

*TECHNICIAN TESTED*

# TECHNIQUES

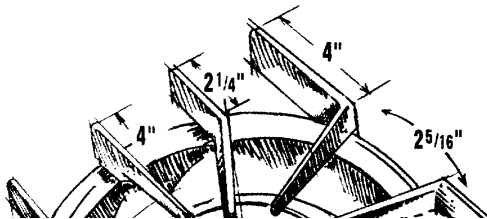
BY

Viking Preferred Service

## TECH – NOTES

### BUILT- IN ELECTRIC WALL OVENS

(AFTER JUNE 2001)

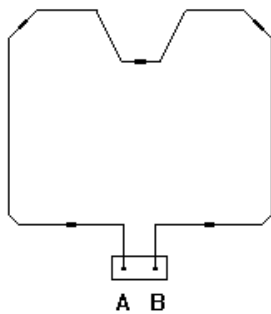


**VIKING**<sup>®</sup>  
Preferred Service

**VIKING PREFERRED SERVICE  
TECH – NOTES  
BUILT – IN ELECTRIC WALL OVENS**

<b>ELECTRICAL REQUIREMENTS</b>		
Description	30" Wide Single Oven	30" Wide Double Oven
Electrical Requirements	4 – Wire ground, 240 – 208 / 120 VAC / 60 Hz, 40 amp electrical connection. Unit is equipped with No. 10 ground wire in conduit. Should be fused separately	
Maximum Amp Usage	240 – 18.9 Amps 208 – 14.2 Amps	240 – 31.8 Amps 208 – 23.9 Amps
Broil Rating	240 Volts Maxi Broil 8 Pass 3000 Watts Mini Broil 4 Pass 1250 Watts	208 Volts 2250 Watts 940 Watts
Bake Rating	240 Volts – 2935 Watts	208 Volts – 2205 Watts
Convection Cook Rating	240 Volts – 2200 Watts	208 Volts – 1650 Watts

**VOLTAGE and RESISTANCE READINGS**



**BAKE ELEMENT:**

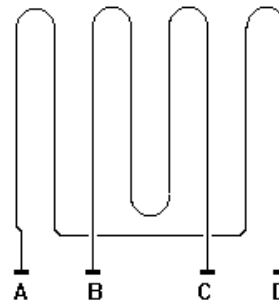
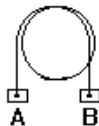
“A” to “B” 21.1 Ohms

“A” to “B” 240 Volts during Bake and Convection Bake.

**CONVECTION ELEMENT**

“A” to “B” 26 Ohms

“A” to “B” 240VAC during Convection Cook



**BROIL ELEMENT**

“A” to “D” (Outside Element) 32.6 Ohms  
50VAC during Bake and

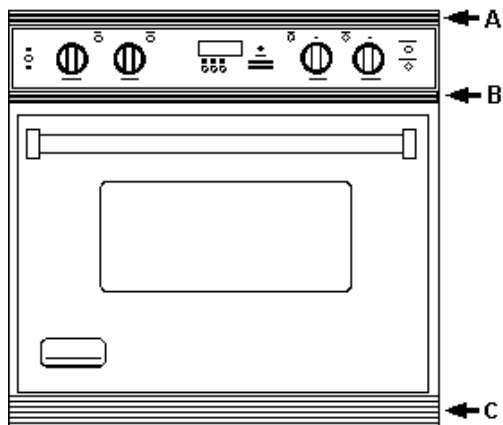
Convection Bake  
240VAC during Maxi Broil.  
240VAC during Convection Broil  
240VAC during Self-Clean

“B” to “C” (inside element) 45.2 Ohms

“B” to “C” 70VAC during Mini Broil /  
Convection Bake

240 VAC during Mini Broil  
240VAC during Maxi Broil  
240VAC during Convection Broil  
240VAC during Self-clean

**VESO / VEDO COMPONENT ACCESS**



**Illustration #1**

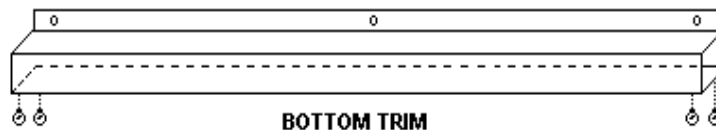
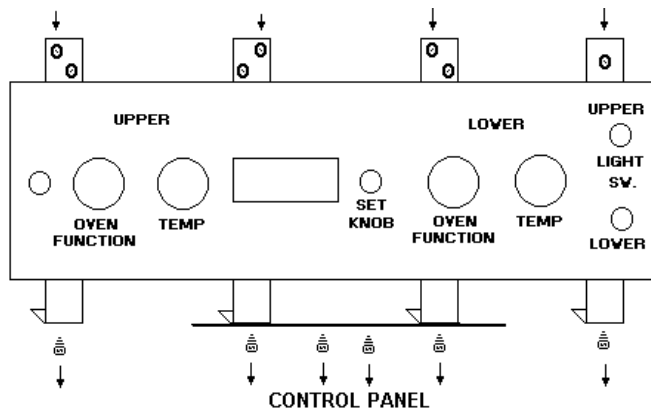
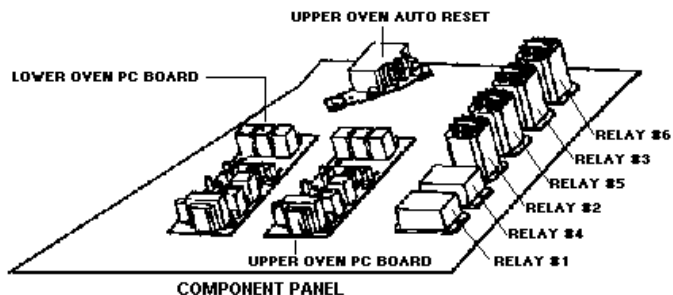
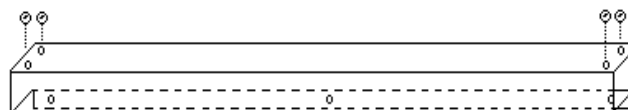
**TO GAIN ACCESS TO THE ELECTRIC AND ELECTRONIC COMPONENTS:**

Remove the **Top Trim (A)**. Two screws at each corner attaching the top trim to the side trims and three screws along the bottom of the trim piece.  
 Remove the **Lower Control Panel Trim (B)**. Three Screws along the bottom of the trim piece behind the oven door.

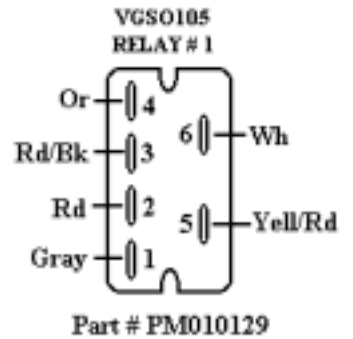
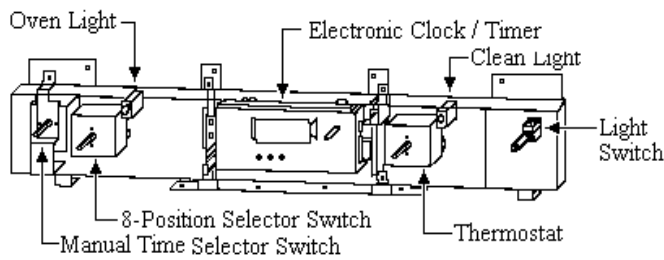
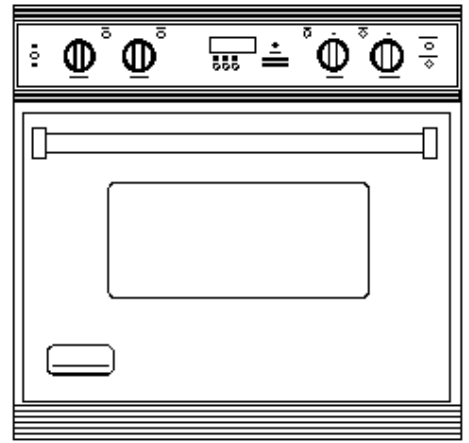
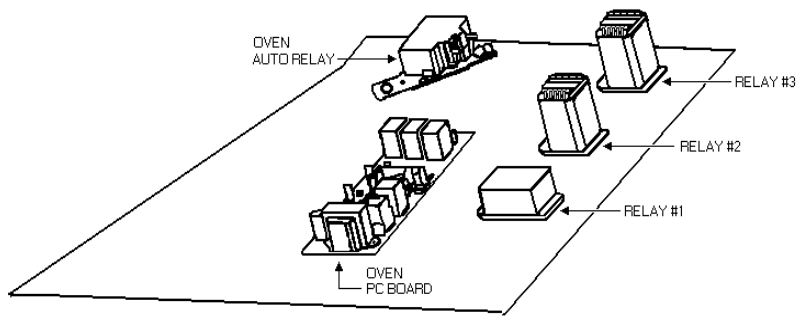
Remove the **Control Panel**. Four screws at the top and six screws across the bottom (see drawing of the control panel.) Pull the **Control Panel** carefully forward and tilt down. Being careful not to disconnect wires attached to the components on the reverse of the panel.

The **Component Panel** is now accessible. Pull the **Component Panel** forward to release the panel from the slide. Lift the **Component Panel** up to service the upper **Upper Self Cleaning Latch** and components located on the latch mechanism.

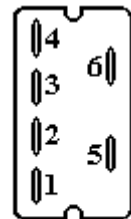
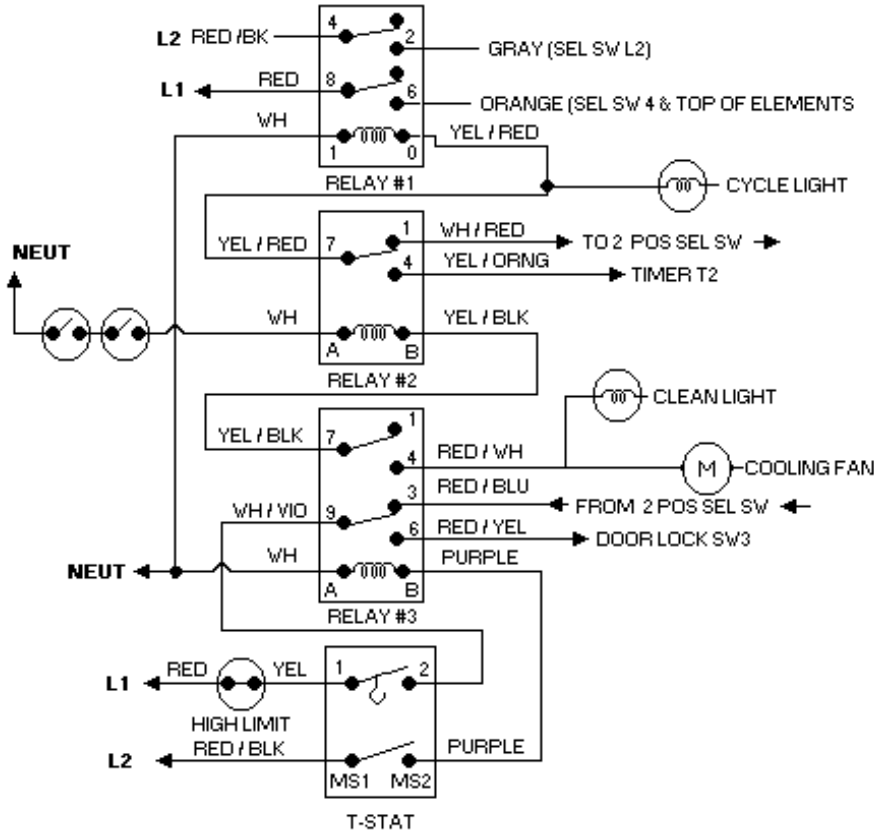
The **Bottom Trim (C)** is removed to make the vertical **Door Adjustment**. Remove the two screws from each corner attaching the **Bottom Trim** to the **Side Trim** pieces. Remove the three screws across the top of the trim piece located beneath the door.



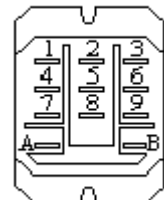
**VESO105 SINGLE SELF-CLEAN WALL OVEN**  
 Relay location and wiring connections



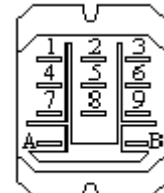
**VESO 105 / VEDO 205 TOP OVEN**



**RELAY #1**  
Terminal Layout

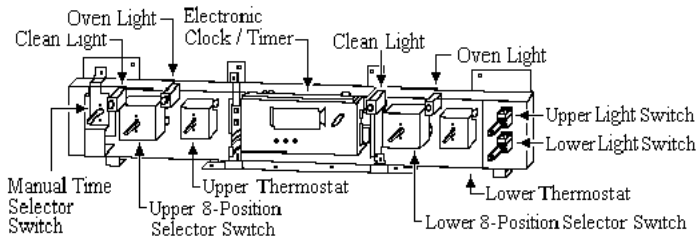
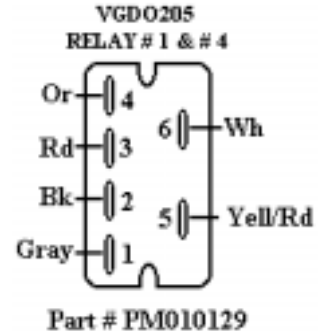
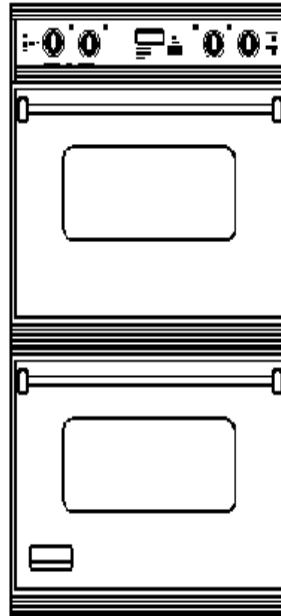
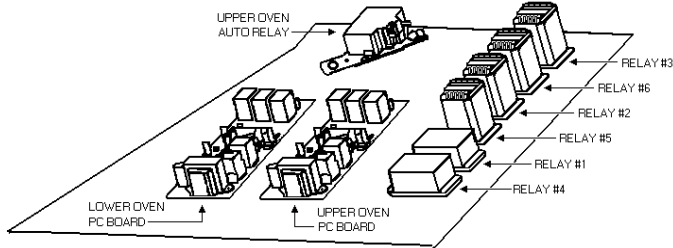


**RELAY #2**

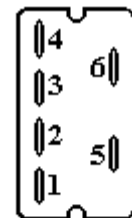
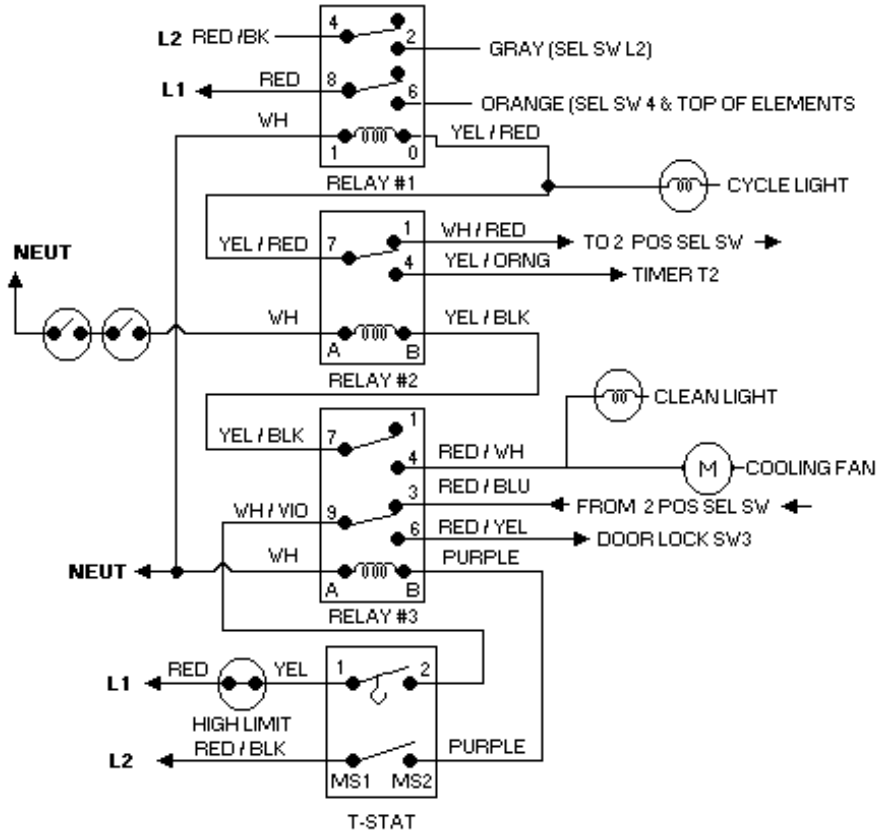


**RELAY #3**

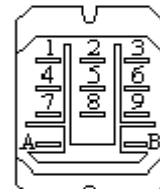
**VEDO DOUBLE SELF-CLEAN WALL OVEN**  
 Relay location and wiring connections



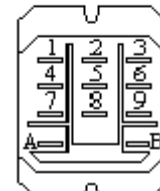
**VESO 105 / VEDO 205 TOP OVEN**



**RELAY #1**  
 Terminal Layout



**RELAY #2**

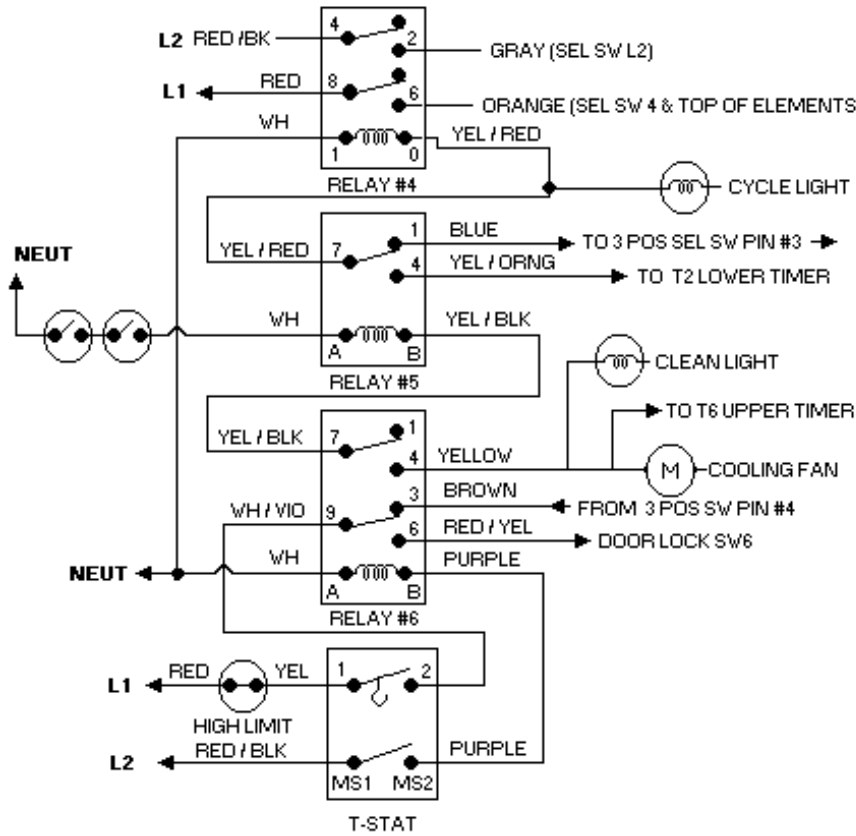


**RELAY #3**

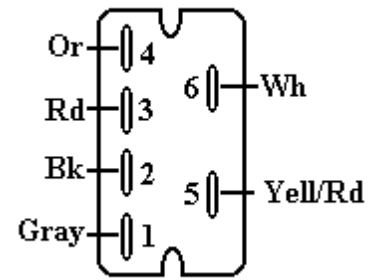
**VEDO DOUBLE SELF-CLEAN WALL OVEN**  
 Relay location and wiring connections

-----VEDO BOTTOM OVEN-----

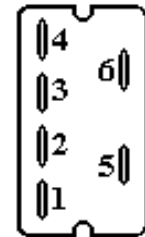
**VEDO 205 BOTTOM OVEN**



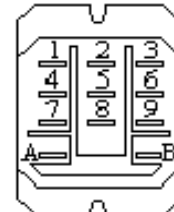
**VGDO205**  
**RELAY # 1 & # 4**



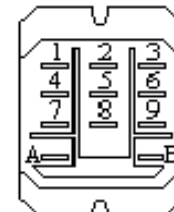
Part # PM010129



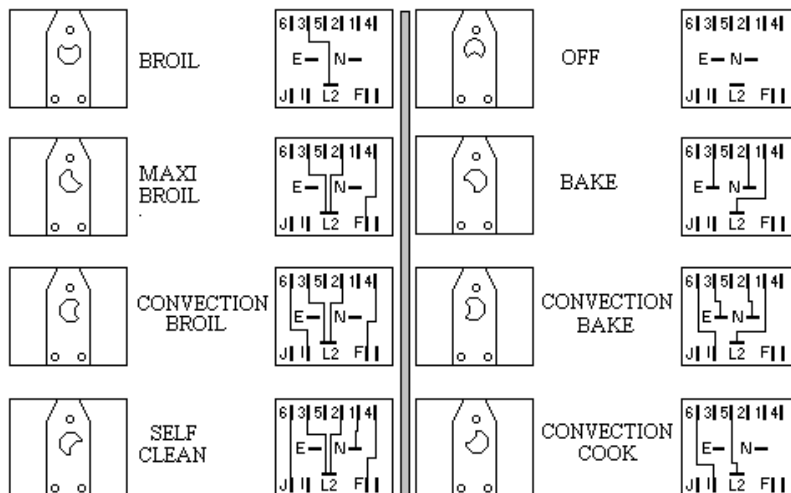
**RELAY #4**  
 Terminal  
 Layout



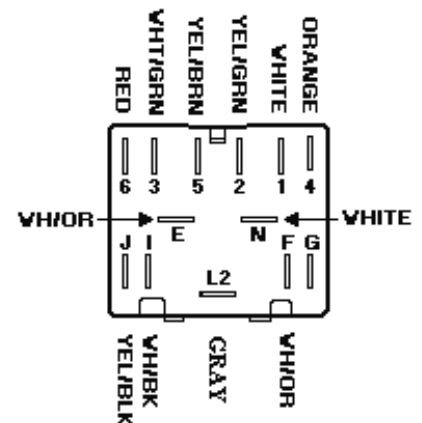
**RELAY #5**



**RELAY #6**



**8 Position Selector Switch**



**DOOR LOCK CONTROL / TIMER**

**Function:** The Door Lock Control / Timer is activated by the line voltage at the “SEL” contact.

**Voltage Readings: Measured with Door Open.**

T4	120VAC	
T3	0VAC	
T2	0VAC	
T1	0VAC	

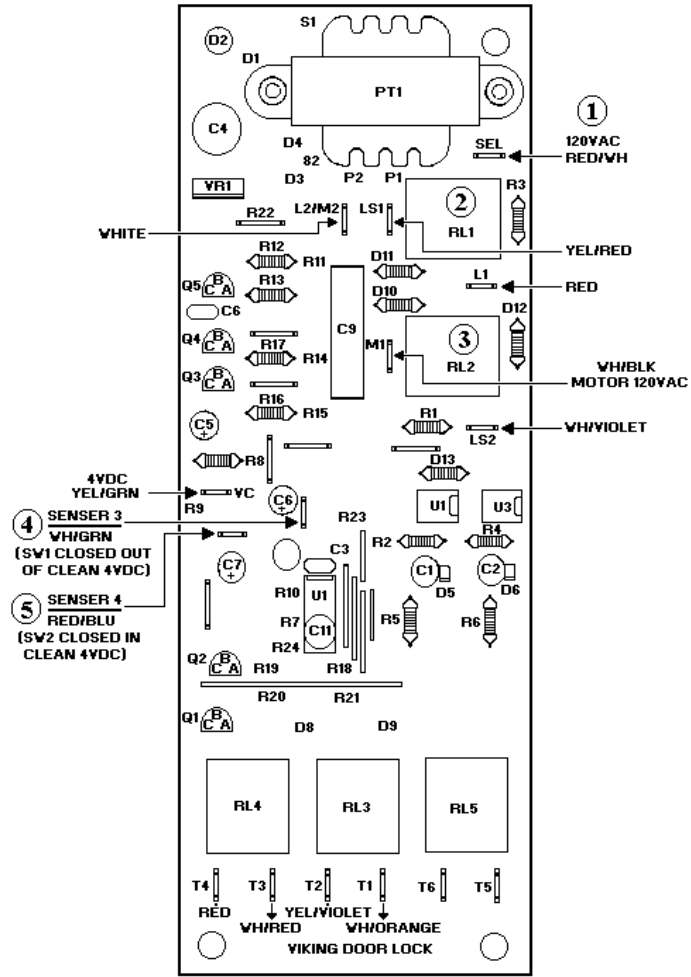
**Voltage: Measured with Door locked.**

T4	120VAC
T3	120VAC
T2	120VAC

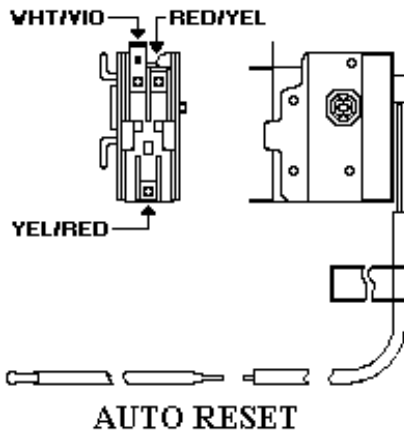
VC -- 4VDC to

- Sensor 3 -- 3VDC SW2 closed in self-clean (locked)
- Sensor 4 -- 4VDC SW1 closed with self-clean (unlocked)
- M1 -- 120VAC lock motor supply voltage (31VAC in locked position.)
- LS2 -- 120VAC (unlocked) -- 0VAC (locked)
- L1 -- 120VAC (unlocked) -- 0VAC (locked)
- L2/M2 -- 120VAC (unlocked) -- 0VAC (locked)
- LS1 -- 120VAC -- 0VAC locked
- SEL -- 120VAC supply

CHASSIS GROUND    PC BOARD GROUND



CONTROL CIRCUIT BOARD

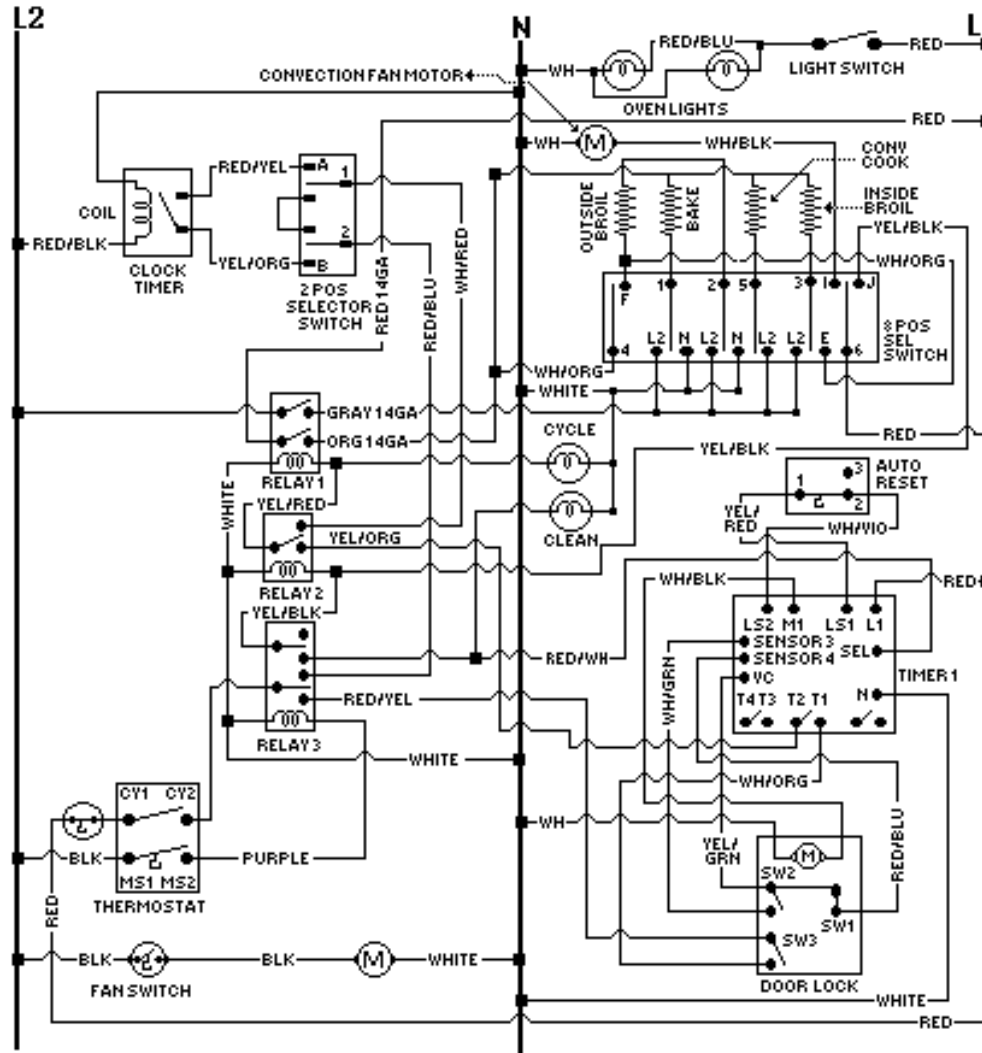


**AUTO RESET SWITCH**

**Function:** The Auto Reset Switch is a single pole double throw switch (thermostat) which is activated by a thermal bulb and lever which is calibrated to **575° F ± 25° F**. The Auto Reset Switch powers the door lock motor to lock at temperatures at or above **575° F**. Also allows the door to unlock after the temperature drops below **575° F**.

VIKING PREFERRED SERVICE  
 TECH -- NOTES

WIRING DIAGRAM  
 BUILT-IN ELECTRIC SINGLE OVEN

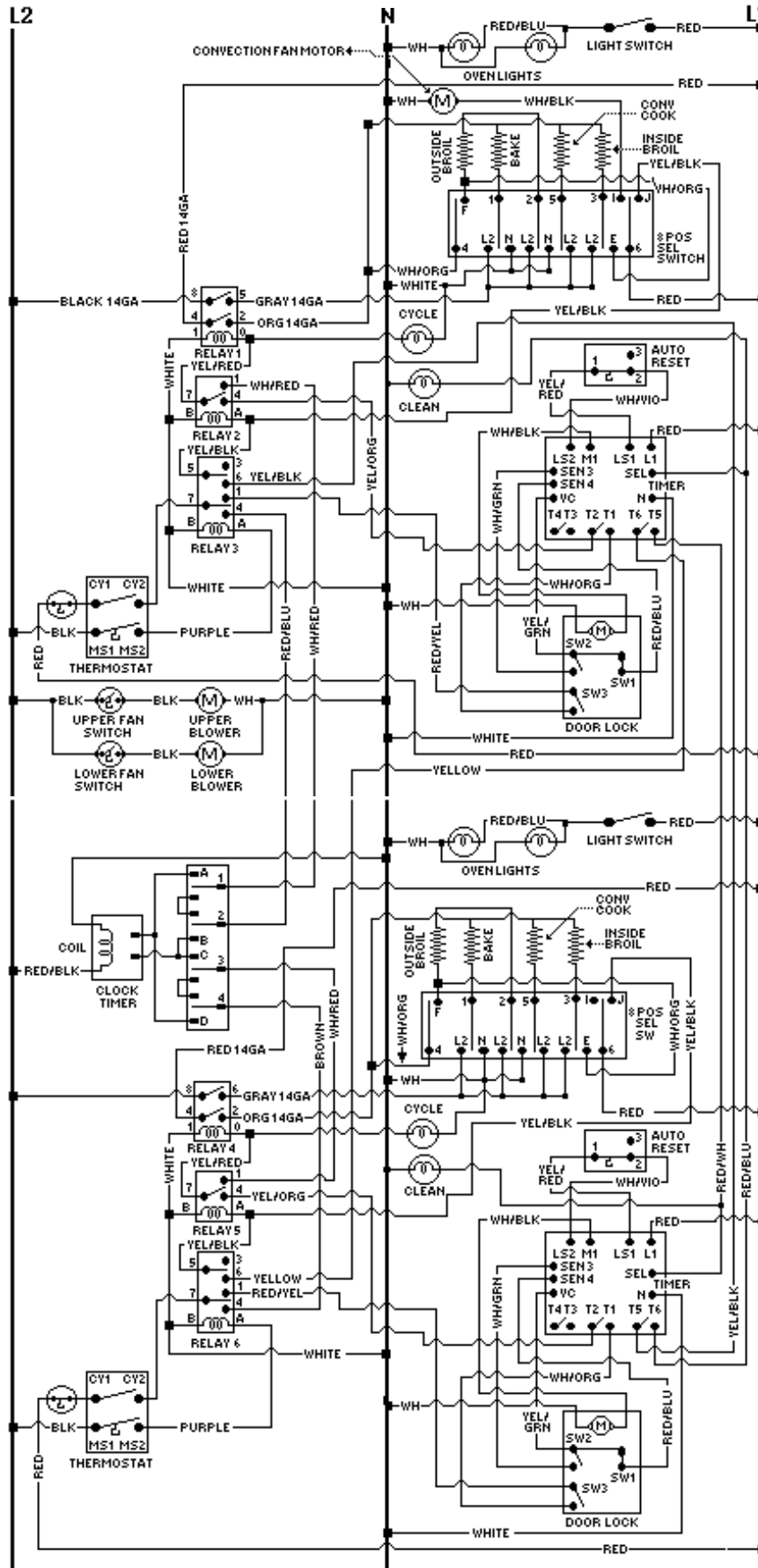


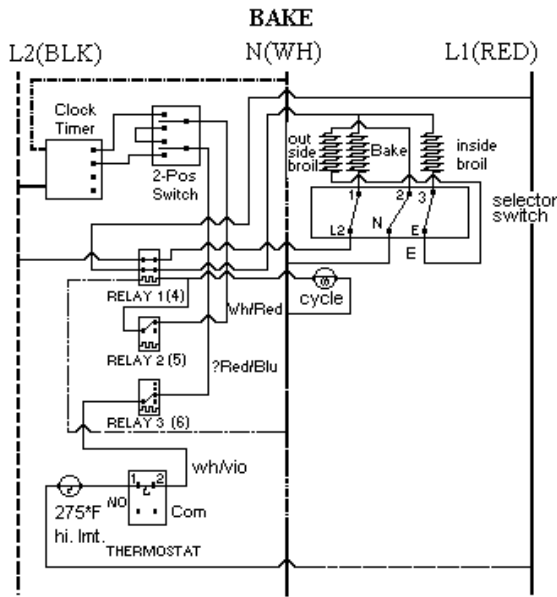


# VIKING PREFERRED SERVICE

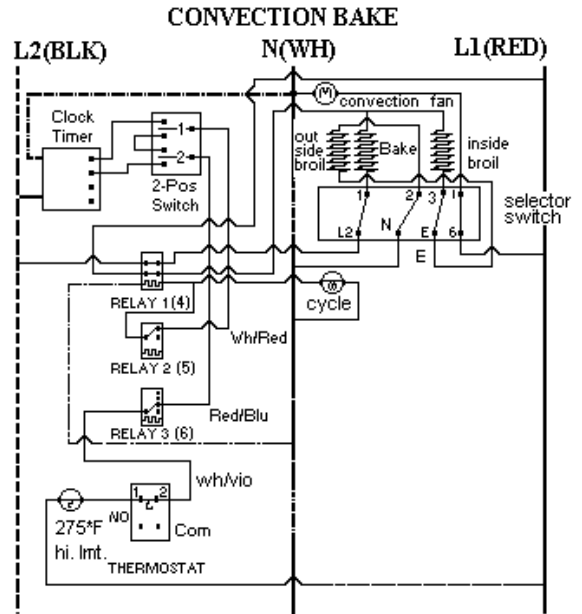
## TECH -- NOTES

### BUILT-IN ELECTRIC DOUBLE OVEN

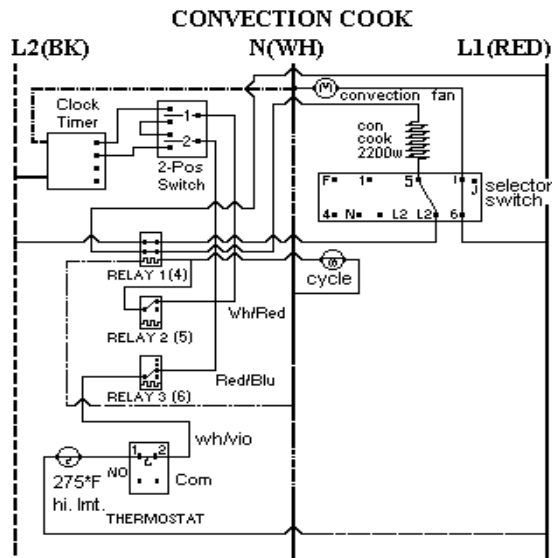




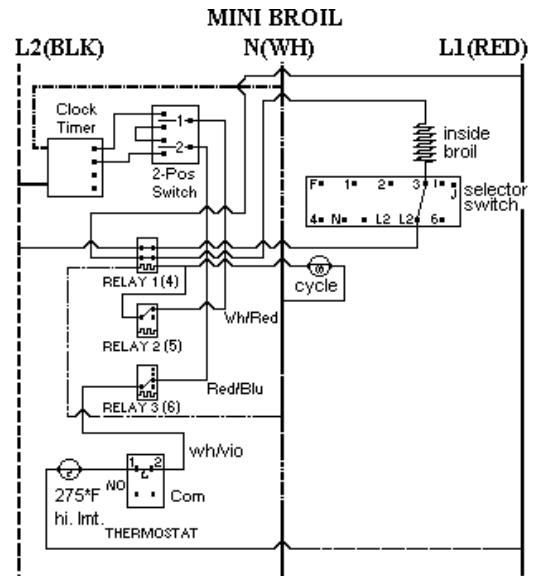
SELECT BAKE position closes switches 1-L2, 2-N, and 3-E. The thermostat closes switches Cy1-Cy2, which cycles with oven temperature powering relay 1 and the oven cycle light. When relay 1 closes, it powers the bake element at 208/240 VAC, and with the broil element in series across a 120VAC circuit, it powers the inside broil element at 70VAC and the outside broil element at 50VAC.



SELECT CONVECTION BAKE position closes switches 1-L2, 2-N, 3-E, and 6-1. 6-1 powers the convection fan through L1 at 120VAC. The thermostat closes switch Cy1-Cy2, which cycles with oven temperature powering relay 1 and the oven light. When relay 1 closes, it powers the bake element at 208/240VAC, and with the broil element in series across a 120VAC circuit, it powers the inside broil element at 70VAC and the outside broil element at 50VAC.



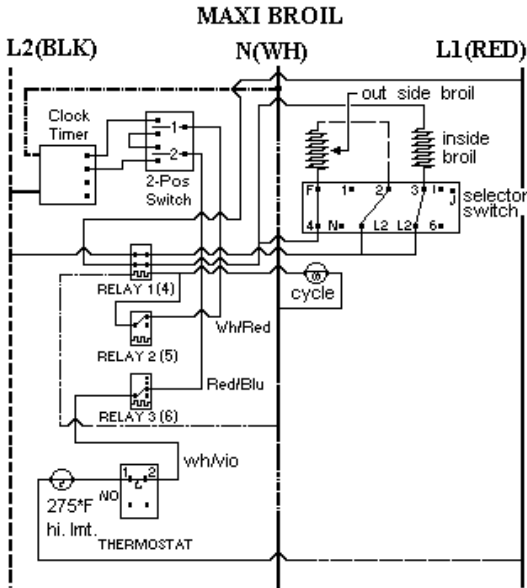
SELECT CONVECTION COOK position closes switches 5-L2 and 6-1. 6-1 powers the convection fan through L1 at 120VAC. The thermostat closes switches Cy1 - Cy2, which cycles with oven temperature, powering relay 1 and the oven light. When relay 1 closes, it powers the convection element at 208/240VAC.



SELECT MINI BROIL position closes switches 3-L2. The thermostat closes switch Cy1-Cy2, powering relay 1 and the oven cycle light. When relay 1 closes, it powers the inside broil element at 208/240VAC.

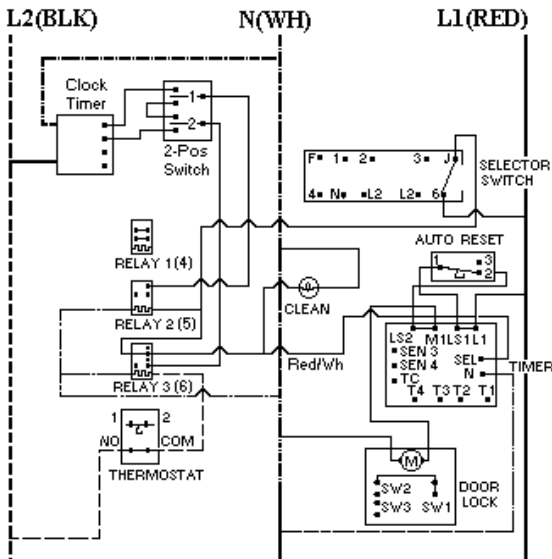
# VIKING PREFERRED SERVICE

## TECH -- NOTES

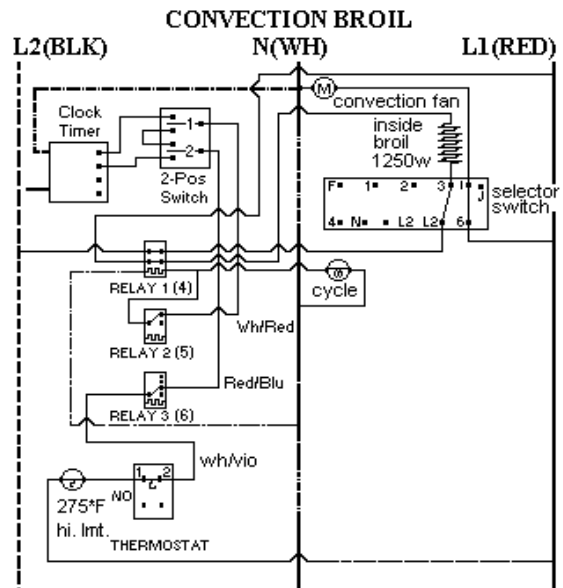


SELECT MAXI-BROIL position closes switches 4-F, 2-L2, and 3-L2. The thermostat closes switch Cy1-Cy2, which cycles with oven temperature, powering relay 1 and the oven cycle light.. when relay 1 closes, it powers the inside broil element at 208/240VAC and the outside broil element at 208/240VAC.

### CLEAN INITIATE UNTIL DOOR LOCK

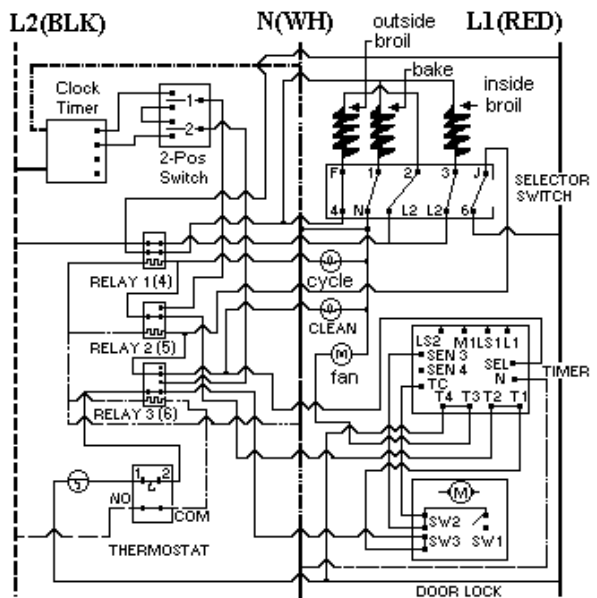


SELECT CLEAN position closes heating element circuits 4-F, 1-N, 2-L2, 3-L2 and door lock module / timer circuit J6 switches relay2. Thermostat clean position closes the cycle switch and thermostat clean switch, which switches relay 3. Switching relay 3 allows circuit J-6 to turn on the clean indicator light and enable the door lock module / timer which closes relay LS-L1 and LS2-M1. This powers the door lock motor until 10 seconds after sensor #3 is signaled by VC that the door lock switch SW2 has been closed mechanically (along with SW3) by the door lock bolt.



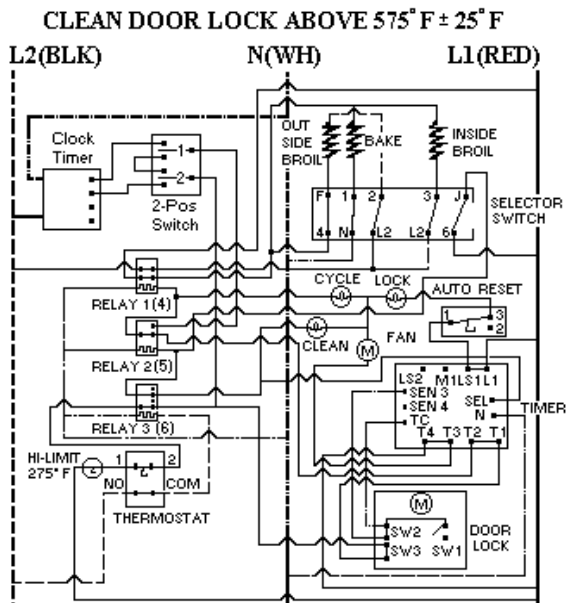
SELECT CONVECTION BROIL position closes switches 4 - F, 2 -L2, 3 - L2 and 6 - 1. 6 -1 powers the convection fan through L1 at 120VAC. The thermostat closes switch Cy1 - Cy2, which cycles the oven temperature, powering relay 1 and the oven cycle light. When relay 2 closes it powers the inside broil element at 208/240VAC and the outside broil element at 208/240VAC.

### CLEAN DOOR LOCK BELOW 575° F ± 25° F

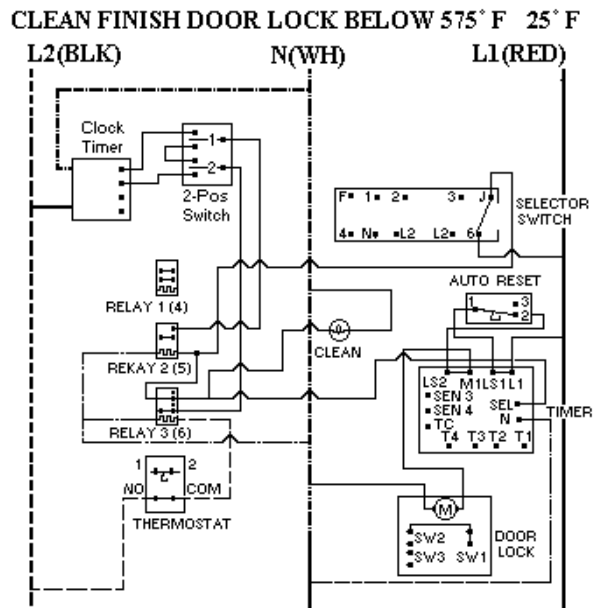


10 seconds after the signal to sensor #3, switch LS2 - M1 is opened, stopping the door lock motion and switches T1 - T2 and T3 - T4 which switches relay 1, powering the cooling fan, which closes relay 1 powering the inside and outside broil elements at 208/240VAC and the bake element to 120VAC.

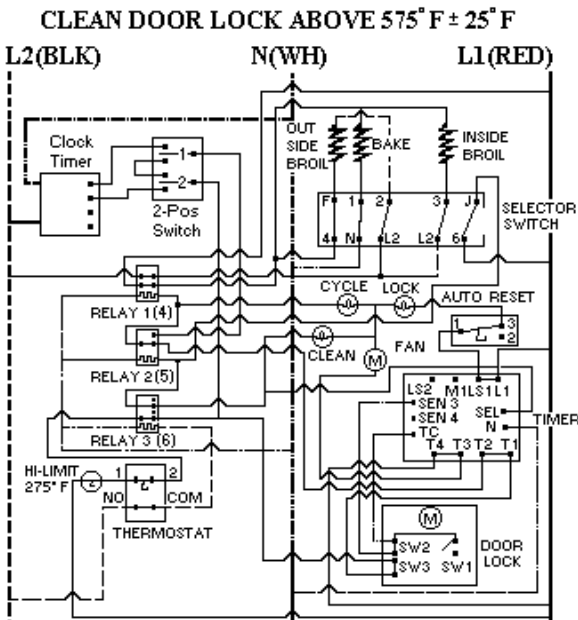
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 ———— TECH -- NOTES ————



AUTO RESET switches to 1 – 3 which turns door lock indicator light on and disables door lock motor circuit.



AUTO reset switches 1 – 2 closed allowing the door lock motor to operate and turning the door lock light off. The door lock motor operates until 2 seconds after sensor 4 is signaled by VC that the door lock SW1 has been closed mechanically by the door lock bolt. The door lock / timer switches LS2 – M1 and LS1 – L1 open and the timer resets.



TIMER switches T3 – T4, T1 – T2 open, turning off the cooling fan, which will then be powered at 120VAC by the fan limit switch when needed, and opening the circuit to relay 1 which disables the heating elements. Switch LS2 - M1 closes to power the door lock Motor.

VIKING PREFERRED SERVICE

———TECH -- NOTES———

**TROUBLESHOOTING GUIDE Electric Wall Ovens**

PROBLEM	PROBABLE CAUSE	CORRECTION
A. No Bake, No Broil No Cycle Light, No Power to Relay #1	A-1 House Breaker or Fuse open	A-1 Reset Breaker or replace Fuse
B. No Bake, No Broil, No Cycle Light, Power to Relay #1 (Red – Red/Blk terminals #1 & #3) No power to Relay #1 Heater	B-1 Timed Bake/Broil function switch set to Timed function. B-2 Power Relay #1 Heater circuit open .  B-3 Open contacts Relay #2 (single/ upper oven) (wh/red wire to neutral pin #1 and #7)  B-4 Open contacts Relay #3 (single/upper oven) (red/blu contact #3 to wh/vio contact #9) or open contact Relay #6 (lower oven) (Brown contact #3 to wh/vio contact #9)  B-5 Open Thermostat Cycling contacts #1 and #2  B-6 Open High Limit Switch (contacts normally Closed)	B-1 Set Timed Bake/Broil function switch to manual. B-2 Replace Power Relay #1 (Power Relay #1 part # PM010026)  B-3 Replace Relay #2 (single/ upper oven) or #5 (lower oven) (Relay #2 and #5 part # PM010029)  B-4 Replace Relay #3 (upper oven) or Relay #9 (lower oven) (Relay part # PM010029)  B-5 Replace Thermostat  B-6 Replace High Limit Switch
C. No Bake Function Broil functions normal and the Cycle Light is on	C-1 Open Bake Element  C-2 Open Selector Switch contacts 1 to L2  C-3 Burned Wiring or Terminal connections.	C-1 Replace Bake Element  C-2 Replace Selector Switch  C-3 Replace or Repair Burned Wiring and / or Terminal (spade) connector.
D. Poor Baking Results, Broil Functions normal Cycle Light is on	D-1 Low Voltage Supply (240VAC Required).  D-2 Restricted Air Flow through the oven cavity.  D-3 No Top Heat from Broil Element. Open selector Switch contacts 3 to E.  D-4 Check Use and Care for suggested baking tips.	D-1 Inform Customer of requirements.  D-2 Clear restriction from Oven Vent.  D-3 Replace Selector Switch.
E. No Convection Bake, Bake and Broil functions normal, Cycle Light is on.	E-1 Open Selector Switch contact 6 to 1  E-2 Open Convection Motor winding  E-3 Burned Wiring or terminal connections	E-1 Replace Selector Switch  E-2 Replace Convection Motor  Replace burned wiring or terminal connectors.
F. No Convection Cook, Bake and Broil functions normal. Cycle Light is on.	F-1 Open Convection Cook Element  F-2 Open Selector Switch contacts 5 to L2	F-1 Replace Convection Cook Element.  F-2 Replace Selector Switch

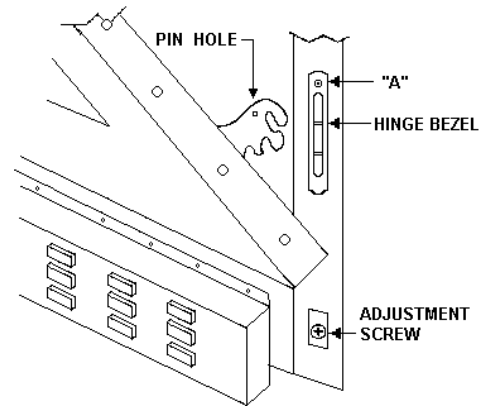
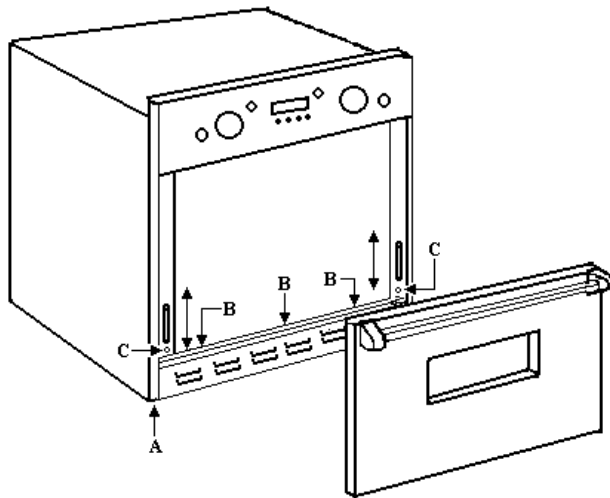
VIKING PREFERRED SERVICE  
 ———TECH -- NOTES———

<b>TROUBLESHOOTING GUIDE Electric Wall Ovens</b>		
<b>PROBLEM</b>	<b>PROBABLE CAUSE</b>	<b>CORRECTION</b>
G. Convection Cook Heats, No Air Circulation	G-1 Open Winding in Convection Fan Motor G-2 Frozen Motor Shaft G-3 Open Selector Switch contacts 1 to 6	E-1 Replace Fan Motor E-2 Replace Fan Motor E-3 Replace Selector Switch
H. No Mini-Broil, Bake functions normal, Cycle Light is on.	H-1 Open Selector Switch contacts 3 to L2 H-2 Open Inside Broil Element	H-1 Replace Selector Switch H-2 Replace Inside Broil Element
I. No Maxi-Broil, Bake and Mini-Broil functions normal, Cycle Light is on.	I-1 Open Selector Switch contacts F to 4, 2 to L2 and / or 3 to L2 I-2 Open Outside Broil Element	I-1 Replace Outside Broil Element
J. No Maxi-Broil, No Top heat in Bake Mode, Cycle Light is on.	J-1 Open Selector Switch contacts F to 4, 2 to L2 J-2 Open Inside and Outside Broil Elements.	J-1 Replace Selector Switch J-2 Replace Open Broil Elements.
K. No Convection Broil Bake and Broil are Normal, Cycle Light Is on. No Mini-Broil	K-1 Open Convection Motor winding K-2 Open Selector Switch contacts 3 to L2 K-3 Open Inside Broil Element	K-1 Replace Convection Motor. K-2 Replace Selector Switch K-3 Replace Inside Broil Element
L. No Self-Clean, Bake and Broil functions normal <ul style="list-style-type: none"> <li>▪ Door won't lock. No Clean Light. No 120 VAC supply to Door Lock module / timer (PC board)</li> </ul>	L-1 Open Selector Switch contacts J to 6 L-2 Open contacts Relay #2 (single/upper oven) or Relay #5 (lower oven). L-3 Open contacts Relay #3 (single/upper Oven) or Relay #6 (lower oven).	L-1 Replace Selector Switch L-2 Replace Relay #2 (single/upper oven ) or #5 (lower oven). L-3 Replace Relay #3 (single/upper oven) or #6 (lower oven).
M. No Self-Clean Bake And Broil function Normal. <ul style="list-style-type: none"> <li>▪ Door won't Lock 120VAC to Door Lock module / timer (PC board) is present – No Motor movement – Clean Light is on.</li> </ul>	M-1 Open Relay contacts LS1-1 and /or LS2-M1 on Door Lock Module / timer (PC board) M-2 Open contacts 1 to 2 on Auto Reset Thermostat. M-3 Open windings in Lock Motor	M-1 Replace Door Lock Module / Timer (PC board) M-2 Replace Auto Reset Thermostat M-3 Replace Lock Motor assembly

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VIKING PREFERRED SERVICE  
 ———TECH -- NOTES———

TROUBLESHOOTING GUIDE Electric Wall Ovens		
PROBLEM	PROBABLE CAUSE	CORRECTION
N. Door Lock Motor continues to run no signal to sensor #3 on PC board the closes T1-T2 and T3-T4. Clean Light is on.	N-1 No SW2 Switch (closed be motor Movement) on Door Lock Mechanism not closing.	N-1 Adjust SW2 Switch position or Replace faulty Switch.
O. Door Lock Motor Engaged. Signal To Sensor #3 on PC board . No Heat, Clean Light is on.	O-1 Door Lock Module / Timer Relay T1 –T2 and T3-T4 not closing.	O-1 Replace PC board.
P. Door Lock Motor Engaged. Cooling Fan Motor runs. (PC board T3 –T4 closing) No Heat.	P-1 Door Lock Module / Timer (PC board) Relay T1-T2 not closing.  P-2 Door Lock Module / Timer (PC board) Relay T1-T2 closing. Check SW3 on Door Lock Assembly.	P-1 Replace PC board  P-2 Replace SW3 switch on Door Lock Assembly .



**DOOR REMOVAL**

- Open door to full open position
- Place a pin in the pin hole
- Close the door to the inserted pin
- Remove screw "A"
- Lift the door and hinge bezel out of the door socket
- Reverse the procedure to replace the door

**DOOR ADJUSTMENT**

- Remove the lower access panel
- Remove 2 screws at the bottom of each side trim (A)
- Remove the 3 screws beneath the door (B)
- (C) is the door adjustment screws (Turn Clockwise to raise the door) and (Counterclockwise to lower door)

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