 lb (453.4 g) | 325-375 | (163-191) | 20 to 40 | 3(30) Pans<br>2(20) Pans |
| **Sweet Rolls & Danish Pastry** | 325-375 | (163-191) | 5 to 15 | 3 – 4 |
| **Biscuits** — Rolled ½" (13 mm) Thick | 350-400 | (177-204) | 5 to 15 | 3 – 4 |
| **Muffins** | 325-375 | (163-191) | 6 to 18 | 3 – 4 |
| 18 x 26 x 1" (457 x 660 x 25 mm) pan, 5 to 7 lb (2.3 to 3.2 kg)/pan | 335-400 | (168-204) | 10 to 20 | 4 |
| 18 x 26 x 2" (457 x 660 x 51 mm) pan, 8 to 20 lb (3.6 to 9 kg) per pan | 335-400 | (168-204) | 15 to 25 | 4 |
| **Corn Muffins** | 335-385 | (168-196) | 10 to 20 | 3 – 4 |

## REHEATING PREPARED FOODS

| PRODUCT | TEMPERATURE °F (°C) | TIME IN MINUTES | NO. OF RACKS |
|---|---|---|---|
| **Frozen French Fries** | 400-450 (204-232) | 6 to 8 | 4 |
| | 2 to 3 | | |
| **Frozen TV Dinners** | 350-400 (177-204) | 10 to 12 | 2 – 5 |
| **Frozen Entrees** | 300-350 (149-177) | 10 to 20 | 2 – 5 |
| 3/4 to 1" (19 to 25 mm) thick | | | |
| **Frozen Meals**, 8 oz (226 g) Foil Pkg. | 350-400 (177-204) | 20 to 30 | 2 – 5 |
| **Fish Sticks & Portions** | | | |
| Frozen Breaded, 1 oz (28 g) | 350-400 (177-204) | 6 to 10 | 2 – 4 |
| 2 1/2 to 3 oz (71 to 85 g) | 350-375 (177-191) | 8 to 15 | 2 – 4 |
| **Chicken Pieces** | | | |
| Broiled or Oven Fried | | | |
| 2 to 2 1/2 lb (0.9 to 1.1 kg)/bird | 375-425 (191-218) | 8 to 15 | 2 – 5 |
| 2 1/2 to 3 lb (1.1 to 1.4 kg)/bird | 350-400 (177-204) | 15 to 25 | 2 – 4 |
| **Lobsters** — 1 to 1 1/2 lb (0.45 to 0.7 kg) | 400-450 (204-232) | 8 to 14 | 2 – 4 |
| **Lobster Tails** — Frozen | | | |
| 1/2 to 3/4 lb (0.2 to 0.3 kg) | 350-400 (177-204) | 10 to 15 | 2 – 4 |
| **Hamburger Patties** | | | |
| 8 per lb (0.45 kg), med. to well done | 400-450 (204-232) | 5 to 6 | 2 – 6 |
| 6 per lb (0.45 kg) | 400-450 (204-232) | 7 to 10 | 2 – 6 |
| 4 per lb (0.45 kg) | 375-450 (191-232) | 8 to 12 | 2 – 6 |
| **CASSEROLES** | | | |
| **Food Service Pans** | | | |
| 2 to 3" (51 to 76 mm) deep | 325-375 (162-191) | 15 to 25 | |
| 3 to 4" (76 to 102 mm) deep | 325-375 (162-191) | 20 to 35 | 2 – 4 |
| **Ramekins or Foil Pans** | 350-400 (177-204) | 5 to 6 | 4 – 5 |
| Up to 1 1/2" (38 mm) deep | | | 2 – 4 |
| Frozen | | 10 to 15 | |
| **MISCELLANEOUS PRODUCTS** | | | |
| **Baked Potatoes** | | | |
| 120 count per 50 lb (22.7 kg) | 400-450 (204-232) | 20 to 25 | 2 – 5 |
| 100 count per 50 lb (22.7 kg) | 400-450 (204-232) | 25 to 40 | 2 – 5 |
| 80 count per 50 lb (22.7 kg) | 400-425 (204-218) | 30 to 45 | 2 – 5 |
| **Pizzas** — Frozen or With Prebaked Crust | 425-475 (218-247) | 5 to 10 | 2 – 4 |
| **Grilled Cheese Sandwiches** | 400-425 (204-218) | 8 to 10 | 2 – 4 |

## CLEANING

**⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

Allow the oven to cool before cleaning.

### Snorkel

The snorkel (heat circulation tube), located in the back of oven cavity, should never be blocked. The snorkel should be kept clean at all times for proper operation of the oven. Clean with standard oven cleaner at least once a week. Be sure to thoroughly clean all cleansing solution off before using the oven again. It is also recommended that the oven be run at 400°F (204°C) for 20 minutes before using to burn off any cleaning solution that was not thoroughly rinsed from the snorkel.

### Daily

Exterior stainless steel oven panels should be cleaned with a damp cloth. Stubborn soil may be removed with detergent. (DO NOT USE DAWN®.) Rinse thoroughly and wipe dry with a soft, clean cloth.

Clean porcelain oven interior daily with soap or detergent and water. Rinse thoroughly and wipe dry with a soft, clean cloth.

Nickel-plated racks and rack supports are dishwasher-safe and may be removed for cleaning. VC5GD Doors are removable and dishwasher safe. Allow doors to cool before cleaning.

For exterior burned-on foods and grease which resist simple soap and water cleaning, an abrasive cleanser (scouring powder) mixed into a paste may be used. Apply with stainless steel wool or sponge, always rubbing with the “grain.” This treatment is equally effective for “heat tint” (slightly darkened areas caused by oxidation). Again, remember to rub in the direction of the polish lines. Rinse with clear water and dry with a soft cloth.

Do not use scouring powder on the glass window; it will scratch and fog the glass.

After processing some foods at low temperatures, odors may linger in the oven. These odors may be cleared by setting the thermostat to 500°F (260°C) and allowing the oven to run unloaded for 30 to 45 minutes.

## GUIDELINES FOR MAINTAINING STAINLESS STEEL SURFACES

There are three basic things that can break down the surface layer of stainless steel and allow corrosion to develop: 1) Abrasion; 2) Deposits and water and 3) Chlorides.

Avoid abrasion from rubbing with steel pads, wire brushes or scrapers that can leave iron deposits on stainless steel; instead, use plastic scouring pads or soft cloths. For stubborn stains, use products such as Cameo, Talc or Zud First Impression. Always rub parallel to the polish lines or with the grain.

Hard water can leave deposits that promote rust on stainless steel. Treated water from softeners or certain filters can eliminate these mineral deposits. Deposits from food must be properly removed by cleaning. Use mild detergent and nonchloride cleaners. Rinse thoroughly. Wipe dry. If using chloride-containing cleaners or sanitizers, ***rinse repeatedly*** to avoid stainless steel corrosion. Where appropriate, apply a polish recommended for stainless steel (such as Benefit or Super Sheen) for extra protection and lustre.

# MAINTENANCE

**⚠ WARNING The oven and its parts are hot. Use care when operating, cleaning or servicing the oven.**

**⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**LUBRICATION**

The fan motor comes with sealed bearings and requires no lubrication.

**VENT**

Periodically check the flue, when the oven is cool, to be sure it is free of obstructions.

**AIR INTAKE**

Rear air intake slots and holes should be cleaned with a damp cloth regularly. FIG 4.

**⚠ WARNING**

**The rear air intakes must be kept clear.**

**Noncompliance may lead to component failure.**

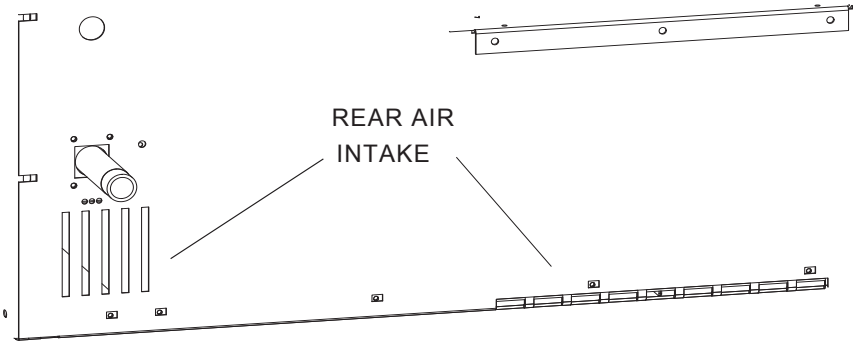



**Fig. 4**

**REPLACING SIDE MOUNTED LAMPS**

1. Allow oven to cool.
2. Remove all racks by pulling forward, lifting up and out.
3. Remove the right rack guide by lifting up and pulling out.
4. Pry glass cover off by sliding a flat tool under the bottom lip of the cover.
5. Replace the bulb. Gloves should be worn while handling bulbs.
6. Reassemble glass cover and racks by reversing the disassembly procedure.

**REPLACING REAR MOUNTED LAMPS**

1. Allow oven to cool.
2. Remove all racks by pulling forward, lifting up and out.
3. Unscrew glass dome from light body.
4. Replace the bulb.
5. Reassemble glass dome and racks.

# TROUBLESHOOTING

| Problem | Possible Cause | Suggested Corrective Action |
|---|---|---|
| Uneven browning or overcooked edges | 1. Oven Is too hot.<br>2. Too many racks used. | 1. Reduce temperature setting (refer to Cooking Guidelines).<br>2. Use fewer racks to allow better circulation. |
| Product pulling to edge of pan or spilling. | 1. Oven is not level.<br><br><br>2. Sheet pans are warped. | 1. Level oven racks - side to side and front to back. The rack should be level side to side and level to 1/8" (3mm) low at the front from front to back.<br>2. Keep pans used for baking batter separate from general purpose pans.s If any pans shows a tendency to warp, remove it from the baking group. |
| Excessive shrinkage. | 1. Failure to maintain water in oven.<br>2. Roasting temperature too high. | 1. Place Pan of water in bottom of oven measuring 12 x 20 x 1" (305 x 508 x 25mm).<br>2. Reduce temperature |
| Ignition light remains lit for more than 20 seconds after 3 trials. | No Gas supply | •Turn oven off for 5 minutes before attempting to relight.<br>•Check gas supply valves to be sure they are open. |

**SERVICE AND PARTS INFORMATION**

To obtain service and parts information concerning this model, contact the Vulcan-Hart Service Agency in your area (refer to our website, www.vulcanhart.com for a complete listing of Authorized Service and Parts depots).

HOBART
SERVICE

# SERVICE MANUAL


HGC5 SHOWN

## DGC5 AND HGC5 SERIES FULL SIZE GAS CONVECTION OVENS

| | |
|---|---|
| **DGC5** | **ML-126614** |
| **HGC5** | **ML-126615** |
| **HGC5D** | **ML-126616** |
| **HGC5X** | **ML-126618** |
| **HGC5DX** | **ML-126619** |

**- NOTICE -**

**This Manual is prepared for the use of trained Hobart Service Technicians and should not be used by those not properly qualified.**

**This manual is not intended to be all encompassing. If you have not attended a Hobart Service School for this product, you should read, in its entirety, the repair procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained Hobart Service Technician.**

# TABLE OF CONTENTS

# SERVICE UPDATES

## SERVICE UPDATES - DGC / HGC

June 2019

- Added SERVICE PROGRAMMING AND TESTING.

October 2018

- BLOWER AND MOTOR Starting at Serial Number 481914000
- OVEN DOORS (INDEPENDENT DOORS) Starting at Serial Number 481909809
- OVEN DOORS (SIMULTANEOUS DOORS) Starting at Serial Number 481909809
- DOOR ADJUSTMENT
- FLAME SENSE CURRENT TEST
- IGNITION MODULE DIAGNOSTICS
- INTERIOR LIGHTS (Rear Mounted, Round)
- INTERIOR LIGHTS (Side Mounted, Square)
- SCHEMATICS
- WIRING DIAGRAMS
- COMPONENT LOCATION

## TIS DOCUMENT LIST DGC5 AND HGC5

| SERVICE TAB | |
|---|---|
| **Document Title** | **Document Type** |
| DGC5 AND HGC5 Service Manual | Service Manual |
| Gas Connections & BTU Flow Capacity | Technical Service Bulletin (TSB) |
| Machine Data Code Information | Technical Service Bulletin (TSB) |

| SERVICE TAB (Multimedia) | |
|---|---|
| **Document Title** | **Document Type** |
| 3700 Oven Quick Start Guide | Operator |
| DGC5, HGC5, HGC5X, HGC5D & HGC5DX Gas Convection Ovens (ML's 126614 thru 126619) Instructions | Instructions |
| Repair Flood-Damaged Food Equipment | Misc |
| Convection Oven Computer Control Guide | Operator |
| Gas Convection I/O Manual | Operator |
| Scalestick Twin System | Service Kit Instructions (SKI) |
| Rating Plate Locations on Current Vulcan-Hart/Wolf Range Equipment | Technical Service Bulletin (TSB) |
| TSB 1231 HEC, HGC, VEC, Conveyor Oven Speed Control | Technical Service Bulletin (TSB) |
| TSB 1290 HEC, HGC, VEC, VGC Conveyor Ovens - New Temperature Control | Technical Service Bulletin (TSB) |
| TSB 1301 Onwatch Quicklook 72 for Gas Cooking Equipment | Technical Service Bulletin (TSB) |

| PARTS TAB | |
|---|---|
| **Document Title** | **Document Type** |
| Part Catalog for DGC5 and HGC5 | Parts Catalog |

| DIAGRAMS TAB | |
|---|---|
| **Document Title** | **Document Type** |
| HGC5, DGC5, VC4G, WKGD Series | Wiring Diagram |

# GENERAL

## INTRODUCTION

Procedures in this manual will apply to all models unless specified. Pictures and illustrations can be of any model unless the picture or illustration needs to be model specific.

**Models**

| MODEL | FEATURES | | | | OPTIONS | | |
|---|---|---|---|---|---|---|---|
| | CAVITY DEPTH | TEMPERTURE CONTROL | DOORS (50/50) | COOK TIMER | COOK TIMER OR HOLD TIMER | COOK & HOLD | BLOWER 208/240/60/1 |
| DGC5 | 26.5" | Mechanical (KX) | Independent[1] [2] | 1-Hour Dial | 5-Hour Dial | Optional | Optional |
| HGC5 | 26.5" | Solid State | Simultaneous [3] | 1-Hour Dial | 5-Hour Dial | Optional | Optional |
| HGC5X | 30.5" | Solid State | Simultaneous [3] | 1-Hour Dial | 5-Hour Dial | Optional | Optional |
| HGC5D | 26.5" | Computer | Simultaneous [3] | 24-Hour Digital | Built in | Built in | Optional |
| HGC5DX | 30.5" | Computer | Simultaneous [3] | 24-Hour Digital | Built in | Built in | Optional |

**[1] Simultaneous doors are optional (with or w/o window).**

**[2] Stainless steel doors w/o window (standard).**

**[3] Stainless steel doors with window (standard).**

## INSTALLATION

Refer to the Instructions Manual for detailed installation instructions on single or stacked ovens.

## OPERATION

Refer to the instructions manual for specific operating instructions.

## CLEANING

Refer to the instructions manual for specific cleaning instructions.

## LUBRICATION

- Cavity blower motor has sealed bearings and requires no additional lubrication.
- Huskey™ TF-1000 grease or equivalent high temperature Teflon grease.

## SPECIFICATIONS

**Electrical**

Voltage - 120/60/1

Amps - 8.0 Amps

**Input BTU Rating**

Natural Gas - 44,000 BTU input at 3.5 in. W.C.

Beginning with Serial Number Break (HGC5 481834690, HGCX 481835794) Natural Gas - 50,000 BTU input at 5.0 in. W.C.

Propane Gas - 44,000 BTU input at 10.0 in. W.C.

Units after Serial Number Break (HGC5 481835500, HGC5X 481834796) Propane Gas - 50,000 BTU input at 10.0 in. W.C.

**Gas Line Pressures**

Natural - Recommend (in. W.C.) 7.0, Min 5.0

Natural - Recommend (in W.C.) 8.0, Min 6.0 for Units after Serial Number Break (HGC5 481834690, HGCX 481835794)

Propane - Recommend (in. W.C.) 11.0, Min 11.0 (All Propane Units)

Maximum 14.0 in. W.C. (Nat. or Prop.)

## TOOLS

**Standard**

- Standard set of hand tools.
- VOM with ability to measure micro amp current.

  VOM with minimum of NFPA-70E CAT III 600V, UL/CSA/TUV listed. Sensitivity of at least 20,000 ohms per volt. Meter leads must also be rated at CAT III 600V.
- Gear Puller to remove blower.

**Special**

- Temperature tester (thermocouple type).
- Manometer.

# REMOVAL AND REPLACEMENT OF PARTS

## COVERS AND PANELS


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**⚠ WARNING**

**SHUT OFF THE GAS BEFORE SERVICING THE UNIT.**

### TOP FRONT COVER

1. The top front cover is secured with four (4) screws, two on each side of cover. Remove these screws then remove the cover from the oven.

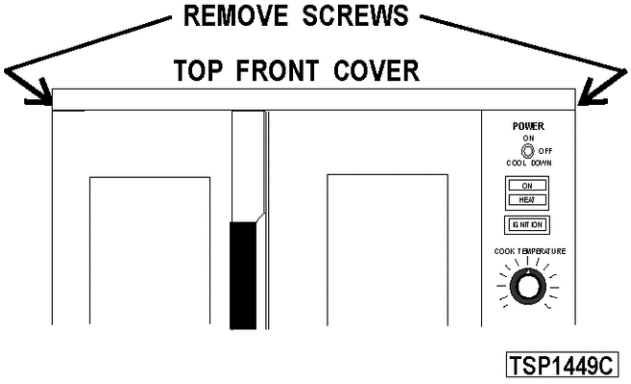



**Fig. 1**

2. Reverse the procedure to install.

### BOTTOM FRONT COVER

1. The bottom front cover is secured with four (4) screws, two on each side of cover. Remove these screws then remove the cover from the oven.

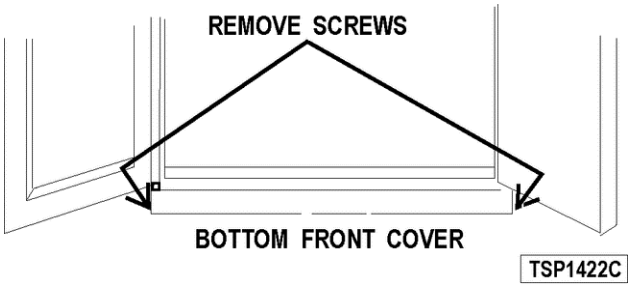



**Fig. 2**

2. Reverse the procedure to install.

### CONTROL PANEL

1. Remove three (3) screws on the right side which secure the control panel then pull the panel away from the oven.

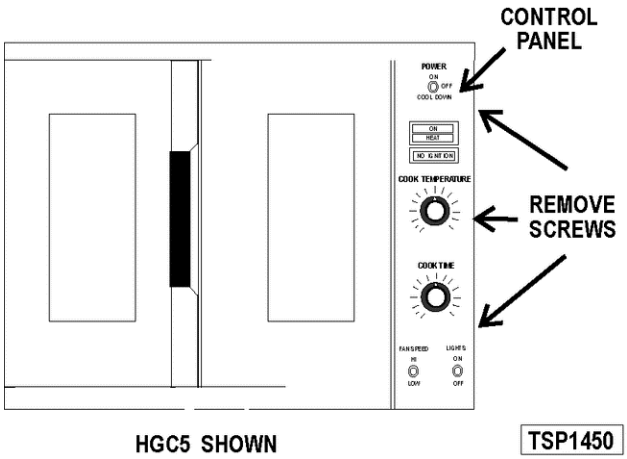



**Fig. 3**

**NOTE:** If the oven has a mechanical (KX type) thermostat, it must be removed from the control panel first, before removing the control panel.

2. Disconnect the temperature probe leads from the solid state temperature control.
3. Unplug the wire harness connector to the control panel components.
4. Reverse the procedure to install.

### RIGHT SIDE PANEL

1. Remove the screws which secure the right side of the top front cover, bottom front cover and control panel.
2. Remove the remaining six screws securing the right side panel.

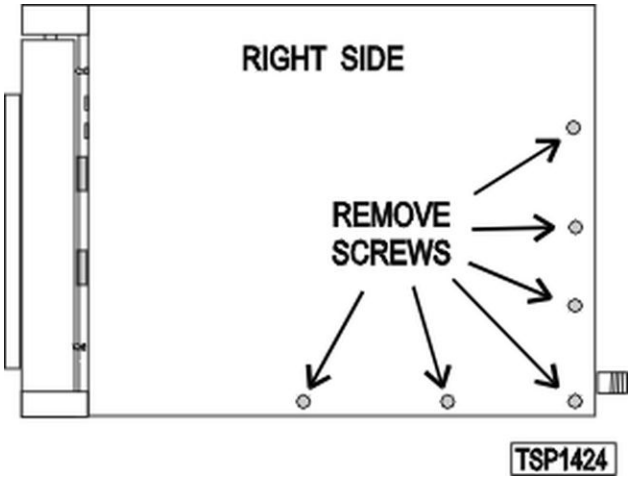



**Fig. 4**

3. Pull the right side panel out at the bottom then down to remove.
4. Reverse the procedure to install.

## CONTROL PANEL COMPONENTS


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**Removable Components Procedure**

1. Remove the CONTROL PANEL.
2. Remove the component being replaced.
3. Reverse the procedure to install the replacement component, then check oven for proper operation.

**PANEL WITH STANDARD CONTROLS SHOWN**

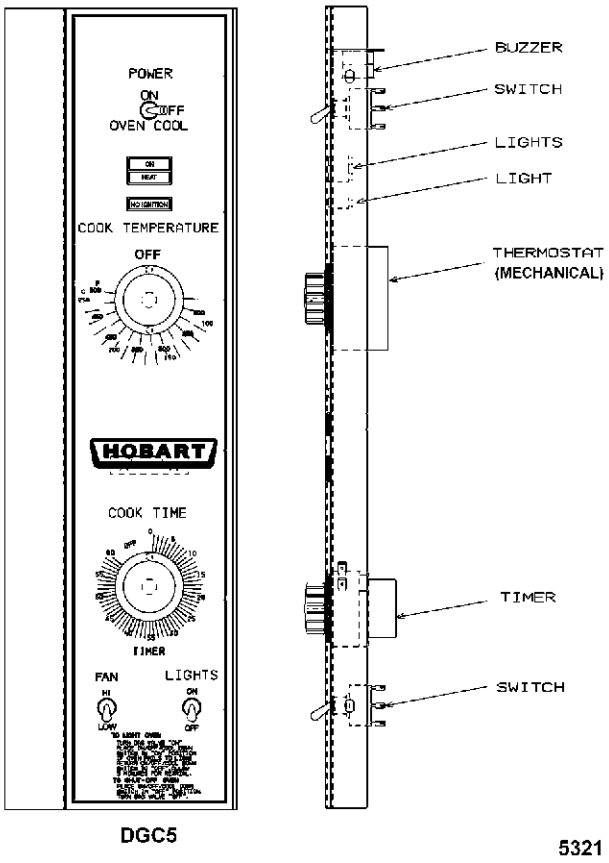



**Fig. 5**

**PANEL WITH COOK AND HOLD OPTION SHOWN**

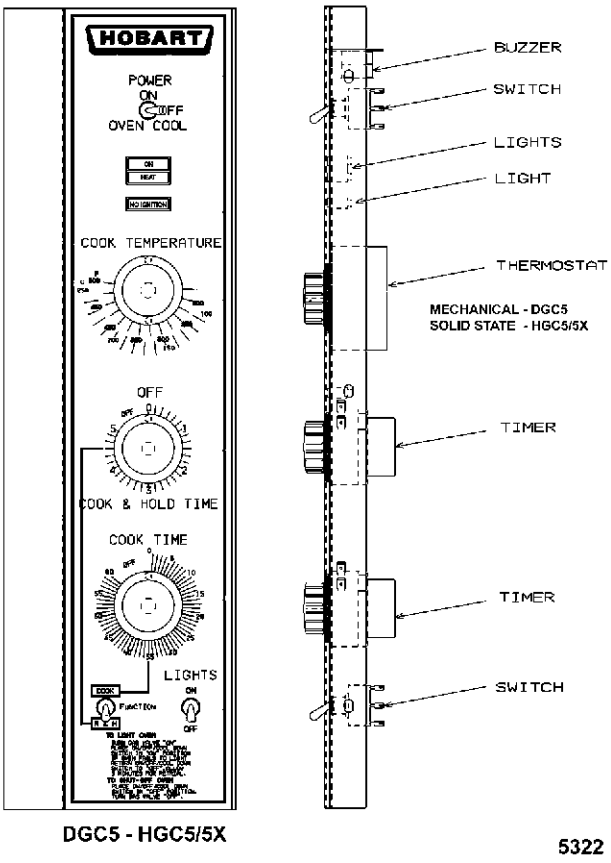



**Fig. 6**

**PANEL WITH COMPUTER CONTROL SHOWN**

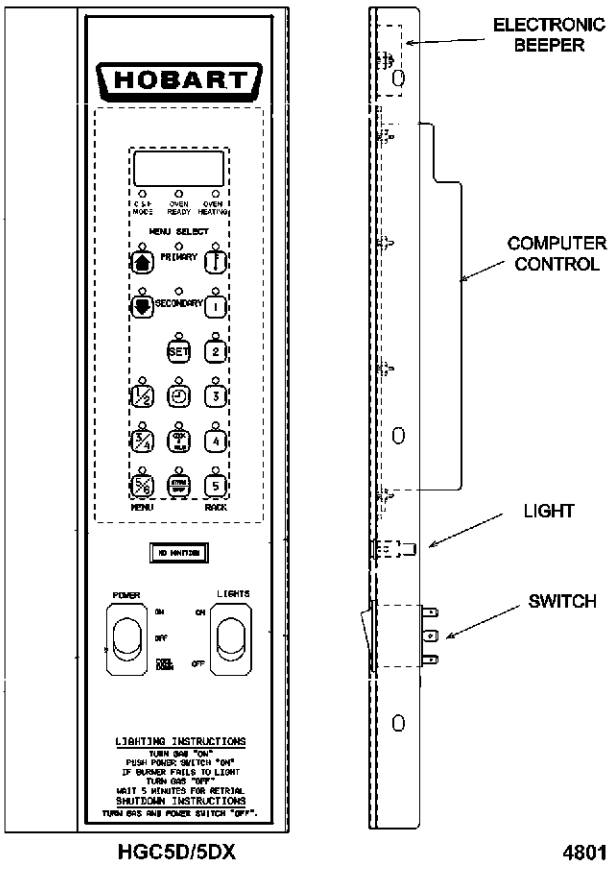



**Fig. 7**

## COMPONENT PANEL COMPONENTS


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**Removable Components Procedure**

1. Remove the RIGHT SIDE PANEL.

**NOTE:** If right side panel is not accessible, this component can be serviced by removing the CONTROL PANEL.

2. Disconnect the wire leads to the component being replaced.
3. Remove the component.
4. Reverse the procedure to install the replacement component and check oven for proper operation.

**COMPONENT PANEL - STANDARD OVEN CONTROLS**
**(MECHANICAL OR SOLID STATE CONTROLS)**

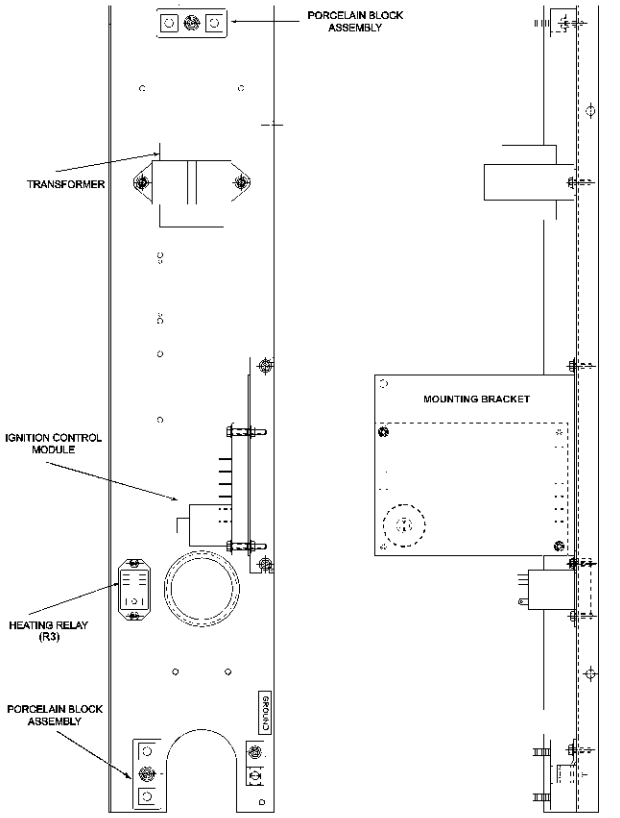



**Fig. 8**

**COMPONENT PANEL - COOK AND HOLD OPTION**
**(MECHANICAL OR SOLID STATE CONTROLS)**

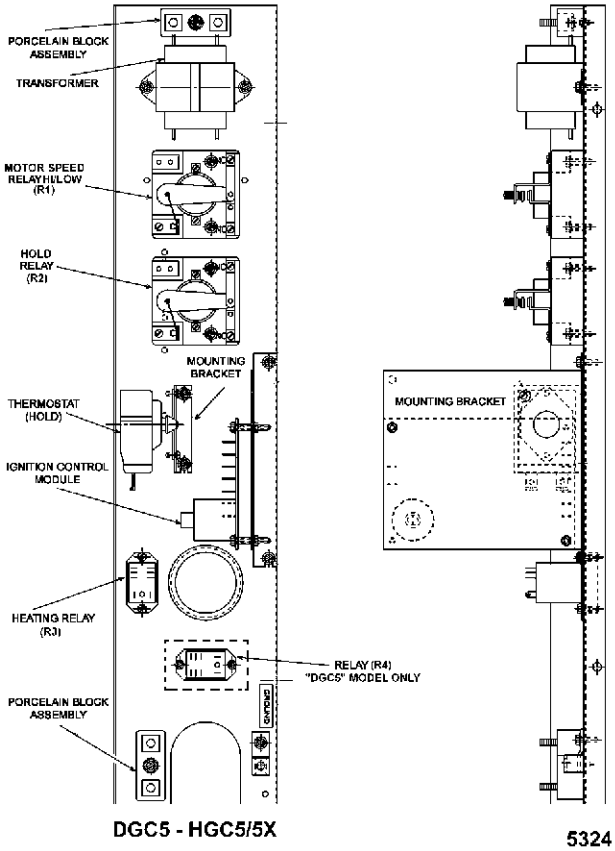



**Fig. 9**

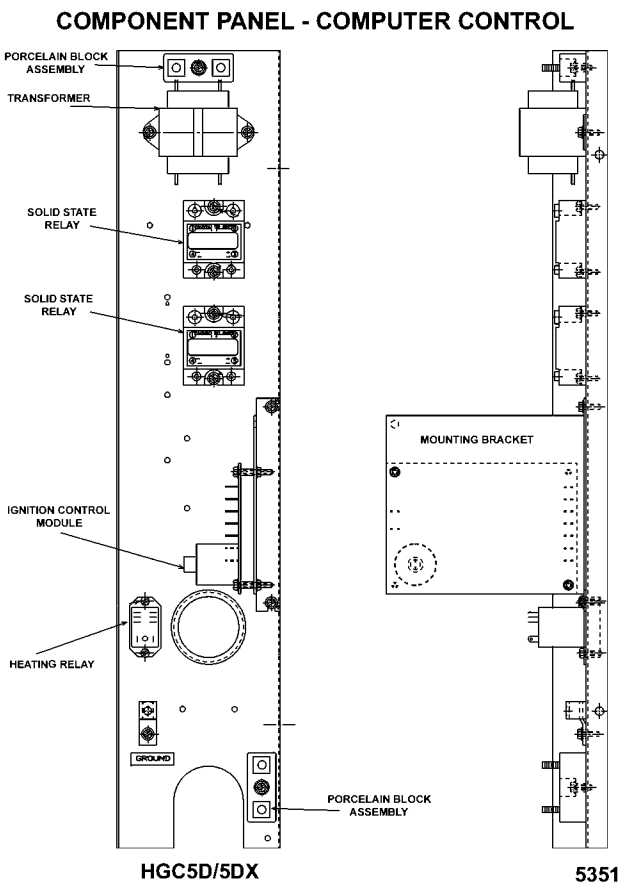



**Fig. 10**

## TEMPERATURE PROBE (HGC5/5X)


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove the RIGHT SIDE PANEL.

**NOTE:** If right side panel is not accessible, this component can be serviced by removing the CONTROL PANEL.

2. Disconnect the probe leads from the solid state temperature control.
3. Remove the racks and right rack support.
4. Remove the probe guard.

**1st Generation Guard Shown**

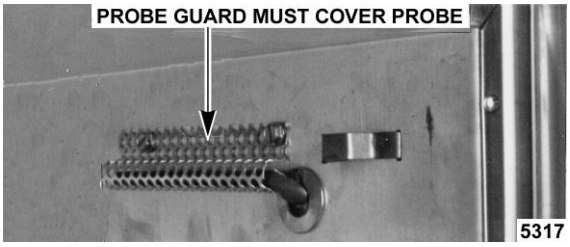



**Fig. 11**

5. Remove probe by pushing it through the oven wall and into the control panel area.

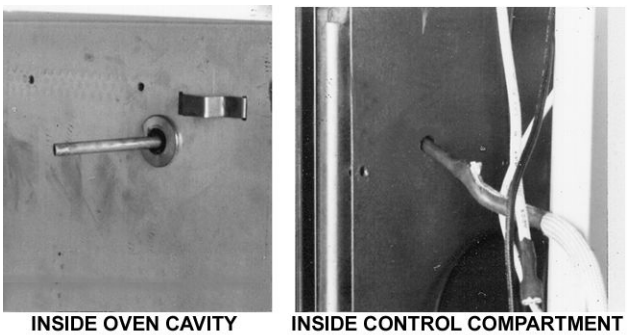



**Fig. 12**

**NOTE:** The hole in the oven cavity wall does not line up straight with the oven cavity outer shell, therefore the probe must be removed at an angle.

6. Reverse procedure to install the replacement probe.

**NOTICE**

When installing a 2nd generation guard, the tip of the probe should be located near the center of the large cutout, as shown in Fig. 13. The end with the wire attached should be protected by the guard. It is possible to damage the probe/wire with force from a tray if probe is not protected properly.

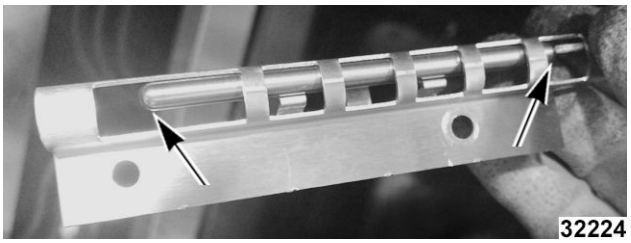



**Fig. 13**

7. Adjust the temperature control as outlined under SOLID STATE TEMPERATURE CONTROL CALIBRATION (HGC5/5X).

## GAS BURNER


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**⚠ WARNING**

**SHUT OFF THE GAS BEFORE SERVICING THE UNIT.**

1. Remove the BOTTOM FRONT COVER.
2. Disconnect the ignition cable and the flame sense lead wire.

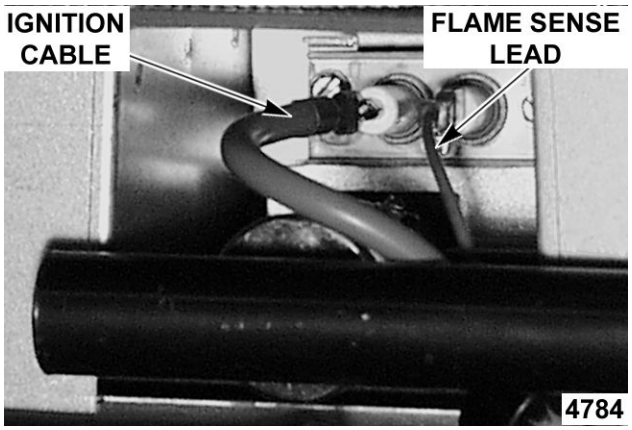



**Fig. 14**

3. Remove the bolts securing the gas manifold to the oven and place the manifold to the side.

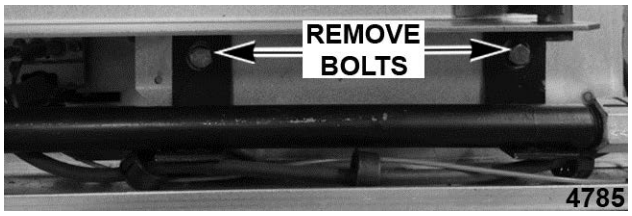



**Fig. 15**

4. Remove the screws securing the burner cover then lift out.

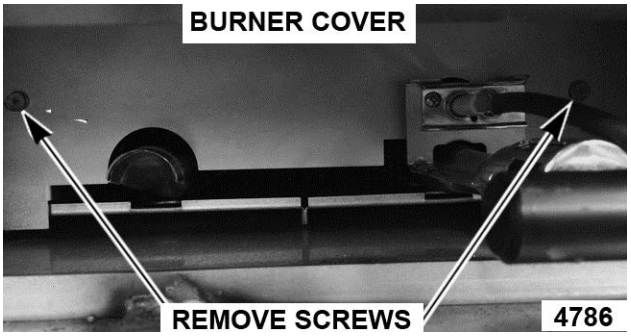



**Fig. 16**

5. Grasp the burner and lift out.

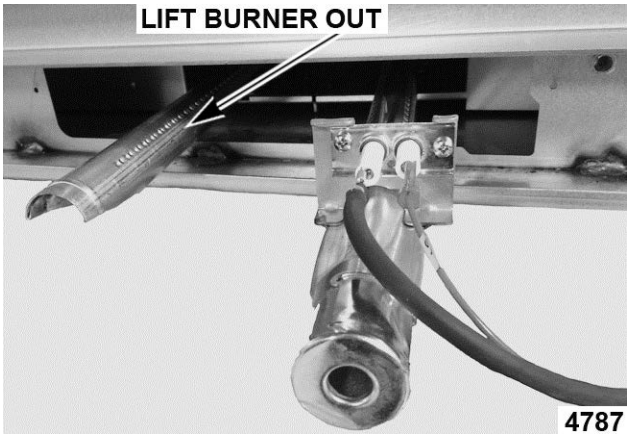



**Fig. 17**

6. Reverse procedure to install the replacement burner.

**NOTE:** Ensure that burner positioning bracket (U shaped end) is inserted into slot at the rear of the burner chamber.

7. Check for proper operation.

## GAS ORIFICE


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**⚠ WARNING**

**SHUT OFF THE GAS BEFORE SERVICING THE UNIT.**

1. Remove the BOTTOM FRONT COVER.
2. Remove the bolts securing the gas manifold to the oven and place the manifold to the side.

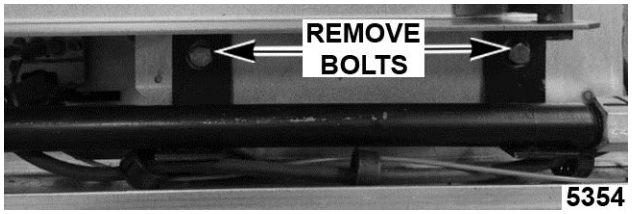



**Fig. 18**

3. Remove the gas orifice from the spud on the manifold and replace with the correct orifice for the given altitude.

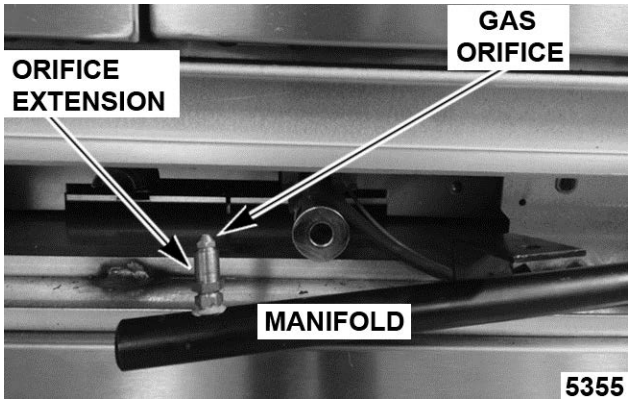



**Fig. 19**

4. Reverse procedure to install and check for proper operation.

## GAS SOLENOID VALVE


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

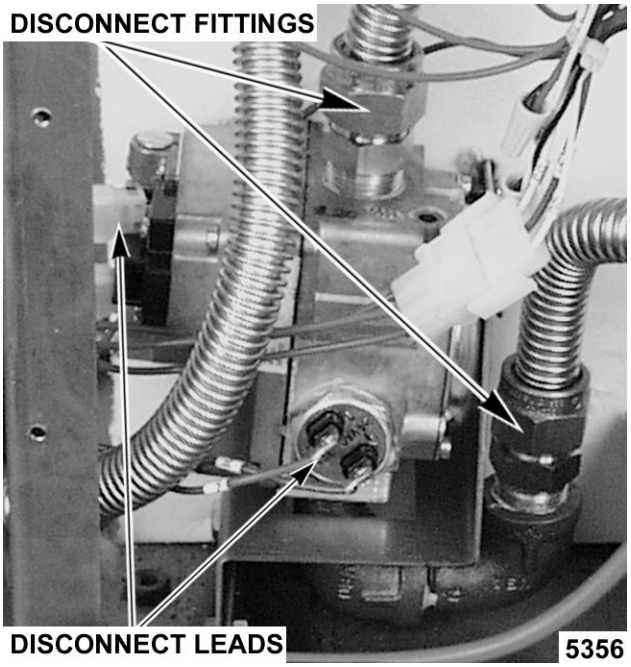
**⚠ WARNING**

**SHUT OFF THE GAS BEFORE SERVICING THE UNIT.**

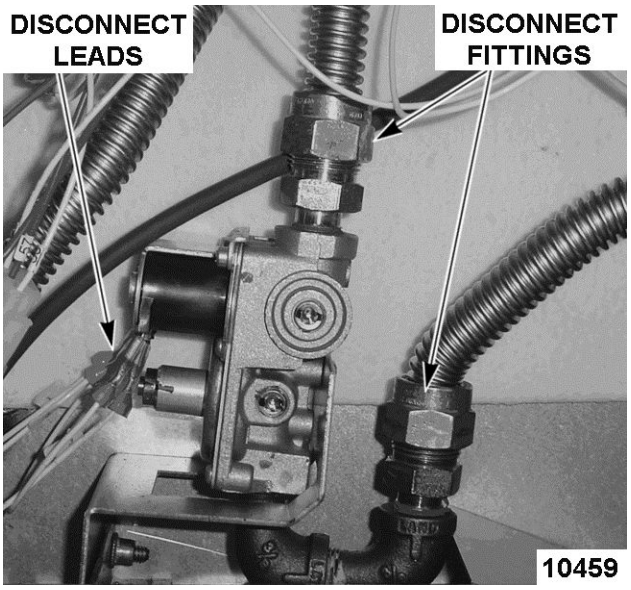
1. Remove the CONTROL PANEL and RIGHT SIDE PANEL.

**NOTE:** If is right side panel not accessible, this component can be serviced by removing the CONTROL PANEL.

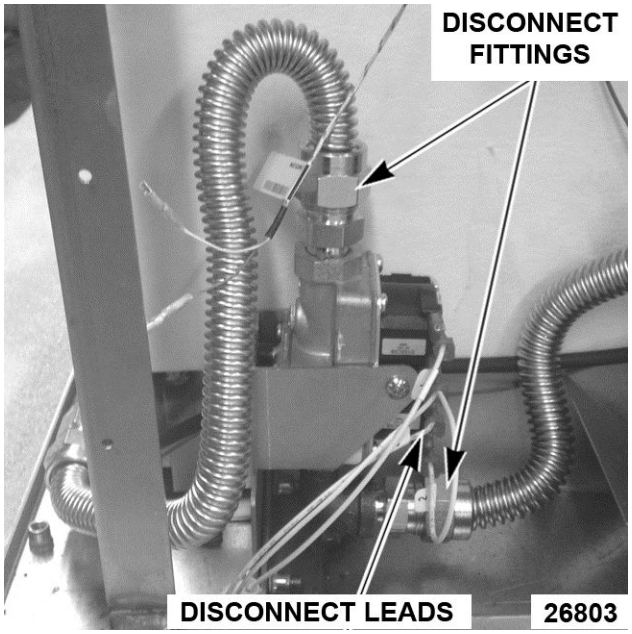
2. Disconnect the lead wires.
3. Disconnect the compression fittings to the valve.




**FIRST GENERATION UNIT SHOWN (Before April 2005)**

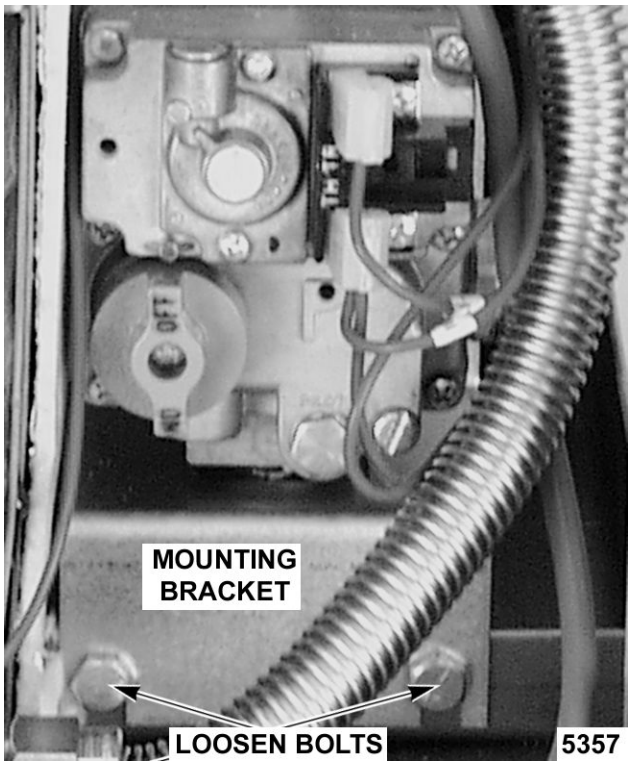



**SECOND GENERATION UNIT SHOWN (After April 2005 thru February 2015)**

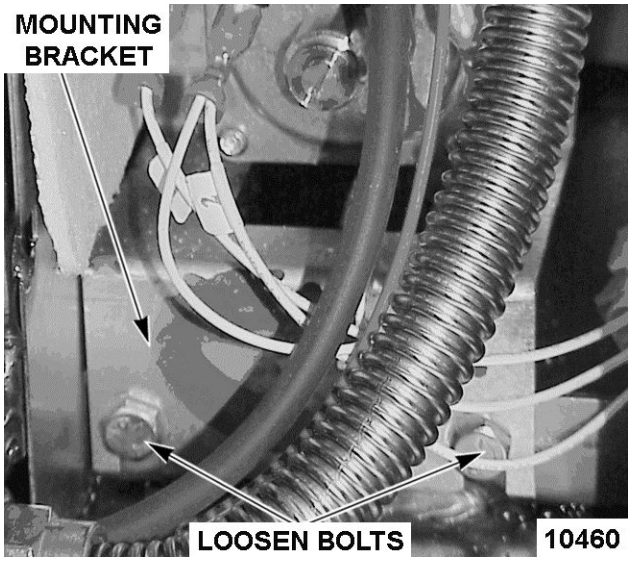



**CURRENT PRODUCTION SHOWN (After February 2015)**

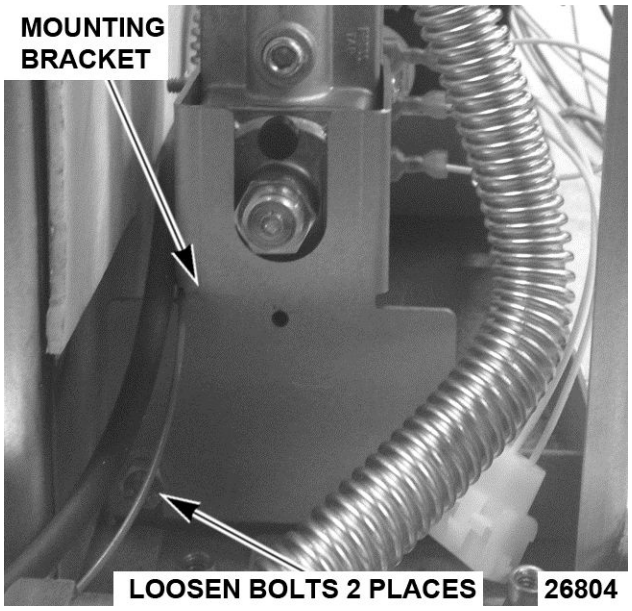
4. Loosen the bolts securing the valve and bracket assembly then remove the screws securing the valve to the bracket.




**FIRST GENERATION UNIT SHOWN**




**SECOND GENERATION SHOWN**




**CURRENT PRODUCTION SHOWN**

5. Reverse the procedure to install the replacement gas valve.

**NOTE:** Clean the pipe threads and apply pipe joint compound to threads. Any pipe joint compound used, must be resistant to the action of propane gases.

**⚠ WARNING**

**All gas joints disturbed during servicing must be checked for leaks. Check with a soap and water solution (bubbles). Do not use an open flame.**

6. Verify gas pressure as outlined under GAS PRESSURE ADJUSTMENT (for units up to February 2015) or GAS VALVE PRESSURE CHECK (for units after February 2015) and check for proper operation.

## IGNITION CONTROL MODULE


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**⚠ WARNING**

**SHUT OFF THE GAS BEFORE SERVICING THE UNIT.**

1. Remove the RIGHT SIDE PANEL.

**NOTE:** If right side panel is not accessible, this component can be serviced by removing the CONTROL PANEL.

2. Loosen the screws securing the mounting bracket to the component panel and remove the bracket.

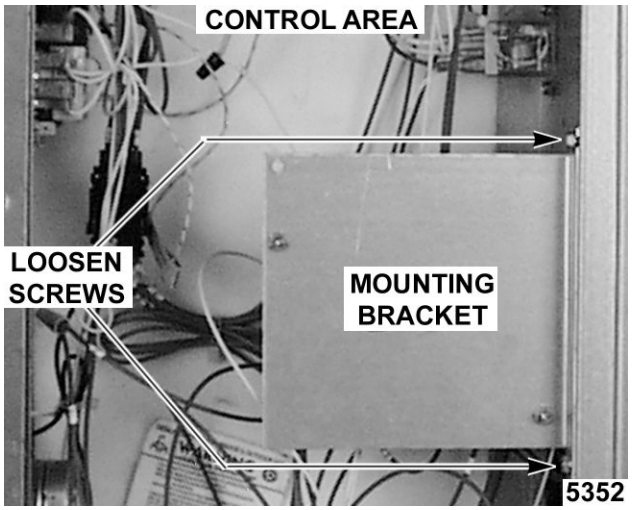



**Fig. 26**

3. Disconnect the lead wires and igniter cable from the ignition module board.

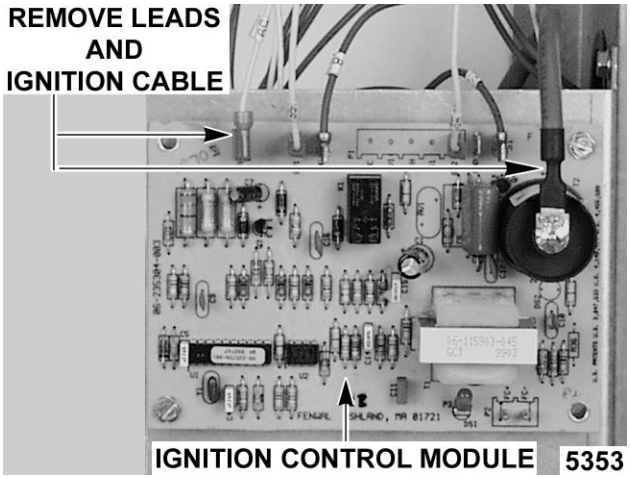



**Fig. 27**

4. Remove the ignition module board from the mounting bracket.

5. Reverse the procedure to install the replacement ignition module board.

## SPARK IGNITER AND FLAME SENSE


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**⚠ WARNING**

**SHUT OFF THE GAS BEFORE SERVICING THE UNIT.**

1. Remove the gas burner as outlined under GAS BURNER.

2. Remove the screws securing the ignitor and flame sense to burner then remove the assembly.

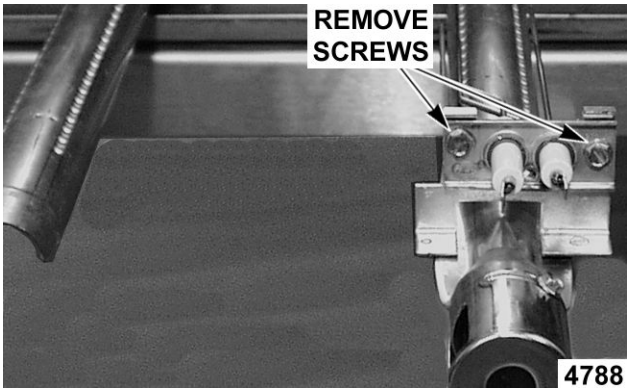
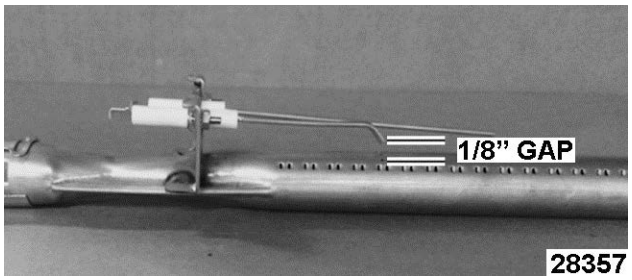



**Fig. 28**

3. Reverse the procedure to install the assembly and check for proper operation.

**NOTE:** Check to ensure the spark gap distance is approximately 1/8". If the gap appears to be excessive or poor sparking is occurring then adjust.


**PREVIOUS PRODUCTION SHOWN**




**CURRENT PRODUCTION SHOWN**

## BLOWER AND MOTOR Ending at Serial Number 481913999


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**⚠ WARNING**

**SHUT OFF THE GAS BEFORE SERVICING THE UNIT.**

1. Take out the racks and rack supports.
2. Remove screws securing the “snorkel” and remove the snorkel.

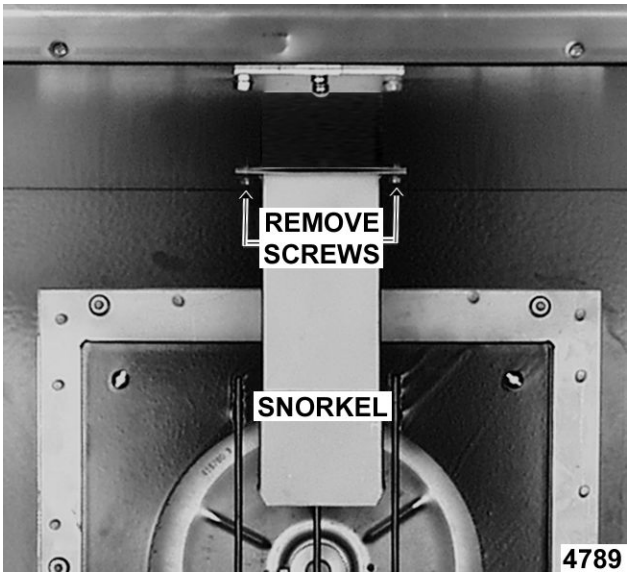



**Fig. 31**

3. Remove screws securing baffle panel and remove the panel.

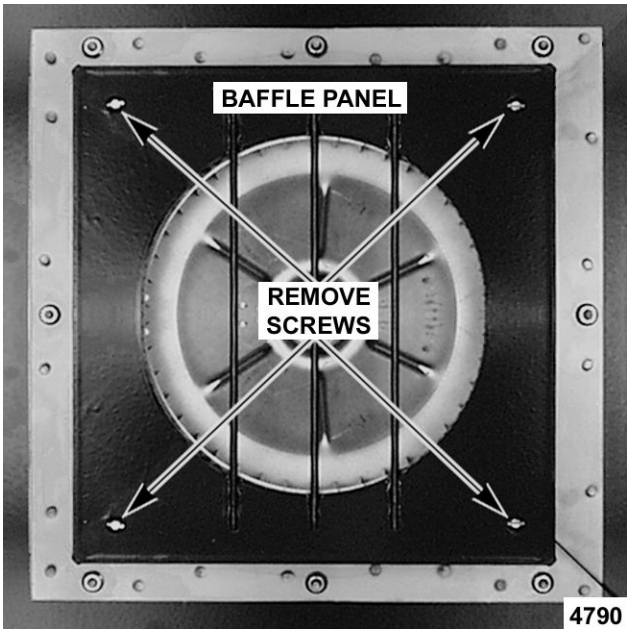



**Fig. 32**

4. If replacing:
   - A. **Blower Only** - Loosen set screws on blower hub and using a bearing puller, remove blower from motor shaft.
     1) Reverse procedure to install and adjust blower position as outlined under BLOWER ADJUSTMENT in "SERVICE PROCEDURES AND ADJUSTMENTS".
   - B. **Motor** - perform step 4A and continue procedure.

5. Remove the screws securing the air baffle to the rear wall at the lower right hand corner.

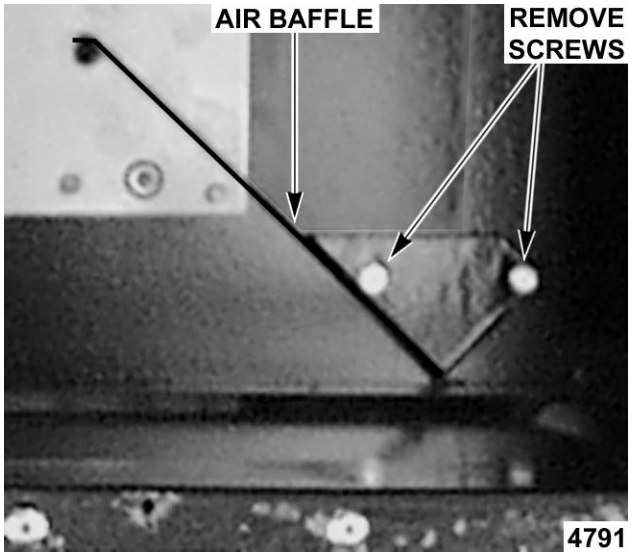



**Fig. 33**

6. Remove the nuts that secure the motor mounting plate to the rear wall.

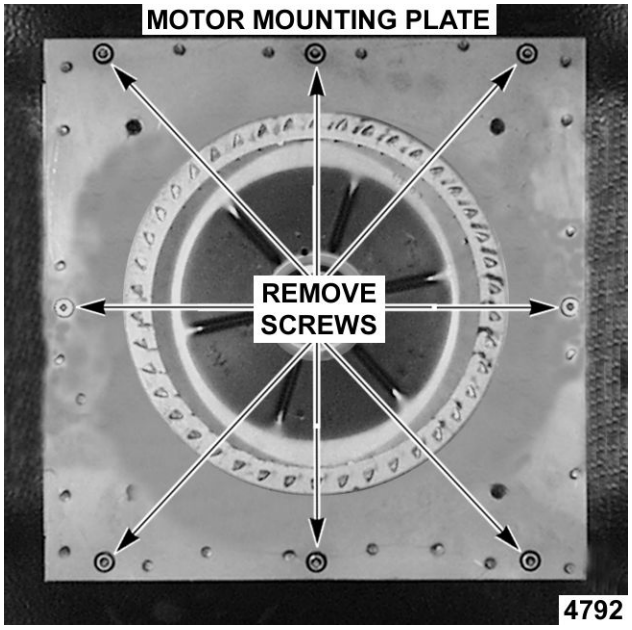



**Fig. 34**

7. Place a piece of cardboard on the bottom of the oven cavity to protect its surface from any damage during motor assembly removal.
8. Pull the motor assembly into the oven cavity and place it on the cardboard.
9. Remove the junction box cover from the motor, disconnect lead wires and remove the conduit.
10. Remove motor mounting bolts and flat washers then lift the motor from the mounting plate.
11. Position the replacement motor on the motor mounting plate and install mounting bolts and washers. **Hand tighten mounting bolts only.**
12. Reconnect lead wires at the motor, replace conduit and junction box cover.

**NOTE:** Check data plate on motor for wiring schematic. The motor must rotate clockwise when viewed from the shaft end.

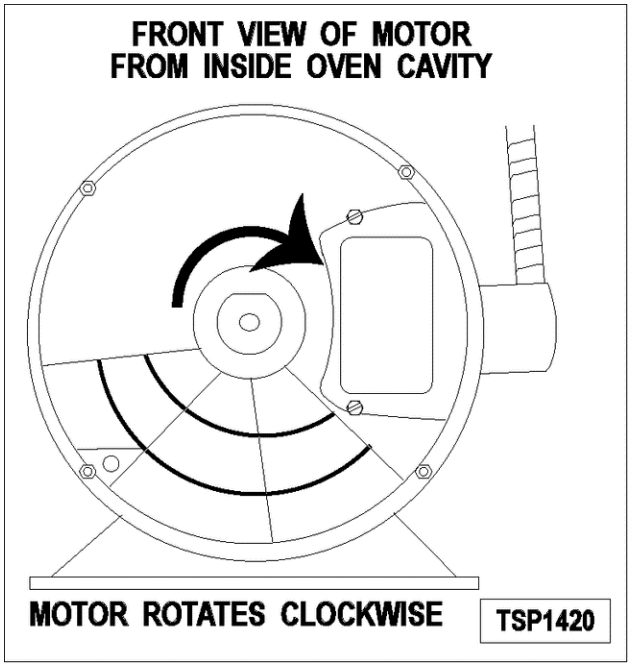



**Fig. 35**

13. Slide blower onto motor shaft until hub is flush with end of shaft then tighten set screws.
14. Adjust motor position until blower is parallel to motor mounting plate as outlined under BLOWER ADJUSTMENT.
15. Position motor mounting plate on the rear wall and secure with nuts and washers.
16. Replace the baffle panel and “snorkel”.
17. Replace the air baffle on the rear wall at the lower right hand corner.
18. Remove cardboard from the bottom of the oven cavity.
19. Install rack guides and racks.
20. Check oven for proper operation.

## BLOWER AND MOTOR Starting at Serial Number 481914000


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**


**⚠ WARNING**

**Shut off the gas before servicing the unit and follow lockout / tagout procedures.**

1. Remove RIGHT SIDE PANEL(S).
2. Disconnect motor harness (1, Fig. 36).

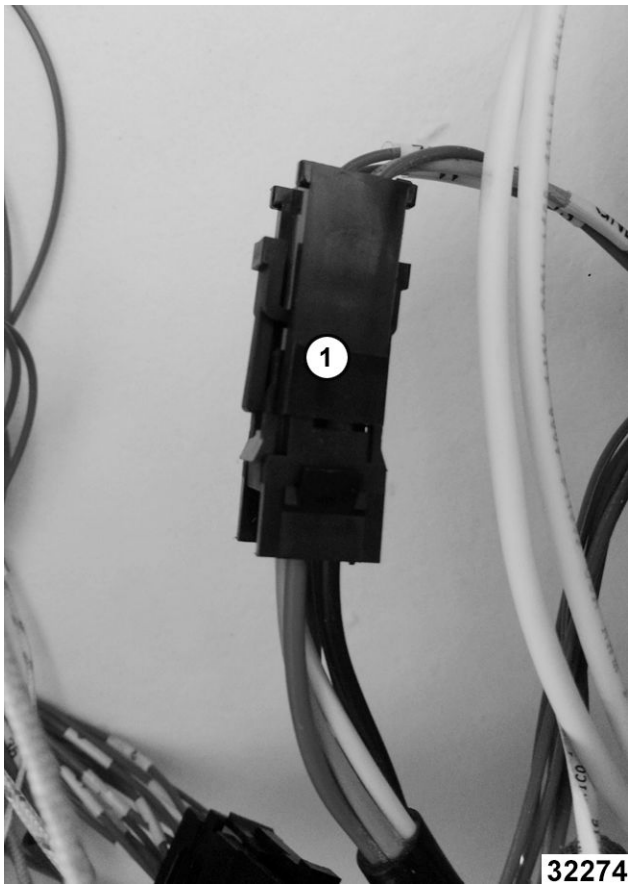



**Fig. 36**

3. Pinch cord grip together to remove from rear panel.

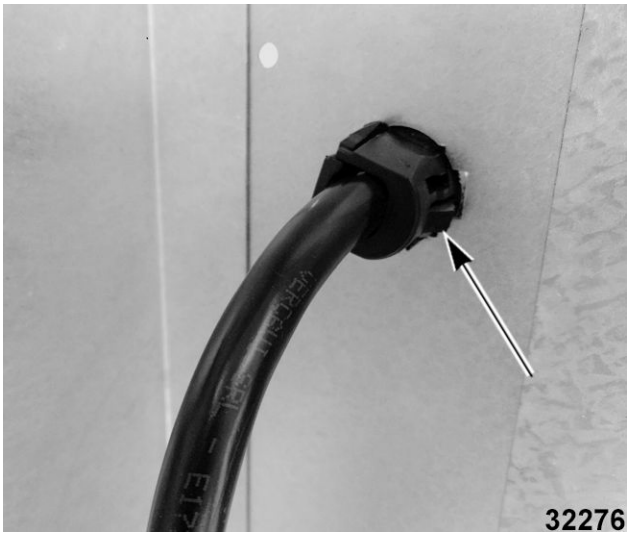



**Fig. 37**

4. Push motor wiring harness/cord out hole in rear panel.
5. Remove racks.
6. Remove screws securing "snorkel" and remove snorkel.

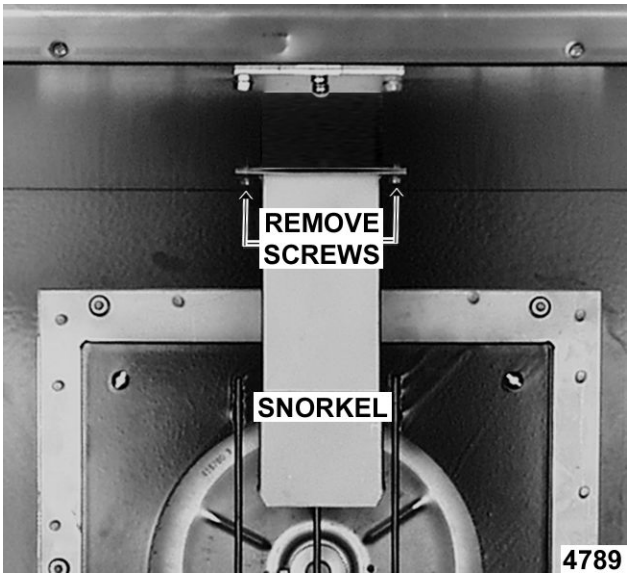



**Fig. 38**

7. Remove blower baffle screws (2, Fig. 39) if applicable.

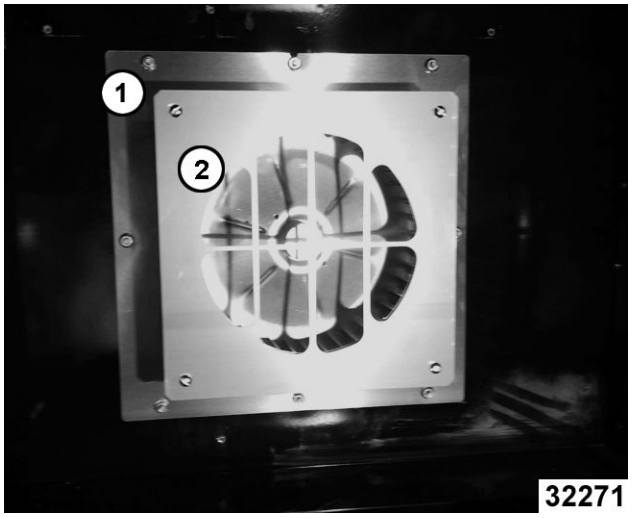



**Fig. 39**

8. Remove motor mounting plate nuts (1, Fig. 39).
9. Place a piece of cardboard on bottom of oven cavity to protect its surface from any damage during motor assembly removal.
10. Pull motor assembly into oven cavity and place on cardboard.
11. Remove motor mounting bolts and washers and lift motor off mounting plate.

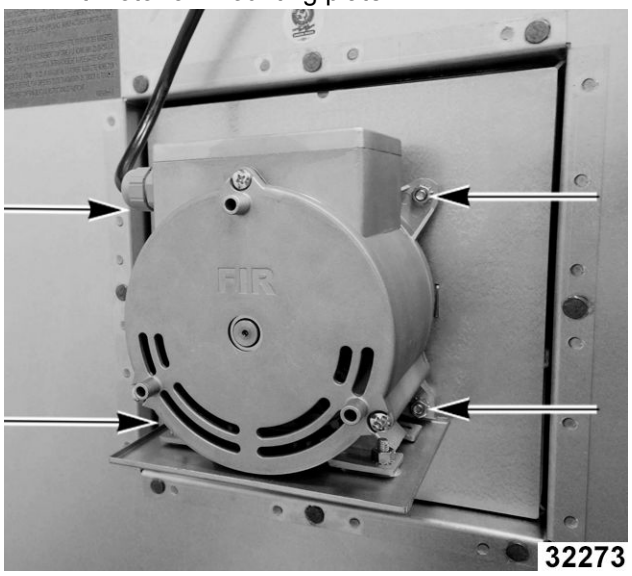



**Fig. 40**

**NOTE:** Motor graphics are shown with motor installed.

12. Remove drip pan from motor and install onto replacement motor.

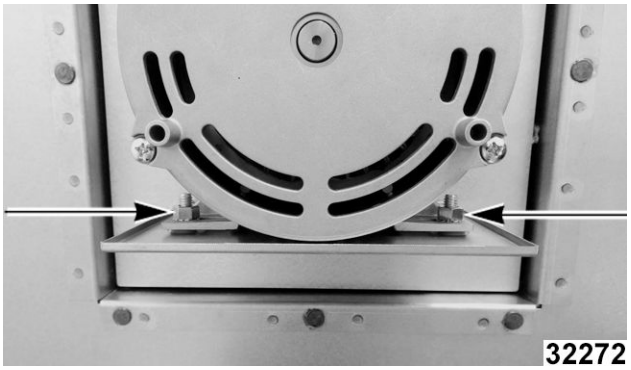



**Fig. 41**

13. Reverse procedure to install.
14. Verify operation.

## OVEN DOORS AND BEARINGS (INDEPENDENT DOORS) Ending at Serial Number 481909808


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove the TOP FRONT COVER and BOTTOM FRONT COVER.
2. Remove the door switch lever.

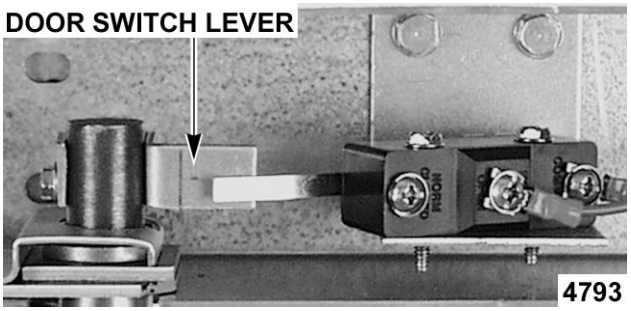



**Fig. 42**

3. Remove the lower door seal strip to expose the mounting screws of the door assembly.
4. Remove the two (2) lower sill bolts by the lower door shaft and the four (4) counter-sunk screws from the lower sill.

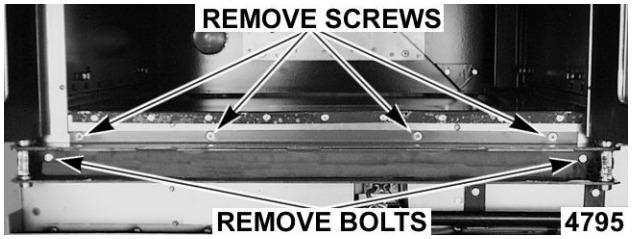



**Fig. 43**

**NOTE:** The door assembly is heavy and will drop down once the last screw is removed. If removing door assembly with-out assistance, the ignition cable, flame sense lead and gas manifold should also be removed to avoid damage to these components.

5. Tilt the top of the door slightly forward and lift the door up until the bottom of the door shaft clears the opening in the sill.
6. Lay the door flat to prevent damage.
7. The top and bottom bearings are now accessible for inspection and/or replacement if needed.
   A. If bearings are OK, proceed to step 8.
   B. If replacing the top bearing, remove the top bearing retainer and top bearing.

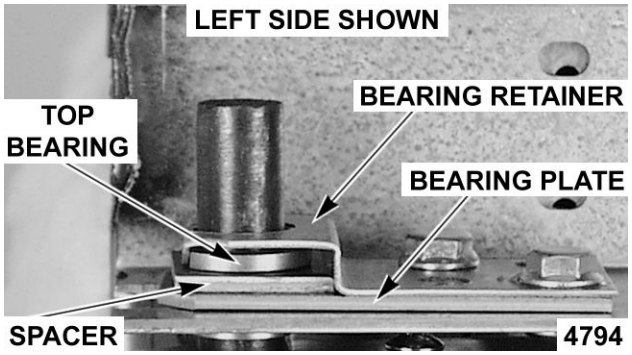



**Fig. 44**

   C. If replacing the bottom bearing, remove it from the door shaft or the lower sill opening.
8. Reverse procedure to install door assembly and check for proper adjustment as outlined under DOOR ADJUSTMENT and DOOR SWITCH ADJUSTMENT in "SERVICE PROCEDURES AND ADJUSTMENTS".

## OVEN DOORS (INDEPENDENT DOORS) Starting at Serial Number 481909809


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove TOP FRONT COVERS.
2. If servicing right side door, remove door switch lever (1, Fig. 45).

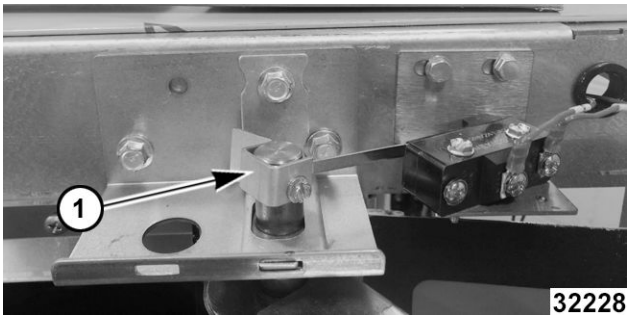



**Fig. 45**

3. While supporting door, remove hex bolts holding upper bearing retainer (1, Fig. 46 ) and upper shaft bracket (2, Fig. 46).

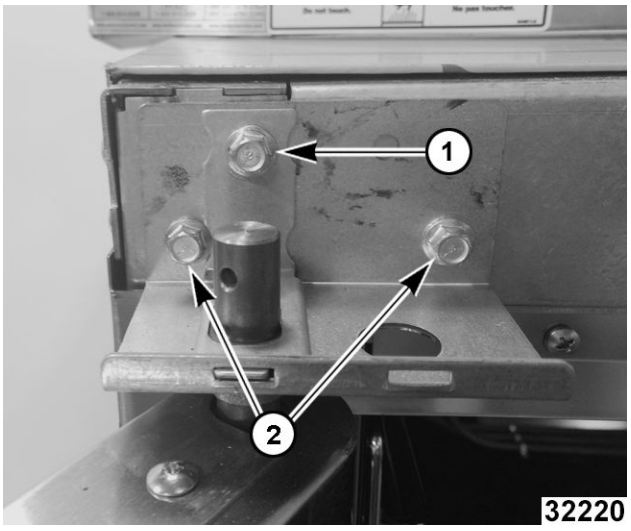



**Fig. 46**

4. Lift door off lower shaft bracket.

**NOTICE**

Lay door on flat protective surface to service.

5. Reverse procedure to install.

6. Perform door switch adjustment if servicing right side door.

## OVEN DOORS (SIMULTANEOUS DOORS) Ending at Serial Number 481909808

### ASSEMBLY REMOVAL


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove the TOP FRONT COVER and BOTTOM FRONT COVER.
2. Remove the door switch lever.

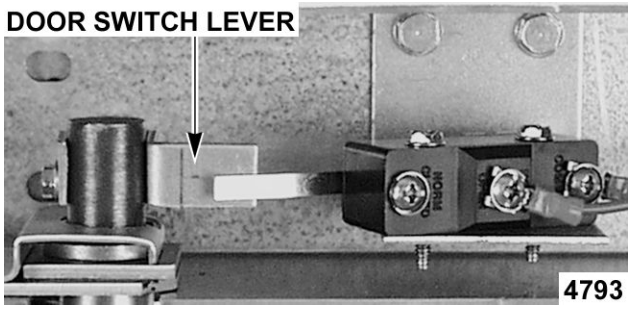



**Fig. 47**

3. Remove the top bearing retainers and top bearings.

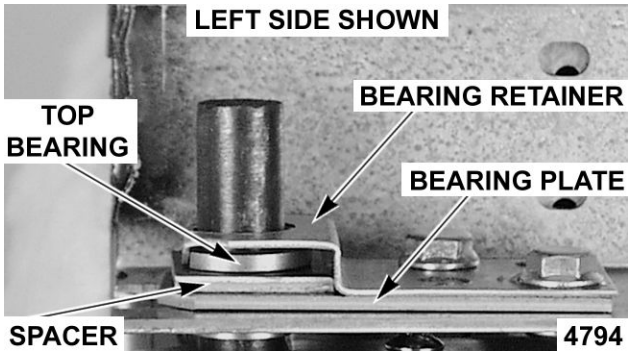



**Fig. 48**

4. Remove the lower door seal strip to expose the mounting screws of the door assembly.
   A. Remove the two (2) lower sill bolts by the lower door shaft and the four (4) counter-sunk screws from the lower sill.

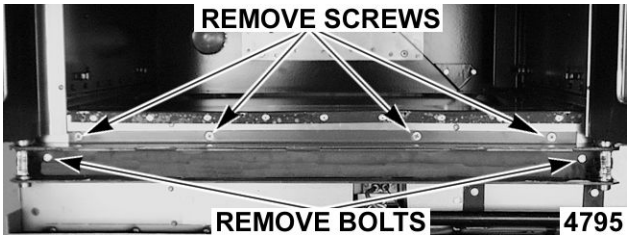


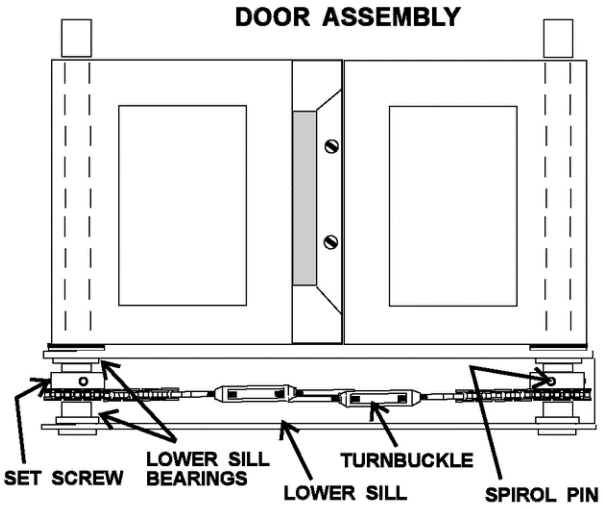

**Fig. 49**

**NOTE:** The door assembly is heavy and will drop down once the last screw is removed. If removing door assembly with-out assistance, the ignition cable, flame sense lead and gas manifold should also be removed to avoid damage to these components.

5. Lift up on the door assembly and swing the right side out then move the assembly to the left to clear the slots in the upper door sill.
6. Lay the door assembly on a flat cushioned surface for disassembly.
7. Reverse procedure to install door assembly and check for proper adjustment as outlined under DOOR ADJUSTMENT, DOOR CHAIN ADJUSTMENT (SIMULTANEOUS DOORS) and DOOR SWITCH ADJUSTMENT in "SERVICE PROCEDURES AND ADJUSTMENTS".

### DISASSEMBLY

1. Remove the door assembly as outlined in OVEN DOORS (SIMULTANEOUS DOORS) Ending at Serial Number 481909808 under ASSEMBLY REMOVAL.
2. Remove the door chain by loosening one of the turnbuckles.
3. Loosen the set screw on the sprocket of door being replaced.
4. Drive out the Spirol pin from the sprocket of door being replaced.
5. Remove the door from lower sill bearings and sprocket.




SIMULTANEOUS DOORS SHOWN TSP1425

**Fig. 50**

A. Door assembly parts are now accessible for inspection and/or replacement if necessary.

6. Reverse procedure to re-assemble the door assembly parts and check for proper adjustment as outlined under DOOR CHAIN ADJUSTMENT (SIMULTANEOUS DOORS) in "SERVICE PROCEDURES AND ADJUSTMENTS".

## OVEN DOORS (SIMULTANEOUS DOORS) Starting at Serial Number 481909809

1. Remove TOP FRONT COVER and BOTTOM FRONT COVER.
2. Remove door switch lever.

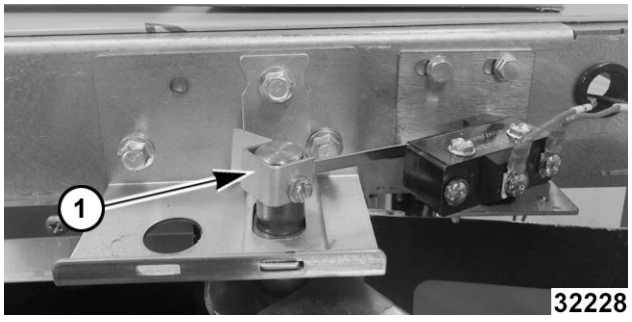
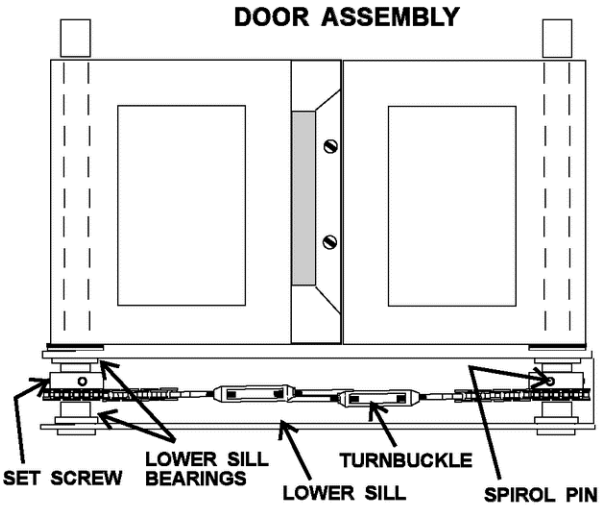



**Fig. 51**

3. Remove door chain by loosening one of the turnbuckles (Fig. 52).




SIMULTANEOUS DOORS SHOWN TSP1425

**Fig. 52**

4. Loosen the set screw on the sprocket of door being replaced (Fig. 52).
5. Drive out the spiral pin from the sprocket of door being replaced (Fig. 52).
6. While supporting door, remove hex head bolts holding upper bearing retainer (1, Fig. 53) and upper shaft bracket (2, Fig. 53).

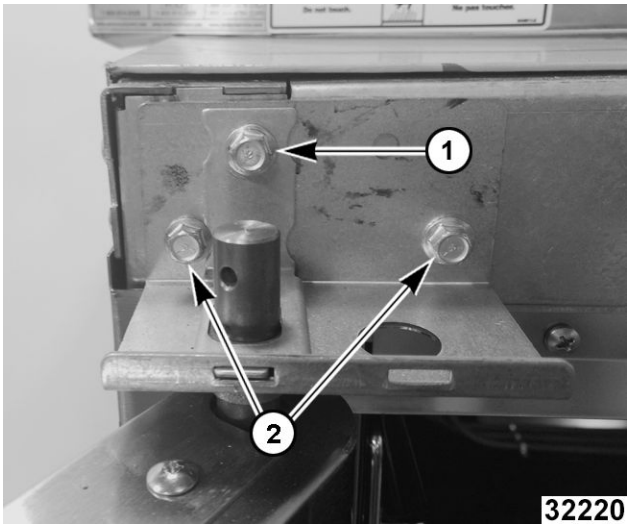



**Fig. 53**

7. Remove door(s) from lower sill bearings and sprocket Fig. 52.

**NOTICE**

Lay door on flat protective surface to service.

8. Reverse procedure to install.

**NOTICE**

Verify spacers are reassembled as found when removed.

9. Perform door adjustments.
   A. DOOR ADJUSTMENT .
   B. DOOR CHAIN ADJUSTMENT (SIMULTANEOUS DOORS) .
   C. DOOR SWITCH ADJUSTMENT .

## ROLLER LATCH ASSEMBLY (INDEPENDENT DOORS)


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove the screws that attach roller latch assembly to door.

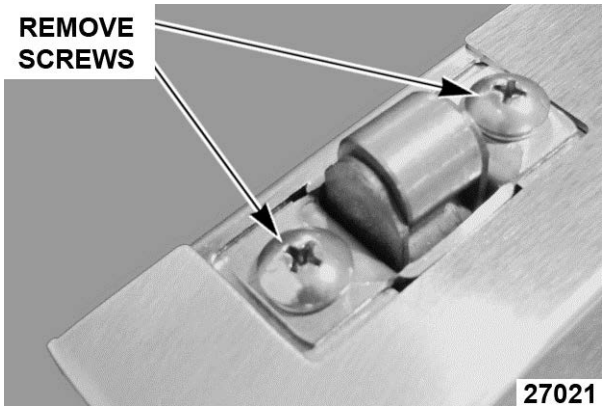



**Fig. 54**

2. Reverse procedure to install.

## DOOR CATCH BALL ASSEMBLY (INDEPENDENT DOORS)

**NOTE:** For units with serial number starting with 48 made before 8/13/07 and serial number starting with 54 made before 8/27/07.


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove the FRONT COVER.
2. Remove the screws that secure the door catch assembly.

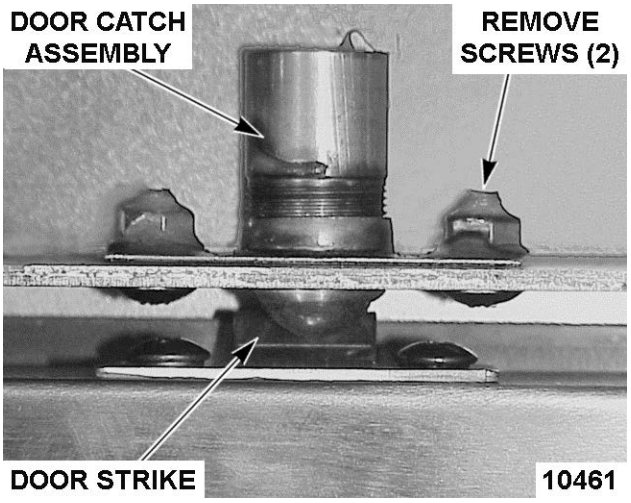



**Fig. 55**

3. Reverse procedure to install.
4. Adjust the ball catch as outlined under DOOR CATCH BALL ADJUSTMENT (INDEPENDENT DOORS).

## DOOR WINDOW


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove the screws at the top and bottom of door.

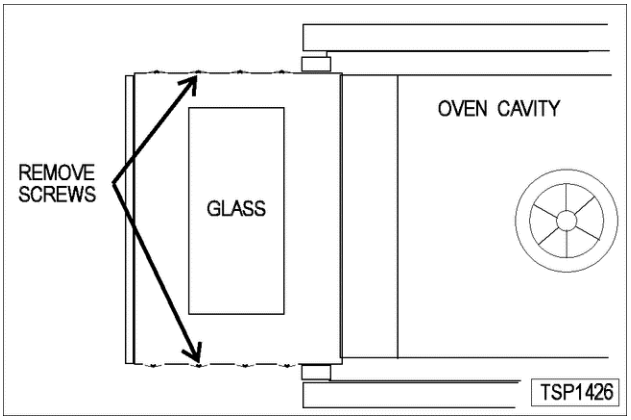



**Fig. 56**

2. Independent doors:
   A. Remove the door handle then remove the outer door panel.
   B. Lift out the inner door panel and window assembly.

**NOTE:** Left door only - remove door seal from the inside edge of the door.

3. Simultaneous doors:

   A. If replacing window on the left door, remove the handle from the front of the door then remove door seal from the inside edge of the door.

      1) Lift out the inner door panel and window assembly.

      2) If replacing window on the right door, remove the screws along the inside edge (if applicable) of the door then remove the inner door panel and window assembly.

4. Remove the screws securing the window “tabs” to the door bracket and lift the window assembly out from the door frame.

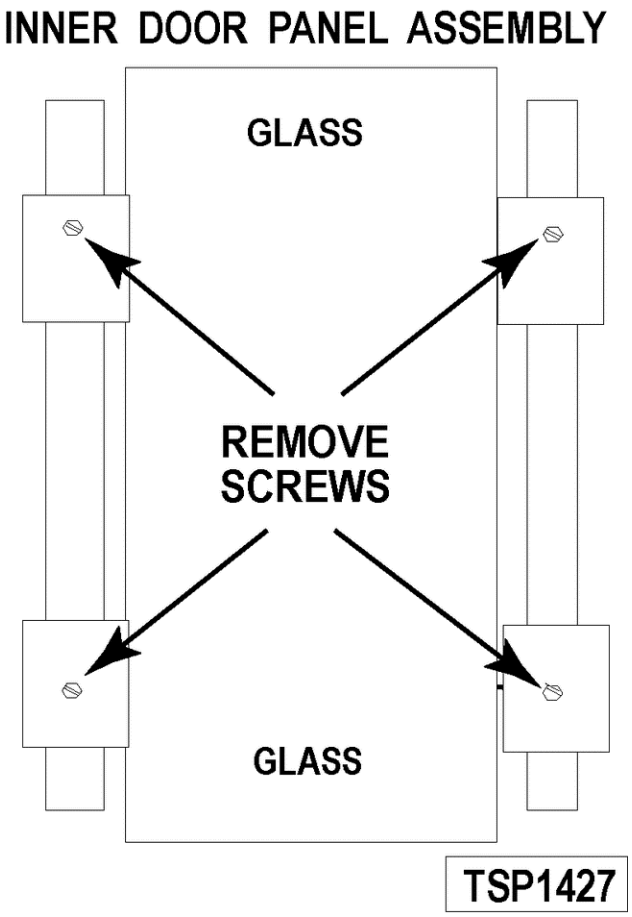



**Fig. 57**

5. Reverse procedure to install the replacement window.

## DOOR SWITCH


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove the TOP FRONT COVER.
2. Disconnect the lead wires to the door switch.
3. Remove the switch.

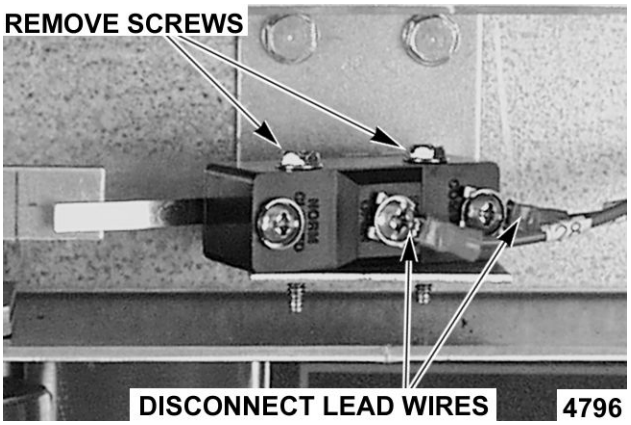



**Fig. 58**

4. Reverse procedure to install the replacement switch and check for proper adjustment as outlined under DOOR SWITCH ADJUSTMENT in "SERVICE PROCEDURES AND ADJUSTMENTS".

## MECHANICAL KX THERMOSTAT (DGC5)


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove the racks and right rack support.
2. Remove the thermostat knob and mounting screws from the control panel and then remove the control panel.
3. Remove the probe guard from the oven cavity wall.

**NOTE:** When installing, the probe should not extend beyond the probe guard.

4. Remove the thermostat bulb from the oven cavity by pushing it through the oven wall and into the control panel area.

**NOTE:** The hole in the oven cavity wall does not line up straight with the oven cavity outer shell, therefore the probe must be removed at an angle.

5. Reverse the procedure to install.
6. Adjust the thermostat as outlined under MECHANICAL THERMOSTAT CALIBRATION (DGC5) in "SERVICE PROCEDURES AND ADJUSTMENTS".

## INTERIOR LIGHTS (Rear Mounted, Round)


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**Lamp**

1. Remove racks.
2. Unscrew glass lens for the light being replaced then unscrew bulb.

**NOTE:** Use a cloth when handling bulb so you do not leave fingerprints on bulb.

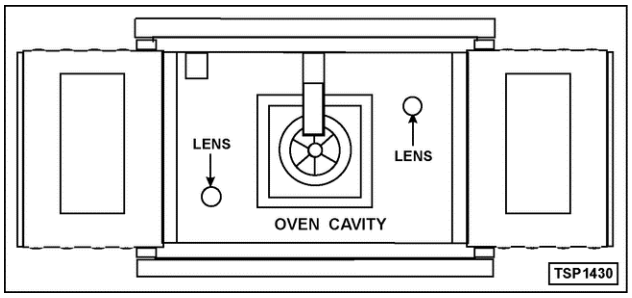



**Fig. 59**

3. Replace bulb then reverse procedure to install.


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**Lamp Assembly**

1. Remove lens and bulb.
2. Remove springs from retaining tabs (2 places) on the socket.

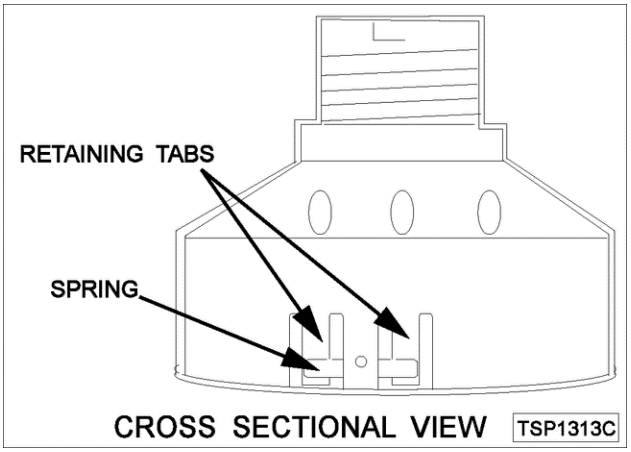



**Fig. 60**

3. Depress retaining tabs and pull socket out from the oven, far enough to disconnect lead wires.
4. Remove socket from the oven.
5. Attach lead wires to the replacement socket.
6. Insert socket into the hole in oven and push until socket is held in place by retaining tabs.
7. Install light bulb and lens.
8. Check for proper operation.

## INTERIOR LIGHTS (Side Mounted, Square)

**Bulb Replacement**


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove racks and right-side hand rack guide.
2. Pull lamp cover off.
3. Grasp lamp using a clean cloth and remove from lamp assembly.

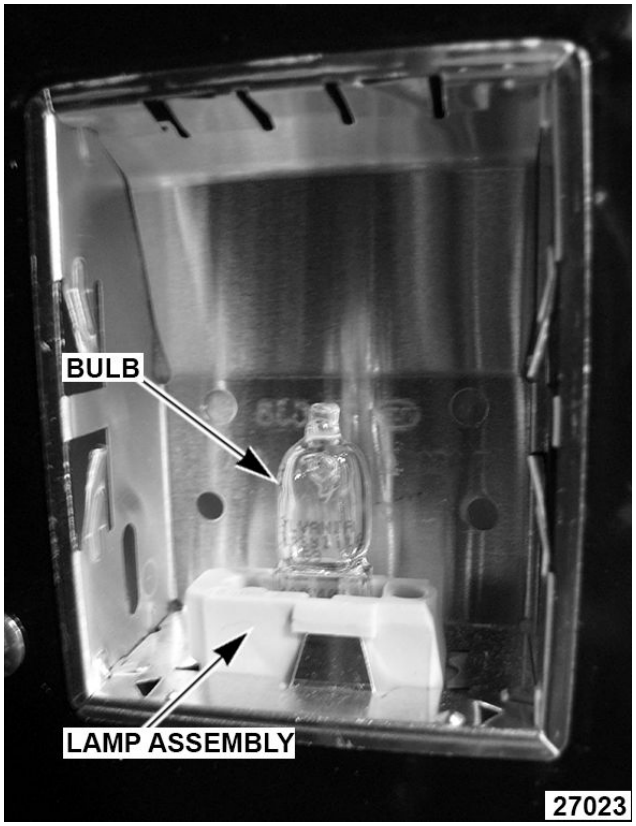



**Fig. 61**

4. Reverse procedure to install new bulb.

**NOTE:** Verify gasket (1, Fig. 62) is flat on lamp cover and not damaged.

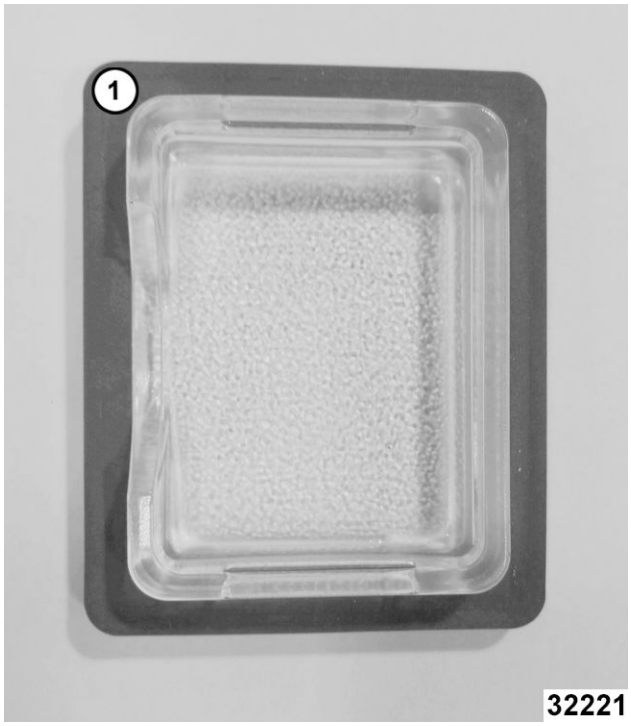



**Fig. 62**

**Lamp Assembly Replacement**


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove racks.
2. Remove BULB if reusing.
3. Lift right side rack guide off oven cavity.
4. Pull lamp cover off from the top or bottom.
5. Insert narrow blade screwdriver into tab and bend out to release. Repeat with second tab.

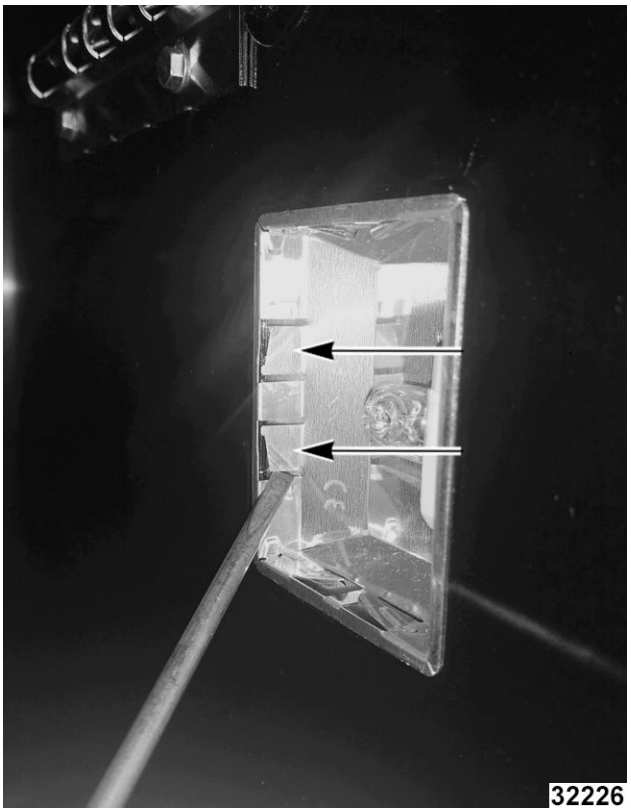



**Fig. 63**

6. Pull lamp housing out of oven cavity.
7. Disconnect wires.

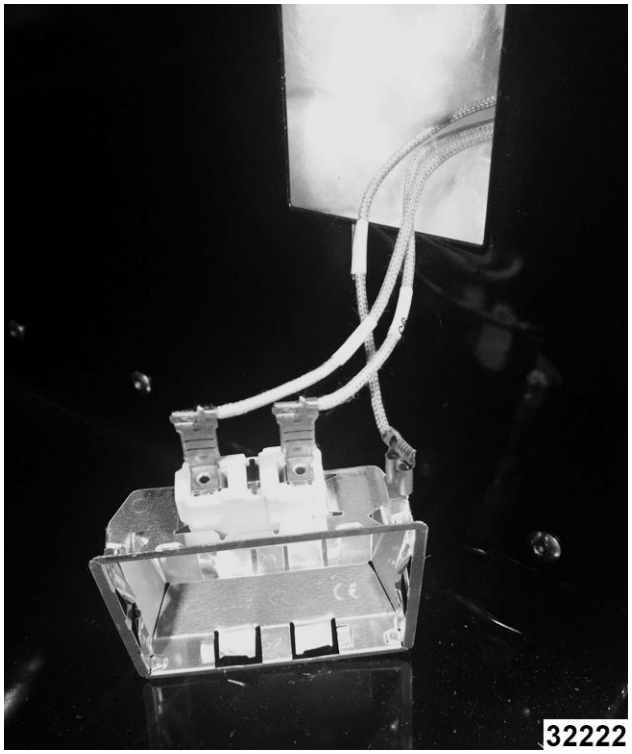



**Fig. 64**

8. Reverse procedure to install.

**NOTE:** Verify gasket (1, Fig. 65) is flat on lamp cover and not damaged.

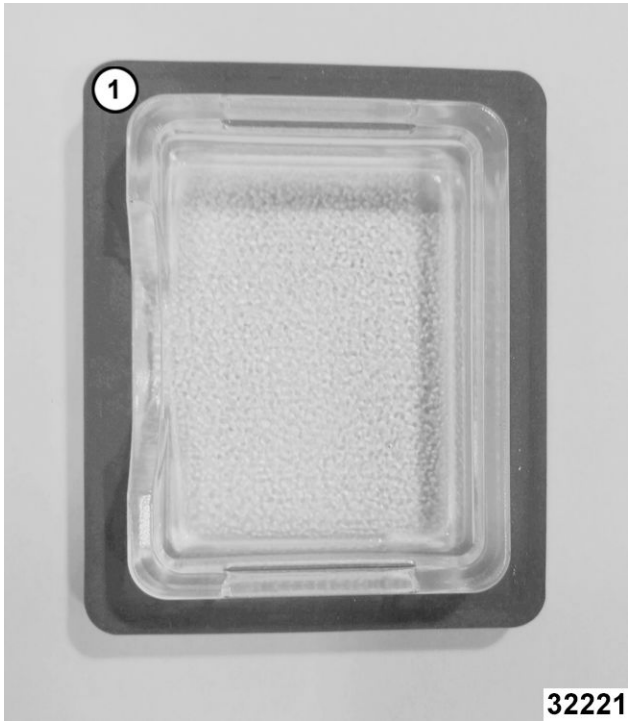



**Fig. 65**

## HIGH LIMIT THERMOSTAT


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Take out racks from the oven.
2. Remove the high limit thermostat cover/mounting plate from inside the oven cavity at the top.

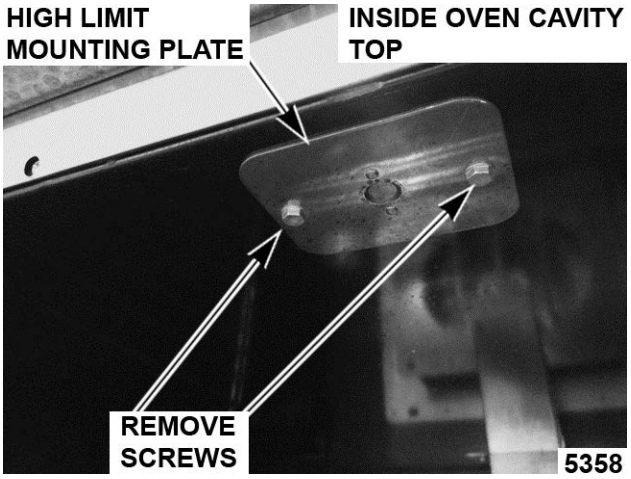



**Fig. 66**

3. Disconnect lead wires from high limit thermostat then remove high limit thermostat from cover/ mounting plate.

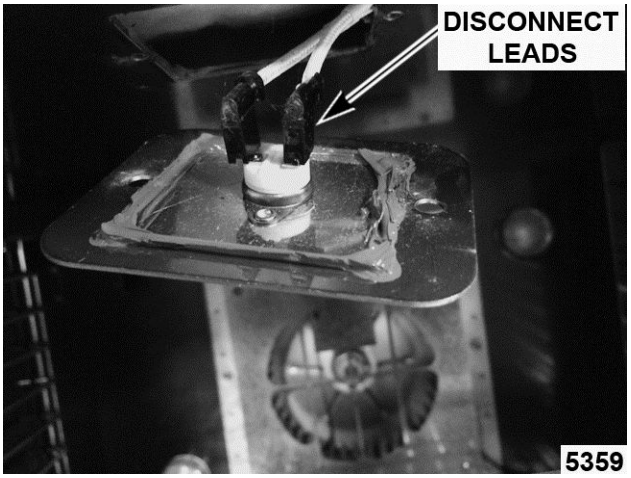



**Fig. 67**

**NOTE:** Remove the old RTV from the cover and mating surfaces inside the oven cavity and apply new RTV before installing.

4. Reverse procedure to install.

## COOLING FAN


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove the RIGHT SIDE PANEL.

**NOTE:** If right side panel is not accessible, this component can be serviced by removing the CONTROL PANEL.

2. Disconnect the lead wires to the fan motor by removing wire nuts.
3. Remove the screws securing the air deflector to the fan then loosen the tab screw holding the fan to the component panel. Rotate the tab so that the fan will clear and remove the fan.

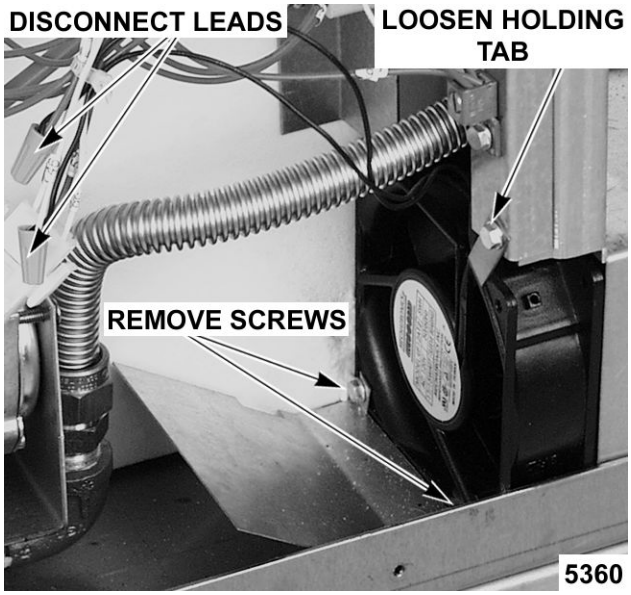



**Fig. 68**

4. Reverse the procedure to install the replacement fan and check for proper operation.

**NOTE:** The fan must be installed so air is pulled from the rear of the oven and blown into the control area. The arrow on the fan body indicates “air flow” direction and should be pointing toward the controls.

**NOTE:** Ensure fan is seated “squarely” against the air tube and the oven bottom.

**NOTE:** The air deflector should be angled upwards at approximately 30 degrees to properly direct the air flow.

# SERVICE PROCEDURES AND ADJUSTMENTS


**⚠ WARNING**

**Certain procedures in this section require electrical test or measurements while power is applied to the machine. Exercise extreme caution at all times and follow Arc Flash procedures. If test points are not easily accessible, disconnect power and follow Lockout/Tagout procedures, attach test equipment and reapply power to test.**

## SOLID STATE TEMPERATURE CONTROL CALIBRATION (HGC5/5X)

**UNITS BEFORE JUNE 2013**

1. Place a thermocouple in the geometric center of the oven cavity.
2. Set the ON-OFF-COOL DOWN switch to ON.
3. Set the temperature control dial to 350°F.
4. Allow the oven temperature to stabilize (normally 3 cycles).
5. Record the temperature at which the Heat lamp goes OFF and comes ON for at least two complete heating cycles.
6. Calculate the differential by subtracting the temperature indicated when the lamp goes out from the temperature indicated when the lamp comes on.

   **Differential = Heat lamp OFF - Heat lamp ON**

   **Example: 360° (lamp off) - 340° (lamp on) = 20°**

   A. The differential calculated should be **less** than 20°F.

      1) If the differential is **less** than 20°F, the temperature control circuit is functioning properly.

         a. Proceed to Step 7.

      2) If the differential is **more** than 20°F:

         a. Check the temperature probe as outlined under TEMPERATURE PROBE TEST (HGC5/5X).

         b. If the probe is functioning properly then temperature control is malfunctioning.

            a) Install a replacement temperature control and check calibration.

7. Calculate the average temperature by adding the temperature indicated when the lamp goes out to the temperature indicated when the lamp comes on and dividing this answer by 2.

   **[Temp. (lamp off) + Temp. (lamp on)] ÷ 2 = Average Temp. Example: (360° + 340°) ÷ 2 = 350°**

   A. If the average temperature is **less** than 10°F from the dial setting, the thermostat is properly calibrated.

   B. If the average temperature is **more** than 10°F from the dial setting, the thermostat calibration must be adjusted.

      1) Loosen the temperature control knob set screw and remove the knob from the stem.

      2) Loosen temperature control mounting screws only enough to rotate the control.

         a. Place thumb and forefinger on the head of the mounting screws, apply pressure and slightly rotate the screw heads (body of control) in the slot. Rotate **clockwise** to increase temperature and **counterclockwise** to decrease.

         b. Center the stem in the opening and re-tighten the temperature control mounting screws.

         c. Replace knob and re-tighten set screw.

         d. Rotate the knob to the lowest temperature setting then back to 350°F.

         e. Repeat the average temperature calculation in Step 7.

**NOTE:** Allow the oven to cycle at least two times between adjustments before performing the calculation.

a) If the average temperature still differs **more** than 10°F from the dial setting, adjust the thermostat calibration until the average temperature is within tolerance.

C. If the above adjustment cannot be obtained, replace the temperature control and check calibration.

**UNITS AFTER JUNE 2013**

1. Place a thermocouple in the geometric center of the oven cavity.
2. Set the ON-OFF-COOL DOWN switch to ON.
3. Set the NORMAL - GENTLE BAKE switch to NORMAL.
4. Set the temperature control dial to 350°F.
5. Allow the oven temperature to stabilize (normally 3 cycles).
6. Record the temperature at which the Heat lamp goes OFF and comes ON for at least two complete heating cycles.
7. Calculate the differential by subtracting the temperature indicated when the lamp goes out from the temperature indicated when the lamp comes on.

   ***Differential = Heat lamp OFF - Heat lamp ON***

   ***Example: 360° (lamp off) - 340° (lamp on) = 20°***

   A. The differential calculated should be **less** than 20°F.

      1) If the differential is **less** than 20°F, the temperature control circuit is functioning properly.

         a. Proceed to STEP 8.

      2) If the differential is **more** than 20°F:

         a. Check the temperature probe as outlined under TEMPERATURE PROBE TEST.

         b. If the probe is functioning properly then temperature control is malfunctioning.

            a) Install a replacement temperature control and check calibration.

8. Calculate the average temperature by adding the temperature indicated when the lamp goes out to the temperature indicated when the lamp comes on and dividing this answer by 2.

   **[Temp. (lamp off) + Temp. (lamp on)] ÷ 2 = Average Temp.**

   **Example: (360° + 340°) ÷ 2 = 350°**

   A. If the average temperature is **less** than 10°F from the dial setting, the thermostat is properly calibrated.

   B. If the average temperature is **more** than 10°F from the dial setting, the thermostat calibration must be adjusted.

      1) Loosen the temperature control knob set screw and remove the knob from the stem.

      2) Access the adjustment potentiometer located at the 3 o'clock position.

         a. Turn clockwise to increase, counterclockwise to decrease temperature

         b. Repeat the average temperature calculation in STEP 8.

**NOTE:** Allow the oven to cycle at least two times between adjustments before performing the calculation.

a) If the average temperature still differs **more** than 10°F from the dial setting, adjust the thermostat calibration until the average temperature is within tolerance.

C. If the above adjustment cannot be obtained, replace the temperature control and check calibration.

## MECHANICAL THERMOSTAT CALIBRATION (DGC5)

1. Place a thermocouple in the geometric center of the oven cavity.
2. Set the ON-OFF-COOL DOWN switch to ON.
3. Set the thermostat dial to 350°F.
4. Allow the oven temperature to stabilize (normally 3 cycles).

5. Record the temperature when the thermostat cycles OFF and ON for at least three complete cycles.
6. Calculate the differential by subtracting the temperature indicated when heat lamp goes out from temperature indicated when heat lamp comes on.

   **Differential = Heat lamp OFF - Heat lamp ON**

   **Example: 360° (lamp off) - 340° (lamp on) 20°**

   A. The differential calculated should be **less** than 30°F.

      1) If the differential is **less** than 30°F, the thermostat is functioning properly.

         a. Proceed to Step 7.

      2) If the differential is **more** than 30°F, the thermostat is malfunctioning.

         a. Install a replacement thermostat and check calibration.

7. Calculate the average temperature by adding the temperature indicated when the heat lamp goes out to the temperature indicated when the heat lamp comes on and dividing this answer by 2.

   **[Temp. (lamp off) +Temp. (lamp on)] ÷ 2 = Average Temp.**

   **Example: 360° 340° ÷ 2 350°**

   A. If the average temperature is **less** than 15°F from the dial setting, the thermostat is properly calibrated.

   B. If the average temperature is **more** than 15°F of the dial setting, the thermostat calibration **must** be adjusted.

      1) Remove the thermostat knob.

      2) Hold the thermostat shaft and turn the inner set screw **clockwise** to decrease temperature or **counterclockwise** to increase temperature (¼ turn = 35°(F).

8. Replace the knob and repeat Step 7 until the average temperature is within tolerance.

**NOTE:** Allow the oven to cycle at least two times between adjustments before performing the calculation.

9. If the above adjustment can not be obtained, install a replacement thermostat and check calibration.

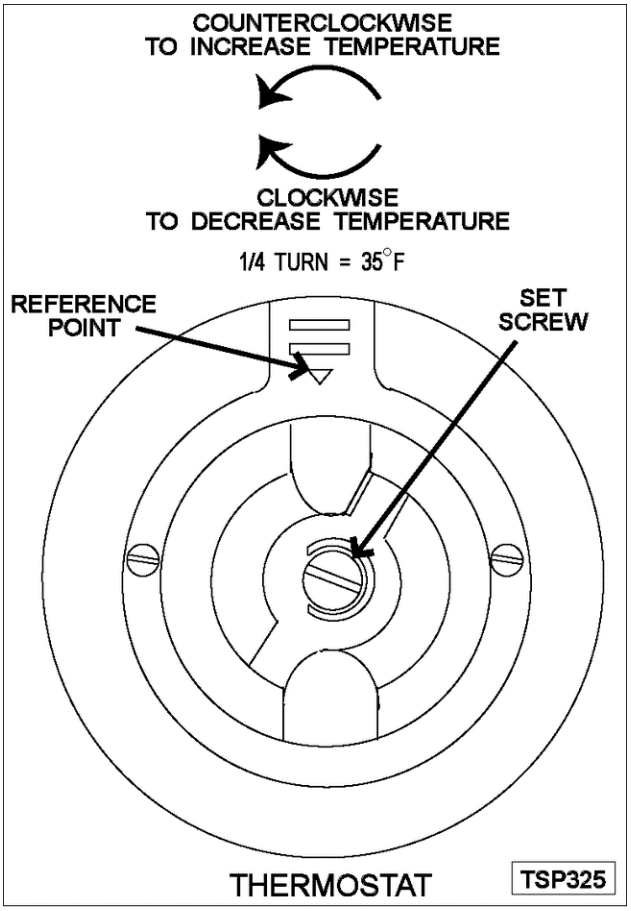



**Fig. 69**

## SOLID STATE TEMPERATURE CONTROL TEST (HGC5/5X)


**⚠ WARNING**

**Certain procedures in this section require electrical test or measurements while power is applied to the machine. Exercise extreme caution at all times and follow Arc Flash procedures. If test points are not easily accessible, disconnect power and follow Lockout/Tagout procedures, attach test equipment and reapply power to test.**

1. Remove the RIGHT SIDE PANEL.

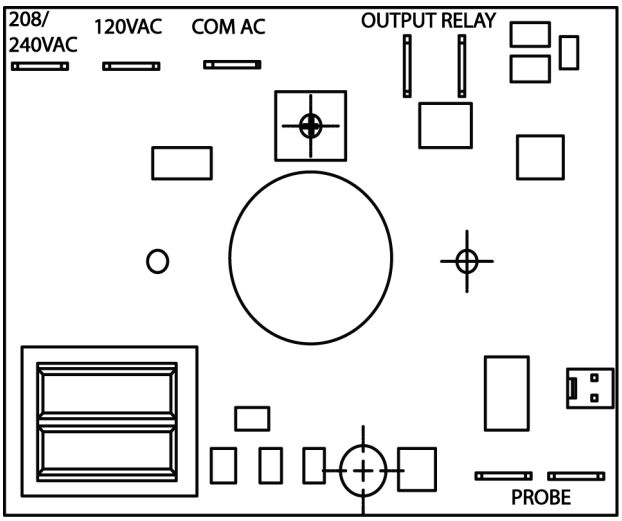
**NOTE:** If right side panel is not accessible, this component can be serviced by removing CONTROL PANEL.

2. Place a thermocouple in the geometric center of the oven cavity.

**NOTE:** Oven temperature must be below 450°F.

**NOTE:** If oven is equipped with "Cook and Hold" option, set to Cook (normal cooking) before continuing.

3. Set the temperature control to the maximum setting.
4. Check machine data plate for correct voltage to oven. Refer to diagram below for proper terminal locations and voltages before checking the control. Use the correct terminals for the corresponding voltage.
5. Turn the power switch to ON.




AI3754

**Fig. 70**

6. Check for proper voltage across terminals COM AC to 120VAC or COM AC to 208-240VAC for power to the control.
   A. If correct, proceed to step 7.
   B. If incorrect, problem is **not** with the temperature control. See TROUBLESHOOTING.
7. Check relay voltages on the board:
   A. For 120VAC controls - check across OUTPUT RELAY terminal (left side) to 120VAC terminal for input to the internal relay. Check across OUTPUT RELAY terminal (right side) to 120VAC for output from the internal relay.
   B. For 208-240VAC controls - check across OUTPUT RELAY terminal (left side) to 208-240VAC terminal for input to the internal relay. Check across OUTPUT RELAY terminal (right side) to 208-240VAC for output from the internal relay.
      1) If input voltage to the internal relay is correct, proceed to step 8. If input voltage to the internal relay is not present, problem is not with the temperature control. See TROUBLESHOOTING.
      2) If output voltage from the internal relay is correct proceed to step 8. If output voltage from the internal relay is not correct, check temperature probe as outlined under TEMPERATURE PROBE TEST (HGC5/5X).
8. Set the temperature control to the minimum setting.

**NOTE:** Oven temperature **must** be above 300°F.

9. Check for zero (0) volts AC across terminals OUTPUT RELAY terminal (right side) to 120VAC or OUTPUT RELAY terminal (right side) to 208-240VAC for no output from the internal relay.
   A. If correct, temperature control is functioning properly.
   B. If incorrect, check temperature probe as outlined under TEMPERATURE PROBE TEST (HGC5/5X).
      1) If temperature probe is OK:
         a. Turn the power switch OFF.


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

         b. Replace the temperature control and check calibration as outlined under SOLID STATE TEMPERATURE CONTROL CALIBRATION (HGC5/5X).

## TEMPERATURE PROBE TEST (HGC5/5X)


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**NOTE:** The temperature probe used in conjunction with the Solid State Temperature control is an RTD (resistance temperature detector) of the Thermistor

type. As temperature increases the resistance value decreases.

1. Remove the RIGHT SIDE PANEL.

**NOTE:** If right side panel is not accessible, this component can be serviced by removing the CONTROL PANEL.

2. Place a shielded thermocouple in the geometric center of the oven cavity and determine the temperature in the oven cavity.
3. Remove the probe lead wires from the solid state temperature control.
4. Test the probe with an ohmmeter.
   A. If the measured resistance values are inside the given tolerance then the probe is functioning properly.
   B. If the measured resistance values are outside the given tolerance then replace the probe and retest.
      1) Check oven for proper operation.
5. Reverse procedure to install.

| TEMP (°F) | OHMS* | TEMP (°F) | OHMS* |
|---|---|---|---|
| 77 | 90,000 | 360 | 822 |
| 240 | 4,077 | 380 | 656 |
| 260 | 3,016 | 400 | 529 |
| 280 | 2,266 | 425 | 424 |
| 300 | 1,726 | 450 | 334 |
| 320 | 1,332 | 475 | 266 |
| 340 | 1,041 | | |
| (*) Resistance in ohms ± 10% | | | |

## GAS PRESSURE ADJUSTMENT (units up to February 2015)

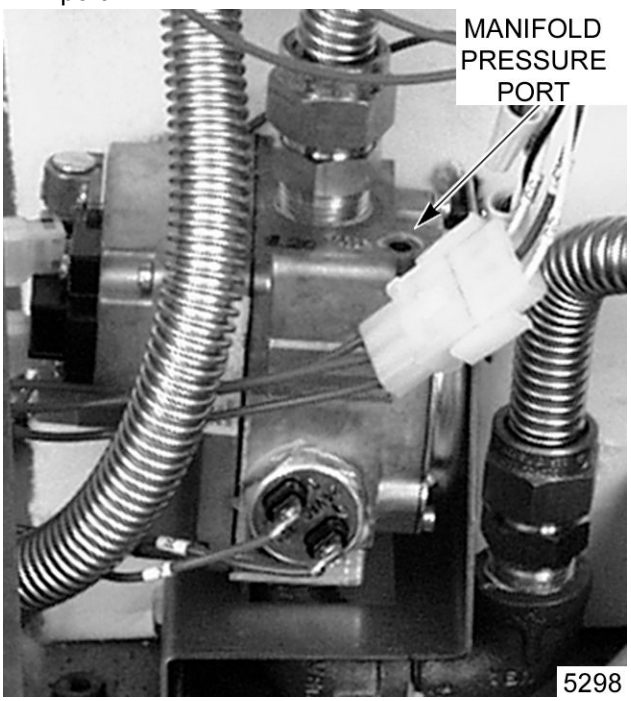

**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

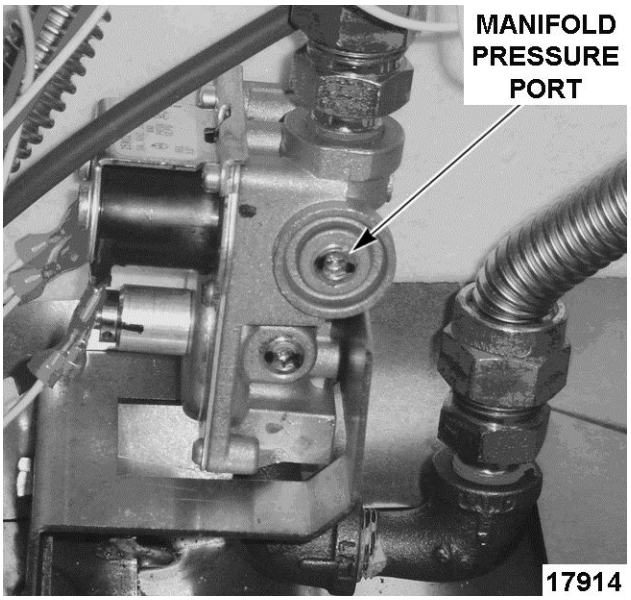
1. Turn gas supply off at manual shutoff valve.
2. Remove the RIGHT SIDE PANEL.

**NOTE:** If right side panel is not accessible, this component can be serviced by removing the CONTROL PANEL.

3. Remove the plug from the manifold pressure port.

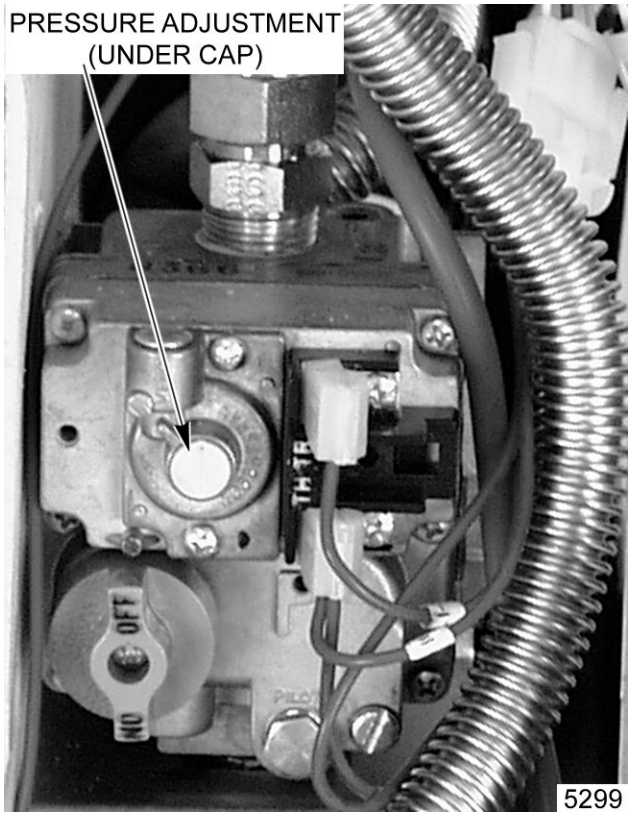



**FIRST GENERATION UNIT SHOWN (Before April 2005)**

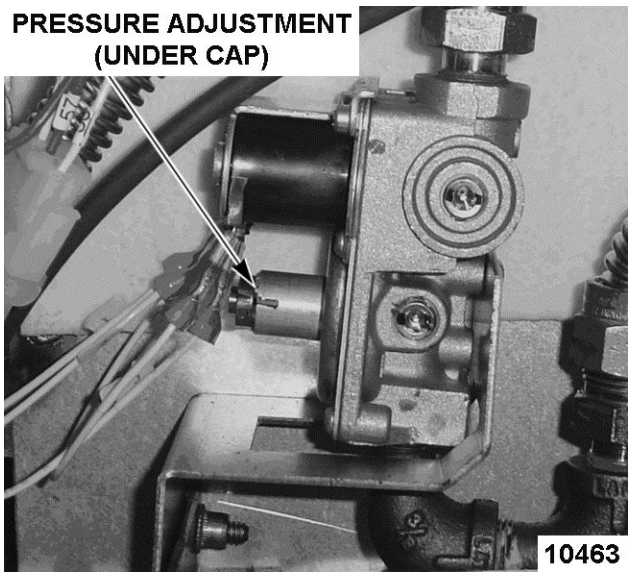



**SECOND GENERATION UNIT SHOWN (After April 2005 thru February 2015)**

4. Install hose barb adapter and attach manometer tube.




**FIRST GENERATION SHOWN (Before April 2005)**




**SECOND GENERATION UNIT SHOWN (After April 2005 thru February 2015)**

**⚠ WARNING**

**THE FOLLOWING STEPS REQUIRE POWER TO BE APPLIED TO THE UNIT DURING TEST. USE EXTREME CAUTION AT ALL TIMES.**

5. Remove adjustment screw cap from the gas valve and turn gas supply to the oven back on.
6. Plug the unit in and turn the power switch ON.
7. Set the temperature control to its highest setting and allow burner to ignite.

**NOTE:** The burner must be lit during test and adjustment.

8. Turn the set screw to obtain the proper gas pressure (*clockwise* = pressure increase; *counterclockwise* = pressure decrease).

**NOTE:** Accurate gas pressure adjustments can only be made with the gas on and the burner lit.

| GAS TYPE | PRESSURE READINGS (IN W.C.) | | | |
|---|---|---|---|---|
| | MANIFOLD | LINE | | |
| | | RECOMMENDED | MIN | MAX |
| Natural | 3.5 | 7.0 | 5.0 | 14.0 |
| Propane | 10 | 11.0 | 11.0 | |

**Fig. 75**

**NOTE:** If the incoming line pressure to the valve is **less** than the minimum stated, then the manifold pressure can not be set correctly.

## GAS VALVE PRESSURE CHECK (units after February 2015)


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Turn gas supply off at manual shutoff valve.
2. Remove the RIGHT SIDE PANEL.

**NOTE:** If right side panel is not accessible, this component can be serviced by removing the CONTROL PANEL.

3. Remove the plug from the manifold pressure port.

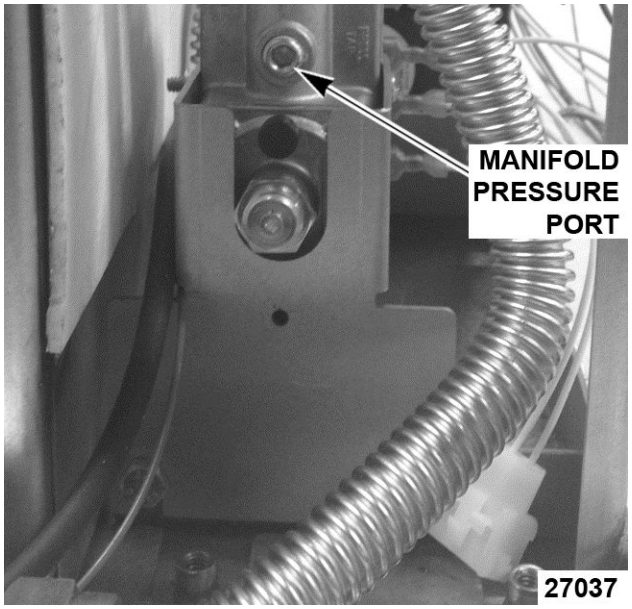



Fig. 76

4. Install hose barb adapter and attach manometer tube.
5. Turn gas supply to the oven back on.
6. Plug the unit in and turn the power switch ON.
7. Set the temperature control to its highest setting and allow burner to ignite.

**NOTE:** The burner must be lit during test.

**NOTE:** Accurate gas pressure readings can only be made with the gas on and the burner lit.

| GAS TYPE | PRESSURE READINGS (IN W.C.) | | | |
|---|---|---|---|---|
| | MANIFOLD | LINE | | |
| | | RECOMMENDED | MIN | MAX |
| Natural | 5.0 | 8.0 | 6.0 | 14.0 |
| Propane | 10.0 | 11.0 | 11.0 | |
| **NOTE:** If the incoming line pressure to the valve is **less** than the minimum stated, then the manifold pressure will not be maintained. | | | | |

**NATURAL GAS**

- If the incoming pressure to the valve is between 6”WC and 14” for Natural gas and the manifold pressure is not maintaining 5” WC, and the cap is correctly positioned, replace the valve.

**PROPANE**

- 11”WC and 14” for Propane gas and the manifold pressure is not maintaining 10” WC, and the cap is correctly positioned, replace the valve.

## VERIFICATION OF SPARK AT IGNITOR


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**⚠ WARNING**

**SHUT OFF THE GAS BEFORE SERVICING THE UNIT.**

1. Remove the BOTTOM FRONT COVER.
2. Disconnect the high voltage "ignition cable" from the spark ignitor.

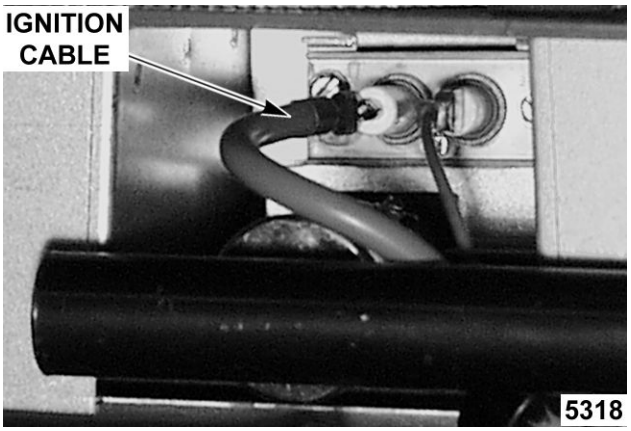



Fig. 77

**⚠ WARNING**

**DO NOT HOLD THE WIRE WITH YOUR HANDS FOR THIS TEST. THE MANUAL GAS VALVE MUST BE CLOSED.**

3. Clamp the ignition cable in a manner that will position the end of the cable 3/16" from the oven frame (bare metal surface).

**NOTE:** It is critical that the cable be held 3/16" away from the surface of the oven frame or sparking may not occur even though the sparking circuit is functioning properly.

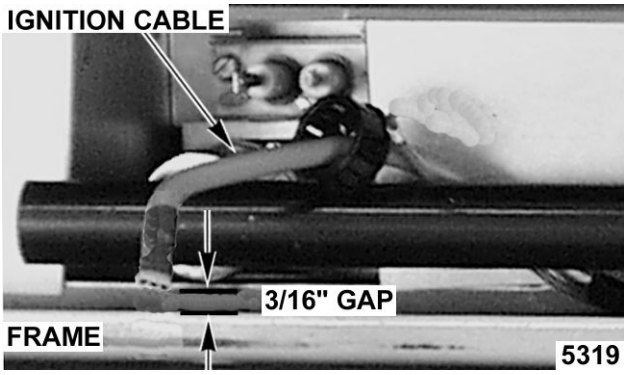



**Fig. 78**

**⚠ WARNING**

**THE FOLLOWING STEPS REQUIRE POWER TO BE APPLIED TO THE UNIT DURING THE TEST. USE EXTREME CAUTION AT ALL TIMES**

4. Plug the oven in and set the temperature control to the maximum setting.
5. Turn the power switch ON.
6. Sparking should occur after a 4 second delay, for a duration of 7 seconds then repeat twice after a 15 second purge time. Arching from the ignition cable to the oven frame should be observed.

## DOOR SWITCH ADJUSTMENT


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove the TOP FRONT COVER as outlined under COVERS AND PANELS.
2. Door operation:
   A. **Independent doors** - The switch actuator should be operated by the switch lever when the right door is between 1" and 1 ½" from being closed.
   B. **Simultaneous doors** - The switch actuator should be operated by the switch lever when the right door is ½" from being closed.
3. If adjustment is necessary, bend the switch actuator to obtain the proper setting.

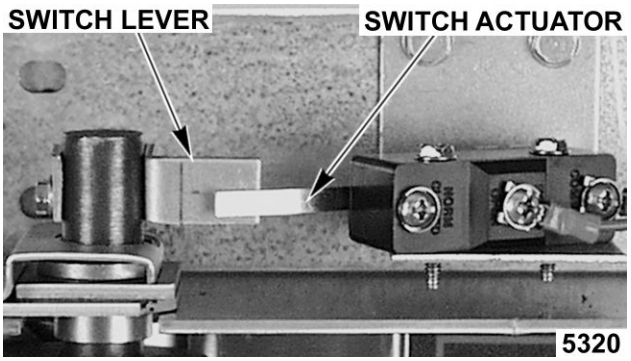



**Fig. 79**

4. Install the top front cover
5. Apply power to the oven and check for proper operation.

## BLOWER ADJUSTMENT


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

**⚠ WARNING**

**SHUT OFF THE GAS BEFORE SERVICING THE UNIT.**

1. Remove the blower motor and mounting assembly by following steps 1 through 8 as outlined under BLOWER AND MOTOR Ending at Serial Number 481913999 in "REMOVAL AND REPLACEMENT OF PARTS".
2. Loosen the motor mounting bolts.
3. Adjust the motor position until the blower is parallel to and 1/4 inch away from the motor mounting plate. Check for squareness of the blower to the motor mounting plate at the top, bottom, left and right of the blower.
   A. If the blower is square then tighten motor mounting bolts and proceed to Step 4.

B. If the blower is not square continue adjusting until proper spacing is achieved then tighten motor mounting bolts.

**NOTE:** If necessary, place shims between motor and frame.

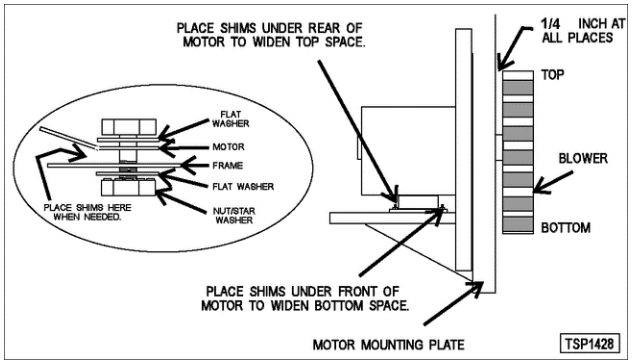



**Fig. 80**

4. Reverse the procedure to install.

## DOOR ADJUSTMENT


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Check the doors to make sure they have a .125 (1/8") gap between them and that the vertical edge of the door is parallel to the vertical door seal. If the doors are not positioned in this manner, adjust the doors as described.

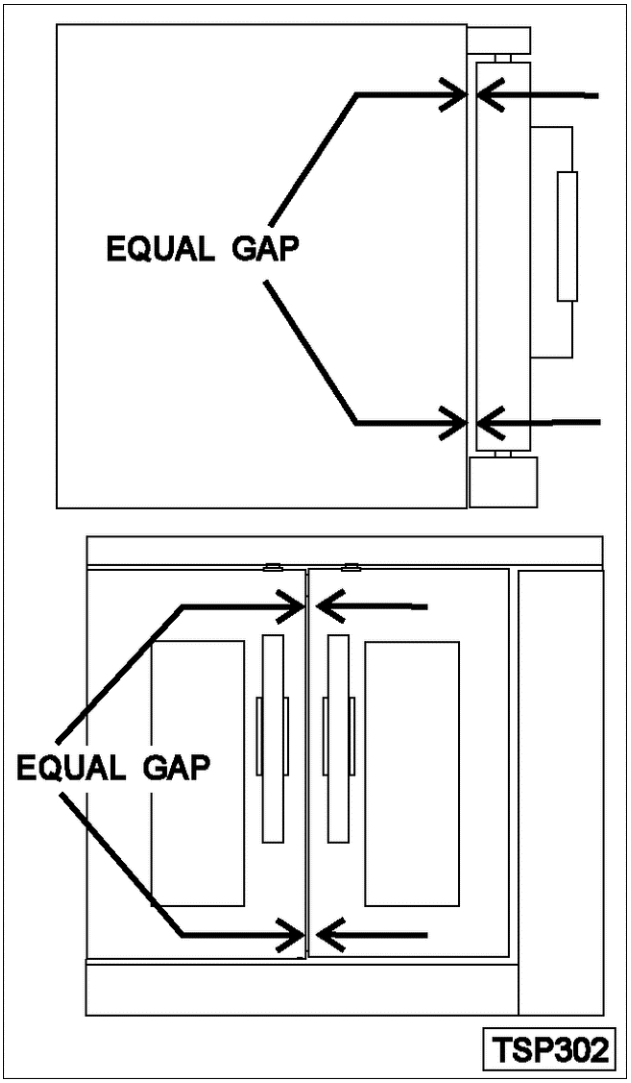



**Fig. 81**

2. Remove the TOP FRONT COVER.
3. Loosen the screws/bolts that secure the upper door brackets just enough to allow door movement.

   **Figure Shown below (Left Side) is ending at Serial Number 481907145.**

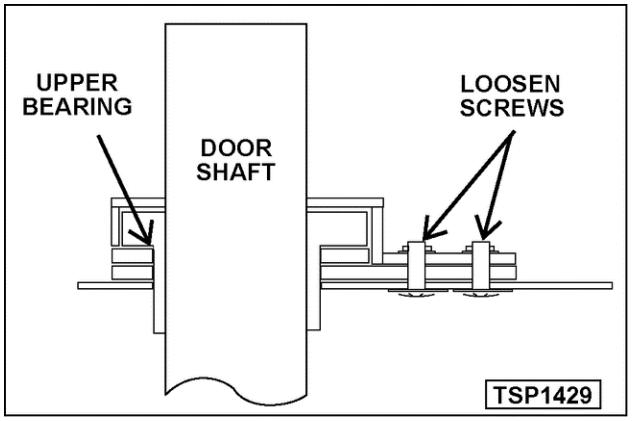



**Fig. 82**

**Figure shown below (Left Side) is starting at Serial Number 481907146.**

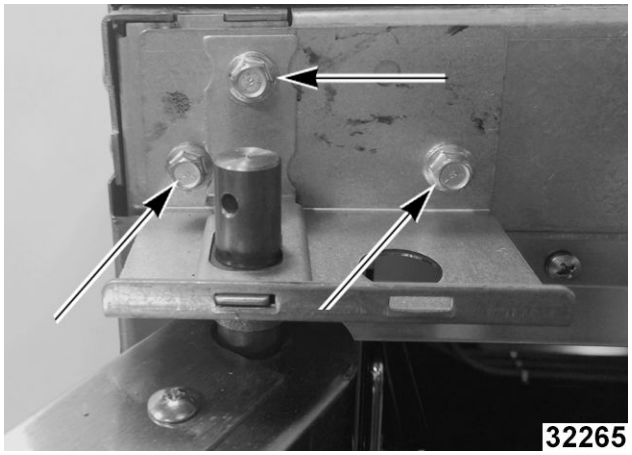



**Fig. 83**

4. Move the door until proper alignment is achieved then tighten the screws/bolts on the upper door bearing hardware.
5. Repeat Step 3 and Step 4 on the opposite door, if necessary.
6. Install TOP FRONT COVER

## DOOR CATCH ROLLER ADJUSTMENT (INDEPENDENT DOORS)


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove the TOP FRONT COVER.
2. Inspect the door strike for straightness, replace if bent.
3. Inspect the door catch assembly, replace if it is damaged.
4. Check for proper door alignment.
   A. Doors should be centered in the cavity opening and parallel to top and bottom of oven as outlined under DOOR ADJUSTMENT.
5. Apply lubricant around the spring. See LUBRICATION.
6. Turn the knurled nut to expose approximately 1/8" of the center stud.
7. Close the doors and observe the position of the door strike in relation to the catch roller.
   A. If adjustment is necessary, slide the door strike back and forth on its slotted mounting holes until the roller rests upon the angular surface of the strike plate.
   B. If proper adjustment cannot be achieved, it will be necessary to add shims beneath the strike plate.

**NOTE:** DO NOT BEND THE STRIKE PLATE.

8. Slowly close the oven door while watching the catch spring. If the spring bottoms out, back the knurled nut off a maximum of two turns, then try closing the door again.
   A. If the spring still bottoms out, it will be necessary to remove shims from beneath the door strike and readjust.
9. The oven door should open with a force of 8 to 25 pounds when pulled at the handle.
   A. If the door pull is too light, the knurled nut can be tightened a maximum of two turns (providing the spring does not bottom out) to increase tension on the catch roller.
   B. If the door pull is too hard, loosen the knurled nut to decrease the tension on the catch roller.

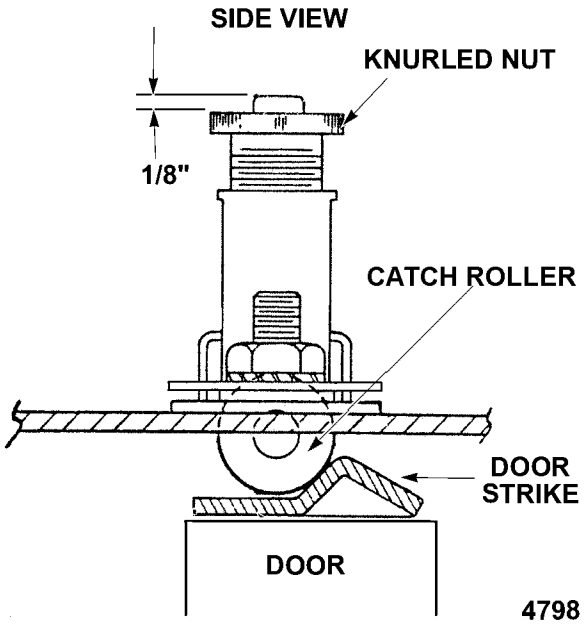



Fig. 84

## DOOR CATCH BALL ADJUSTMENT (INDEPENDENT DOORS)

**NOTE:** For units with serial number starting with 48 made before 8/13/07 and serial number starting with 54 made before 8/27/07.


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove TOP FRONT COVER.
2. Open the doors and inspect door strike for proper shape.

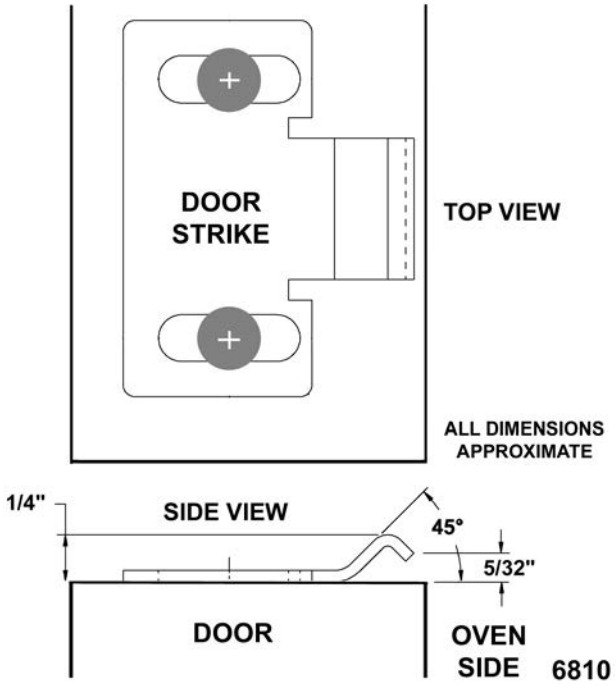



Fig. 85

   A. Replace if bent and adjust as outlined in this procedure.

3. Open and close the doors several times while observing the catch ball operation.

   A. Replace if malfunctioning and adjust as outlined in this procedure.

**NOTE:** Shims may be required under the door strike, before the proper door tension adjustment can be set.

4. Apply lubricant at the top of the door catch assembly to lubricate the internal spring.

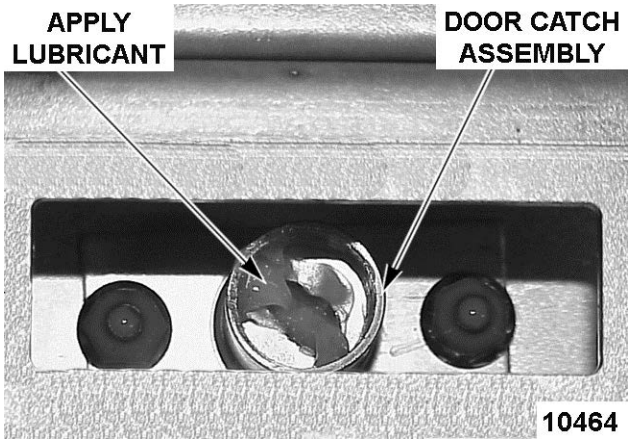



Fig. 86

5. Close the doors and check them for proper alignment.

   A. Doors should be centered and parallel at the top and bottom in the oven cavity opening as outlined under DOOR ADJUSTMENT.

6. Open right side door and view the left side catch ball and door strike position. Ensure catch ball is resting upon the angular surface of door strike. Repeat on opposite door.

**NOTE:** If catch ball is striking the flat surface on door strike, shims will be required under the door catch assembly.

**NOTE:** The catch ball should make contact near the center of door strike.

   A. If adjustment is necessary, loosen mounting screws then slide door strike from front to back until roller ball rests upon the angular surface of the door strike. Tighten screws and check operation.

   B. If proper adjustment cannot be achieved, add shims beneath the door strike. Repeat step 6.

**NOTE:** DO NOT BEND THE DOOR STRIKE.

7. Each oven door should open with a force of 8 to 25 pounds when pulled at the handle. The adjustment must allow the doors to remain closed during normal operation and allow opening without exertion by the user.

**NOTE:** The amount of tension on catch ball determines the opening force of door.

   A. Adjust catch ball tension as follows:

      1) Turn set screw inside the catch assembly housing *clockwise* to increase tension on catch ball and *counterclockwise* to decrease tension on catch ball.

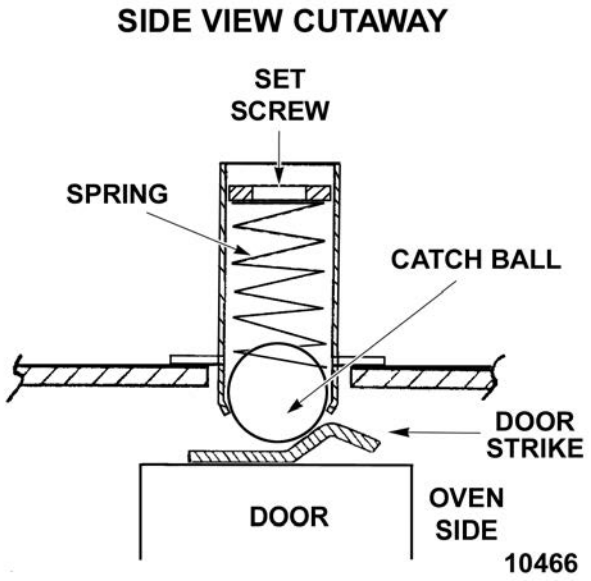



**Fig. 87**

      2) Continue adjustment until proper door operation is achieved.

## DOOR CHAIN ADJUSTMENT (SIMULTANEOUS DOORS)

**Introduction**

When the oven doors are in proper adjustment, as the doors come together, the right door will lead the left door in closing by about 1/4 inch. The doors will feel like they are self closing the last ½ inch of travel.

**Procedure**

1. Remove the lower sill cover as outline under COVERS AND PANELS in "REMOVAL AND REPLACEMENT OF PARTS".

2. Close doors and check door chain for factory setting.

   A. Turnbuckles should be 5 to 5 ½ inches apart.

   B. Short eye bolt should be connected to the end of the chain that goes to the front of the sprocket.

   C. 2 links of the chain should not be engaged at the rear of the sprocket.

   D. Chain must be tight enough that the doors move simultaneously when opened or closed.

   E. When the doors are opened, the turnbuckles will move away from each other.

   F. The stop cable must be positioned where it moves freely and does not get pinched.

3. Position door chain assembly to factory setting if the conditions in step 2 are not met.

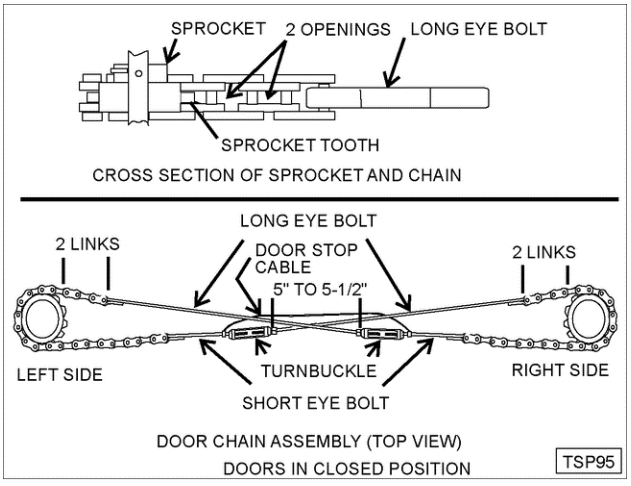



**Fig. 88**

4. If right door does not lead the left door in closing:

A. Loosen locknuts on both turnbuckles.

B. Loosen left turnbuckle.

C. Tighten right turnbuckle.

D. Tighten locknuts on both turnbuckles.

5. If the right door leads the left door by more than 3/8 inch:

A. Loosen locknuts on both turnbuckles.

B. Loosen right turnbuckle.

C. Tighten left turnbuckle.

D. Tighten locknuts on both turnbuckles.

6. Check door for proper operation.

**NOTE:** The locknuts must be tight during testing or the adjustment will not hold.

A. If doors do not close properly, repeat Step 4, 5 and 6.

B. If doors operate properly, continue to step 7.

7. Install the lower front cover.

## COMPUTER CONTROL (HGC5D/5DX)

**Operation**
Refer to the Instructions Manual for specific operating instructions.

**Setup Mode**
**NOTE:** Use the setup mode to **verify** that the control is configured to the factory settings which result in the proper operation of the oven. If the CAL1 parameter is other than zero, determine if it is still needed before resetting to zero. See COMPUTER CONTROL CALIBRATION (HGC5D/5DX).

**CAUTION**

Changing the C_F, InP1, rL1 & rH1 parameters will default **all** menus.

1. Use this key sequence to access the setup mode.

Up arrow; Rack 1; Temperature; Temperature; Down arrow; Rack 1

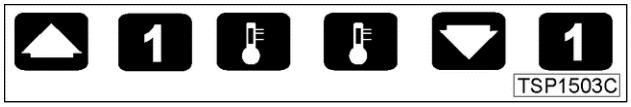



**Fig. 89**

2. Once in the setup mode the display will alternate between the parameter and programmed data.

- To change data to the factory setting, use the arrow keys.
- To select the next parameter, press the Rack 1 key.
- After the last Parameter and Data is viewed, press the Rack 1 key a final time to exit the setup mode and return to operations mode. The current set point temperature will be displayed.
- After 1 minute of no key activations, the control will return to operation mode.

3. Listed are the parameters and data you should find.

| MENU | ALTERNATING ON DISPLAY | |
|---|---|---|
| | PARAMETER | DATA |
| Celsius_Fahrenheit | C_F | F |
| Guard Band | gb | 4000 |
| Temperature Compensation | tcnP | OFF |
| Input Type 1 | InP1 | J |
| Range Low 1 | rL1 | 75 |
| Range High 1 | rH1 | 500 |
| Hysteresis | HYS1 | 3 |
| Calibration Offset | CAL1 | 0 |
| Exit Setup Mode and return to Operation Mode. | set point temperature is displayed or if call for heat, dashes (----) displayed. | |

**Probe Test**

1. Set the control to 350°F.
2. Access the back of the control panel to disconnect the probe lead wires.
3. Install a jumper wire across the probe terminals. This will simulate room temperature.

A. If the heat light comes on and the actual temperature is room temperature, replace the probe.

B. If the heat light does not come on or the actual temperature is not room temperature, replace the control.

**Solid State Relay Test**

1. Remove the RIGHT SIDE PANEL as outlined under COVERS AND PANELS.
2. Set the temperature to 350°F or high enough to keep the heat ON for several minutes.
3. Check for + 5 VDC on input side of SSR (terminals 3 & 4).

A. If + 5 VDC is present, continue to step 4.

B. If no voltage is present, computer control is not functioning properly.

4. Check for 120VAC at load side of SSR (terminals 1 & 2).
   A. If no voltage is present, solid state relay is not functioning properly.
      1) Replace the SSR and check for proper operation.
   B. If 120VAC is present, component is functioning properly.
5. Re-assemble oven and check for proper operation.

## COMPUTER CONTROL CALIBRATION (HGC5D/5DX)

1. Place a thermocouple in the geometric center of the oven cavity.
2. Press the set key then temperature key to enter the temperature set mode.
   A. The display will alternate between the term "StPt" (set point) and the current oven temperature setting.
   B. Press the up or down arrow keys to make the proper selection.
   C. Press the set key again to save the change and exit the temperature set mode.
3. Allow the oven temperature to stabilize (normally 3 cycles).
4. Set the ON-OFF-COOL DOWN switch to ON.
   A. If the set point temperature is 350°F, proceed to step 4.
   B. If the set point temperature is other than 350°F, proceed to step 3 to change the temperature.
5. Compare the controls set point temperature to the thermocouple meter reading when the heat light goes out.
   A. A temperature variance **more** than 5°F indicates an adjustment is needed.
      1) To make the adjustment, proceed to step 6.
      2) If temperature variance is **less** than 5°F, computer control is functioning properly.
6. Enter the setup mode as outlined in Setup Mode.
   A. Advance through the menu until CAL1 (Calibration Offset) appears.
      1) If the thermocouple reading is higher than set point temperature, press the down arrow key and enter a negative offset value that is equal to the number of degrees above the 5°F tolerance.
      2) If the thermocouple reading is lower than set point temperature, press the up arrow key and enter a positive offset value that is equal to the number of degrees below the 5°F tolerance.
      3) Exit the setup mode.
7. Allow the oven to cycle at least two times between adjustments.
   A. If the temperature variance still differs **more** than 5°F from the set point, verify the correct calibration offset value was entered and retained.
      1) Adjust the calibration offset value as outlined in step 6, until the cycling temperature is within tolerance.
   B. If the above adjustment cannot be obtained, replace the computer control and check for proper operation.

## FLAME SENSE CURRENT TEST


**⚠ WARNING**

**Disconnect the electrical power to the machine and follow lockout / tagout procedures.**

1. Remove screws securing right side of the top front cover, bottom front cover and control panel.
2. Remove right side panel mounting screws.

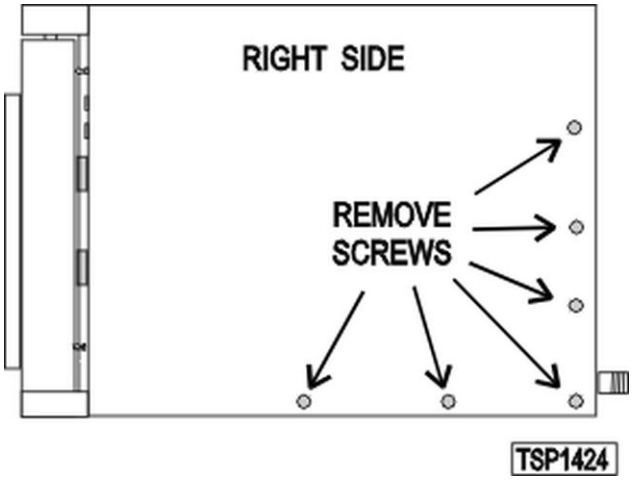



**Fig. 90**

3. Pull right side panel out from the bottom then down to remove.
4. Remove top screw and loosen bottom screw securing the ignition control module mounting bracket.

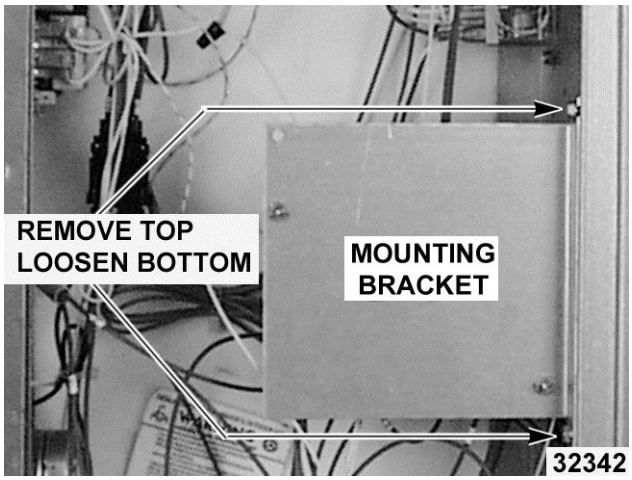



**Fig. 91**

5. Position bracket horizontally by pulling forward 90 degrees, with ignition module facing up for accessibility.
6. Re-apply power to unit.
7. Set VOM meter to read Micro Amps.
8. Place red (Positive) lead on FC+ and black (Negative) lead on FC- terminals on ignition module to test.

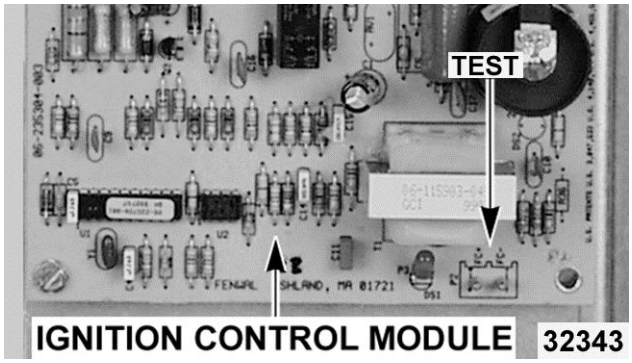



**Fig. 92**

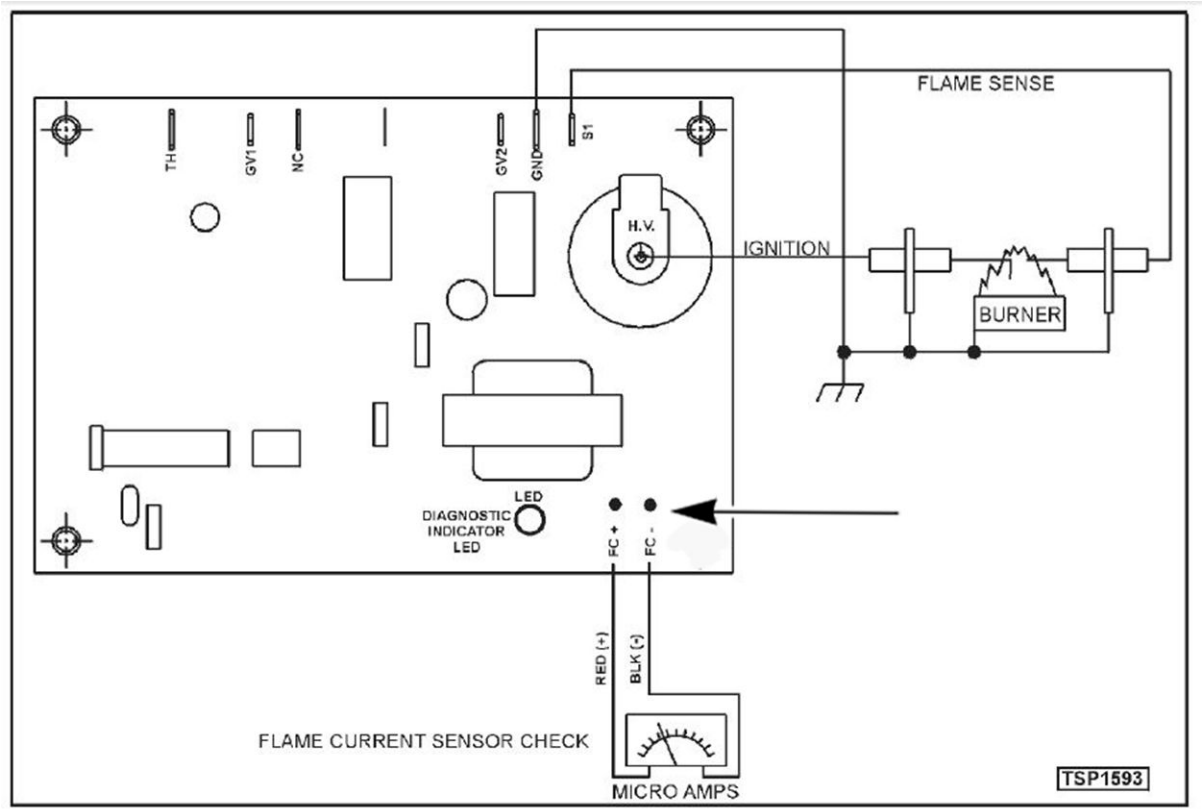



**Fig. 93**

9. Set the oven to call for heat and measure the Micro Amps reading.

   **NOTICE**

   Micro Amp reading from the flame sensor should measure a minimum of 0.7 Micro Amps to maintain burner ignition.

   - If Micro amp reading is correct and the burner lights but does not maintain flame, replace ignition module.
   - If Micro Amp reading is **NOT** correct, check wiring from flame sensor/igniter to the ignition module. If wiring is OK, adjust, clean or replace flame sensor/igniter.

10. Install ignition control module mounting bracket and right panel.
11. Verify operation.

# SERVICE PROGRAMMING AND TESTING

**NOTE:** Press X to go back to previous screen. User interface system menu program instructions for **MENU PRG** and **USB** are located in COMPUTER CONTROLS GUIDE.

**SYSTEM DIAGNOSTIC**

1. Press **Program**.

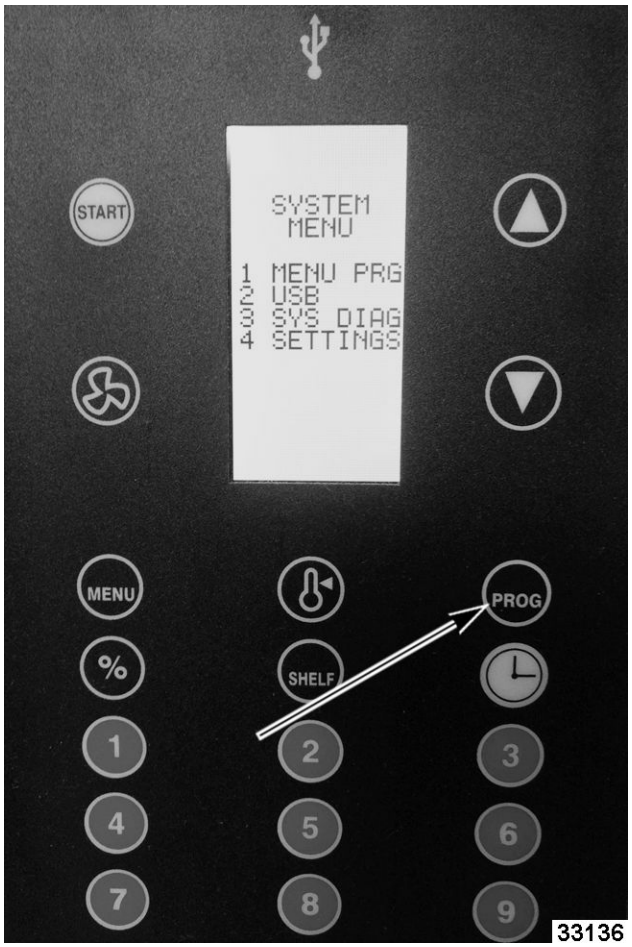



**Fig. 94**

2. Press number **3** for **SYS DIAG.**
    - System Diagnostic menu will appear.

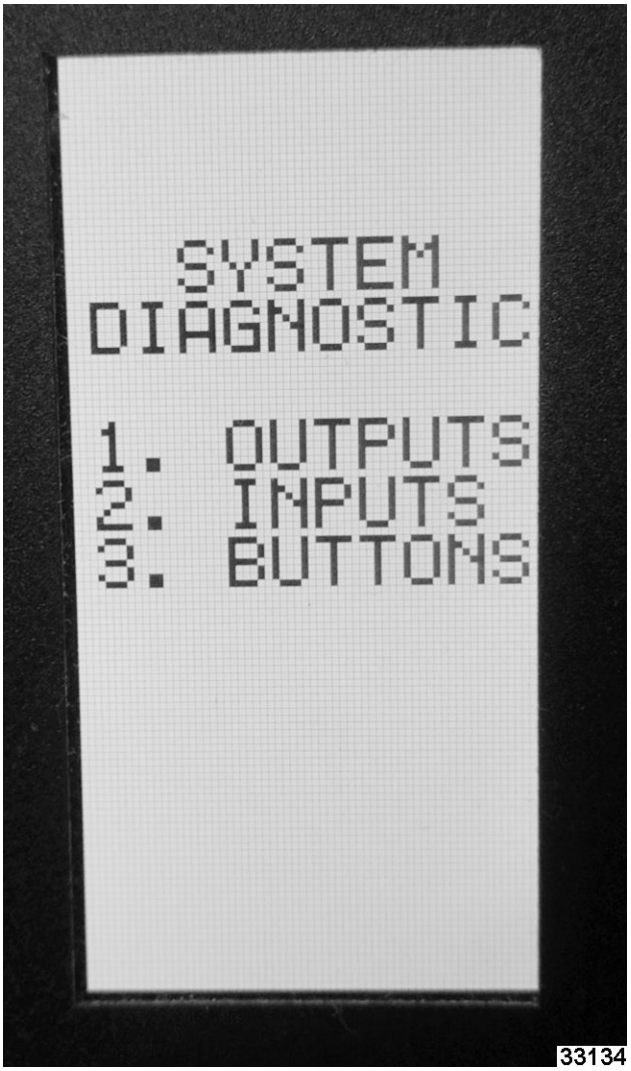



**Fig. 95**

- 1. **OUTPUTS**


**Fig. 96**

- Press corresponding number for testing function selection. Example: Press **1** to test Fan function.

- 2. **INPUTS**


**Fig. 97**

- Check status of a function. Example: Door is open or close.

- 3. **BUTTONS**

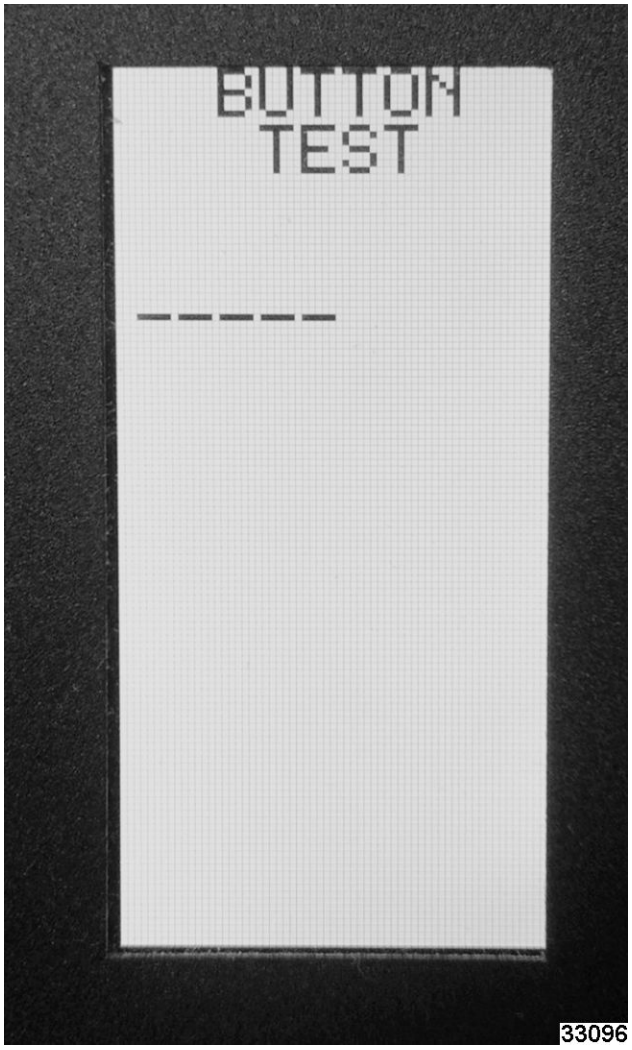



**Fig. 98**

- Button test verifies each button is programed and working. Example: Push a button on the keypad to verify it is connected and working. Each buttons function shows on display.

**SYSTEM SETTINGS**

1. Press **Program**.


**Fig. 99**

2. Press **4** for **SETTINGS**.
   - System Settings menu will appear.


**Fig. 100**

- Press corresponding number to change settings. Example: Press **4** to change **HEAT** to Electric.

**SETTING TEMPERATURE OFFSET**

- Check center of oven temperature with temperature tester.
- Press number **6**.
- Use arrow keys to offset **DISPLAY** temperature setting to match center of oven temperature.

# ELECTRICAL OPERATION

## COMPONENT FUNCTION

| | |
|---|---|
| **Power Switch (S1) . . . .** | Determines the mode of operation; ON, OFF, or COOL DOWN. |
| **Oven Light Switch (S2) . . . . . .** | Controls the oven cavity lights. |
| **Fan Speed Switch Hi/ Low (S3) . . . . . .** | Controls blower motor speed between Hi and Low settings. Available on standard models DGC5 or HGC5/5X. On models with the "Cook & Hold" option (S3) becomes the Function Switch. |
| **Function Switch (S3) . . . . . .** | Selects the cooking mode of the oven between "Cook" or "Cook & Hold" and is used in conjunction with the "Cook & Hold" timer during "Cook & Hold" cooking. The selected mode also determines the fixed blower speed of Hi for "Cook" and Low for "Cook & Hold". In "Cook & Hold" mode only, energizes the hold relay (R2). Available on models with "Cook & Hold" option only. On Standard models (S3) becomes the Function Switch. |
| **Alarm/Buzzer . . . . . .** | Signals the end of a "Cook" cycle (normal cooking) when cooking time expires. |
| **Cook Timer . . . . . .** | Counts the "Cook" time (normal cooking) of the product and signals the buzzer at the end of the cycle. On "Cook & Hold" models only, when the function switch (S3) is set to "Cook", this timer is used. |
| **Cook & Hold Timer . . .** | When the function switch (S3) is set to "Cook" & "Hold", this timer must used for "Cook & Hold" cooking. When the "Cook" (then hold) time expires and the function switch is set to "Cook & Hold", this timer is used to transfer control of the oven temperature to the Hold thermostat. Available on models with Cook & Hold option only. |
| **Door Switch . . . . . .** | Allows the oven to operate when the doors are closed but stops the oven from operating when the doors are opened. |
| **Blower Motor . . . . . .** | Operates the oven cavity blower (convection fan). Also, an internal centrifugal switch on the motor is utilized to allow the connection of power to the heat relay (R3) when the motor is at operating speed. |
| **Motor Speed Relay (R1) . . . . . .** | Supplies power to the blower motor through (R1) relay contacts. Available on models with Cook & Hold option only. |
| **Hold Relay (R2) . . . . . .** | Hold relay (R2) supplies power to the Hold thermostat for maintaining the fixed hold temperature in the oven cavity, after the "Cook & Hold" time expires. |
| **Transformer (T1) . . . . .** | Provides 24VAC power to the ignition control module and heating circuit. |
| **Solid State Temperature Control (HGC5/5X) . . . . . .** | Monitors temperature sensor and regulates the oven cavity temperature by controlling the heat relay (R3) through the blower motor centrifugal switch contacts. |
| **High Limit Thermostat . . . . . .** | Protects the oven from temperatures above 550°F by removing power from the 1st valve (safety) on the dual solenoid gas valve which stops the flow of gas to the burner. Auto resets at 500°F. |
| **Computer Control (HGC5D/5DX) . . . . . .** | Monitors temperature sensor and regulates the oven cavity temperature by controlling the heat relay (R1) through the blower motor centrifugal switch contacts. Also, counts the "Cook" time (normal cooking) of the product and signals the electronic alarm at the end of the cycle. If "Cook" & "Hold" mode is selected, when the "Cook" (then hold) time expires, the oven heating stops and the oven enters "Hold" mode. Once the oven cavity temperature drops to 150°F, the heat comes back on and the oven cycles at this temperature to hold the cooked product. Cook & Hold is standard on computer models. |

**SSR1 & SSR2 (HGC5D/5DX) . . . . . .** When SSR1 is energized by computer control, connects power to blower motor for Hi fan speed operation in normal "Cook" mode. In "Cook & Hold" Mode only, SSR1 is de-energized and SSR2 is energized by computer control and connects power to blower motor for Low fan speed operation.

**Ignition Control Module . . . . . .** Controls the gas ignition cycle - Energizes the 2nd valve (main) on the dual solenoid gas valve, generates spark for burner ignition, monitors the presence of a flame and controls the No Ignition light. The ignition times are: 4 second self diagnostic test (initial power ON); 7 second ignition trial; 3 ignition trials with a 15 second purge between each trial.

**Igniter/Flame Sense . . . . . .** Ignites the gas and senses the presence of a flame. The flame presence generates a micro-amp "flame sense" current that is monitored by the ignition control module. A flame sense current of 0.7 micro amp (minimum) is required to maintain burner ignition.

**Gas Valve (Dual Solenoid) . . . . . .** Allows gas flow to the burner when the 1st valve (safety) and 2nd valve (main) solenoid coils are both energized.

**Power On Light . . . . . .** Lit whenever the power switch (S1) is turned to ON or Cool Down mode.

**Heat Light . . . . . .** Lit whenever temperature control is calling for heat.

**No Ignition Light . . . . . .** Lit when power is turned ON, during ignition trial & gas purge time and when no flame is detected by flame sensor. If the oven fails to ignite after 3 attempts, it will remain lit until power is reset.

**Temperature Probe . . .** Senses the oven temperature for the solid state temperature control or the computer control. On HGC5/5X models, converts the temperature into a resistance valve which is monitored by the temperature control board. The probe is an RTD (resistance temperature detector) of the Thermistor type. As temperature increases the resistance value decreases. On HGC5D/5DX models, the probe is a "J" type thermocouple.

**Mechanical Temperature Control KX thermostat (DGC5) . . . . . .** Regulates the oven cavity temperature by controlling the heat relay (R3) through the blower motor centrifugal switch contacts. On "Cook & Hold" models only, power is first connected through one set of (R4) normally closed contacts (N.C.) then through the centrifugal switch contacts on the motor.

**Hold Thermostat (KX) . . . . . .** Holds the oven cavity temperature at 160°F after "Cook" (then hold) time expires. For the oven to operate on the Hold thermostat, the "Cook & Hold" timer must be used and the Function Switch (S3) must be set to. Available on models with Cook & Hold option only.

**Cooling Fan . . . . . .** Circulates cooler air from rear of oven forward to cool components in the control area.

## COMPONENT LOCATION

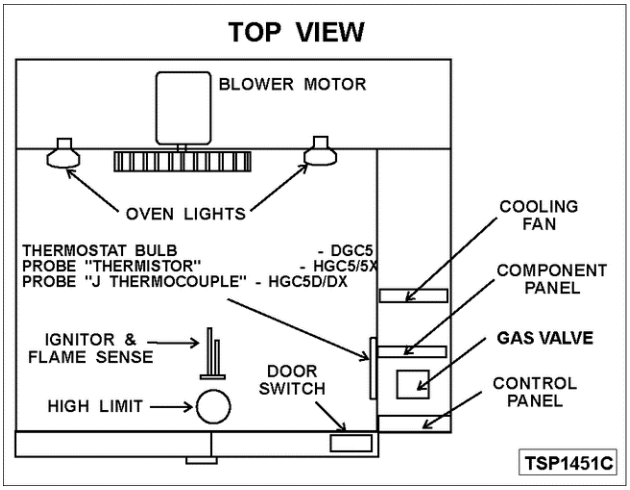



**Fig. 101**

**DGC5 - Plug, Socket and Components (Standard Controls)**

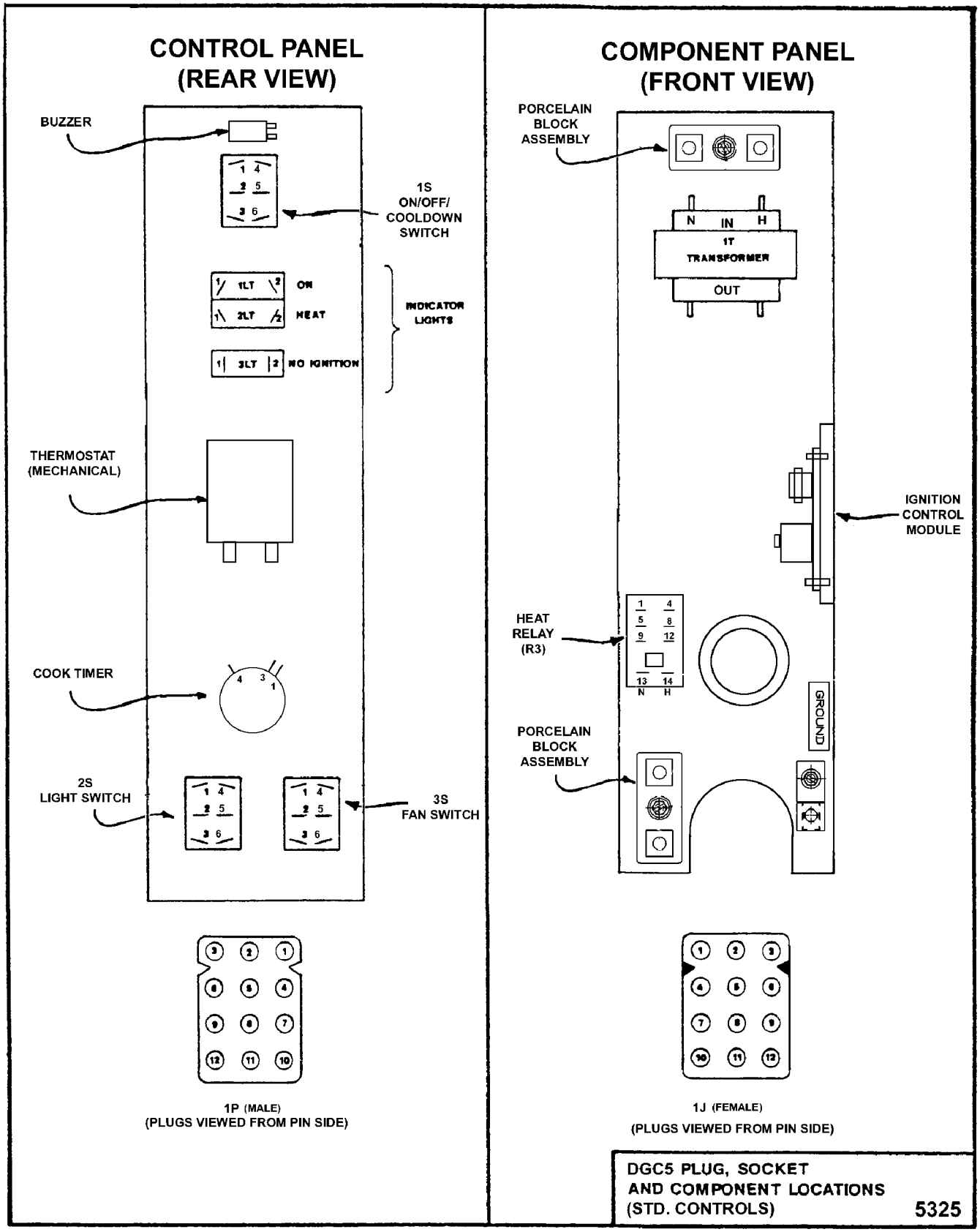



**Fig. 102**

**HGC5/5X - Plug, Socket and Components**
**(Standard Controls)**

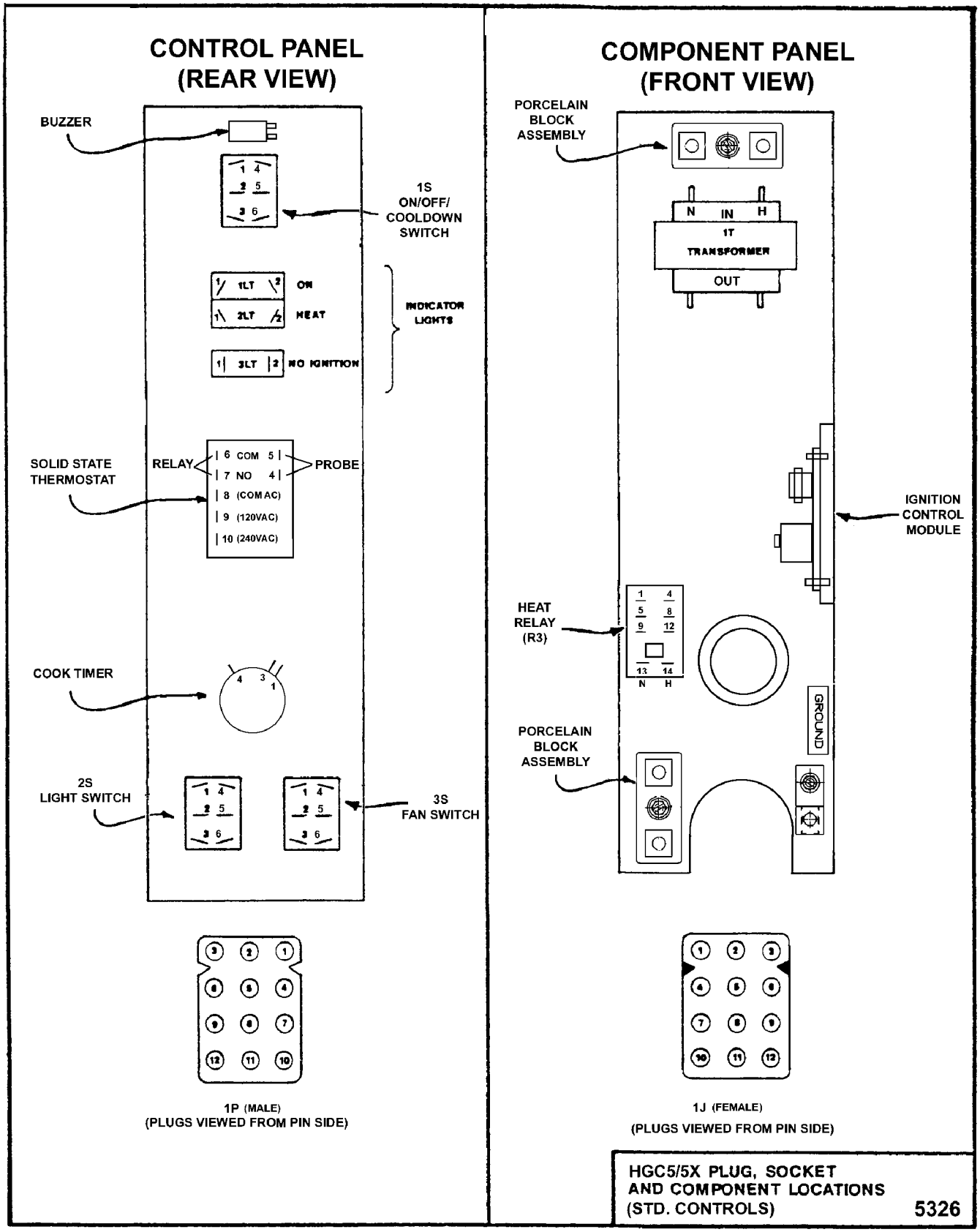



**Fig. 103**

**DGC5, HGC5/5X - Plug, Socket and Components (Cook & Hold Option)**

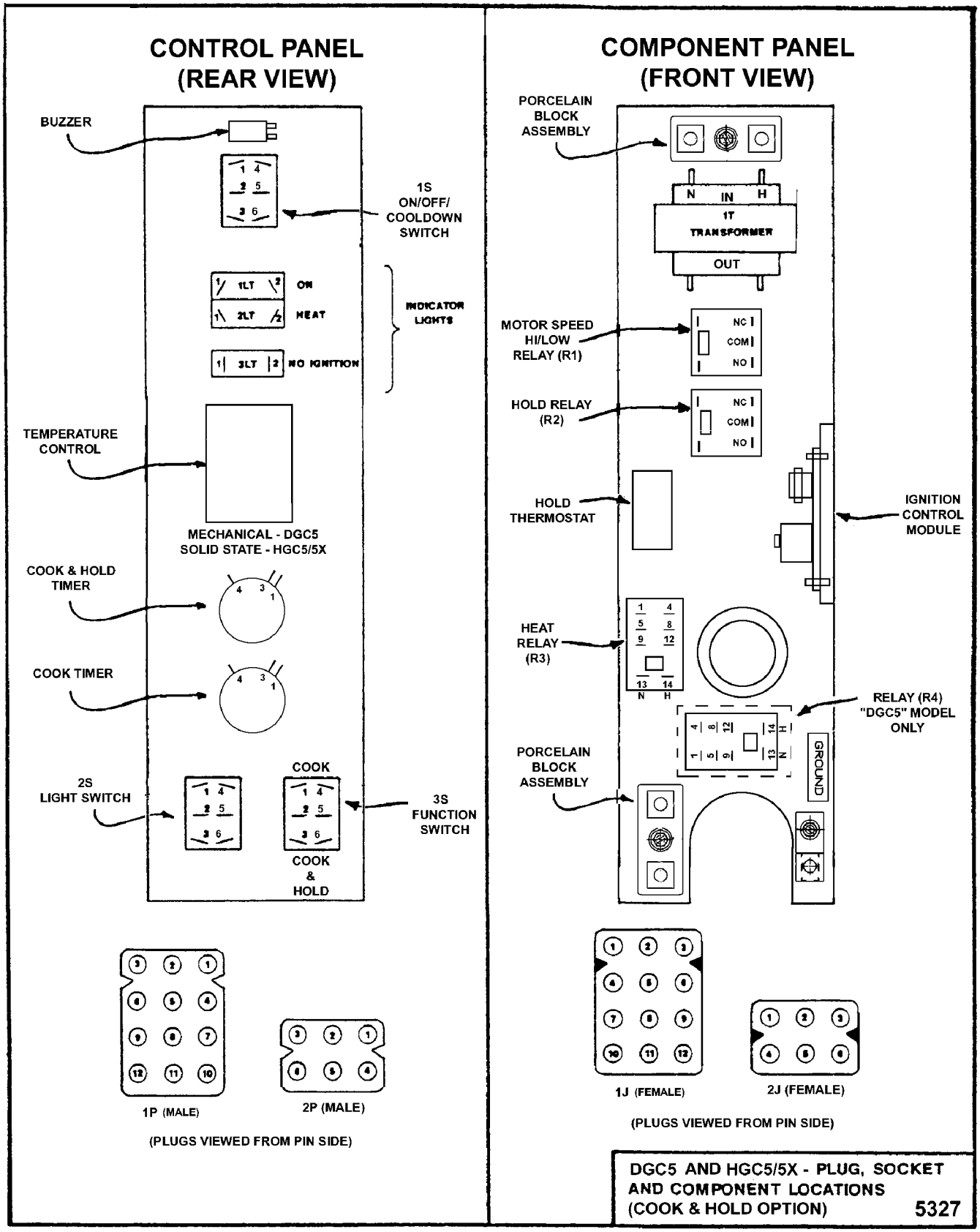



**Fig. 104**

**HGC5D/5XD - Plug, Socket and Components**
**(Cook & Hold Standard)**

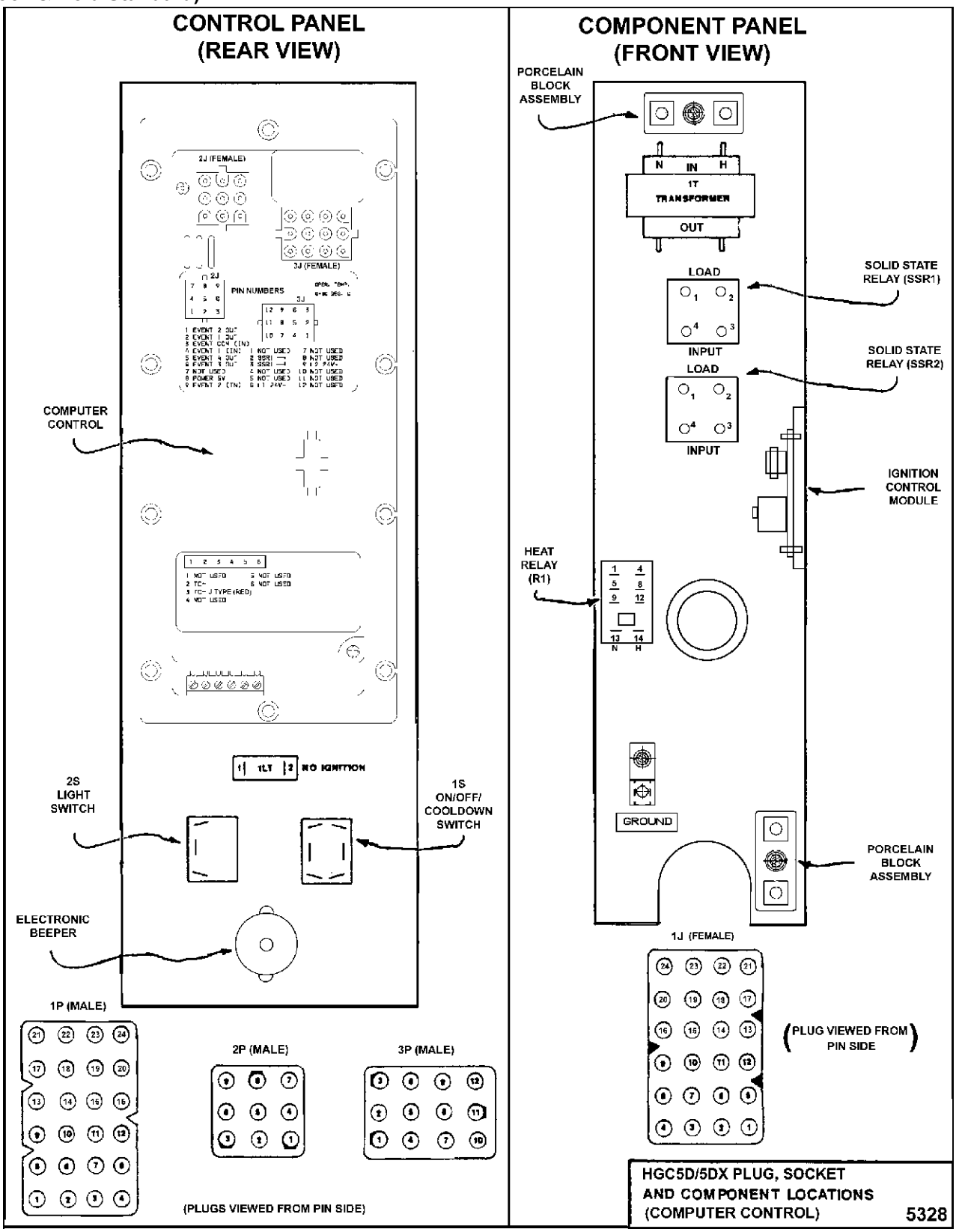
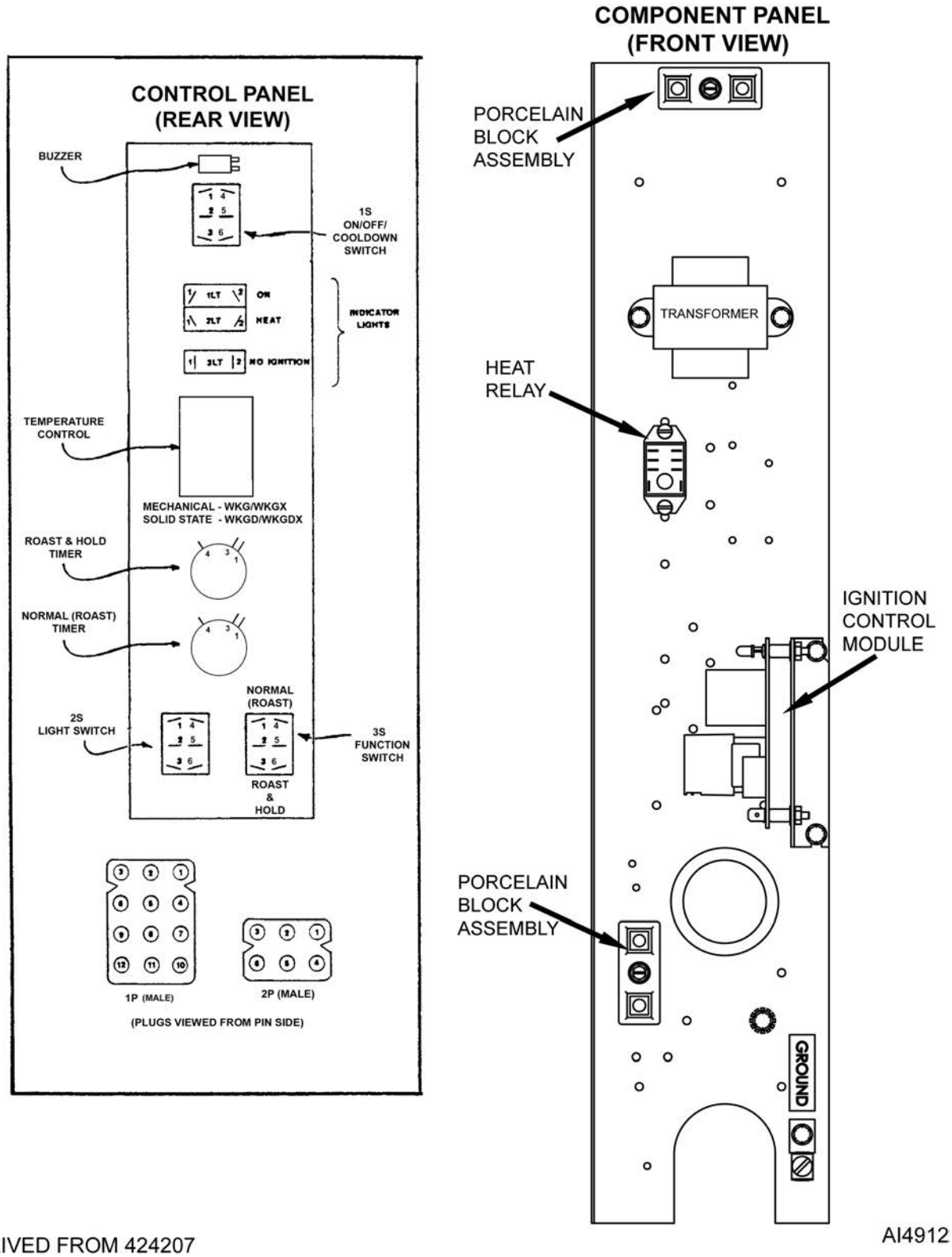



**Fig. 105**

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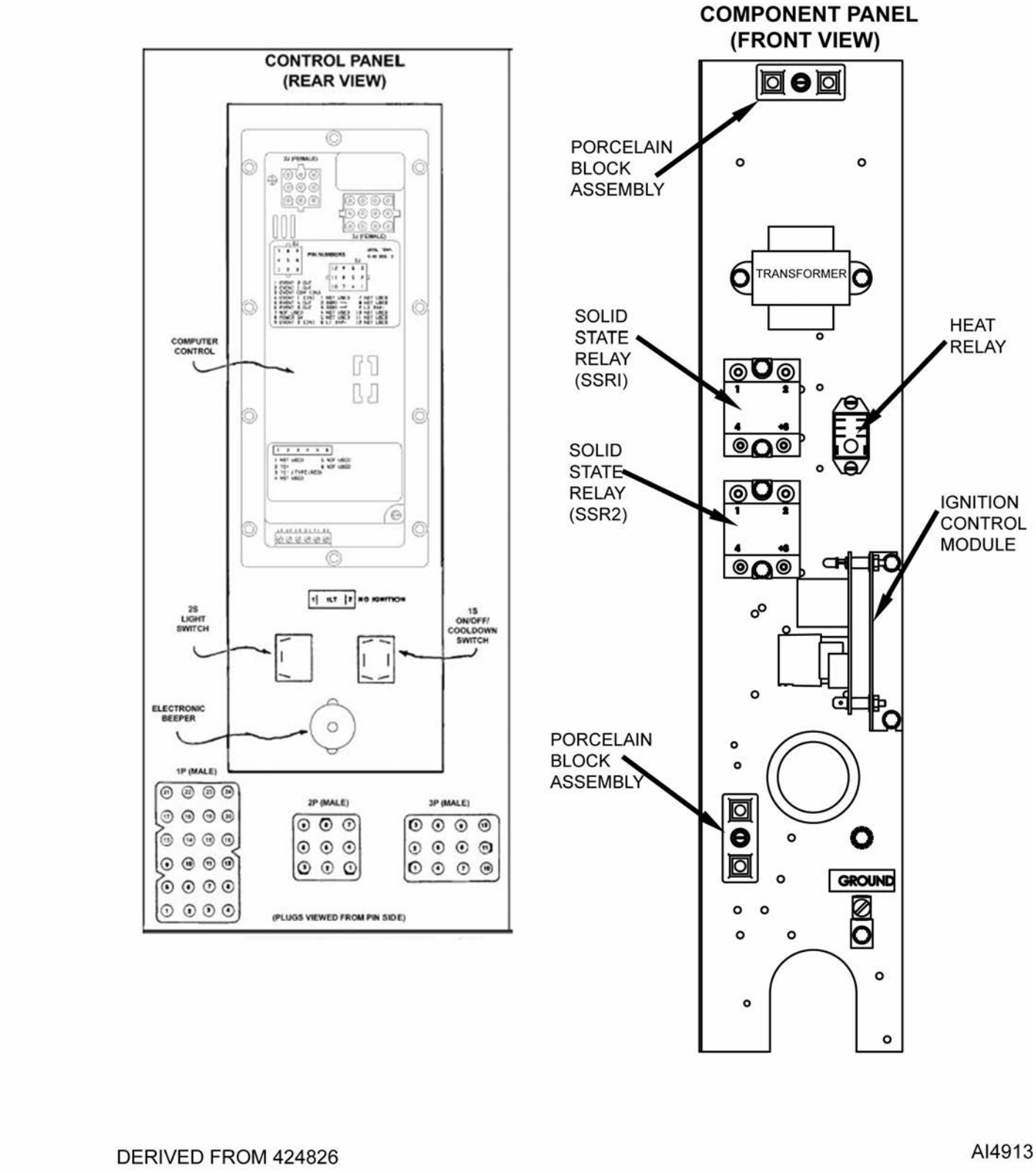
**STARTING AT SERIAL NUMBER 481914000 - STANDARD CONTROLS**

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**STARTING AT SERIAL NUMBER 481914000 - COMPUTER CONTROLS**

# SEQUENCE OF OPERATION

**DGC5 With Cook & Hold Option (Mechanical KX Thermostat)**

Schematic diagram DGC5 Mechanical (KX) Controls, Cook & Hold Option will be used to explain the electrical sequence of operation for both the "Cook" cycle (normal cooking) and the "Cook and Hold" cycle.

**"Cook" Cycle**

1. Conditions.
   - A. Oven connected to correct voltage.
     - 1) L1 (HOT) to power switch (S1).
     - 2) L2 (NEUTRAL or SECOND LINE) to one side of the following components: power ON light, heat light, oven cavity lights, buzzer, "Cook" timer motor (normal cooking), "Cook & Hold" timer motor, heat relay coil (R3), convection fan motor common (C), transformer primary (T1), relay coil (R4), motor speed (Hi/Low) relay coil (R1), hold relay coil (R2) and the component cooling fan.
   - B. Oven properly grounded.
   - C. Gas supply valve ON.
   - D. Gas combination control valve ON.
   - E. Power switch (S1) OFF.
   - F. Function switch (S3) set to "Cook" cycle.
   - G. Oven light switch (S2) ON/OFF (position has no affect on the function of the "Cook" cycle).
   - H. Control thermostat dial in the OFF position (OPEN).
   - I. High limit switch CLOSED.
   - J. Cook timer (normal cooking) in the OFF position.
   - K. Cook and Hold timer in the OFF position.
   - L. Oven doors CLOSED.
     - 1) Door switch contacts CLOSED.
   - M. Oven cavity temperature below 140°F.
2. Set thermostat to desired "Cook" temperature (normal cooking).
   - A. Internal contacts close.
3. Power switch (S1) turned ON.
   - A. Power to motor speed (Hi/Low) relay (R1) normally open (N.O.) contacts and hold relay (R2) common (C).
   - B. Component cooling fan energized.
   - C. Power ON light (Amber) comes ON.
   - D. Power to one side of the following components: "Cook" timer terminal 1, "Cook & Hold" timer terminal 1, transformer primary (T1).

**NOTE:** Power is available to the oven light switch (wire #20) to turn the oven cavity lights ON when the light switch is turned ON; and power is available to the normally open N.O. side (wire #28) of the door switch contacts and connects power to additional components when the door switch contacts are CLOSED (door closed).

- 1) Transformer (T1) energized.
  - a. Power (24VAC) to one side of the following components: heat relay (R3) normally open (N.O.) contacts, high limit --- connected through the normally closed (N.C.) contacts to the 1st valve (safety) on the dual solenoid gas valve.
    - a) 1st valve (safety) on the gas valve energized.

**NOTE:** Gas does not flow to the burner until the 2nd valve (main) is energized.

- 2) With door switch closed, power is connected back through a second set of contacts on the power switch (S1), through the thermostat contacts, through one set of relay R4 normally closed (N.C.) contacts, to one side of the centrifugal switch on the convection fan motor.
  - a. Heat light (clear) comes ON.
- 3) Power is also connected through the other set of relay R4 normally closed (N.C.) contacts to the other side of motor speed relay (R1).
  - a. Motor speed relay (R1) energized, contacts change state and the normally open (N.O.) set of contacts close.

a) Power is connected through the function switch (S3) contacts and the convection fan motor is energized (fan speed Hi).

b. When the convection fan motor reaches operating speed, the centrifugal switch on the motor closes. The heat relay (R3) is then energized, R3 relay contacts normally open (N.O.) close and the heating circuit is powered.

a) Ignition control module is energized.

b) No ignition light (red) comes ON, module performs a self diagnostic test for 4 seconds, 2nd valve (main) on the gas valve is energized. Gas starts to flow to the burner, sparking begins, the "no ignition" light goes out and burner lights. Sparking continues for up to 7 seconds or until a flame is established. If a flame is "sensed", the "no ignition" light stays out and burner remains lit.

If a flame is not "sensed" after 7 seconds of sparking, the "no ignition" light comes back on, 2nd valve (main) on the gas valve is de-energized and gas flow to the burner stops. Ignition trial cycle repeats after a 15 second purge between cycles for two additional tries before locking out. To reset after a lockout, turn power switch (S1) OFF then ON.

4. Oven reaches set temperature and thermostat opens.

A. Heat light goes out.

B. Power removed from heat relay (R3).

1) R3 normally open (N.O.) contacts open.

a. Power removed from 2nd valve (main) on the gas valve and gas flow to the burner stops.

5. The oven will continue to cycle on the thermostat until the doors are opened or the power switch (S1) is turned to the OFF or COOL DOWN position.

**Timer Cycle (Cooking)**

**NOTE:** The "Cook" timer (normal cooking) operates independently of the heating cycle. Additional time can be set or the timer can be turned OFF throughout the cooking cycle.

1. With the power switch turned ON, power is supplied to timer.

2. Set "Cook" timer to desired time (normal cooking).

A. Contacts 1 & 3 close, timer motor is energized and timing "down" begins.

3. Time expires on "Cook" timer (normal cooking).

A. Contacts 1 & 3 open, timer motor is de-energized and timing stops.

B. Contacts 1 & 4 close.

1) Buzzer energized and sounds.

**NOTE:** The buzzer continues to sound until the timer dial is set to the OFF position or additional time is set.

**Cook and Hold Cycle**

**NOTE:** Refer to the Installation and Operation Manual for a detailed explanation of "Cook & Hold" cooking.

1. Conditions.

A. Oven connected to correct voltage.

1) L1 (HOT) to power switch (S1).

2) L2 (NEUTRAL or SECOND LINE) to one side of the following components: power ON light, heat light, oven cavity lights, buzzer, "Cook" timer motor (normal cooking), "Cook & Hold" timer motor, heat relay coil (R3), convection fan motor(C), transformer primary (T1), relay coil (R4), motor speed relay coil (R1), hold relay coil (R2) and the component cooling fan.

B. Oven properly grounded.

C. Gas supply valve ON.

D. Gas combination control valve ON.

E. Power switch (S1) OFF.

F. Function switch (S3) set to "Cook & Hold" cycle.

G. Oven light switch (S2) ON/OFF (position has no affect on the function of the Cook & Hold cycle).

H. Control thermostat in the OFF position (OPEN).

I. High limit switch CLOSED.

J. Cook timer (normal cooking) in the OFF position.

K. Cook and Hold timer in the OFF position.

L. Oven doors Closed.

1) Door switch contacts CLOSED.

M. Oven cavity temperature below 140°F.

2. Set controlling thermostat to desired "Cook" then Hold temperature (Cook & Hold cooking).

**NOTE:** This is considered first stage cooking in the "Cook and Hold" cycle.

A. Internal contacts close.

3. Power switch (S1) turned ON.

A. Power to motor speed (Hi/Low) relay (R1) normally open (N.O.) contacts and hold relay (R2) common(C).

B. Component cooling fan energized.

C. Power ON light (Amber) comes ON.

D. Power to one side of the following components: "Cook" timer terminal 1, "Cook & Hold" timer terminal 1, transformer primary (T1).

**NOTE:** Power is available to the oven light switch (wire #20) to turn the oven cavity lights ON when the light switch is turned ON; and power is available to the normally open N.O. side (wire #28) of the door switch contacts and connects power to additional components when the door switch contacts are CLOSED (door closed).

1) Transformer (T1) energized.

a. Power (24VAC) to one side of the following components: heat relay (R3) normally open (N.O.) contacts, high limit—connected through the normally closed (N.C.) contacts to the 1st valve (safety) on the dual solenoid gas valve.

a) 1st valve (safety) on the gas valve energized.

**NOTE:** 1st valve (safety) on the gas valve energized.

2) With door switch closed, power is connected through a second set of contacts on the power switch (S1), through the thermostat contacts, through one set of relay R4 normally closed (N.C.) contacts, to one side of the centrifugal switch on the convection fan motor.

a. Heat light (clear) comes ON

3) Power is also connected through the another set of relay R4 normally closed (N.C.) contacts to the other side of motor speed relay (R1).

a. Motor speed relay (R1) energized, contacts change state and the normally open (N.O.) set of contacts close.

a) Convection fan motor energized (fan speed low).

**NOTE:** In the "Cook & Hold" cycle, the fan speed is fixed at low

b) When the convection fan motor reaches operating speed, the centrifugal switch on the motor closes. The heat relay (R3) is then energized, R3 relay contacts normally open (N.O.) close and the heating circuit is powered.

1. Ignition control module is energized.

2. No ignition light (red) comes ON, module performs a self diagnostic test for 4 seconds, 2nd valve (main) on the gas valve is energized. Gas starts to flow to the burner, sparking begins, the "no ignition" light goes out and burner lights. Sparking continues for up to 7 seconds or until a flame is established. If a flame is "sensed", the "no ignition" light stays out and burner remains lit.

If a flame is not "sensed" after 7 seconds of sparking, the "no ignition" light comes back on, 2nd valve (main) on the gas valve is de-energized and gas flow to the burner stops. Ignition trial cycle repeats after a 15 second purge between cycles for two additional tries before locking out. To reset after a lockout, turn power switch (S1) OFF then ON.

4. Oven reaches set temperature and controlling thermostat opens.
   A. Heat light goes out.
   B. Power removed from heat relay (R3).
      1) R3 normally open (N.O.) contacts open.
         a. Ignition control module de-energized.
            a) Power removed from 2nd valve (main) on the gas valve and gas flow to the burner stops.

**NOTE:** This is considered first stage cooking in the "Cook and Hold" cycle.

5. The oven will continue to cycle on the controlling thermostat until one of the following occurs: "Cook & Hold" time R & H cooking) expires which allows the oven to go into Hold mode; Power switch (S1) is turned to the OFF or COOL DOWN position or the doors are opened.

**Timer Cycle ("Cook & Hold" Cooking)**
**NOTE:** The "Cook & Hold" timer operates independently of the heating cycle until time expires. Regulation of the oven temperature is then transferred to the Hold thermostat until one of the following occurs: "Cook & Hold" timer is turned OFF and the function switch (S3) is turned back to "Cook" (normal cooking) or power switch (S1) is turned to the OFF or COOL DOWN position.

1. With the power switch turned ON, power is supplied to timer.
2. Set "Cook & Hold" timer to desired time (Cook & Hold cooking).

**NOTE:** To Cook then Hold the cooked product at a fixed temperature, the Cook & Hold timer must be used and the function switch (S3) must also be set to Cook & Hold as indicated under step1 conditions for the Cook & Hold cycle.

   A. Contacts 1 & 3 close, timer motor is energized and timing "down" begins.

3. Time expires on Cook & Hold timer.
   A. Contacts 1 & 3 open, timer motor is de-energized and timing stops.
   B. Contacts 1 & 4 close.
      1) If the oven was heating, then the gas burner and heat light go out; If the oven was not heating, then the gas burner and heat light remain out.
      2) Hold relay (R2) is energized, R2 contacts change state and the normally open (N.O.) contacts close.
         a. Power to one side of hold thermostat.

**NOTE:** When temperature is above 160°F (±12) the hold thermostat contacts are open.

      3) Relay R4 is energized, R4 contacts change state and both sets of normally closed (N.C.) contacts transfer to the normally open (N.O.) position. Power is not transferred until the hold thermostat contacts close.

**NOTE:** This is considered second stage cooking in the "Cook and Hold" cycle where the stored heat in the oven continues to cook the product.

4. Oven temperature falls below 160°F (±12) and hold thermostat contacts close.
   A. Heat light comes ON.
   B. Motor speed relay (R1) is energized through one set of R4 (N.C.) contacts.
      1) Convection fan motor energized (fan speed low).
   C. Power is applied to one side of the centrifugal switch on the convection fan motor through the other set of R4 (N.C.) contacts.
   D. When the convection fan motor reaches operating speed, the centrifugal switch on the motor closes.
      1) Heat relay (R3) is energized.

a. Heat relay (R3) contacts (N.O.) close and the heating circuit is powered.

a) Ignition control module is energized.

b) No ignition light (red) comes ON, module performs a self diagnostic test for 4 seconds, 2nd valve (main) on the gas valve is energized. Gas starts to flow to the burner, sparking begins, the "no ignition" light goes out and burner lights. Sparking continues for up to 7 seconds or until a flame is established. If a flame is "sensed", the "no ignition" light stays out and burner remains lit.

If a flame is not "sensed" after 7 seconds of sparking, the "no ignition" light comes back on, 2nd valve (main) on the gas valve is de-energized and gas flow to the burner stops. Ignition trial cycle repeats after a 15 second purge between cycles for two additional tries before locking out. To reset after a lockout, turn power switch (S1) OFF then ON.

2) Oven reaches the fixed "Hold" temperature and the hold thermostat opens.

a. Heat light goes out.

b. Power removed from heat relay (R3) and the contacts open (N.O.).

a) Ignition control module de-energized.

1. Power removed from 2nd valve (main) on the gas valve and gas flow to the burner stops.

c. Power is also removed from motor speed relay (R1).

a) Convection fan motor de-energized and fan stops rotating.

5. The oven will continue to cycle on the hold thermostat until the "Cook & Hold timer is turned to the OFF position, the function switch (S3) is changed back to "Cook" (normal cooking) or the power switch (S1) is turned to the OFF or COOL DOWN position.

**HGC5, HGC5X With Cook & Hold Option (Solid State Temperature Control)**

Schematic diagram Fig. 111 will be used to explain the electrical sequence of operation for both the "Cook" cycle (normal cooking) and the "Cook and Hold" cycle.

**Cook Cycle**

1. Conditions.

A. Oven connected to correct voltage.

1) L1 (HOT) to power switch (S1).

2) L2 (NEUTRAL or SECOND LINE) to one side of the following components: power ON light, heat light, temperature control board terminal 9 (120VAC) or terminal 10 (208- 240VAC), oven cavity lights, buzzer, "Cook" timer motor (normal cooking), "Cook & Hold" timer motor, heat relay coil (R3), convection fan motor common(C), transformer primary (T1), motor speed (Hi/Low) relay coil (R1), hold relay coil (R2) and the component cooling fan.

B. Oven properly grounded.

C. Gas supply valve ON.

D. Gas combination control valve ON.

E. Power switch (S1) OFF.

F. Function switch (S3) set to "Cook" cycle.

G. Oven light switch (S2) ON/OFF (position has no affect on the function of the "Cook" cycle).

H. Temperature control dial set to lowest temperature (fully counterclockwise).

I. High limit switch CLOSED.

J. Cook timer (normal cooking) in the OFF position.

K. Cook and Hold timer in the OFF position.

L. Oven doors Closed.

1) Door switch contacts CLOSED.

M. Oven cavity temperature below 140°F.

2. Set temperature control dial to desired "Cook" then "Hold" temperature (Cook & Hold cooking).

3. Power switch (S1) turned ON.
   A. Component cooling fan energized.
   B. Power ON light (Amber) comes ON.
   C. Power to one side of the following components: "Cook" timer terminal 1, "Cook & Hold" timer terminal 1, transformer primary (T1).

**NOTE:** Power is available to the oven light switch (wire #20) to turn the oven cavity lights ON when the light switch is turned ON; and power is available to the normally open N.O. side (wire #28) of the door switch contacts and connects power to additional components when the door switch contacts are CLOSED (door closed).

1) Transformer (T1) energized.
   a. Power (24VAC) to one side of the following components: heat relay (R3) normally open (N.O.) contacts, high limit --- connected through the normally closed (N.C.) contacts to the 1st valve (safety) on the dual solenoid gas valve.
      a) 1st valve (safety) on the gas valve energized.

**NOTE:** Gas does not flow to the burner until the 2nd valve (main) is energized.

2) With door switch closed, power is applied to motor speed (Hi/Low) relay (R1) normally open (N.O.) contacts and hold relay (R2) common(C).
   a. Motor speed relay (R1) is energized through hold relay (R2) normally closed contacts (N.C.). Relay contacts (R1) change state and the normally open (N.O.) set of contacts close.
      a) Power is connected through the function switch (S3) contacts and convection fan motor is energized (fan speed hi).
      b) When the convection fan motor reaches operating speed, the centrifugal switch (N.O.) on the motor closes.
      c) Power to normally open (N.O.) side of internal relay contacts (terminal 7) on the temperature control board.

3) Power is also connected back through a second set of contacts on the power switch (S1) to terminal 8 on the temperature control board.
   a. Solid state temperature control energized. If the oven temperature is below set point, the temperature control will energize its internal relay. The normally open (N.O.) contacts close and apply power to the following components:
      a) Heat light (clear) comes ON.
      b) Power is connected through the centrifugal switch contacts on the convection fan motor, heat relay (R3) is energized, (R3) contacts (N.O.) close and the heating circuit is powered.
      c) Ignition control module is energized.
      d) No ignition light (red) comes ON, module performs a self diagnostic test for 4 seconds, 2nd valve (main) on the gas valve is energized. Gas starts to flow to the burner, sparking begins, the "no ignition" light goes out and burner lights. Sparking continues for up to 7 seconds or until a flame is established. If a flame is "sensed", the "no ignition" light stays out and burner remains lit. If a flame is <u>not</u> "sensed" after 7 seconds of sparking, the "no ignition" light comes back on, 2nd valve (main) on the gas valve is de-energized and gas flow to the burner stops. Ignition trial cycle repeats after a 15 second purge between cycles for two additional tries before locking out. To reset after a lockout, turn power switch (S1) OFF then ON.

4. Oven reaches set temperature.
   A. Temperature control de-energizes internal relay and the normally open (N.O.) contacts OPEN.

1) Heat light goes out.

2) Power removed from heat relay (R3).

a. R3 normally open (N.O.) contacts OPEN.

a) Power removed from 2nd valve (main) on the gas valve and gas flow to the burner stops.

5. The oven will continue to cycle on the temperature control until the doors are opened or power switch (S1) is turned to the OFF or COOL DOWN position.

**Timer Cycle (Cooking)**
**NOTE:** The "Cook" timer (normal cooking) operates independently of the heating cycle. Additional time can be set or the timer can be turned OFF throughout the cooking cycle.

1. With the power switch turned ON, power is supplied to timer.

A. Set "Cook" timer to desired time (normal cooking).

B. Contacts 1 & 3 close, timer motor is energized and timing "down" begins

2. Time expires on "Cook" timer (normal cooking).

A. Contacts 1 & 3 open, timer motor is de-energized and timing stops.

B. Contacts 1 & 4 close.

1) Buzzer energized and sounds.

**NOTE:** The buzzer continues to sound until the timer dial is set to the OFF position or additional time is set.

**Cook and Hold Cycle**
**NOTE:** Refer to the Installation and Operation Manual for a detailed explanation of "Cook & Hold" cooking.

1. Conditions.

A. Oven connected to correct voltage.

1) L1 (HOT) to power switch (S1).

2) L2 (NEUTRAL or SECOND LINE) to one side of the following components: power ON light, heat light, temperature control board terminal 9 (120VAC) or terminal 10 (208- 240VAC), oven cavity lights, buzzer, "Cook" timer motor (normal cooking), "Cook & Hold" timer motor, heat relay coil (R3), convection fan motor common(C), transformer primary (T1), motor speed (Hi/Low) relay coil (R1), hold relay coil (R2) and the component cooling fan.

B. Oven properly grounded.

C. Gas supply valve ON.

D. Gas combination control valve ON.

E. Power switch (S1) OFF.

F. Function switch (S3) set to "Cook & Hold" cycle.

G. Oven light switch (S2) ON/OFF (position has no affect on the function of the "Cook & Hold" cycle).

H. Temperature control dial set to lowest temperature (fully counterclockwise).

I. High limit switch CLOSED.

J. Cook timer (normal cooking) in the OFF position.

K. Cook and Hold timer in the OFF position.

L. Oven doors Closed.

1) Door switch contacts CLOSED.

M. Oven cavity temperature below 140°F.

2. Set temperature control dial to desired "Cook" then Hold temperature (Cook & Hold cooking).

3. Power switch (S1) turned ON.

A. Component cooling fan energized.

B. Power ON light (Amber) comes ON.

C. Power to one side of the following components: "Cook" timer terminal 1, "Cook & Hold" timer terminal 1, transformer primary (T1).

**NOTE:** Power is available to the oven light switch (wire #20) to turn the oven cavity lights ON when the light switch is turned ON; and power is available to the normally open N.O. side (wire #28) of the door switch contacts and connects power to additional components when the door switch contacts are CLOSED (door closed).

1) Transformer (T1) energized.

a. Power (24VAC) to one side of the following components: heat relay (R3) normally open (N.O.) contacts, high limit --- connected through the normally closed (N.C.) contacts to the 1st valve (safety) on the dual solenoid gas valve.

a) 1st valve (safety) on the gas valve energized.

**NOTE:** Gas does not flow to the burner until the 2nd valve (main) is energized.

2) With door switch closed, power is applied to motor speed (Hi/Low) relay (R1) normally open (N.O.) contacts and hold relay (R2) common(C).

a. Motor speed relay (R1) is energized through hold relay (R2) normally closed contacts (N.C.). Relay contacts (R1) change state and the normally open (N.O.) set of contacts close.

a) Power is connected through the function switch (S3) contacts and convection fan motor is energized (fan speed low).

**NOTE:** In the "Cook & Hold" cycle, the fan speed is fixed at low.

b) When the convection fan motor reaches operating speed, the centrifugal switch (N.O.) on the motor closes.

c) Power to normally open (N.O.) side of internal relay contacts (terminal 7) on the temperature control board.

3) Power is also connected back through a second set of contacts on the power switch (S1) to terminal 8 on the temperature control board.

a. Solid state temperature control energized. If the oven temperature is below set point, the temperature control will energize its internal relay. The normally open (N.O.) contacts close and apply power to the following components:

a) Heat light (clear) comes ON.

b) Power is connected through the centrifugal switch contacts on the convection fan motor, heat relay (R3) is energized, (R3) contacts (N.O.) close and the heating circuit is powered.

c) Ignition control module is energized.

d) No ignition light (red) comes ON, module performs a self diagnostic test for 4 seconds, 2nd valve (main) on the gas valve is energized. Gas starts to flow to the burner, sparking begins, the "no ignition" light goes out and burner lights. Sparking continues for up to 7 seconds or until a flame is established. If a flame is "sensed", the "no ignition" light stays out and burner remains lit.

If a flame is not "sensed" after 7 seconds of sparking, the "no ignition" light comes back on, 2nd valve (main) on the gas valve is de-energized and gas flow to the burner stops. Ignition trial cycle repeats after a 15 second purge between cycles for two additional tries before locking out. To reset after a lockout, turn power switch (S1) OFF then ON.

4. Oven reaches set temperature.

A. Temperature control de-energizes internal relay and the normally open (N.O.) contacts OPEN.

B. Heat light goes out.

C. Power removed from heat relay (R3).

1) R3 normally open (N.O.) contacts OPEN.

a. Power removed from 2nd valve (main) on the gas valve and gas flow to the burner stops.

**NOTE:** Power removed from 2nd valve (main) on the gas valve and gas flow to the burner stops.

5. The oven will continue to cycle on the temperature control until one of the following occurs: "Cook & Hold" time R & H cooking) expires which allows the oven to go into Hold mode; Power switch (S1) is turned to the OFF or COOL DOWN position or the doors are opened.

**Timer Cycle (Cook & Hold Cooking)**
**NOTE:** The "Cook & Hold" timer operates independently of the heating cycle until time expires. Regulation of the oven temperature is then turned over to the Hold thermostat until one of the following

occurs: "Cook & Hold" timer is turned OFF; function switch (S3) is turned back to "Cook" (normal cooking) or Power switch (S1) is turned to the OFF or COOL DOWN position.

1. With the power switch turned ON, power is supplied to timer.
2. Set "Cook & Hold" timer to desired time (Cook & Hold cooking).

**NOTE:** To Cook then Hold the cooked product at a fixed temperature, the Cook & Hold timer must be used and the function switch (S3) must also be set to Cook & Hold as indicated under step1 conditions for the Cook & Hold cycle.

   A. Contacts 1 & 3 close, timer motor is energized and timing "down" begins.

3. Time expires on Cook & Hold timer.

   A. Contacts 1 & 3 open, timer motor is de-energized and timing stops.

   B. Contacts 1 & 4 close.

      1) If the oven was heating, then the gas burner and heat light go out; If the oven was not heating, then the gas burner and heat light remain out.

**NOTE:** The Temperature control board remains powered and the internal relay contacts remain closed as long as oven cavity temperature is below the 175°F minimum set point temperature of the board and power is ON.

      2) Power is connected through function switch (S3) --- Hold relay (R2) is then energized, R2 contacts change state and the normally open (N.O.) contacts close.

         a. Power to one side of hold thermostat.

**NOTE:** When temperature is above 160°F (±12) the hold thermostat contacts are open.

      3) Motor speed relay (R1) de-energized, (R1) contacts change state and the normally open (N.O.) contacts OPEN.

         a. Convection fan motor stops and centrifugal switch (N.O.) on motor OPENS.

            a) Heat relay (R3) de-energized, relay (R3) contacts open and oven heating stops.

**NOTE:** This is considered second stage cooking in the "Cook and Hold" cycle where the stored heat in the oven continues to cook the product.

4. Oven temperature falls below 160°F (±12) and hold thermostat contacts close.

   A. Heat light comes ON.

   B. Motor speed relay (R1) is energized, (R1) contacts change state and the normally open (N.O.) contacts CLOSE.

      1) Convection fan motor energized (fan speed low).

   C. Power is also applied to one side of the centrifugal switch on the convection fan motor through the temperature control internal relay (N.O.) contacts.

   D. When the convection fan motor reaches operating speed, the centrifugal switch on the motor closes.

      1) Heat relay (R3) is energized.

         a. Heat relay (R3) contacts (N.O.) close and

            a) Ignition module is energized.

            b) No ignition light (red) comes ON, module performs a self diagnostic test for 4 seconds, 2nd valve (main) on the gas valve is energized. Gas starts to flow to the burner, sparking begins, the "no ignition" light goes out and burner lights. Sparking continues for up to 7 seconds or until a flame is established. If a flame is "sensed", the "no ignition" light stays out and burner remains lit.

               If a flame is not "sensed" after 7 seconds of sparking, the "no ignition" light comes back on, 2nd valve (main) on the gas valve is de-energized and gas flow to the burner stops. Ignition trial cycle repeats after a 15 second purge between cycles for two additional tries before locking out. To reset after a lockout, turn power switch (S1) OFF then ON. 5.

5. Oven reaches the "fixed" hold temperature and hold thermostat opens.
    A. Heat light goes out.
    B. Power removed from heat relay (R3) and the contacts open (N.O.).
        1) Ignition control module de-energized.
            a. Power removed from 2nd valve (main) on the gas valve and gas flow to the burner stops.
    C. Power is also removed from motor speed relay (R1).
        1) Convection fan motor de-energized and fan stops rotating.
6. The oven will continue to cycle on the hold thermostat until the "Cook & Hold" timer is turned to the OFF position and the function switch (S3) is change back to "Cook" (normal cooking) or the power switch (S1) is turned to the OFF or COOL DOWN position.

**Cool Down Cycle (Solid State Temperature Control)**

**NOTE:** The electrical sequence of operation for the COOL DOWN cycle is written for ovens with the "Cook & Hold" option.

1. Conditions.
    A. Oven is ON.
    B. Oven cavity temperature needs to be lowered.
    C. Doors are open.
        1) Door switch contacts OPEN
    D. Cook and Hold timer in the OFF position.
    E. Cook timer (normal cooking) in the OFF position.
    F. Function switch (S3) set to either "Cook" cycle or "Cook & Hold" cycle.
2. Power Switch (S1) turned to COOL DOWN.

**NOTE:** With door switch contacts OPEN (doors open), the convection fan motor will still run and continue to cool the oven. However, power would be removed from the following components: Power ON light (goes out), "Cook" timer, "Cook & Hold" timer, transformer T1 (de-energized) and to the component cooling fan.

    A. Power to motor speed (Hi/Low) relay (R1) normally open (N.O.) contacts and to common(C) on hold relay (R2). Power is then connected through hold relay (R2) normally closed (N.C.) contacts to motor speed (Hi/Low) relay (R1) coil.
        1) Motor speed (Hi/Low) relay (R1) is energized and contacts change state.
            a. Power is connected through motor speed (Hi/Low) relay normally open (N.O.) contacts, through function switch (S3) to Convection fan motor.
                a) Convection fan motor energized.

**NOTE:** If function switch (S3) is set to "Cook" cycle, fan speed will be high; if set to "Cook & Hold" cycle, fan speed will be low.

                b) When Convection fan motor reaches operating speed the centrifugal switch on the motor closes but no power is available for connection to other components.

    B. Power to one side of the hold thermostat contacts but is not transferred to other components due to oven cavity temperature above 160°F (thermostat OPEN).
    C. Power to terminal 7 on the solid state temperature control but is not transferred to other components due to temperature control not being powered.
3. If door switch is CLOSED (doors closed), power is supplied to one side of the following components: Power ON light (Amber), oven light switch (S2), "Cook" timer terminal 1, "Cook & Hold" timer terminal 1, transformer primary (T1) and component cooling fan.
    A. Power ON light (Amber) comes ON.
    B. Transformer (T1) energized.
        1) Power (24VAC) to one side of the following components: heat relay (R3) normally open (N.O.) contacts, high limit --- connected through the normally closed (N.C.) contacts to the 1st valve (safety) on the dual solenoid gas valve.
            a. 1st valve (safety) on the gas valve energized.

**NOTE:** Gas does not flow to the burner until the 2nd valve (main) is energized.

C. Component cooling fan.

4. The oven will remain in this condition until the power switch (S1) is turned to the OFF or ON position.

**HGC5D, HGC5DX (Cook & Hold Standard on Computer Model)**

Schematic diagram Fig. 112 will be used to explain the electrical sequence of operation for both the "Cook" cycle (normal cooking) and the "Cook and Hold" cycle.

**Cook Cycle**

1. Conditions.
   - A. Oven connected to correct voltage.
     - 1) L1 (HOT) to power switch (S1).
     - 2) L2 (NEUTRAL or SECOND LINE) to one side of the following components: oven cavity lights, convection fan motor common(C), transformer primary (T1), component cooling fan and the heat relay coil (R1).
   - B. Oven properly grounded.
     - 1) Ground (GND) to one side of the following components: computer control case, "no ignition" light, transformer secondary (T1), ignition control module, the 1st valve (safety) and 2nd valve (main) on the dual solenoid gas valve and computer control pin 9 (C3-9).
   - C. Gas supply valve ON.
   - D. Gas combination control valve ON.
   - E. Power switch (S1) OFF.
   - F. Computer control is setup properly and ready to use.
   - G. Oven light switch (S2) ON/OFF (position has no affect on the function of the "Cook" cycle).
   - H. High limit switch CLOSED.
   - I. Oven doors Closed.
     - 1) Door switch contacts CLOSED.
   - J. Oven cavity temperature below 140°F.
2. Power switch (S1) turned ON.
   - A. Power (120VAC) to computer control pin 3 (C3-3).

**NOTE:** Power at pin 3 is not transferred to other components until computer control is energized and operating conditions are met.

   - B. Power is available to the oven light switch (S2).
   - C. Power to terminal 1 on solid state relay 1 (SSR1 -load side) and solid state relay 2 (SSR2 -load side).
   - D. Component cooling fan energized.
   - E. Transformer (T1) is energized.
     - 1) Power (24VAC) to one side of the following components: heat relay (R1) normally open (N.O.) contacts, high limit --- connected through the normally closed (N.C.) contacts to the 1st valve (safety) on the dual solenoid gas valve.
       - a. 1st valve (safety) on the gas valve energized.

**NOTE:** Gas does not flow to the burner until the 2nd valve (main) is energized.

     - 2) Power (24VAC) to the oven computer control.
       - a. Control is energized and performs a power ON self test before energizing outputs.

**NOTE:** If the control passes self test, then the outputs are energized and operation sequence continues. If control does not pass self test then the corresponding error code is displayed.

       - b. Computer control senses oven cavity temperature.
         - a) With the oven cavity temperature below set point, the controls 120VAC output from pin C3-2 is activated and power is connected to the common(C) side of the centrifugal switch contacts on the convection fan motor.

**NOTE:** The set point temperature of the computer control will be the last temperature that was set.

**NOTE:** Power is not applied to the heat relay coil (R1) until the centrifugal switch contacts on the convection fan motor close.

       - c. The controls 5VDC output from pins C2-2 (-) and C2-8 (+) is activated and SSR1 relay is energized.
         - a) Convection fan motor is energized (fan speed hi).

b) When the convection fan motor reaches operating speed, the centrifugal switch (N.O.) on the motor closes.

3) With the 120VAC output from the control activated and the centrifugal switch on the convection fan motor closed, power is applied to the heat relay coil (R1).

a. Heat relay coil (R1) is energized, (R1) contacts (N.O.) close and the heating circuit is powered.

b. Oven "Heat Light" on the control comes ON.

c. Ignition control module is energized.

a) No ignition light (red) comes ON, module performs a self diagnostic test for 4 seconds, 2nd valve (main) on the gas valve is energized. Gas starts to flow to the burner, sparking begins, the "no ignition" light goes out and burner lights. Sparking continues for up to 7 seconds or until a flame is established. If a flame is "sensed", the "no ignition" light stays out and burner remains lit.

If a flame is <u>not</u> "sensed" after 7 seconds of sparking, the "no ignition" light comes back on, 2nd valve (main) on the gas valve is de-energized and gas flow to the burner stops. Ignition trial cycle repeats after a 15 second purge between cycles for two additional tries before locking out. To reset after a lockout, turn power switch (S1) OFF then ON.

3. Oven reaches set point temperature.

A. Computer control de-activates the 120VAC output to heat relay (R1).

1) Heat relay (R1) de-energized and the normally open (N.O.) contacts OPEN.

a. Power removed from ignition control module.

a) The 2nd valve (main) on the gas valve is de-energized and gas flow to the burner stops.

B. Oven "Heat Light" on the control goes out.

C. Oven "Ready Light" on the control comes ON.

D. Electronic beeper sounds momentarily.

4. The oven will continue to cycle on the computer control until the doors are opened or power switch (S1) is turned to the OFF or COOL DOWN position.

**Temperature and Time Cycle (Cooking)**
**NOTE:** The computers internal "Cook" timer operates independently of the heating cycle. Additional time can be set or the timer can be stopped and re-started throughout the cooking cycle. Refer to the Instructions Manual for specific operating instructions of the oven Computer Control.

**Cook and Hold Cycle**
**NOTE:** For a detailed explanation of the "Cook & Hold" mode, refer to the <u>DGC5, HGC5, HGC5X, HGC5D & HGC5DX Gas Convection Ovens (ML's 126614 thru 126619) Instructions</u> as outlined under "Setting the oven for Cook & Hold" and "Cook & Hold Operation". In "Cook & Hold" mode, the operation of the computer control is identical to the normal Cook Cycle with these exceptions:

1. Oven "Cook & Hold" light on the control comes ON.

2. Convection fan speed changes from High to Low.

A. The computer control 5VDC output from pins C2-2 (-) and C2-8 (+) is de-activated and SSR1 relay is deenergized.

1) Power (120VAC) is removed from convection fan motor high speed terminal.

B. The computer control 5VDC output from pins C2-1 (-) and C2-8 (+) is activated and SSR2 relay is energized.

1) Power (120VAC) is applied to the convection fan motor low speed terminal.

C. At the end of the "Cook" time, the electronic beeper sounds momentarily to indicate the end of first stage cooking (oven operates normally at the temperature and time selected until time expires).

D. The display flashes HOLD as the oven enters HOLD mode. This is also considered second stage cooking (oven heating stops but product continues to cook on residual heat).

1) Convection fan motor is de-energized.

E. After the oven temperature drops below 150°F, the heat comes back ON and cycles as needed, to maintain the "Hold" temperature of 150°F.

1) Convection fan motor energized.

F. The oven continues to cycle in this manner until one of the following occurs:

1) The "Cook & Hold" mode is turned OFF.

2) Power switch (S1) is turned to the OFF or COOL DOWN position.

**Cool Down Cycle (Computer Control Model)**

1. Conditions.

A. Oven is ON.

B. Oven cavity temperature needs to be lowered.

C. Doors are open.

1) Door switch contacts OPEN.

D. Power switch (S1) set to either ON or OFF.

2. Power Switch (S1) turned to COOL DOWN.

**NOTE:** With door switch contacts OPEN (doors open), the convection fan motor will still run and continue to cool the oven.

A. Power is connected through power switch (S1) to the convection fan motor high speed terminal.

1) Convection fan motor energized.

2) When Convection fan motor reaches operating speed the centrifugal switch on the motor closes but no power is available for connection to other components.

3) The oven will continue to operate in COOL DOWN mode until the power switch (S1) is turned to the OFF or ON position.

## SCHEMATICS

**DGC5 Mechanical (KX) Controls**

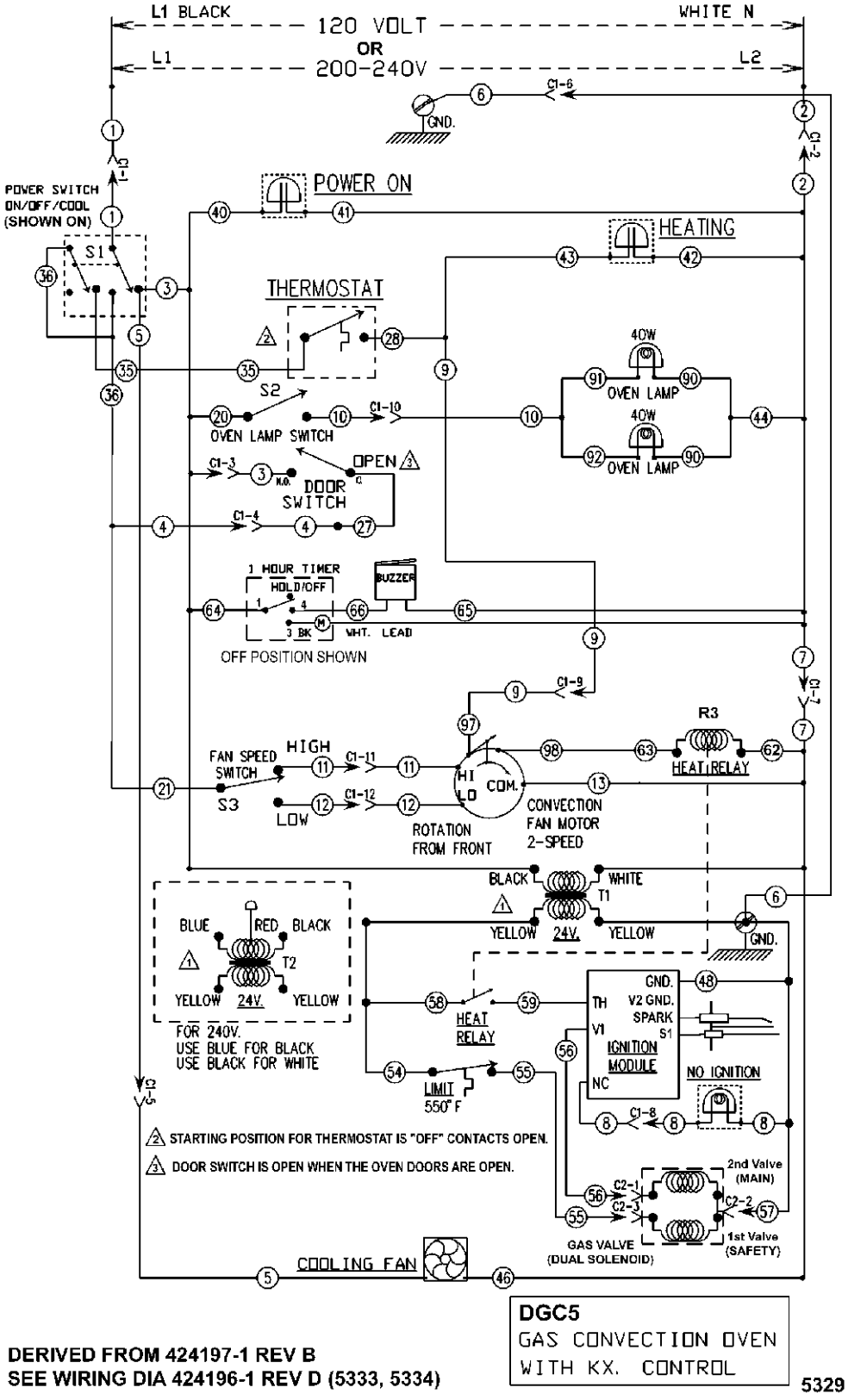



**Fig. 108**

**DGC5 Mechanical (KX) Controls, Cook & Hold Option**

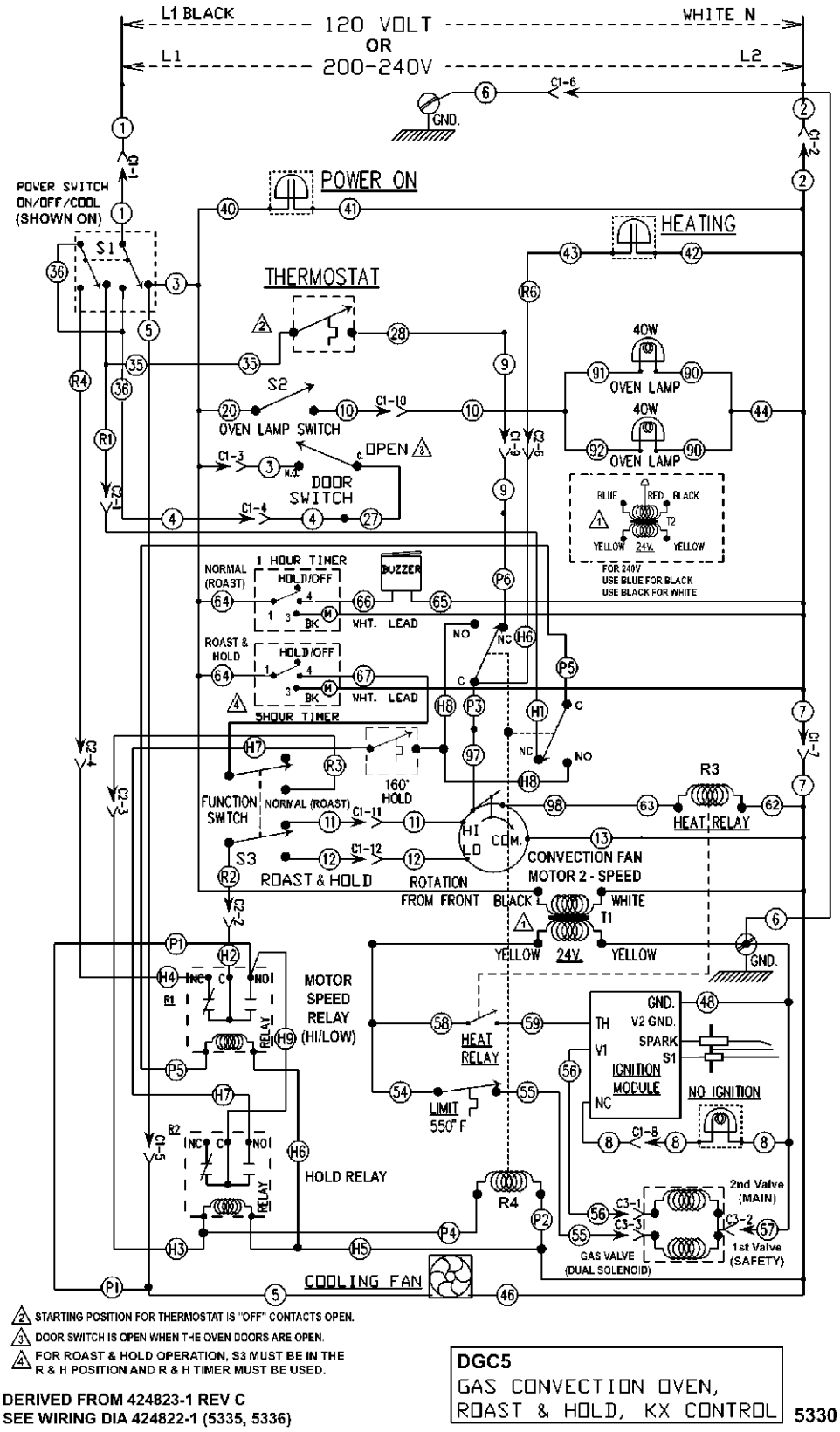
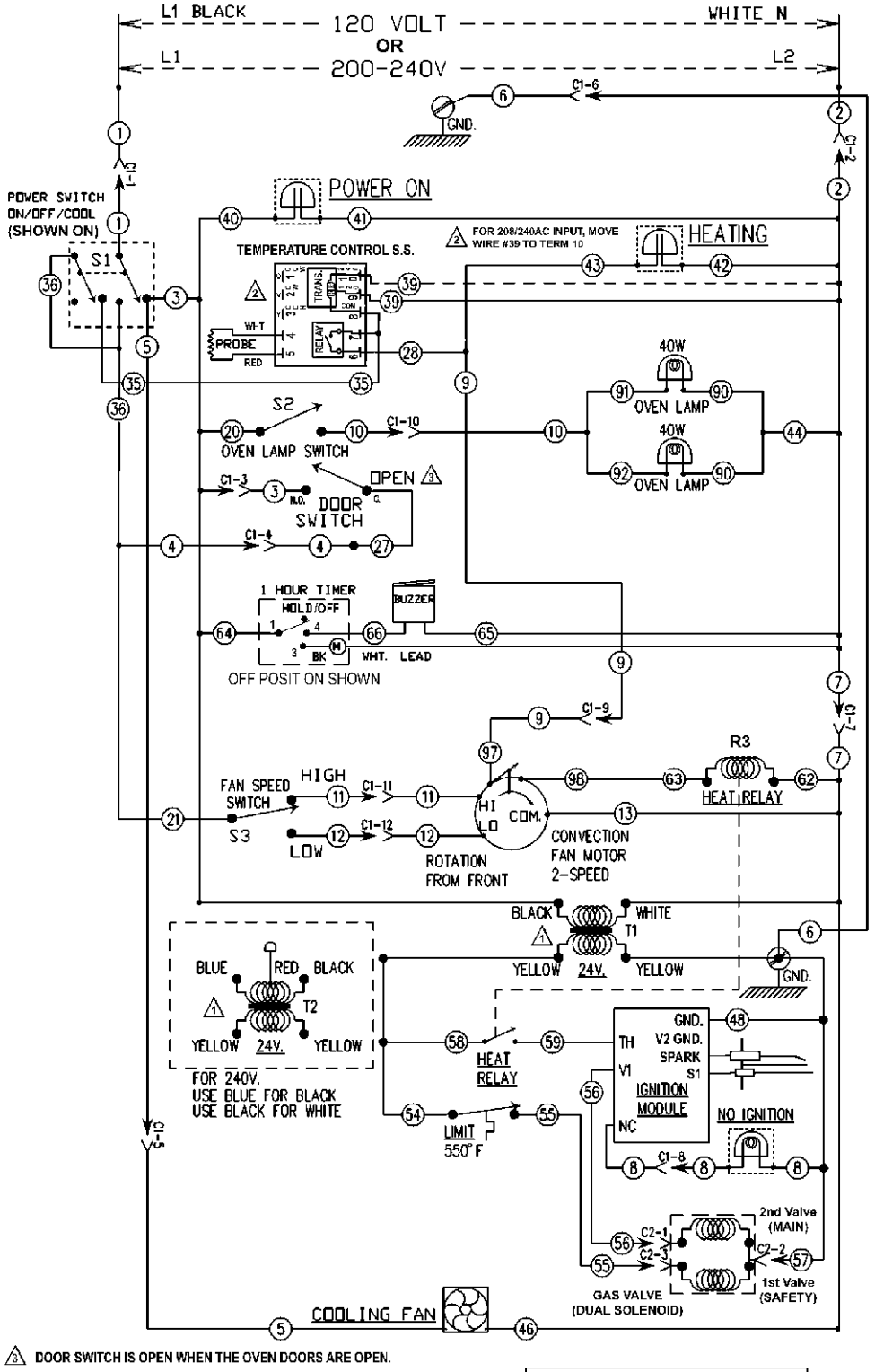



**Fig. 109**

**HGC5, HGC5X Solid State Temperature Control**




**DERIVED FROM 424199-1 REV B**
**SEE WIRING DIA 424198-1 (5337, 5338)**

**Fig. 110**

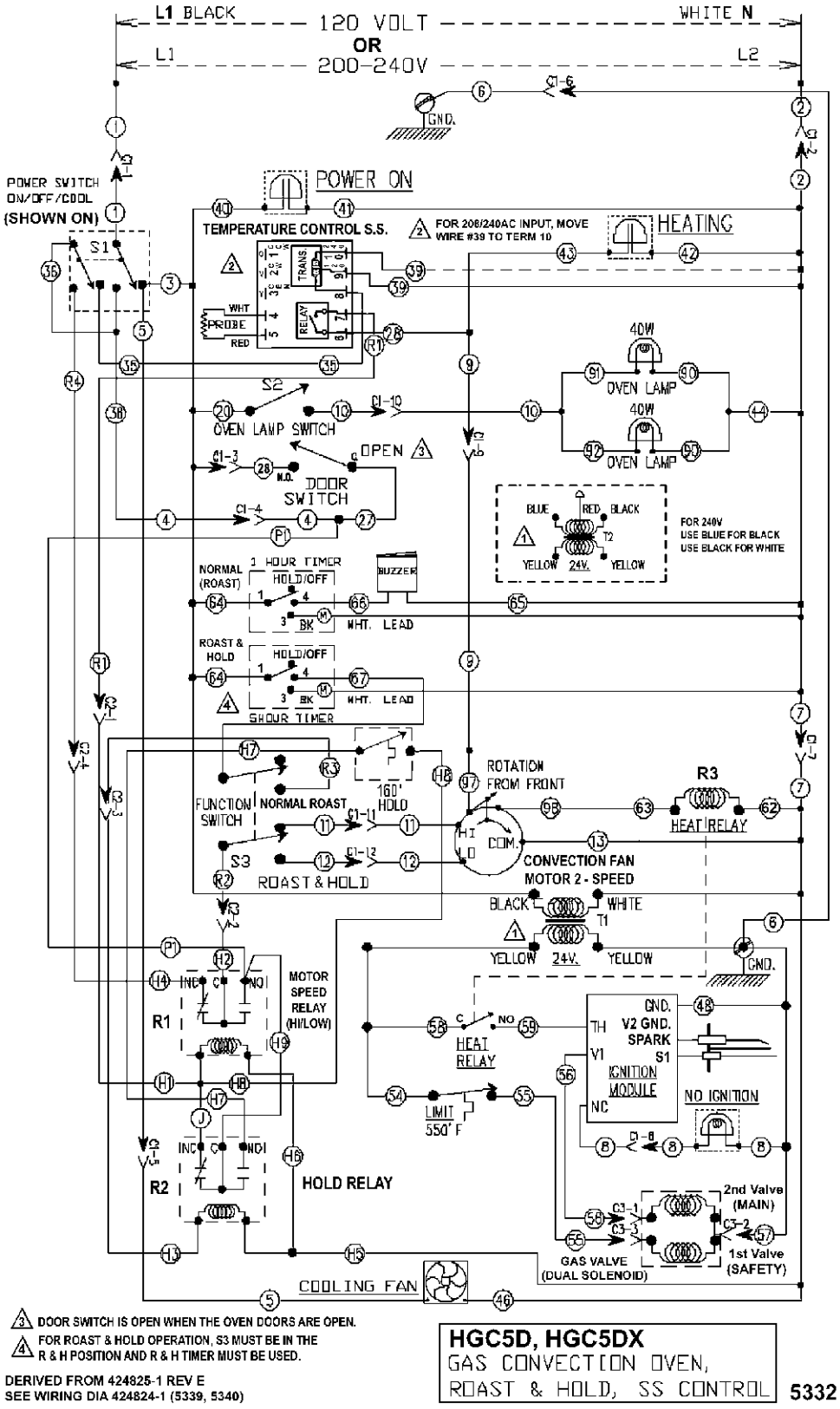
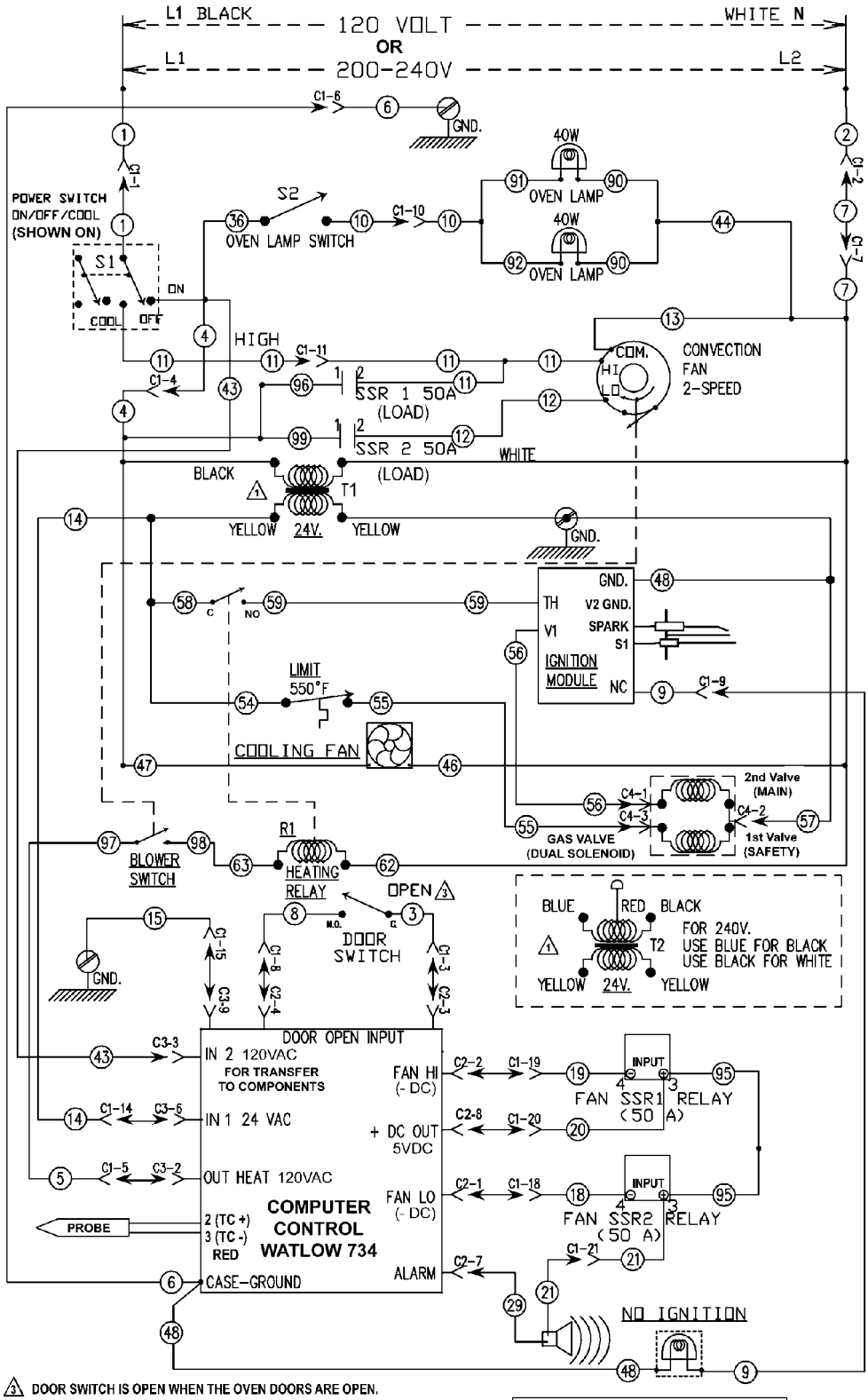



**Fig. 111**

**HGC5D, HGC5DX Computer Control (Cook & Hold Standard)**



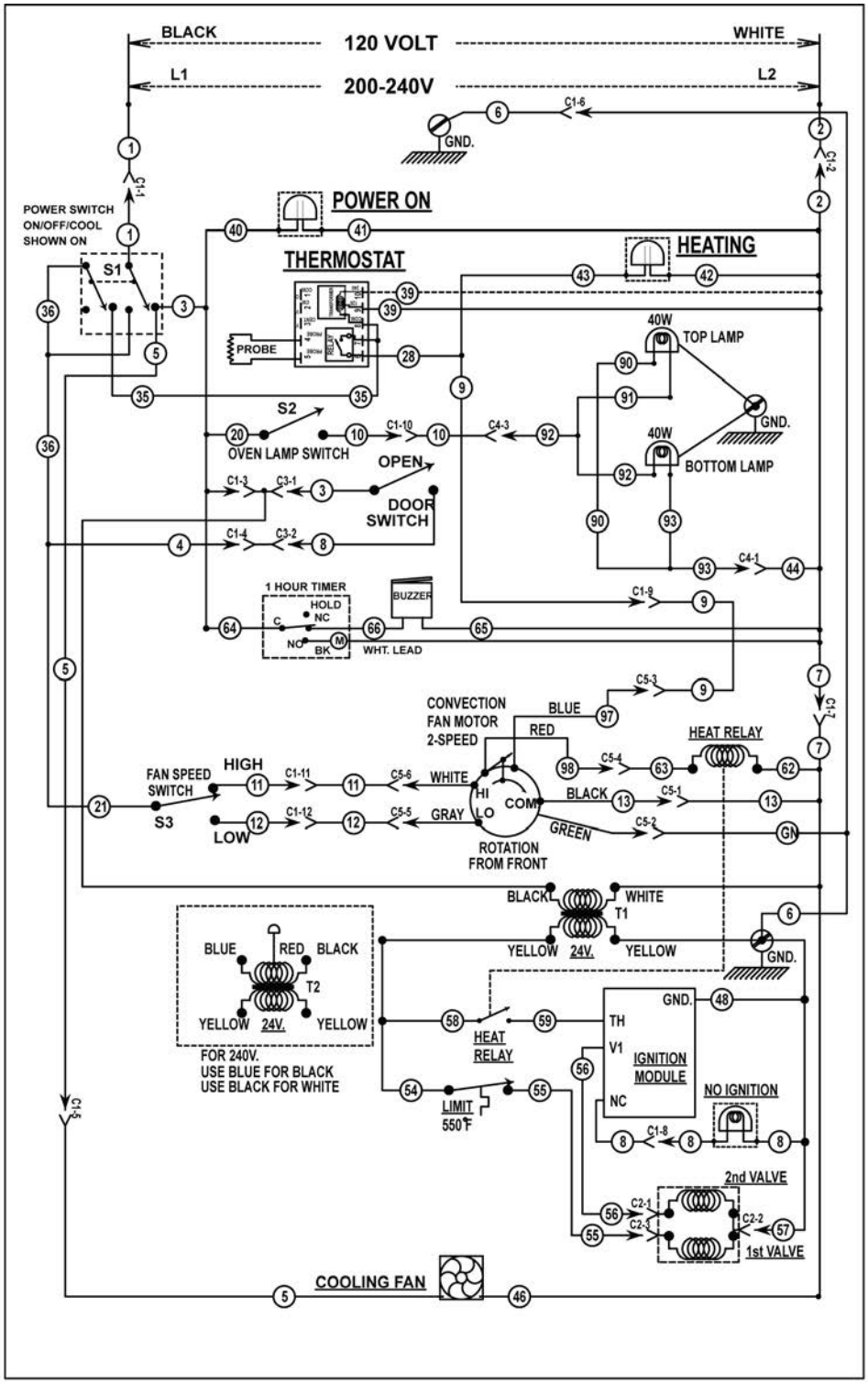

3 DOOR SWITCH IS OPEN WHEN THE OVEN DOORS ARE OPEN.

**DERIVED FROM 424828-1 REV C**
**SEE WIRING DIA 424827-1 (5728, 5729)**

**HGC5D, HGC5DX**
GAS CONVECTION OVEN
COMPUTER CONTROL

5727

**Fig. 112**




VC4 & 6GD / HGC / WKG CONVECTION OVEN STD. CONTROLS 120 TO 240V.

DERIVED FROM 424299-1 Rev. D

AI4896

**STARTING AT SERIAL NUMBER 481914000**

## WIRING DIAGRAMS

**DGC5 Mechanical (KX) Controls**

| REQ. | IT. | DESCRIPTION | | PIN. |
|---|---|---|---|---|
| 18 | AB | WIRE NUT BLUE | | - |
| - | AA | WIRE NUT YELLOW | | - |
| 1 | X | WIRE, SPARK IGNIT. 36" | | - |
| 1 | W | CORD SET 120V. UNITS ONLY | | - |
| 1 | V | FAN, COOLING | 120 VOLT | |
| | | | 200 -240 V. | |
| 1 | U | COMBINATION VALVE | NAT. GAS | |
| | | | L.P. GAS | |
| 1 | T | CONTROL, SPARK IGNITION | | - |
| 1 | S | LIMIT CONTROL 550F | | - |
| 1 | R | RELAY, HEATING (DPDT) | 120 VOLT | |
| | | | 200 -240 V. | |
| 1 | P | TRANSFORMER 24V. OUT | 120 VOLT | |
| | | | 200 -240 V. | |
| 2 | N | LAMP ASSEMBLY | 120 VOLT | |
| | | | 200 -240 V. | |
| 1 | M | MOTOR 2 SPEED G.E. | 120 VOLT | |
| | | | 200 -240 V. | |
| 2 | L | BLOCK,PORCELAIN ASSEMBLY | | - |
| 1 | K | SWITCH, LIMIT (DOOR) | | - |
| 2 | J | SWITCH, TOGGLE D.P.D.T | | - |
| 1 | H | TIMER - 1 HOUR | 120 VOLT | |
| | | | 200-240V. 60HZ | |
| | | | 200-240V. 50HZ | |
| 1 | G | BUZZER | 120 VOLT | |
| | | | 200 -240 V. | |
| 1 | E | LIGHT,INDICATOR RED 250V | | - |
| 1 | D | THERMOSTAT KX | | - |
| 1 | C | LIGHT,INDICATOR "NO IGNITION" 28V. | | - |
| 1 | B | LIGHT "HEAT"POWER ON" | 120 VOLT | |
| | | | 200 -240 V. | |
| 1 | A | SWITCH, TOGGLE D.P.D.T CENT.OFF | | - |

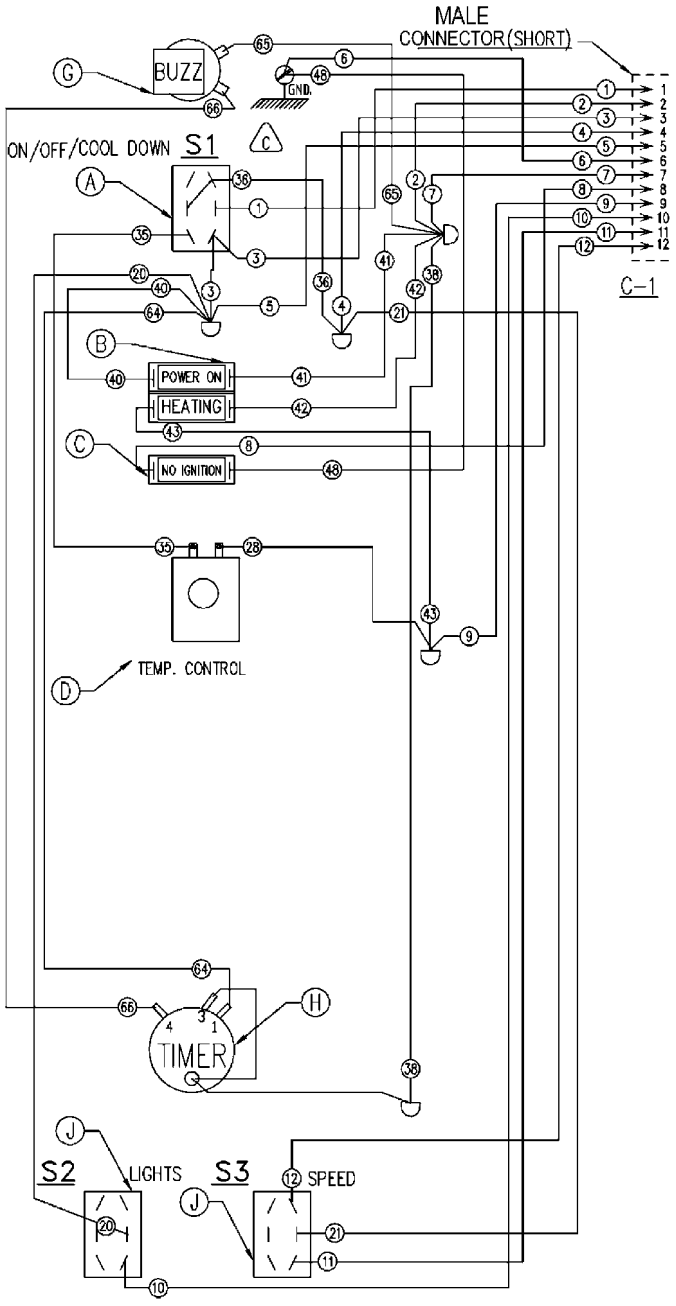



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**Fig. 114**

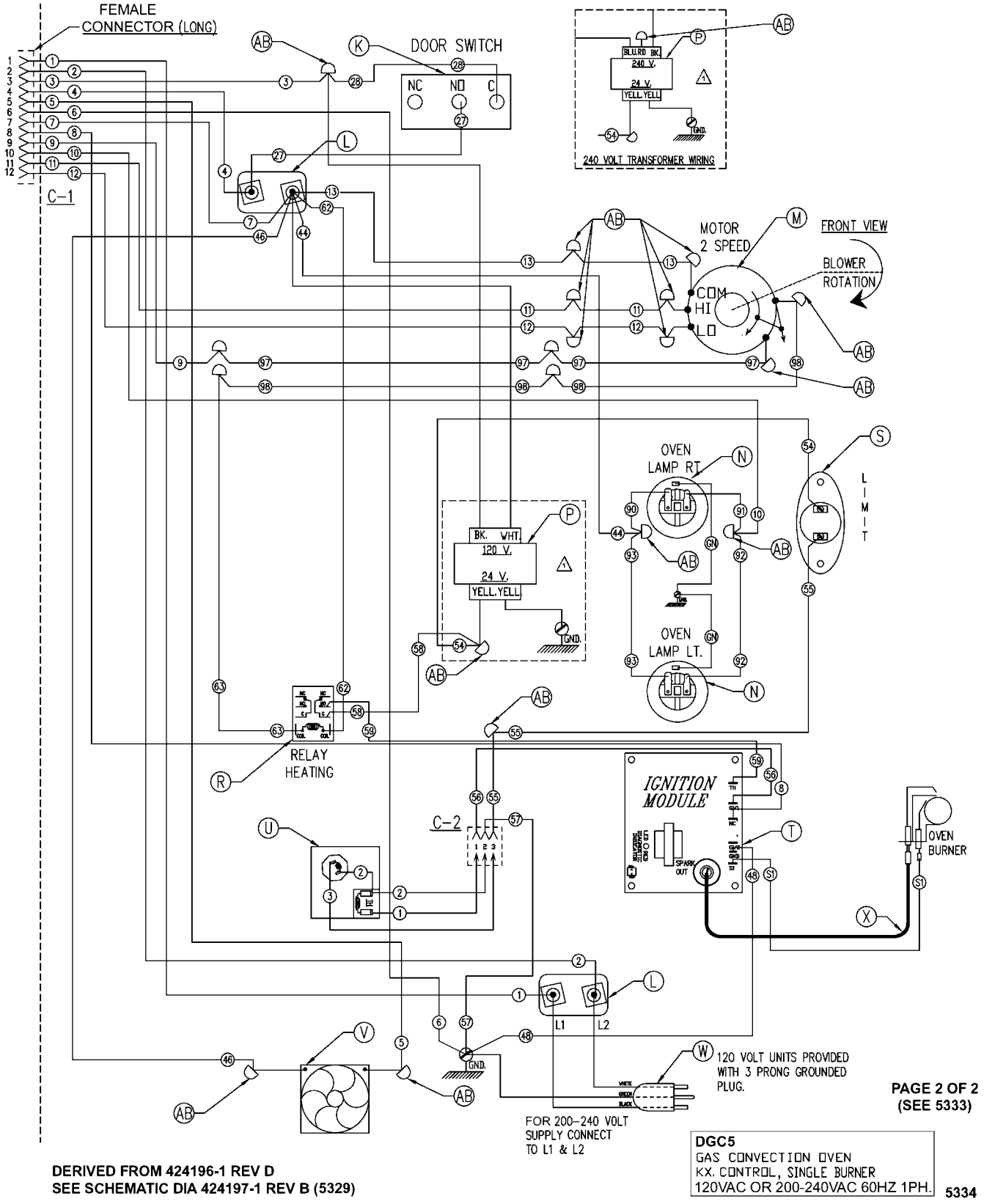
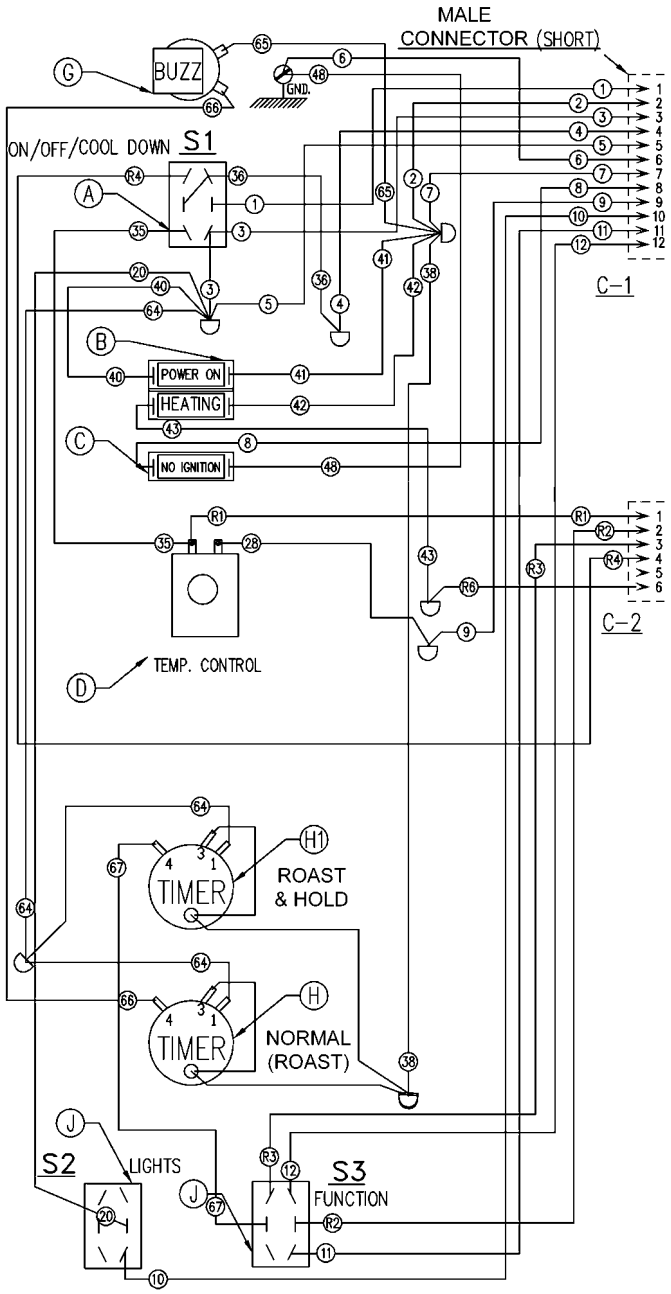



**Fig. 115**

**DGC5 Mechanical (KX) Controls, Cook & Hold Option**

| REQ. | IT. | DESCRIPTION | | FIN. |
|---|---|---|---|---|
| 2 | AC | RELAY, SPDT (1) - R1 MOTOR (HI/LOW) (1) - R2 HOLD | 120 VOLT<br>200 -240 V. | |
| 18 | AB | WIRE NUT | | - |
| - | AA | WIRE NUT YELLOW | | - |
| 1 | X | WIRE, SPARK IGNIT. 36" | | - |
| 1 | W | CORD SET 120V. UNITS ONLY | | - |
| 1 | V | FAN, COOLING | 120 VOLT<br>200 -240 V. | |
| 1 | U | COMBINATION VALVE | NAT. GAS<br>L.P. GAS | |
| 1 | T | CONTROL, SPARK IGNITION | | - |
| 1 | S | LIMIT CONTROL 550F | | - |
| 2 | R | RELAY, DPDT (R3 & R4) | 120 VOLT<br>200 -240 V. | |
| 1 | P | TRANSFORMER 24V. OUT | 120 VOLT<br>200 -240 V. | |
| 2 | N | LAMP ASSEMBLY | 120 VOLT<br>200 -240 V. | |
| 1 | M | MOTOR 2 SPEED G.E. | 120 VOLT<br>200 -240 V. | |
| 2 | L | BLOCK,PORCELAIN ASSEMBLY | | - |
| 1 | K | SWITCH, LIMIT (DOOR) | | - |
| 2 | J | SWITCH, TOGGLE S.P.D.T | | - |
| 1 | H1 | TIMER - 5 HOUR | 120 VOLT<br>200-240V. 60HZ<br>200-240V. 50HZ | |
| 1 | H | TIMER - 1 HOUR | 120 VOLT<br>200-240V. 60HZ<br>200-240V. 50HZ | |
| 1 | G | BUZZER | 120 VOLT<br>200 -240 V. | |
| 1 | F | THERMOSTAT 160 F (HOLD) | | - |
| 1 | E | LIGHT,INDICATOR RED 250V | | - |
| 1 | D | THERMOSTAT KX | | - |
| 1 | C | LIGHT,INDICATOR "NO IGNITION" 28V. | | - |
| 1 | B | LIGHT "HEAT"POWER ON" | 120 VOLT<br>200 -240 V. | |
| 1 | A | SWITCH, TOGGLE D.P.D.T CENT.OFF | | - |




PAGE 1 OF 2
(SEE 5336)

5335

**Fig. 116**

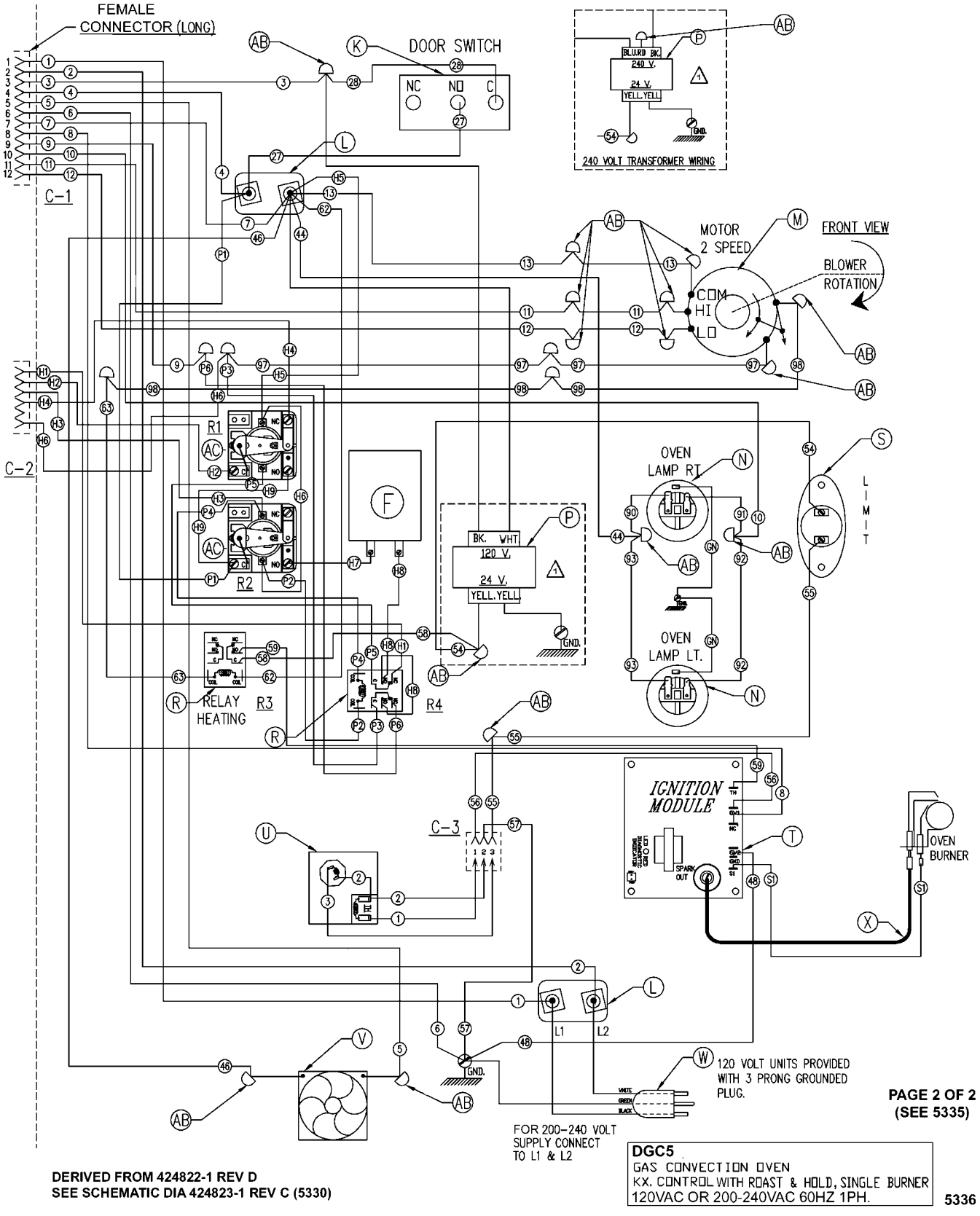
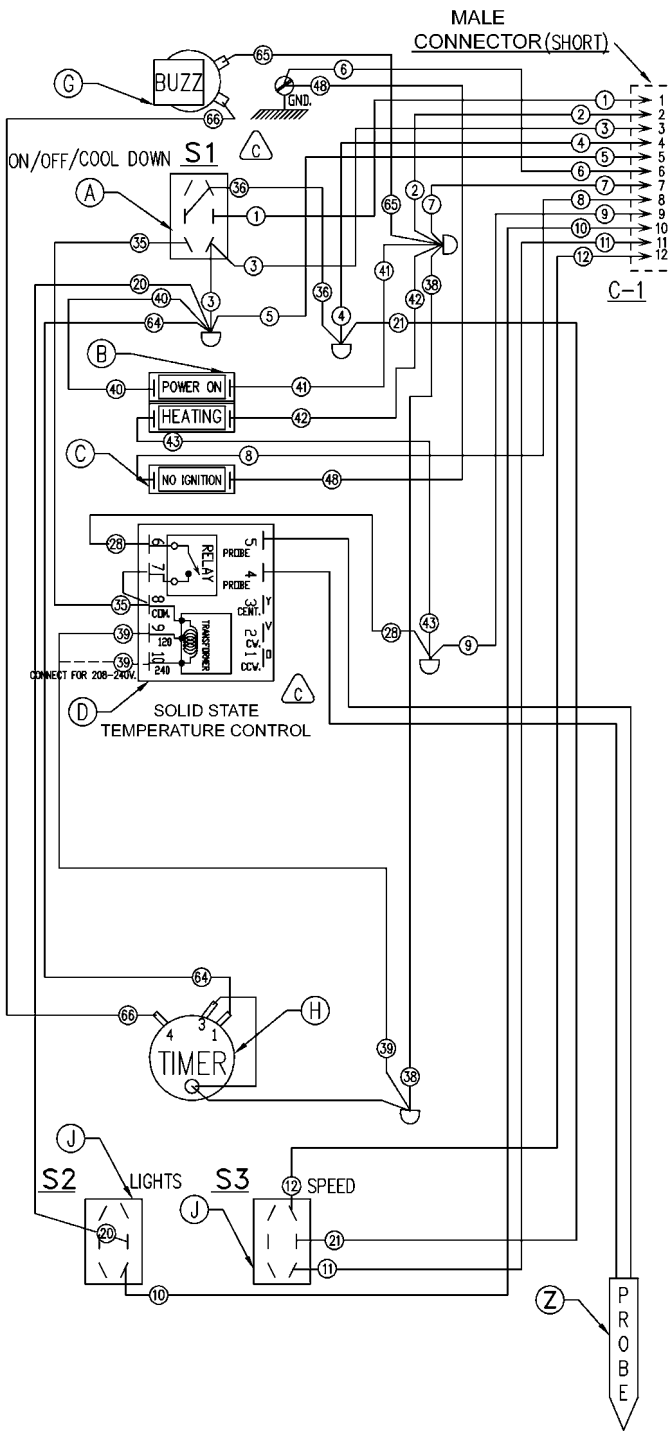



**Fig. 117**

**HGC5, HGC5X Solid State Temperature Control**

| | | | | |
|---|---|---|---|---|
| 18 | AB | WIRE NUT BLUE | | - |
| - | AA | WIRE NUT YELLOW | | - |
| 1 | Z | PROBE, THERMISTOR | | - |
| 1 | X | WIRE, SPARK IGNIT. 36" | | - |
| 1 | W | CORD SET 120V. UNITS ONLY | | - |
| 1 | V | FAN, COOLING | 120 VOLT | |
| | | | 200 -240 V. | |
| 1 | U | COMBINATION VALVE | NAT. GAS | |
| | | | L.P. GAS | |
| 1 | T | CONTROL, SPARK IGNITION | | - |
| 1 | S | LIMIT CONTROL 550F | | - |
| 1 | R | RELAY, HEATING (DPDT) | 120 VOLT | |
| | | | 200 -240 V. | |
| 1 | P | TRANSFORMER 24V. OUT | 120 VOLT | |
| | | | 200 -240 V. | |
| 2 | N | LAMP ASSEMBLY | 120 VOLT | |
| | | | 200 -240 V. | |
| 1 | M | MOTOR 2 SPEED G.E. | 120 VOLT | |
| | | | 200 -240 V. | |
| 2 | L | BLOCK,PORCELAIN ASSEMBLY | | - |
| 1 | K | SWITCH, LIMIT (DOOR) | | - |
| 2 | J | SWITCH, TOGGLE D.P.D.T | | - |
| 1 | H | TIMER - 1 HOUR | 120 VOLT | |
| | | | 200-240V. 60HZ | |
| | | | 200-240V. 50HZ | |
| 1 | G | BUZZER | 120 VOLT | |
| | | | 200 -240 V. | |
| 1 | E | LIGHT,INDICATOR RED 250V | | - |
| 1 | D | TEMPERATURE CONTROL S.S. G-5 | | - |
| 1 | C | LIGHT,INDICATOR "NO IGNITION" 28V. | | - |
| 1 | B | LIGHT "HEAT"POWER ON" | 120 VOLT | |
| | | | 200 -240 V. | |
| 1 | A | SWITCH, TOGGLE D.P.D.T CENT.OFF | | - |
| REQ. | IT. | DESCRIPTION | | FIN. |

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(SEE 5338) 5337

**Fig. 118**

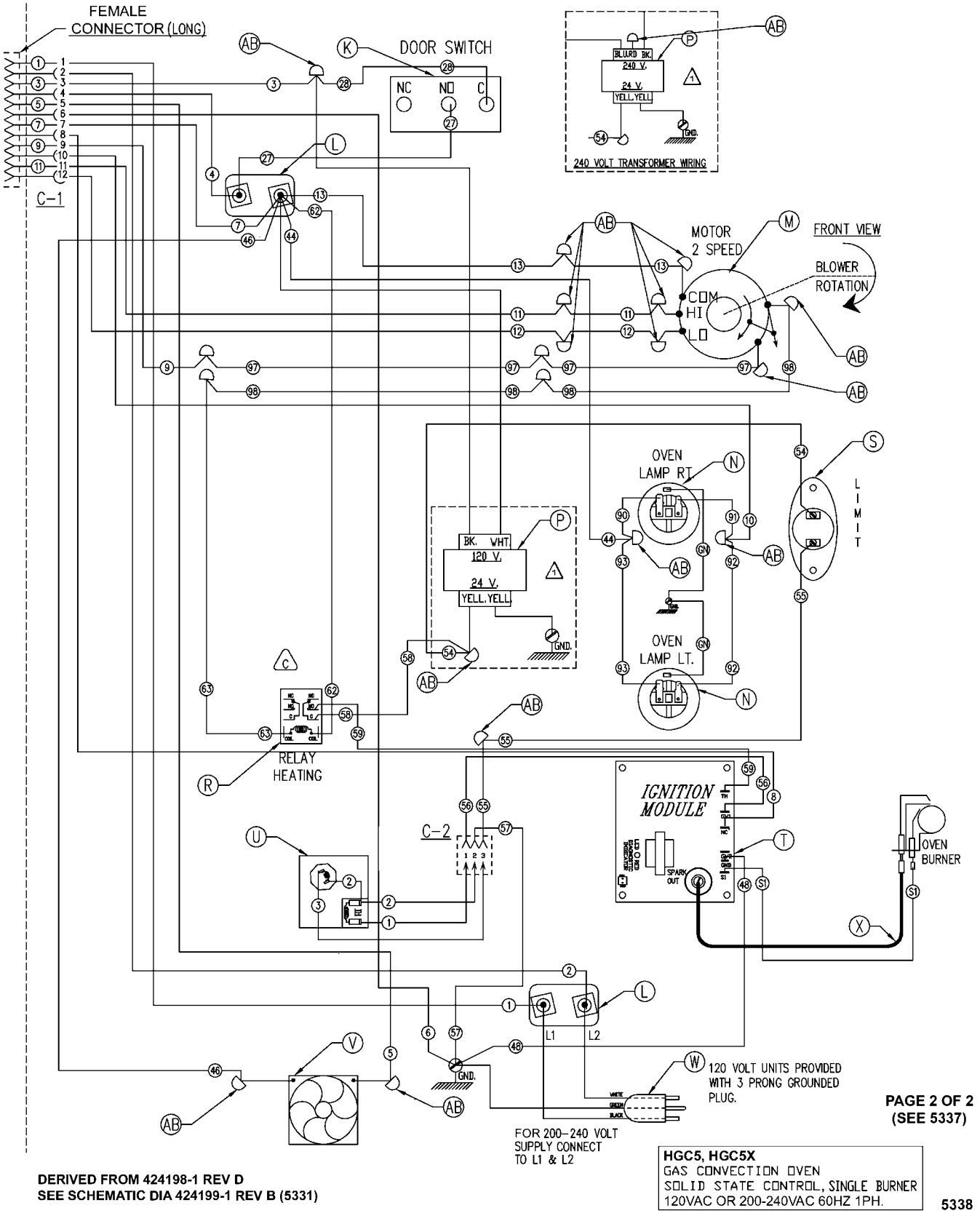
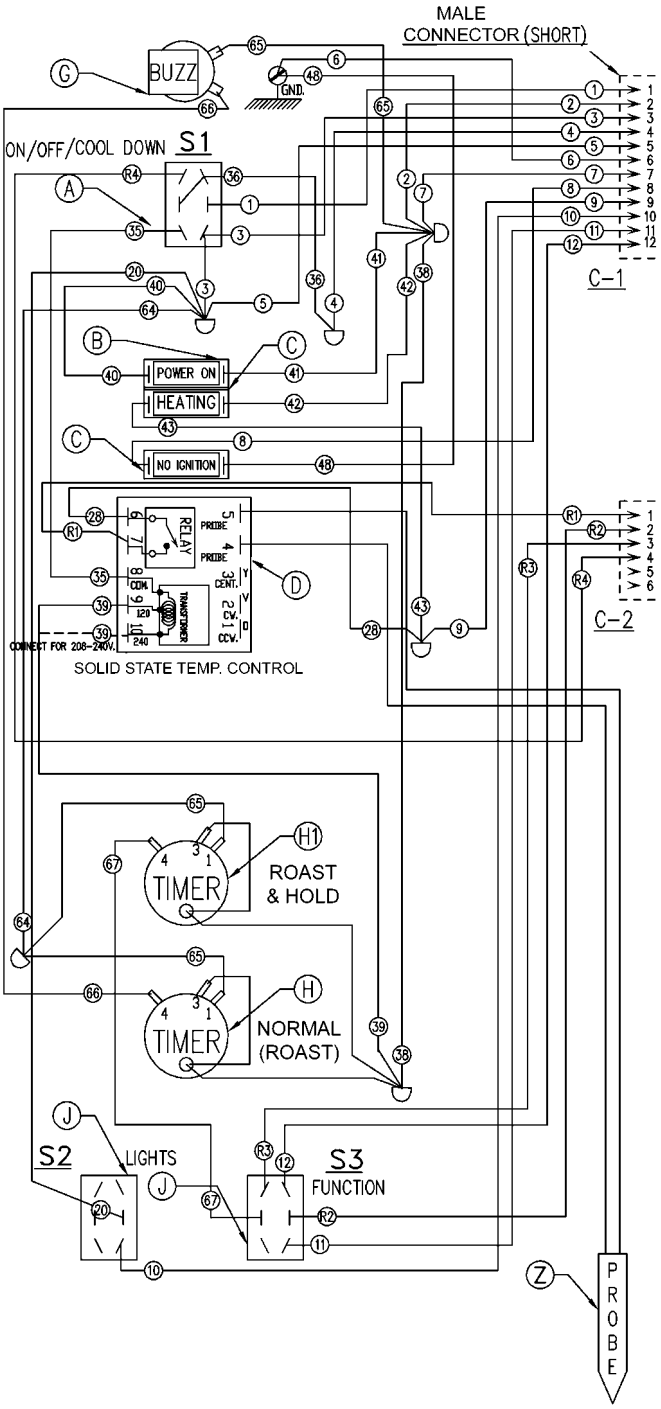



**Fig. 119**

**HGC5, HGC5X Solid State Temperature Control, Cook & Hold Option**

| REQ. | IT. | DESCRIPTION | | FIN. |
|---|---|---|---|---|
| 2 | AC | RELAY, S.P.D.T.<br>(1) - R1 MOTOR (HI/LOW)<br>(1) - R2 HOLD | 120 VOLT<br>200 -240 V. | |
| 18 | AB | WIRE NUT | | - |
| - | AA | WIRE NUT YELLOW | | - |
| 1 | Z | PROBE, THERMISTOR | | - |
| 1 | X | WIRE, SPARK IGNIT. 36" | | - |
| 1 | W | CORD SET 120V. UNITS ONLY | | - |
| 1 | V | FAN, COOLING | 120 VOLT<br>200 -240 V. | |
| 1 | U | COMBINATION VALVE | NAT. GAS<br>L.P. GAS | |
| 1 | T | CONTROL, SPARK IGNITION | | - |
| 1 | S | LIMIT CONTROL 550F | | - |
| 1 | R | RELAY, HEATING, DPDT | 120 VOLT<br>200 -240 V. | |
| 1 | P | TRANSFORMER 24V. OUT | 120 VOLT<br>200 -240 V. | |
| 2 | N | LAMP ASSEMBLY | 120 VOLT<br>200 -240 V. | |
| 1 | M | MOTOR 2 SPEED G.E. | 120 VOLT<br>200 -240 V. | |
| 2 | L | BLOCK,PORCELAIN ASSEMBLY | | - |
| 1 | K | SWITCH, LIMIT (DOOR) | | - |
| 2 | J | SWITCH, TOGGLE D.P.D.T | | - |
| 1 | H1 | TIMER - 5 HOUR | 120 VOLT<br>200-240V. 60HZ<br>200-240V. 50HZ | |
| 1 | H | TIMER - 1 HOUR | 120 VOLT<br>200-240V. 60HZ<br>200-240V. 50HZ | |
| 1 | G | BUZZER | 120 VOLT<br>200 -240 V. | |
| 1 | F | THERMOSTAT, HOLD 160 F. | | - |
| 1 | E | LIGHT,INDICATOR RED 250V | | - |
| 1 | D | TEMPERATURE CONTROL S.S. G-5 | | - |
| 1 | C | LIGHT,INDICATOR "NO IGNITION" 28V. | | - |
| 1 | B | LIGHT "HEAT"POWER ON" | 120 VOLT<br>200 -240 V. | |
| 1 | A | SWITCH, TOGGLE D.P.D.T CENT.OFF | | - |

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(SEE 5340) 5339

**Fig. 120**

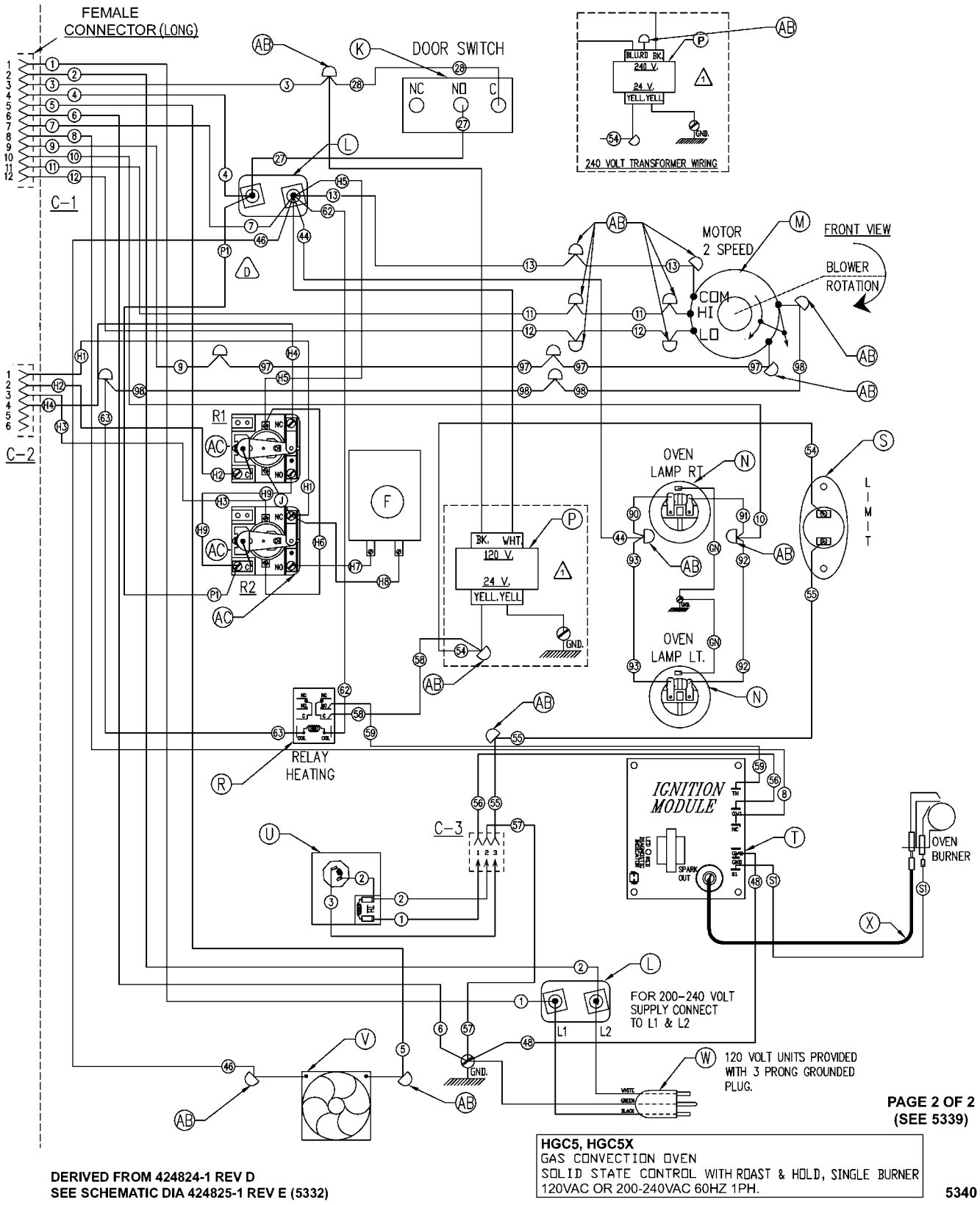



**Fig. 121**

**HGC5D, HGC5DX Computer Control (Cook & Hold Standard)**

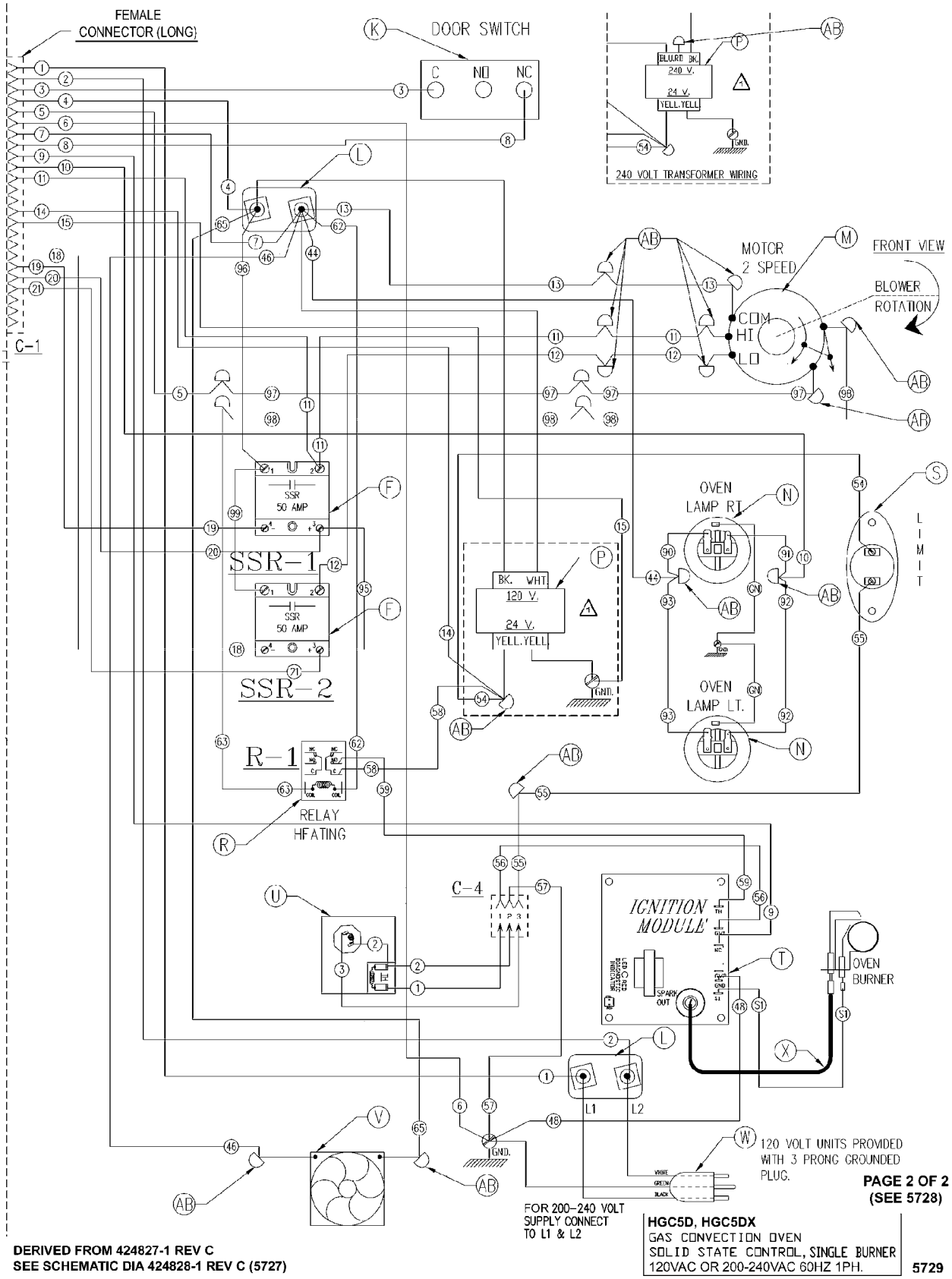

FEMALE CONNECTOR (LONG)
C-1
DOOR SWITCH
C NO NC
240 VOLT TRANSFORMER WIRING
BLU.RD BK.
240 V.
24 V.
YELL.YELL
GND.
MOTOR 2 SPEED
FRONT VIEW
BLOWER ROTATION
COM
HI
LO
SSR 50 AMP
SSR-1
SSR 50 AMP
SSR-2
R-1
RELAY HEATING
BK. WHT.
120 V.
24 V.
YELL.YELL
OVEN LAMP RT.
OVEN LAMP LT.
LIMIT
C-4
IGNITION MODULE
SPARK OUT
OVEN BURNER
L1
L2
GND.
120 VOLT UNITS PROVIDED WITH 3 PRONG GROUNDED PLUG.
WHITE
GREEN
BLACK
FOR 200-240 VOLT SUPPLY CONNECT TO L1 & L2
PAGE 2 OF 2 (SEE 5728)
HGC5D, HGC5DX
GAS CONVECTION OVEN
SOLID STATE CONTROL, SINGLE BURNER
120VAC OR 200-240VAC 60HZ 1PH.
5729
DERIVED FROM 424827-1 REV C
SEE SCHEMATIC DIA 424828-1 REV C (5727)

**Fig. 122**

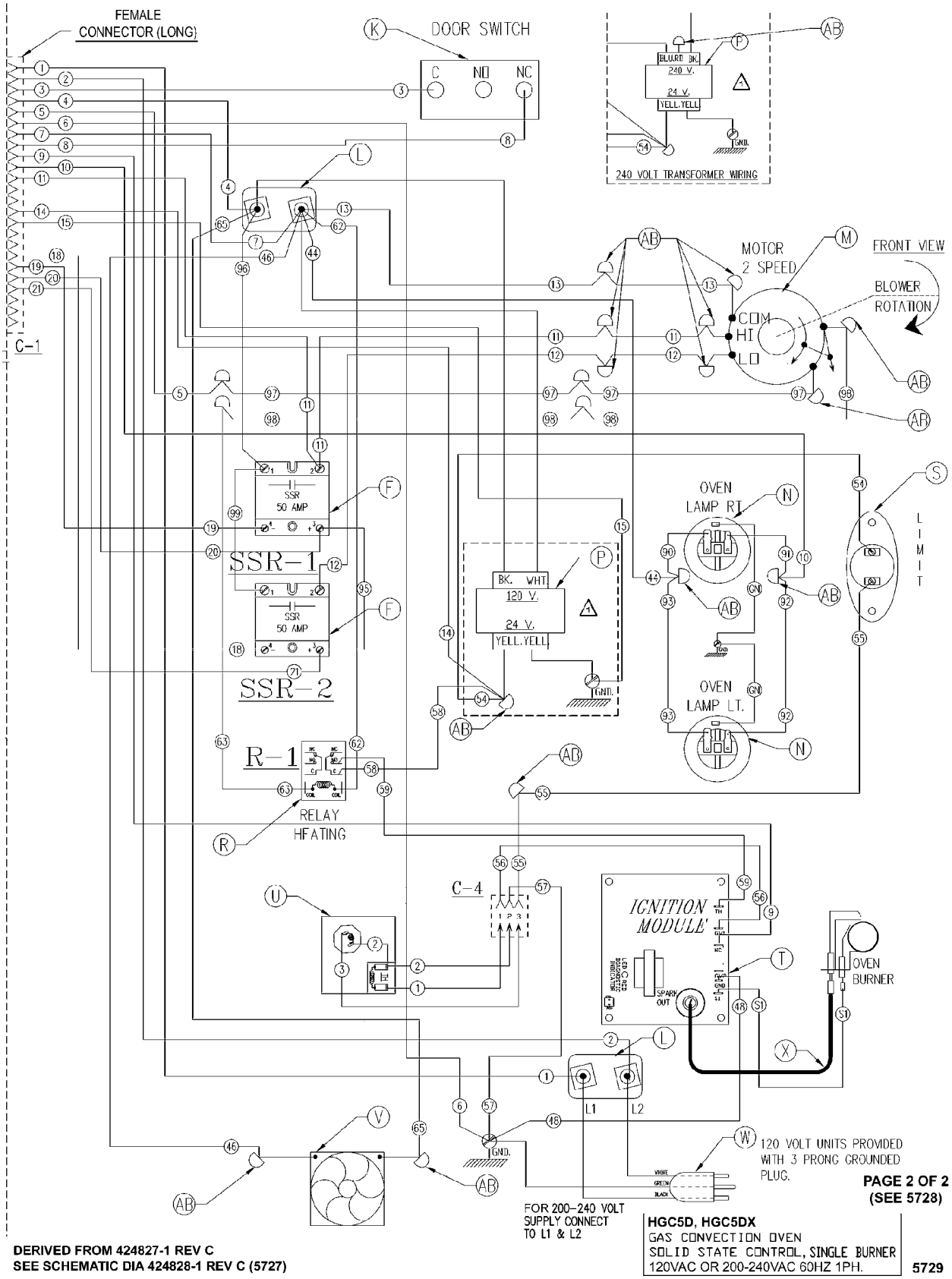
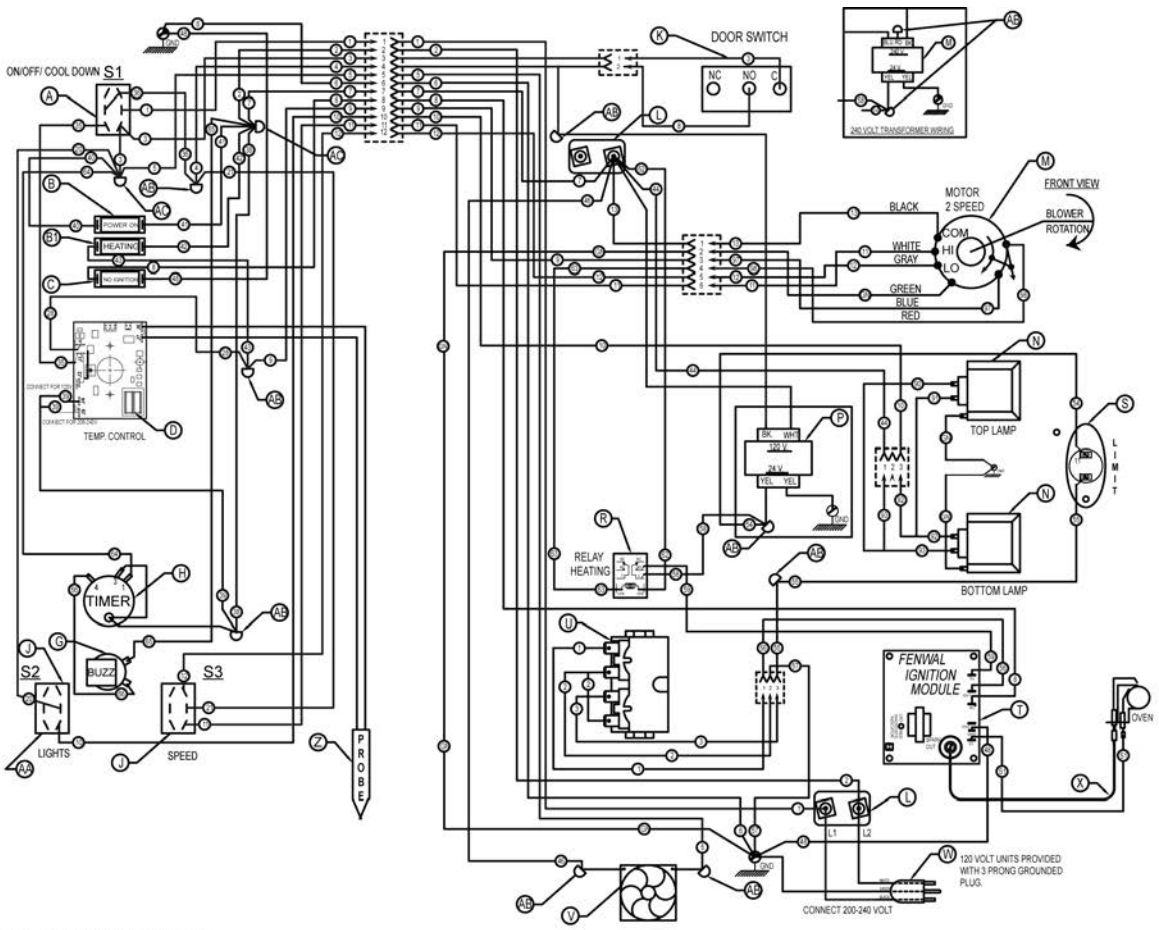

FEMALE
CONNECTOR (LONG)
C-1
DOOR SWITCH
C
NO
NC
240 VOLT TRANSFORMER WIRING
BLU.RD
BK.
240 V.
24 V.
YELL.YELL
GND.
MOTOR
2 SPEED
FRONT VIEW
BLOWER
ROTATION
COM
HI
LO
SSR
50 AMP
SSR-1
SSR-2
BK.
WHT.
120 V.
24 V.
YELL.YELL
OVEN
LAMP RT.
OVEN
LAMP LT.
LIMIT
R-1
RELAY
HEATING
C-4
IGNITION
MODULE
SPARK
OUT
OVEN
BURNER
L1
L2
120 VOLT UNITS PROVIDED
WITH 3 PRONG GROUNDED
PLUG.
FOR 200-240 VOLT
SUPPLY CONNECT
TO L1 & L2
PAGE 2 OF 2
(SEE 5728)
HGC5D, HGC5DX
GAS CONVECTION OVEN
SOLID STATE CONTROL, SINGLE BURNER
120VAC OR 200-240VAC 60HZ 1PH.
5729
DERIVED FROM 424827-1 REV C
SEE SCHEMATIC DIA 424828-1 REV C (5727)

**Fig. 123**




VC4GD and VC6GD Models
SINGLE BURNER CONVECTION OVEN 120 & 200 V.
SOLID STATE CONTROL WIRING DIAGRAM
DERIVED FROM 00424198

AI4888

**STARTING AT SERIAL NUMBER 481914000**

# TROUBLESHOOTING


**⚠ WARNING**

**Certain procedures in this section require electrical test or measurements while power is applied to the machine. Exercise extreme caution at all times and follow Arc Flash procedures. If test points are not easily accessible, disconnect power and follow Lockout/Tagout procedures, attach test equipment and reapply power to test.**

## ALL MODELS

| SYMPTOMS | POSSIBLE CAUSES |
|---|---|
| Blower motor doesn't run with 1S in "Cool Down" or "On" position. | 1. Line voltage.<br>2. Power switch (S1) malfunction.<br>3. Switch (S3) malfunction.<br>4. Interconnecting wiring malfunction.<br>5. Motor inoperable. |
| Blower motor doesn't run in "On" position. "Cool Down" functions OK. | 1. Door switch malfunction.<br>2. Power switch contacts inoperative.<br>3. Interconnecting wiring malfunction. |
| Blower motor doesn't run in "Cool Down" position. Runs OK in "On" position. | 1. Power switch malfunction.<br>2. Interconnecting wiring malfunction. |
| Gas does not ignite; No spark; No Ignition Light ON. | 1. Shorted electrode on ignitor/flame sense.<br>2. Ignitor cable (high voltage) OPEN.<br>3. Heat relay (R3) malfunction.<br>4. Transformer (T1) inoperative.<br>5. High limit thermostat open.<br>6. Interconnecting wiring malfunction.<br>7. Ignition Module malfunction. |
| Sparks but gas does not ignite. | 1. Gas solenoid valve OFF or inoperative.<br>2. Manual gas valve CLOSED.<br>3. Gas supply OFF or Insufficient gas pressure.<br>4. Interconnecting wiring malfunction.<br>5. Ignition Module malfunction. |

| SYMPTOMS | POSSIBLE CAUSES |
|---|---|
| Gas ignites but will not maintain flame. | 1. Igniter lead connections malfunction.<br>2. Ignitor ground inoperative.<br>3. Ignitor/flame sense malfunction.<br>4. Insufficient gas pressure.<br>5. Snorkel vent plugged, obstructed or missing.<br>6. Incorrect polarity from transformer (T1) to Ignition module. |
| Excessive or low heat. | 1. Temperature probe malfunction on models HGC5/5X. (Thermostat malfunction on models DGC5)<br>2. Temperature control board malfunction.<br>3. Gas pressure Insufficient.<br>4. Gas orifice plugged or obstructed. |
| Mechanical Timer inoperative or not functioning properly. | 1. Interconnecting wiring malfunction.<br>2. Line voltage incorrect.<br>3. Timer malfunction. |
| Cook mode OK, no Hold mode. (Cook & Hold models only). | 1. Cook and Hold switch (S3) malfunction.<br>2. R2 hold relay malfunction.<br>3. Cook & Hold timer malfunction.<br>4. Interconnecting wiring malfunction. |
| Component cooling Fan does not run. | 1. Motor inoperable.<br>2. Interconnecting wiring malfunction. |
| Uneven Cooking. | 1. Convection Fan motor speed/direction.<br>2. Poor combustion.<br>A. Gas pressure incorrect.<br>B. Exhaust vent plugged or obstructed.<br>C. Snorkel Vent plugged or obstructed.<br>3. Air flow Baffles missing or damaged. |
| Intermittent problems. | 1. High ambient temperatures.<br>2. Wiring connections loose.<br>3. Cooling fan malfunction. |
| No power to temperature control. | 1. Power switch (S1) in “Cool Down”.<br>2. Door or door switch open. |

## IGNITION MODULE DIAGNOSTICS

| NUMBER OF LED FLASHES | INDICATES | POSSIBLE CAUSE |
|---|---|---|
| 2 Flashes | Burner flame with no call for heat. | 1. Main gas valve stuck open, burner on with no call for heat from the temperature control system. Replace main gas valve.<br>2. Check flame sensor and sensor wire.<br>3. Ignition module malfunction. |
| 3 Flashes | Ignition system has locked out. | 1. Ignition module could not “Prove” flame after three tries for ignition within the lockout time timing provided.<br>A. Check for gas supply to burner.<br>B. Check for spark to ignition electrode.<br>1) Check spark gap (gap should be 1/8").<br>C. Check for flame current in flame sense wire (0.000001 Amp Min. DC) using FC designated terminals.<br>1) Check burner adjustment (air/gas).<br>**NOTE:** If A thru C check out, replace ignition module. |
| 4 Flashes | Internal board problem. | 1. Ignition module malfunction. Remove power from “R” terminal for five seconds then reconnect. If fault remains, replace ignition module. |

## COMPUTER CONTROL MODELS ONLY

| SYMPTOM | POSSIBLE CAUSES |
|---|---|
| Oven does not heat. | 1. High limit switch open.<br>2. Probe malfunction.<br>3. Control malfunction. |
| High limit thermostat shutting off gas burner. | 1. Probe malfunction.<br>2. Control malfunction. |

| SYMPTOM | POSSIBLE CAUSES |
|---|---|
| Oven not hot enough. | 1. Probe malfunction.<br>2. Control range high (rH1) setting to low. See Setup Mode.<br>3. Control malfunction. |

**Error Codes**
In the display window, the error code will alternate between the code and the oven cavity temperature or dashes if the oven is calling for heat (heat light on). When the condition causing the error is resolved, normal oven operation can resume.

**NOTE:** To check a "Setup Parameter" and its corresponding "Data Value", see Setup Mode.

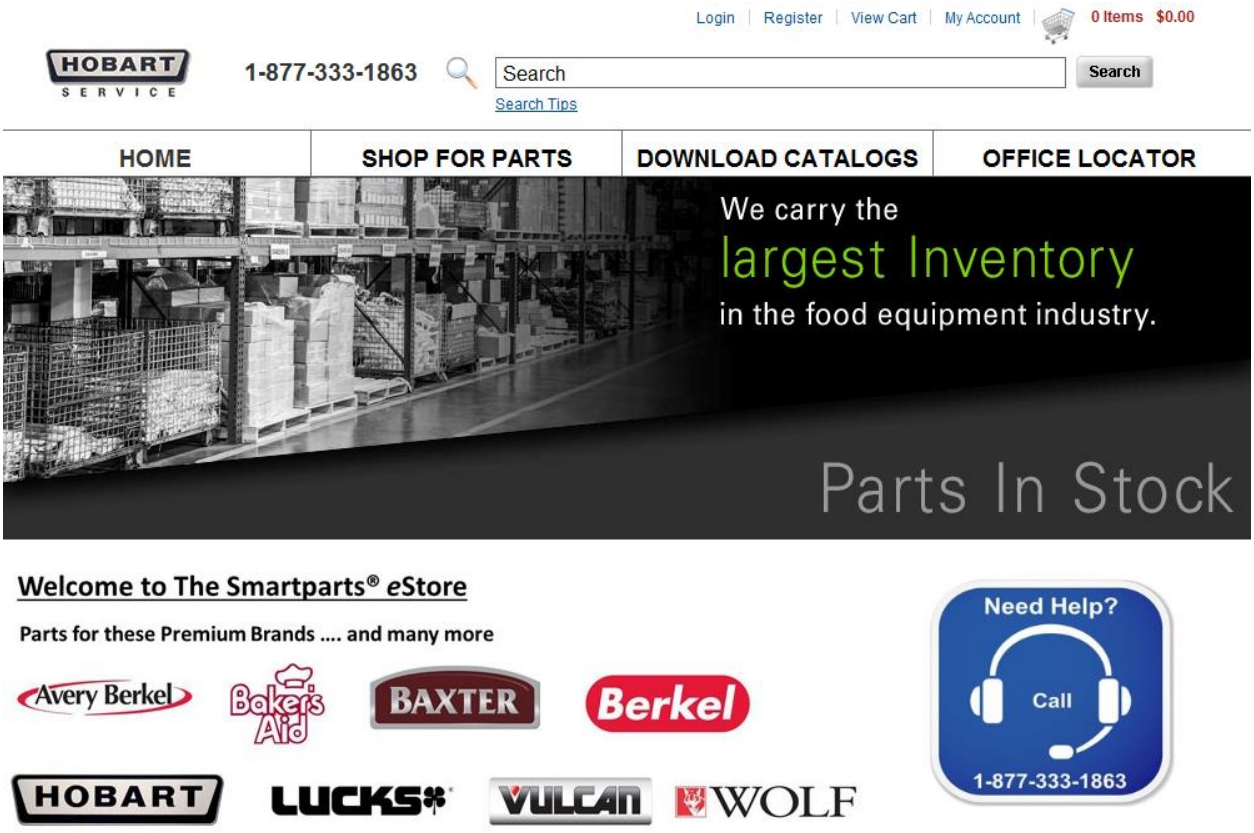
**NOTE:** If the cause of the error is not apparent, check for these conditions as they may also cause errors to occur: Electrical noise or a noise event, excess environmental moisture or temperature, or vibration.

| CODE & PROBLEM | PROBABLE CAUSE | SOLUTION |
|---|---|---|
| Er01 - ROM checksum error | Internal ROM malfunction | Cycle power |
| Er02 - RAM checksum error | Internal RAM malfunction | Cycle power |
| Er03 - Ambient sensor error | Ambient temperature is below 32°F | Check ambient temperature at the control. |
| Er04 - Configuration error | Microprocessor malfunction | Cycle power |
| Er05 - EPROM error | Power loss while storing data | Cycle power |
| Er06 - Zone 1 A/D underflow error | • Incorrect sensor type<br>• Measuring temperature outside the sensor range | • Check the InP1 setup parameter. Verify it matches your sensor.<br>• Check sensor and connections for a reversed or open sensor. If the condition causing the error is resolved, the error will clear. |
| Er07 - Zone 1 A/D overflow error | Open sensor | • Check the InP1 setup parameter. Verify it matches your sensor.<br>• Check sensor and connections for a reversed or open sensor. If the condition causing the error is resolved, the error will clear. |
| Er10 - Stack overflow error | Microprocessor malfunction | • Cycle power<br>• Check sensor and connections for a reversed or open sensor |
| Er11 - Open sensor error | Open sensor | • Check the InP1 setup parameter. Verify it matches your sensor.<br>• Check sensor and connections for a reversed or open sensor. If the condition causing the error is resolved, the error will clear. |

| CODE & PROBLEM | PROBABLE CAUSE | SOLUTION |
|---|---|---|
| Er12 - Shorted sensor | • Incorrect sensor type<br>• Measuring temperature outside the sensor range | • Check the InP1 setup parameter. Verify it matches your sensor.<br>• Check sensor and connections for a reversed or open sensor. If the condition causing the error is resolved, the error will clear. |

# ONLINE PARTS CATALOG

Order parts online at our Hobart Service Parts store: http://thesmartpartsestore.hobartservice.com/



# CATALOG OF REPLACEMENT PARTS

## DGC5 & HGC5 GAS CONVECTION OVENS

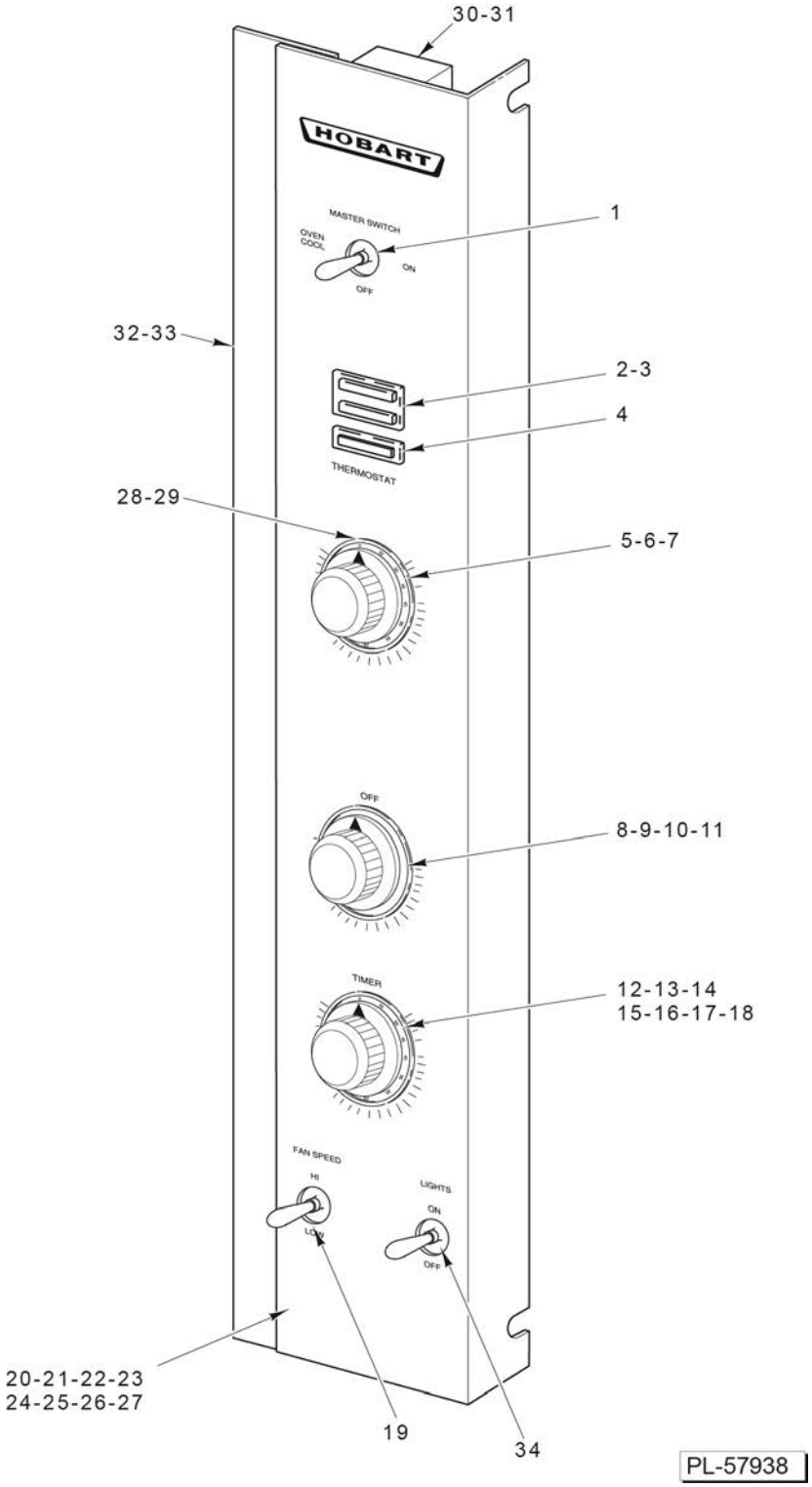
| | |
|---|---|
| ML-126614 | DGC5 |
| ML-126615 | HGC5 |
| ML-126616 | HGC5D |
| ML-126617 | DGC5X |
| ML-126618 | HGC5X |
| ML-126619 | HGC5DX |

A product of HOBART 701 S. RIDGE AVENUE TROY, OHIO 45374-0001

FORM 34608 Rev. I (December 2019)

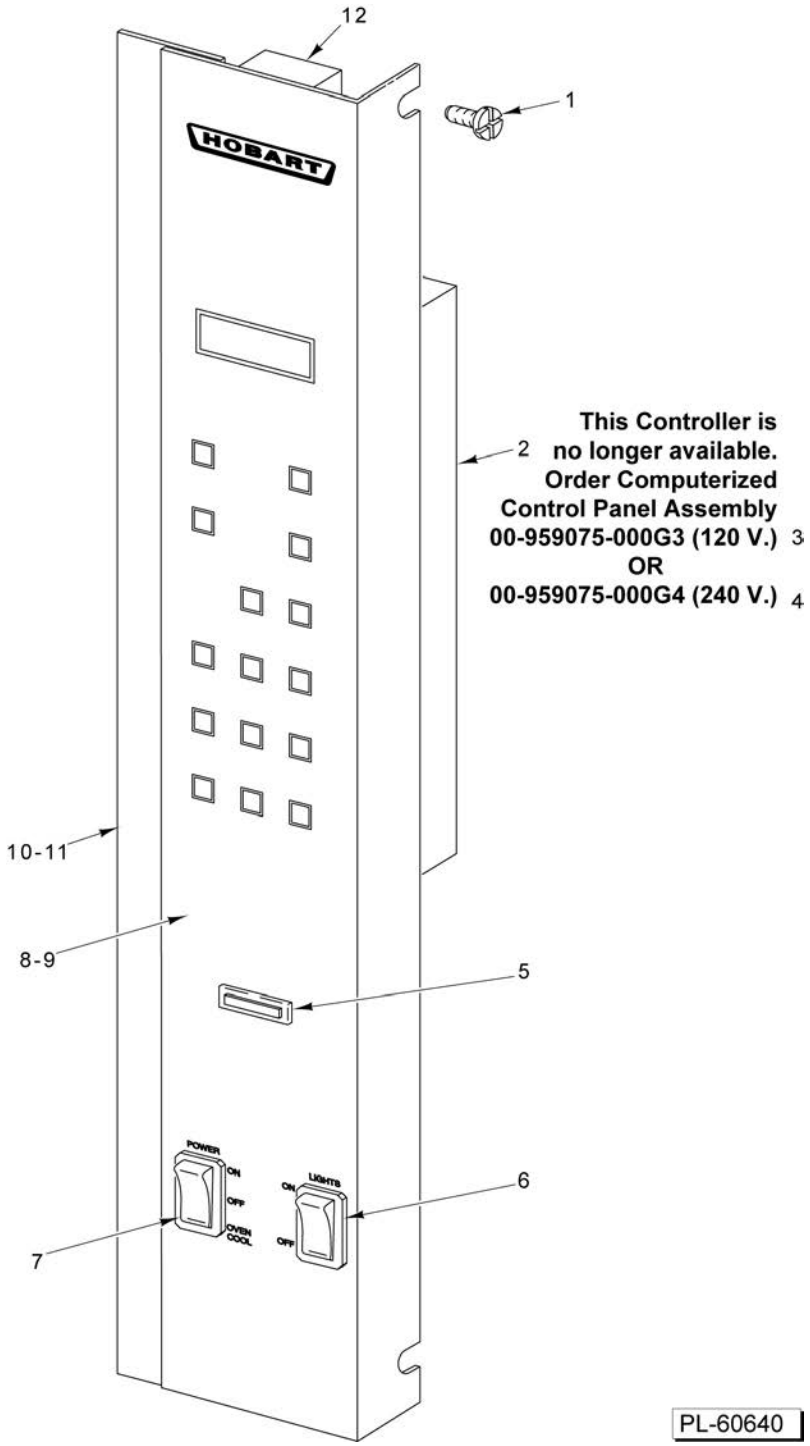
## Table of Contents




**CONTROL PANEL**
**(ML-126614, ML-126615, & ML-126618)**

## CONTROL PANEL
## (ML-126614, ML-126615, & ML-126618)

| ILLUS. PL-57938 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-340324-00008 | Switch (4P.D.T.) | 1 |
| 2 | 00-913102-00163 | Light - Indicator (Double) (120 V.) | 1 |
| 3 | 00-913102-00161 | Light - Indicator (Double) (240 V.) | 1 |
| 4 | 00-354575-00004 | Light - Indicator | 1 |
| 5 | 00-411242-00001 | Knob | 1 |
| 6 | 00-913149 | Kit - Temperature Control (With Harness) | 1 |
| 7 | 00-913102-00326 | THERMOSTAT, W/HDW SCREWS (KX-style) | 1 |
| 8 | 00-411242-00001 | Knob | 1 |
| 9 | 00-411690-00003 | Timer (120 V.) (60 Hz.) (5-Hr.) | 1 |
| 10 | 00-411690-00004 | Timer (240 V.) (60 Hz.) (5-Hr.) | 1 |
| 11 | 00-411690-00006 | Timer (240 V.) (50 Hz.) (5-Hr.) | 1 |
| 12 | 00-411242-00001 | Knob | 1 |
| 13 | 00-411690-00001 | Timer (120 V.) (60 Hz.) (1-Hr.) | 1 |
| 14 | 00-411690-00002 | Timer (240 V.) (60 Hz.) (1-Hr.) | 1 |
| 15 | 00-411690-00003 | Timer (120 V.) (60 Hz.) (5-Hr.) | 1 |
| 16 | 00-411690-00004 | Timer (240 V.) (60 Hz.) (5-Hr.) | 1 |
| 17 | 00-411690-00005 | Timer (240 V.) (50 Hz.) (1-Hr.) | 1 |
| 18 | 00-411690-00006 | Timer (240 V.) (50 Hz.) (5-Hr.) | 1 |
| 19 | 00-340324-00009 | Switch (D.P.D.T.) (Fan Speed) | 1 |
| 20 | 00-424132-00001 | Overlay - Panel (1-Hr.) (Previous Construction) | 1 |
| 21 | 00-424238-00001 | Overlay - Panel (5-Hr.) (Previous Construction) | 1 |
| 22 | 00-424210-00001 | Overlay - Panel (1-Hr.) (Previous Construction) | 1 |
| 23 | 00-424247-00001 | Overlay - Panel (5-Hr.) (Previous Construction) | 1 |
| 24 | 00-497282-00001 | Overlay - Panel (1-Hr.) (Current Construction) | 1 |
| 25 | 00-497286-00001 | Overlay - Panel (5-Hr.) (Current Construction) | 1 |
| 26 | 00-497287-00001 | Overlay - Panel (1-Hr.) (Current Construction) | 1 |
| 27 | 00-497294-00001 | Overlay - Panel (5-Hr.) (Current Construction) | 1 |
| 28 | SC-114-82 | Mach. Screw 4-40 x 5/16 Rd. Hd | 2 |
| 29 | WS-028-20 | Washer (SST) | 2 |
| 30 | 00-411499-00003 | Buzzer (230 V.) | 1 |
| 31 | 00-411499-00004 | Buzzer (115 V.) | 1 |
| 32 | 00-424206-000G1 | Panel - Control Weldment (Previous Construction) | 1 |
| 33 | 00-959489-000G1 | Panel - Control Weldment (Current Construction) | 1 |
| 34 | 00-340324-00012 | Switch (S.P.S.T.) (Light) | 1 |

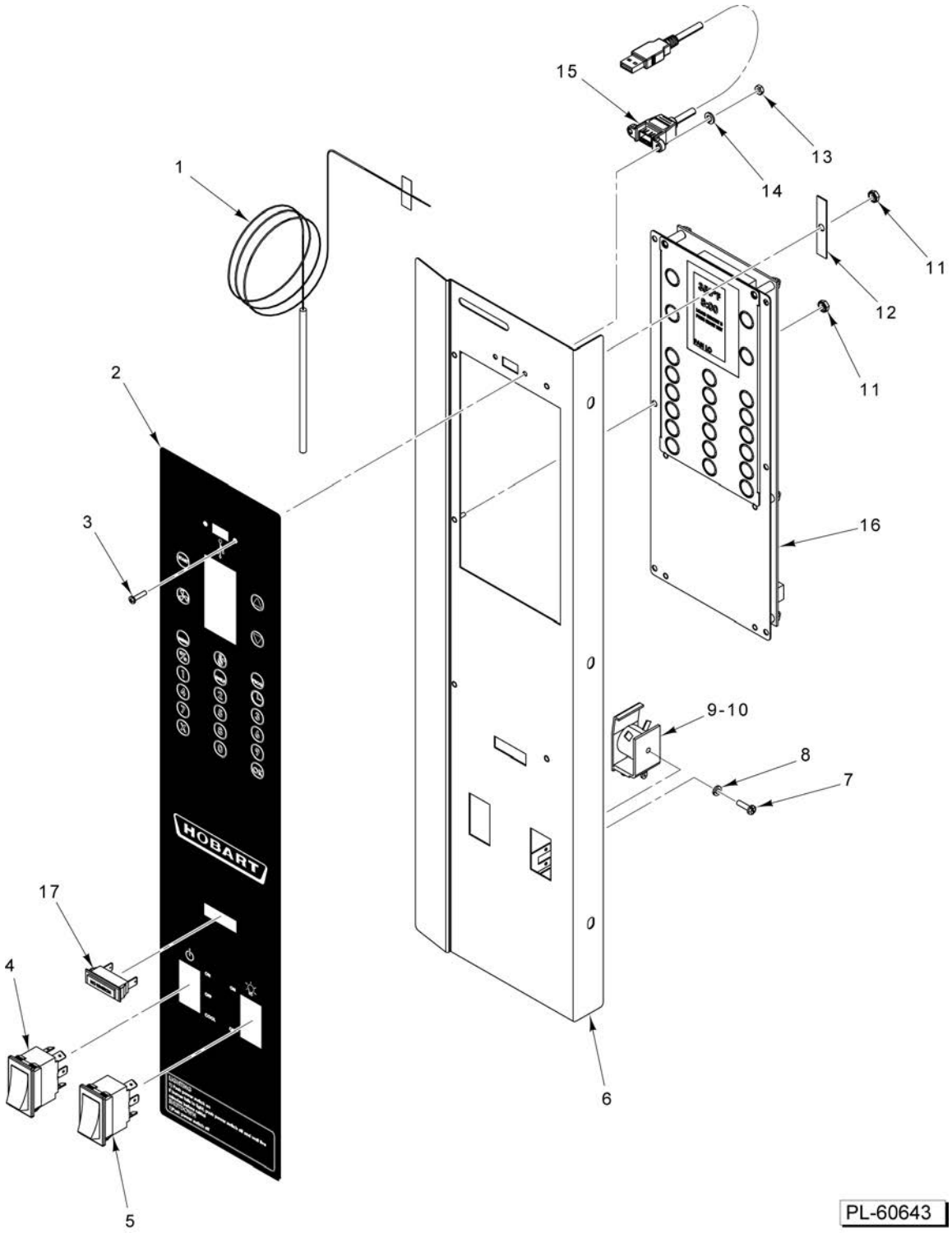



**CONTROL PANEL**
**(ML-126616 & ML-126619) (PREVIOUS)**

## CONTROL PANEL
## (ML-126616 & ML-126619) (PREVIOUS)

| ILLUS. PL-60640 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | SD-037-02 | Self-Tapping Screw 10-16 x 1/2 Hex Washer Hd., Type AB | 3 |
| *2 | | Controller | 1 |
| 3 | 00-959075-000G3 | Panel - Control Assy. (120 V.) (Complete) | 1 |
| 4 | 00-959075-000G4 | Panel - Control Assy. (240 V.) (Complete) | 1 |
| 5 | 00-354575-00004 | Light - Indicator | 1 |
| 6 | 00-358628-00002 | Switch - Rocker (2-Position) | 1 |
| 7 | 00-358628-00001 | Switch - Rocker (3-Position) | 1 |
| 8 | 00-424845-00001 | Overlay - Control Panel (ML-126616 & ML-126619) (Previous Construction) | 1 |
| 9 | 00-497288-00001 | Overlay - Control Panel (ML-126616 & ML-126619) (Current Construction) | 1 |
| 10 | 00-424842-000G1 | Panel - Weldment (Previous Construction) | 1 |
| 11 | 00-499301-000G1 | Panel - Control Assy. (Current Construction) | 1 |
| 12 | 00-423918-00001 | Electronic Beeper | 1 |

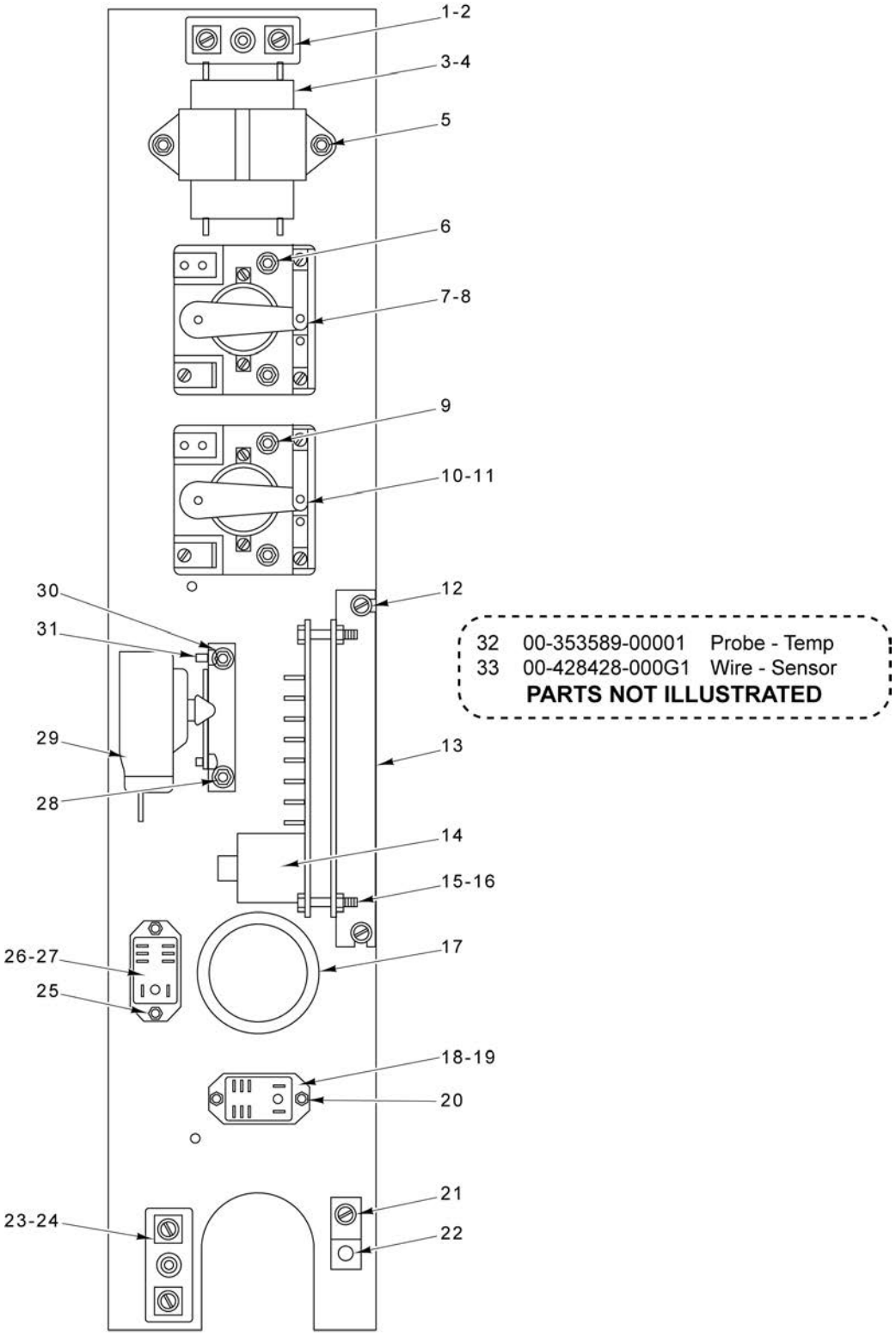
* (No Longer Available, order Item 3 or 4.)




**CONTROL PANEL**
**(ML-126616 & ML-126619) (CURRENT)**

## CONTROL PANEL
## (ML-126616 & ML-126619) (CURRENT)

| ILLUS. PL-60643 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-920883-00003 | Probe - Temperature | 1 |
| 2 | 00-959113-00003 | Overlay (Hobart) | 1 |
| 3 | | Mach. Screw 4-40 x 1/2 Phil. Pan Hd | 2 |
| 4 | 00-358628-00001 | Switch - Rocker (3-Position) | 1 |
| 5 | 00-358628-00002 | Switch - Rocker (2-Position) | 1 |
| 6 | 00-959074 | Panel - Weldment | 1 |
| 7 | SC-114-83 | Mach. Screw 6-32 x 1/4 Slotted Pan Hd. (SST) | 1 |
| 8 | WL-003-12 | Lockwasher #8 Helical | 1 |
| 9 | 00-411499-00003 | Buzzer (230 V.) | 1 |
| 10 | 00-411499-00004 | Buzzer (115 V.) | 1 |
| 11 | NS-046-89 | Nut Assy. 6-32 Hex | AR |
| 12 | 00-959110-00001 | Plate | 2 |
| 13 | | Nut 4-40 Hex | 2 |
| 14 | | Lockwasher | 2 |
| 15 | 00-959000-000G1 | Cable Assy. (USB) (1 Ft.) (Incls. Items 3, 14, & 15) | 1 |
| 16 | 00-959077-00001 | Controller - Cooking (NCC) | 1 |
| 17 | 00-354575-00004 | Light - Indicator | 1 |



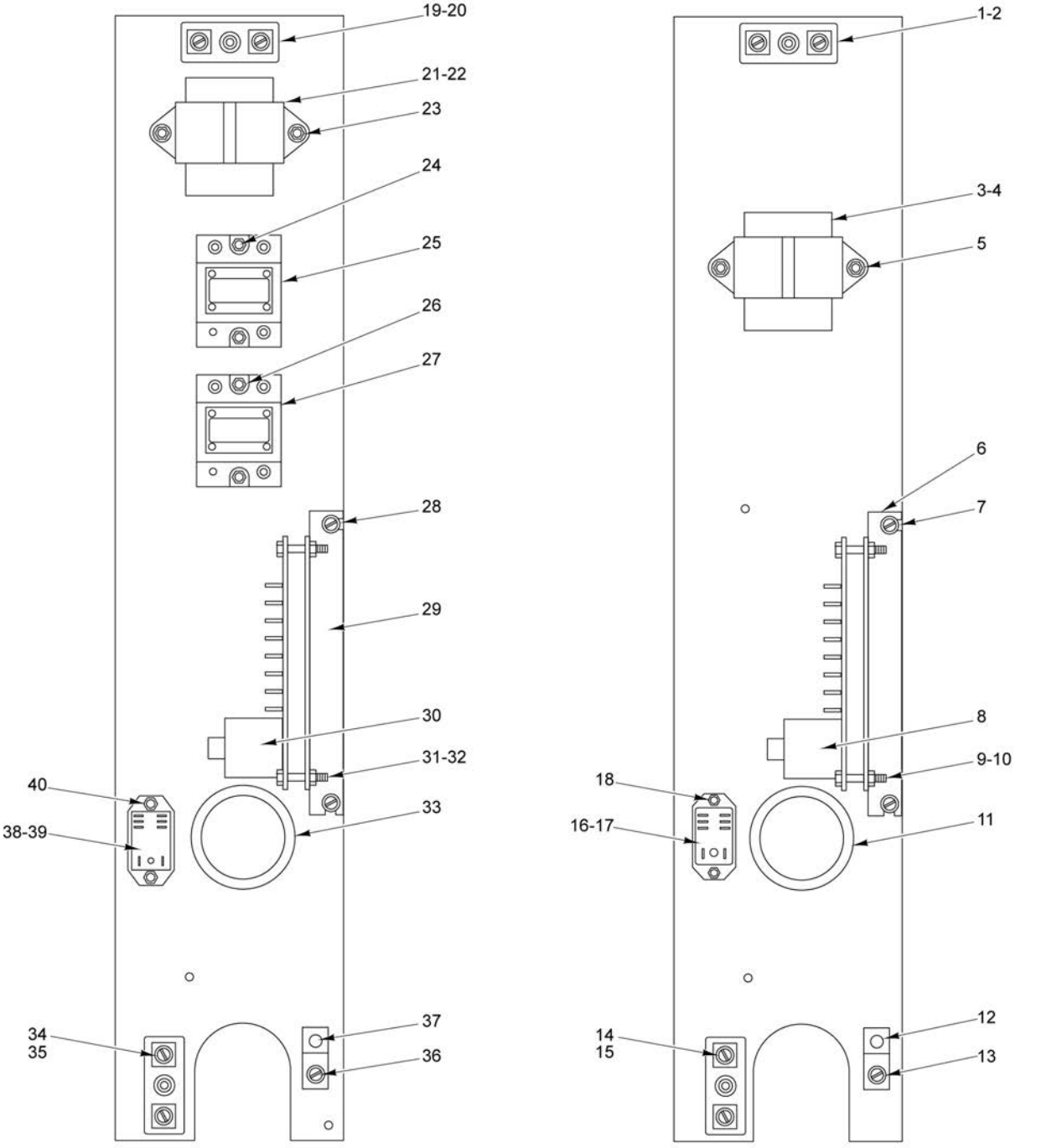

**ELECTRICAL COMPONENT PANEL**
**(WITH COOK & HOLD)**

## ELECTRICAL COMPONENT PANEL (WITH COOK & HOLD)

| ILLUS. PL-55191 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-417934-000G1 | Block Assy. - Porcelain | 1 |
| 2 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 1 |
| 3 | 00-421758-000G1 | Transformer (120 V.) (24 V. Output) | 1 |
| 4 | 00-421758-000G2 | Transformer (208-240 V.) (24 V. Output) | 1 |
| 5 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 2 |
| 6 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 2 |
| 7 | 00-411497-000A1 | Relay (1-Pole) (120 V.) | 1 |
| 8 | 00-411497-000A2 | Relay (1-Pole) (200 V.) | 1 |
| 9 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 2 |
| 10 | 00-411497-000A1 | Relay (1-Pole) (120 V.) | 1 |
| 11 | 00-411497-000A2 | Relay (1-Pole) (200 V.) | 1 |
| 12 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 2 |
| 13 | 00-423760-00001 | Bracket - Ignition Module | 1 |
| 14 | 00-913102-00292 | Control - Spark Ignition Kit Includes 18-22 connector 1/4" insulated | 1 |
| 15 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 2 |
| 16 | NS-044-07 | Nut Assy. 8-32 Hex Keps | 2 |
| 17 | FE-024-23 | Bushing - Electrical (Snap) | 1 |
| 18 | 00-416535-00006 | Relay - Heating (120 V.) (ML-126614) | 1 |
| 19 | 00-416535-00007 | Relay - Heating (200-240 V.) (ML-126614) | 1 |
| 20 | SD-034-49 | Self-Tapping Screw 8-32 x 1/2 Hex Washer Hd., Type T | 2 |
| 21 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 1 |
| 22 | 00-417856-00001 | Lug - Grounding (With Set Screw) | 1 |
| 23 | 00-417934-000G1 | Block Assy. - Porcelain | 1 |
| 24 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 1 |
| 25 | SD-034-49 | Self-Tapping Screw 8-32 x 1/2 Hex Washer Hd., Type T | 2 |
| 26 | 00-416535-00006 | Relay - Heating (120 V.) | 1 |
| 27 | 00-416535-00007 | Relay - Heating (200-240 V.) | 1 |
| 28 | 00-424832-00001 | Bracket - Mounting | 1 |
| 29 | 00-413764-00001 | Thermostat | 1 |
| 30 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 2 |
| 31 | SC-114-83 | Mach. Screw 6-32 x 1/4 Slotted Pan Hd. (SST) | 2 |
| 32 | 00-353589-00001 | Probe Temperature (SST) (ML-126615) | 1 |
| 33 | 00-428428-000G1 | Wire Assy. - Flame Sensor | 1 |

| | | | | | |
|---|---|---|---|---|---|
| 41 | 00-353589-00001 | Probe - Temp | 43 | 00-423813-00003 | Wire - Ignition |
| 42 | 00-920883-00003 | Probe - Temp | 44 | 00-428428-000G1 | Wire - Sensor |

**PARTS NOT ILLUSTRATED**



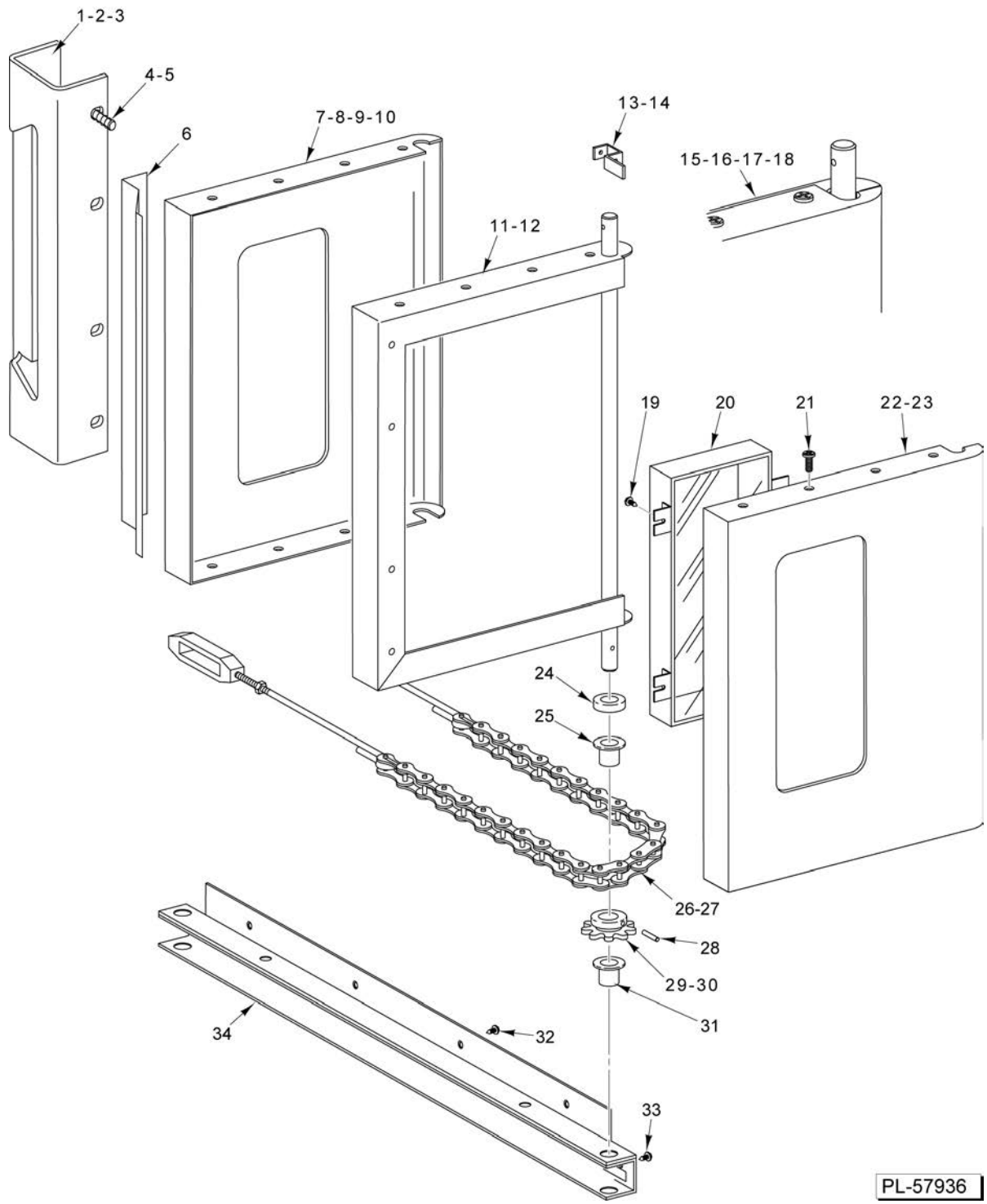

HGC5D

HGC5 / DGC5
WITHOUT COOK & HOLD PL-55190

## ELECTRICAL COMPONENT PANEL (HGC5D & WITHOUT COOK & HOLD)

## ELECTRICAL COMPONENT PANEL (HGC5D & WITHOUT COOK & HOLD)

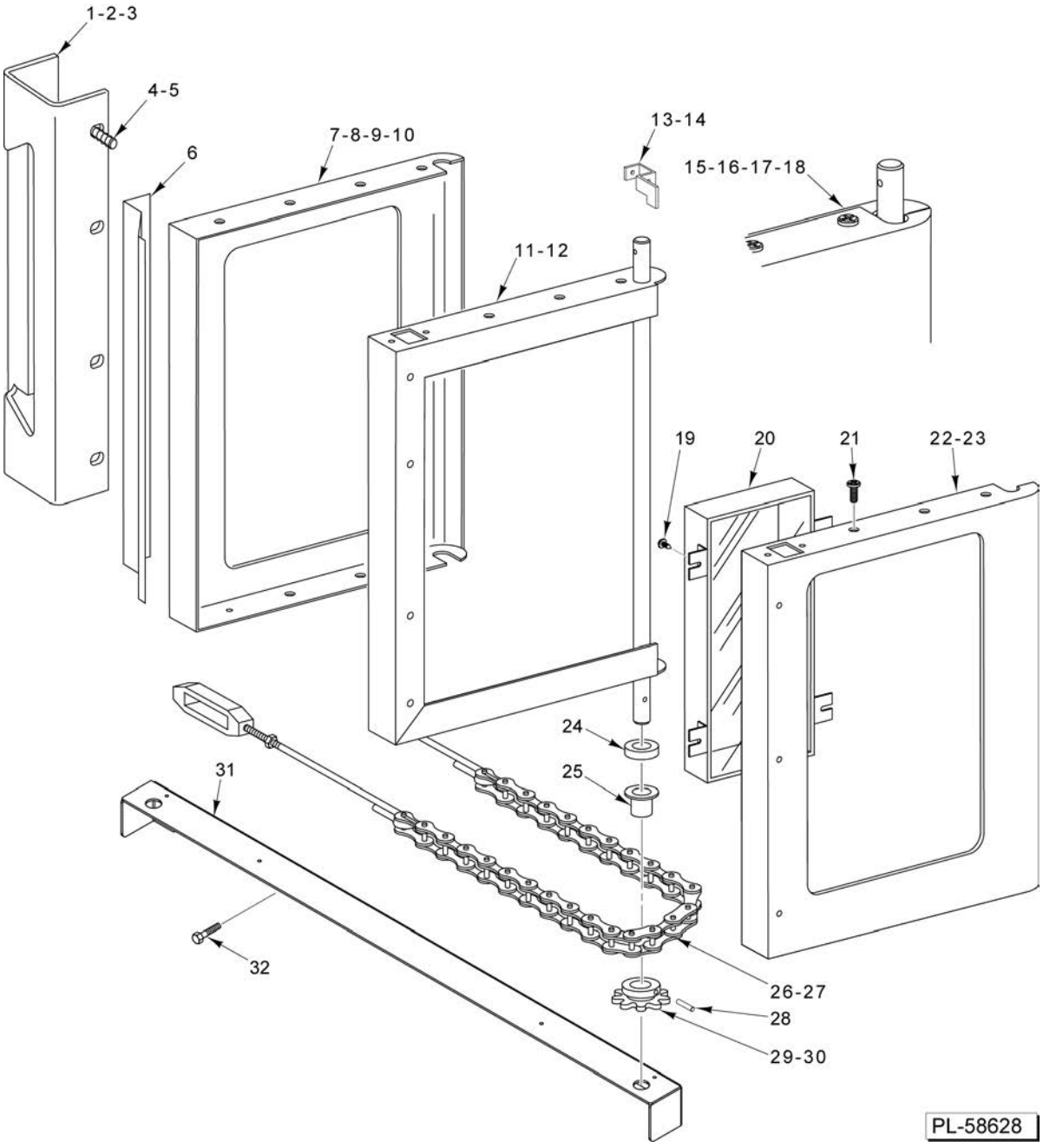
| ILLUS. PL-55190 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-417934-000G1 | Block Assy. - Porcelain | 1 |
| 2 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 1 |
| 3 | 00-411500-00012 | Transformer (120 V.) (24 V. Output) | 1 |
| 4 | 00-411500-00013 | Transformer (208-240 V.) (24 V. Output) | 1 |
| 5 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 2 |
| 6 | 00-423760-00001 | Bracket - Ignition Module | 1 |
| 7 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 1 |
| 8 | 00-913102-00292 | Control - Spark Ignition Kit | 1 |
| 9 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 2 |
| 10 | NS-044-07 | Nut Assy. 8-32 Hex Keps | 2 |
| 11 | FE-024-23 | Bushing - Electrical (Snap) | 1 |
| 12 | 00-417856-00001 | Lug - Grounding (With Set Screw) | 1 |
| 13 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 1 |
| 14 | 00-417934-000G1 | Block Assy. - Porcelain | 1 |
| 15 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 1 |
| 16 | 00-416535-00006 | Relay - Heating (120 V.) | 1 |
| 17 | 00-416535-00007 | Relay - Heating (200-240 V.) | 1 |
| 18 | SD-034-49 | Self-Tapping Screw 8-32 x 1/2 Hex Washer Hd., Type T | 1 |
| 19 | 00-417934-000G1 | Block Assy. - Porcelain | 1 |
| 20 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 1 |
| 21 | 00-421758-000G1 | Transformer (120 V.) (24 V. Output) | 1 |
| 22 | 00-421758-000G2 | Transformer (208-240 V.) (24 V. Output) | 1 |
| 23 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 2 |
| 24 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 4 |
| 25 | 00-821875-00002 | Relay - Solid State (50 Amp.) | 2 |
| 26 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 4 |
| 27 | 00-821875-00002 | Relay - Solid State (50 Amp.) | 2 |
| 28 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 1 |
| 29 | 00-423760-00001 | Bracket - Ignition Module | 1 |
| 30 | 00-913102-00292 | Control - Spark Ignition Kit Includes 18-22 connector 1/4" insulated | 1 |
| 31 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 2 |
| 32 | NS-044-07 | Nut Assy. 8-32 Hex Keps | 2 |
| 33 | FE-024-23 | Bushing - Electrical (Snap) | 1 |
| 34 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 1 |
| 35 | 00-417934-000G1 | Block Assy. - Porcelain | 1 |
| 36 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 1 |
| 37 | 00-417856-00001 | Lug - Grounding (With Set Screw) | 1 |
| 38 | 00-416535-00006 | Relay - Heating (120 V.) | 1 |
| 39 | 00-416535-00007 | Relay - Heating (200-240 V.) | 1 |
| 40 | SD-034-49 | Self-Tapping Screw 8-32 x 1/2 Hex Washer Hd., Type T | 2 |
| 41 | 00-353589-00001 | Probe Temperature (SST) | 1 |
| 42 | 00-920883-00003 | Probe - Temperature | 1 |
| 43 | 00-423813-00003 | Wire - Ignition (High Voltage) | 1 |
| 44 | 00-428428-000G1 | Wire Assy. - Flame Sensor | 1 |




**SIMULTANEOUSLY OPENING DOORS**
**(PREVIOUS CONSTRUCTION)**

## SIMULTANEOUSLY OPENING DOORS
## (PREVIOUS CONSTRUCTION)

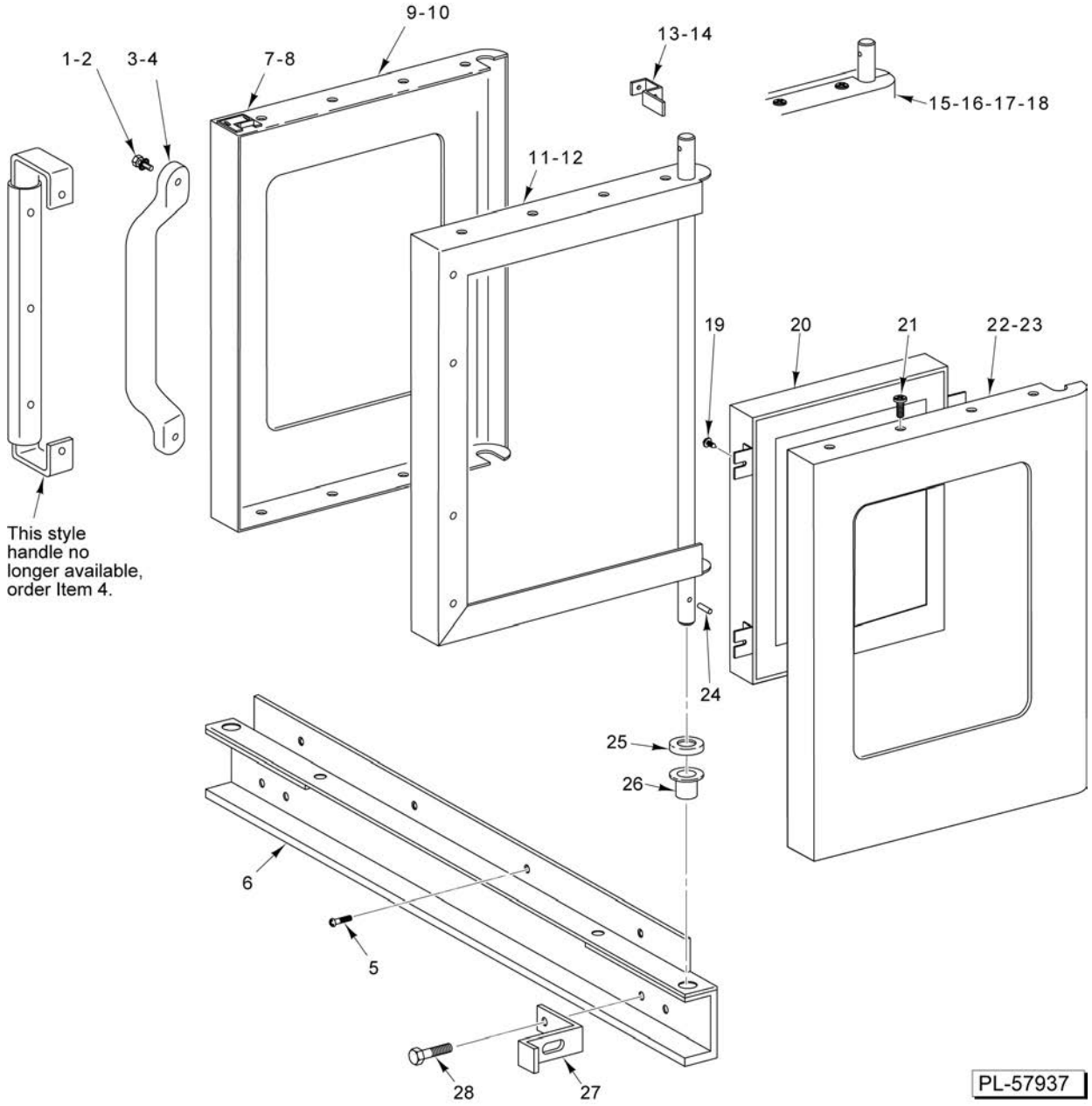
| ILLUS. PL-57936 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-356562-00001 | Handle - Door | 1 |
| 2 | 00-421923-000G1 | Grip - Set | 1 |
| 3 | SC-113-98 | Mach. Screw 10-24 x 1/2 Hex Washer Hd | 3 |
| 4 | SC-041-01 | Cap Screw 1/4-20 x 3/4 Hex Hd. (SST) | 4 |
| 5 | WL-019-18 | Lockwasher 1/4 Light | 4 |
| 6 | 00-356550-00001 | Latch - Friction | 1 |
| 7 | 00-421913-00002 | Panel - Outer Door (RH) (W/O Window) | 1 |
| 8 | 00-421913-00003 | Panel - Outer Door (LH) (W/Window) | 1 |
| 9 | 00-421913-00001 | Panel - Outer Door (RH) (W/Window) | 1 |
| 10 | 00-421913-00004 | Panel - Outer Door (LH) (W/O Window) | 1 |
| 11 | 00-421904-000G2 | Frame Assy. - Door (LH) | 1 |
| 12 | 00-421905-000G1 | Frame Assy. - Door (RH) | 1 |
| 13 | 00-424163-00001 | Lever - Door Switch | 1 |
| 14 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 1 |
| 15 | 00-424730-00001 | Door Assy. (LH) (W/Window) | 1 |
| 16 | 00-424730-00002 | Door Assy. (LH) (W/O Window) | 1 |
| 17 | 00-424731-00001 | Door Assy. (RH) (W/Window) | 1 |
| 18 | 00-424731-00002 | Door Assy. (RH) (W/O Window) | 1 |
| 19 | SD-034-62 | Self-Tapping Screw 10-32 x 1/2 Hex Washer Hd., Type T | 4 |
| 20 | 00-358534-00001 | Window Assy | 1 |
| 21 | SD-034-22 | Self-Tapping Screw 10-16 x 5/8 Phil. Truss Hd., Type AB | 9 |
| 22 | 00-358532-00001 | Panel - Inner Door (W/Window) | 1 |
| 23 | 00-358533-00003 | Panel - Inner Door (W/O Window) | 1 |
| 24 | 00-343143-00002 | Washer | 2 |
| 25 | 00-347080-00002 | Bearing - Door Shaft | 2 |
| 26 | 00-343608-00002 | Door Chain & Turnbuckle Assy | 2 |
| 27 | 00-352667-00001 | Cable - Door Stop | 1 |
| 28 | PS-004-11 | Spirol Pin 3/16 x 1-1/4 Heavy | 2 |
| 29 | 00-342166-00001 | Sprocket - Door Shaft | 2 |
| 30 | SC-047-28 | Set Screw 1/4-28 x 3/8 Hex Hdls., Cup Pt | 2 |
| 31 | 00-347080-00002 | Bearing - Door Shaft | 2 |
| 32 | SC-022-40 | Mach. Screw 1/4-20 x 3/4 Phil. Flat Hd. (SST) | 4 |
| 33 | SC-113-90 | Mach. Screw 1/4-20 x 3/4 Hex Hd | 2 |
| 34 | 00-357846-00001 | Channel - Door Sill Weldment | 1 |




**SIMULTANEOUSLY OPENING DOORS**
**(CURRENT CONSTRUCTION)**

## SIMULTANEOUSLY OPENING DOORS
## (CURRENT CONSTRUCTION)

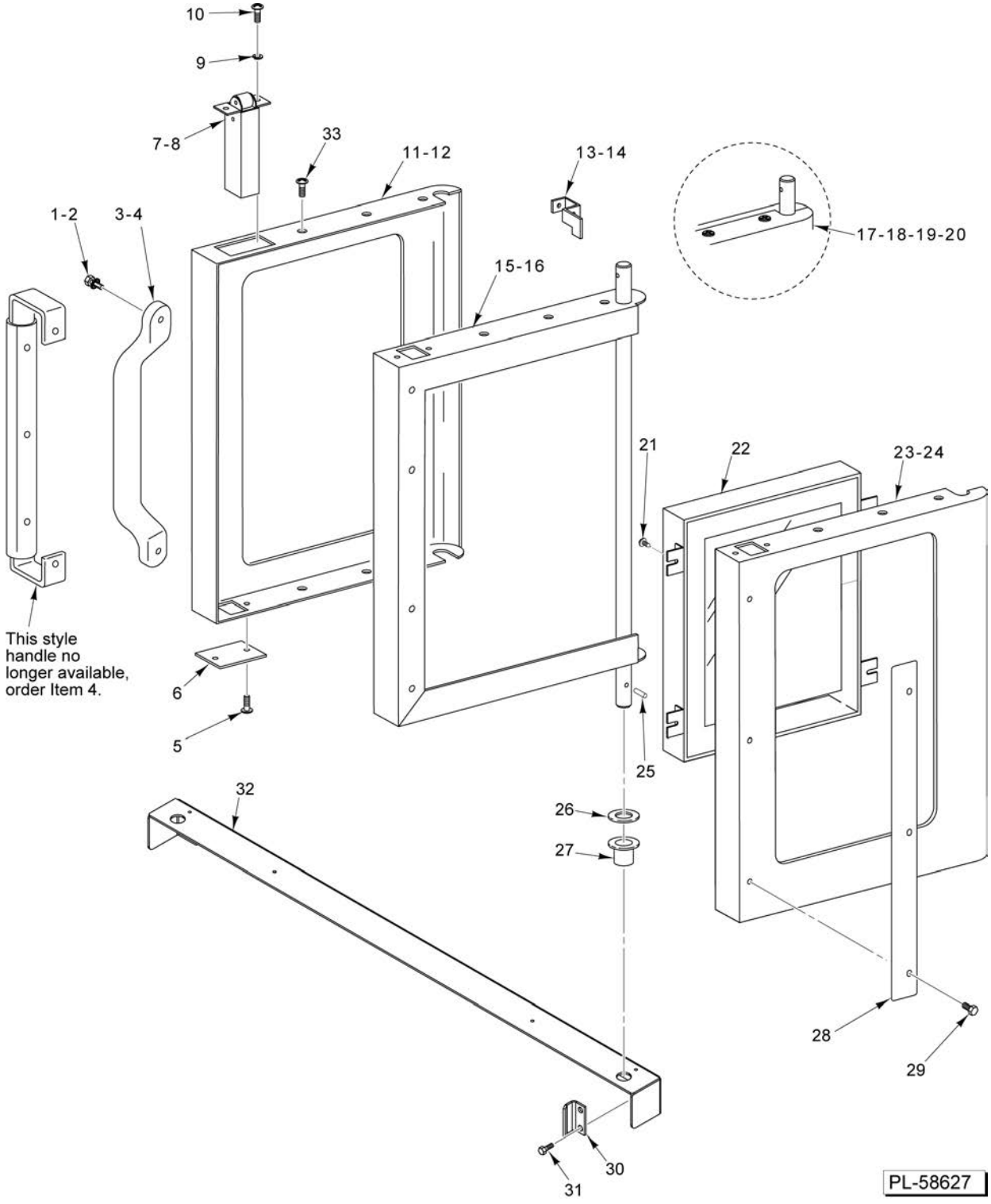
| ILLUS. PL-58628 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-356562-00001 | Handle - Door | 1 |
| 2 | 00-421923-000G1 | Grip - Set | 1 |
| 3 | SC-113-98 | Mach. Screw 10-24 x 1/2 Hex Washer Hd | 3 |
| 4 | SC-041-01 | Cap Screw 1/4-20 x 3/4 Hex Hd. (SST) | 4 |
| 5 | WL-019-18 | Lockwasher 1/4 Light | 4 |
| 6 | 00-356550-00001 | Latch - Friction | 1 |
| 7 | 00-421913-00002 | Panel - Outer Door (RH) (W/O Window) | 1 |
| 8 | 00-421913-00003 | Panel - Outer Door (LH) (W/Window) | 1 |
| 9 | 00-421913-00001 | Panel - Outer Door (RH) (W/Window) | 1 |
| 10 | 00-421913-00004 | Panel - Outer Door (LH) (W/O Window) | 1 |
| 11 | 00-421904-000G2 | Frame Assy. - Door (LH) | 1 |
| 12 | 00-421905-000G1 | Frame Assy. - Door (RH) | 1 |
| 13 | 00-424163-00001 | Lever - Door Switch | 1 |
| 14 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 1 |
| 15 | 00-499289-000G1 | Door Assy. (LH) (W/Window) | 1 |
| 16 | 00-499289-000G2 | Door Assy. (LH) (W/O Window) | 1 |
| 17 | 00-499290-000G1 | Door Assy. (RH) (W/Window) | 1 |
| 18 | 00-499290-000G2 | Door Assy. (RH) (W/O Window) | 1 |
| 19 | SD-034-62 | Self-Tapping Screw 10-32 x 1/2 Hex Washer Hd., Type T | 4 |
| 20 | 00-358534-00001 | Window Assy | 1 |
| 21 | SD-034-22 | Self-Tapping Screw 10-16 x 5/8 Phil. Truss Hd., Type AB | 9 |
| 22 | 00-358532-00001 | Panel - Inner Door (W/Window) | 1 |
| 23 | 00-358533-00003 | Panel - Inner Door (W/O Window) | 1 |
| 24 | 00-343143-00002 | Washer | 2 |
| 25 | 00-347080-00002 | Bearing - Door Shaft | 2 |
| 26 | 00-343608-00002 | Door Chain & Turnbuckle Assy | 2 |
| 27 | 00-352667-00001 | Cable - Door Stop | 1 |
| 28 | PS-004-11 | Spirol Pin 3/16 x 1-1/4 Heavy | 2 |
| 29 | 00-342166-00001 | Sprocket - Door Shaft | 2 |
| 30 | SC-047-28 | Set Screw 1/4-28 x 3/8 Hex Hdls., Cup Pt | 2 |
| 31 | 00-961294-00001 | Support - Lower Door | 1 |
| 32 | 00-922154 | Screw 1/4-20 x 1 Hex Hd | 4 |




**INDEPENDENTLY OPENING DOORS**
**(PREVIOUS CONSTRUCTION)**

## INDEPENDENTLY OPENING DOORS
## (PREVIOUS CONSTRUCTION)

| ILLUS. PL-57937 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-959087-00001 | Screw 1/4-20 x 1-1/4 Black Hd. | 2 |
| 2 | WL-013-14 | Lockwasher 1/4 Internal Shakeproof | 2 |
| 3 | 00-957108-00001 | Handle - Molded (Black) | 1 |
| 4 | 00-913102-00179 | Kit - Handle | 1 |
| 5 | SC-022-40 | Mach. Screw 1/4-20 x 3/4 Phil. Flat Hd. (SST) | 4 |
| 6 | 00-357846-00001 | Channel - Door Sill Weldment | 1 |
| 7 | 00-423847-00001 | Strike - Door | 1 |
| 8 | SD-034-22 | Self-Tapping Screw 10-16 x 5/8 Phil. Truss Hd., Type AB | 2 |
| 9 | 00-358600-00001 | Panel - Outer Door (RH) (W/Window) | 1 |
| 10 | 00-358600-00002 | Panel - Outer Door (RH) (W/O Window) | 1 |
| 11 | 00-421905-000G1 | Frame Assy. - Door (RH) | 1 |
| 12 | 00-421904-000G2 | Frame Assy. - Door (LH) | 1 |
| 13 | 00-424163-00001 | Lever - Door Switch | 1 |
| 14 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 1 |
| 15 | 00-358529-00005 | Door Assy. (LH) (W/Window) | 1 |
| 16 | 00-358529-00006 | Door Assy. (LH) (W/O Window) | 1 |
| 17 | 00-358530-00003 | Door Assy. (RH) (W/Window) | 1 |
| 18 | 00-358530-00004 | Door Assy. (RH) (W/O Window) | 1 |
| 19 | SD-034-62 | Self-Tapping Screw 10-32 x 1/2 Hex Washer Hd., Type T | 4 |
| 20 | 00-358534-00001 | Window Assy | 1 |
| 21 | SD-034-22 | Self-Tapping Screw 10-16 x 5/8 Phil. Truss Hd., Type AB | 8 |
| 22 | 00-358532-00001 | Panel - Inner Door (W/Window) | 1 |
| 23 | 00-358533-00003 | Panel - Inner Door (W/O Window) | 1 |
| 24 | PS-004-11 | Spirol Pin 3/16 x 1-1/4 Heavy | 1 |
| 25 | 00-343143-00002 | Washer | 2 |
| 26 | 00-347080-00002 | Bearing - Door Shaft | 1 |
| 27 | 00-424158-00001 | Door Stop | 1 |
| 28 | SC-113-90 | Mach. Screw 1/4-20 x 3/4 Hex Hd | 2 |



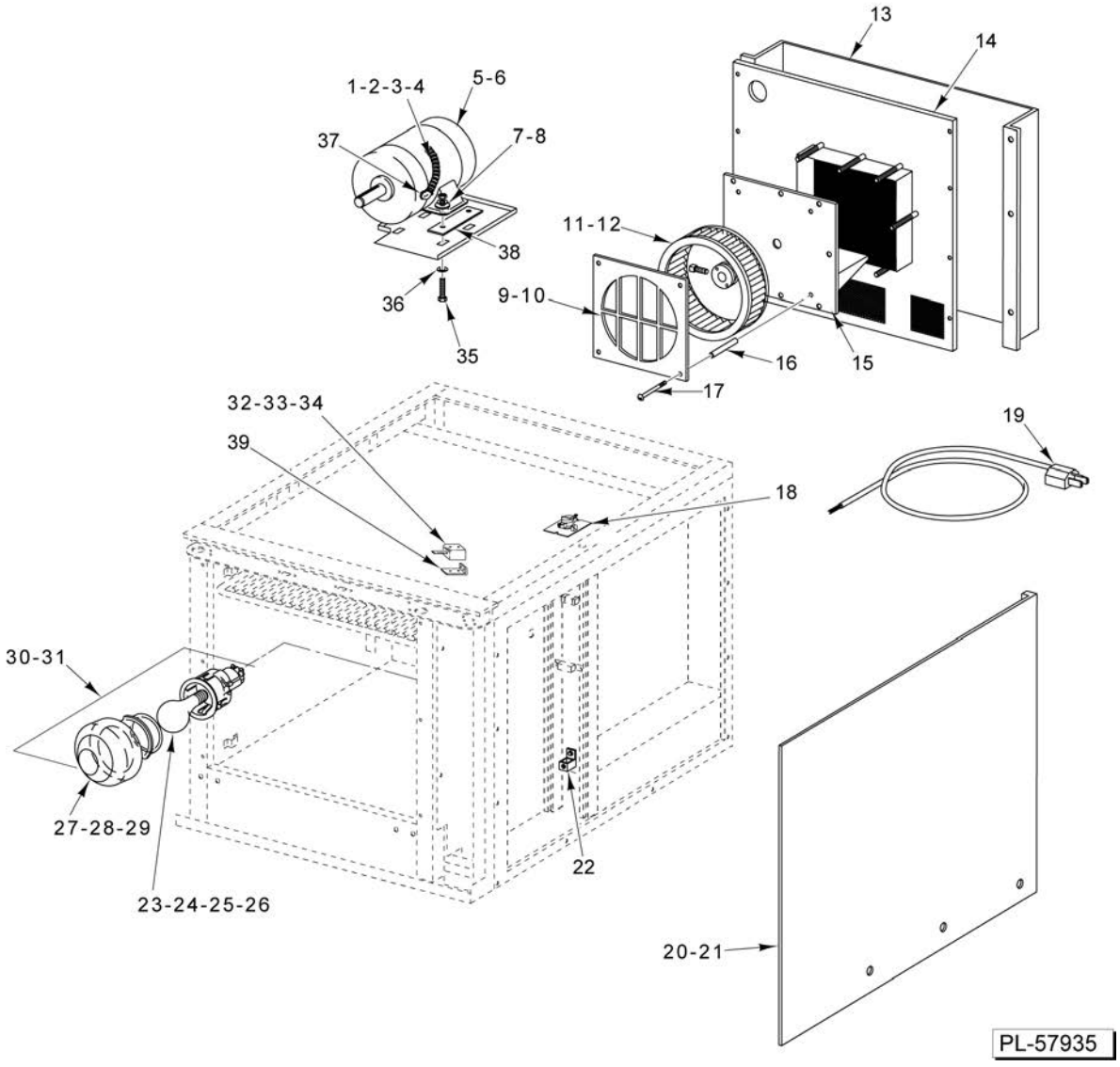

**INDEPENDENTLY OPENING DOORS**
**(CURRENT CONSTRUCTION)**

## INDEPENDENTLY OPENING DOORS
## (CURRENT CONSTRUCTION)

| ILLUS. PL-58627 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-959087-00001 | Screw 1/4-20 x 1-1/4 Black Hd. | 2 |
| 2 | WL-013-14 | Lockwasher 1/4 Internal Shakeproof | 2 |
| 3 | 00-957108-00001 | Handle - Molded (Black) | 1 |
| 4 | 00-913102-00179 | Kit - Handle | 1 |
| 5 | SD-034-22 | Self-Tapping Screw 10-16 x 5/8 Phil. Truss Hd., Type AB | 2 |
| 6 | 00-499264-00001 | Plate - Latch Cutout | 1 |
| 7 | 00-497586-00001 | Latch - Door Roller | 1 |
| 8 | 00-347545-00001 | Catch Assy. - Door (Ball Style) (Not Shown) | 1 |
| 9 | WL-013-11 | Lockwasher #10 Internal Shakeproof | 2 |
| 10 | SC-117-73 | Mach. Screw 10-32 x 5/8 Phil. Truss Hd | 2 |
| 11 | 00-358600-00001 | Panel - Outer Door (RH) (W/Window) | 1 |
| 12 | 00-358600-00002 | Panel - Outer Door (RH) (W/O Window) | 1 |
| 13 | 00-424163-00001 | Lever - Door Switch | 1 |
| 14 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 1 |
| 15 | 00-421905-000G1 | Frame Assy. - Door (RH) | 1 |
| 16 | 00-421904-000G2 | Frame Assy. - Door (LH) | 1 |
| 17 | 00-499285-000G1 | Door Assy. (LH) (W/Window) | 1 |
| 18 | 00-499285-000G2 | Door Assy. (LH) (W/O Window) | 1 |
| 19 | 00-499286-000G1 | Door Assy. (RH) (W/Window) | 1 |
| 20 | 00-499286-000G2 | Door Assy. (RH) (W/O Window) | 1 |
| 21 | SD-034-62 | Self-Tapping Screw 10-32 x 1/2 Hex Washer Hd., Type T | 4 |
| 22 | 00-358534-00001 | Window Assy | 1 |
| 23 | 00-358532-00001 | Panel - Inner Door (W/Window) | 1 |
| 24 | 00-358533-00003 | Panel - Inner Door (W/O Window) | 1 |
| 25 | PS-004-11 | Spirol Pin 3/16 x 1-1/4 Heavy | 1 |
| 26 | 00-343143-00002 | Washer | 2 |
| 27 | 00-347080-00002 | Bearing - Door Shaft | 1 |
| 28 | 00-357837-00001 | Seal - Door End | 1 |
| 29 | SD-034-22 | Self-Tapping Screw 10-16 x 5/8 Phil. Truss Hd., Type AB | 3 |
| 30 | 00-961535-00001 | Stop - Door | 1 |
| 31 | 00-922154 | Screw 1/4-20 x 1 Hex Hd | 2 |
| 32 | 00-961294-00001 | Support - Lower Door | 4 |
| 33 | SD-034-22 | Self-Tapping Screw 10-16 x 5/8 Phil. Truss Hd., Type AB | 1 |

| | | | | | |
|---|---|---|---|---|---|
| 40 | 00-427617-00001 | Flue - Deflector | 48 | 00-343634-00002 | Caster |
| 41 | 00-959663-00001 | Tube - Snorkel Assy. | 49 | 00-357047-00001 | Caster - Swivel |
| 42 | 00-402558-00004 | Clip - Bulb | 50 | 00-357047-00002 | Caster - Swivel |
| 43 | 00-424172-00001 | Leg – Set (PTD) | 51 | 00-417063-00001 | Strap |
| 44 | 00-424172-00002 | Leg – Set (SST) | 52 | 00-357093-00001 | Ring - Locking |
| 45 | 00-424157-000G7 | Leg (PTD) | 53 | 00-288946-00002 | Foot |
| 46 | 00-342150-00005 | Leg (For Double Stack) | 54 | SC-113-76 | Screw |
| 47 | 00-343634-00001 | Caster | 55 | 00-425428-00001 | Foot (Adjustable) |

**PARTS NOT ILLUSTRATED**



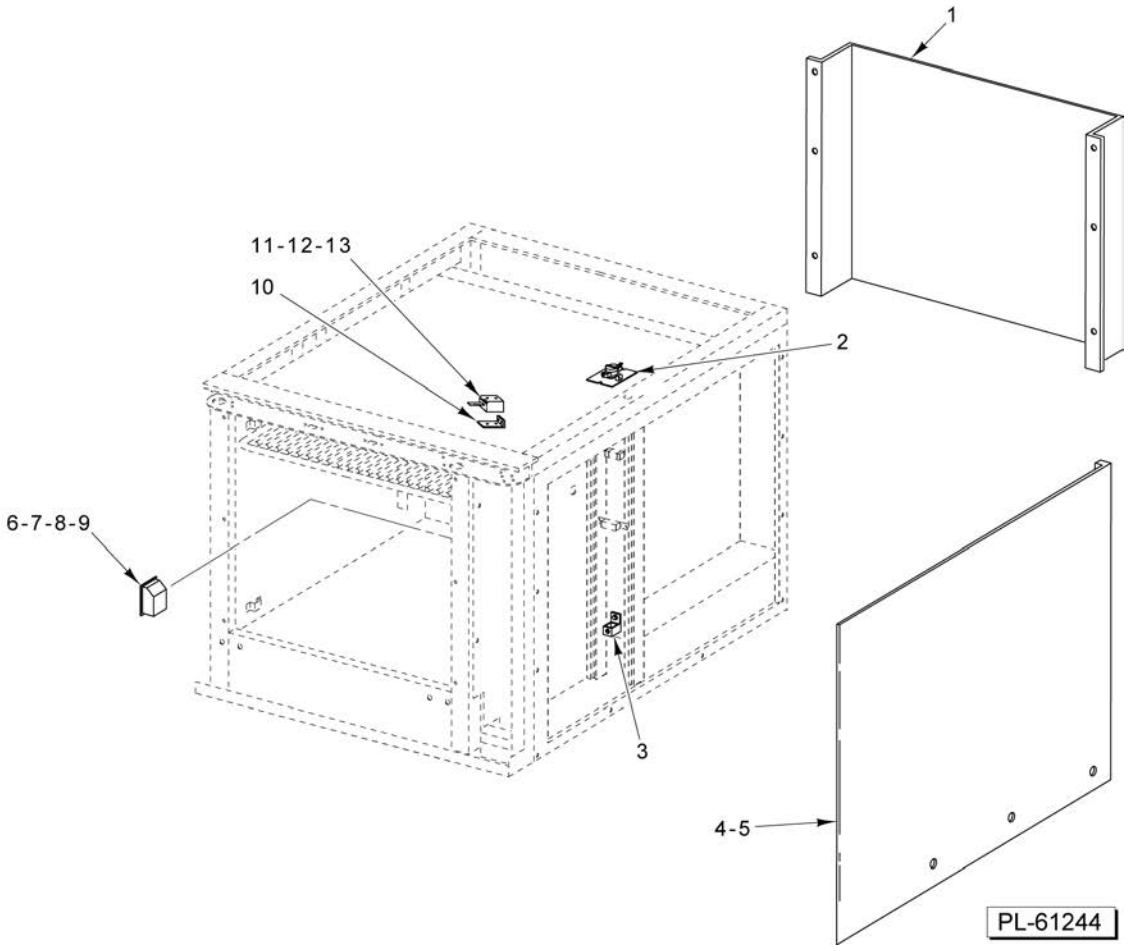

**OVEN PANELS AND MOTOR**
**(PREVIOUS CONSTRUCTION)**
**(BEFORE 3-19-18)**

# OVEN PANELS AND MOTOR (PREVIOUS CONSTRUCTION) (BEFORE 3-19-18)

| ILLUS. PL-57935 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | FE-006-05 | Lock Nut 1/2 | 1 |
| 2 | 00-414540-00B35 | Conduit 3/8 x 35 In. Lg | 1 |
| 3 | 00-342285-00001 | Bushing - Plastic | 2 |
| 4 | FE-002-03 | Connector - Conduit 3/8 TS Straight | 1 |
| 5 | 00-358516-00001 | Motor 1/2 Hp. (2-Speed) (115 V., 50/60 Hz., 1 Ph.) | 1 |
| 6 | 00-358516-00002 | Motor 1/2 Hp. (2-Speed) (208-240 V., 50/60 Hz., 1 Ph.) | 1 |
| 7 | WS-029-46 | Washer | 4 |
| 8 | NS-046-86 | Nut Assy. 5/16-18 KEPS Hex | 4 |
| 9 | 00-411136-00003 | Cover - Fan (50 Hz.) | 1 |
| 10 | 00-411136-00004 | Cover - Fan (60 Hz.) | 1 |
| 11 | 00-415780-00003 | Wheel - Blower (60 Hz.) | 1 |
| 12 | 00-415780-00005 | Wheel - Blower (50 Hz.) | 1 |
| 13 | 00-424840-00002 | Panel - Back (SST) (Optional) | 1 |
| 14 | | Not Available for Service | 1 |
| 15 | 00-423289-000G1 | Motor Mount | 1 |
| 16 | 00-411289-00004 | Spacer - Fan Housing | 4 |
| 17 | SC-120-15 | Mach. Screw 1/4-20 x 4 Rd. Hd | 4 |
| 18 | 00-958827-000G3 | Kit - Oven Limit Assy | 1 |
| 19 | 00-405016-00001 | Cord - Electric Supply (120 V. Only) | 1 |
| 20 | 00-424140-00002 | Panel - Outer (RH) (SST) (ML-126614, ML-126615, & ML-126616) | 1 |
| 21 | 00-424228-00002 | Panel - Outer (RH) (SST) (ML-126618 & ML-126619) | 1 |
| 22 | 00-417856-00001 | Lug - Grounding (With Set Screw) | 1 |
| 23 | 01-1000V7-00028 | Bulb (120 V.) (Previous Construction) | 1 |
| 24 | 00-357036-00001 | Oven Lamp (40 Watts) (120-130 V.) (Current Construction) | 1 |
| 25 | 00-342766-00002 | Light Bulb - Oven (40 Watts) (240 V.) (Previous Construction) | 1 |
| 26 | 00-913102-00032 | Kit - Lamp & Housing (250 V.) (Current Construction) | 1 |
| 27 | 00-423832-00001 | Cover - Lamp Electrical | 2 |
| 28 | 01-1000V7-00027 | Lamp - Oven (Complete) (Lens, Base, & 120V Bulb) (Current Construction) | 1 |
| 29 | 00-357036-00003 | Lens - Lamp | 1 |
| 30 | 00-357036-00001 | Oven Lamp (40 Watts) (120-130 V.) | 2 |
| 31 | 00-913102-00032 | Kit - Lamp & Housing (250 V.) | 2 |
| 32 | 00-411496-000F1 | Switch - Micro (Units Builts Before 5/12/09) | 1 |
| 33 | 00-499310-000G1 | Micro Switch Kit (Units Builts After 5/12/09) | 1 |
| 34 | SD-034-47 | Self-Tapping Screw 6-32 x 1 Hex Washer Hd., Type T | 2 |
| 35 | SC-113-65 | Cap Screw 5/16-18 x 1-1/4 Hex Hd | 4 |
| 36 | WS-029-46 | Washer | 4 |
| 37 | FE-002-52 | Connector - Conduit 3/8 TS 90 Degree | 1 |
| 38 | 00-358723-00001 | Spacer - Steel | 2 |
| 39 | 00-425324-00001 | Bracket - Door Switch | 1 |
| 40 | 00-427617-00001 | Flue - Deflector | 1 |
| 41 | 00-959663-00001 | Tube - Snorkel | 1 |
| 42 | 00-402558-00004 | Clip - Tubing | 2 |
| 43 | 00-424172-00001 | Leg - Set (25-3/4 In.) (PTD) | 1 |
| 44 | 00-424172-00002 | Leg - Set (25-3/4 In.) (SST) | 1 |
| 45 | 00-424157-000G7 | Leg Assembly for Caster and Foot (Painted Black) | 4 |
| 46 | 00-342150-00005 | Leg (8 In.) (Double Stack) | 4 |
| 47 | 00-343634-00001 | Caster (Swivel With Brake) (7.5 In.) | 2 |
| 48 | 00-343634-00002 | Caster (Rigid) (7.5 In.) | 2 |
| 49 | 00-357047-00001 | Caster - Swivel (Without Brake) | 2 |
| 50 | 00-357047-00002 | Caster - Swivel (With Brake) | 2 |
| 51 | 00-417063-00001 | Strap - Tie Down | 4 |
| 52 | 00-357093-00001 | Ring - Locking (Use with Item 45) | 4 |
| 53 | 00-288946-00002 | Foot - Adjustable (1-5/8) (SST) (Use with Item 45) | 4 |
| 54 | SC-113-76 | Cap Screw 1/4-20 x 1 Hex Hd (Use with legs) | 16 |
| 55 | 00-425428-00001 | Foot - Adjustable (Use with Item 46) | 4 |

| | | | | | |
|---|---|---|---|---|---|
| 14 | 00-427617-00001 | Flue - Deflector | 22 | 00-343634-00002 | Caster |
| 15 | 00-959663-00001 | Tube - Snorkel Assy. | 23 | 00-357047-00001 | Caster - Swivel |
| 16 | 00-402558-00004 | Clip - Bulb | 24 | 00-357047-00002 | Caster - Swivel |
| 17 | 00-424172-00001 | Leg – Set (PTD) | 25 | 00-417063-00001 | Strap |
| 18 | 00-424172-00002 | Leg – Set (SST) | 26 | 00-357093-00001 | Ring - Locking |
| 19 | 00-424157-000G7 | Leg (PTD) | 27 | 00-288946-00002 | Foot |
| 20 | 00-342150-00005 | Leg (For Double Stack) | 28 | SC-113-76 | Screw |
| 21 | 00-343634-00001 | Caster | 29 | 00-425428-00001 | Foot (Adjustable) |

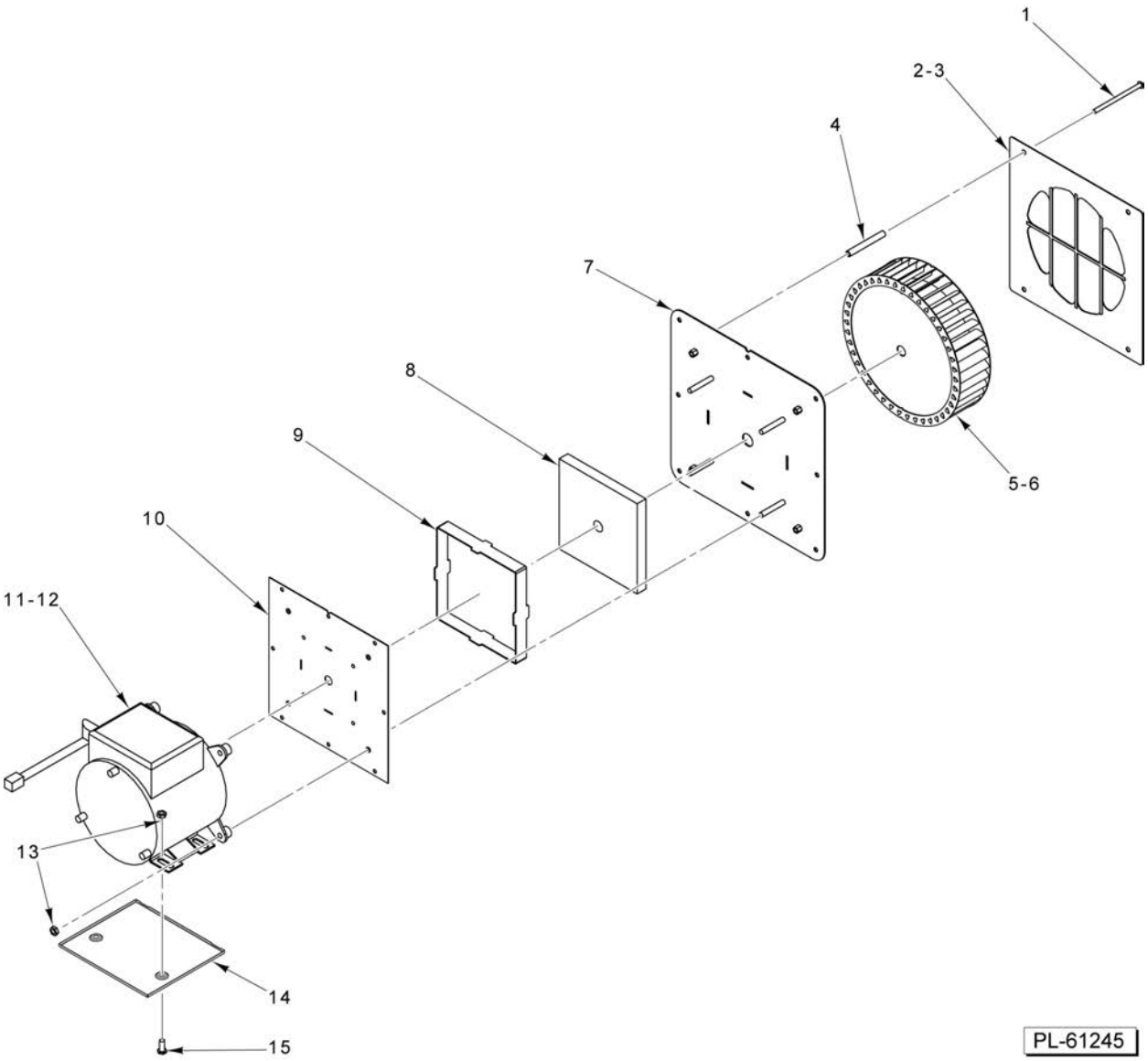
**PARTS NOT ILLUSTRATED**




**OVEN PANELS**
**(CURRENT CONSTRUCTION)**
**(STARTING 3-19-18)**

## OVEN PANELS
## (CURRENT CONSTRUCTION)
## (STARTING 3-19-18)

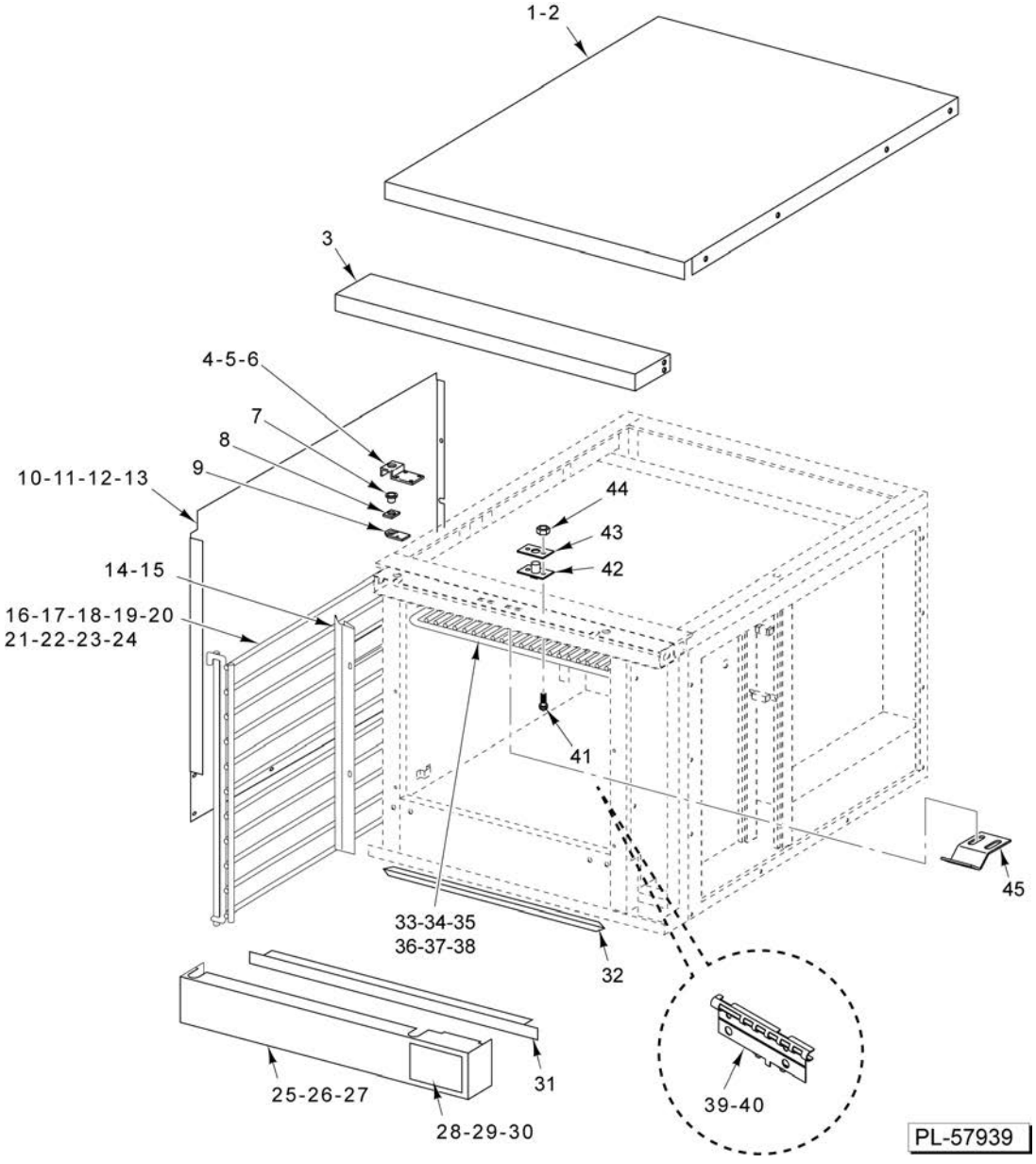
| ILLUS. PL-61244 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-424840-00002 | Panel - Back (SST) (Optional) | 1 |
| 2 | 00-958827-000G3 | Kit - Oven Limit Assy | 1 |
| 3 | 00-417856-00001 | Lug - Grounding (With Set Screw) | 1 |
| 4 | 00-424140-00002 | Panel - Outer (RH) (SST) | 1 |
| 5 | 00-424228-00002 | Panel - Outer (RH) (SST) | 1 |
| 6 | 00-960194-00001 | Oven Lamp (40W) (120 V.) | 2 |
| 7 | 00-961766-00001 | Oven Lamp (40W) (240 V.) | 2 |
| 8 | 00-961291-00001 | Bulb - Halogen (120 V.) | AR |
| 9 | 00-961291-00002 | Bulb - Halogen (230V) (240 V.) | AR |
| 10 | 00-425324-00001 | Bracket - Door Switch | 1 |
| 11 | 00-411496-000F1 | Switch - Micro (Door) | 1 |
| 12 | 00-499310-000G1 | Micro Switch Kit (Incls. Items 10, 11,& 13) | 1 |
| 13 | SD-034-47 | Self-Tapping Screw 6-32 x 1 Hex Washer Hd., Type T | 2 |
| 14 | 00-427617-00001 | Flue - Deflector | 1 |
| 15 | 00-959663-00001 | Tube - Snorkel | 1 |
| 16 | 00-402558-00004 | Clip - Tubing | 2 |
| 17 | 00-424172-00001 | Leg - Set (25-3/4 In.) (PTD) | 1 |
| 18 | 00-424172-00002 | Leg - Set (25-3/4 In.) (SST) | 1 |
| 19 | 00-424157-000G7 | Leg Assembly for Caster and Foot (Painted Black) | 4 |
| 20 | 00-342150-00005 | Leg (8 In.) (Double Stack) | 4 |
| 21 | 00-343634-00001 | Caster (Swivel With Brake) (7.5 In.) (Double Stack) | 2 |
| 22 | 00-343634-00002 | Caster (Rigid) (7.5 In.) (Double Stack) | 2 |
| 23 | 00-357047-00001 | Caster - Swivel (Without Brake) | 2 |
| 24 | 00-357047-00002 | Caster - Swivel (With Brake) | 2 |
| 25 | 00-417063-00001 | Strap - Tie Down | 4 |
| 26 | 00-357093-00001 | Ring - Locking (Use with Item 19) | 4 |
| 27 | 00-288946-00002 | Foot - Adjustable (1-5/8) (SST) (Use with Item 19) | 4 |
| 28 | SC-113-76 | Cap Screw 1/4-20 x 1 Hex Hd (Use with legs) | AR |
| 29 | 00-425428-00001 | Foot - Adjustable (Use with Item 20) | 4 |




**CONVECTION MOTOR**
**(STARTING 3-19-18)**

## CONVECTION MOTOR
## (STARTING 3-19-18)

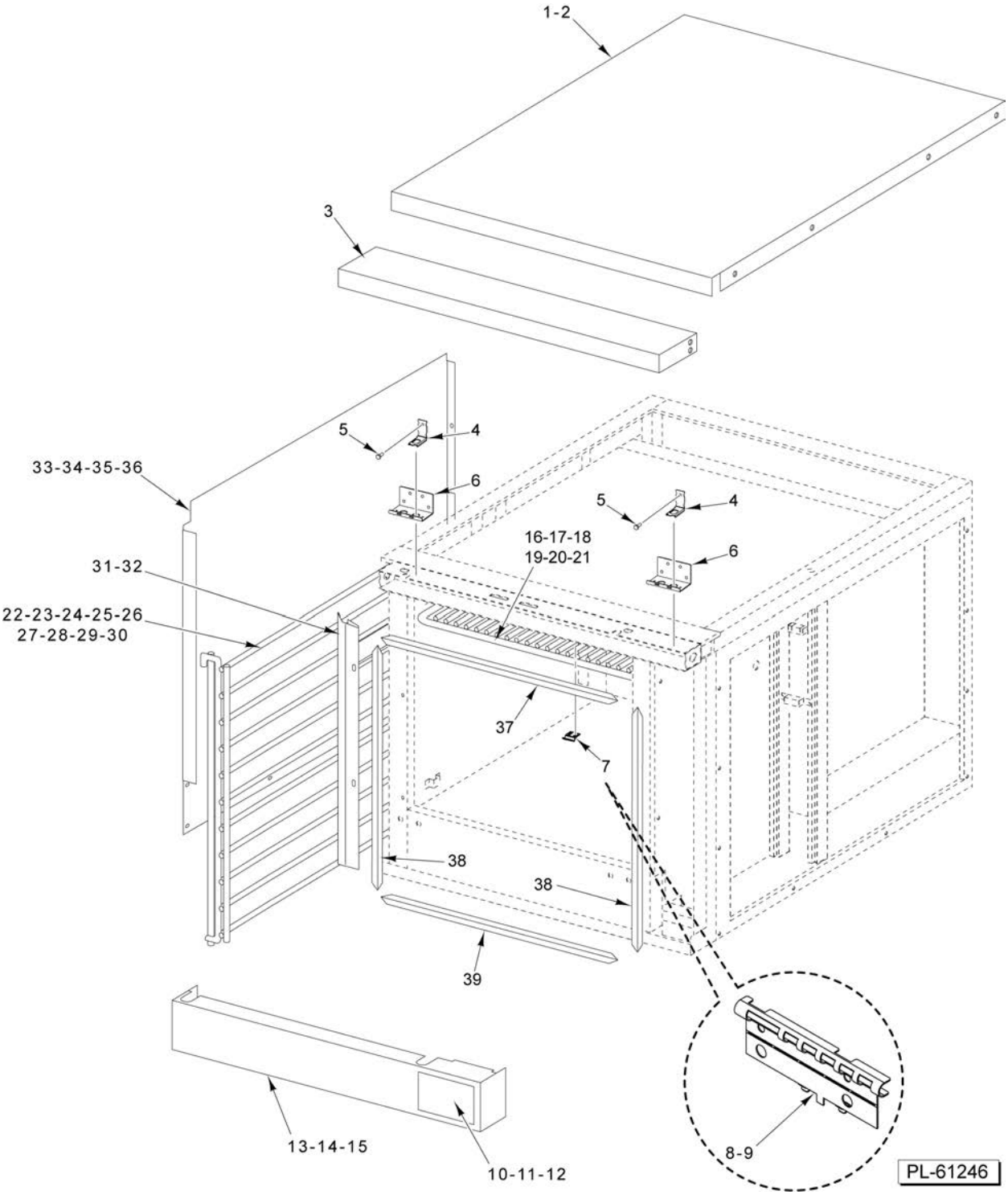
| ILLUS. PL-61245 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | SC-120-15 | Mach. Screw 1/4-20 x 4 Rd. Hd | 4 |
| 2 | 00-411136-00003 | Cover - Fan (50 Hz.) | 1 |
| 3 | 00-411136-00004 | Cover - Fan (60 Hz.) | 1 |
| 4 | 00-411289-00004 | Spacer - Fan Housing | 4 |
| 5 | 00-415780-00005 | Wheel - Blower (50 Hz.) | 1 |
| 6 | 00-415780-00003 | Wheel - Blower (60 Hz.) | 1 |
| 7 | 00-961671-000G1 | Mount - Motor (Front) | 1 |
| 8 | 00-342159-00033 | Insulation (28 x 33 x 1 In.) | AR |
| 9 | 00-960963-00001 | Mount - Motor, Wrapper | 1 |
| 10 | 00-961668-00001 | Mount - Motor (Rear) | 1 |
| 11 | 00-961739-000G1 | Motor, 120 VAC, 0.5 HP Motor Harness Included with Motor | 1 |
| | 00-962168-000G1 | Motor Harness | AR |
| 12 | 00-961739-000G2 | Motor, 208-240 VAC, 0.5 HP Motor Harness Included with Motor | 1 |
| | 00-962168-000G1 | Motor Harness | AR |
| 13 | NS-046-86 | Nut Assy. 5/16-18 KEPS Hex | 6 |
| 14 | 00-961831-00001 | Pan - Drip, Motor | 1 |
| 15 | SC-037-75 | Cap Screw 5/16-18 x 3/4 Hex Hd | 2 |




**OVEN PANELS AND RACK SUPPORTS**
**(PREVIOUS CONSTRUCTION)**
**(BEFORE 1-22-18)**

# OVEN PANELS AND RACK SUPPORTS (PREVIOUS CONSTRUCTION) (BEFORE 1-22-18)

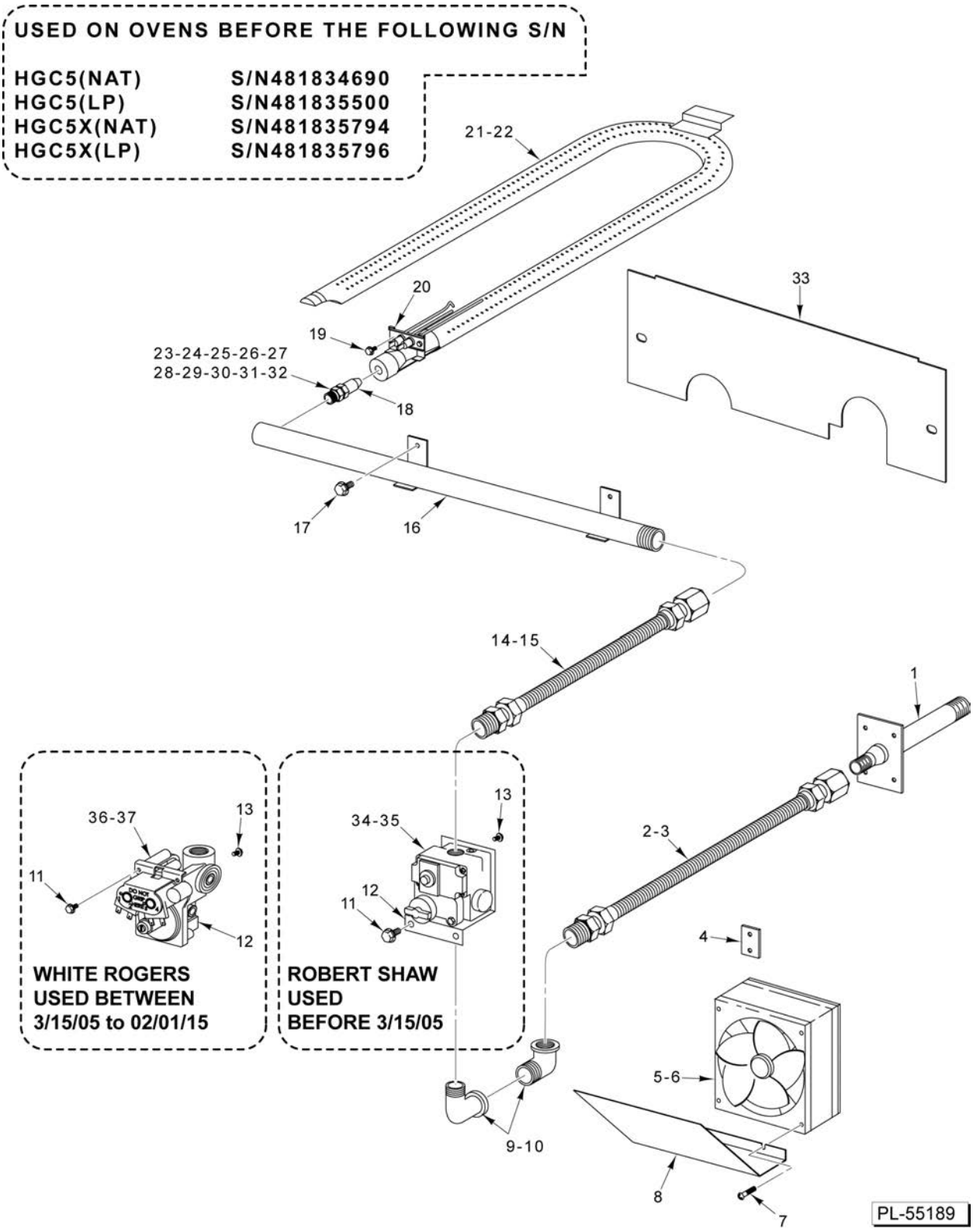
| ILLUS. PL-57939 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-424141-00002 | Top (SST) (ML-126614, ML-126615, & ML-126616) | 1 |
| 2 | 00-424229-00002 | Top (SST) (ML-126618 & ML-126619) | 1 |
| 3 | 00-421799-00001 | Top - Front | 1 |
| 4 | 00-353484-00001 | Plate - Retainer | 2 |
| 5 | SC-053-41 | Mach. Screw 1/4-20 x 1/2 Slotted Truss Hd. (SST) | 4 |
| 6 | NS-038-08 | Lock Nut 1/4-20 x 1 Hex | 4 |
| 7 | 00-347080-00002 | Bearing - Door Shaft | 2 |
| 8 | 00-353482-00001 | Spacer | 2 |
| 9 | 00-353483-00001 | Plate - Upper Door Bearing | 2 |
| 10 | 00-424142-00002 | Panel - Outer (SST) (LH) (ML-126614, ML-126615, & ML-126616) (Previous Construction) | 1 |
| 11 | 00-424230-00002 | Panel - Outer (SST) (LH) (ML-126618 & ML-126619) (Previous Construction) | 1 |
| 12 | 00-499302-00001 | Side - Left Body (ML-126614, ML-126615, & ML-126616) (Current Construction) | 1 |
| 13 | 00-499303-00001 | Side - Left Body (ML-126618 & ML-126619) (Current Construction) | 1 |
| 14 | 00-357919-00001 | Kit - Door Seal (Incls. Items 15 & 32) | 1 |
| 15 | 00-423842-000G1 | Seal - Vertical Door (Set) (LH & RH) | 1 |
| 16 | 00-428104-00001 | Guide - Rack (LH) (ML-126614, ML-126615, & ML-126616) (Before S/N481809325) | 1 |
| 17 | 00-428104-00002 | Guide - Rack (RH) (ML-126614, ML-126615, & ML-126616) (Before S/N481809325) | 1 |
| 18 | 00-428104-00003 | Guide - Rack (LH) (ML-126618 & ML-126619) (Before S/N481809325) | 1 |
| 19 | 00-428104-00004 | Guide - Rack (RH) (ML-126618 & ML-126619) (Before S/N481809325) | 1 |
| 20 | 00-342141-00001 | Rack - Support (LH) (ML-126614, ML-126615, & ML-126616) (Previous Construction) | 1 |
| 21 | 00-342141-00002 | Rack - Support (RH) (ML-126614, ML-126615, & ML-126616) (Previous Construction) | 1 |
| 22 | 00-424833-00001 | Rack - Support (LH) (ML-126618 & ML-126619) (Previous Construction) | 1 |
| 23 | 00-424833-00002 | Rack - Support (RH) (ML-126618 & ML-126619) (Previous Construction) | 1 |
| 24 | 00-959456-0001 | Rack - Guide Common (Starting S/N481809325) | 2 |
| 25 | 00-423766-000G1 | Trim - Bottom W/Access Door Assy. (Previous Construction) | 1 |
| 26 | 00-421797-00002 | Trim - Bottom (Previous Construction) | 1 |
| 27 | 00-499261-00002 | Trim - Bottom W/O Access Door Assy | 1 |
| 28 | 00-423758-00001 | Door - Access Trim (Previous Construction) | 1 |
| 29 | 00-499297-00001 | Door - Lower Access Trim | 1 |
| 30 | 00-425199-00001 | Fastener - Nylon (Push-In) | 2 |
| 31 | 00-424865-00001 | Cover - Trim | 1 |
| 32 | 00-357507-00001 | Seal - Horizontal Door (30-1/2 In. Long) (Top & Bottom) | 2 |
| 33 | 00-411265-00011 | Rack Assy. (ML-126614, ML-126615, & ML-126616) (Single Center Cross Member) (Used Before 9/09) | AR |
| 34 | 00-411265-00022 | Rack Assy. (ML-126614, ML-126615, & ML-126616) (Two Cross Members) (Used from 9/09 to S/N481809325) | AR |
| 35 | 00-959523-00001 | Rack Assy. (ML-126614, ML-126615, & ML-126616) (Starting S/N481809554) | AR |
| 36 | 00-411265-00010 | Rack Assy. (ML-126618 & ML-126619) (Single Center Cross Member) (Used Before 9/09) | AR |
| 37 | 00-411265-00020 | Rack Assy. (ML-126618 & ML-126619) (Two Cross Members) (Used from 9/09 to S/N481809325) | AR |
| 38 | 00-959523-00002 | Rack Assy. (ML-126618 & ML-126619) (Starting S/N481809554) | AR |
| 39 | 00-959753-00001 | Probe Guard & Retainer | 1 |
| 40 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 2 |
| 41 | SC-115-51 | Mach. Screw 10-32 x 1/2 Phil. Truss Hd | 2 |
| 42 | 00-347545-00001 | Catch Assy. - Door (Previous Construction) | 1 |
| 43 | 00-423848-00001 | Shim - Door Strike (Previous Construction) | AR |
| 44 | NS-038-03 | Lock Nut 10-32 SP (Previous Construction) | 2 |
| 45 | 00-497585-00001 | Plate - Strike (Current Construction) | 1 |




**OVEN PANELS AND RACK SUPPORTS**
**(CURRENT CONSTRUCTION)**
**(STARTING 1-22-18)**

# OVEN PANELS AND RACK SUPPORTS (CURRENT CONSTRUCTION) (STARTING 1-22-18)

| ILLUS. PL-61246 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-424141-00002 | Top (SST) (ML-126610, ML-126611, & ML-136494) | 1 |
| 2 | 00-424229-00002 | Top (SST) (ML-126612, ML-126613, & ML-136495) | 1 |
| 3 | 00-421799-00001 | Top - Front | 1 |
| 4 | 00-961587-00001 | Clip - Hold Down | 2 |
| 5 | 00-922154 | Screw 1/4-20 x 1 Hex Hd | 9 |
| 6 | 00-961656-00001 | Support - Door (Upper) | 2 |
| 7 | 00-497585-00001 | Plate - Strike | 1 |
| 8 | 00-959753-00001 | Probe Guard & Retainer | 1 |
| 9 | SD-032-07 | Self-Tapping Screw 10-24 x 1/2 Hex Washer Hd., Type TT | 2 |
| 10 | 00-423758-00001 | Door - Access Trim (Previous Construction) | 1 |
| 11 | 00-499297-00001 | Door - Lower Access Trim | 1 |
| 12 | 00-425199-00001 | Fastener - Nylon (Push-In) | 2 |
| 13 | 00-423766-000G1 | Trim - Bottom W/Access Door Assy. (Previous Construction) | 1 |
| 14 | 00-421797-00002 | Trim - Bottom (Previous Construction) | 1 |
| 15 | 00-499261-00002 | Trim - Bottom W/O Access Door Assy | 1 |
| 16 | 00-411265-00011 | Rack Assy. (ML-126610, ML-126611, & ML-136494) (Single Center Cross Member) | AR |
| 17 | 00-411265-00022 | Rack Assy. (ML-126610, ML-126611, & ML-136494) (Two Cross Members) (Before S/N481809325) | AR |
| 18 | 00-959523-00001 | Rack Assy. (ML-126610, ML-126611, & ML-136494) (Starting S/N481809554) | AR |
| 19 | 00-411265-00010 | Rack Assy. (ML-126612, ML-126613, & ML-136495)(Single Center Cross Member) (Used Before 9/09) | AR |
| 20 | 00-411265-00020 | Rack Assy. (ML-126612, ML-126613, & ML-136495) (Two Cross Members) (Used from 9/09 to S/N481809325) | AR |
| 21 | 00-959523-00002 | Rack Assy. (ML-126612, ML-126613, & ML-136495) (Starting S/N481809554) | AR |
| 22 | 00-428104-00001 | Guide - Rack (LH) (ML-126610, ML-126611, & ML-136494) (Before S/N481809325) | 1 |
| 23 | 00-428104-00002 | Guide - Rack (RH) (ML-126610, ML-126611, & ML-136494) (Before S/N481809325) | 1 |
| 24 | 00-428104-00003 | Guide - Rack (LH) (ML-126612, ML-126613, & ML-136495) (Before S/N481809325) | 1 |
| 25 | 00-428104-00004 | Guide - Rack (RH) (ML-126612, ML-126613, & ML-136495) (Before S/N481809325) | 1 |
| 26 | 00-342141-00001 | Rack - Support (LH) (ML-126610, ML-126611, & ML-136494) (Previous Construction) | 1 |
| 27 | 00-342141-00002 | Rack - Support (RH) (ML-126610, ML-126611, & ML-136494) (Previous Construction) | 1 |
| 28 | 00-424833-00001 | Rack - Support (LH) (ML-126612, ML-126613, & ML-136495) (Previous Construction) | 1 |
| 29 | 00-424833-00002 | Rack - Support (RH) (ML-126612, ML-126613, & ML-136495) (Previous Construction) | 1 |
| 30 | 00-959456-00001 | Support - Rack Guide (LH & RH) (Starting S/N481809325) | 2 |
| 31 | 00-357919-00001 | Kit - Door Seal (Previous Construction) | 1 |
| 32 | 00-423842-000G1 | Seal - Vertical Door (Set) (LH & RH) (Previous Construction) | 1 |
| 33 | 00-424142-00002 | Panel - Outer (SST) (LH) (ML-126610, ML-126611, & ML-136494) (Previous Construction) | 1 |
| 34 | 00-424230-00002 | Panel - Outer (SST) (LH) (ML-126612, ML-126613, & ML-136495) (Previous Construction) | 1 |
| 35 | 00-499302-00001 | Side - Left Body (ML-126610, ML-126611, & ML-136494) (Current Construction) | 1 |
| 36 | 00-499303-00001 | Side - Left Body (ML-126612, ML-126613, & ML-136495) (Current Construction) | 1 |
| 37 | 00-959770-00001 | Seal - Door (Top) | 1 |
| 38 | 00-959771-00001 | Seal - Door (Side) | 2 |
| 39 | 00-959772-00001 | Seal - Door (Bottom) | 1 |



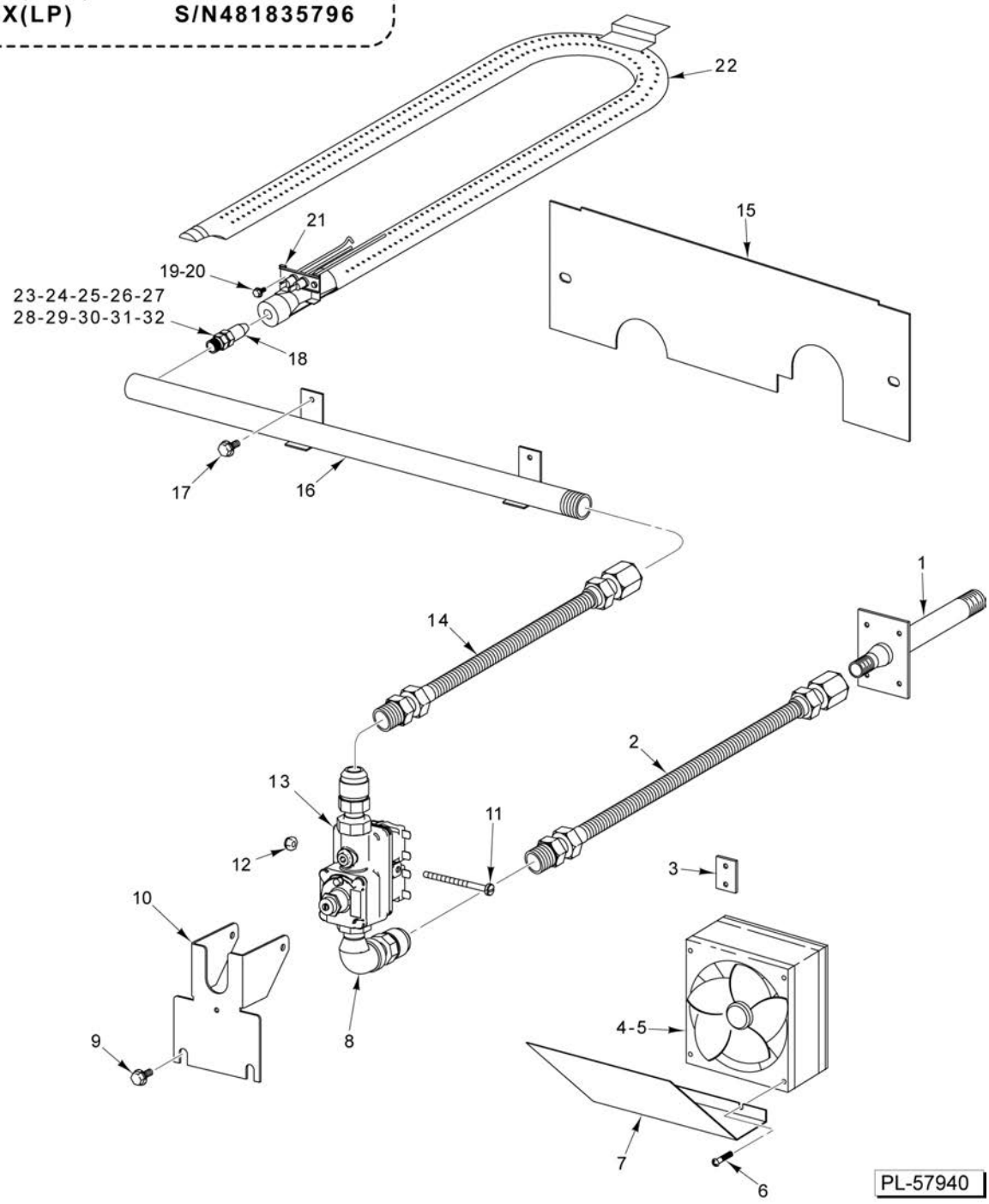

**GAS PIPING AND FLAME CHAMBER**
**(BEFORE SERIAL NUMBER)**

## GAS PIPING AND FLAME CHAMBER (BEFORE SERIAL NUMBER)

| ILLUS. PL-55189 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-423819-00003 | Pipe - Weldment Gas Inlet | 1 |
| 2 | 00-423828-00001 | Tube - Flex (30 In.) (1/2 Male End) (Used with Items 34 & 35) | 1 |
| 3 | 00-423828-00006 | Tube - Flex (30 In.) (3/8 Male End) (Used with Items 36 & 37) | 1 |
| 4 | 00-425433-00001 | Fan - Clip | 1 |
| 5 | 00-424940-00001 | Fan - Cooling (120 V.) | 1 |
| 6 | 00-424940-00002 | Fan - Cooling (230 V.) | 1 |
| 7 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 2 |
| 8 | 00-423820-00001 | Deflector - Air | 1 |
| 9 | FP-013-17 | Elbow - Street 1/2 x 90 Deg. (Used with Items 34 & 35) | 2 |
| 10 | FP-078-75 | Elbow - Pipe 3/8 x 90 Deg. (Used with Items 36 & 37) | 1 |
| 11 | SC-113-80 | Cap Screw 1/4-20 x 1/2 Hex Hd | 2 |
| 12 | 00-424728-00001 | Bracket - Gas Valve | 1 |
| 13 | SC-117-60 | Mach. Screw 10-32 x 1-1/4 Phil. Oval Hd | 2 |
| 14 | 00-423828-00002 | Tube - Flex (18 In.) (1/2 Male End) (Used with Items 34 & 35) | 1 |
| 15 | 00-423828-00007 | Tube - Flex (18 In.) (3/8 Male End) (Used with Items 36 & 37) | 1 |
| 16 | 00-424138-00001 | Manifold | 1 |
| 17 | SC-113-80 | Cap Screw 1/4-20 x 1/2 Hex Hd | 2 |
| 18 | 00-417879-00001 | Nozzle - Burner | 1 |
| 19 | SD-034-49 | Self-Tapping Screw 8-32 x 1/2 Hex Washer Hd., Type T | 2 |
| 20 | 00-424194-00001 | Ignitor - Flame Detector | 1 |
| 21 | 00-424135-000G1 | Burner Assy. (ML-126614, ML-126615, & ML-126616) | 1 |
| 22 | 00-424195-000G1 | Burner Assy. (ML-126618 & ML-126619) | 1 |
| 23 | 00-010901-00031 | Orifice - Spud (31 Drill) (NAT) (Sea Level to 2499 Ft.) | 1 |
| 24 | 00-010901-00032 | Orifice - Spud (32 Drill) (NAT) (2500 Ft. to 3499 Ft.) | 1 |
| 25 | 00-010901-00033 | Ofifice - Spud (33 Drill) (NAT) (3500 Ft. to 4499 Ft.) | 1 |
| 26 | 00-010901-00034 | Orifice - Spud (34 Drill) (NAT) (4500 Ft. to 6499 Ft.) | 1 |
| 27 | 00-010901-00035 | Orifice - Spud (35 Drill) (NAT) (6500 Ft. to 8499 Ft.) | 1 |
| 28 | 00-010901-00036 | Orifice - Spud (36 Drill) (NAT) (8500 Ft. to 10500 Ft.) | 1 |
| 29 | 00-010901-00046 | Orifice - Spud (46 Drill) (LP) (Sea Level to 2499 Ft.) | 1 |
| 30 | 00-010901-00048 | Orifice - Spud (48 Drill) (LP) (2500 Ft. to 4499 Ft.) | 1 |
| 31 | 00-010901-00049 | Orifice - Spud (49 Drill) (LP) (4500 Ft. to 7499 Ft.) | 1 |
| 32 | 00-010901-00050 | Orifice - Spud (50 Drill) (LP) (7500 Ft. to 10500 Ft.) | 1 |
| 33 | 00-424191-000G1 | Cover - Burner Access | 1 |
| 34 | 00-410841-00018 | Valve - Gas Control (NAT) (Robert Shaw) (Before February 2005) | 1 |
| 35 | 00-410841-00019 | Valve - Gas Control (LP) (Robert Shaw) (Before February 2005) | 1 |
| 36 | 00-497269-00001 | Valve - Gas Control (NAT) (White Rogers) (From February 2005 to February 2015) | 1 |
| 37 | 00-497269-00002 | Valve - Gas Control (LP) (White Rogers) (From February 2005 to February 2015) | 1 |

**USED ON OVENS AFTER THE FOLLOWING S/N**

| | |
|---|---|
| HGC5(NAT) | S/N481834690 |
| HGC5(LP) | S/N481835500 |
| HGC5X(NAT) | S/N481835794 |
| HGC5X(LP) | S/N481835796 |




**GAS PIPING AND FLAME CHAMBER (AFTER SERIAL NUMBER)**

## GAS PIPING AND FLAME CHAMBER (AFTER SERIAL NUMBER)

| ILLUS. PL-57940 | PART NO. | NAME OF PART | AMT. |
|---|---|---|---|
| 1 | 00-423819-00003 | Pipe - Weldment Gas Inlet | 1 |
| 2 | 00-423828-00006 | Tube - Flex (30 In.) | 1 |
| 3 | 00-425433-00001 | Fan - Clip | 1 |
| 4 | 00-424940-00001 | Fan - Cooling (120 V.) | 1 |
| 5 | 00-424940-00002 | Fan - Cooling (230 V.) | 1 |
| 6 | SD-034-52 | Self-Tapping Screw 8-32 x 1 Hex Washer Hd., Type T | 2 |
| 7 | 00-423820-00001 | Deflector - Air | 1 |
| 8 | FP-078-75 | Elbow - Pipe 3/8 x 90 Deg | 1 |
| 9 | SC-113-80 | Cap Screw 1/4-20 x 1/2 Hex Hd | 2 |
| 10 | 00-959486-00001 | Bracket - Gas Valve | 1 |
| 11 | SC-007-93 | Mach. Screw 10-24 X 2-1/2 Slotted Rd. Hd | 1 |
| 12 | NS-048-22 | Nut, Lock SP. 10-24 | 1 |
| 13 | 00-959662-00001 | Valve - Combination Gas, Convertable (NAT & LP) | 1 |
| 14 | 00-423828-00007 | Tube - Flex (18 In.) | 1 |
| 15 | 00-959379-00001 | Cover - Burner Access, Mid | 1 |
| 16 | 00-424138-00001 | Manifold | 1 |
| 17 | SC-113-80 | Cap Screw 1/4-20 x 1/2 Hex Hd | 2 |
| 18 | 00-417879-00001 | Nozzle - Burner | 1 |
| 19 | SD-114-24 | Mach. Screw 8-32 x 1/2 Phil. Pan Hd | 2 |
| 20 | NS-044-07 | Nut Assy. 8-32 Hex Keps | 2 |
| 21 | 00-959507-00001 | Igniter - Burner | 1 |
| 22 | 00-959508-00001 | Burner | 1 |
| 23 | 00-010901-00030 | Orifice - Spud (30 Drill) (NAT) (Sea Level to 2499 Ft.) | 1 |
| 24 | 00-010901-00031 | Orifice - Spud (31 Drill) (NAT) (2500 Ft. to 3499 Ft.) | 1 |
| 25 | 00-010901-00032 | Orifice - Spud (32 Drill) (NAT) (3500 Ft. to 4499 Ft.) | 1 |
| 26 | 00-010901-00032 | Orifice - Spud (32 Drill) (NAT) (4500 Ft. to 6499 Ft.) | 1 |
| 27 | 00-010901-00033 | Ofifice - Spud (33 Drill) (NAT) (6500 Ft. to 8499 Ft.) | 1 |
| 28 | 00-010901-00035 | Orifice - Spud (35 Drill) (NAT) (8500 Ft. to 10500 Ft.) | 1 |
| 29 | 00-010901-00046 | Orifice - Spud (46 Drill) (LP) (Sea Level to 2499 Ft.) | 1 |
| 30 | 00-010901-00048 | Orifice - Spud (48 Drill) (LP) (2500 Ft. to 4499 Ft.) | 1 |
| 31 | 00-010901-00049 | Orifice - Spud (49 Drill) (LP) (4500 Ft. to 7499 Ft.) | 1 |
| 32 | 00-010901-00050 | Orifice - Spud (50 Drill) (LP) (7500 Ft. to 10500 Ft.) | 1 |