



# SERVICE MANUAL

## HALF-SIZE CONVECTION OVENS ELECTRIC AND GAS



GCO2D Shown

MODEL	ML
<b>ELECTRIC</b>	
ECO2D	114570
ECO2C	114572
<b>GAS</b>	
GCO2D	114569
GCO2C	114571

### **- NOTICE -**

This Manual is prepared for the use of trained Vulcan Service Technicians and should not be used by those not properly qualified. If you have attended a Vulcan Service School for this product, you may be qualified to perform all the procedures described in this manual.

This manual is not intended to be all encompassing. If you have not attended a Vulcan 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 Vulcan Service Technician.

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# GENERAL

## INTRODUCTION

### General

This manual will cover half-size electric and gas convection ovens that use either a solid state control or an electronic control.

Procedures in this manual are applicable to both gas and electric ovens unless specified.

## SPECIFICATIONS

### GAS OVENS

	GAS DATA				ELECTRICAL DATA	
	INPUT BTU/HR		MANIFOLD PRESSURE		LOAD (Watts)	AMP/LINE
	Natural	Propane	Natural	Propane		120V
Single Oven	2500	2500	3.5" W.C.	10"W.C.	950	8
Stacked Oven	5000	5000	3.5" W.C.	10"W.C.	1900	16

### ELECTRIC OVENS

	TOTAL KW	3-PHASE LOADING (KW PER PHASE)			NOMINAL AMPS PER LINE WIRE							
					3 PHASE						1 PHASE	
					208V			240V			208V	240V
		L1-L2	L2-L3	L1-L3	L1	L2	L3	L1	L2	L3		
Single Oven	5.5	2.5	0	3.0	22.9	10.4	12.5	19.9	9.0	10.9	26.5	23.0
Stacked Ovens	11.0	5.0	0	6.0	45.8	20.8	25.0	39.7	18.0	21.7	52.9	45.9

## TOOLS

- Standard set of hand tools
- VOM with AC current tester (Any VOM with a sensitivity of at least 20,000 ohms per volt can be used.)
- Temperature tester
- Manometer (Gas Ovens)

# REMOVAL AND REPLACEMENT OF PARTS

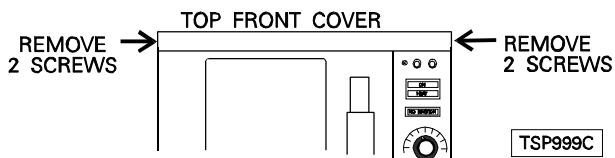
## COVERS AND PANELS

**WARNING:** DISCONNECT THE ELECTRICAL POWER TO THE MACHINE AT THE MAIN CIRCUIT BOX. PLACE A TAG ON THE CIRCUIT BOX INDICATING THE CIRCUIT IS BEING SERVICED.

**WARNING:** SHUT OFF THE GAS BEFORE SERVICING THE UNIT. (When applicable)

### Top Front Cover

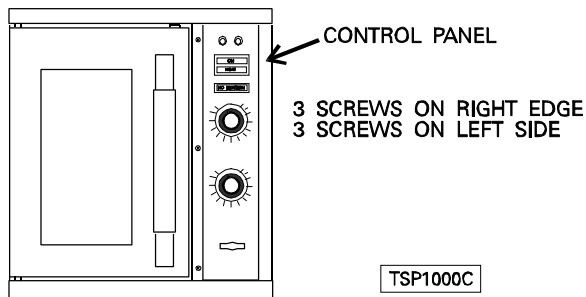
1. The top front cover is secured with four screws, two on each side of cover. Remove these screws then pull cover off unit.



2. Reverse the procedure to install.

### Control Panel

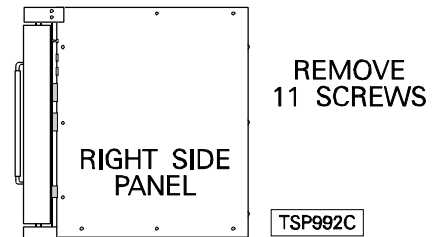
1. On gas models, remove the handle from the manual gas valve.
2. Remove the three screws from the left front and loosen the three screws on the right side of the control panel.
3. Pull the panel away from the oven.



4. Unplug the lead wires to the control panel components and disconnect the temperature probe leads.
5. Reverse the procedure to install.

### Right Side Panel

1. Remove the three screws which secure the right side of the control panel.
2. Loosen the two screws on the right side of the top front cover.
3. Remove the remaining eight screws securing the right side panel.



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

## CONTROL PANEL COMPONENTS

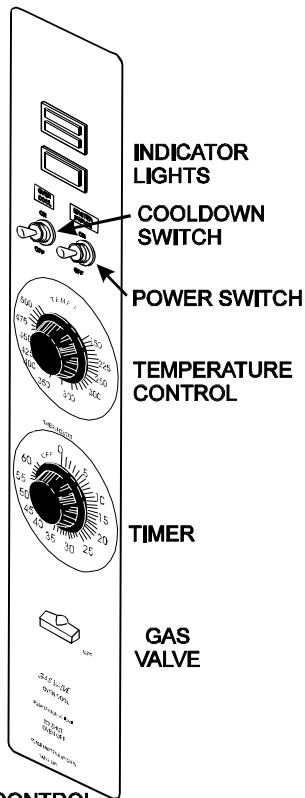
### Removable Components

Listed on the illustration.

### Procedure

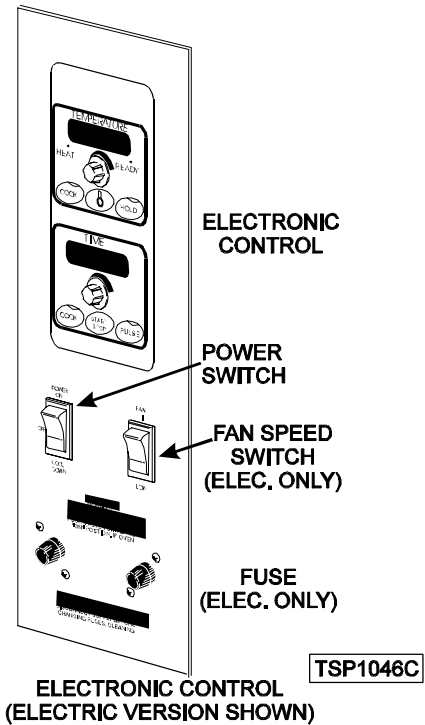
**WARNING:** UNPLUG UNIT BEFORE SERVICING.

1. Remove the control panel as outlined under "COVERS AND PANELS".



SOLID STATE CONTROL  
 W/ SEPARATE COOLDOWN SWITCH

TSP1114C



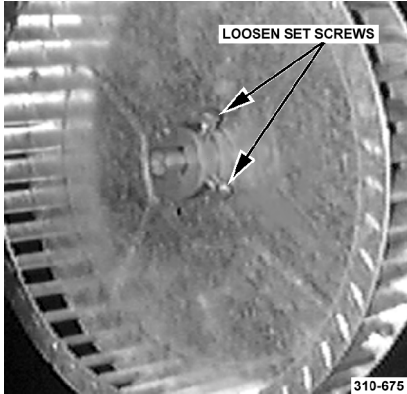
TSP1046C

2. Disconnect the wire leads at the component to be replaced.
3. Remove the component.
4. Reverse the procedure to install the new component, then check oven for proper operation.

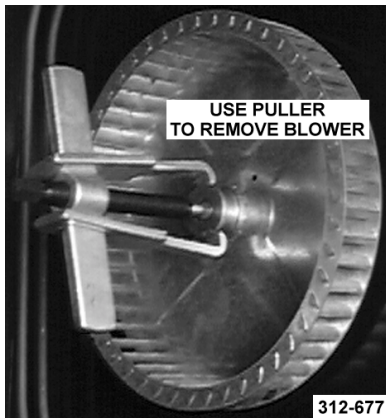
## BLOWER AND/OR BLOWER MOTOR

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

1. Remove racks and the right rack support.
2. Remove baffle panel by lifting up and out.
3. For gas ovens only, remove the heat exchanger as outlined under "HEAT EXCHANGER".



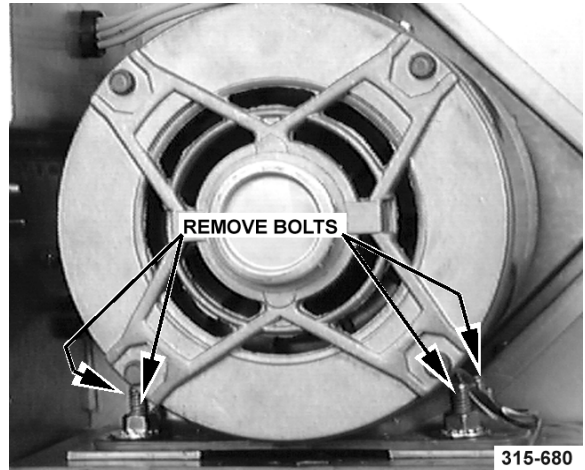
4. Loosen set screws on blower hub.



5. Remove blower from motor shaft. You may have to use a bearing puller.
6. If the blower only is to be replaced, reverse procedure to install and check blower to be parallel with the motor mounting plate as outlined under "BLOWER ADJUSTMENT" in "SERVICE PROCEDURES AND ADJUSTMENTS". If the motor is to be replaced, continue to step 7.
7. Remove the right side panel.

8. Disconnect the wire leads to the motor.
  - A. P1 (purple) to wire# 11
  - B. Orange (Low speed) to wire# 12
  - C. Blue (high speed) to wire# 13
  - D. Red wires connected together.

9. Remove the bolts that secure the motor to the motor mounting plate and remove the motor from the oven.



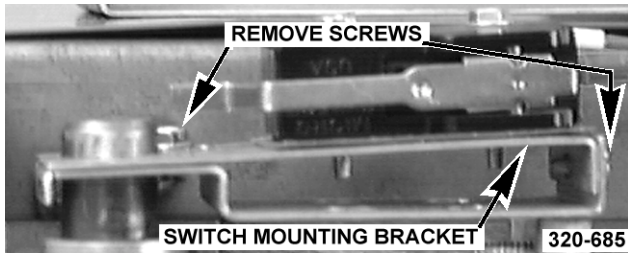
10. Place new motor in position on the motor mounting plate and route the wiring through the grommet in the component panel.
11. Install mounting pads and bolts. DO NOT tighten mounting bolts.
12. Slide the blower onto motor shaft until hub is flush with end of shaft and tighten set screws.
13. Adjust motor position until blower is parallel to oven cavity wall with a spacing of 1/4" as outlined under "BLOWER ADJUSTMENT" in "SERVICE PROCEDURES AND ADJUSTMENTS".
14. Install baffle panel, rack guides and racks.

## OVEN DOOR

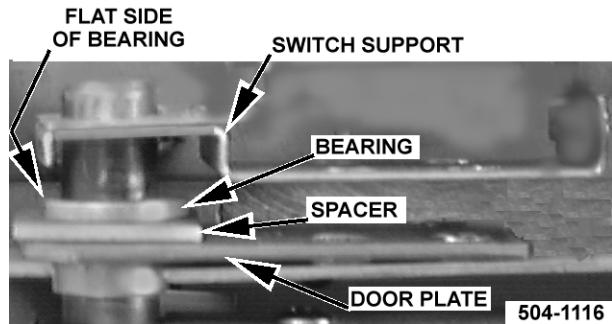
### Removal

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

1. Remove the top front cover as outlined under "COVERS AND PANELS".
2. Remove the door switch lever from the door shaft.
3. Remove the door switch bracket.



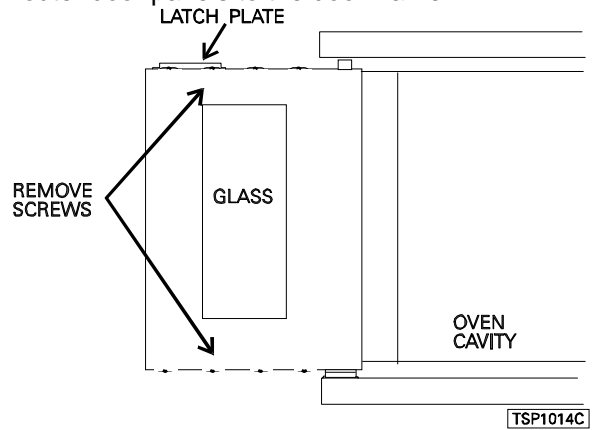
4. While supporting the door, remove the bearing, door plate and spacer.



5. Lift the door from the lower bearing.
6. 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".

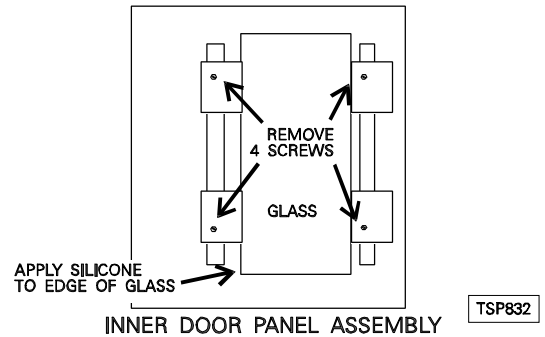
### Disassembly

1. Open the door.
2. Remove the door handle and latch plate.
3. Remove the screws which secure the inner and outer door panels to the door frame.



4. Remove the inner and outer door panel.
5. Remove the four screws and lift the window assembly out.

**NOTE:** Use high temperature silicone between the window and the door panel.

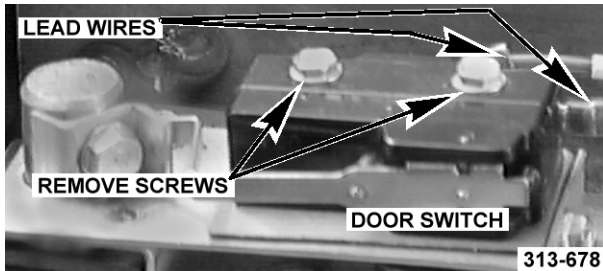


6. Reverse the procedure to install the new window and adjust the door as outlined under "DOOR ADJUSTMENT".

## DOOR SWITCH

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

1. Remove the top front cover as outlined under "COVERS AND PANELS".
2. Disconnect the leads to the door switch.
3. Remove the switch which is secured by two screws.



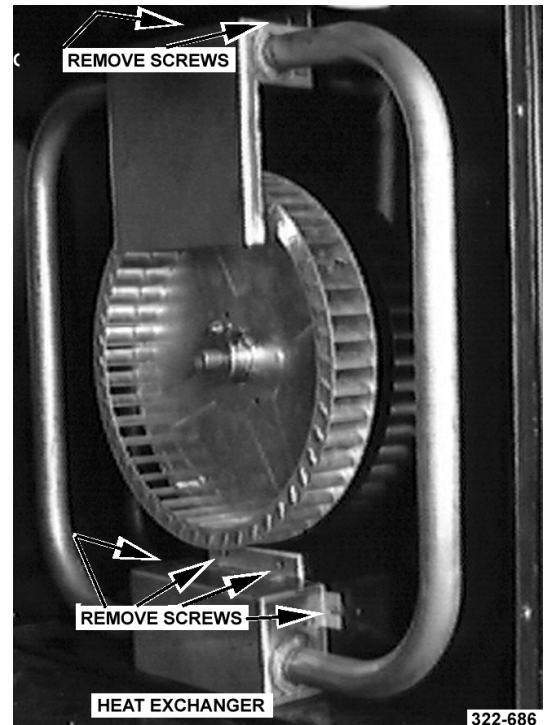
4. Reverse the procedure to install the new switch.
5. Adjust the door switch as outlined under "DOOR SWITCH ADJUSTMENT" in "SERVICE PROCEDURES AND ADJUSTMENTS".

## HEAT EXCHANGER (GAS OVENS)

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

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

1. Remove racks and the right rack support.
2. Remove baffle panel by lifting up and out.
3. Remove the screws that secure the heat exchanger and remove it from the oven.



4. Reverse procedure to install.



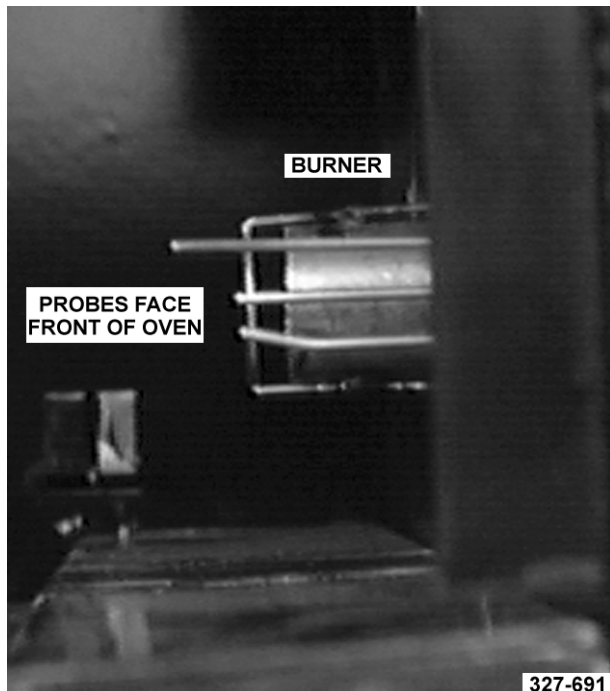
## BURNER (GAS OVENS)

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

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

1. Remove racks and the right rack support.
2. Remove baffle panel by lifting up and out.
3. Remove the right side panel as outlined under "COVERS AND PANELS".
4. Disconnect the lead wires to the electrode assembly.
5. Remove the heat exchanger as outlined under "HEAT EXCHANGER".
6. Remove the screws from the burner bracket and pull the burner into the oven cavity.
7. Remove the screws that secure the electrodes to the burner bracket.
8. Reverse procedure to install.

**NOTE:** When installed, the electrodes are positioned toward the front of the oven.



## GAS VALVE (GAS OVENS)

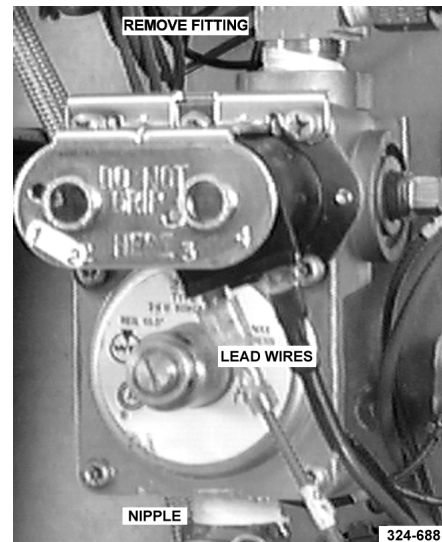
**WARNING:** UNPLUG UNIT BEFORE SERVICING.

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

**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.

- A. CHECK ALL JOINTS PRIOR TO THE GAS VALVE BEFORE LIGHTING UNIT.
- B. CHECK ALL JOINTS BEYOND GAS VALVE AFTER UNIT IS LIT.

1. Remove the right side panel and control panel as outlined under "COVERS AND PANELS".
2. Disconnect the lead wires at the gas valve.
3. Disconnect the gas line fitting going to the burner at the top of the gas valve.
4. Remove the gas valve from the nipple between the it and the manual gas valve.

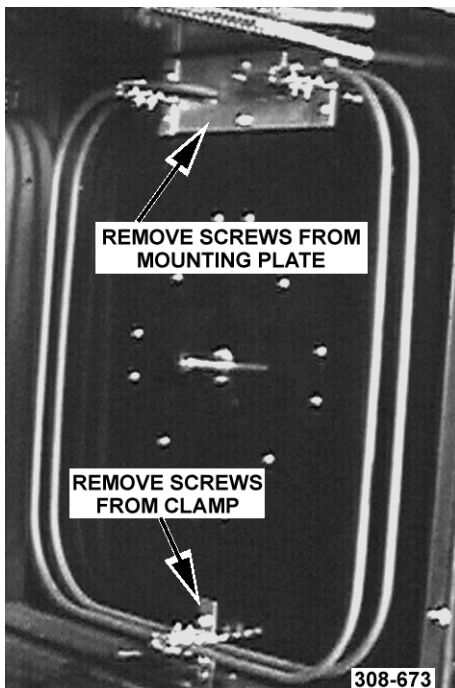


5. Reverse procedure to install.
6. Adjust the gas valve as outlined under "GAS PRESSURE ADJUSTMENT".

## HEATING ELEMENTS (ELECTRIC OVENS)

**WARNING:** DISCONNECT THE ELECTRICAL POWER TO THE MACHINE AT THE MAIN CIRCUIT BOX. PLACE A TAG ON THE CIRCUIT BOX INDICATING THE CIRCUIT IS BEING SERVICED.

1. Remove racks and the right rack support.
2. Remove baffle panel by lifting up and out.
3. Remove the right side panel as outlined under "COVERS AND PANELS".
4. Disconnect the lead wires to the heating elements.
5. Remove the screws from the clamps that secure the heating element assembly.



6. Pull the top of the heating element assembly into the oven cavity until the ends of the elements are inside the oven cavity. Lift up and remove the lower clamp from between the side wall and the bottom of the oven cavity.
7. Remove the clamps from the heating element assembly and replace the element(s).
8. Reverse procedure to install.

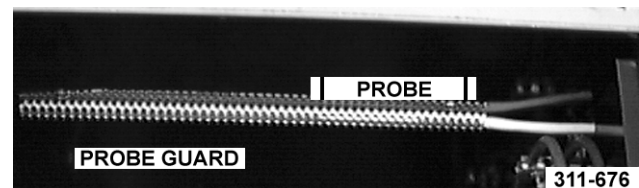
## TEMPERATURE PROBE

### Procedure

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

1. Remove the control panel as outlined under "COVERS AND PANELS".
2. Disconnect the probe leads at the temperature control.
3. Remove probe from the probe guard and push it thru the oven wall into the control panel area.

**NOTE:** When installing, only the metal surface of the probe should be inserted into the probe guard.



**NOTE:** The probe may have to be inserted at an angle. The hole in the inside oven cavity wall may not line up straight with the oven cavity outer shell.

4. Reverse the procedure to install the new probe.
5. Adjust the temperature control as outlined under "TEMPERATURE CONTROL CALIBRATION" in "SERVICE PROCEDURES AND ADJUSTMENTS".

# 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. IF TEST POINTS ARE NOT EASILY ACCESSIBLE, DISCONNECT POWER, ATTACH TEST EQUIPMENT AND REAPPLY POWER TO TEST.

## TEMPERATURE PROBE TEST (ALL MODELS)

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

1. Remove the right side panel as outlined under "COVERS AND PANELS".
2. Remove the probe lead wires from the electronic control.
3. Test the probe with an ohmmeter.

TEMPERATURE in °F	RESISTANCE in $\Omega \pm 10\%$
77	90000
240	4077
260	3016
280	2266
300	1726
320	1332
340	1041
360	822
380	656
400	529
425	424
450	334
475	266

## VERIFICATION OF SPARK AT SPARK PROBE

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

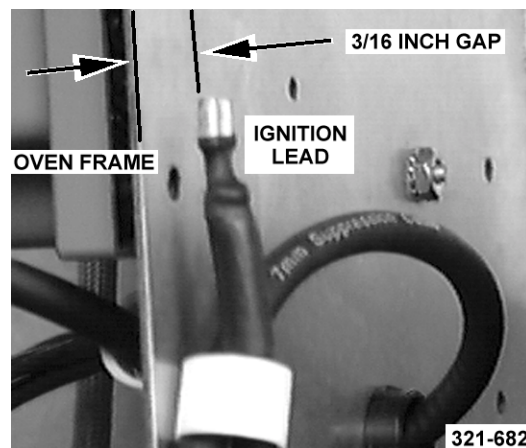
**WARNING:** SHUT OFF THE GAS BEFORE SERVICING THE UNIT.

1. Remove the right side panel and control panel as outlined under "COVERS AND PANELS".
2. Disconnect the high voltage lead from the electrode.

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

3. Clamp the wire in such a manner that the end of the wire is 3/16" from the frame of the oven.

**NOTE:** It is critical that the wire be held 3/16" away from the oven or sparking may not occur even though the probe circuits are functioning properly.



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

4. Plug the unit in and set the temperature controller to the maximum setting.
5. Turn the power switch on.
6. Sparking should occur after a 15 second purge time. Arcing from the lead wire to the oven frame should be observed at this time.

## GAS PRESSURE ADJUSTMENT

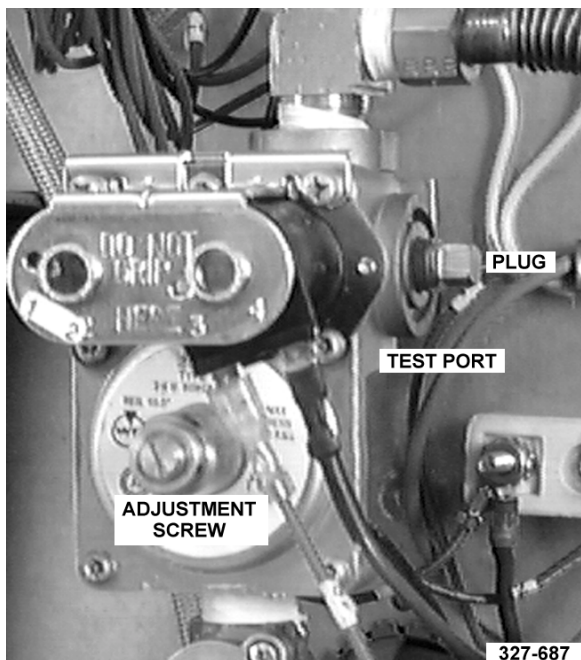
**WARNING:** UNPLUG UNIT BEFORE SERVICING.

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

1. Remove the right side panel and control panel as outlined under "COVERS AND PANELS".
2. Remove the plug from the test port and install the manometer.

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

3. Plug in the unit and turn on the gas.
4. Set the temperature control to the highest setting and turn the power switch on. The burner must be lit while adjusting the pressure.
5. Turn the adjustment screw to obtain the proper gas pressure.



- Turn screw clockwise to increase pressure.
- Turn screw counterclockwise to decrease pressure.

GAS TYPE	SETTING AT OUTPUT OF GAS VALVE
Natural	3.5 inches W.C.
Propane	10 inches W.C.

**NOTE:** If input pressure is below 4.0 (Natural) or 10.5 (Propane) inches W.C., the desired output cannot be obtained and the oven will overrate at a lower BTU.

## SPARK IGNITION CONTROL TEST

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

**NOTE:** Verify that the ground terminal is connected to the oven ground.

### No Gas Ignition & No Sparking

1. Remove the right side panel as outlined under "COVERS AND PANELS".
2. Plug in the unit and set the temperature controller to 350°.
3. Turn the power switch on.
4. Check for 24 VAC between the power terminal and ground terminal.
  - A. If 24 VAC is present, replace the spark ignition control.
  - B. If 24 VAC is not present, check the transformer, temperature controller, and switches.

### No gas ignition - sparking occurs

1. Remove the right side panel as outlined under "COVERS AND PANELS".
2. Plug in the unit and set the temperature controller to 350°.
3. Turn the power switch on.
4. Check for 24 VAC between the gas valve terminal and the ground terminal. The voltage should be present after the 15 second purge and during the 10 second ignition period.
  - A. If 24 VAC is present, check the gas valve and gas supply.
  - B. If 24 VAC is not present, replace the spark ignition control.

## ELECTRONIC CONTROL

**SPECIAL KEY FUNCTIONS** - To activate these functions press the specified keys while turning the oven on. You can not toggle between functions. Each function has to be entered from the off position.

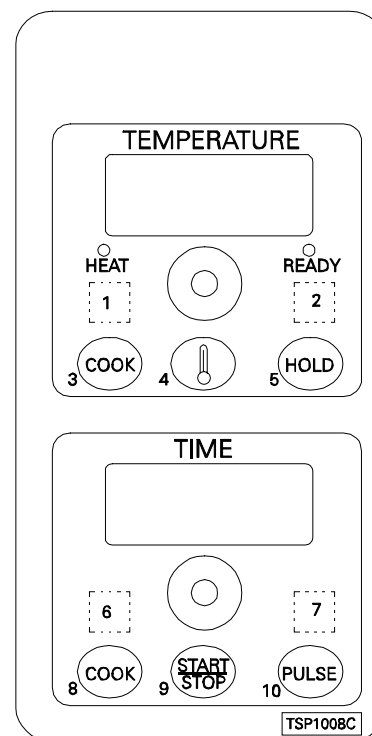
**NOTE:** There are four hidden keys on the control. See diagram following the table.

HOLD KEYS	1 & 3	4 & 9	6 & 8
FUNCTION	Calibration Mode	Change between °C & °F	Display test

**CALIBRATE OVEN** - Perform Calibration at 350°F

- Place a thermocouple near the geometric center of the oven cavity.
- Cycle oven until the cavity temperature stabilizes. (usually 3 cycles)
- Turn the oven off.
- Enter the calibration mode.
- Compare the set temperature to the measured temperature.
- Adjust the temperature on the display to match the measured temperature.
- Press key 3 to store the calibration information.

**DISPLAY TEST** - The control will cycle through a continuous test until the oven is turned off. Each segment of the displays will be lit in sequence, each LED in order and then each digit will light.



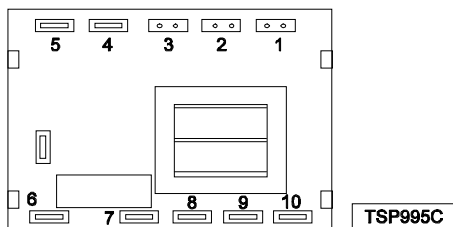
### ERROR CODES

CODES	CONDITIONS
E-01	High Limit Error - Check open probe.
E-02	Low Limit Error - check for 6 VAC from transformer. Check control pins 1-2 for 12 VAC & pins 2-3.
E-03	Control compartment ambient temperature is above 215°F
E-04	Control compartment ambient temperature is below 32°F

## SOLID STATE CONTROL TEST

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

1. Remove the screws from the control panel and pull the control panel away from the oven to access the control wiring.
2. Place a thermocouple in the geometric center of the oven cavity.
3. Set the temperature to the maximum setting.
4. Turn the power switch to ON.



5. Check for supply voltage across:
  - 200-240 volts - pin 10 to pin 6
  - 120 volts - pin 9 to pin 6
  - A. If correct, proceed to step 7.
  - B. If incorrect, go to step 6.
6. Check for supply voltage across:
  - 200-240 volts - pin 7 to pin 10 and pin 8 to pin 10
  - 120 volt - pin 7 to pin 9 and pin 8 to pin 9
  - A. If correct, proceed to step 7.
  - B. If incorrect, problem is not with the temperature control. Return to Troubleshooting Guide.
7. Turn the temperature control to the minimum setting.

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

8. Check for zero (0) Volts across:
  - 200-240 volts - pin 6 to pin 10
  - 120 volt - pin 6 to pin 9
  - A. If correct the problem is not with the temperature control. Return to Troubleshooting Guide.
  - B. If incorrect, replace the temperature control.

## SOLID STATE CONTROL CALIBRATION

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 to 350 degrees F.
4. Allow the oven to cycle until the oven temperature stabilizes. (cycle at least three times)
5. Record the temperature at which the HEAT LIGHT goes off and on.
  - A. Check for at least two complete heating cycles.
6. Calculate the differential by subtracting the temperature indicated when the heat light comes on from the temperature indicated when the heat light goes out.

Differential = Heat light OFF - Heat light ON.

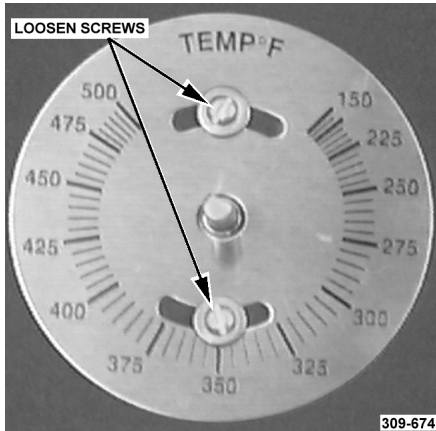
Example: 360 (light out) - 340 (light on) = 20° F differential.

- A. The differential calculated should be less than 20 degrees F.
  - (1) If the differential is more than 20 degrees F, check temperature probe and temperature control board as outlined under "TEMPERATURE PROBE TEST" and "SOLID STATE CONTROL TEST".
7. Calculate the average temperature by adding the temperature indicated when the heat light goes out to the temperature indicated when the heat light comes on and dividing this answer by 2.

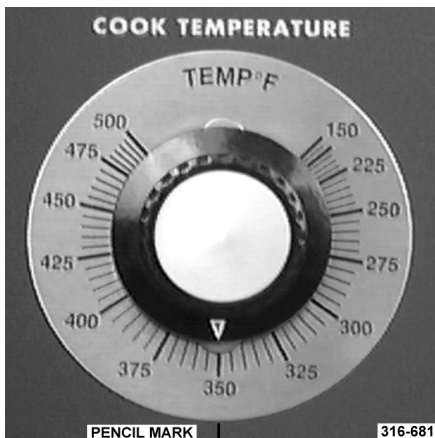
$[\text{Temp. (light off)} + \text{Temp. (light on)}] \div 2 = \text{Average Temperature}$

Example:  $(360 + 340) \div 2 = 700 \div 2 = 350^\circ \text{ F}$  average temperature

8. If the average temperature differs more than 10 degrees F from the dial settings:
  - A. Pencil mark the knob pointer position as a reference point on the control panel next to the dial plate.
  - B. Remove the temperature control knob.



- C. Loosen the two dial plate mounting screws and the temperature control mounting nut. Loosen only enough to turn the dial plate.

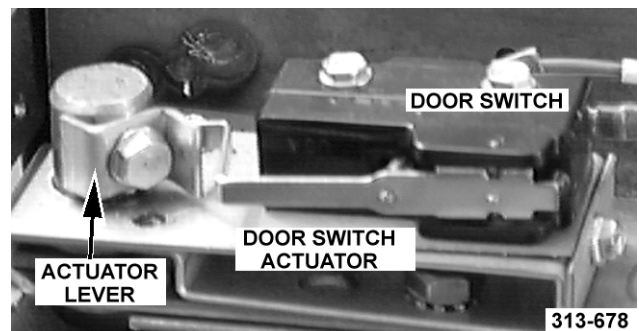


- D. Rotate the dial plate until the temperature calculated in step 7 is in line with the pencil mark.
- E. If the above adjustment cannot be obtained, check temperature probe and temperature control board as outlined under "TESTING TEMPERATURE CONTROL BOARD".

## DOOR SWITCH ADJUSTMENT

**WARNING:** DISCONNECT THE ELECTRICAL POWER TO THE MACHINE AT THE MAIN CIRCUIT BOX. PLACE A TAG ON THE CIRCUIT BOX INDICATING THE CIRCUIT IS BEING SERVICED.

1. Remove the upper front cover as outlined under "COVERS AND PANELS".
2. The door switch actuator should be operated by the switch lever when the door is about ½" from being closed.
3. If adjustment is necessary, use the following procedures.
  - A. Loosen the two switch mounting screws.
  - B. Adjust the switch bracket to obtain the correct setting as outlined in step 2.

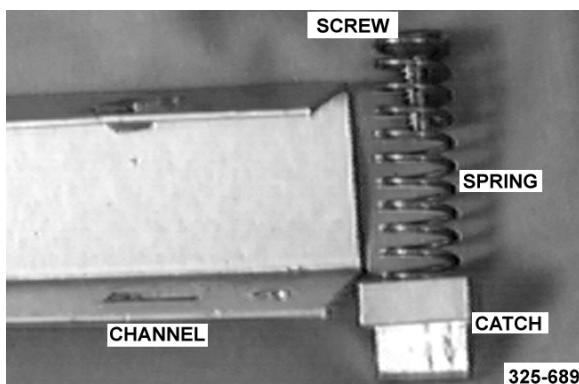


- C. Tighten the two switch bracket mounting screws.
- D. If the adjustment can not be obtained by moving the switch, you can bend the tab of the actuator lever.
4. Install the upper front cover.

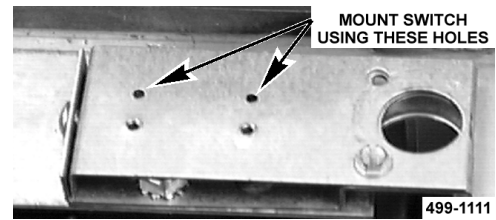
## DOOR REVERSAL

**WARNING:** DISCONNECT THE ELECTRICAL POWER TO THE MACHINE AT THE MAIN CIRCUIT BOX. PLACE A TAG ON THE CIRCUIT BOX INDICATING THE CIRCUIT IS BEING SERVICED.

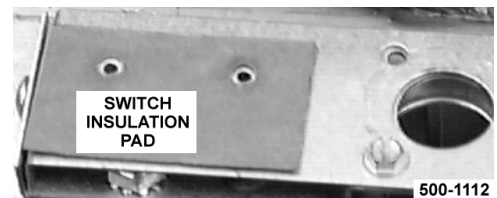
1. Remove the door as outlined under "OVEN DOOR".
  - A. Remove the door strike plate from the top of the door.
  - B. Rotate the door 180°. The top of the door is now the bottom.
  - C. Install the door strike on the new top of the door. Use the screws removed to install the strike plate to fill the holes on the bottom of the door.
2. Remove the bottom door bushing and anti-rotation plate.
3. Remove the knockout from the lower sill cover.
4. Install the plug button in the old door bushing hole in the lower sill cover.
5. Install the bottom door bushing and anti-rotation plate.
6. Remove the catch assembly from the oven.
  - A. Move the door catch to the opposite side of the door catch channel.
  - B. Install the door catch assembly to the opposite side of the top sill.



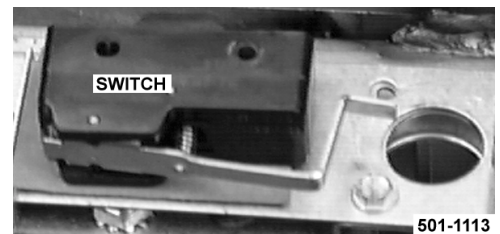
7. Remove the door switch from the switch mounting bracket.
  - A. Use the other set of holes in the mounting bracket to mount the switch.



- B. Place the switch insulation pad on the mounting bracket.



- C. Install the switch onto the mounting bracket.



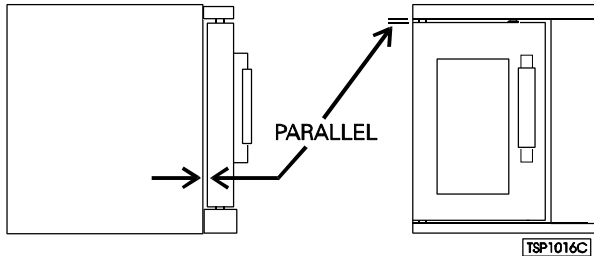
8. Install the door in the lower door bushing.
9. Install the top door bushing and door switch mounting plate to the new position on the upper sill.
10. Adjust the door as outlined under "DOOR ADJUSTMENT".
11. Adjust the door switch as outlined under "DOOR SWITCH ADJUSTMENT".
12. Replace the top front cover and check the oven for proper operation.



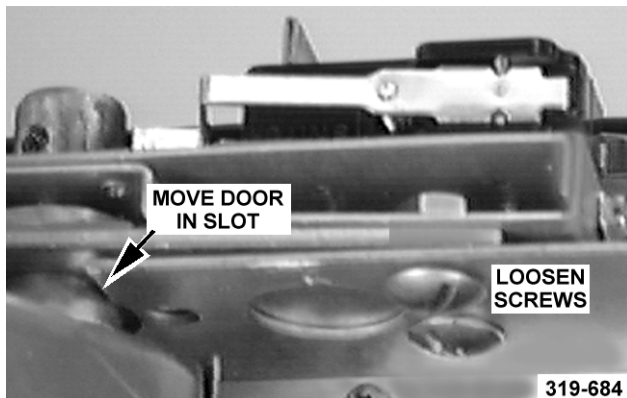
## DOOR ADJUSTMENT

**WARNING:** UNPLUG UNIT BEFORE SERVICING.

1. The door should be parallel with the face of the oven cavity.



2. If adjustment is needed:
  - A. Remove the top front cover as outlined under "COVERS AND PANELS" in "REMOVAL AND REPLACEMENT OF PARTS".
  - B. Loosen the screws that secure the door support and move the door in the slot until it is parallel with the face of the oven cavity.

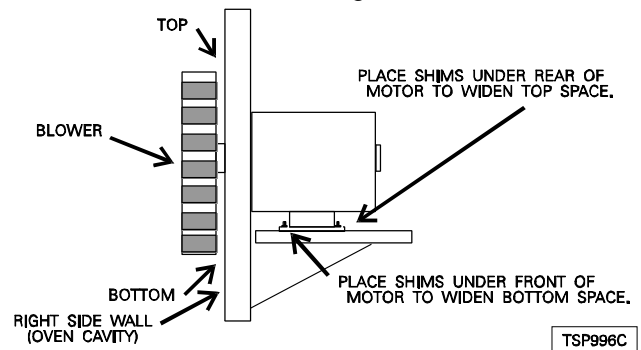


- C. Tighten the screws and install the top front cover.

## BLOWER ADJUSTMENT

**WARNING:** DISCONNECT THE ELECTRICAL POWER TO THE MACHINE AT THE MAIN CIRCUIT BOX. PLACE A TAG ON THE CIRCUIT BOX INDICATING THE CIRCUIT IS BEING SERVICED.

1. Remove rack and rack supports.
2. Remove baffle panel by lifting up and out.
3. Check the blower. It should be ¼" away from and parallel to the oven wall. If not, proceed to step 4.
4. Remove the right side panel as outlined under "COVERS AND PANELS".
5. To adjust the blower at the sides (front and rear of oven cavity), loosen the motor mounting bolts and move the motor until the ¼" gap is obtained.
6. To adjust the blower at the top and bottom, place shims between the motor mounting bracket and the mounting base.



7. Reverse the procedure to install.

## HEATING ELEMENT TEST

Test each rod in the element assembly. Values in the table are nominal ( $\pm 10\%$ ).

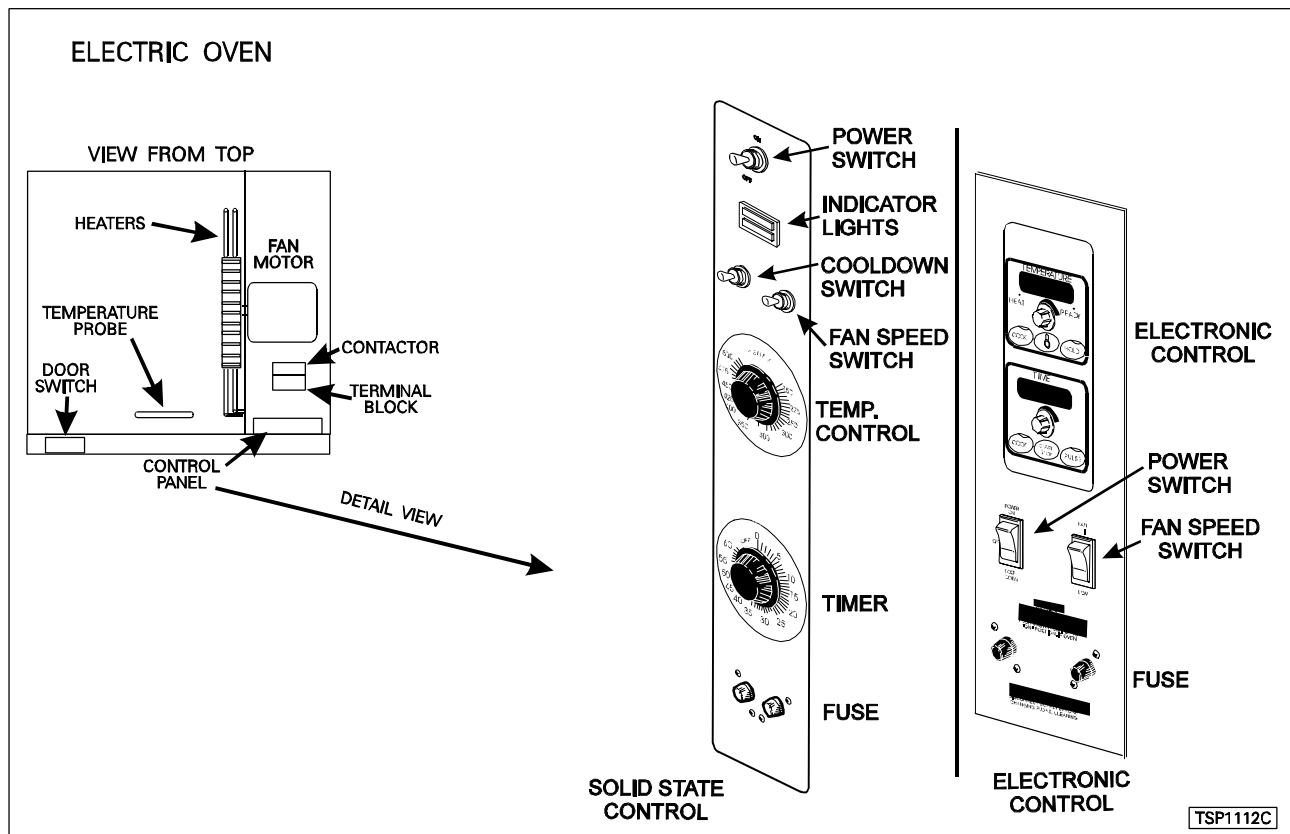
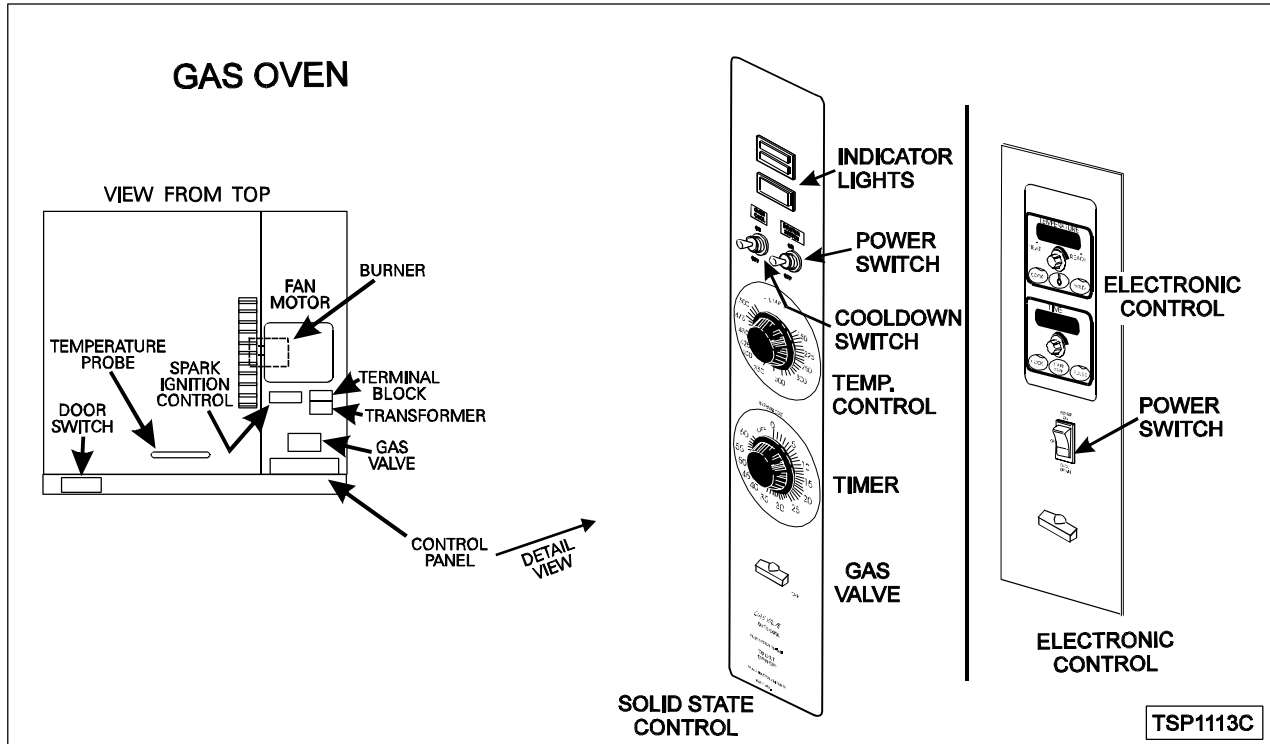
VOLTAGE	WATTS	AMPS	RESISTANCE
208	2500	12	17.33
240	2500	10.4	23.1

# ELECTRICAL OPERATION

## COMPONENT FUNCTION

- POWER SWITCH . . . . . Controls power to oven.
- COOLDOWN SWITCH . . . . . Prevents heaters from operating and allows fan to run. (On some solid state control models, this switch is combined with the power switch)
- FAN SPEED SWITCH . . . . . Controls speed of oven cavity blower motor. (Electric ovens)
- SOLID STATE CONTROL . . . . . Controls oven temperature.
- TIMER . . . . . Signals end of timed baking. Does not shut heater or burner off. (Solid state control)
- ELECTRONIC CONTROL . . . . . Controls oven temperature, cook and hold mode, pulse mode and time.
- BLOWER MOTOR . . . . . Circulates air inside oven cavity. (Contains centrifugal switch for gas ovens) (2 speed electric ovens)
- DOOR SWITCH . . . . . Allows heating of oven, only when the doors are closed.
- TEMPERATURE PROBE . . . . . Senses temperature of oven cavity for the solid state control and electronic control.
- SOLID STATE RELAY . . . . . Controls power to blower motor. (Electronic Control)
- TRANSFORMER . . . . . Provides 12 and 6 VAC power. (Electronic Control)
- TRANSFORMER . . . . . Provides 24 VAC power to the spark ignition control if the centrifugal switch (part of blower motor) is closed. (Gas Ovens)
- GAS VALVE . . . . . Allows gas to flow to burner. (Gas ovens)
- SPARK MODULE . . . . . Generates spark for burner ignition, monitors flame, controls 15 second purge time and 10 second ignition time and power to gas valve. (Gas ovens)
- POWER LIGHT . . . . . Lit whenever the power switch is ON. (Solid state control)
- HEAT LIGHT . . . . . Lit whenever burner or heaters are operating. (Solid state control)
- NO IGNITION LIGHT . . . . . Lit when sensor fails to detect flame. (Solid state control - Gas oven)
- CONTACTOR . . . . . Powers heater elements. (Electric ovens)
- FUSE . . . . . Protects control circuit. (Electric ovens)

**COMPONENT LOCATION**



## SEQUENCE OF OPERATION

### Ignition Module

1. 24VAC supplied to ignition module as described under oven sequence of operation
  - A. 15 second prepurge period
    - 1) No-ignition light is on
    - 2) Cavity blower motor removes any residual gas from combustion chamber
  - B. 10 second spark period
    - 1) Gas valve energized
    - 2) No-ignition light is off
2. The flame is monitored by a DC voltage of at least 5 microamps passing from the ignitor probe through the flame to ground.
  - A. If the flame is detected before 10 seconds:
    - 1) Sparking is terminated
    - 2) Gas valve held open
    - 3) Monitoring of flame continues
  - B. If a flame is not established after the 10 second spark period
    - 1) a second 15 second prepurge period
    - 2) A second 10 second spark period
  - C. If a flame is not established after the second 10 second spark period
    - 1) a third 15 second prepurge period
    - 2) A third 10 second spark period
  - D. If a flame is not established after the third 10 second spark period, the module will go into lock out
    - 1) No ignition light on
3. To reset the ignition module perform one of the following
  - A. Turn power switch off; then on
  - B. Open and close the door
  - C. Turn the temperature control all the way off then back to the set temperature
4. If a flame is established then is extinguished before the temperature control is satisfied, the no ignition light will be on and the ignition module will attempt to light the burner in the sequence described above.

### Gas Oven

**NOTE:** A combination of terminal numbers and wire numbers will be used to describe the circuit paths. The complete path will be described when a component is energized.

### Solid State Control (Gas)

**NOTE:** Use GCO2D Schematic

1. Conditions
  - A. Supply voltage to unit
    - 1) L1 to power switch: wire #1; J1-1; wire #1
    - 2) L2 to power switch: wire #2; J1-2; wire #2
    - 3) Good chassis ground for:
      - a. Ignition module: GND
      - b. No ignition light: wire #48; GND; wire #6; J1-6; wire #6; GND
      - c. Gas valve: wire #48; GND;
      - d. Ignition transformer: GND
  - B. Power switch off
  - C. Oven at room temperature
  - D. Temperature control off
  - E. Manual gas valve open
  - F. Door switch closed
  - G. Cooldown switch off
  - H. Timer off
2. Power switch turned "on" (voltage at terminals of power switch)
  - A. Power On lamp lights: wire #34/J1; wire #41/37
  - B. Control powered: wire #34; wire #33/3; J1-3; wire #3; door switch; wire #27/4; J1-4; wire #4/36/35; terminal 8; terminal 9 (120 VAC) or terminal 10 (200-240 VAC); wire #39/37
  - C. Blower motor energized: wire #34; wire #33/3; J1-3; wire #3; door switch; wire #27/4; J1-4; wire #4/11; J1-11; wire #11; wire #13/7; J1-7; wire #7/37
    - 1) Blower motor reaches operating speed, blower motor centrifugal switch closes
3. Control set to cook temperature, contacts 6/7 close
  - A. Ignition transformer primary powered: terminal 6; wire #9; J1-9; wire #9; BK/BL wire; WH/BK wire; wire #7; J1-7; wire #7/37
  - B. Heating lamp lights: terminal 6; wire #43; wire #42/37
4. 24 VAC from ignition transformer secondary to ignition module: transformer secondary wire #52; centrifugal switch; wire #54; terminal 24V of control module; GND
5. Ignition module operates (see ignition module sequence of operation)

6. Temperature is satisfied and control contacts 6/7 open
  - A. Heat light goes out.
  - B. Power removed from ignition transformer.
7. Ignition module de-energized
  - A. Gas valve de-energized, gas supply to burner off.
8. Oven cycles on solid state control until power switch is moved from the "on" position or the door is opened.

**NOTE:** The blower motor, heat lamp and gas valve are de-energized when the door is opened during the heat mode.

### Solid State Timer (Gas)

**NOTE:** Use GCO2D Schematic

**NOTE:** The timer is not connected to the heating circuit and will not prevent the oven from heating when time expires.

1. Power switch on
2. Time dialed into timer, contacts 1/3 close.
  - A. Timer motor energized: wire #34/64; timer contacts 1/3; wht wire; wire #37
3. Time expires.
  - A. Contacts 1/3 open
    - 1) Timer motor de-energized
  - B. Contacts 1/4 close
4. Buzzer sounds: wire #34/64; timer contacts 1/4; wire #66; wire #65/37
5. Timer turned to off.
  - A. Contacts 1/4 open
    - 1) buzzer de-energized

### Cooldown (Gas/Solid State Control)

**NOTE:** Use GCO2D Schematic

1. Conditions
  - A. Oven temperature needs to be lowered.
  - B. Power switch on
2. Cooldown switch on
  - A. Blower motor energized: power switch; wire #34/33/36/11; J1-11; wire #11; wire #13/7; J1-7; wire #7/37; power switch

### Electronic Control (Gas)

**NOTE:** Use GCO2C Schematic

**NOTE:** A combination of terminal numbers and wire numbers will be used to describe the circuit paths. The complete path will be described when a component is energized.

### Heat

1. Conditions.
  - A. Supply voltage to unit.
    - 1) L1 to power/cooldown switch: wire #1; J1-1; wire #1
    - 2) L2 to:
      - a. Motor: wire #2; J1-2; wire #2; J1-7; wire #7/13
      - b. Primary of ignition transformer: wire #2; J1-2; wire #2; J1-7; wire #7
      - c. Primary of control transformer: wire #2; J1-2; wire #2; J1-7; wire #7/97
    - 3) Good chassis ground: ignition module transformer
      - a. Ignition module: GND
      - b. Electronic control: terminal 8 of control; J2-8; J1-6; wire #6; GND
      - c. Gas valve: wire #48; GND
      - d. Ignition transformer: GND
  - B. Power/cooldown "off".
  - C. Oven at room temperature.
  - D. Door switch closed.
  - E. Manual gas valve open.
2. Power/cooldown switch turned "on"
  - A. Control transformer primary powered: wire #26/4; J1-4; wire #4/94; wire #97/7; J1-7; wire #2; J1-2; wire #2; L2
3. Control powered from secondary of control transformer:
  - A. 6 VAC - wire #16; J1-16; J2-3; J2-2; J1-15; wire #15
  - B. 12 VAC - wire #14; J1-14; J2-1; J2-2; J1-15; wire #15
4. Control set to desired temperature
  - A. Control verifies heat mode: 16 to 18 VDC output on J2-11; J1-20; wire #20/21; power/cooldown switch; contacts of switch are open and no return voltage to J2-5
  - B. Control verifies that door is closed: 16 to 18 VDC output on J2-11; J1-20; wire #20/27; door switch; wire #3; J1-3; J2-4

5. After verification of heat mode and door closed:
  - A. Ignition transformer primary powered: wire #26/43; J2-13; J2-15; J1-5; wire #5; BK/BL wire; WH/BK wire; wire #7; J1-7; wire #2; J1-2; Wire #2; L2
    - 1) 24 VAC from secondary of ignition transformer to ignition module: wire #52; centrifugal switch; wire #54; terminal 24V of control module; GND
  - B. Solid state relay energized: 16 to 18 VDC output on J2-11; J1-20; wire #20; wire #19; J1-19; J2-10
    - 1) Blower motor energized: wire #26/4; J1-4; wire #4/34; ss relay contacts; wire #9; J1-9; wire #11; J1-11; wire #11; wire #13/7; J1-7; wire #2; J1-2; Wire #2; L2
      - a. Blower motor reaches operating speed, blower motor centrifugal switch closes
6. Ignition module operates (see ignition module sequence of operation)
7. Oven cycles on electronic control until power/cooldown switch is moved from the "on" position, a different mode is selected or the door is opened.
 

**NOTE:** The blower motor is de-energized and gas valve closed when the door is opened while the oven is in the heat mode.

### Cook

1. Conditions
  - A. Oven in preheat.
2. Temperature is set.
3. Time is set and start key pressed.
4. Oven cycles at set temperature.
 

**NOTE:** In pulse mode (initiated at the beginning of the bake cycle), the blower motor is operated in 45 second cycles, with the first cycle being off then 45 seconds on. The pulse time cannot be longer than the bake time.
5. Time expires.
  - A. Buzzer sounds continually until turned off.
6. Oven continues to cycle at set temperature.
 

**NOTE:** The blower motor and gas valve are de-energized when the door is opened while the oven is in the cook mode.

### Cook and Hold

1. Conditions
  - A. Oven in preheat.
2. A bake temperature and time is set.
3. A hold temperature and time is set and start key pressed.
4. Oven cycles at set temperature.
 

**NOTE:** In pulse mode (initiated at the beginning of the bake cycle), the blower motor is operated in 45 second cycles, with the first cycle being off then 45 seconds on. The pulse time cannot be longer than the bake time.
5. Time expires in cook mode.
  - A. Buzzer sounds (short beep).
  - B. Control lowers temperature to hold temperature.
6. Oven temperature reaches hold temperature.
  - A. Display counts up time and flashes "hold"
7. Oven continues to cycle at hold temperature until oven is turned off or the hold function is turned off.
 

**NOTE:** The blower motor and gas valve are de-energized when the door is opened while the oven is in the hold mode.

### Cooldown (Gas/Electronic Control)

**NOTE:** Use GCO2C Schematic

1. Conditions
  - A. Cooking completed, oven temperature needs to be lowered.
  - B. Power/cooldown switch on
2. Power/cooldown switch to cooldown
  - A. Control transformer primary powered: wire #26/4; J1-4; wire #4/94; wire #97/7; J1-7; wire #2; J1-2; wire #2; L2
3. Control powered from secondary of control transformer:
  - A. 6 VAC - wire #16; J1-16; J2-3; J2-2; J1-15; wire #15
  - B. 12 VAC - wire #14; J1-14; J2-1; J2-2; J1-15; wire #15
4. Control verifies cooldown mode: 16 to 18 VDC output on J2-11; J1-20; wire #20/21; power/cooldown switch; wire #29; J2-5

5. After verification of cooldown mode:
  - A. Solid state relay energized: 16 to 18 VDC output on J2-11; J1-20; wire #20; wire #19; J1-19; J2-10
    - 1) Blower motor energized: wire #26/4; J1-4; wire #4/34; ss relay contacts;; wire # 9; J1-9; wire #11; J1-11; wire #11; wire #13/7; J1-7; wire #2; J1-2; wire #2; L2
  - B. Contactor coil will not be energized.
  - C. The door position signal is not read.
- B. Control powered: wire #34; wire #33/3; J1-3; wire #3; door switch; wire #27/4; J1-4; wire #4/36/35; terminal 8 and 7; terminal 9 (120 VAC) or terminal 10 (200-240 VAC); wire #39/37
- C. Blower motor energized: wire #34; wire #33/3; J1-3; wire #3; door switch; wire #27/4; J1-4; wire #4; motor speed switch; wire #11 high or 12 low ); J1-(11 high or 12 low); wire #(11 high or 12 low); wire #13/7; J1-7; wire #7/37

### Electric Oven

**NOTE:** A combination of terminal numbers and wire numbers will be used to describe the circuit paths. The complete path will be described when a component is energized.

### Solid State Control (Elec)

**NOTE:** Use ECO2D Schematic

1. Conditions.
  - A. Fuses are good.
  - B. Supply voltage to unit (three phase)
    - 1) L1 to power switch: wire #1; J1-1; fuse; wire #1A and one side of heater contacts C1: wire #61
    - 2) L2 to one side of heater contacts C2: wire #62
    - 3) L3 to power switch: wire #2; J1-2; fuse; wire #2A and one side of heater contacts C31: wire #64
    - 4) Good chassis ground
  - C. Power switch "off"
  - D. Oven at room temperature
  - E. Solid state control off
  - F. Door switch closed
  - G. Fan speed switch in either position
  - H. Cooldown switch off
  - J. Timer off
2. Power switch turned "on" (voltage at terminals of power switch)
  - A. Power On lamp lights: wire #34/J1; wire #41/37
3. Control set to cook temperature contacts 6/7 close
  - A. Contactor coil energized: terminal 6; wire #9; J1-9; wire #9/50; wire #52/7; J1-7; wire #7/37
  - B. Heating lamp lights: terminal 6; wire #43; wire #42/37
4. Heating elements energized
  - A. L1; wire #61; C1; Wire #70; wire #75; C3; Wire #64; L3
  - B. L1; wire #61; C1; Wire #74; wire #71; C2; Wire #62; L2
5. Oven reaches set temperature and control contacts 6/7 open
  - A. Power removed from contactor coil
    - 1) Heating elements de-energized
  - B. Heating lamp goes out.
6. Oven cycles on solid state control until power switch is moved from the "on" position or the door is opened.
 

**NOTE:** The blower motor and heating elements are de-energized when the door is opened and the oven is in the heat mode.

### Solid State Timer (Elec)

**NOTE:** Use ECO2D Schematic

**NOTE:** The timer is not connected to the heating circuit and will not prevent the oven from heating when time expires.

1. Power switch on
2. Time dialed into timer, contacts 1/3 close.
  - A. Timer motor energized: wire #34/64; timer contacts 1/3; wht wire; wire #37
3. Time expires.
  - A. Contacts 1/3 open
    - 1) Timer motor de-energized
  - B. Contacts 1/4 close

4. Buzzer sounds: wire #34/64; timer contacts 1/4; wire #66; wire #65/37
5. Timer turned to off.
  - A. Contacts 1/4 open
    - 1) buzzer de-energized

### Cooldown (Elec/Solid State Control)

**NOTE:** Use ECO2D Schematic

1. Conditions
  - A. Cooking completed, oven temperature needs to be lowered.
  - B. Power switch on
2. Cooldown switch on
  - A. Blower motor energized: power switch; wire #34/33/36/ motor speed switch; wire #11 high or 12 low ); J1-(11 high or 12 low); wire # (11 high or 12 low); wire #13/7; J1-7; wire #7/37; power switch

### Electronic Control (Elec)

**NOTE:** Use ECO2C Schematic

**NOTE:** A combination of terminal numbers and wire numbers will be used to describe the circuit paths. The complete path will be described when a component is energized.

### Heat

1. Conditions
  - A. Fuses are good.
  - B. Supply voltage to unit (three phase)
    - 1) L1 to power/cooldown switch: wire #1; J1-1; fuse; wire #1A/1 and one side of heater contacts C1: wire #61
    - 2) L2 to one side of heater contacts C2: wire #62
    - 3) L3 to:
      - a. Motor: wire #2; J1-2; fuse; wire #2A/7; J1-7; wire #7/13
      - b. Contactor coil: wire #2; J1-2; fuse; wire #2A/7; J1-7; wire #7/50
      - c. Primary of control transformer: wire #2; J1-2; fuse; wire #2A/7; J1-7; wire #7/97
      - d. one side of heater contacts C3: wire #64
    - 4) Good chassis ground electronic control: terminal 8 of control; J2-8; J1-6; wire #6; GND

- C. Power/cooldown switch "off"
- D. Oven at room temperature
- E. Door switch closed
- F. Fan speed switch in either position
2. Power/cooldown switch turned "on"
  - A. Control transformer primary powered: wire #26/4; J1-4; wire #4/94; wire #97/7; J1-7; wire #7/2A; fuse; J1-2; wire #2; L3
3. Control powered from secondary of control transformer:
  - A. 6 VAC - wire #16; J1-16; J2-3; J2-2; J1-15; wire #15
  - B. 12 VAC - wire #14; J1-14; J2-1; J2-2; J1-15; wire #15
4. Control set to desired temperature
  - A. Control verifies heat mode: 16 to 18 VDC output on J2-11; J1-20; wire #20/21; J1-21; power/cooldown switch; contacts of switch are open and no return voltage to J2-5
  - B. Control verifies that door is closed: 16 to 18 VDC output on J2-11; J1-20; wire #20/27; door switch; wire #3; J1-3; J2-4
5. After verification of heat mode and door closed,
  - A. Solid state relay energized: 16 to 18 VDC output on J2-11; J1-20; wire #20; wire #19; J1-19; J2-10
    - 1) Blower motor energized: wire #26/4; J1-4; wire #4/34; ss relay contacts;; wire # (11 high or 12 low ); J1-(11 high or 12 low); wire # (11 high or 12 low); wire #13/7; J1-7; wire #7/37
  - B. Contactor coil energized: wire #43; J2-13; J2-15; J1-5; wire #5; wire #50/7; J1-7; wire #7/2A; fuse; J1-2; Wire #2; L3
    - 1) Heating elements energized
      - a. L1; wire #61; C1; Wire #70; wire #75; C3; Wire #64; L3
      - b. L1; wire #61; C1; Wire #74; wire #71; C2; Wire #62; L2
6. Oven reaches set temperature
  - A. Power removed from contactor coil
    - 1) Heating elements de-energized
7. Oven cycles on electronic control until power/cooldown switch is moved from the "on" position or the door is opened.
 

**NOTE:** The blower motor and heating elements are de-energized when the door is opened and the oven is in the heat mode.



**Cook**

1. Conditions
  - A. Oven has reached set temperature in heat mode
2. Time is set and start key pressed.
3. Oven cycles at set temperature.
 

**NOTE:** In pulse mode (initiated at the beginning of the bake cycle), the blower motor is operated in 45 second cycles, with the first cycle being off then 45 seconds on. The pulse time cannot be longer than the bake time.
4. Time expires.
  - A. Buzzer sounds continually.
5. Oven continues to cycle at set temperature.

**NOTE:** The blower motor and heaters are de-energized when the door is opened and the oven is in the cook mode.

**Cook and Hold**

1. Conditions
  - A. Oven has reached set temperature in heat mode
2. A bake temperature and time is set.
3. A hold temperature and time is set and start key pressed.
4. Oven cycles at set temperature.
 

**NOTE:** In pulse mode (initiated at the beginning of the bake cycle), the blower motor is operated in 45 second cycles, with the first cycle being off then 45 seconds on. The pulse time cannot be longer than the bake time.
5. Time expires in cook mode.
  - A. Buzzer sounds (short beep).
  - B. Control lowers temperature to hold temperature.
6. Oven temperature reaches hold temperature.
  - A. Display counts up time and flashes "hold"
7. Oven continues to cycle at hold temperature until oven is turned off or the hold function is turned off.
 

**NOTE:** The blower motor and heating elements are de-energized when the door is opened and the oven is in the hold mode.

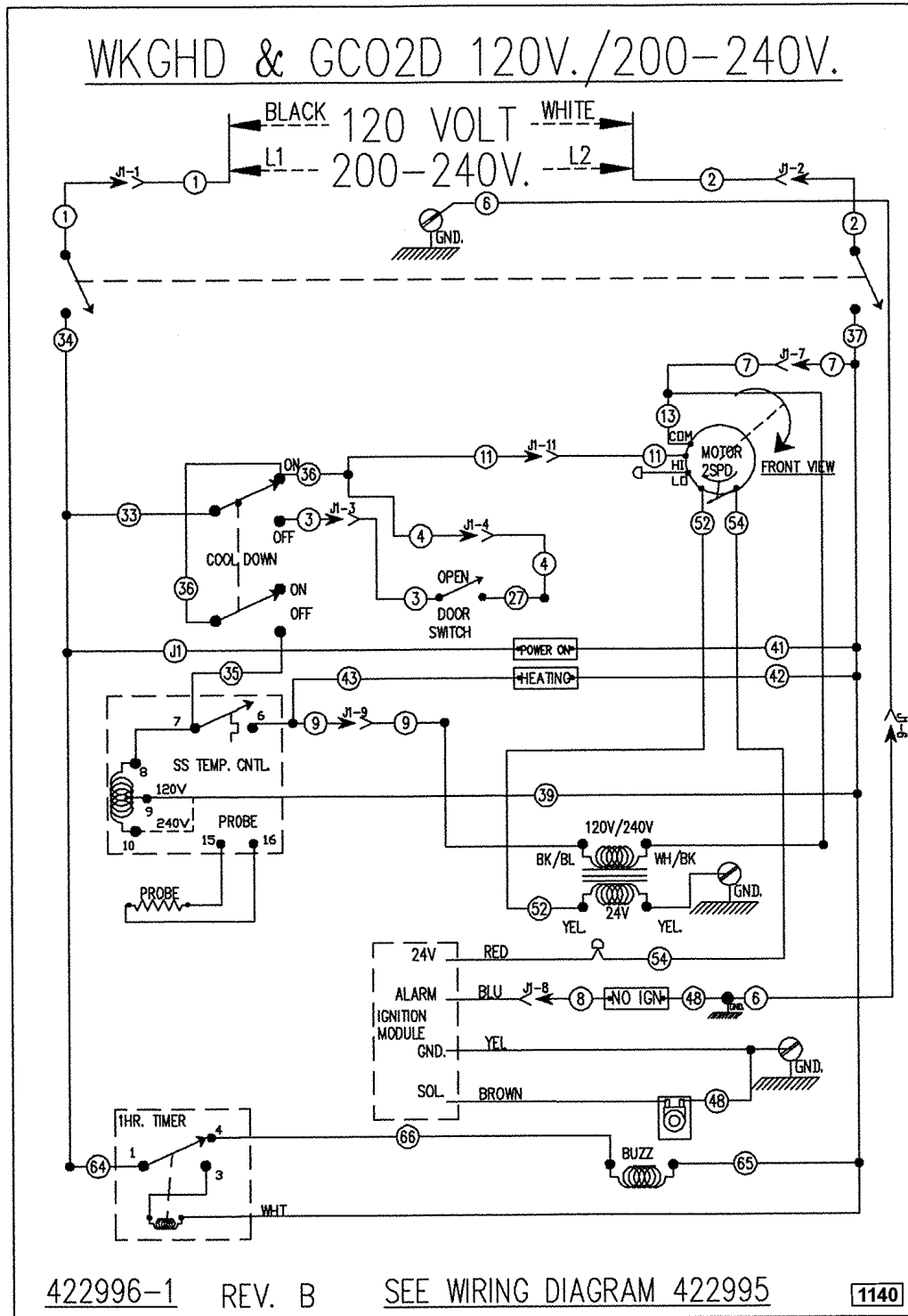
**Cooldown (Elec/Electronic Control)**

**NOTE:** Use ECO2C Schematic

1. Conditions
  - A. Cooking completed, oven temperature needs to be lowered.
  - B. Power/cooldown switch on
2. Power/cooldown switch to cooldown
  - A. Control transformer primary powered: wire #26/4; J1-4; wire #4/94; wire #97/7; J1-7; wire #7/2A; fuse; J1-2; wire #2; L3
3. Control powered
  - A. 6 VAC from secondary of control transformer - wire #16; J1-16; J2-3; J2-2; J1-15; wire #15
  - B. 12 VAC from secondary of control transformer - wire #14; J1-14; J2-1; J2-2; J1-15; wire #15
4. Control verifies cooldown mode: 16 to 18 VDC output on J2-11; J1-20; wire #20/21; power/cooldown switch; wire #29; J2-5
5. After verification of cooldown mode:
  - A. Solid state relay energized: 16 to 18 VDC output on J2-11; J1-20; wire #20; wire #19; J1-19; J2-10
    - 1) Blower motor energized: wire #26/4; J1-4; wire #4/34; ss relay contacts;; wire # (11 high or 12 low ); J1-(11 high or 12 low); wire # (11 high or 12 low); wire #13/7; J1-7; wire #7/37
  - B. Contactor coil will not be energized.
  - C. The door position signal is not read.

**SCHEMATICS GAS OVENS**

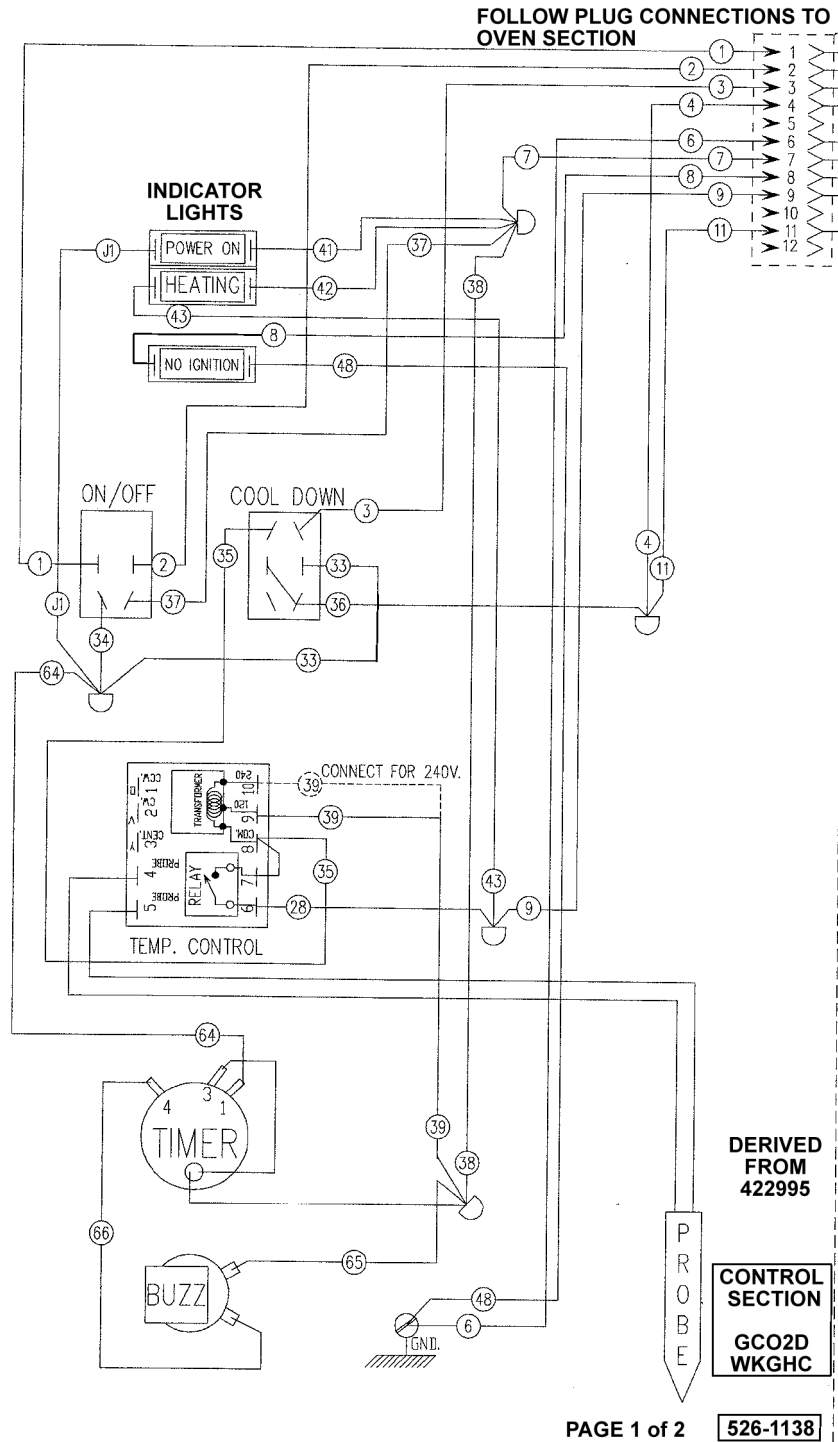
**GCO2D**



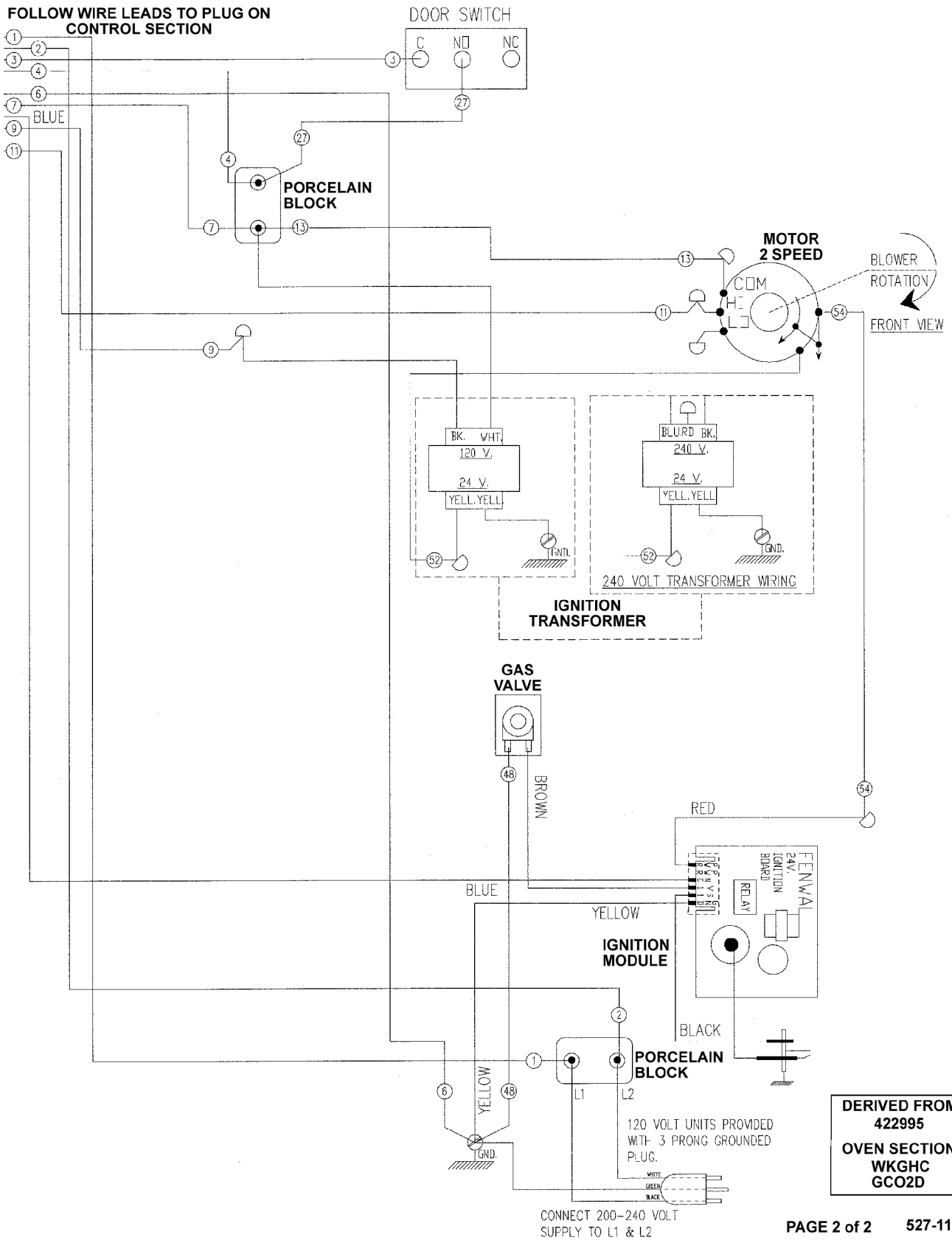


# WIRING DIAGRAM - GAS OVENS

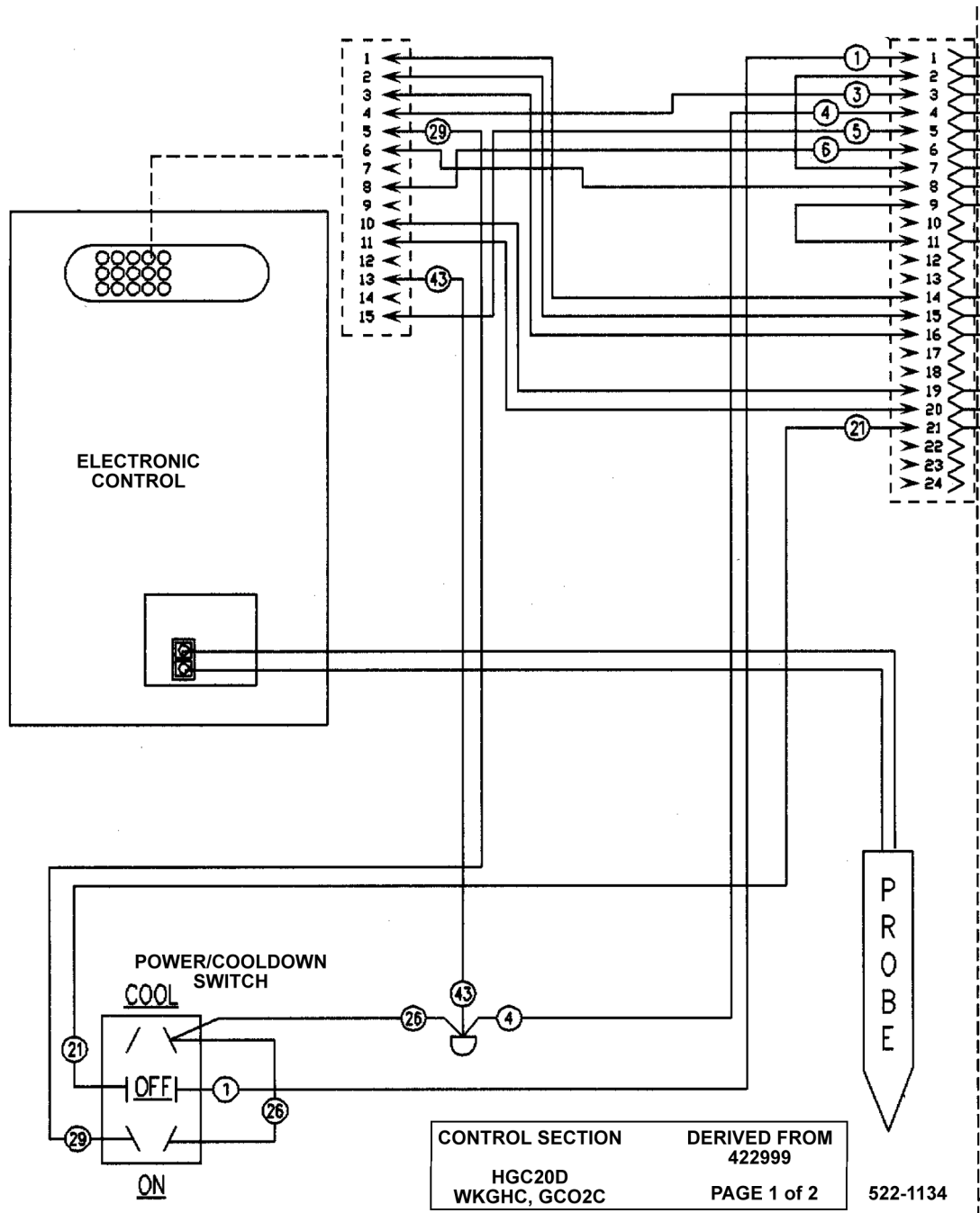
## GCO2D - Control Section



# GCO2D - Oven Section

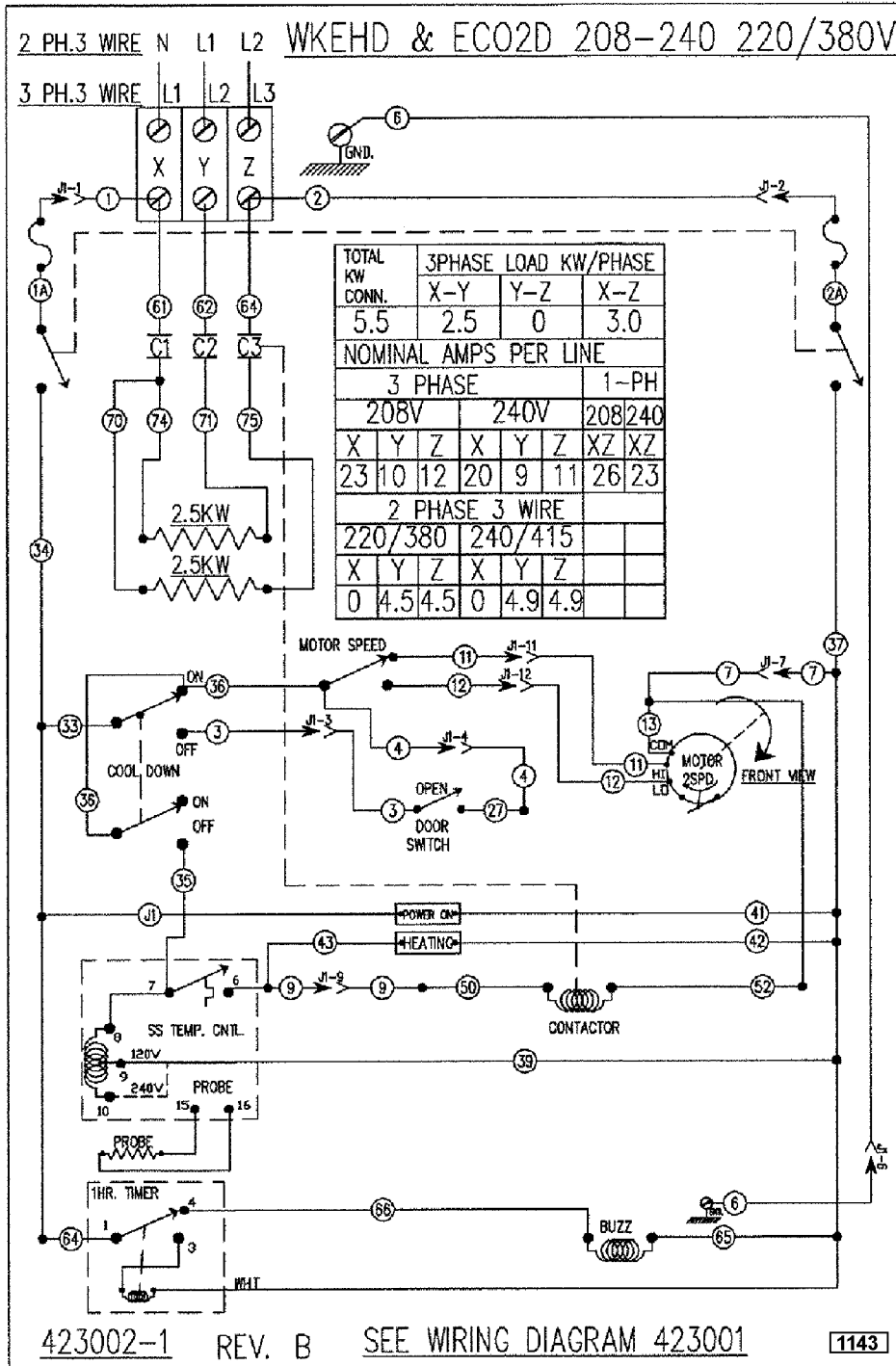


# GCO2C - Control Section



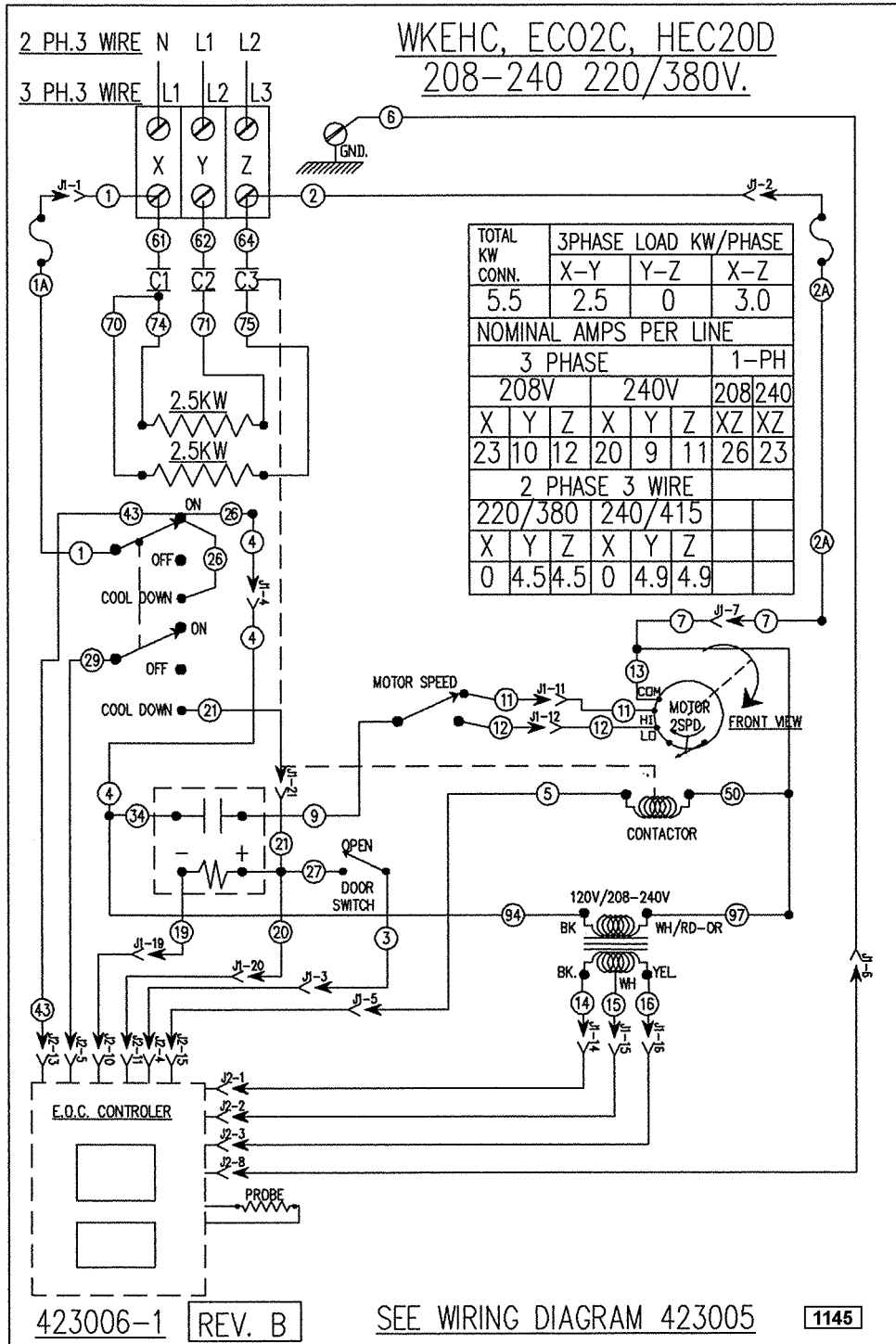


# SCHEMATIC-ELECTRIC OVENS ECO2D



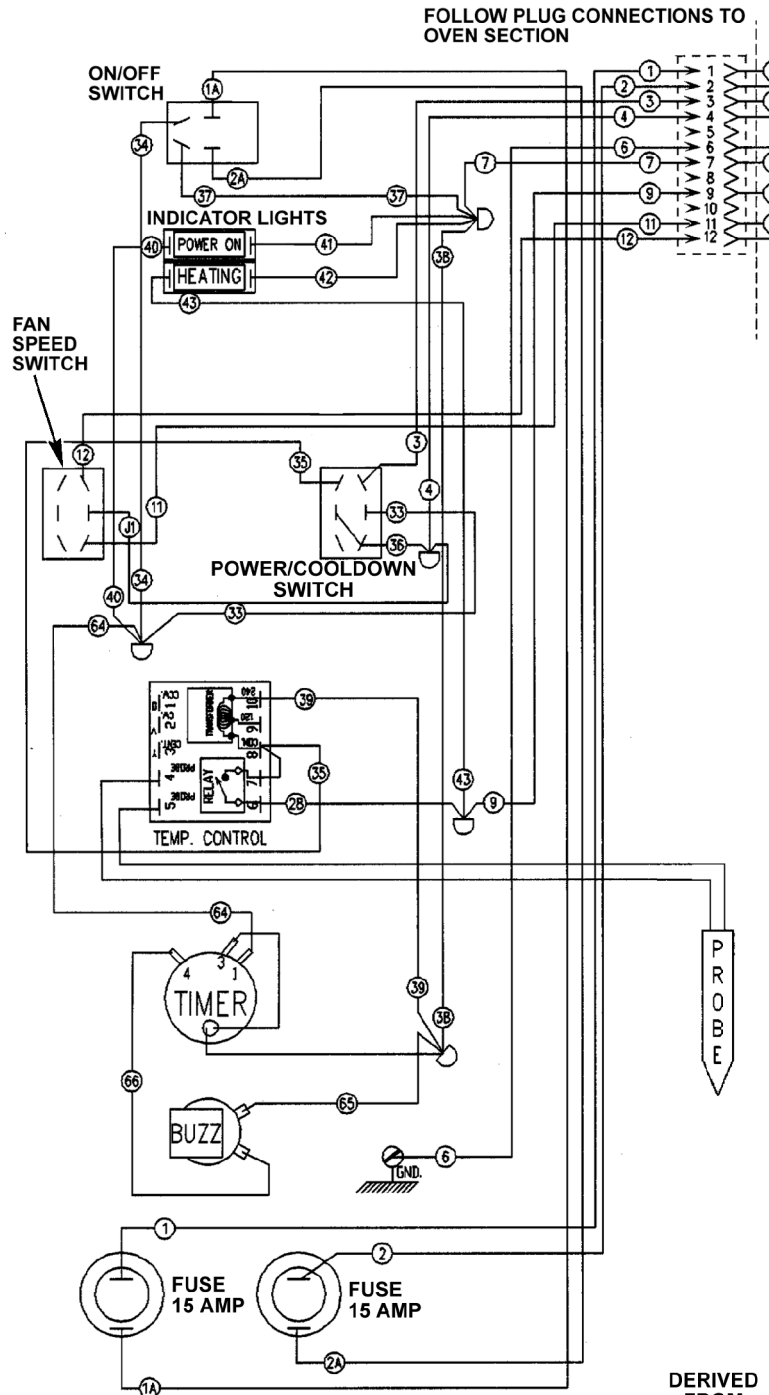


ECO2C



# WIRING DIAGRAM ELECTRIC OVENS

## ECO2D - Control Section



TOTAL KW CONN.	3PHASE LOAD KW/PHASE		
	X-Y	Y-Z	X-Z
5.5	2.5	0	3.0
NOMINAL AMPS PER LINE			
3 PHASE		1-PH	
208V	240V	208	240
X	Y	Z	XZ
23	10	12	20

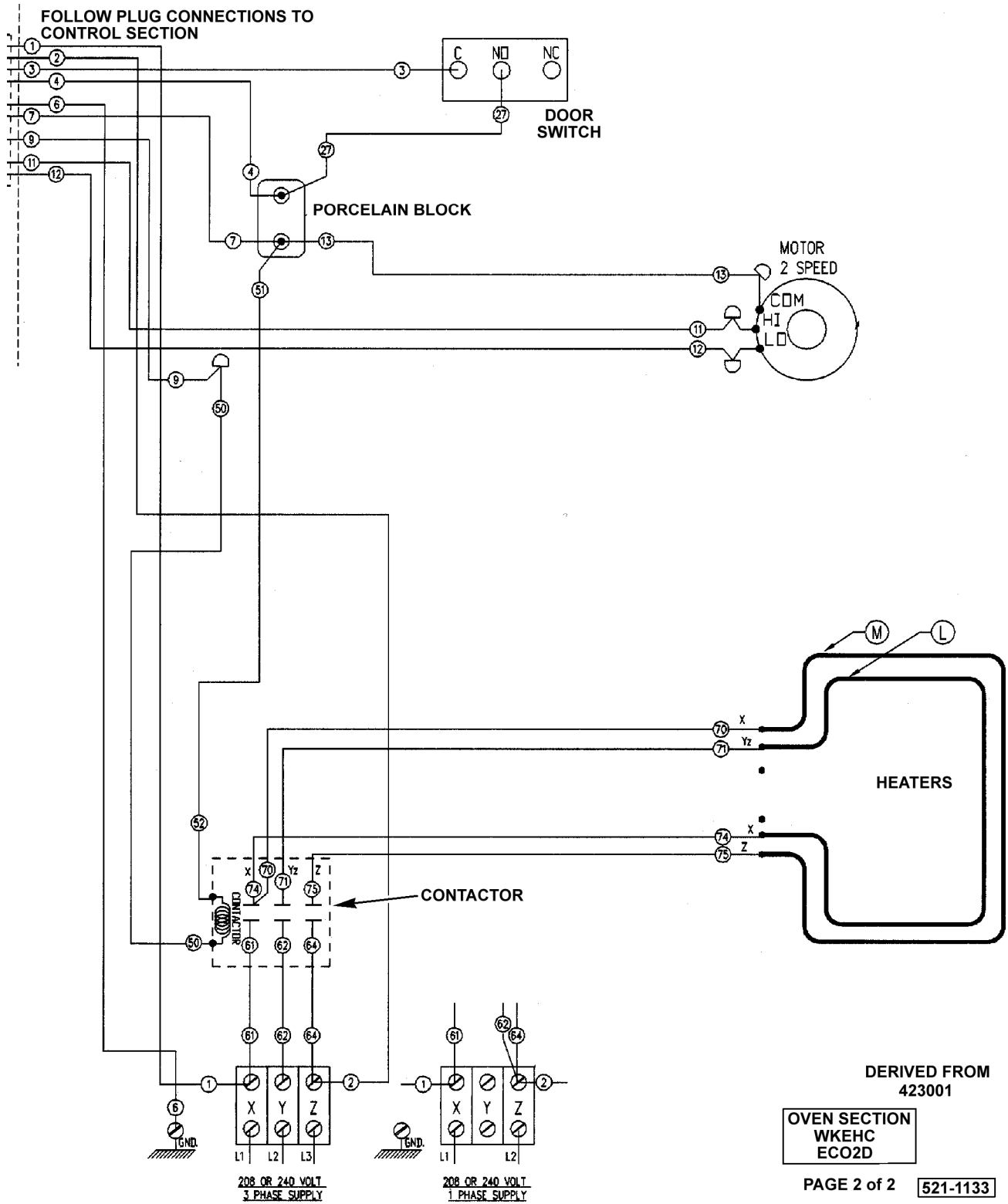
TOTAL KW CONN.	3PHASE LOAD KW/PHASE		
	X-N	Y-N	Z-N
5.5	0	2.5	3.0
NOMINAL AMPS PER LINE			
2 PHASE 3 WIRE			
220/380	240/415		
X	Y	Z	X Y Z
0	4.5	4.5	0 4.9

DERIVED FROM 423001

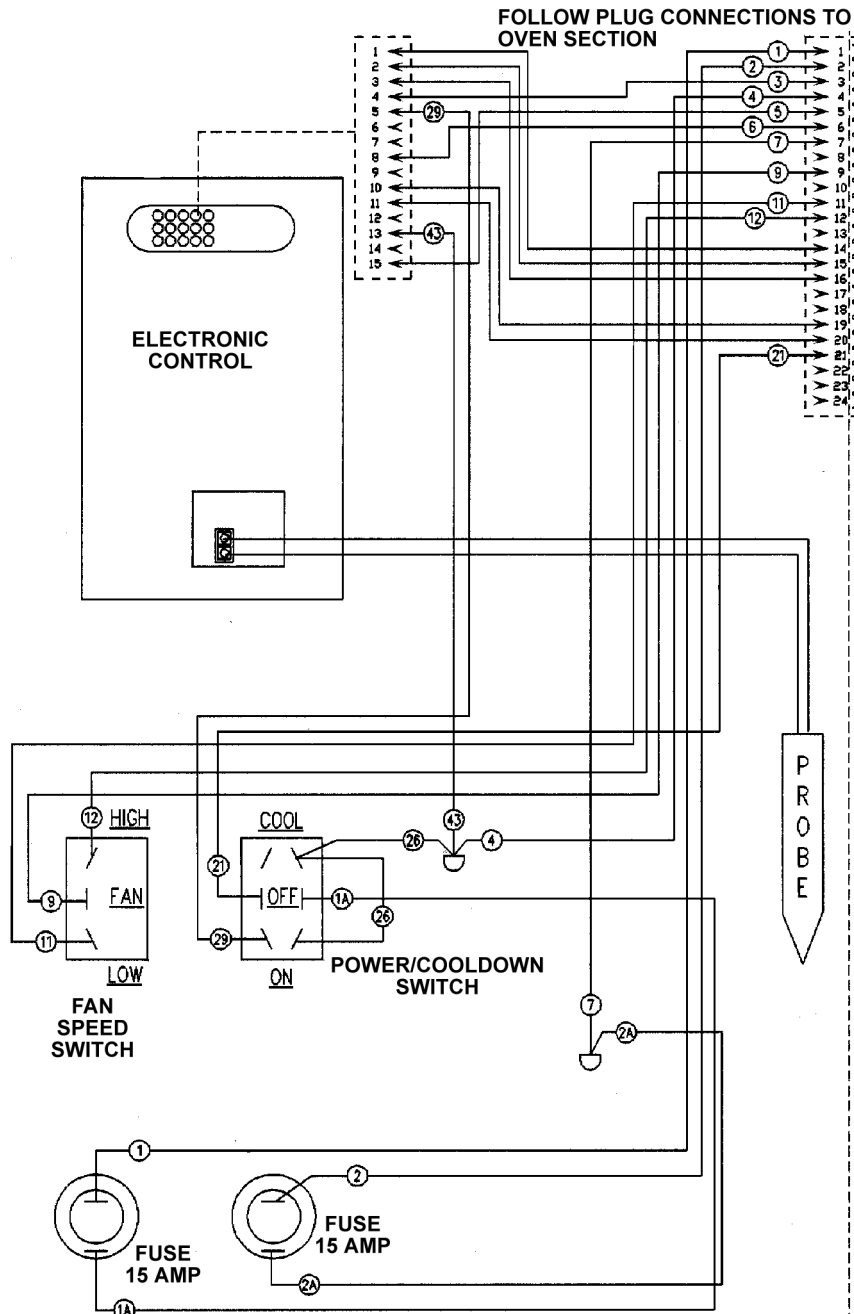
CONTROL SECTION WKEHC ECO2D

520-1132

# ECO2D - Oven Section



# ECO2C - Control Section

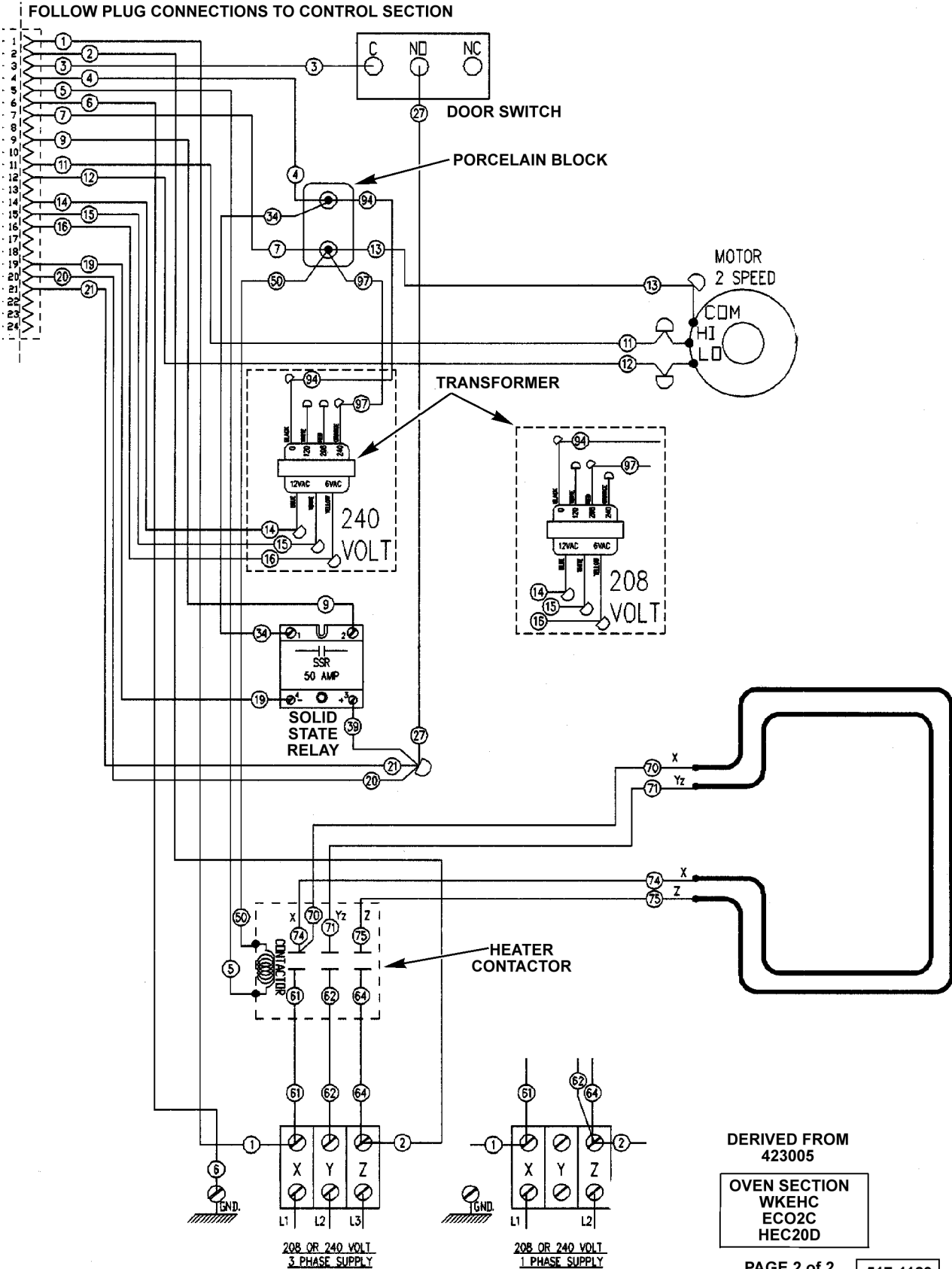


TOTAL KW CONN.	3PHASE LOAD KW/PHASE		
	X-Y	Y-Z	X-Z
5.5	2.5	0	3.0
NOMINAL AMPS PER LINE			
3 PHASE			1-PH
208V	240V	208	240
X	Y	Z	XZ
23	10	12	26

TOTAL KW CONN.	3PHASE LOAD KW/PHASE		
	X-N	Y-N	Z-N
5.5	0	2.5	3.0
NOMINAL AMPS PER LINE			
2 PHASE 3 WIRE			
220/380	240/415		
X	Y	Z	X Y Z
0	4.5	4.5	4.9

**CONTROL SECTION**  
**WKEHC**  
**ECO2C**  
**HEC20D**  
**DERIVED FROM**  
**423005**

# ECO2C - Oven Section



# TROUBLESHOOTING

## ELECTRIC OVENS

SYMPTOM	POSSIBLE CAUSES
No power to oven controls.	<ol style="list-style-type: none"> <li>1. Main breaker open.</li> <li>2. Control circuit fuses open.</li> <li>3. 12/6 volt transformer inoperative. (Electronic control)</li> </ol>
No oven operation; power to controls.	<ol style="list-style-type: none"> <li>1. Door switch open.</li> <li>2. Temp. control malfunction.</li> </ol>
Blower motor operates when oven is heating, but not in cooldown.	<ol style="list-style-type: none"> <li>1. Cooldown switch inoperative (solid state control).</li> </ol>
Blower motor does not operate, oven heats.	<ol style="list-style-type: none"> <li>1. Door switch open or inoperative.</li> <li>2. Speed selection switch malfunction.</li> <li>3. Blower motor inoperative.</li> <li>4. Solid state relay malfunction. (Electronic Control)</li> <li>5. Electronic control inoperative. (Electronic Control)</li> </ol>
Oven is slow to heat or not hot enough.	<ol style="list-style-type: none"> <li>1. Incorrect line voltage.</li> <li>2. One phase of 3 phase out.</li> <li>3. Thermostat or control malfunction.</li> <li>4. Blower motor inoperative.</li> <li>5. Contactor malfunction.</li> <li>6. Temperature probe malfunction.</li> </ol>
Oven temperature is too hot.	<ol style="list-style-type: none"> <li>1. Thermostat or control not calibrated.</li> <li>2. Thermostat or control malfunction.</li> <li>3. Contactor inoperative.</li> </ol>
No heat; blower motor operates.	<ol style="list-style-type: none"> <li>1. Thermostat or control inoperative.</li> <li>2. Contactor malfunction.</li> <li>3. Heaters open.</li> </ol>
Electronic control does not function.	<ol style="list-style-type: none"> <li>1. See "ELECTRONIC CONTROL" in "SERVICE PROCEDURES AND ADJUSTMENTS".</li> </ol>
Door does not seal or will not shut properly.	<ol style="list-style-type: none"> <li>1. Doors out of adjustment.</li> <li>2. Door seals inoperative.</li> <li>3. Door catch malfunction.</li> </ol>

**GAS OVENS**

SYMPTOM	POSSIBLE CAUSES
No power to oven controls.	<ol style="list-style-type: none"> <li>1. Unit unplugged</li> <li>2. Power switch inoperative.</li> <li>3. 12/6 volt transformer inoperative. (Electronic control)</li> </ol>
No oven operation; power to controls.	<ol style="list-style-type: none"> <li>1. Door switch open or inoperative.</li> <li>2. Solid state relay malfunction. (Electronic control)</li> <li>3. Blower motor malfunction.</li> <li>4. Electronic control malfunction.</li> </ol>
Gas does not ignite; no spark.	<ol style="list-style-type: none"> <li>1. 24 volt transformer not functioning.</li> <li>2. Spark ignition control inoperative or not grounded.</li> <li>3. Solid state control or probe malfunction.</li> <li>4. Electronic control or probe inoperative.</li> <li>5. Centrifugal switch in blower motor inoperative.</li> </ol>
Oven is slow to heat or not hot enough.	<ol style="list-style-type: none"> <li>1. Gas pressure not correct.</li> <li>2. Control malfunction.(solid state or electronic)</li> <li>4. Probe inoperative.</li> <li>5. Blower motor malfunction.</li> <li>6. Check orifice.</li> </ol>
Gas ignites, but will not maintain flame.	<ol style="list-style-type: none"> <li>1. Insufficient gas pressure.</li> <li>2. Flame sensor not positioned in flame.</li> <li>3. Spark ignition control malfunction.</li> <li>4. Check orifice.</li> </ol>
Sparks but does not ignite.	<ol style="list-style-type: none"> <li>1. Manual gas valve off.</li> <li>2. Gas valve malfunction.</li> <li>3. Spark ignition control inoperative.</li> </ol>
Electronic control does not function.	<ol style="list-style-type: none"> <li>1. See "ELECTRONIC CONTROL" in "SERVICE PROCEDURES AND ADJUSTMENTS".</li> </ol>
Door does not seal or will not shut properly.	<ol style="list-style-type: none"> <li>1. Doors out of adjustment.</li> <li>2. Door seals inoperative.</li> <li>3. Door latch malfunction.</li> </ol>

