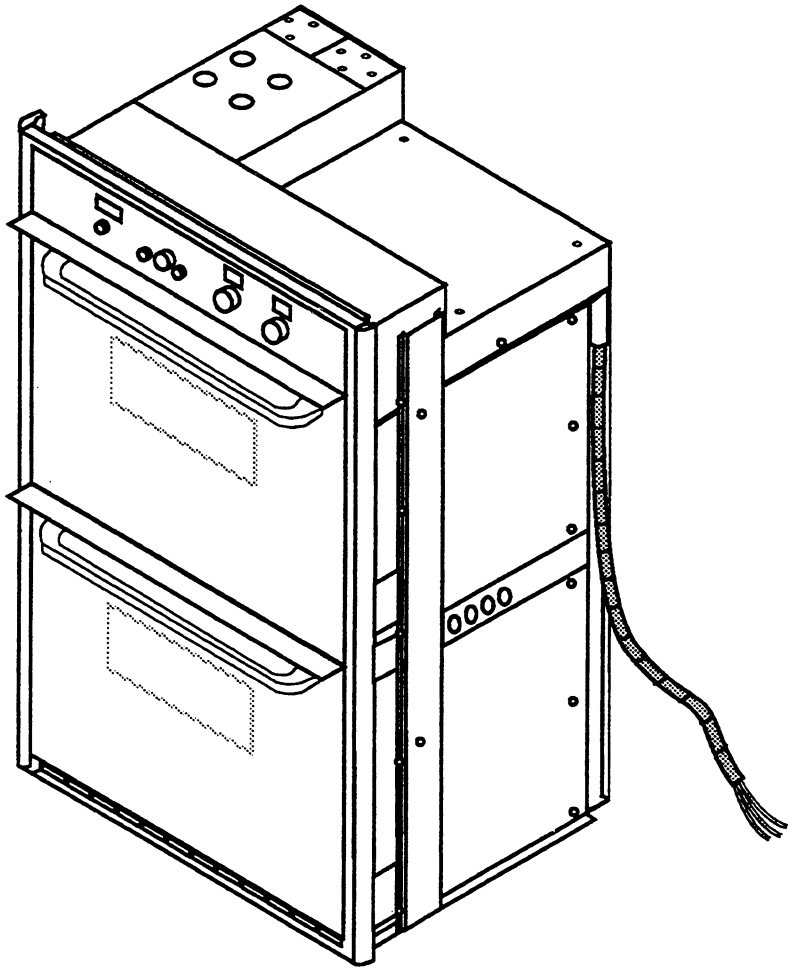
Thermador

27" & 30" CONVECTION THERMAL OVENS

MODELS CT127N, CT227N, CT130 & CT230

SERVICE MANUAL



Thermador®
CORPORATION

5551 MCFADDEN • HUNTINGTON BEACH, CALIFORNIA 92649 • TELEPHONE: 1(800) 735-4328

Lit. No. 92-02-020

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THIS MANUAL CONTAINS INFORMATION THAT IS NECESSARY FOR INSTALLING AND SERVICING THE THERMADOR® SINGLE AND DOUBLE CONVECTION THERMAL OVENS, MODELS CT127N, CT227N, CT130, AND CT230.

THIS MANUAL IS DESIGNED TO BE USED ONLY BY QUALIFIED SERVICE PERSONNEL. THERMADOR RECOMMENDS THAT CUSTOMERS DO NOT SERVICE THEIR OWN UNITS, DUE TO THE COMPLEXITY AND THE RISK OF HIGH-VOLTAGE ELECTRICAL SHOCK.

THE INFORMATION IS ORGANIZED TO HELP THE SERVICER EASILY FIND WHAT IS NEEDED TO INSTALL AND REPAIR THE UNIT.

BEFORE INSTALLING THE UNIT, CHECK THE LOCAL BUILDING CODES FOR THE PROPER MODE OF INSTALLATION.

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THERMADOR® WARRANTY

27" & 30" Convection Self-Cleaning Ovens
Models CT127N, CT227N, CT130 & CT230

Length of Warranty	Thermador will pay for:	**Thermador will not pay for:**
FULL ONE YEAR WARRANTY Covers one year from date of purchase. Save all dated receipts or other evidence of date of purchase.	All repair labor and replacement parts found to be defective due to materials and workmanship. Service must be provided by a Factory Authorized Service Agency, during normal working hours.	1. Service by an unauthorized agency. Damage or repairs by an unauthorized agency or use of unauthorized parts. 2. Service visits to: • Teach you how to use the appliance. • Correct the installation. You are responsible for providing electrical wiring and other connecting facilities. • Reset circuit breakers or replace home fuses. 3. Damage caused from accident, abuse, alteration, misuse, incorrect installation or installation not in accordance with local codes. 4. Repairs due to other than normal home use.

This warranty applies to appliances used in residential applications; it does not cover their use in commercial situations.

This warranty is for products purchased and retained in the 50 states of the U.S.A., the District of Columbia, and Canada. The warranty applies even if you should move during the warranty period. Should the appliance be sold by the original purchaser during the warranty period, the new owner continues to be protected until the expiration of the original purchaser's warranty period.

This warranty gives you specified legal rights. You may also have other rights which vary from state-to-state.

HOW TO OBTAIN SERVICE

For service, contact the Factory Authorized Service Agency in your area, the dealer from whom you purchased the appliance, or write to us at the address shown below.

We want you to remain a satisfied customer. If a problem does come up that cannot be resolved to your satisfaction, please let us know. Write to:

Consumer Relations Department
Thermador, P.O. Box 22129
Los Angeles, CA 90022

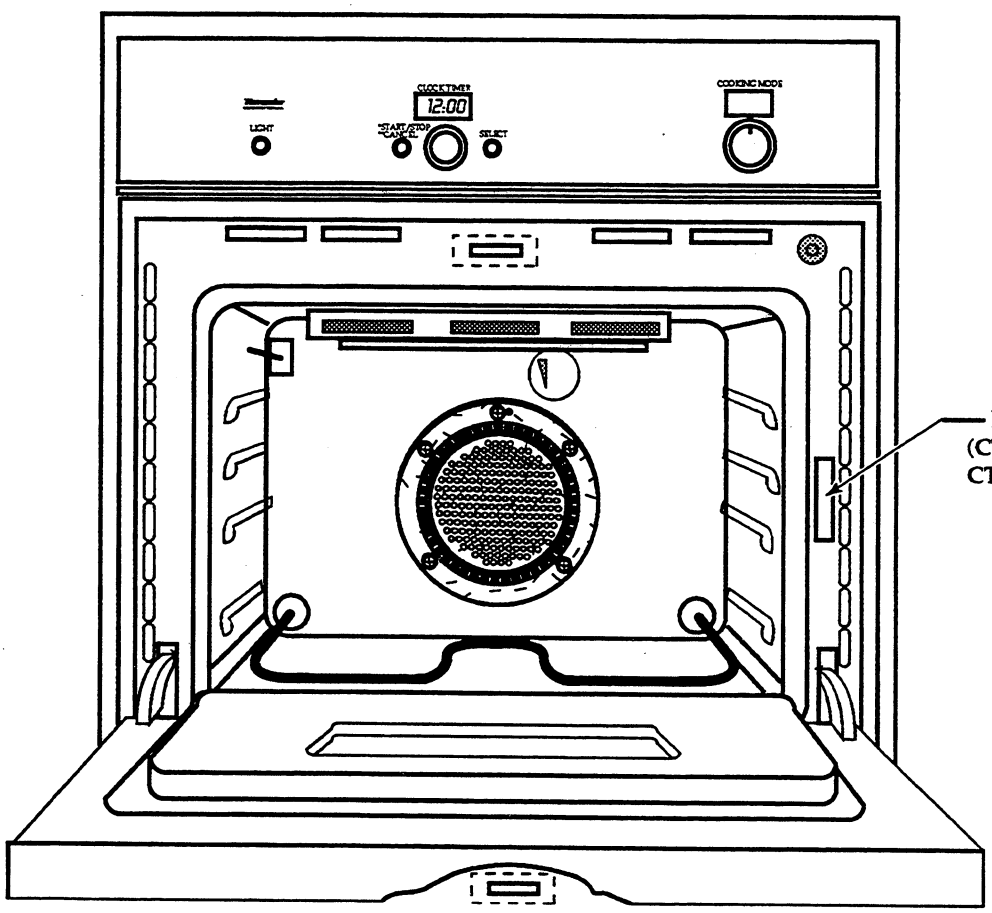
or phone:

(800) 735-4328

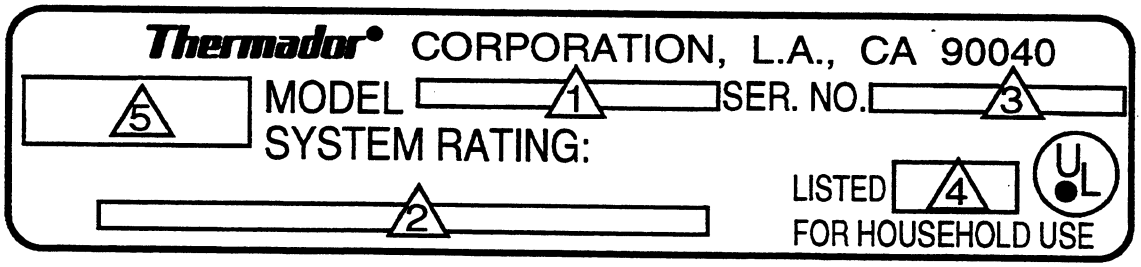
Please be sure to include the model and serial numbers located on the data plate, (see page 1-1), and the date of original purchase.

GENERAL

DATA PLATE LOCATION



DATA PLATE INFORMATION



LEGEND:

1 = Model Number (Ex: CT 127N)

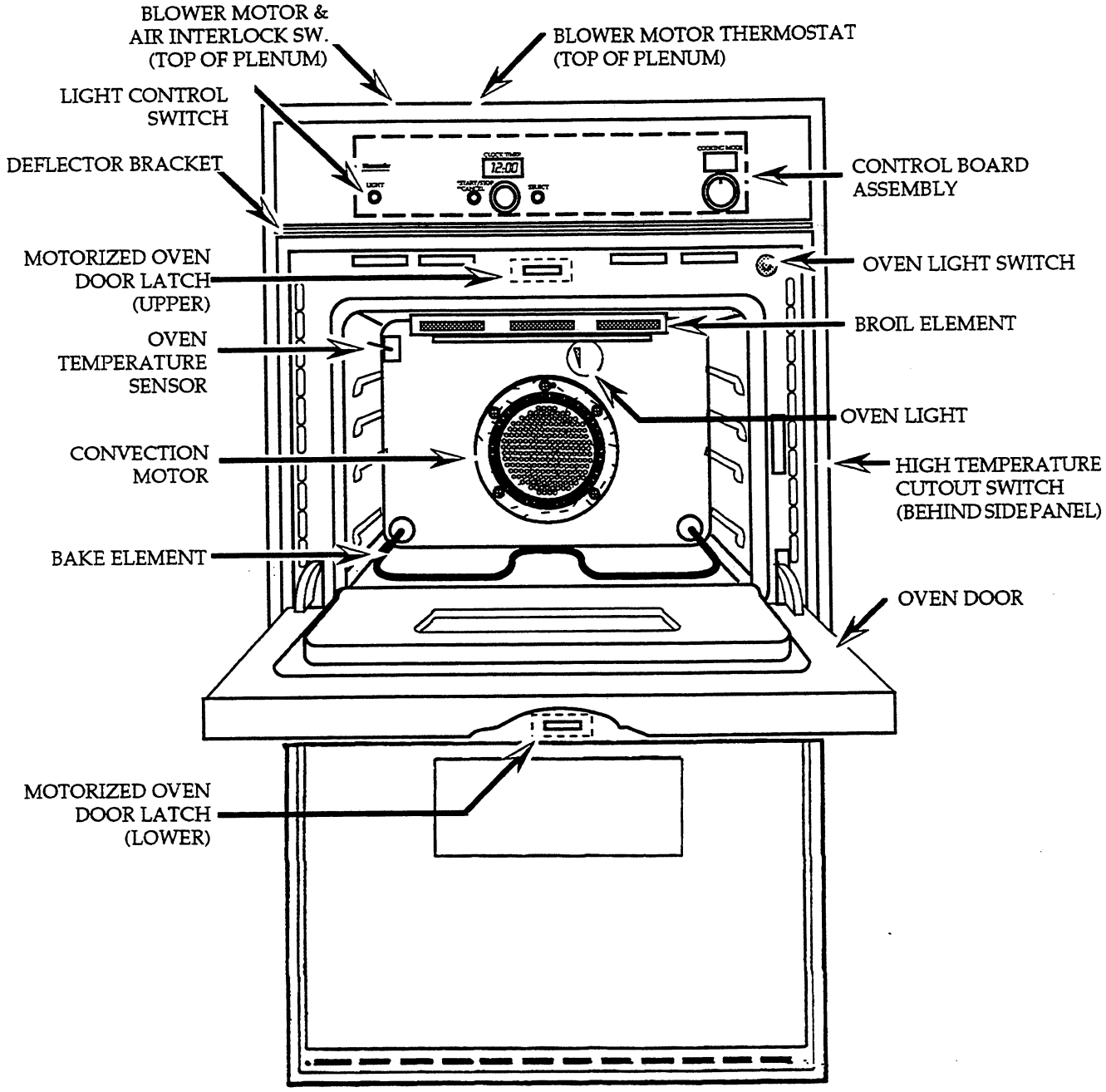
2 = Electrical Rating (Ex: 120/240V, 60 Hz, 40A, 4-Wire)

3 = Serial Number (Ex: 94110018 — Year: 1994, Month: November 11; Unit Number: 0018)

4 = U. L. Listed Number (Ex: 157J; Electric Range)

5 = Product Identity (Ex: Double Range)

COMPONENT LOCATIONS
CT 127N & CT 130



CT 227N & CT 230—OVEN COMPONENT LOCATIONS ARE THE SAME AS IN THE CT 127N & CT 130

SAFETY PRACTICES TO AVOID PERSONAL INJURY

Your new Thermador Oven is designed to be a safe, reliable appliance. Before using the oven refer to the "Care and Use" manual and read all of the instructions carefully to become familiar with them. This will reduce the risk of danger from burns, electric shock, fire, or injury. When using kitchen appliances, basic safety precautions must be followed. These precautions include the following:

- Insure that the installation of the unit is correct. Follow the installation instructions provided in this manual, or in the booklet that was supplied with the appliance.
- Make sure that the oven is properly grounded.
- Do not repair or replace any part of the appliance unless it is specifically recommended in this manual.
- Do not leave children alone or unattended in an area where appliances are in use. They should never be allowed to sit or stand on any part of the appliance.
- Do not store items of interest to children above the oven. If children should climb onto the appliance to reach these items, they could be seriously injured.
- Do not hang articles from any part of the appliance or place anything against the oven. Some fabrics are quite flammable and may catch fire.
- Do not store flammable materials in or near the oven.
- Do not use water on grease fires. Turn the appliance off and smother the fire with baking soda, or use a dry chemical, or a foam-type extinguisher.
- Never allow clothing, potholders, or other flammable material to come in contact with an element until it has cooled.
- Use only dry potholders. Moist or damp potholders on hot surfaces may cause burns from steam. Do not use a towel or a bulky cloth in place of potholders.
- For personal safety, wear the proper apparel. Loose fitting garments, or hanging sleeves, should never be worn while servicing this appliance.
- Do not use aluminum foil to line any part of the oven. Improper use of a foil liner could result in a shock or fire hazard. Foil is an excellent heat insulator and heat will be trapped beneath it. This will upset the cooking performance and can damage the oven's finish.
- The appliance is designed to be used for cooking. Never use it to warm or heat a room. Such use can present a serious fire hazard and damage the oven parts.
- Do not heat unopened food containers. Pressure can build up inside and cause the container to burst.
- When servicing the oven, do not touch the heating elements or the interior surfaces of the oven. Even though dark in color, the heating elements may be hot, and interior oven surfaces can become hot enough to cause burns. Also do not touch the exterior area that surrounds the oven door. The heat deflectors, which deflect heat away from the control panel, the upper oven door, and the trim on the top and sides of the oven doors, will also be hot when the oven is in use.
- Place oven racks in the desired position while oven is cool. If a rack must be moved while the oven is hot, do not let the potholders contact the hot heating elements.
- Use care when opening the oven door. Allow hot air, or steam, to escape before removing or replacing food.
- Before self-cleaning the oven, remove the broiler pan, any other utensils, and any excess spillage.
- Protect the self-cleaning feature. Clean only those parts indicated in the "Care and Use" booklet that is supplied with the oven.
- Do not use commercial oven cleaners, or oven liner protective coatings of any kind, in or around the oven.
- Do not block the exhaust vent openings (located at the bottom of the oven).
- Listen to be sure the blower fan runs whenever the oven controls are set. If the fan does not operate, do not use the oven. Call an authorized service center for service.

- Do not operate this appliance if it is not working properly, or if it has been damaged.
- **California Proposition 65 Warning:** During self-cleaning, the elimination of soil generates some by-products. Some of these by-products are on a list of substances that are known by the State of California to cause cancer, or reproductive harm. California law requires businesses to warn customers of potential exposure to such substances. To minimize exposure to these substances, always operate the oven according to the instructions contained in the "Care and Use" booklet, and provide good ventilation to the room during and immediately after self-cleaning the oven.

IMPORTANT SAFETY INFORMATION

The following symbols are provided throughout this manual. For reasons of personal safety and proper operation and servicing of the oven, follow the instructions carefully each time you see one of the symbols.

⚠ WARNING

This symbol alerts you to such dangers as personal injury, burns, fire, and electrical shock.

⚠ CAUTION

This symbol alerts you to actions that could cause product damage (scratches, dents, etc.), and damage to your personal property.

THERMADOR ASSUMES NO RESPONSIBILITY
FOR ANY REPAIRS MADE ON OUR PRODUCTS
BY ANYONE OTHER THAN QUALIFIED
THERMADOR SERVICE TECHNICIANS.

UNPACKING THE OVEN

⚠ CAUTION

The sheet metal parts on the oven chassis have some sharp edges. When you unpack, install, or service the oven, be careful that you do not cut yourself.

To remove the oven from the shipping carton, perform the following steps (and refer to Figure 1-1):

1. Remove the trim parts that are packaged on top of the carton and set them aside. Do not unpack these parts until you are ready to install them.
2. Cut the metal bands from around the shipping carton.
3. Remove the top cover from the outer carton.
4. Slide the cardboard top and corner inserts out of the carton, then lift the outer carton off the oven.
5. The base of the oven is anchored to the wooden shipping skid with four screws (see the inset below). Remove these screws from the bottom flanges of the oven.
6. Open the oven door(s) and remove the contents from inside (racks, covers, documents, etc.). Close the oven doors(s) when you are finished.
7. Carefully remove the oven from the skid and move it to its mounting location. Set the oven on a padded surface to protect the floor. Part of the old shipping carton will work well for this purpose.

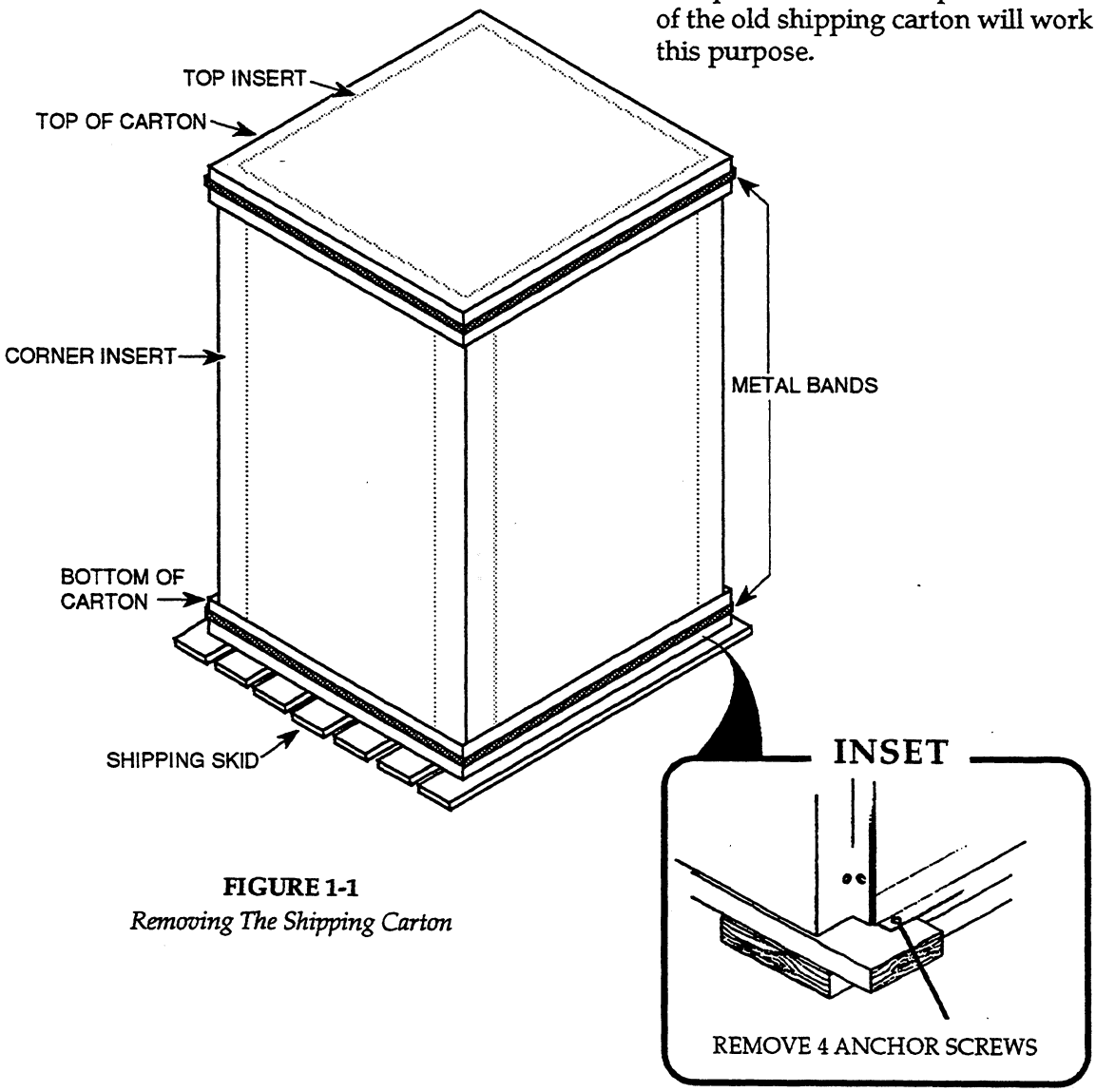


FIGURE 1-1
Removing The Shipping Carton

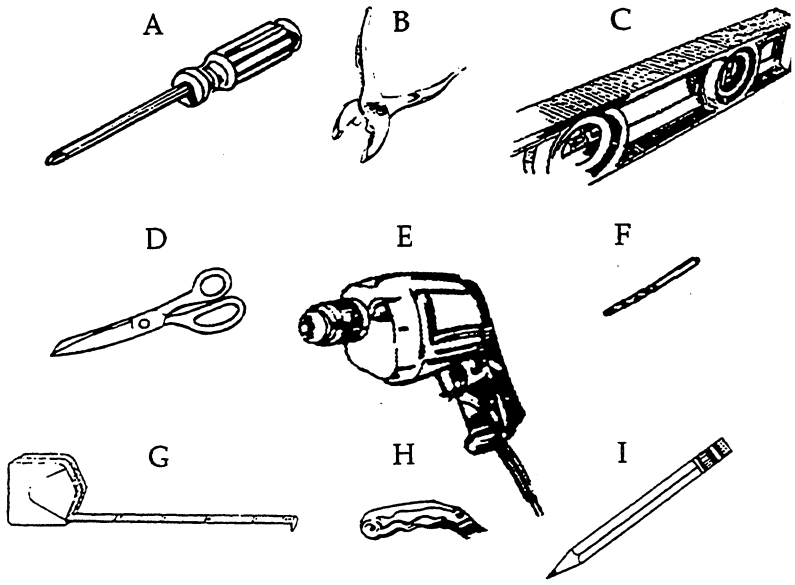
PARTS SUPPLIED WITH THE OVEN

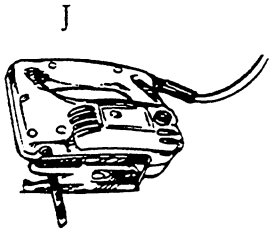
QTY.	DESCRIPTION
3	Oven Racks (Single Oven)
4	Oven Racks (Double Oven)
1	Broil Pan & Grid
1	Bottom Trim
1	Bottom Trim Extension
1	Vent Cover Plate (For Outdoor Venting)
1	4" Duct Collar
1	Slip Joint
	Screws in plastic bag consisting of:
4	Sheet metal screws
2	Silver machine screws
2	Black machine screws
1	Care & Use Manual
1	Installation Instructions

TOOLS & MATERIAL YOU WILL NEED

KEY	DESCRIPTION
A	Phillips screwdriver
B	Pliers
C	Level
D	Metal cutters
E	Electric or mechanical hand drill
F	1/8" drill bit
G	Measuring tape
H	Wire stripper or knife
I	Pencil
J	Sabre saw

ILLUSTRATION





SERVICING THE COMPONENTS

INTRODUCTION

This section of the manual instructs the technician on how to service the individual components inside the CT 127N and CT 130 single ovens, and the CT 227N and CT 230 dual ovens. The single oven components are shown below in Figure 2-1. The double oven component locations are the same as for the single ovens. Accessing some of the components will require removal of the oven(s) from the mounting location. A typical removal procedure is included on page 2-2.

The serviceable components included in this section are as follows:

- Air interlock switch
- Blower motor
- Blower motor thermostat
- Control panel glass
- Light control switch
- Control board assembly
- Motorized oven door latches (upper & lower)
- Oven light switch
- High temperature cutout switch
- Oven light assembly
- Oven temperature sensor
- Broil element
- Bake element
- Convection motor
- Deflector bracket
- Oven door glass & handle
- Inner oven door glass
- Outer oven door glass
- Oven Liner

Refer to the section on the following pages for the component you wish to service.

NOTE: To order replacement parts for the CT 127N or CT 227N, refer to publication: **LIT #92-02-018**. For the CT 130 or CT 230, refer to publication: **LIT #92-02-019**.

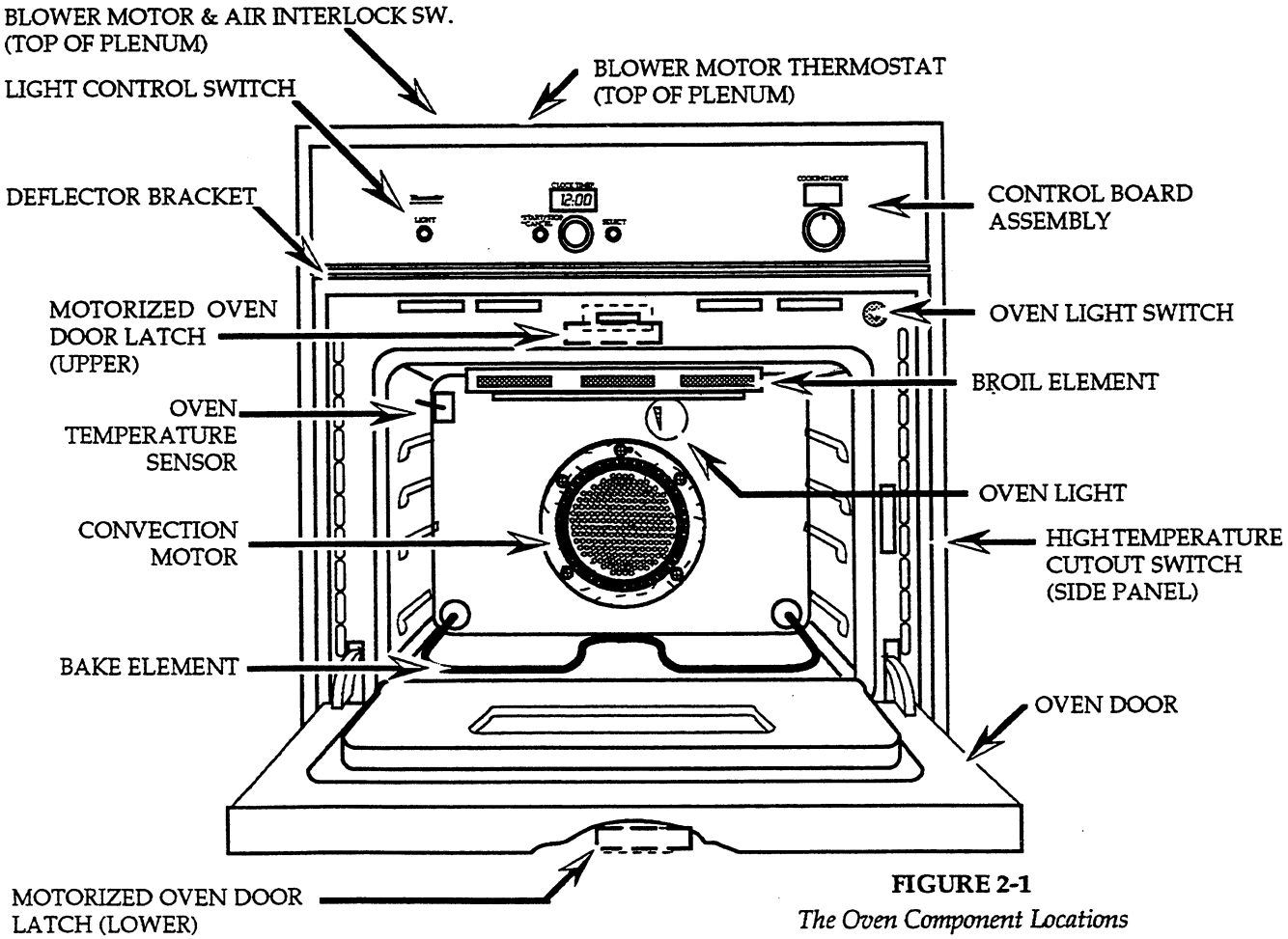


FIGURE 2-1
The Oven Component Locations

ACCESSING THE COMPONENTS

REMOVING THE OVEN

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

If you find it necessary to remove the oven(s) from the cabinet mounting location in order to access and service a component, use the following procedure.

1. Turn off the power going to the oven at the main electrical junction box.

NOTE: To help lighten the oven(s) for easier moving, you can remove the oven door(s). To do this, perform steps 2 through 4, otherwise skip those steps.

Removing An Oven Door

2. Open the oven door to its fully open position.
3. Raise the U-clip over the hook on each of the hinges to the"locked" position (see Figure 2-2). This will prevent the hinge from snapping closed when the door is removed.
4. To remove the door:
   a) Grasp it by the sides toward the back.
   b) Raise the front of the door several inches (there will be some spring resistance to overcome because of the hinge being locked). When the front of the door is high enough, you will be able to lift the hinges to clear the indents.
   c) Pull the hinges out of the oven slots in the front frame and remove the door.

⚠ CAUTION

Be careful not to damage the floor when you move the oven in the next step. If possible, slide a rug or heavy piece of cardboard under it.

5. Pull the oven out from the cabinet just far enough to access the component that you wish to service.

REINSTALLING THE OVEN

1. Push the oven back into the cabinet and remove the protective covering from the floor.
2. If you removed the oven door(s), perform step 3, otherwise skip the step.

Replacing An Oven Door

3. To replace an oven door:
   a) Grasp the sides of the door at the center and insert the ends of the hinges into the slots in the front frame as far as they will go (see Figure 2-2).
   b) With the door open all the way, lower the two locking clips.
   c) Raise the oven door and make sure that it fits evenly with the front sides.
4. Turn on the power to the oven at the electrical junction box.

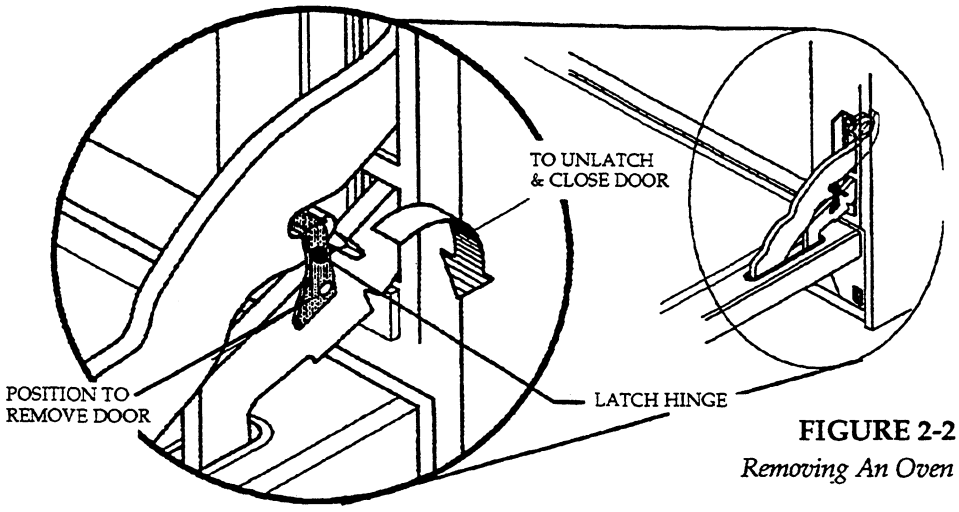


FIGURE 2-2
Removing An Oven Door

REMOVING THE CONTROL & PLENUM COVERS

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

NOTE: Figure 2-3 shows the top of the oven for models CT 130 and CT 230. However, the cover removal for the CT 127N and CT 227N uses the same procedure.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-3 for the following steps.

1. Turn off the power going to the oven at the main electrical junction box.
2. Remove the six screws from the control cover and remove the cover from the top of the oven.
3. Remove the eleven screws from the discharge cover, discharge adaptor, top and plenum covers, and remove the covers.

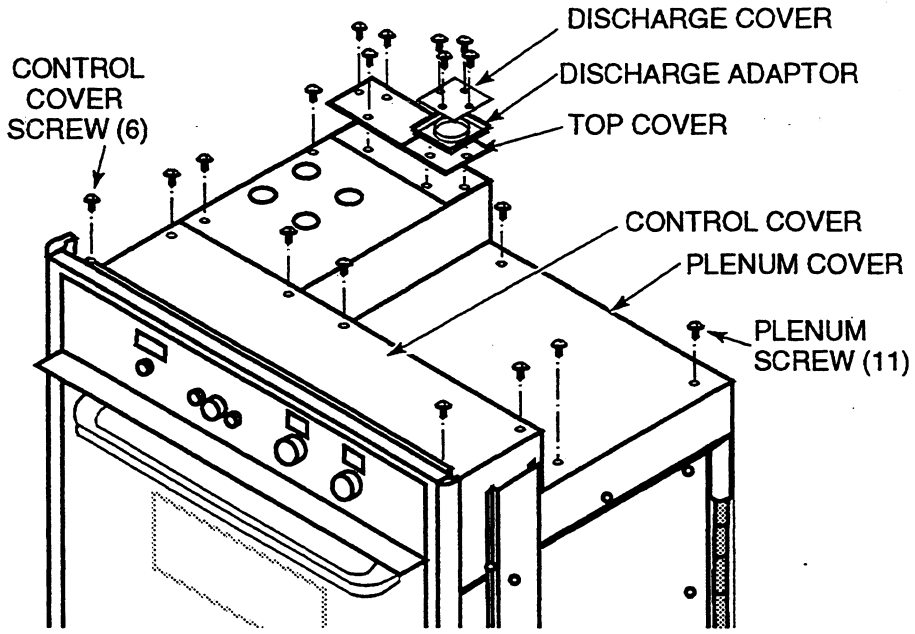


FIGURE 2-3
Removing The Control & Plenum Covers
(Model CT 130/CT 230 Shown)

AIR INTERLOCK SWITCH, BLOWER MOTOR & BLOWER MOTOR THERMOSTAT

NOTE: If not already done, remove the oven from its cabinet installation (see page 2-2), then remove the covers from the top of the oven (see page 2-3). When you are finished, proceed with the following section for the component you wish to service.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

REPLACING THE AIR INTERLOCK SWITCH

Refer to Figure 2-4 and inset #1 for the following steps.

1. Disconnect the wires from the air interlock switch terminals.
2. Remove the two screws from the air interlock switch mounting bracket assembly and remove it from the oven.
3. Remove the two screws from the old air interlock switch, and replace the old switch with the new one. Be sure to position the switch and fiber shield on the bracket correctly.
4. Mount the air interlock switch mounting bracket assembly to the oven with two screws.
5. Connect the yellow and blue wires to the air interlock switch terminals.
6. Replace the top covers on the oven.
7. Reinstall the oven in its mounting location.
8. Turn on the power at the junction box and check the operation of the oven.

REPLACING THE BLOWER MOTOR

Refer to Figure 2-4 for the following steps.

1. Disconnect the blower motor wires from the terminal blocks.
2. Remove the four screws from the blower motor housing and turn the housing over (be careful not to damage the air interlock switch).
3. Loosen the setscew on the fan drum, (see inset #2), and slide it off the blower motor shaft.
4. Remove the four screws from the blower motor bracket and remove the motor.
5. Mount the new blower motor to the blower motor housing with four screws.
6. Turn the blower motor housing over, slide the fan drum onto the motor shaft, and tighten the setscrew securely.
7. Mount the blower motor housing to the oven with four screws.
8. Connect the two motor leads to the terminal blocks as shown.
9. Replace the top covers on the oven.
10. Reinstall the oven in its mounting location.
11. Turn on the power at the junction box and check the operation of the oven.

REPLACING THE BLOWER MOTOR THERMOSTAT

Refer to Figure 2-4 and inset #3 for the following steps.

1. Disconnect the three wire connectors from the blower motor thermostat terminals.
2. Remove the two mounting screws from the old blower motor thermostat, and install the new thermostat in its place. Be sure to position the thermostat with the terminals as shown in inset #3.
3. Connect the blue, black, and red wire connectors to the blower motor thermostat terminals.
4. Replace the top covers on the oven.
5. Reinstall the oven in its mounting location.
6. Turn on the power at the junction box and check the operation of the oven.

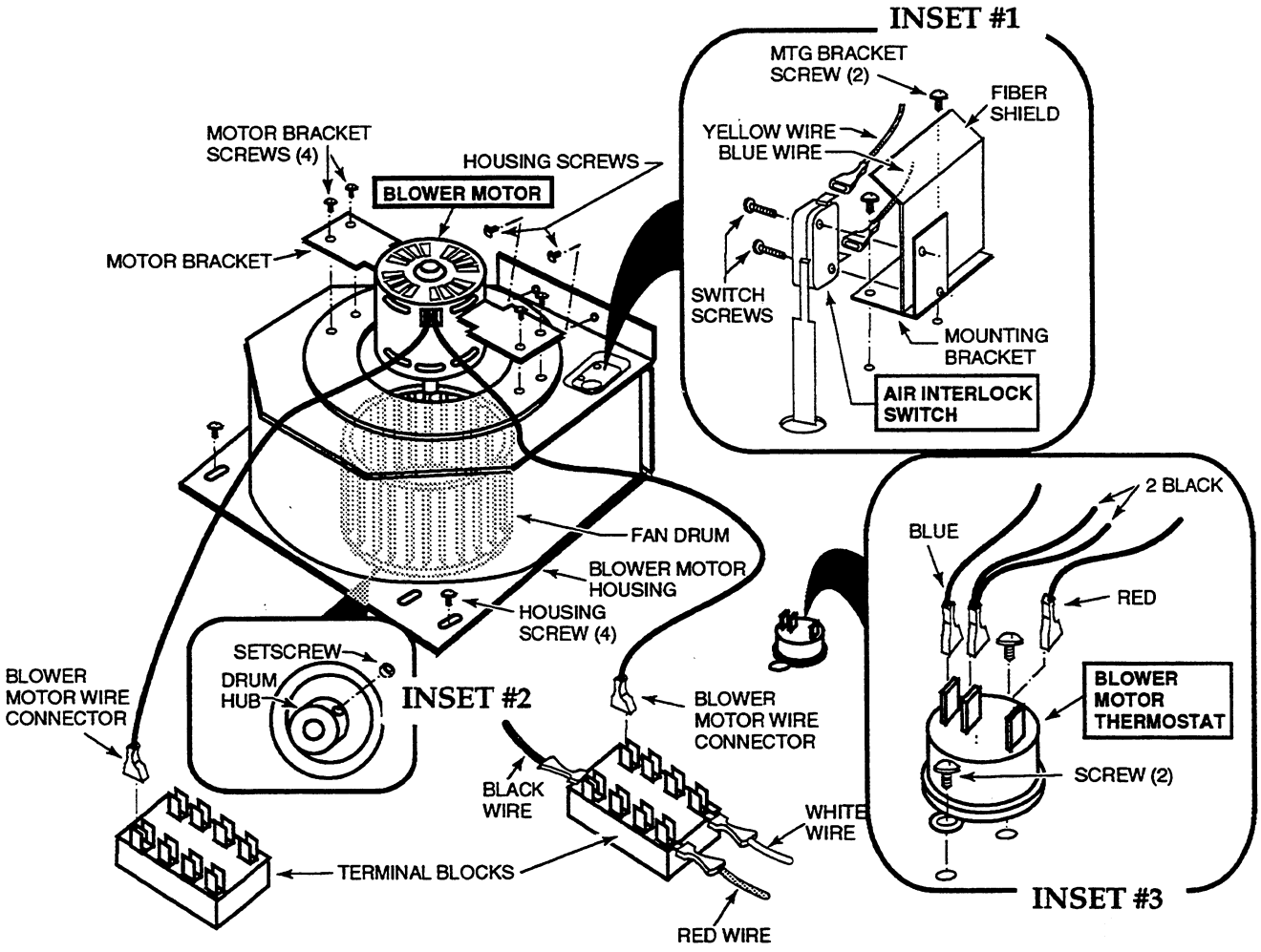


FIGURE 2-4

Replacing The Air Interlock Switch, Blower Motor, & Blower Motor Thermostat

THE CONTROL PANEL GLASS, LIGHT CONTROL SWITCH & CONTROL BOARD ASSEMBLY

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

REPLACING THE CONTROL PANEL GLASS

Refer to Figure 2-5 for the following steps.

1. Turn off the power going to the oven at the main electrical junction box.
2. Pull the knobs off the control shafts.
3. Remove the two support barrels from the control shafts at the ends of the panel, and remove the old panel.
4. Remove the filters from the old control panel glass and press them onto the new one in the same locations.
5. Mount the new control panel glass to the front panel with the two barrel supports. Do not over-tighten the supports.
6. Press the knobs onto the control shafts.
7. Turn on the power at the junction box.

REPLACING THE LIGHT CONTROL SWITCH

Refer to Figure 2-5 for the following steps.

1. Remove the oven from its cabinet installation (see page 2-2), then remove the covers from the top of the oven (see page 2-3). When you are finished, proceed with the following steps.
2. Pull the knobs off the control shafts.
3. Remove the two support barrels from the control shafts at the ends of the panel, and remove the panel.
4. Remove the plastic holder from the threaded shaft of the light control switch.
5. Remove the two screws from the light control switch bracket and remove the bracket assembly.
6. Disconnect the two light control switch wires from the harness wire connectors.
7. Remove the round nut from the shaft of the defective light control switch and remove the switch from the bracket.
8. Mount the new light control switch to the bracket with the round nut.
9. Mount the light control switch bracket to the front panel with two screws.
10. Connect the light control switch wires to the main harness connectors.
11. Mount the shaft of the light control switch to the control panel bracket with a barrel support.
12. Mount the control panel glass to the front panel with two barrel supports. Do not overtighten the supports.
13. Press the knobs onto the control shafts.
14. Replace the top covers on the oven, reinstall the oven in its mounting location. Turn on the power at the junction box and check the operation of the oven.

REPLACING THE CONTROL BOARD ASSEMBLY

Refer to Figure 2-5 for the following steps.

1. Remove the oven from its cabinet installation (see page 2-2), then remove the covers from the top of the oven (see page 2-3). When you are finished, proceed with the following steps.

NOTE: If you are replacing the relay board, proceed to "The Relay Board."

2. Pull the knobs off the control shafts.
3. Remove the two support barrels from the control shafts at the ends of the panel, and remove the panel.

The Relay Board

1. Disconnect the wires from the terminals of the defective relay board.
2. Remove the six screws from the relay board, then remove and replace the defective board with the new one.
3. Connect the wires to the terminals of the new relay board (see inset #1).
4. Replace the top covers on the oven, reinstall the oven in its mounting location. Turn on the power at the junction box, and check the operation of the oven.

The Control Board

1. Remove the six screws from the relay board, and position it back out of the way.
2. Disconnect the wires from the control board switch terminals.
3. Remove the two screws from the switch support bracket and remove the bracket.
4. Remove the four screws from the plastic mounting frame, and remove the frame assembly by sliding it to the left and pulling the small tabs through the slots in the front panel.
5. Unsnap the defective control board from the plastic mounting frame and snap the new board in its place.
6. Mount the plastic mounting frame assembly to the front panel with its four scews.
7. Connect the wires to the terminals of the control board switches (see inset #2).
8. Mount the control panel glass to the front panel with two barrel supports. Do not overtighten the supports.
9. Press the knobs onto the control shafts.
10. Replace the top covers on the oven.
11. Reinstall the oven in its mounting location.
12. Turn on the power at the junction box and check the operation of the oven.

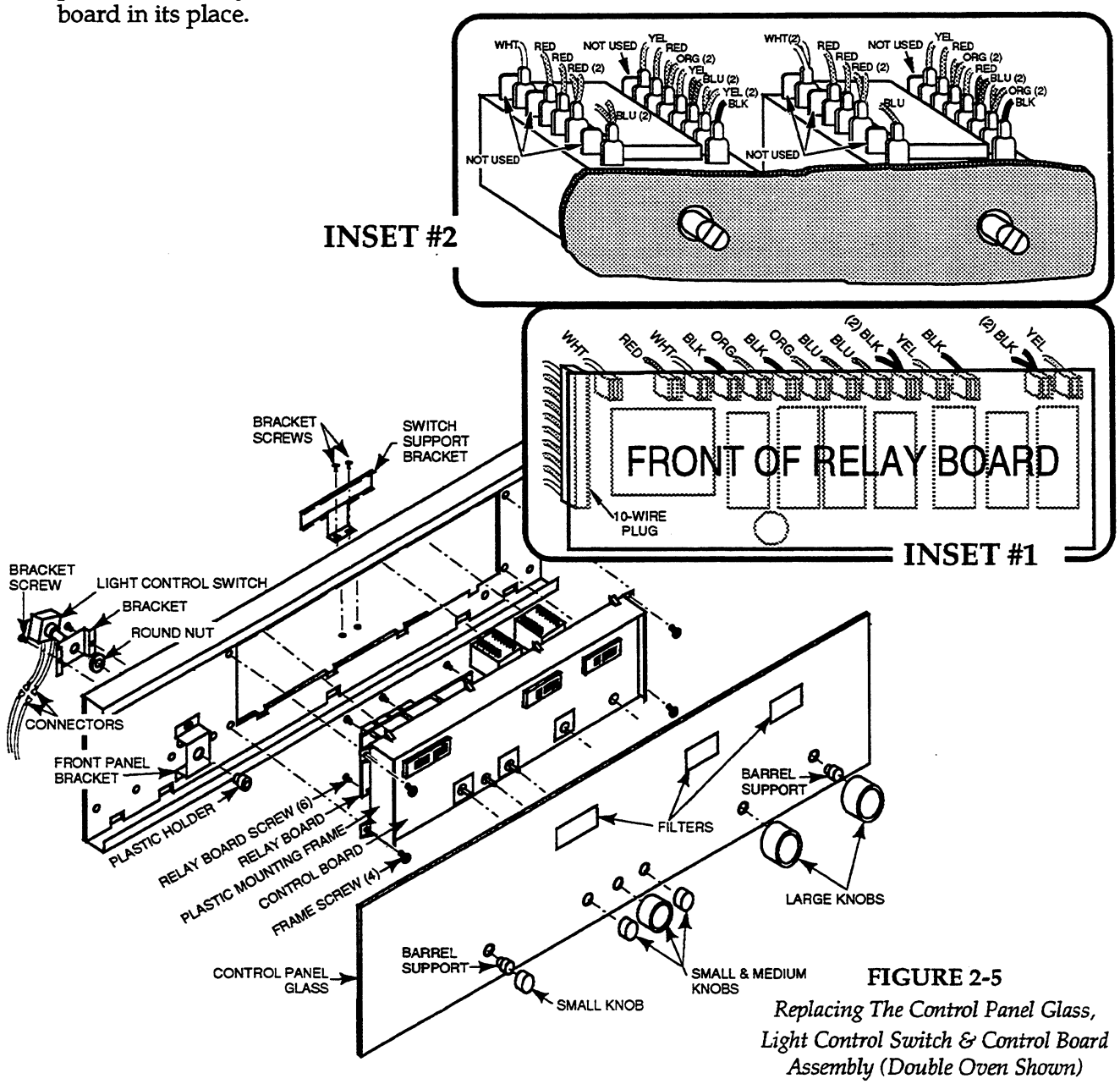


FIGURE 2-5
Replacing The Control Panel Glass, Light Control Switch & Control Board Assembly (Double Oven Shown)

THE MOTORIZED OVEN DOOR LATCHES

REPLACING THE LOWER MOTORIZED OVEN DOOR LATCH

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-6 for the following steps.

1. Remove the oven from its cabinet installation (see page 2-2). When you are finished, proceed with the following steps.
2. Remove the two screws from the front of the lower motorized oven door latch.
3. Remove the twenty-five screws from the rear panel and remove the panel from the oven.
4. Remove the screw holding the bracket on the latch arm cover to the back of the oven, (see the inset in Figure 2-6), then pull the bracket and the motorized oven door latch out from the back of the oven. Unhook the wires from the latch arm cover as you remove the assembly.
5. Disconnect the two motor wires from the main wiring harness connectors, and the four wires from the switch terminals on the motorized oven door latch.
6. Remove the two mounting screws holding the motorized oven door latch to the latch arm cover, remove the old latch, and mount the new one in its place with the two screws.
7. Reconnect the four switch wires to the indicated switch terminals shown in the Figure, and the two motor wires to the main wire harness connectors.
8. Install the motorized oven door latch into the oven part way and slide the end of the wire hook into the hole in the latch arm cover. Push the latch assembly against the front of the oven frame so the latch is through the slot, and install the two front screws you removed earlier.
9. Secure the latch arm cover bracket to the oven with a mounting screw.
10. Mount the rear cover to the oven.
11. Reinstall the oven in its mounting location.
12. Turn on the power at the junction box and check the operation of the oven.

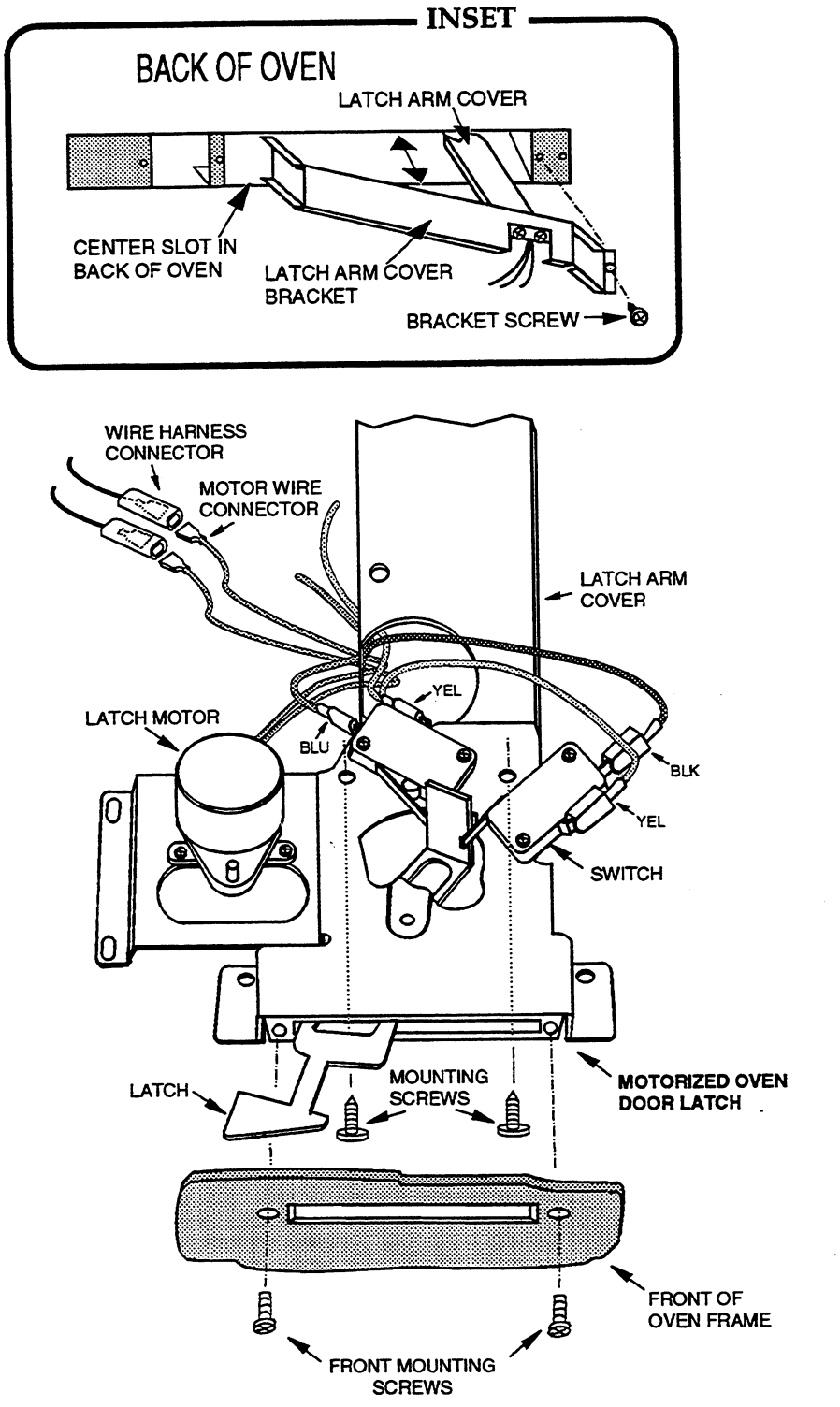


FIGURE 2-6

Replacing The Lower Motorized Oven Door Latch

REPLACING THE UPPER MOTORIZED OVEN DOOR LATCH

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-7 for the following steps.

1. Remove the oven from its cabinet installation (see page 2-2), then remove the control cover from the top of the oven (see page 2-3). When you are finished, proceed with the following steps.
2. Disconnect the motorized oven door latch wires from the main harness connector and the terminal block.
3. Remove the three top and two front mounting screws from the motorized oven door latch, lift the door latch out of the oven so you can access the switches.
4. Place the new motorized oven door latch next to the old one, and, one at a time, disconnect the wires from the old door latch switches, and reconnect them to the same terminals on the new switches. If necessary, refer to the wire color locations shown in the illustration below.
5. Connect the two motor wires, coming from the new motorized oven door latch, to the main harness and the terminal block, as shown.
6. Install the new motorized oven door latch on the oven and secure it with the five screws you removed in step 3.
7. Replace the top covers on the oven and reinstall the oven in its mounting location.
8. Turn on the power at the junction box and check the operation of the oven.

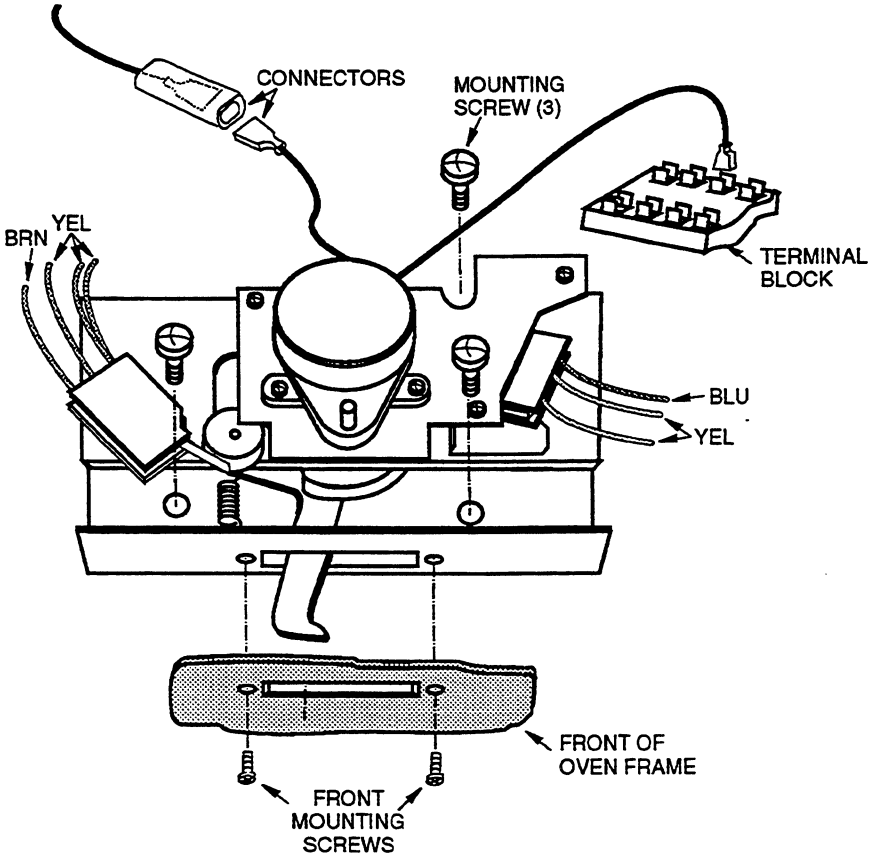


FIGURE 2-7

Replacing The Upper Motorized Oven Door Latch

REPLACING AN OVEN LIGHT SWITCH

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-8 for the following steps.

1. Remove the oven from its cabinet installation (see page 2-2).
2. *If you are replacing the top oven light switch,* remove the control cover from the top of the oven (see page 2-3).
   If you are replacing the lower oven light switch, remove the switch cover from the right side of the oven and remove the cover.
4. To remove an oven light switch, press in on the locking arms on the sides of the switch body, and push the switch out of the opening.
5. Disconnect the wires from the switch terminals, and connect them to the terminals on the new light switch.
6. Push the oven light switch into the oven frame opening so that it snaps into place.
7. *If you replaced the lower oven light switch,* mount the cover to the side of the oven with a mounting screw.
   If you replaced the upper oven light switch, mount the control cover to the oven with its mounting screws.
8. Reinstall the oven in its mounting location.
9. Turn on the power at the junction box and check the operation of the oven.

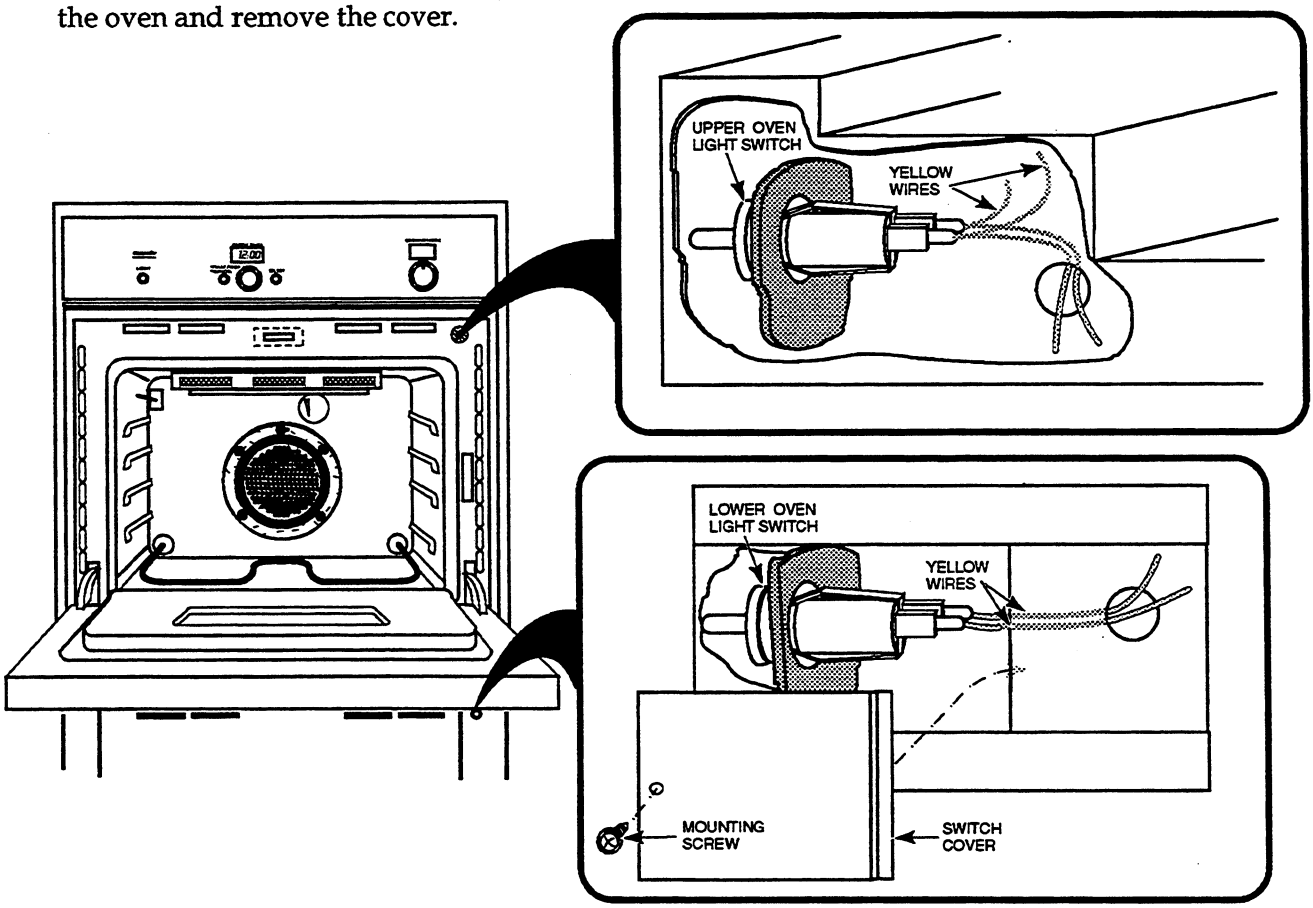


FIGURE 2-8
Replacing An Oven Light Switch

REPLACING A HIGH TEMPERATURE CUTOUT SWITCH

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-9 and the inset for the following steps.

1. Remove the oven from its cabinet installation (see page 2-2).
2. Remove the ten screws from the side cover and remove the cover.

IMPORTANT: If the complaint is that the oven does not heat in the BAKE cycle after a CLEAN cycle has been performed, perform steps 3, 4, and 5, otherwise proceed to step 6.

3. Remove the two screws from both of the high temperature cutout switch mounting plates, (do not remove the switches from the plates), and pull the plates out of their cutouts.
4. Install an insulation kit (**#35-00-550**) behind each of the mounting plates, then secure insulation and the mounting plates to the side of the oven with their mounting screws.
5. Press the reset button (see the inset) on the high temperature cutout switch, and then proceed to step 8.
6. Remove the two screws from the defective high temperature cutout switch, (see the inset), and disconnect the wires from the terminals.
7. Connect the wires to the terminals of the new high temperature cutout switch and mount it to the oven with its two screws.
8. Mount the side cover to the oven with its mounting screws. Be careful not to pinch any wires between the cover and the oven.
9. Reinstall the oven in its mounting location, and turn on the power at the junction box and check the operation of the oven.

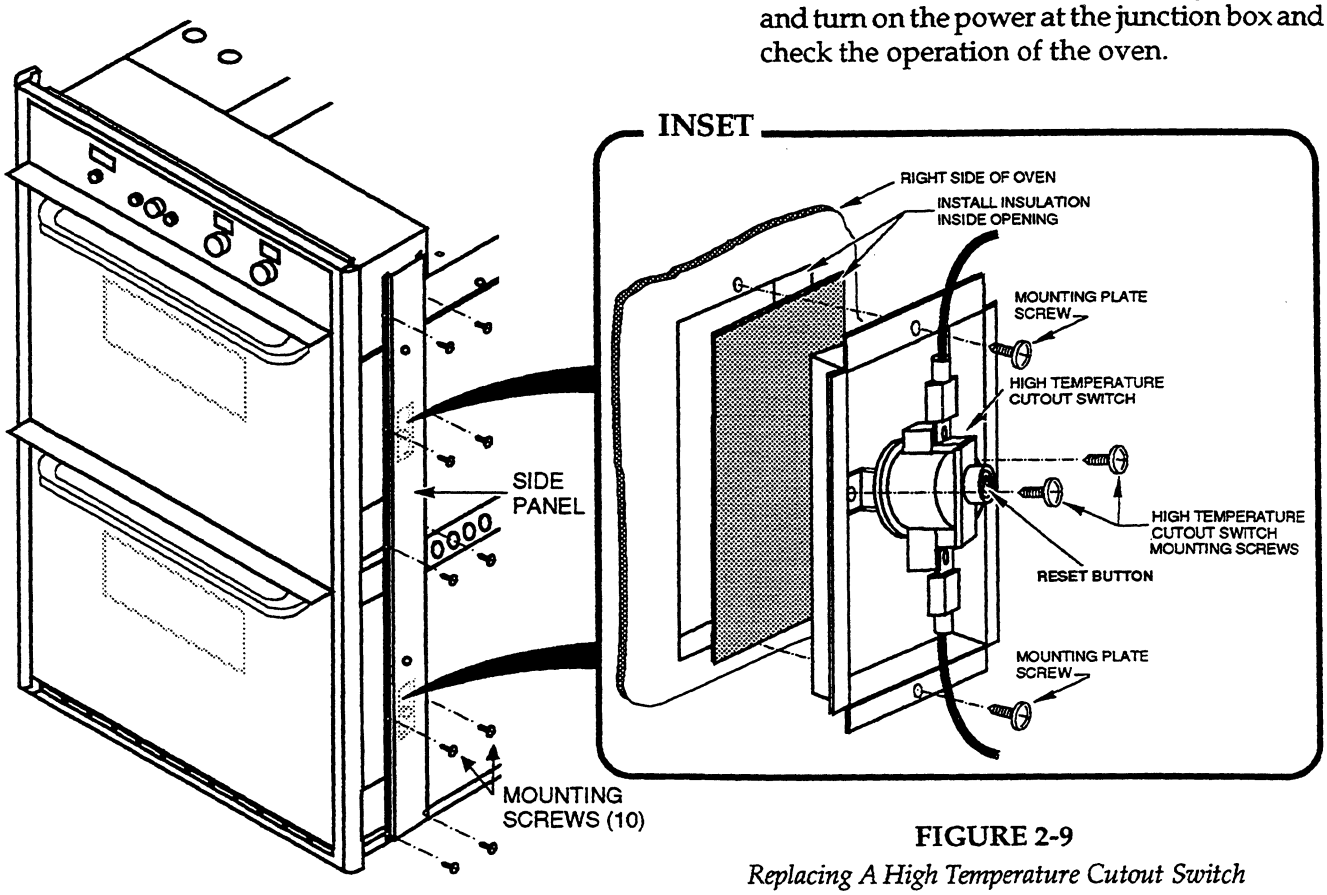


FIGURE 2-9

Replacing A High Temperature Cutout Switch

REPLACING AN OVEN LIGHT ASSEMBLY

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-10 and the inset for the following steps.

1. Turn off the power going to the oven at the main electrical junction box.
2. Open the oven door and unscrew the light lens and the bulb from the oven light assembly.
3. Pry the light socket assembly out of the opening in the oven liner. NOTE: You may have to deform the sides of the socket shield to remove it.
4. Disconnect the wires from the terminals of the light socket.
5. Remove the green ground wire from the old light socket and connect it to the new socket.
6. Connect the yellow and white wires to the light socket terminals.
7. Snap the light socket into the opening of the oven liner.
8. Screw the bulb and the light lens into the light socket.
9. Turn on the power to the oven at the junction box and check the operation of the oven.

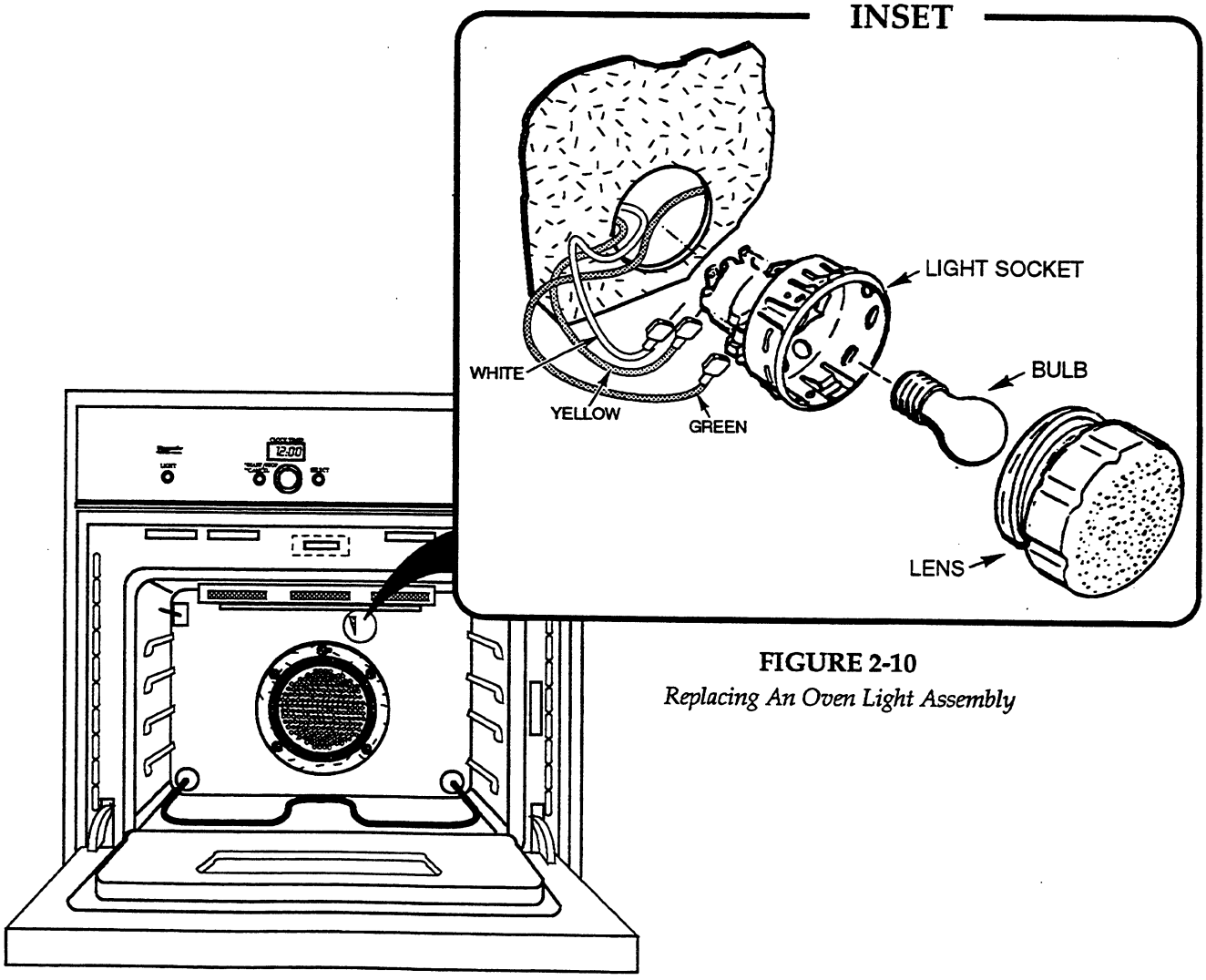


FIGURE 2-10
Replacing An Oven Light Assembly

REPLACING AN OVEN TEMPERATURE SENSOR

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-11 and the inset for the following steps.

1. Turn off the power going to the oven at the main electrical junction box.
2. Open the oven door and remove the two screws from the defective oven temperature sensor.
3. Pull the oven temperature sensor forward and disconnect the yellow wire from the terminal.
4. Connect the shielded wire to the terminal of the new oven temperature sensor, and mount it to the oven liner with its two screws.
5. Turn on the power to the oven at the junction box and check the operation of the oven.

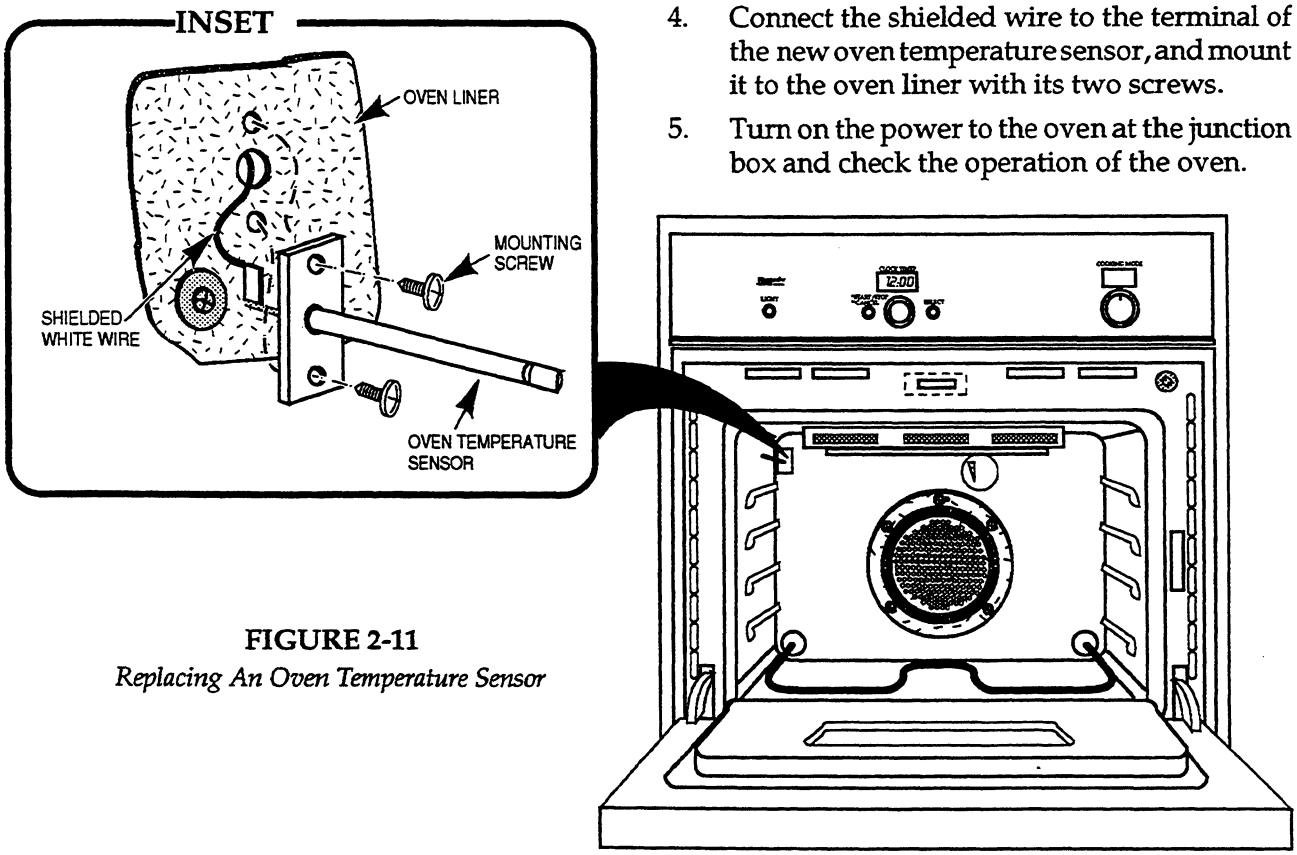


FIGURE 2-11
Replacing An Oven Temperature Sensor

REPLACING A BROIL ELEMENT

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-12 and the inset for the following steps.

1. Turn off the power going to the oven at the main electrical junction box.
2. Open the oven door and remove the two screws from the round brackets on the broil element at the back of the oven liner, and the two screws from the front of the broil element. Pull the broil element forward so the terminals are out of the liner openings, and disconnect the wires from the terminals.
3. Remove the heat shield from the old broil element, and position it over the new one.
4. Connect the yellow harness wires to the terminals of the new broil element, then mount the heat shield and the broil element brackets to the top and rear oven liner with the four screws you just removed.
5. Turn on the power to the oven at the junction box and check the operation of the oven.

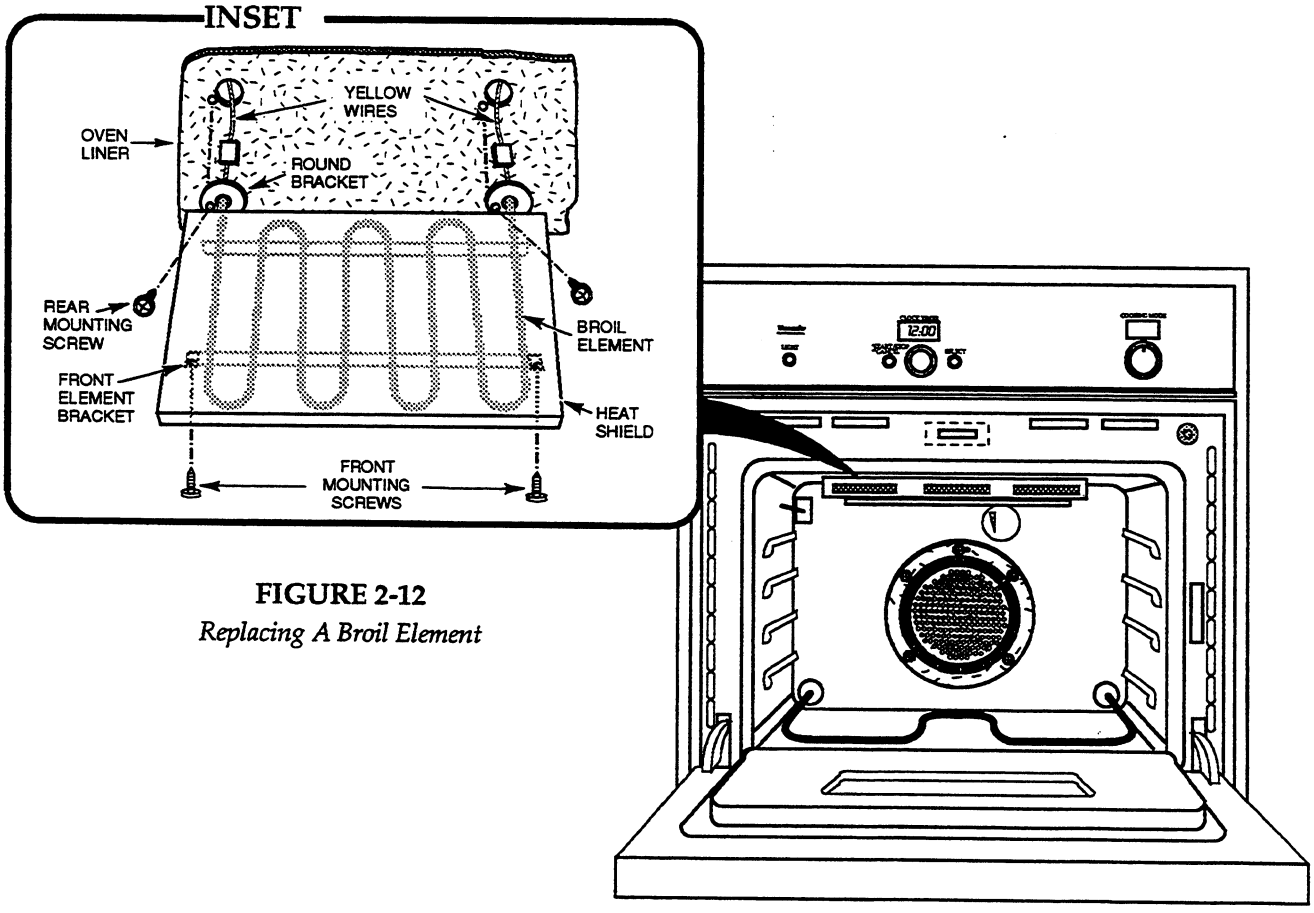


FIGURE 2-12
Replacing A Broil Element

REPLACING A BAKE ELEMENT

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-13 and the inset for the followi steps.

1. Turn off the power going to the oven at t main electrical junction box.
2. Open the oven door and remove the fc screws from the round bake element bra ets, then pull the bake element forward, a disconnect the wires from the terminals.
3. Connect the orange wires to the terminals the new bake element, and mount it to t oven liner with its four screws.
4. Turn on the power at the junction box a check the operation of the oven.

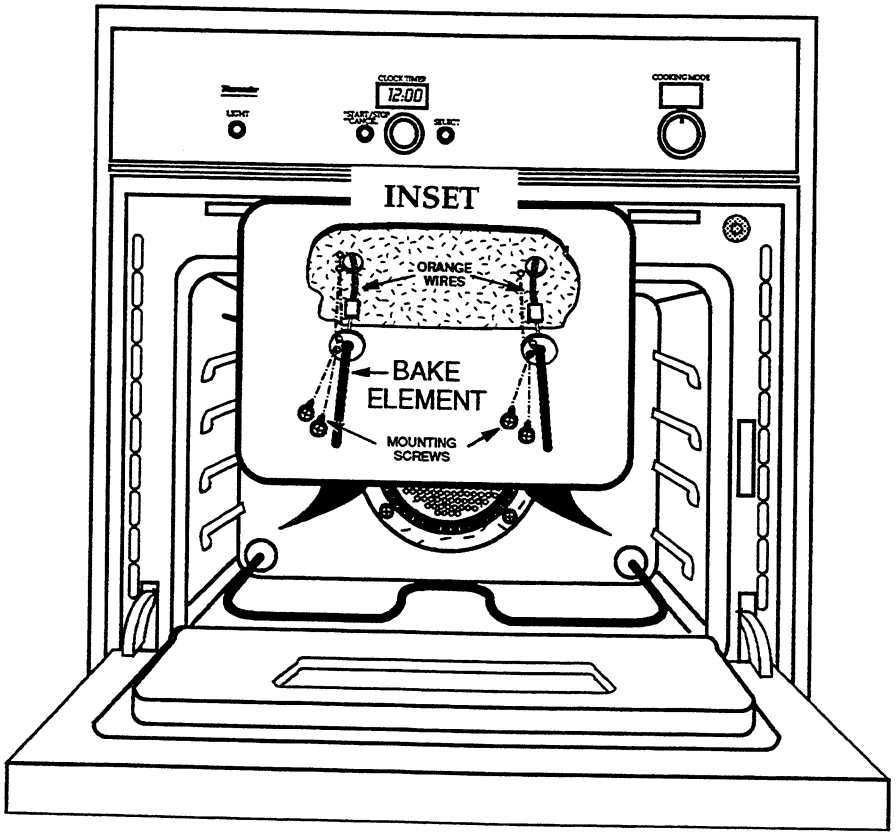


FIGURE 2-13
Replacing A Bake Element

REPLACING A CONVECTION MOTOR

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-14 for the following steps.

1. Turn off the power going to the oven at the main electrical junction box.
2. Open the oven door and remove the five screws and flat washers from the front pan cover and remove the cover.
3. Loosen the allen setscrews on the convection blade collar and remove the blade from the motor shaft.
4. Remove the rear pan and the round insulation from the oven liner.

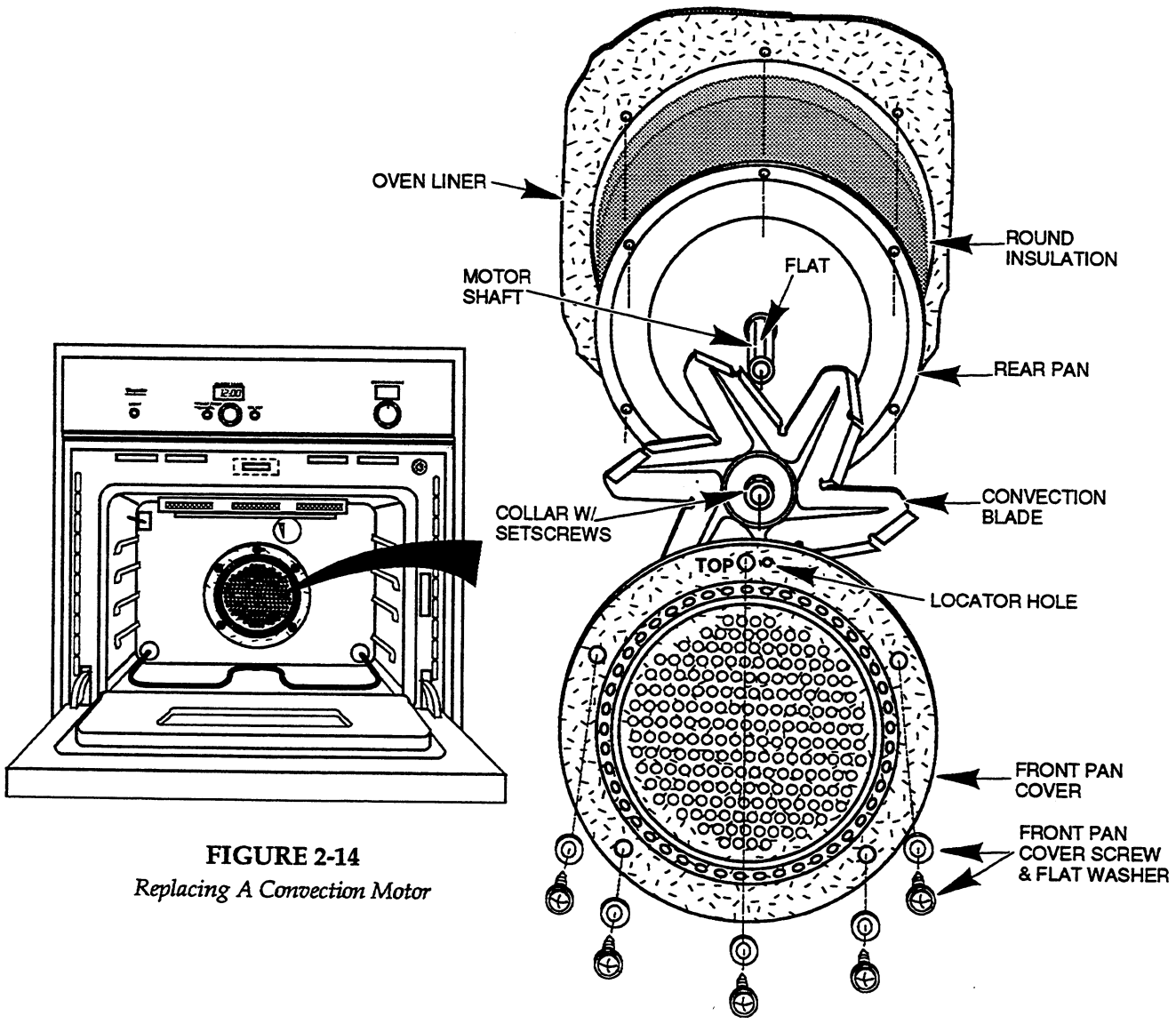


FIGURE 2-14
Replacing A Convection Motor

Refer to Figure 2-15 for the following steps.

5. Remove the six screws from the cover plate and remove the plate.
6. Loosen the allen setscrews on the motor blade collar and remove the blade from the motor shaft.
7. Remove the four screws from the convection motor bracket and set the motor inside the oven.
8. Remove the two twist-on connectors from the ends of the motor wires and disconnect the wires from the wire harness.
9. Connect the harness wires to the convection motor wires, and install the two twist-on connectors over the wire ends.
10. Mount the convection motor to the mounting bracket with its four screws.
11. Turn on the power at the junction box and check the operation of the convection motor. When you have finished, turn off the power again.
12. Slide the motor blade over the motor shaft as far as possible, and position it so that one of the setscrews is over the flat on the shaft, then tighten the allen setscrews on the collar.
13. Mount the cover plate with its six screws.
14. Install the round insulation and the rear pan into the oven liner cutout.
15. Slide the convection blade over the motor shaft and position one of the setscrews over the flat on the shaft. When the end of the motor shaft is even with the front of the collar, tighten the allen setscrews.
16. Mount the front pan cover and the rear pan to the oven liner with its five screws and flat washers.
17. Close the oven door and turn on the power to the oven at the junction box.

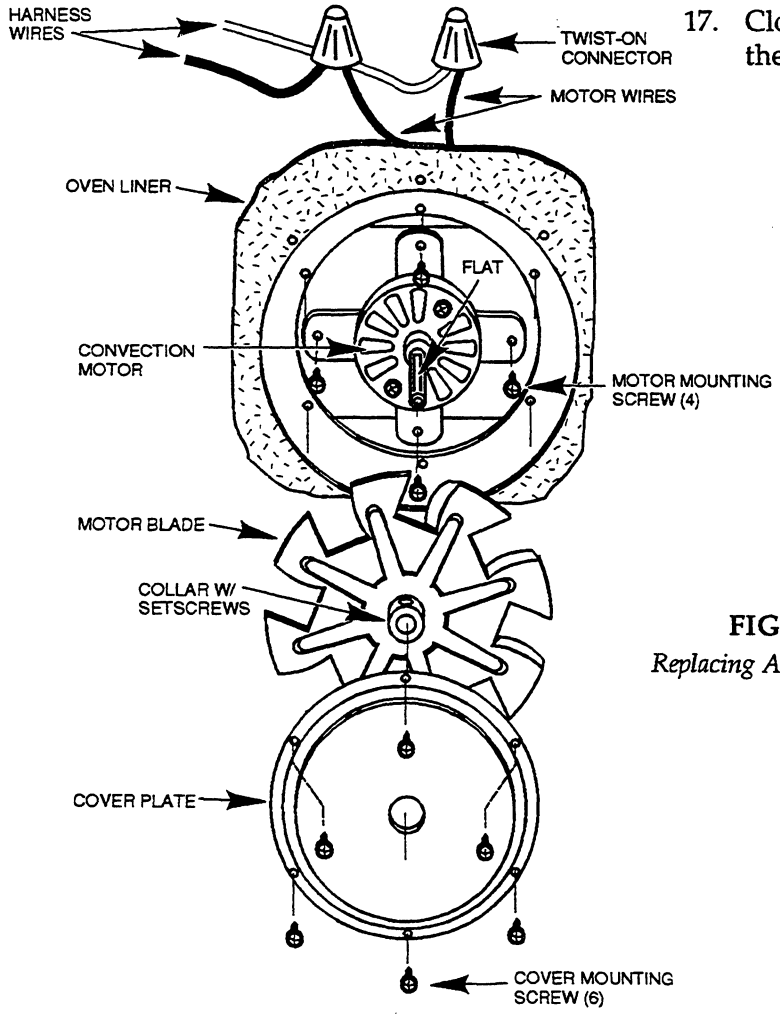


FIGURE 2-15
Replacing A Convection Motor

REPLACING THE DEFLECTOR BRACKET

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-16 and the inset for the following steps.

1. Turn off the power going to the oven at the main electrical junction box.
2. Pull the knobs off the control shafts.
3. Remove the two support barrels from the control shafts at the ends of the control panel, and remove the panel.
4. Open the top oven door and remove the two screws from each side of the deflector bracket.
5. Remove the old deflector bracket from the oven.

NOTE: If you wish to replace the roller assembly, leaf spring, or roller guide, refer to the inset, remove the screw(s), and replace it at this time.

6. Mount the new deflector bracket to the roller assemblies with the four screws you removed in step 4.
7. Mount the control panel to the front panel with the two barrel supports. Do not overtighten the supports.
8. Press the knobs onto the control shafts.
9. Turn on the power at the junction box.

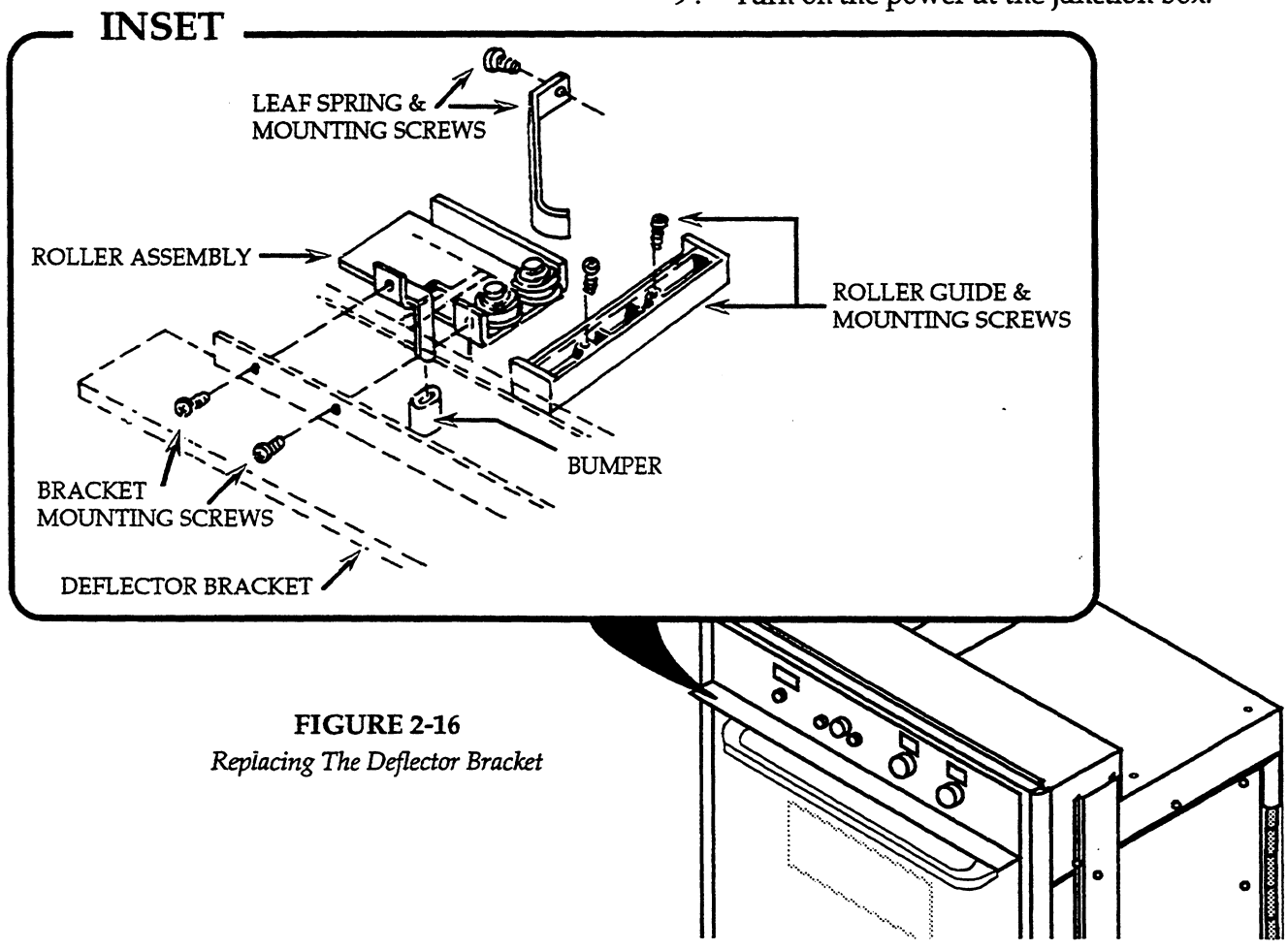


FIGURE 2-16
Replacing The Deflector Bracket

REPLACING THE OVEN DOOR GLASS & HANDLE

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 2-17 for the following steps.

1. Turn off the power going to the oven at the main electrical junction box.
2. Open the oven door and remove it from the frame (if necessary, see page 2-2 for the removal procedure).
3. Position the oven door on a flat padded surface with the door glass and handle facing down.
4. Remove the two screws from each of the glass retainer brackets and remove the brackets from the bottom of the oven door.
5. Remove the two screws and washers from the oven door liner assembly and lift the assembly off the front section of the door.
6. Remove the door handle screws from the glass support assembly and lift the assembly off the door glass. Also remove the two nylon spacers from between the support assembly and the door glass.
7. Mount the (new) door glass, handle, handle spacers, and nylon spacers, to the glass support assembly with the two screws you removed in the previous step. Center the glass on the support assembly, and do not overtighten the screws.
8. Mount the oven liner assembly to the glass support assembly with its two screws and flat washers.
9. Mount the three glass retainers to the bottom of the door with the six screws. Make sure that the glass is centered on the door before you tighten the screws.
10. Install the oven door on the oven, then close the door, and turn on the power to the oven at the junction box.

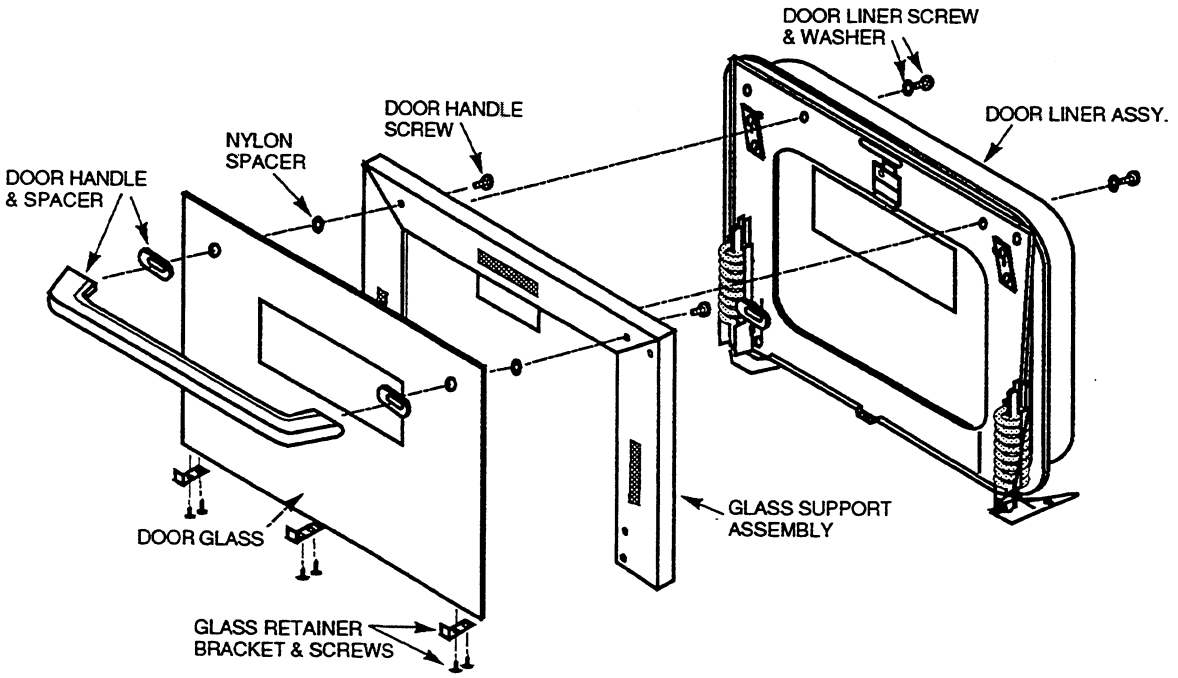


FIGURE 2-17

Replacing The Oven Door Glass & Handle

REPLACING THE INNER OVEN DOOR GLASS

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the power going to the oven at the main electrical junction box.
2. Open the oven door and remove it from the frame (if necessary, see page 2-2 for the removal procedure).
3. Position the oven door on a flat padded surface with the door glass and handle facing down.

Refer to Figure 2-17 on the previous page for the following steps.

4. Remove the two screws from each of the glass retainer brackets and remove the brackets from the bottom of the oven door.
5. Remove the two screws and washers from the oven door liner assembly and lift the assembly off the front section of the door.
6. Remove the door handle screws from the glass support assembly and lift the assembly off the door glass. Also remove the two nylon spacers from between the support assembly and the door glass.

Refer to Figure 2-18 for the following steps.

7. Remove the six screws from the air shield and remove the shield from the door.
8. Remove the four screws from the insulation cover and remove the cover and inner oven door glass from the door liner assembly.
9. Remove the two screws from either of the inner oven door glass retainer brackets, and remove the bracket.
10. Slide the inner oven door glass out of the other retaining bracket and replace it with the new glass.
11. Install the retaining bracket over the end of the glass and secure it to the insulation cover with its two screws.
12. Mount the insulation cover and inner oven door glass to the door liner assembly with its four screws.
13. Mount the air shield to the oven door with its six screws.
14. Refer to steps 7 through 10 on the previous page, and finish assembling the oven door.

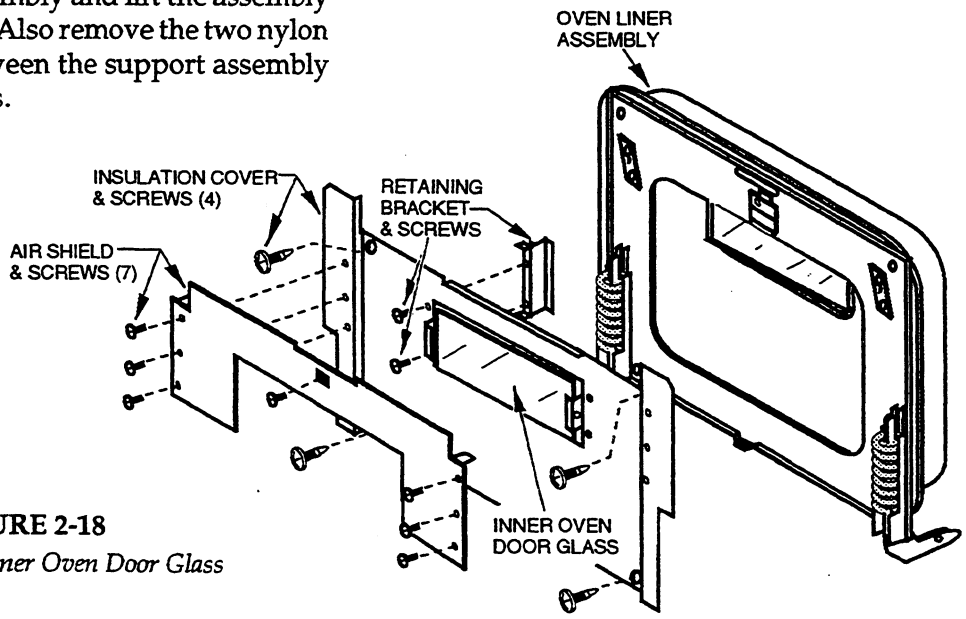


FIGURE 2-18
Replacing The Inner Oven Door Glass

REPLACING THE OUTER OVEN DOOR GLASS

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the power going to the oven at the main electrical junction box.
2. Open the oven door and remove it from the frame (if necessary, see page 2-2 for the removal procedure).
3. Position the oven door on a flat padded surface with the door glass and handle facing down.
4. Refer to pages 2-20 and 2-21, and perform the steps to remove the door glass and inner oven door glass. When you are finished, proceed with the following steps to replace the outer oven door glass.

Refer to Figure 2-19 for the following steps.

5. Remove the two screws from the door strike plate and remove the plate.
6. Remove the screws from the window glass clips and lift the outer oven door glass frame assembly out of the door liner.
7. Remove the two Tinnerman nuts, or the bottom rail, from the glass support frame, and replace the outer oven door glass. When you have replaced the glass, reinstall the rail or the nuts to secure the frame.
8. Mount the outer oven glass frame assembly to the oven door liner assembly with the screws and clips.
9. Mount the door strike plate to the liner with its two screws.

Refer to Figure 2-18 on page 2-21 for the following steps.

10. Mount the insulation cover and inner oven door glass to the door liner assembly with its four screws.
11. Mount the air shield to the oven door with its six screws.

Refer to Figure 2-17 on page 2-20 for the following steps.

12. Mount the door glass, handle, handle spacers, and nylon spacers, to the glass support assembly with the two screws you removed earlier. Center the glass on the support assembly, and do not overtighten the screws.
13. Mount the oven liner assembly to the glass support assembly with its two screws and flat washers.
14. Mount the three glass retainers to the bottom of the door with the six screws. Make sure that the glass is centered on the door before you tighten the screws.
15. Install the oven door on the oven, then close the door, and turn on the power to the oven at the junction box.

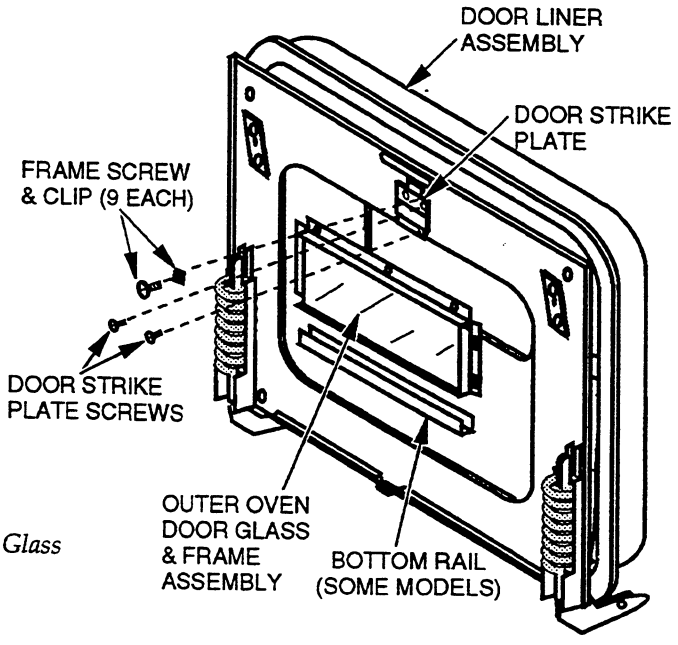


FIGURE 2-19
Replacing The Outer Oven Door Glass

REPLACING THE OVEN LINER

⚠ WARNING

Turn off the power circuit to the oven at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the power going to the oven at the main electrical junction box.
2. Open the oven door and remove it from the frame (if necessary, see page 2-2 for the removal procedure).

Refer to Figure 2-20 for the following steps.

3. Remove the following components from inside the oven. If necessary, refer to the pages indicated for the removal procedures:
   a) Oven light assembly (see page 2-13).
   b) Oven temperature sensor (see page 2-14).
   c) Broil element (see page 2-15).
   d) Bake element (see page 2-16).
   e) Convection pan cover, convection blade, rear pan, and round insulation (see page 2-17).
4. Remove the four screws and flat washers from the corners of the oven liner. Pull the old liner out of the oven, and replace it with the new liner. Secure the new liner to the oven with the screws and flat washers.
5. Reinstall the components in the oven, using the procedures shown on the indicated pages, as necessary.
6. Install the oven door on the oven and close the door.
7. Turn on the power to the oven at the junction box and check the operation.

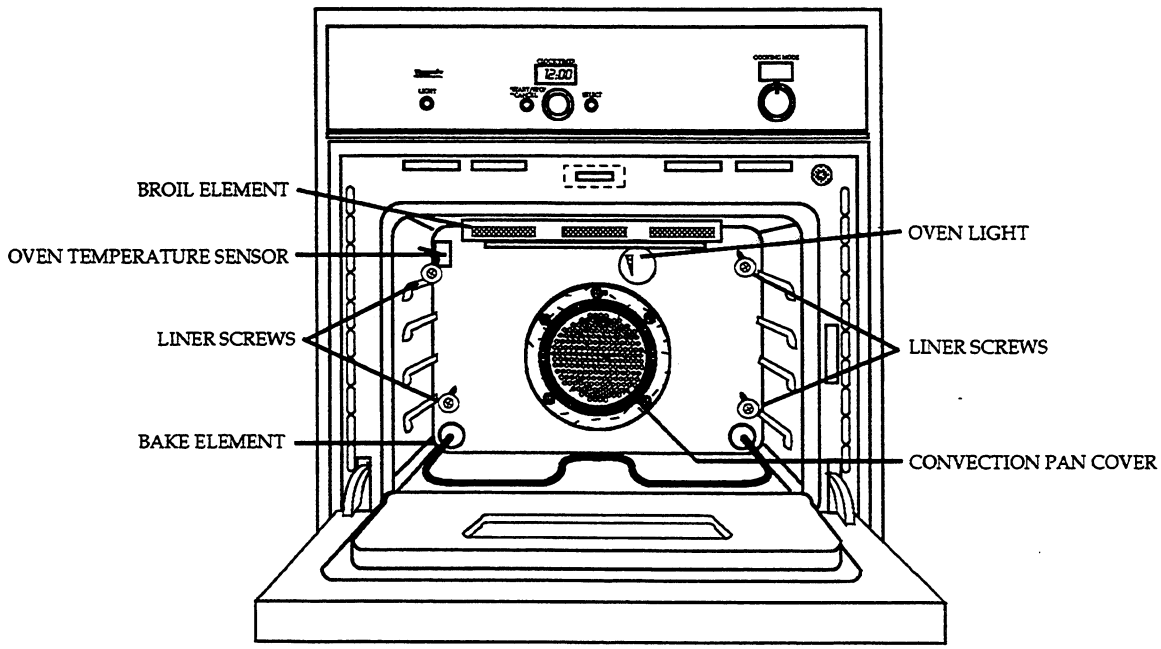


FIGURE 2-20
Replacing An Oven Liner

— NOTES —

TROUBLESHOOTING

THEORY OF OPERATION

THE BLOWER THERMOSTAT

The blower thermostat is a normally-open (N.O.) switch that closes when the temperature reaches 140°F. It is wired in series with the blower motor. When the switch closes, the blower motor activates, and cools the plenum area to protect the electronics.

MOTORIZED DOOR LATCH ASSEMBLY

The upper oven latch assembly has four mounted switches. The type of switches indicated are configured as follows:

a) Double-pole, single-throw, normally-open (N.O.) switch—Serves as the latch position switch for the self-cleaning cycle.

b) Single-pole, double throw, normally-closed (N.C.) switch— A solenoid switch that is activated for the self-cleaning cycle. When the solenoid is activated, a plunger drops onto the leaf spring on the switch, and opens the contacts.

The solenoid coil on the upper oven latch assembly is energized by the control board when the oven is set for self-cleaning. The board sends 120-volts A.C. to the solenoid.

THE UPPER OVEN COMPONENTS

Selector Switch—A Rotary-type selector switch whose contacts open and close to direct current flow to the appropriate controls. The selector switch positions are: Off, Bake, Timed Bake, Broil, Timed Convection Bake, ConvectionBake, and Clean.

Bake Element—The bake element is rated at 2800-watts and draws 11-amps.

Broil Element—The broil element is rated at 3600-watts and draws 15-amps in broil, and 7-amps during bake ($^1/_2$-wattage, 900 watts).

High Temp Cutout—This switch is normally-closed and will open at <350°F.

Air Interlock Switch—A N.O. switch that is closed by air flow from the blower. The air interlock switch is a crucial component. It delivers current to the board that controls the relay functions in the board. If the air interlock switch does not close, the oven will not function in any mode.

THE DREEFS CONTROL BOARD

The control board is powered by 120-volts A.C. It outputs 120-volts A.C., 35-, and 22-volts D.C. to the various components. When the selector switch is set, the corresponding switches close, and the blower turns on and closes the air switch.

BAKE, BROIL & CONVECTION

P1-6 on the control board sends 35-volt D.C. through the air switch to the "P4 HEAT A/R" terminal. Board relays K1 and K2 close, and send current to the bake and broil elements. When the oven preset temperature is reached, the temperature sensor breaks the circuit, and the relays open.

TIMED BAKE & TIMED CONVECTION

The logic is the same for these modes as for bake, broil, and convection modes. However, when the start time is reached, board relay K4 closes, and the blower and convection motors are energized. Once the preset time on the clock has elapsed, K4 opens, and the circuit is defeated. Relay K4 sends 120-volts A.C. to the blower and convection motors, and activates them.

ERROR CODES FOR OVENS WITH NEW DREEFS CONTROL (PART NUMBERS: 35-00-536 & 35-00-459)

The following chart shows the error codes that can be displayed in the Oven/Selector window during specific oven malfunctions. Some of the error messages can be cleared by performing the following steps:

1. Turn the selector knob to *OFF*.
2. "Tweak" the oven by turning the selector knob slightly to the left (counterclockwise). This may stop the flashing message/beeping and clear the window.
3. For errors *E1, E9, E11, E12,* and *E13,* the power supply going to the oven must be turned off momentarily, and back on again.
4. If an error remains displayed when the selector switch is *OFF,* and after attempting to clear the display, as shown in steps 2 and 3, turn off the power going to the oven, and refer to the chart below to help you find the problem.

ERROR MESSAGE	*ERROR CODE NOTES*	*DESCRIPTION OF PROBLEM*
E1	C & E	Control board problem.
E2	G & K	Cook or Clean mode runaway (temp >635°F). Clean mode runaway (clean temp +32°F).
E3	A & H	Open oven temperature sensor (>5000 Ω).
E4	A & H	Shorted oven temperature sensor (<5000 Ω).
E5	K & D	Control board too cold, too hot, or defective.
E6	C & J	Control board problem.
E7	A & I	Illegal temperature display. Turn off oven and try again.
E8	A & D	Control board problem.
E9	A & E	Latch switch problem.
E10	B & D	Control board problem.
E11	A & F	CT oven — latch switch problem.
E12	A & E	CT ovens — latch switch problem.
E13	A & C	CT ovens — latch frozen or no power to latch motor. CMT ovens — control board not converted (refer to page 3-7 for conversion data).
E14	A & E	Latch switch problem.
E15	B & D	Control board problem.

ERROR CODE NOTES:

A Turns heat off on the failed oven only; microwave not affected.

B Turns all heat off; microwave not affected.

C Disables the CLEAN mode in both ovens; allows COOK and microwave.

D Error will remain in the display until oven is repaired and powered back up. No error tones.

E Turning the oven off stops the error and flashing display. Can tweak away the error code. Error is redisplayed only if the selector switch is turned to CLEAN.

F Tweaking clears to "- - -" for retry.

G Clears when the oven temperature is less than the runaway temperature with the selector switch off.

H Can be cancelled by tweaking if a good sensor is detected.

I Cleared with a mode change.

J Can be tweaked away for immediate retry. User must unlatch and delete the "- - -" to try to relatch the door.

K Turns heat and microwave off.

L If two switches show a locked door, then E13 and LOCK are permanent in the display (in all modes). If the two switches show an open door, tweak away the E13 error message.

ERROR CODES FOR OVENS WITH EARLIER DREEFS CONTROL (PART NUMBERS: 35-00-304, 35-00-305, 35-00-091 & 35-00-092)

ERROR MESSAGE	*DESCRIPTION OF PROBLEM*
E1	Control board problem. Error code remains in the COOK MODE window and the oven is unusable.
E2	Oven cavity temperature has risen above 625°F, or CLEAN cycle cavity temperature has risen above 890°F.
E3 & E4	Oven temperature sensor is not functioning and oven will not function.
E5	Error message displays in the OFF and CLEAN positions. Control board problem. Oven is usable in COOK modes, but CLEAN cycle will not operate.
E6	Control board problem. Error code remains in the COOK MODE window and oven is unusable.
E7 & E8	Control board problem. Error code remains in the COOK MODE window and oven is unusable.
E9	The latch motor may be running continuously.
E10	Control board problem. Error code remains in the COOK MODE window and oven is unusable.
E11 & E12	Latch problem when starting the CLEAN cycle.
E13	Latch motor is not functioning.
E14	Latch problem when starting the CLEAN cycle.
E15	Control board problem. Error code remains in the COOK MODE window and oven is unusable.

TESTING THE COMPONENTS

⚠ WARNING

TO AVOID ELECTRICAL SHOCK

- DISCONNECT THE POWER TO THE APPLIANCE BEFORE SERVICING.
- FOR THOSE CHECKS REQUIRING THE USE OF ELECTRICAL POWER, EXERCISE EXTREME CARE.
- DO NOT PERFORM HIGH-VOLTAGE TESTS.

The following service procedures show how to test the oven components. If necessary, refer to "Servicing The Components" in Section 2 for the procedures on removing and replacing the individual components. The page locations for each component removal is shown in the test procedure.

THE BLOWER MOTOR THERMOSTAT, BLOWER MOTOR, & AIR INTERLOCK SWITCH

The blower motor components are located on the top compartment floor. The thermostat is located just to the right of the blower. It activates at 194°F and turns on the blower motor. The blower motor will turn off when the temperature drops below 140°F. To access the blower motor thermostat, blower motor, and air interlock switch, refer to page 2-4. When you have access to the components, perform the following procedure that applies to it.

To test the blower motor thermostat:

1. Disconnect the wires from the blower motor thermostat terminals.
2. Set the ohmmeter to the R x 1 scale.
3. Use an ohmmeter and check for an open circuit between the thermostat terminals.
4. If the thermostat shows continuity, remove and replace it.

To test the blower motor windings:

1. Disconnect the blower motor wire connectors from their terminals.
2. Set the ohmmeter to the R x 1 scale.
3. Touch the ohmmeter leads to the blower motor wire connectors. The meter should indicate between 20 Ω and 28 Ω. If the reading is not within this range, remove and replace the blower motor.

To test the air interlock switch:

1. Remove the wire connectors from the terminals.
2. Set the ohmmeter to the R x 1 scale.
3. Connect one of the ohmmeter leads to the common (C) terminal of the switch.
4. Touch the other ohmmeter lead to the N.C. (normally-closed) switch terminal. The meter should indicate continuity with the switch in its normal position, and no continuity when it is activated.
5. Touch the free ohmmeter lead to the N.O. (normally-open) switch terminal. The meter should show no continuity with the switch in its normal position, and continuity when it is activated.
6. Remove and replace the switch if the readings are not correct.

THE MOTORIZED OVEN DOOR LATCHES

The motorized oven door latches lock the oven door during the *CLEAN* cycle. The CT 127N and CT 130 have one door latch, and the CT 227N and CT 230 have two, one for the upper oven and one for the lower oven. To access the door latches, refer to page 2-8. When you have access to the latch that you wish to test, perform the following procedures.

To test one of the latch switches:

1. Remove the wire connectors from the switch terminals.
2. Set the ohmmeter to the R x 1 scale.
3. Connect one of the ohmmeter leads to the common (C) terminal of the switch.
4. Touch the other ohmmeter lead to the N.C. (normally-closed) switch terminal. The meter should indicate continuity with the switch in its normal position, and no continuity when it is activated.
5. Touch the free ohmmeter lead to the N.O. (normally-open) switch terminal. The meter should show no continuity with the switch in its normal position, and continuity when it is activated.
6. Remove and replace the switch if the readings are not correct.

To test the door lock motor windings:

1. Disconnect the motor wires from the terminal block and main harness connector.
2. Set the ohmmeter to the R x 1 scale.
3. Touch the ohmmeter leads to the motor wire connectors. The meter should read between 835 Ω and 870 Ω .
4. Replace the motorized door latch assembly if the motor is defective.

THE BAKE ELEMENT

To test the bake element, perform the following steps:

1. Remove the bake element screws from the oven liner and pull it forward so you can access the terminals (if necessary, see page 2-16).
2. Set the ohmmeter to the R x 1 range.
3. Touch the ohmmeter leads to the bake element terminals. The meter should indicate between 18 Ω and 26 Ω.

If the reading for the bake element is within the range shown, the element is okay. To check the rest of the circuit, perform the following "Bake Circuit Check."

BAKE CIRCUIT CHECK

1. Attach a snap-around ammeter or wattage tester across the upper oven's bake element wire at terminal E6 of the control circuit board, or the lower oven bake wire at E11.
2. Select *TIMED BAKE* on the control panel and program it to start five minutes in advance.
3. Set the oven temperature to 350°F.
4. Allow the oven to be activated by the digital clock. If current is reaching the oven elements, the ammeter will give an indication.
5. If the ammeter gives no indication, check the oven element (if not already done), and the associated wiring for problems. Repair as necessary.
6. If the element checks okay, check the clock and control boards for defects.

THE BROIL ELEMENT

To test the broil element, perform the following steps:

1. Remove the broil element screws from the oven liner and pull it forward so you can access the terminals (if necessary, see page 2-15).
2. Set the ohmmeter to the R x 1 range.
3. Touch the ohmmeter leads to the broil element terminals. The meter should indicate between 12 Ω and 20 Ω.

If the reading for the broil element is within the range shown, the element is okay. To check the rest of the circuit, perform the following "Broil Circuit Check."

BROIL CIRCUIT CHECK

1. Attach a snap-around ammeter or wattage tester across the upper oven's broil element wire at terminal E4 of the control circuit board, or the lower oven broil wire at E9.
2. Select *BROIL* on the control panel.
3. Set the oven temperature to *HIGH* broil.
4. If current is reaching the oven elements, the ammeter will give an indication.
5. If the ammeter gives no indication, check the oven broil element (if not already done), and the associated wiring for problems. Repair as necessary.
6. If the broil element checks okay, check the clock and control boards for defects.

CLEAN CIRCUIT CHECK

There are many components in the clean circuit that must be closed or opened during operation. To verify their operation, perform the following steps:

1. Select *CLEAN* so it is displayed on the cook mode window.
2. Check to make sure that
   a) The air interlock switch is closing.
   b) The blower and convection motors are operating.
   c) The oven door cannot be opened after the temperature rises above 550°F .
3. Cancel the *CLEAN* operation. As the temperature lowers to below 525°F, verify that the oven door can be opened.
4. Readjust or replace the latch switches if they do not function properly (see page 3-4 for the testing procedure).

CALIBRATING THE OVEN TEMPERATURE SENSOR

If calibration of the oven temperature sensor is necessary, due to a repair or part replacement, perform the following procedure, using a shielded thermocouple temperature indicating device with a range of 0°F to 1000°F.

1. Place the thermocouple at the center of the middle oven rack. Allow the thermocouple leads to extend out the bottom of the oven door.
2. Set the oven for bake temperature of 525°F.
3. Allow 2-minutes for the oven to reach the "set" temperature, and then check the temperature reading at the thermocouple.
4. The display indication should match the thermocouple reading to within ±5°F. If the reading is not within range, raise or lower the oven temperature to match the reading on the thermocouple by adusting the temperature up or down at 5°F increments (maximum of 35°F).
5. Press the *STOP/CANCEL* button to enter the new temperature calibration.

TESTING THE CONVECTION FAN MOTOR

To test the convection fan motor, perform the following steps:

1. Remove the convection fan motor from the oven and remove the twist-on connectors from the leads (if necessary, see page 2-17).
2. Set the ohmmeter to the R x 1 range.
3. Touch the ohmmeter leads to the convection fan motor wires. The meter should indicate between 55 Ω and 80 Ω.

If the reading for the convection fan motor is not within the range shown, replace the motor.

OVENS WITH THE NEW DREEF'S CONTROL BOARD

All of the new ovens that use the new Dreef's control board (Part Numbers: 35-00-536 & 35-00-459), have the suffixes -02 (CT127N) and -03 (CT130) added. However, control availability has required us to use the older dreefs control in some units.

The part numbers for these older control boards are:

35-00-304 35-00-305
35-00-091 35-00-092

The following chart lists the units that currently use the new dreefs control board.

CT127N/227N MODEL OVENS

Model w/Suffix	*Serial Number Start*	*Serial Number End*
CT227N-02	95020041	95020083
CT227N-02	94110251	94110380
CT227NPS-02	94100381	94110540
CT227NPS-02	95010186	95010187
CT227NPS-02	94120001	94120020
CT227NW-02	94110001	94110220
CT227S-02	94110401	94110510
CT127N-02	94100046	94100100
CT127N-02	94120001	94120025
CT127N-02	94110001	94110010
CT127NPS-02	94100111	94100130
CT127NPS-02	94100131	94100155
CT127NS-02	94120091	94120120
CT127NS-02	94100161	94100200
CT127NS-02	94100201	94100225
CT127NW-02	94100001	94100037
CT127NW-02	94120026	94120090

NOTE: Models with no suffix, or with suffixes -01 or -03, have old dreefs controls.

CT130/230 MODEL OVENS

Model w/Suffix	*Serial Number Start*	*Serial Number End*
CT230-03	94110511	94110560
CT230-03	94120001	94120060
CT230-03	94100086	94100130
CT230PRS-03	95040137	95040140
CT230S-03	94120121	94120183
CT230S-03	94120184	94120203
CT230W-03	94120061	94120120
CT230W-03	94110001	94110090
CT230W-03	95010066	95010077
CT130-03	94090001	94090020
CT130-03	94120001	94120090
CT130-03	94100001	94100130
CT130PS-03	94090021	94090080
CT130PS-03	94110001	94110025
CT130PS-03	94120311	94120320
CT130S-03	94120206	94120310
CT130S-03	95010391	95010392
CT130S-03	95010393	95010442
CT130W-03	94090081	94090105
CT130W-03	94120091	94120205
CT130W-03	94120206	94120355

NOTE: Models with no suffix, or with suffixes -01, -02 or -04, have old dreefs controls.

CONVERTING TO THE NEW DREEF'S CONTROL BOARD

⚠ WARNING

TO AVOID ELECTRICAL SHOCK

- DISCONNECT THE POWER TO THE APPLIANCE BEFORE SERVICING.
- FOR THOSE CHECKS REQUIRING THE USE OF ELECTRICAL POWER, EXERCISE EXTREME CARE.
- DO NOT PERFORM HIGH-VOLTAGE TESTS.

When replacing a control board on an earlier model unit, the newer Dreef's board must first be modified to operate with the older unit. If the board is not modified, *LOCK* will flash on the display when power is applied. An error message may also appear.

To modify the board, use the following procedure.

Facing the oven, look at the back of the board on the far right side for three jumper wires (see Figure 3-1). Cut the jumper wire that is the farthest from the buzzer. After you cut the wire, make sure that the cut wire does not contact any other wires or component leads.

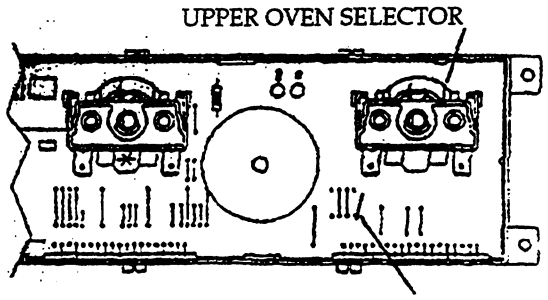


FIGURE 3-1
Control Board Modification

OVEN CONTROL LOGIC TABLE

POSITION NO.	CONTACT NO. / CW SELECTION	o 1 o	o—o 2 o	o 3 o—o	o 4 o	o 5 o----o	o 6 —o	o 7 o	o—o 8 o	TEMPERATURE RANGE OF	PRE-SET OVEN TEMPERATURE OF
0	OFF	O	O	O	O	X	O	O	O	---	
1	BAKE	O	X	O	X	X	X	O	O	150-525	350
2	TIME BAKE	O	X	O	X	X	O	O	O	150-525	350
3	BROIL	O	O	X	O	X	X	O	O	150-550	HI @ 550
4	CLEAN	X	O	X	X	O	O	O	X	850-925	CL @ 875
5	TIMED CONV BAKE	O	X	O	X	X	O	O	X	150-525	325
6	CONV BAKE	O	X	O	X	X	X	X	O	150-525	325

X = CLOSED CONTACT
0 = OPEN CONTACT

SELECTOR GRID

ELECTRONIC CONTROL BOARD CIRCUIT TABLE

MODE OF OPERATION	E1 AND E2 120 VAC	UK1 24 VDC	UK2 24 VDC	LK1 24 VDC	LK2 24 VDC	UK3 120 VAC	LK3 120 VAC	K4 120 VAC	MTR 24 VDC	P4 35 VDC	P5 35 VDC	P6 35 VDC	P7 35 VDC	P8 35 VDC
BAKE	X	X	X							X				
TIME BAKE	X	X	X					X		X				
BROIL	X	X	X							X				
CLEAN (UPPER)	X	X	X			X		X		X	X	X		
TIMED CONVECTION BAKE	X	X	X					X		X				
CONVECTION BAKE	X	X	X							X				
CLEAN (LOWER)	X			X	X		X			X			X	X

X = CONTACTS ENERGIZED

CURRENT FLOW

UPPER/LOWER OVEN BAKE

- Set the oven selector to *BROIL*. The following events will occur:
  a) Selector contacts 3, 5, and 6 close.
  b) Blower motor turns on and closes the air interlock switch.
  c) Relays LK1 and LK2 close.
  d) 240-volts flow to the broil element (15-amps, 3600-watts).

CRITICAL TO OPERATION:

- The blower motor must turn on and close the air interlock switch.
- The 35-volt D.C. circuit from "P1" to "P4" on the control board must be completed.
- Board relays K1 and K2 must close.

TIMED BAKE

- Set the oven selector to *TIMED BAKE*. The following events will occur:
  a) Selector contacts 2, 4, and 5 close.
- Set the *COOK* time.
- Press the *START* button. The following events will occur:
  a) Relay K4 closes.
  b) The blower motor turns on and closes the air interlock switch.
  c) 240-volts flow to the 2800-watt bake element (12-amps).
  d) 120-volts flow to the 3600-watt broil element (7-amps, 1/4 wattage).

CRITICAL TO OPERATION:

- Relay K4 must close and activate the blower motor and close the air interlock switch.
- The 35-volt D.C. circuit from "P1" to "P4" on the control board must be completed.
- Board relays K1 and K2 must close.

CONVECTION BAKE

- Set oven selector knob to *CONVECTION BAKE*. The following events will occur:
  a) Selector contacts 2, 4, 5, 6 and 7 close.
  b) The blower motor turns on and closes the air interlock switch.
  c) The convection motor turns on.
  d) Relays LK1 and LK2 close.
  e) 240-volts flow to the bake element (12-amps, 2800-watts).
  f) 120-volts flow to the broil element (7-amps, 900-watts)

CRITICAL TO OPERATION

- The blower motor must come on and close the air interlock switch.
- The 35-volt D.C. circuit from "P1" to "P4" on the control board must be completed.

TIMED CONVECTION BAKE

- Set oven selector to *TIMED CONVECTION BAKE*. The following events will occur:
  a) Selector contacts 2, 4, 5, and 8 close.
- Set the *COOK* time.
- Press the *START* button. The following events will occur:
  a) Relay K4 closes.
  b) The convection and blower motors turn on and close air interlock switch.
  c) Relays K1 and K2 close.
  d) 240-volts flow to the 2800-watt bake element (12-amps).
  e) 120-volts flow to the 3600-watt broil element (7-amps, 1/4 wattage).

CRITICAL TO OPERATION

- Relay K4 on the control board must close and activate blower motor to close the air interlock switch.
- The 35-volt D.C. circuit from "P1" to "P4" on the control board must be completed.
- Relays K1 and K2 must close.

UPPER/LOWER OVEN BROIL

- Set oven selector to *BROIL*. The following events will occur:
  a) Selector contacts 3, 5, and 6 close.
  b) The blower motor turns on and closes the air interlock switch.
  c) Relays LK1 and LK2 close.
  d) 240-volts flow to broil element (15-amps, 3600-watts).

CRITICAL TO OPERATION

- The blower motor must turn on and close the air interlock switch.
- The 35-volt D.C. circuit from "P1" to "P4" must be completed.
- Relays K1 and K2 must snap closed.

UPPER OVEN CLEAN

- Set oven selector to *CLEAN*. The following events will occur:
  a) Selector contacts 1, 3, 4, and 8 close.
- Latch the door. The following events will occur:
  a) The latch position switch closes.
  b) The latch solenoid is energized by board (120-volts) and plunger drops.
  c) Solenoid switch closes.
- Press the *START* button. The following events will occur:
  a) Relay K4 closes.
  b) The upper convection and blower motors turn on and close the air interlock switch.
  c) Relays K1 and K2 close.
  d) 240-volts flows to the bake and broil elements.

CRITICAL TO OPERATION

- The blower must come on and close the air interlock switch.
- The 35-volt D.C. circuits from "P1" to "P4", "P5" and "P6" must be completed.
- Relays K1 and K2 must close.

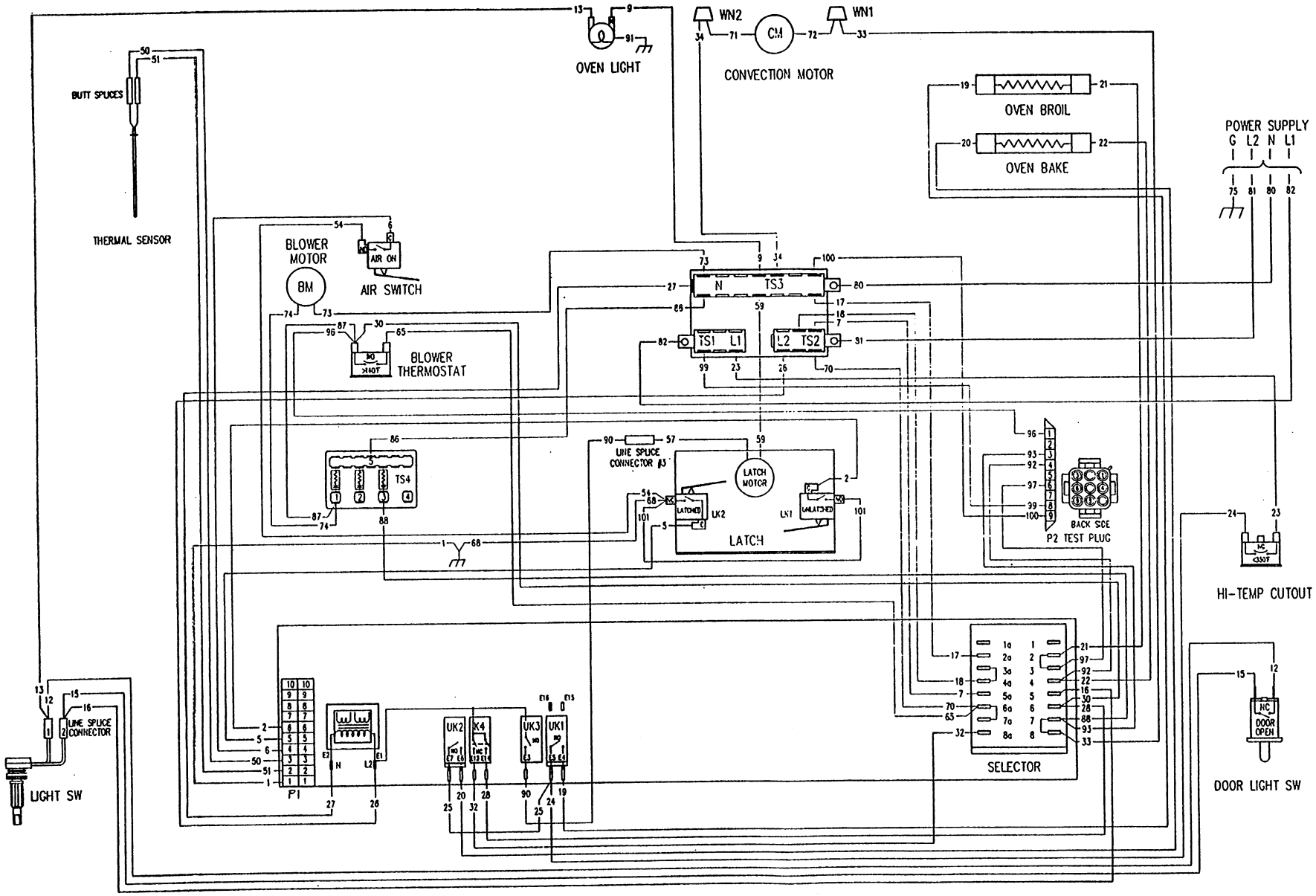
LOWER OVEN CLEAN

- Set the oven selector to *CLEAN*. The following events will occur:
  a) Selector contacts 1, 3, 4, and 8 close.
- Latch the door. The following events will occur:
  a) The latch position switch closes.
  b) The latch solenoid is energized by the control board (120-volts) and the solenoid plunger drops.
  c) The solenoid switch closes.
- Press the *START* button. The following events will occur:
  a) Relay K4 closes.
  b) The upper convection and blower motors turn on and close the air interlock switch.
  c) Relays K1 and K2 close.
  d) 240-volts flows to the bake and broil elements.

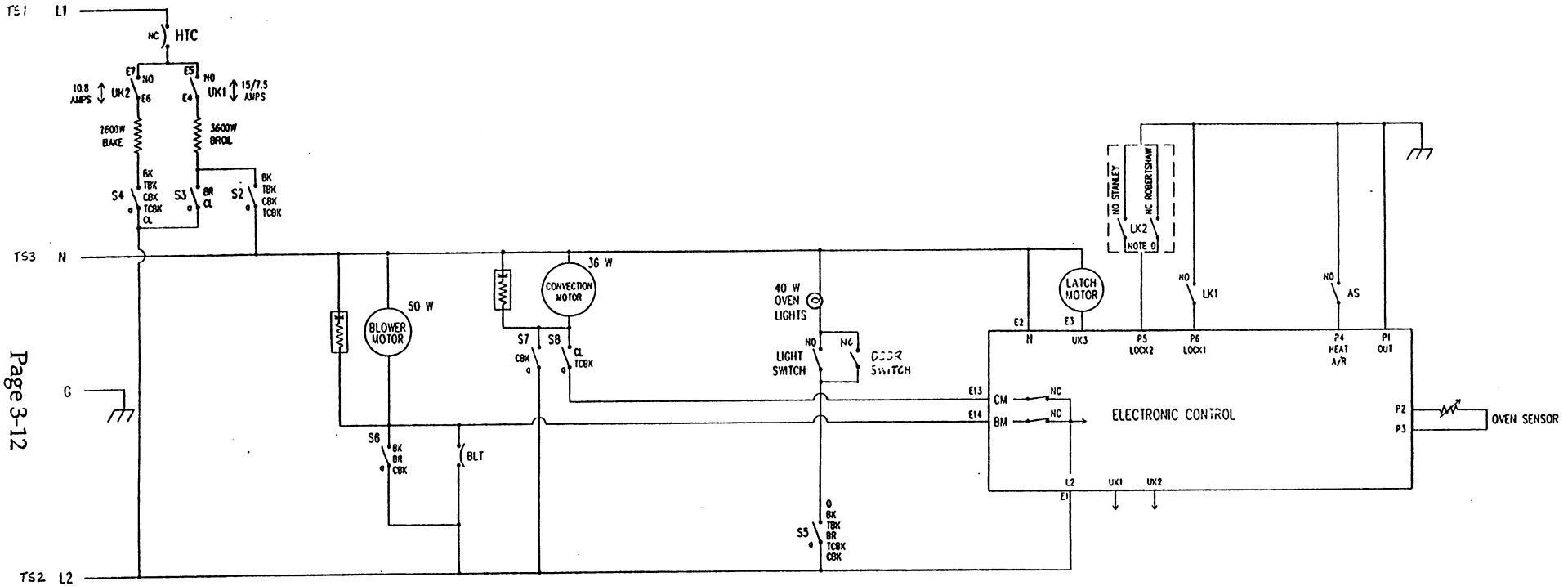
CRITICAL TO OPERATION

- The blower must come on and close the air interlock switch.
- The 35-volt D.C. circuits from "P1" to "P4", "P5" and "P6" must be completed.
- Relays K1 and K2 must close.

OVENS WITH NEW DREEFS CONTROL
(PART NUMBERS: 35-00-536 & 35-00-459)



CT127N & CT227N SCHEMATIC



Page 3-12

ABBREVIATIONS:

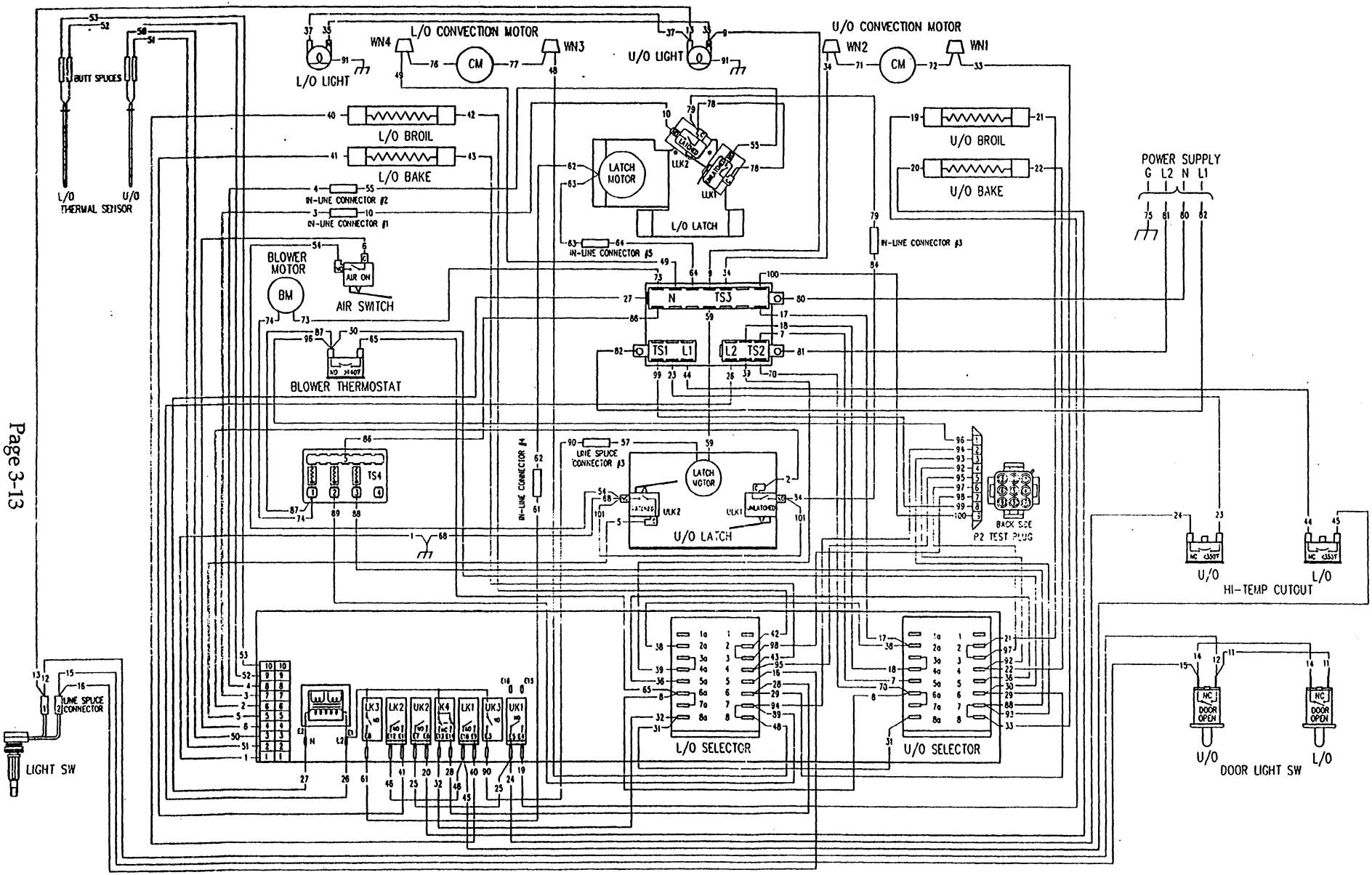
A/R = HEAT AS REQUIRED
AS = AIR SWITCH
BK = BAKE
BR = BROIL
CBK = CONVECTION BAKE
CL = CLEAN
UK1 = BROIL RELAY
HTC = HIGH TEMP CUTOUT
LK (1 OR 2) = LATCH SWITCH (1 OR 2)
UK2 = BAKE RELAY
UK3 = LOCK RELAY

N = NEUTRAL
N/C = NO CONNECTION
NC = NORMALLY CLOSED
NO = NORMALLY OPEN
O = OFF
S = SELECTOR
TBK = TIME BAKE
TCBK = TIME CONVECTION BAKE
S1 THRU S8 = SELECTOR 1-8
W = WATTS

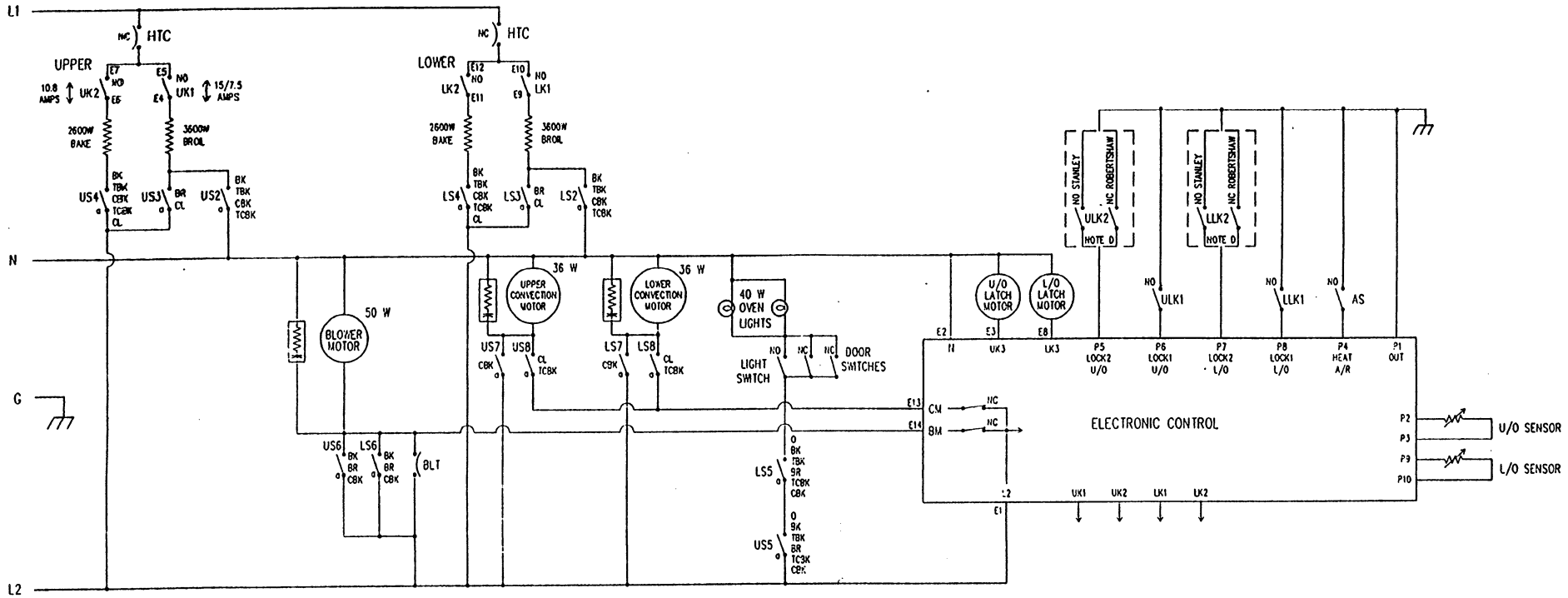
NOTES:

A. "LOCK" COMES ON, WHEN THE OVEN IS ≥ 550°F IN CLEAN.
B. ABBREVIATIONS NEXT TO SWITCHES TELL WHEN SWITCH IS CLOSED.
C. SELECTOR SWITCHES CONTACTS ARE S1-S8.
D. ONLY ONE SWITCH IS USED, DEPENDING UPON WHICH LATCH IS USED, ROBERTSHAW OR STANLEY.

CT127N & CT227N WIRING DIAGRAM



CT130 & CT230 SCHEMATIC



ABBREVIATIONS:

A/R = HEAT AS REQUIRED
AS = AIR SWITCH
BK = BAKE
BR = BROIL
CBK = CONVECTION BAKE
CL = CLEAN
(U OR L) LKS (1 OR 2) =(UPPER OR LOWER) LATCH SWITCH
HTC = HIGH TEMP CUTOUT
(U OR L) K1 = (UPPER OR LOWER) BROIL RELAY
(U OR L) K2 = (UPPER OR LOWER) BAKE RELAY
(U OR L) K3 = (UPPER OR LOWER) LOCK RELAY
LS1 THRU LS8 = LOWER SELECTOR 1-8

N = NEUTRAL
N/C = NO CONNECTION
NC = NORMALLY CLOSED
NO = NORMALLY OPEN
O = OFF
S = SELECTOR
TBK = TIME BAKE
TCBK = TIME CONVECTION BAKE
US1 THRU US8 = UPPER SELECTOR 1-8
W = WATTS

NOTES:

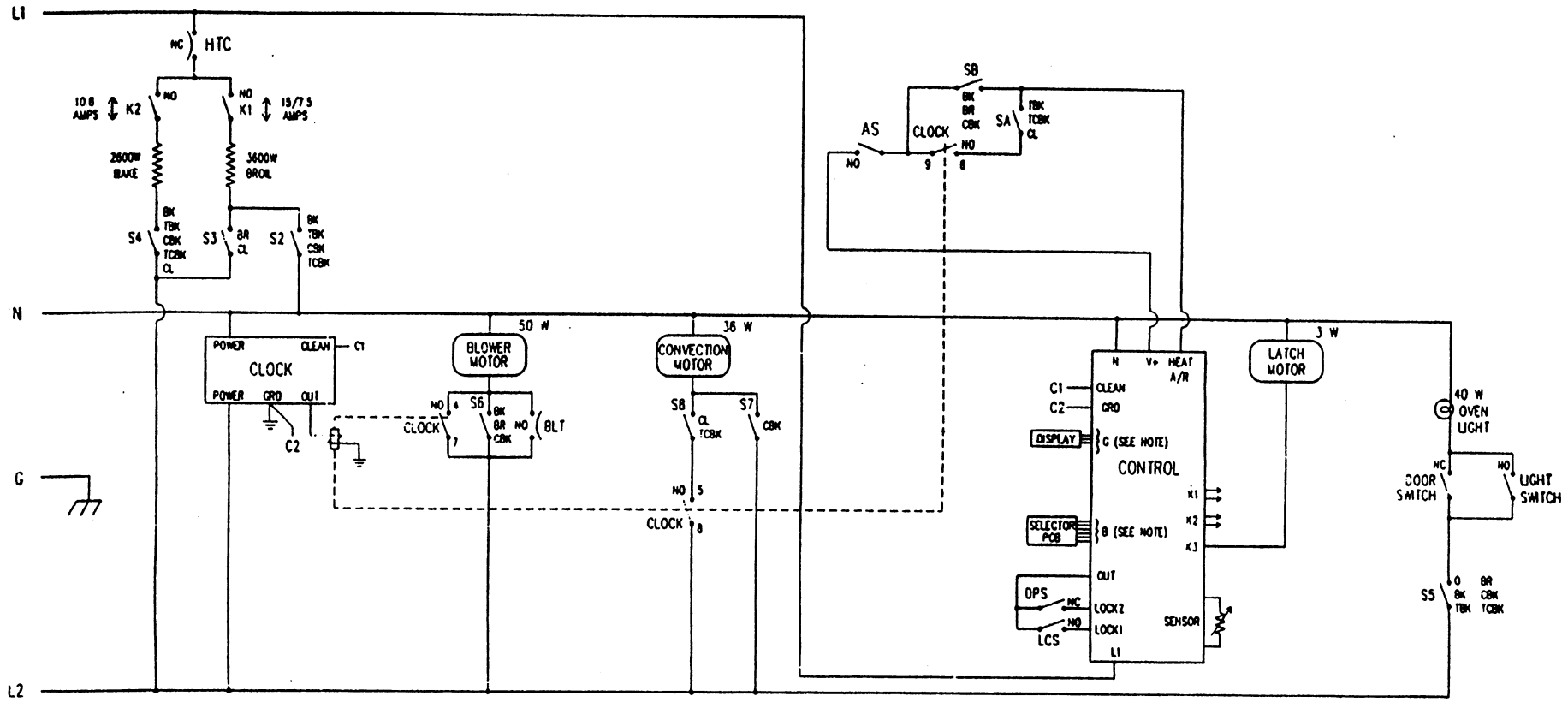
A. "LOCK" COMES ON, WHEN THE OVEN IS ≥ 550F IN CLEAN..
B. ABBREVIATIONS NEXT TO SWITCHES TELL WHEN SWITCH IS CLOSED.
C. SELECTOR SWITCHES CONTACTS ARE US1-US8 AND LS1-LS8.
D. ONLY ONE SWITCH IS USED, DEPENDING UPON WHICH LATCH IS USED, ROBERTSHAW OR STANLEY.

CT130 & CT230 WIRING DIAGRAM

WIRING HARNESS CONNECTIONS

ITEM NO.	GA	CLR	LG	INS	TO	FROM
1	18	Y	13	12	P1-1 (CONTROL BOARD)	CHASSIS
2	18	BL	19	12	ULK1 - C	P1-6 (CONTROL BOARD)
3	18	BL	46	12	P1-7 (CONTROL BOARD)	IN-LINE CONNECTOR #1
4	18	BK	41	15	P1-8 (CONTROL BOARD)	IN-LINE CONNECTOR #2
5	18	BR	15	12	ULK2 - C	P1-5 (CONTROL BOARD)
6	18	BL	22	12	AIR SWITCH - C	P1-4 (CONTROL BOARD)
7	18	R	19	12	TS2	U/O SELECTOR - 5a
8	18	R	8	12	U/O SELECTOR -6a	L/O SELECTOR - 6a
9	18	W	28	15	TS3	U/O LITE - N
10	18	BL	22	12	IN-LINE CONNECTOR #1	LLK2 - NO
11	18	Y	37	15	L/O DOOR LIGHT SWITCH - NC	U/O DOOR LIGHT SWITCH - NC
12	18	Y	22	15	U/O DOOR LIGHT SWITCH - NC	LINE SPLICE CONNECTOR #1 (LIGHT SW.)
13	18	Y	34	15	U/O LITE (UNMARKED TERMINAL)	LINE SPLICE CONNECTOR #1 (LIGHT SW.)
14	18	Y	37	15	L/O DOOR LIGHT SWITCH - C	U/O DOOR LIGHT SWITCH - C
15	18	Y	22	15	U/O DOOR LIGHT SWITCH - C	LINE SPLICE CONNECTOR #2 (LIGHT SW.)
16	18	Y	14	12	L/O SELECTOR - 5	LINE SPLICE CONNECTOR #2 (LIGHT SW.)
17	18	W	18	12	TS3	U/O SELECTOR - 2a
18	16	R	18	12	U/O SELECTOR - 4a	TS2
19	14	Y	40	20	CONTROL BOARD - UK1 (E4)	U/O BROIL ELEMENT - LEFT FROM REAR
20	16	O	51	20	CONTROL BOARD - UK2 (E6)	U/O BAKE ELEMENT - LEFT FROM REAR
21	14	Y	85	20	U/O SELECTOR - 2	U/O BROIL ELEMENT - RIGHT FROM REAR
22	16	O	73	20	U/O SELECTOR - 4	U/O BAKE ELEMENT - RIGHT FROM REAR
23	14	BK	26	15	TS1	U/O HIGH TEMP CUTOUT
24	14	BK	32	15	U/O HIGH TEMP CUTOUT	CONTROL BOARD - UK1 (E5)
25	14	BK	6	15	CONTROL BOARD - UK1 (E5)	CONTROL BOARD - UK2 (E7)
26	18	R	14	12	TS2	CONTROL BOARD - L2 (E1)
27	18	W	14	12	TS3	CONTROL BOARD - N (E2)
28	18	BL	10	12	CONTROL BOARD - K4 (E4)	L/O SELECTOR - 6
29	18	BL	8	12	L/O SELECTOR - 6	U/O SELECTOR - 6
30	18	BL	22	12	U/O SELECTOR - 6	BLOWER THERMOSTAT
31	18	BL	6	12	U/O SELECTOR - 8a	L/O SELECTOR-8a
32	18	BL	8	12	L/O SELECTOR - 8a	CONTROL BOARD - K4 (E13)
33	18	BK	52	15	WIRE NUT #1 - CM UPPER	U/O SELECTOR - 8
34	18	W	42	15	WIRE NUT #2 - CM UPPER	TS3
35	18	W	38	15	U/O LITE - N	L/O LITE - N
36	18	R	8	12	U/O SELECTOR - 5	L/O SELECTOR - 5a
37	18	Y	38	15	U/O LITE (UNMARKED TERMINAL)	L/O LITE (UNMARKED TERMINAL)
38	18	W	8	12	U/O SELECTOR - 2a	L/O SELECTOR - 2a
39	16	R	16	12	L/O SELECTOR - 4a	TS2
40	14	Y	62	20	CONTROL BOARD - LK1 (E9)	L/O BROIL ELEMENT - LEFT FROM REAR
41	16	O	74	20	CONTROL BOARD - LK2 (E11)	L/O BAKE ELEMENT - LEFT FROM REAR
42	14	Y	103	20	L/O SELECTOR - 2	L/O BROIL ELEMENT - RIGHT FROM REAR
43	16	O	95	20	L/O SELECTOR - 4	L/O BAKE ELEMENT - RIGHT FROM REAR
44	14	BK	48	15	TS1	L/O HIGH TEMP CUTOUT
45	14	BK	55	15	L/O HIGH TEMP CUTOUT	CONTROL BOARD - LK1 (E10)
46	14	BK	6	15	CONTROL BOARD - LK1 (E10)	CONTROL BOARD - LK2 (E12)
48	18	BK	70	15	WIRE NUT #3 - CM LOWER	L/O SELECTOR - 8
49	18	W	60	15	WIRE NUT #4 - CM LOWER	TS3
50	18	W	56	15	P1-3 (CONTROL BOARD)	BUTT SPLICE (U/O THERMAL SENSOR)
51	18	W	56	15	P1-2 (CONTROL BOARD)	BUTT SPLICE (U/O THERMAL SENSOR)
52	18	W	75	15	P1-9 (CONTROL BOARD)	BUTT SPLICE (L/O THERMAL SENSOR)
53	18	W	75	15	P1-10 (CONTROL BOARD)	BUTT SPLICE (L/O THERMAL SENSOR)
54	18	Y	17	12	ULK2 - NC	AIR SWITCH - NO
55	18	BK	24	15	IN-LINE CONNECTOR #2	LLK1 - NO
57					LINE SPLICE CONNECTOR #3	U/O LATCH MOTOR
59					TS3	U/O LATCH MOTOR
61	18	W	57	15	CONTROL BOARD - LK3 (E8)	IN-LINE CONNECTOR #4
62					IN-LINE CONNECTOR #4	L/O LATCH MOTOR
63					IN-LINE CONNECTOR #5	L/O LATCH MOTOR
64	18	W	44	15	TS3	IN-LINE CONNECTOR #5 (LO LM)
65	18	R	18	12	L/O SELECTOR - 6a	BLOWER THERMOSTAT
68	18	Y	5	12	ULK2 - NC	CHASSIS
70	18	R	18	12	TS2	U/O SELECTOR -6a
71					WIRE NUT #2	U/O CONVECTION MOTOR
72					WIRE NUT #1	U/O CONVECTION MOTOR
73					TS3	BLOWER MOTOR
74					TS4-1 (WIRE #87)	BLOWER MOTOR
75	10		63	SOL	CHASSIS	POWER SUPPLY GROUND
76					WIRE NUT #4	L/O CONVECTION MOTOR
77					WIRE NUT #3	L/O CONVECTION MOTOR
78	18	Y	6	15	LLK1 - C	LLK2 - C
79	18	Y	22	15	IN-LINE CONNECTOR #3	LLK2 - C
80	12	W	78	12	TS3	POWER SUPPLY N
81	10	R	79	12	TS2	POWER SUPPLY L2
82	10	BK	81	12	TS1	POWER SUPPLY L1
84	18	Y	45	15	IN-LINE CONNECTOR #3	ULK1 - NO
86	18	W	11	12	TS3	TS4-5
87	18	BK	14	12	BLOWER THERMOSTAT	TS4-1
88	18	O	31	12	U/O SELECTOR 7	TS4-3
89	18	Y	27	12	L/O SELECTOR 7	TS4-2
90	18	BK	7	12	CONTROL BOARD UK3 (E3)	LINE SPLICE CONNECTOR #3
91	18	GR	8	25	OVEN LIGHT	CHASSIS
92	18	O	11	12	U/O SELECTOR 4	P2-4
93	18	O	12	12	U/O SELECTOR 7	P2-3
94	18	Y	11	12	L/O SELECTOR 7	P2-2
95	18	O	11	12	L/O SELECTOR 4	P2-5
96	18	BK	13	12	BLOWER THERMOSTAT	P2-1
97	18	R	10	12	U/O SELECTOR 3	P2-6
98	18	R	10	12	L/O SELECTOR 3	P2-7
99	18	BK	11	12	TS1	P2-8
100	18	W	11	12	TS3	P2-9
101	18	Y	12	12	ULK2 - NC	ULK1 - NO
					TS4-5	R-C NETWORK
					TS4-1; TS4-2; TS4-3	R-C NETWORK

OVENS WITH EARLIER DREEFS CONTROL
(PART NUMBERS: 35-00-304, 35-00-305, 35-00-091 & 35-00-092)



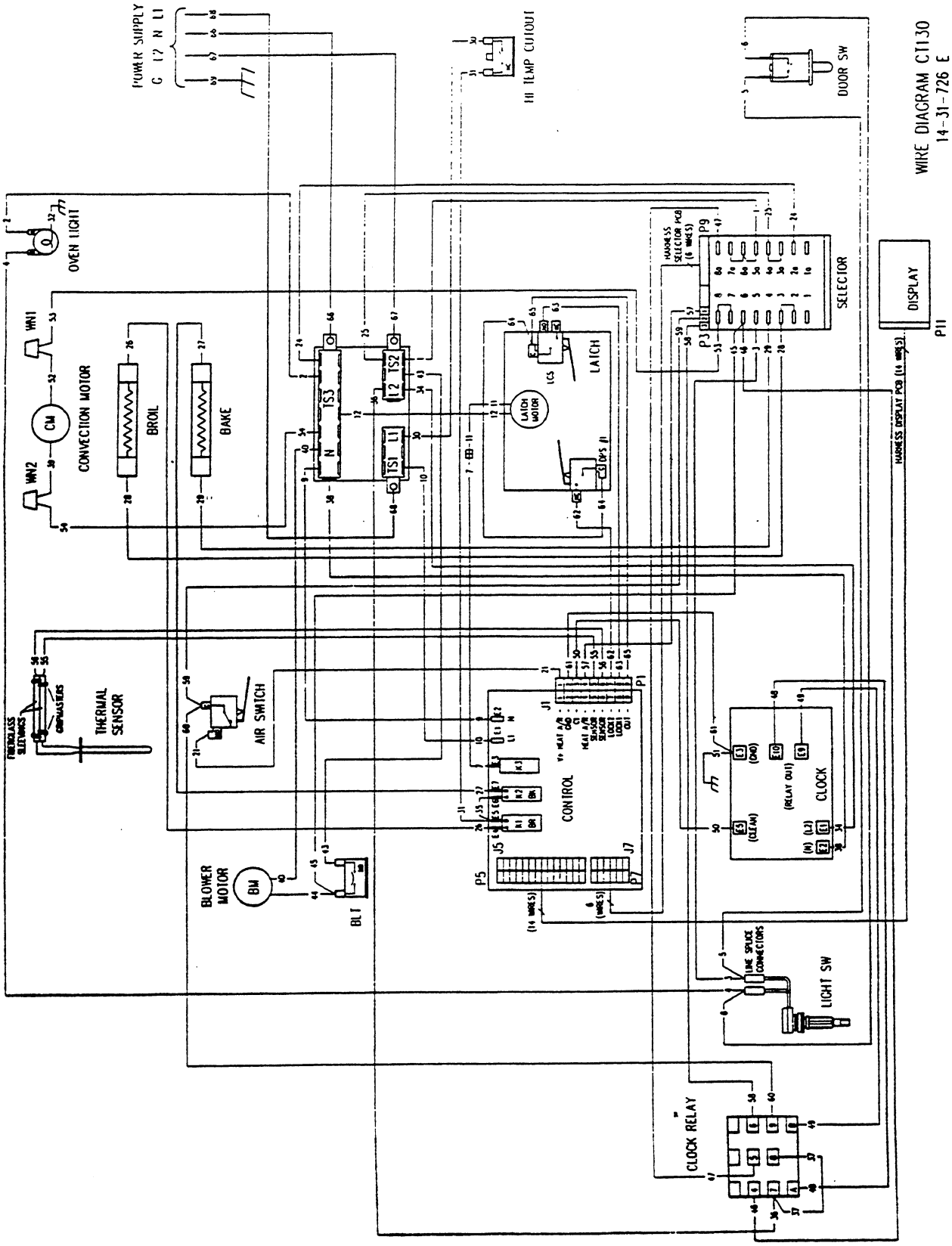
ABBREVIATIONS:

A/R = AS REQUIRED
AS = AIR SWITCH
BK = BAKE
BR = BROIL
CBK = CONVECTION BAKE
CL = CLEAN
DPS = DOOR POSITION SWITCH
HTC = HIGH TEMP CUTOUT
K1 = BROIL RELAY
K2 = BAKE RELAY
K3 = LOCK RELAY
LCS = LATCH CAM SWITCH
N = NEUTRAL
N/C = NO CONNECTION
NC = NORMALLY CLOSED
NO = NORMALLY OPEN
O = OFF
PCB = PRINTED CIRCUIT BOARD
S = SELECTOR
TBK = TIME BAKE
TCBK = TIME CONVECTION BAKE
S1 THRU S8 = DREEFS SELECTOR 1-8

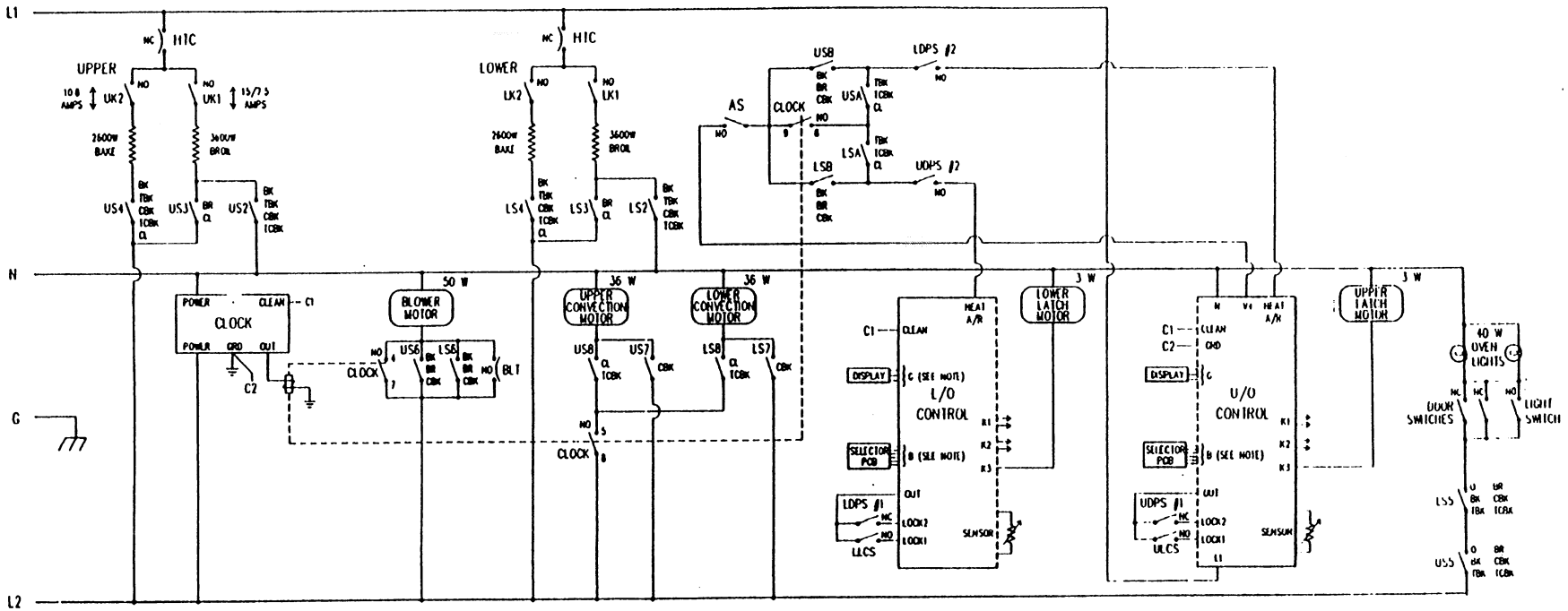
NOTES:

A. "LOCK" COMES ON, WHEN THE OVEN IS > 550°F IN CLEAN.
B. 6 WIRES FOR SELECTOR POSITION, TEMPERATURE SLEW CONTROL.
C1 OUTPUT TO CLOCK - WHEN CLEAN HAS BEEN SELECTED ON THE CONTROL (TWO OPERATIONS REQUIRED). OUTPUT SETS CLOCK TO 2 1/2 HR CLEAN WITH SINGLE EOC BEEP.
C2 GROUND APPLIED VIA C1 TO CLOCK FOR CLEAN PROGRAM.
D. ABBREVIATIONS NEXT TO SWITCHES TELL WHEN SWITCH IS CLOSED.
E. SELECTOR SWITCH CONTACTS ARE S1-S8.
F. CONTACTS SA-SB ARE IN THE PRINTED CIRCUIT BOARD ON THE REAR OF THE SELECTOR.
G. 14 WIRES TO DISPLAY.

CT130 SCHEMATIC



CT130 WIRING DIAGRAM



ABBREVIATIONS:

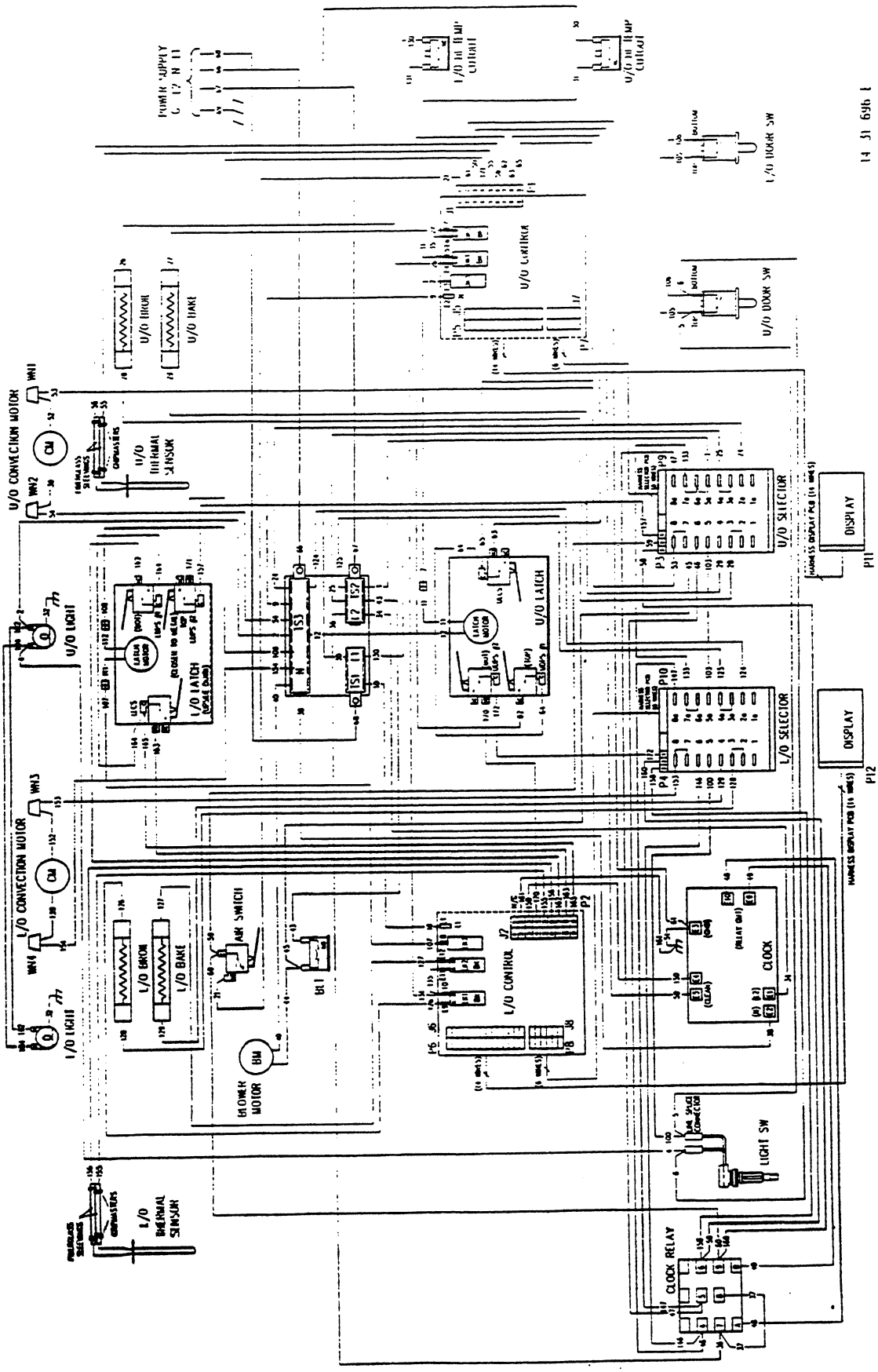
A/R = AS REQUIRED
AS = AIR SWITCH
BK = BAKE
BR = BROIL
CBK = CONVECTION BAKE
CL = CLEAN
(U OR L) DPS = (UPPER OR LOWER) DOOR POSITION SWITCH
HTC = HIGH TEMP CUTOUT
(U OR L) K1 = (UPPER OR LOWER) BROIL RELAY
(U OR L) K2 = (UPPER OR LOWER) BAKE RELAY
(U OR L) K3 = (UPPER OR LOWER) LOCK RELAY
(U OR L) LCS = (UPPER OR LOWER) LATCH CAM SWITCH
LS1 THRU LS8 = LOWER SELECTOR 1-8
N = NEUTRAL
N/C = NO CONNECTION
NC = NORMALLY CLOSED
NO = NORMALLY OPEN
O = OFF
PCB = PRINTED CIRCUIT BOARD
S = SELECTOR
TBK = TIME BAKE
TCBK = TIME CONVECTION BAKE
US1 THRU US8 = UPPER SELECTOR 1-8
W = WATTS

NOTES:

A. "LOCK" COMES ON, WHEN THE OVEN IS ≥ 550T IN CLEAN.
B. 8 WIRES FOR SELECTOR POSITION, TEMPERATURE SLEW CONTROL.
C1. OUTPUT TO CLOCK - WHEN CLEAN HAS BEEN SELECTED ON THE CONTROL (TWO OPERATIONS REQUIRED), OUTPUT SETS CLOCK TO 2 1/2 HR CLEAN WITH SINGLE EOC BEEP.
C2. GROUND APPLIED VIA C1 TO CLOCK FOR CLEAN PROGRAM.
D. ABBREVIATIONS NEXT TO SWITCHES TELL WHEN SWITCH IS CLOSED.
E. SELECTOR SWITCHES CONTACTS ARE US1-USB AND LS1-LSB.
F. CONTACTS USA-USB AND LSA-LSB ARE IN THE PRINTED CIRCUIT BOARDS ON THE REAR OF THE SELECTORS.
G. 14 WIRES TO DISPLAY.
H. DOTTED LINES MEAN THE TWO CONTROLS ARE ACTUALLY ON ONE CIRCUIT BOARD.

14-31-696 E

CT230 SCHEMATIC



CT230 WIRING DIAGRAM

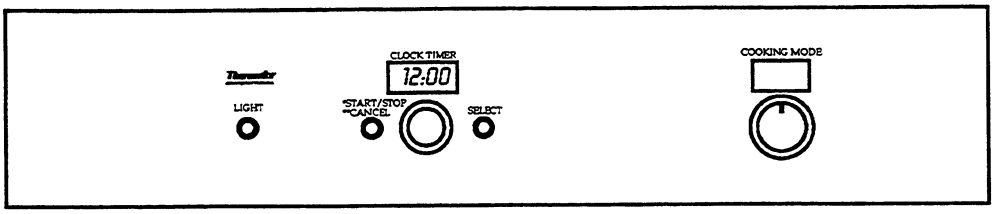
— NOTES —

OPERATION

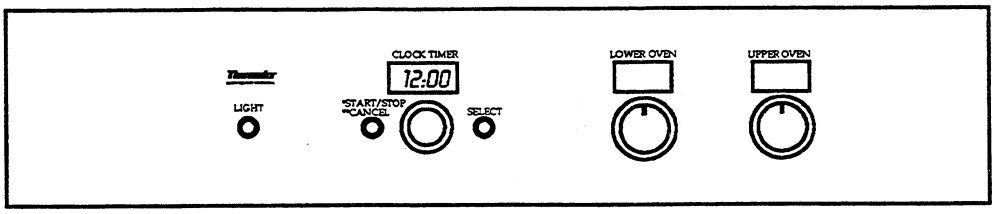
OVEN FUNCTIONS

FRONT PANELS USING LATEST DREEFS CONTROL— PART NUMBERS: 35-00-536 & 35-00-459

Models CT 127N (-02) & CT 130 (-03)

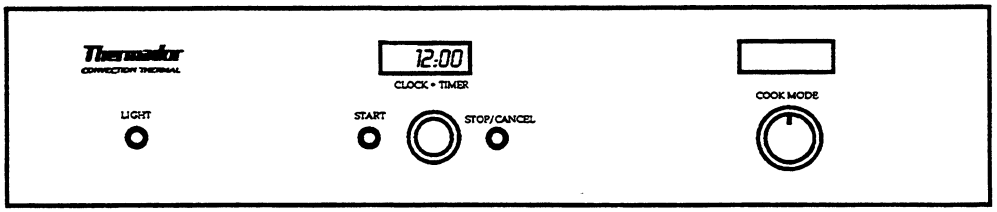


Models CT 227N (-02) & CT 230 (-03)

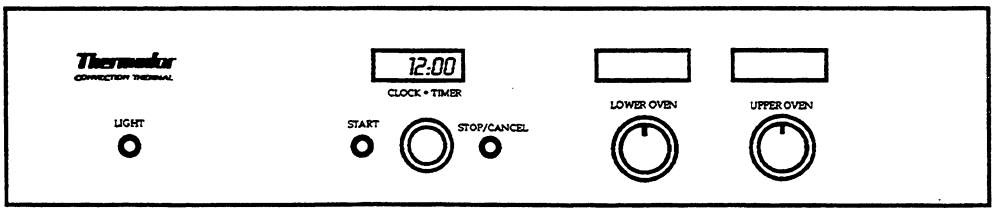


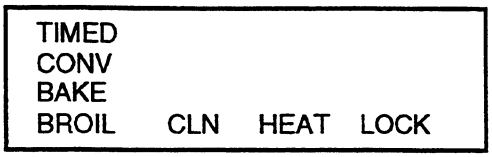
FRONT PANELS USING EARLIER DREEFS CONTROL— PART NUMBERS: 35-00-304, 35-00-305, 35-00-091 & 35-00-092

Models CT 127N (With No Part Number Suffix, OR With -01 OR -03 Suffix) & CT 130 (With No Suffix, OR With -01, -02 OR -04 Suffix)

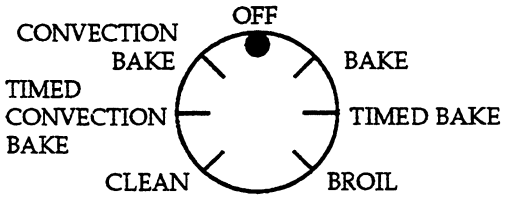


Models CT 227N (With No Part Number Suffix, OR With -01 OR -03 Suffix) & CT 230 (With No Suffix, OR With -01, -02 OR -04 Suffix)





COOKING MODE/OVEN SELECTOR WINDOW



SELECTOR KNOB POSITIONS

COOKING MODES

Use the oven selector knob to select the following modes:

Bake—Use for baking or roasting.

Timed Bake—Use with the clock to start and stop the bake mode at specified times.

Broil—Use to cook or brown foods using heat from the upper element.

Clean—Use with the clock to set a specified time for the clean cycle.

Timed Convection Bake—Use with the clock to start and stop the convection bake mode at specified times.

Convection Bake—Turns the convection fan on when baking or roasting.

Off—Turns the oven functions off. The oven selector or cooking mode window will be blank when the control is in this position.

WINDOW DISPLAYS

Clean—Indicates that the clean cycle is selected.

Heat—Indicates that a heating element is turned on. In the bake or broil mode, the display will remain on until the selected oven temperature is reached. The indicator will cycle off and on as the thermostat regulates the oven's lower element for the bake temperature, or the upper element for the broil temperature. During the clean cycle, the indicator will remain on during the timed cleaning cycle.

Lock—Will light when the oven is first turned on, or after a power outage has occurred. *OFF* will appear momentarily in the window, and *LOCK* will begin to flash immediately afterward. It will continue to flash until the doors are automatically unlatched. If *OFF* remains displayed, turn the oven selector switch to *OFF*. ***Do not try to open the oven door during this time.*** As soon as *LOCK* disappears from the display, the door(s) may be opened.

LOCK will also be displayed during the clean cycle. When the oven reaches a temperature of 550°F, the door latch will begin to close, and the *LOCK* indictor will begin to flash. The indicator will remain on steady when the latch is closed and the door is locked. When the clean cycle is over and the oven has cooled to below 525°F, the latch will begin to open, and the *LOCK* indicator will begin to flash. The indicator will turn off when the door(s) are unlocked.

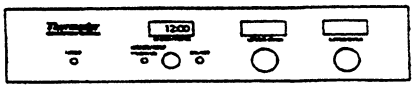
IMPORTANT: Do not attempt to open the oven door whenever the *LOCK* indicator is blinking.

Convection Bake/Bake/Broil Temperature—When the oven selector is turned to a cook position, 3-dashes (- - -) will appear in the window. Turn the knob slightly and a preset temperature will be displayed. For the bake function, the temperature starts at 350°F. For any convection bake function, the temperature starts at 325°F. The set temperature can be raised or lowered by slightly turning the knob in a CW or CCW direction. For the broil function, the display will indicate *HI*.

Sel—Indicates that a timed mode has been selected, (timed bake or convection timed bake). A start and a stop time must be entered by the user.

The *SEL* indicator will also appear if the oven has been set to a bake mode, and a time has been set in the *CLOCK•TIMER* window. When a selection is made on a double oven, *SEL* will flash in the other oven's selector window. *COOK* and the selected time will flash and the oven will beep.

SETTING THE CLOCK



When the oven is first connected to electric power, the **CLOCK•TIMER** window shows all zeros (00:00). If electric power is interrupted, the window will again show all zeros (00:00) when the power comes back on. **The Time of Day must be set before any of the TIMED oven functions can be set.** This is a 24 hour clock. Be sure to set it for AM or PM. AM will show in the CLOCK•TIMER window. There is no indicator for PM.

In addition to being a Time of Day clock, the CLOCK•TIMER controls all the timed operations of the oven, which are: Timed Bake, Timed Convection Bake, Clean and Minute Timer. Each time the clock is set for a function, there is an audible "beep" and a word display.

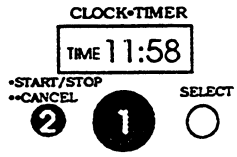
To set the time for several timed operations, press the select button to move from one mode to another.

NOTE: Starting with this page, the numbers on the illustrations, on the left side of the page, refer to the same number in the step by step directions in the right hand column.

DEFINITION OF WORD DISPLAY

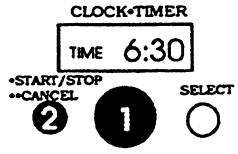
Oven Function	Clock Word Display
Timed Bake/Timed Convection Bake/Clean	AUTO
Length of Cooking /Cleaning Time with Heat	COOK
Time Oven to Stop Cooking/Cleaning	STOP
Minute Timer	TIMER
Time of Day Clock	TIME

To Set the Time of Day Clock



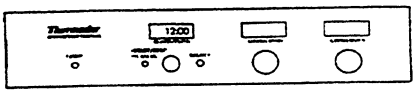
1. **Turn CLOCK•TIMER Knob** to the left, until the word **TIME** appears in the **CLOCK•TIMER** window. Continue turning the knob in either direction to the current Time of Day. This is a 24 hour clock.
2. **Press •START Button once.** The clock is now set.

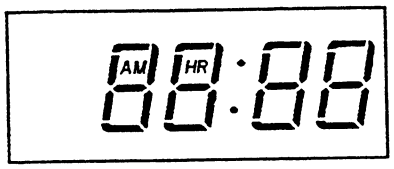
To Reset the Time of Day Clock



1. **Turn CLOCK•TIMER Knob** to the left, until the word **TIME** appears in the **CLOCK•TIMER** window. Continue turning the knob in either direction to the current Time of Day.
2. **Press •START Button once.** The clock is now reset.

SETTING THE MINUTE TIMER



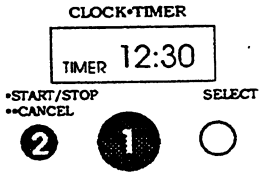


The Minute TIMER does not turn the oven/s on or off.

The Minute TIMER can be set for the timing of any cooking function or any activity. It can be programmed from 5 seconds to 12 hours. **HR** will appear in the display when hours and minutes are set.

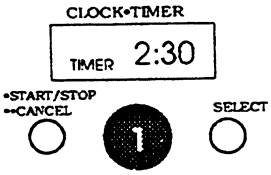
When the Minute TIMER gets to the end of a cycle, five beeps sound, then two beeps sound every 15 seconds for 15 minutes or until ••CANCEL Button is pressed rapidly twice. If other functions are set the display will revert to the next mode (Cook, then Time of Day).

To Set



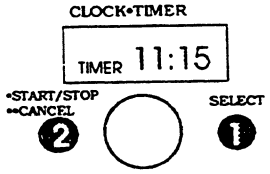
1. **Turn CLOCK•TIMER Knob** to the right until the desired time and the word TIMER appears. Time is displayed in minutes and seconds or hours and minutes. (12 minutes 30 seconds shown.)
2. **Press •START Button once.**

To Reset



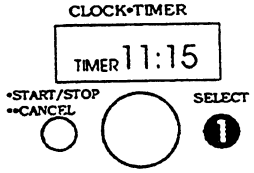
1. **To reset Minute TIMER** while it is counting down, **turn CLOCK•TIMER Knob** in either direction until the new time appears. The Timer continues counting down.

To Stop or Cancel



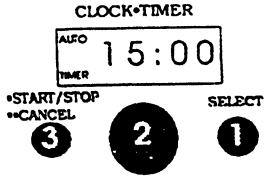
1. **Repeatedly press Select Button** until TIMER is the brightest word in the window.
2. **Press •STOP Button once to stop and twice rapidly to ••Cancel.** If the knob is pressed and held, all the other set functions will be cancelled.

To Check Time of Day with a Mode in Progress



1. **Press SELECT Button** until all the words in the CLOCK•TIMER window are dim. The Time of Day will be displayed for 1 minute, then the **CLOCK•TIMER** window returns to the **Minute TIMER.** The TIMER continues to count down while the Time of Day is displayed.

To Set with a Mode in Progress

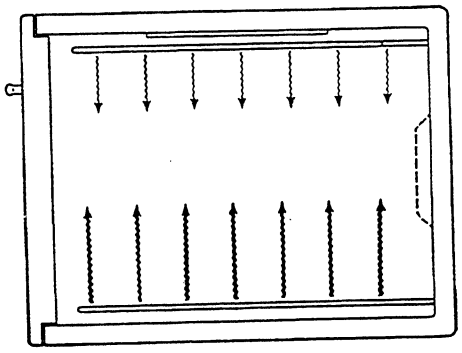


1. **Press SELECT Button** until TIMER is the brightest word in the CLOCK•TIMER Window
2. **Turn CLOCK•TIMER Knob.**
3. **Press •START Button once.**

SETTING THE OVEN

BAKE & CONVECTION BAKE

Baking is cooking with hot air. Both elements in the oven are used to heat the air, but no fan is used to circulate it. This method is what you are used to using, and you would cook on one or two racks with excellent results. Temperature settings in standard recipes are used with this method.



To move Oven Selector from one mode to another, turn it in either direction until it clicks into place.

To preheat the oven, follow steps 1 and 2. When the oven is preheated, the word **HEAT** will disappear from the window. Place the food in the oven and follow step 3.

Temperature can be changed either up or down by giving the Oven Selector knob a slight twist to the right for a higher temperature or to the left for a lower temperature. The temperature will change in 5° increments between 140°F and 525°F.

The word **HEAT** appears in the Oven Selector window 2 seconds after the temperature is set.

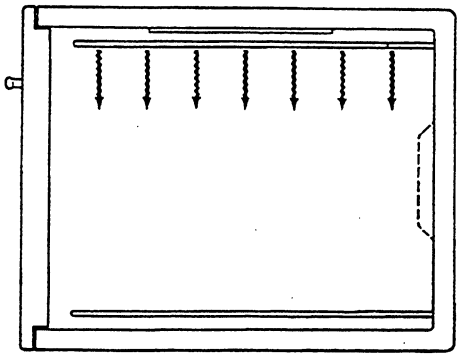
The oven exhaust fan runs continuously when using the oven. This is normal. The convection fan runs continuously in the Convection Bake mode.

To Set for Bake or Convection Bake

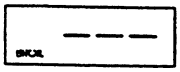
1. **Turn and click Oven Selector Knob** to the **right** (clockwise) to the first position BAKE or to the **left** (counterclockwise) to the first position CONVECTION BAKE.
2. **Give the Oven Selector Knob a slight twist** in either direction until 350°F (if using bake), or 325°F (if using convection bake) appears in the **COOK MODE** window. Set desired temperature.
3. **Set Minute TIMER, if desired, and press START.**
4. At the end of baking time, **turn Oven Selector Knob to off position and cancel TIMER.**

BROIL

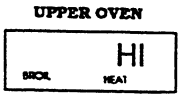
Broiling is cooking with heat radiated from the upper element of the oven and produces excellent results in both cooking and top browning. This method sears the outer layer of the food.



To Set for Broil



OVEN SELECTOR



OVEN SELECTOR

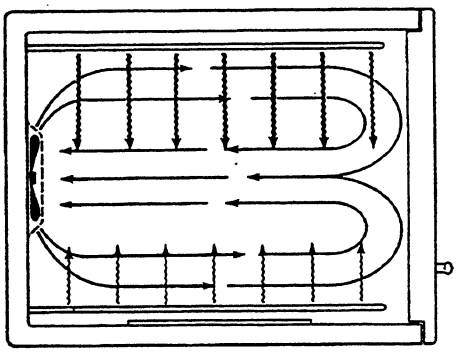
Check rack position. If using a non-preheated broiler, set food on two piece broil pan and place in oven. If using a preheated broiler, place food and broil pan in oven after element is red, about 3 to 5 minutes.

1. **Turn and CLICK Oven Selector knob 3 positions** to the **right** (clockwise) for BROIL.
2. **Give the Oven Selector knob a slight twist** in either direction until the word HI appears in the **COOK MODE** window.
3. **Leave door ajar** at the broil stop.
4. **Set Minute TIMER, if desired, and press START.**
5. At end of broiling time turn Oven Selector knob to off position and cancel TIMER.

☞ **NOTE:**
If the door is closed during broiling, the oven cavity may get hot enough to cycle the broil element off and on, producing food that tastes baked/roasted instead of broiled. For this reason, open door broiling is recommended.

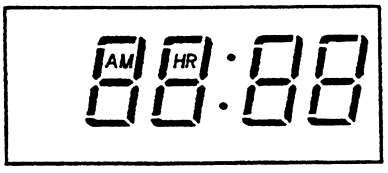
TIMED BAKE & TIMED CONVECTION BAKE

Convection Baking is baking with circulating hot air continuously around the food. Both elements in the oven are used to heat the air. The fan at the back of the oven circulates the hot air through the oven cavity in a continuous pattern know as "air flow". This circulating hot air heats and browns the surface of the food more effectively than the natural flow of hot air in a standard oven, allowing most foods to be cooked at lower oven temperatures (25°F to 50°F). Lowering the temperature means the food will bake in approximately the same length of time as if you were not using convection, however, be sure to check the food in the minimum cooking time. If the temperature is not lowered food should be checked sooner then the minimum time in the recipe. Air leavened foods should be checked 10 to 30 minutes sooner than the time given in the recipe. The first time you are baking a recipe check the food thru the window to decide if you want to open the door sooner. Real savings in cooking times are achieved with uncovered, longer cooking foods, such as; a large roast in a low sided baking pan, air leavened foods (angel food cake, etc.), as well as when cooking foods on more than two racks. It may be easier to start baking by following the temperature and time given in the charts.



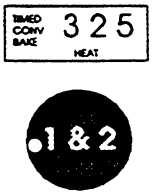
Either **TIMED BAKE** or **TIMED CONVECTION BAKE** is used to start and/or stop the oven/s automatically for baking or roasting. With the double oven - Model CT227N or CT230 - when using both ovens at the same time for timed bake, they must be set to turn on and off at the same time. Each oven can be set for a different temperature. At the end of the cooking time, turn the Oven Selector Knob/s to off position.

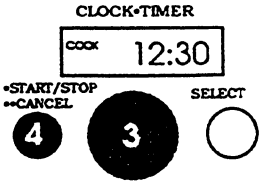
Time of Day shows in the CLOCK•TIMER window when the oven is set in a delay mode.



Be certain the Clock is set for the correct Time of Day before setting the oven for one of the **TIMED** functions. This is a 24 hour clock. If AM is not visible, the time of day is PM.

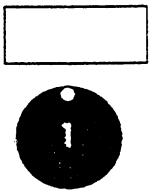
To Start The Oven Now





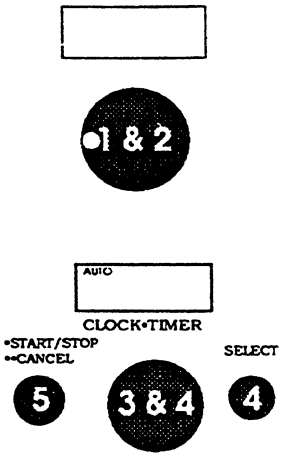
1. **Turn and click Oven Selector Knob 2 positions** to the **right** (clockwise) for TIMED BAKE or **2 positions** to the **left** (counter-clockwise) for TIMED CONVECTION BAKE.
2. **Give Oven Selector Knob a slight twist** in either direction until 350°F (if using timed bake), or 325°F (if using timed convection bake) appears in the window. Set desired temperature.
3. **Set COOK TIME. Turn CLOCK•TIMER Knob** to the length of time you want the food to cook - set in minutes or hours.
4. **Press •START Button.**
5. When the STOP TIME is reached, the oven turns off.

To Cancel the Timed Bake Cycle



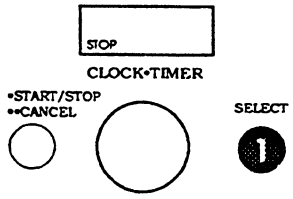
1. **Turn Oven Selector Knob** to the off position, or **press ••CANCEL Button** twice.

To Start The Oven Later



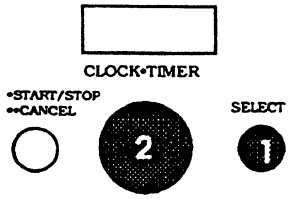
1. **Turn and click Oven Selector Knob 2 positions** to the **right** (clockwise) for TIMED BAKE or **2 positions** to the **left** (counter-clockwise) for TIMED CONVECTION BAKE.
2. **Give Oven Selector Knob a slight twist** in either direction until 350°F (if using timed bake), or 325°F (if using timed convection bake) appears in the window. Set desired temperature.
3. **Set COOK TIME. Turn CLOCK•TIMER Knob** to the length of time you want the food to cook - set in minutes or hours.
4. **Press Select Button to COOK STOP. Turn CLOCK•TIMER Knob** to the right to the time you want the oven to turn off.
5. **Press •START Button.**
6. When the STOP TIME is reached, the oven turns off.

To Check Cook or Stop Time



1. **Press Select Button** until the words COOK or COOK STOP are lit the brightest in the window. The setting selected will be displayed about 15 seconds; then time of day is displayed.

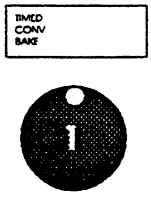
To Change a Timed Program



1. **Press Select Button** until **the words** COOK or COOK STOP are lit the brightest.
2. **Turn CLOCK•Timer Knob** to change the time.

NOTE: If COOK MODE reverts to Time of Day, press SELECT button until COOK appears in the CLOCK•TIMER window and reset COOK time.

At the End of any Timed Bake Cycle



1. **Turn Oven Selector Knob** to the **OFF** position. **Press ••CANCEL Button once** to stop reminder tone.

SELF-CLEANING THE OVEN

CAUTION:
SELF-CLEANING
LATCH MECHANISM

When the word **LOCK** is blinking in the Cook Mode/ Oven Selector window, DO NOT try to open or close the door. The blinking word **LOCK** indicates the door latch is moving. Attempting to open or close the door when the **LOCK** light is blinking will cause an error code that requires the control to be turned off and reset. It also could cause damage to the porcelain or the latch.

Your new oven features pyrolytic self-cleaning. When set into the **CLEAN** mode, the oven reaches a high temperature that burns off the food soil.

On the double oven (CT230 or CT227N), **only one oven can be cleaned at a time.** If both ovens are set for **CLEAN**, neither oven will clean and there may be an error code. **While self-cleaning one oven, the other oven is inoperative.**

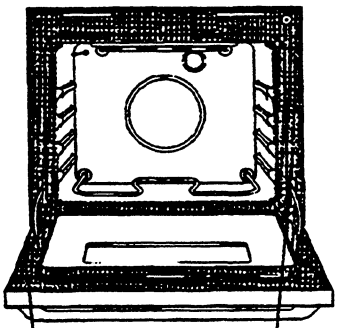
During the CLEAN cycle, the CLOCK•TIMER window shows the time remaining for self-cleaning.

The **Minute TIMER** may be used independently of the oven during the **CLEAN** cycle. Be sure to press **•STOP** button **only once** when the **Minute TIMER** reaches zero; otherwise, the **CLEAN** cycle will be cancelled.

It is common to see smoke and/or flames during the CLEAN cycle, depending on the content and amount of soil remaining in the oven. If a flame persists, turn off the oven and allow it to cool before opening the door to **wipe up the excessive food soil.**

Before Setting the Oven to Clean

- Set the correct time of day.
- Remove any utensils from the oven.
- Remove oven racks, if desired. If the racks are left in the oven during the clean cycle, they will lose their shiny finish and change to multicolored finish. This color change is caused by the intense heat in the oven during the self-clean cycle.
- Wipe out puddles of grease and any loose soil that can be easily removed with a paper towel. Wipe underside of heat deflector.
- Remove any soil that is outside the door seal area. This appliance is designed to clean the oven interior and that portion of the door that is inside the oven. The outer edges of the door and the oven cavity (shaded area) are not in the cleaning zone. Wipe this area clean BEFORE SETTING THE OVEN TO SELF-CLEAN.



At the Start of the Clean Cycle

- The words CLN, CL, LOCK and HEAT appear in the Oven Selector window of the oven being set to CLEAN.
- The word door appears in the CLOCK•TIMER window and the oven beeps until the door is latched.
- The word COOK appears continuously in the CLOCK •TIMER window, while the oven is set for clean.
- When the oven temperature reaches approximately 550°F, the word LOCK appears in the **Oven Selector** window and stays on. Once the word LOCK appears, the door cannot be opened until the word LOCK turns off. Before the oven reaches 550°F, unlock the door by turning the Selector Knob to OFF. The word LOCK will blink for approximately 1 minute, the door is unlocked when the word LOCK turns off. **DO NOT** try to open the oven door while the word LOCK is blinking.

At the End of the Cleaning Cycle

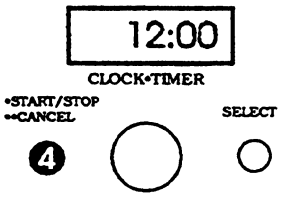
- The word HEAT turns off.
- The word LOCK continues to glow until the oven temperature drops to a cooking temperature (less than 525°F). The oven door cannot be opened until the word LOCK disappears from the **Oven Selector** window. Unlatch the door.
- Wipe out any ash remaining in the oven.
- Wipe out any smoke residue that remains on the porcelain enamel with Formula 409® or Fantastik®. If stain remains, use a mild liquid abrasive cleanser like Soft Scrub®. The amount of smoke stain is directly related to the amount of food soil left in the oven prior to self cleaning.
- Remove heat stain from the stainless steel front frame with RevereWare® Instant Stainless Steel Cleaner. For information on availability in your area call 215/274-6572. Use a soft bristle brush on the textured metal frame with the cleaner.
- If the oven interior has any food soil (dark deposit) remaining, increase the length of the CLEAN time the next time the oven is cleaned.

NOTE: The door latch will be locked approximately 30 seconds after setting the Selector Knob to the CLEAN Mode. When the oven is cool, to unlock the door, turn the Selector Knob to OFF. Door latch will unlock in approximately 30 seconds.

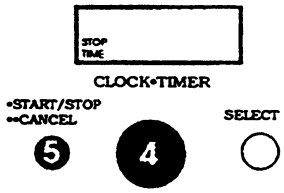
Decide how long the cycle will be according to the amount of soil: 2-1/2 hours for light soil, 4-1/2 hours for moderate soil, and 5 hours for heavy soil. Set the oven for 5 hours for the first clean cycle.

To Start Self-Cleaning Now

1. **Turn and click Selector Knob** to the **left** (counterclockwise) **3 positions** for CLEAN. CLN appears in Oven Selector window.
2. **Release the knob for about 2 seconds, then, give the Selector Knob a slight twist** in either direction and hold until all 3 dashes disappear and CL appears in the **Oven Selector** window.
3. **Door will automatically latch. The word LOCK blinks.**
4. **Press the •START knob once.** The oven is preset to clean for 3-1/2 hours (for a longer or shorter clean time see below).
5. When cycle is complete **and the word LOCK has turned off, turn Oven Selector Knob** to off position.



For **heavier soil**, the oven can be set to clean for up to 5 hours. For **very light soil**, the oven can be set to clean between 2-1/2 to 3-1/2 hours.



Follow steps 1, 2 and 3 above,

4. **Turn CLOCK•TIMER Knob** until the number of hours you want the oven to clean appears in the **CLOCK•TIMER** window.
5. **Press •START Knob** once.
6. When cycle is complete **and the word LOCK has turned off, turn Oven Selector Knob** to off position.

NOTES:

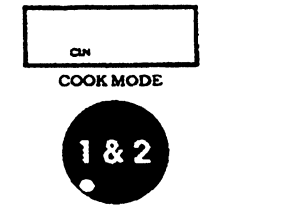
1. **If the word LOCK is blinking** in the Oven Selector/Cook Mode window, the door Latch is either closing or opening. **Do not** try to open or close the door. When the word LOCK stops blinking (approximately 1 minute) and disappears from the window, the door can be opened.

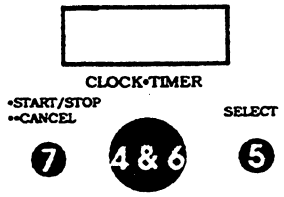
   If the word LOCK is displayed, but not blinking, the door latch is locked closed and the oven door cannot be opened, even if the oven is turned off. When the oven cools below 525°F, the word LOCK disappears and the door can be opened.

2. The blower will remain on until the oven and control panel area are cool. The fan blower may be intermittent while the oven is cooling after the clean cycle is finished.

The Self-Cleaning cycle can be delayed for up to 23 hours 55 minutes. A maximum of 5 hours cleaning may be set.

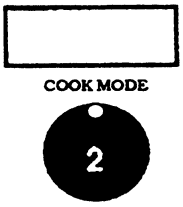
To Start Self-Cleaning Later





1. **Turn and click Oven Selector Knob** to the **left** (counterclockwise) **3 positions** for CLEAN. CLN appears in Oven Selector window.
2. **Release the knob for about 2 seconds, then, give the Selector Knob a slight twist** in either direction **and hold** until all 3 dashes disappear and CL appears in the **Oven Selector** window.
3. **The door automatically latches and the word LOCK blinks.**
4. **Set COOK TIME. Turn CLOCK•TIMER Knob** to the right until the length of time you want the oven to clean appears in the **CLOCK•TIMER** window.
5. **Press SELECT knob.**
6. **Set STOP TIME. Turn CLOCK•TIMER Knob** to the right until the time you want the oven to turn off appears.
7. **Press •START Knob.**
8. When cycle is complete **and the word LOCK has turned off, turn Oven Selector Knob** to off position.

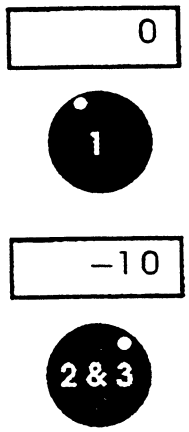
To Cancel the Clean Cycle



1. **Press ••CANCEL Knob twice.**
2. **Turn Oven Selector Knob** to off position, the door automatically unlatches.

CALIBRATING THE THERMOSTAT

The oven has been tested for satisfactory performance before being shipped. However, if foods brown too much or too little in the time given in your recipes, adjust the thermostat as follows:
Make sure the Selector Knob is in the OFF Position and Oven Selector/ Cook Mode window is blank, then:



1. **Turn Selector Knob slightly** to the left (counterclockwise) and hold for 5 seconds. Zero or the last calibration number set (-50 to +50) appears in the **Oven Selector** window.

2. Within 5 seconds, **turn and click Selector Knob** to the **BAKE** position (clockwise) to the the right. The calibration number remains displayed in the **Oven Selector** window.

3. **While still holding the knob to the right, immediately** set new oven temperature calibration. The temperature adjusts in 5°F increments. For a ***HOTTER*** oven: Slightly turn and hold Selector Knob to the right (clockwise) to raise temperature a maximum of 50°F. For a ***COOLER*** oven: Slightly turn and hold Selector Knob to the left (counterclockwise) to lower temperature a maximum of 50°F.

4. When desired increase or decrease in temperature appears in the **Oven Selector** window, **release Selector Knob and wait.** The temperature adjustment number blinks after 5 seconds, then disappears and the word **BAKE** and 3 dashes appear in the **Oven Selector** window. The new oven temperature calibration is now set.

5. **Turn Selector Knob** to **OFF** position. The **Oven Selector** window is blank.

INSTALLATION

VENTING THE OVEN

⚠ WARNING

- **To reduce the risk of fire, electric shock, or personal injury, all installation work and electrical wiring must be done by qualified persons in accordance with all applicable codes & standards, including fire-rated construction.**
- **Disconnect power before installation. Before turning power on, make sure that all oven controls are in the OFF position.**
- **Do not cut into electrical wiring and other hidden utilities when cutting or drilling into a wall, ceiling, or floor.**
- **Any venting must terminate to the outside. Do not terminate ductwork into an attic, or spaces within walls or ceilings, or into crawlspaces or garages.**

The single and double ovens are factory-built to be vented indoors. If this type of venting is preferred, no changes are necessary prior to installation. For outdoor venting, the ducting can be attached to the oven from the top or from the rear of the enclosure. However, single ovens that are installed under a counter can only be vented from the rear. Single ovens are not designed to be installed under a cooktop.

PREPARING A 27" OVEN

1. Remove the screws from the plenum cover and the vent cover (see Figure 5-1). Remove the plenum cover, vent cover, and the collar from the oven.

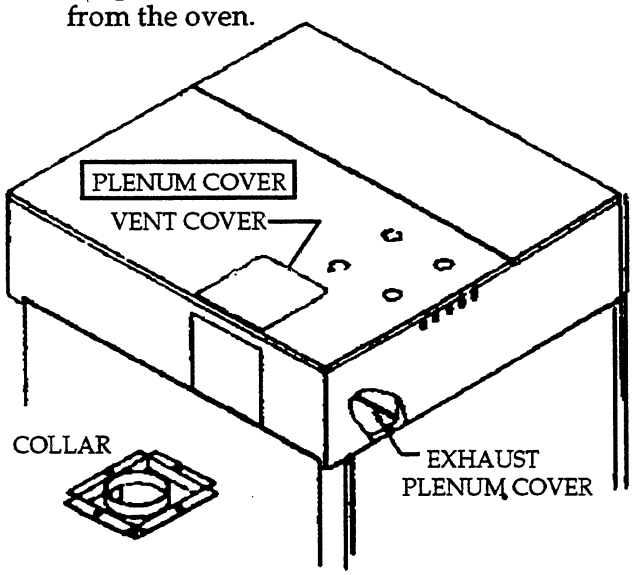


FIGURE 5-1
Outdoor Venting—27" Models

2. Remove the screws from the exhaust plenum cover.
3. Position the indoor vent cover on top of the exhaust plenum cover with the flange down, (see Figure 5-2), and secure it with the screws you just removed.

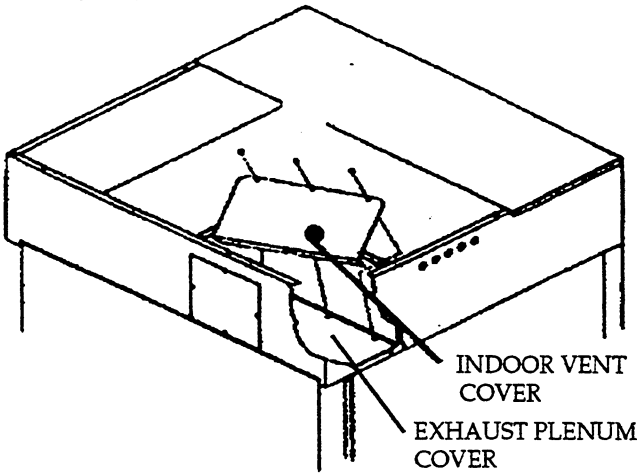


FIGURE 5-2
Installing The Indoor Vent Cover—27" Models

NOTE: If you are venting the oven from the top, proceed with the following steps, otherwise, proceed to "Rear Venting."

Top Venting

1. Mount the plenum cover, the vent cover, and the collar to the top of the oven with the screws you removed earlier (see Figure 5-3).

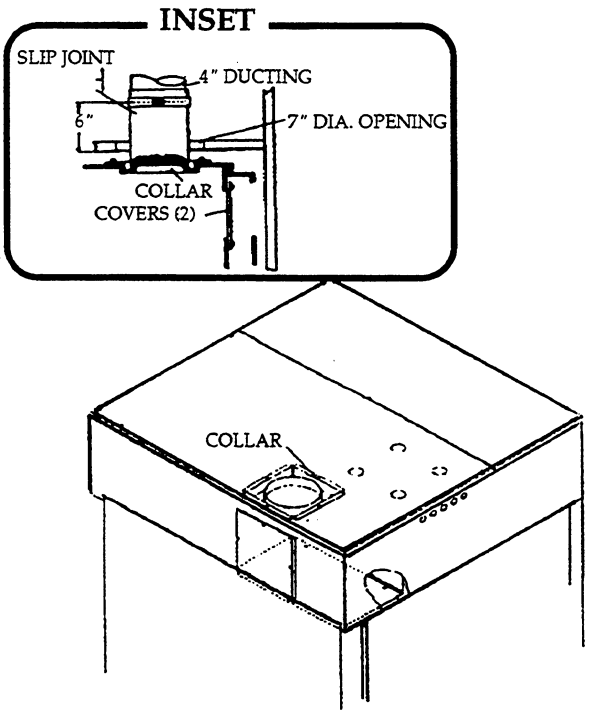


FIGURE 5-3
Top Venting—27" Models

2. Install the piece of 4" diameter ducting (supplied with the oven) into the opening in the plenum cover and over the collar as far as it will go (see the inset in Figure 5-3). Slide the slip joint over the end of the ducting and position it approximately 6" from the top of the oven, then tighten the slip joint screw securely so that it holds the ducting in place.

Proceed to "Ducting Requirements" on page 5-4.

Rear Venting

1. Mount the plenum cover and the vent cover to the top of the oven with the screws you removed earlier.
2. Remove the rear vent cover from the oven and mount the collar in its place with the four screws.

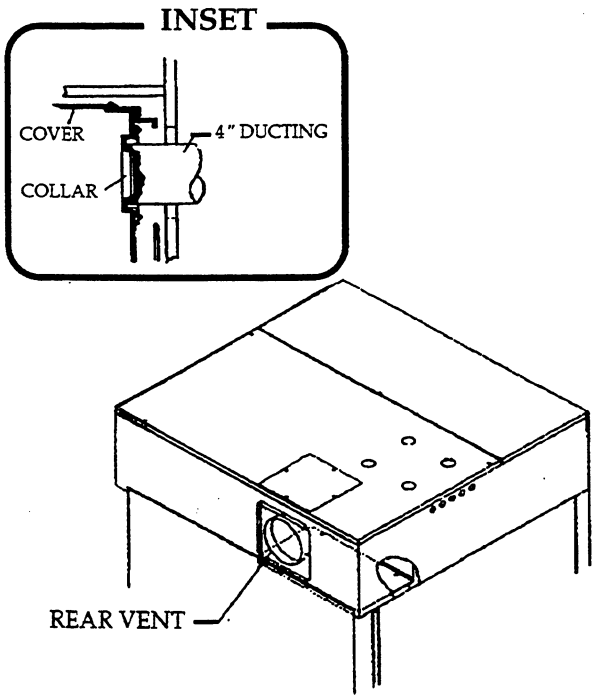


FIGURE 5-4
Rear Venting—27" Models

3. Install the piece of 4" diameter ducting (supplied with the oven) into the opening in the plenum cover and over the collar as far as it will go (see the inset in Figure 5-4). Slide the slip joint over the end of the ducting and position it approximately 6" from the back of the oven, then tighten the slip joint screw securely so that it holds the ducting in place.

Proceed to "Ducting Requirements on page 5-4.

PREPARING A 30" OVEN

1. Remove the screws from the outer cover and the vent cover (see Figure 5-5). Remove the covers and the collar from the top of the oven.

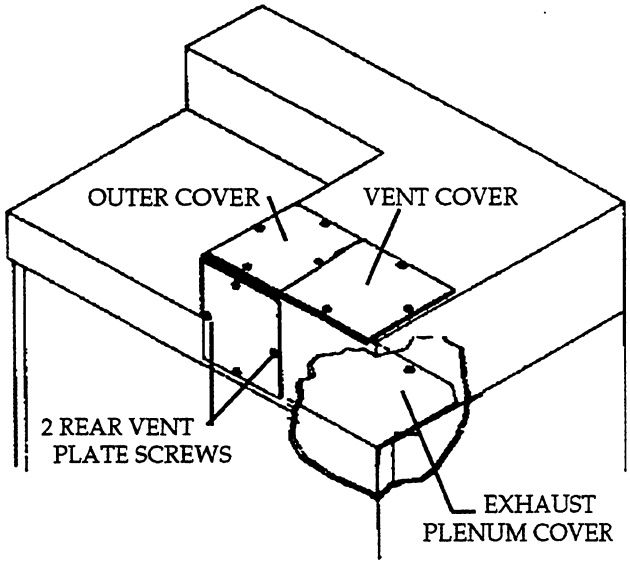


FIGURE 5-5
Outdoor Venting—30" Models

2. Remove the screws from the exhaust plenum cover, and the two center screws from the rear vent plate (see Figure 5-5).
3. Position the indoor vent cover on top of the exhaust plenum cover with the flange down, (see Figure 5-6), and secure it with two screws.

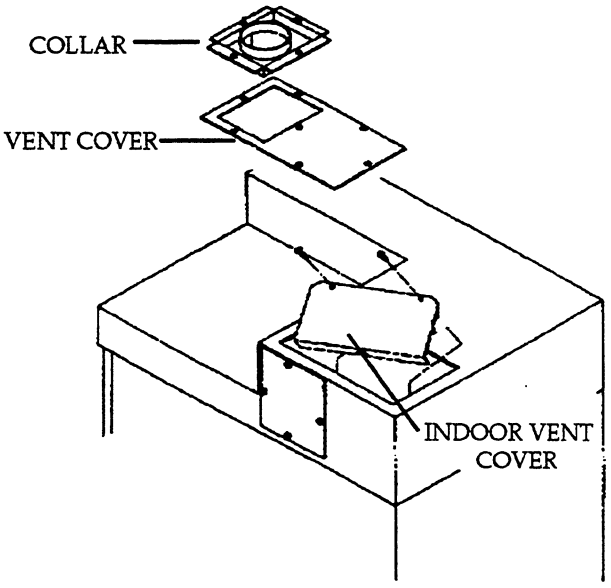


FIGURE 5-6
Installing The Indoor Vent Cover—30" Models

NOTE: If you are venting the oven from the top, proceed with the following steps, otherwise, proceed to "Rear Venting" on the next page.

Top Venting

1. Mount the vent cover and the collar to the top of the oven with the screws you removed earlier (see Figure 5-7).

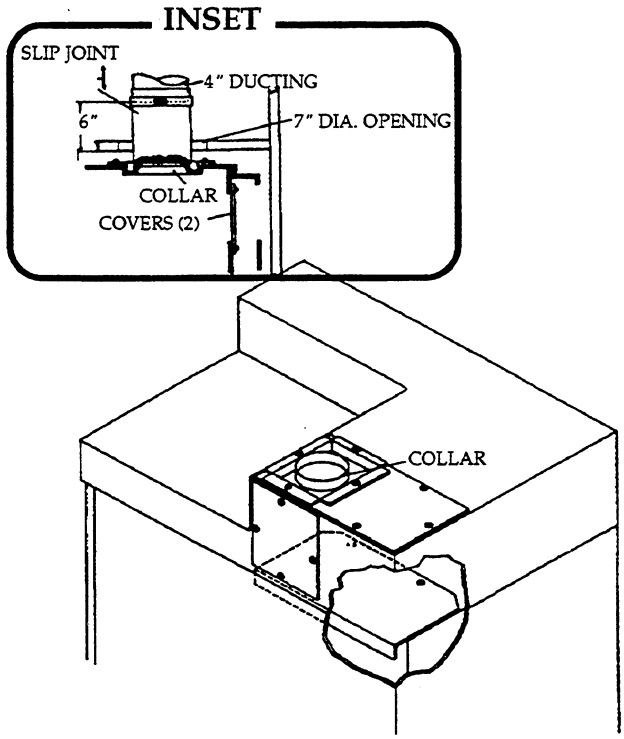


FIGURE 5-7
Top Vent Ducting—30" Models

2. Install the piece of 4" diameter ducting (supplied with the oven) over the collar as far as it will go (see the inset in Figure 5-7). Slide the slip joint over the end of the ducting and position it approximately 6" from the top of the oven, then tighten the slip joint screw securely so that it holds the ducting in place.

Proceed to "Ducting Requirements" on page 5-4.

Rear Venting

1. Mount the plenum cover and the vent cover to the top of the oven with the screws you removed earlier.
2. Remove the rear vent cover from the oven and mount the collar in its place with the four screws.

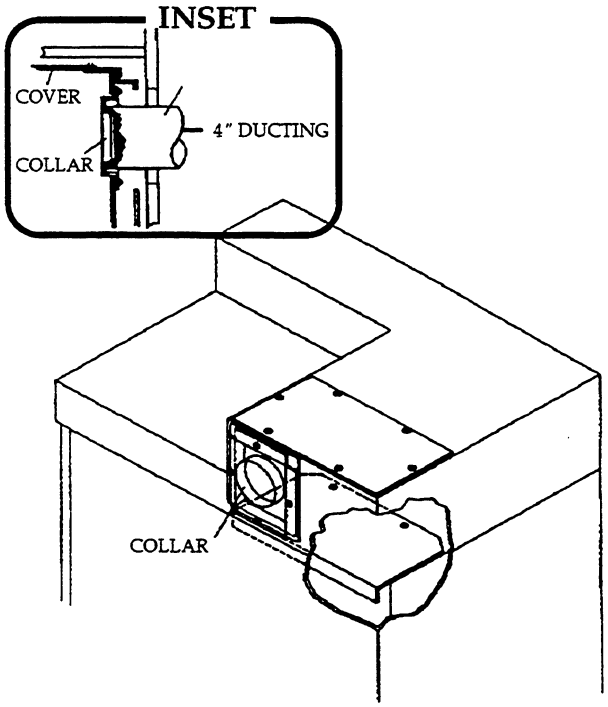


FIGURE 5-8
Rear Vent Ducting—30" Models

3. Install the piece of 4" diameter ducting (supplied with the oven) into the opening in the plenum cover and over the collar as far as it will go (see the inset in Figure 5-8). Slide the slip joint over the end of the ducting and position it approximately 6" from the back of the oven, then tighten the slip joint screw securely so that it holds the ducting in place.

DUCTING REQUIREMENTS

Outdoor venting that runs between the oven and the outside wall requires 4" diameter metal ducting. The ducting may be installed with 0 clearance.

When planning the venting, be sure to provide access to the ducting so that it may easily be disconnected from the oven if servicing is necessary.

Use sheet metal screws to fasten the sections of ducting together, and duct tape to seal the slip joint.

When ducting is connected to the top of the oven, it is usually accessible through a cabinet above the oven. When ducting is connected to the back of the oven, it will usually be accessible from the other side of the wall.

The following table shows the maximum lengths of 4" diameter ducting that can be used with 90° elbows and end caps. The numbers are based on the installer using a wall or roof cap with not more than .07" static pressure. In General, an end cap that has an opening of at least the area of the 4" ventilation ducting (approximately 13 square inches) will meet this requirement. A ventilating contractor should calculate the static pressure from friction charts, and verify the actual static pressure of the installation. The maximum static pressure should not exceed .27" of water column.

TABLE

Horizontal or Vertical Ducting Lengths	*Down Length*	*No. 90° Elbows*	*No.Of End Caps*
47 ft.	0	0	1
44 ft.	0	1	1
41 ft.	0	1	2
38 ft.	0	3	1
19 ft.	8 ft.	2	1
16 ft.	8 ft.	2	1
13 ft.	8 ft.	3	1

Connect the ducting between the oven and the outside wall or roof. Be sure to caulk all of the outside cutouts and seal them.

PREPARING THE CABINET

INSTALLING A 27" OVEN

The cabinet cutout dimensions for wall-mounted units in new and existing installations are shown in Figures 5-9 and 5-10. Cabinet cutout dimensions for a CT 127N under-the-counter installation is shown In Figure 5-11. Also shown are the clearance hole locations for both rear and top ventilation using 4" diameter ventilation pipe, the recommended location for the cutout from the floor line, and the minimum oven support for wall mounted units. It should be noted that single ovens built under the counter, may be vented through the rear only. For oven support, install 2 x 4's extending from front-to-back, and flush with the side of the opening.

For new construction, the oven's 2 x 4 support should be flush with the bottom, and the exposed edge should be a finish-cut (see Figure 5-9).

For existing construction, the oven's 2 x 4 support should be at height "A" from the top edge of the cutout (see Figure 5-10).

The bottom trim extension can be used to cover any exposed wood, or the bottom edge of the cutout. The cabinet base may be used for single ovens if it is capable of supporting 250-pounds. The supporting base must be well secured to the floor or cabinet, and level with the floor line.

	Cabinet Cutout			Oven Overall Dim.	
	A	B	C	D	E
CT227N	48-3/8"	44-1/4"	10"	48-3/4"	26-7/8"
CT127N	27-3/8"	23-1/4"	31"	27-3/4"	26-7/8"

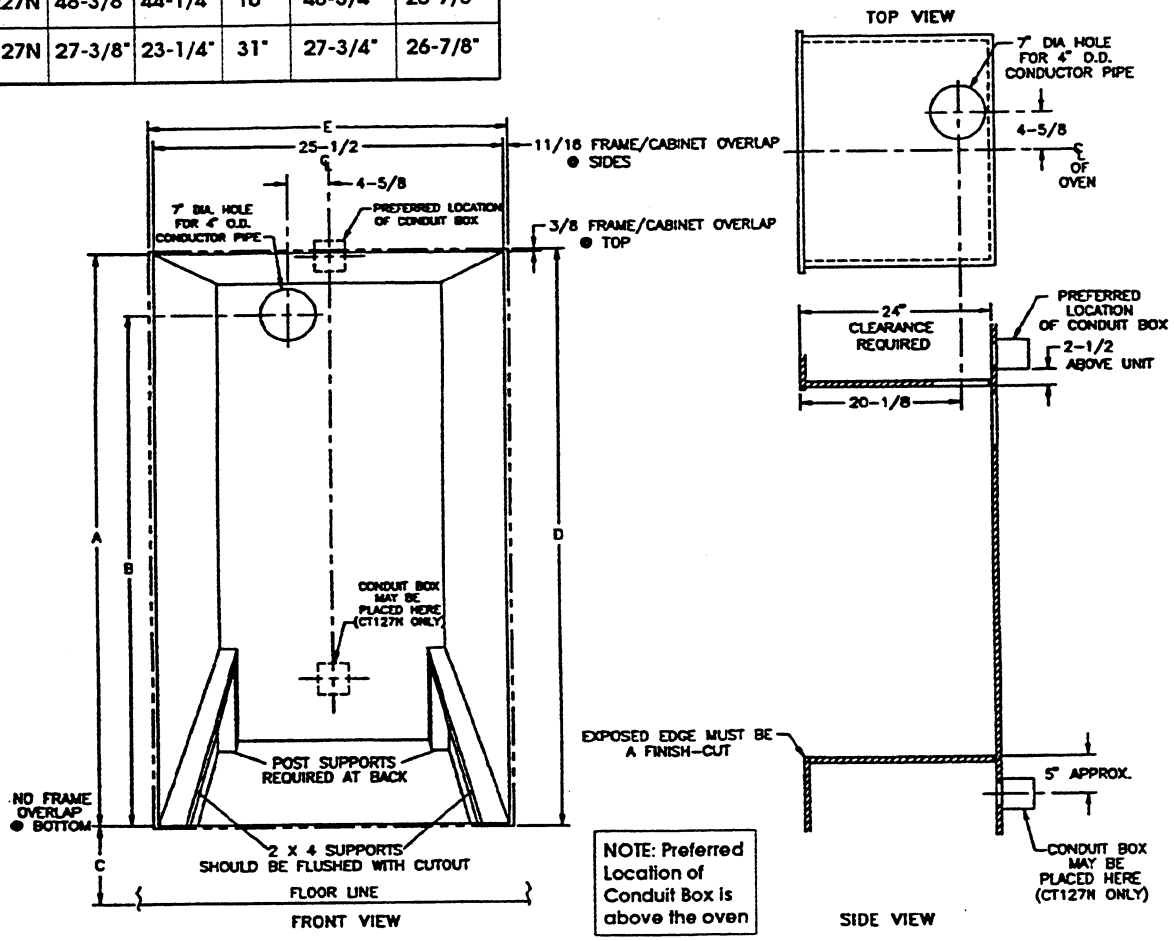


FIGURE 5-9

Cabinet Cutout—Wall-Mounted—New Construction

	Cabinet Cutout			Existing Cutout Max. Dimensions	Oven Overall Dim.	
	A	B	C	D	E**	F
CT227N	48-3/8"	44-1/4"	10"	50 Max.	50-3/8"	26-7/8"
CT127N	27-3/8"	23-1/4"	31"	29 Max.	29-3/8"	26-7/8"

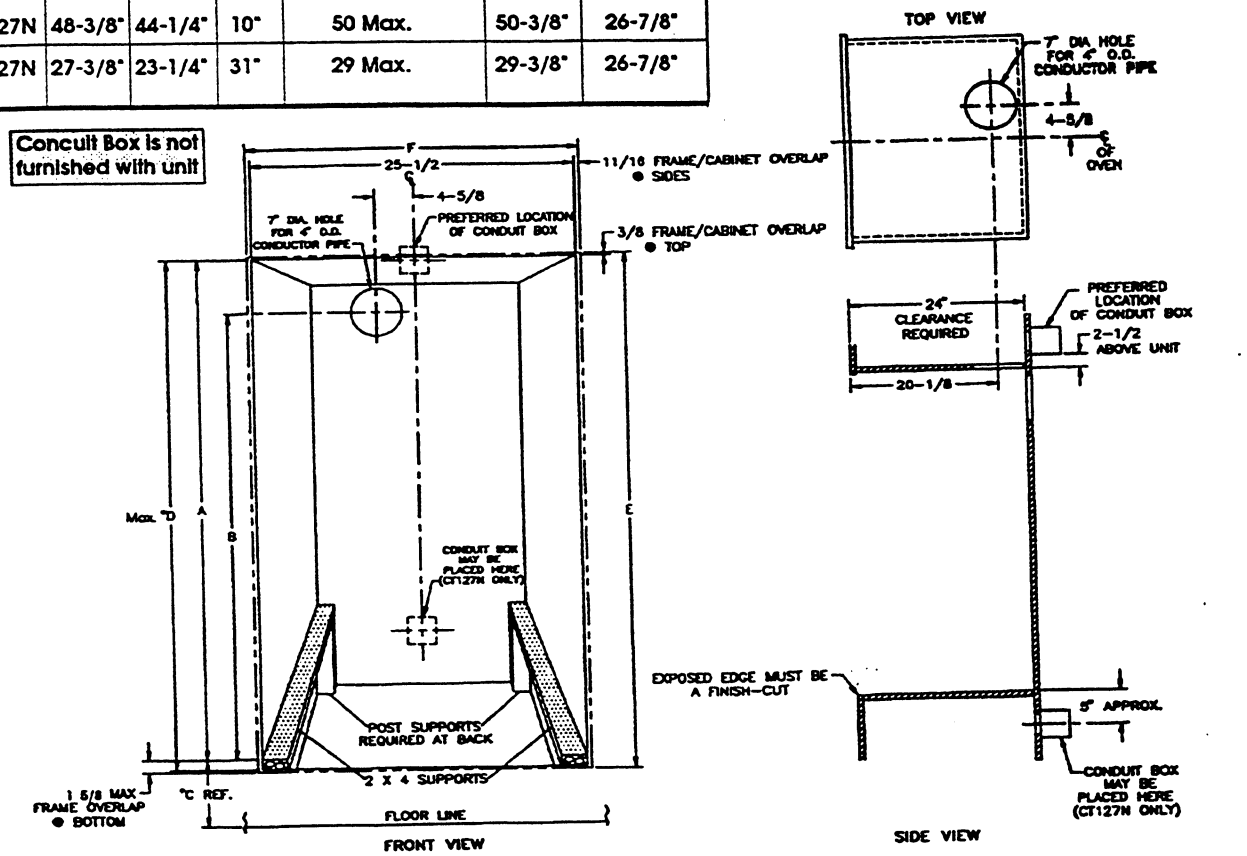


FIGURE 5-10

Cabinet Cutout—Wall-Mounted—Existing Construction

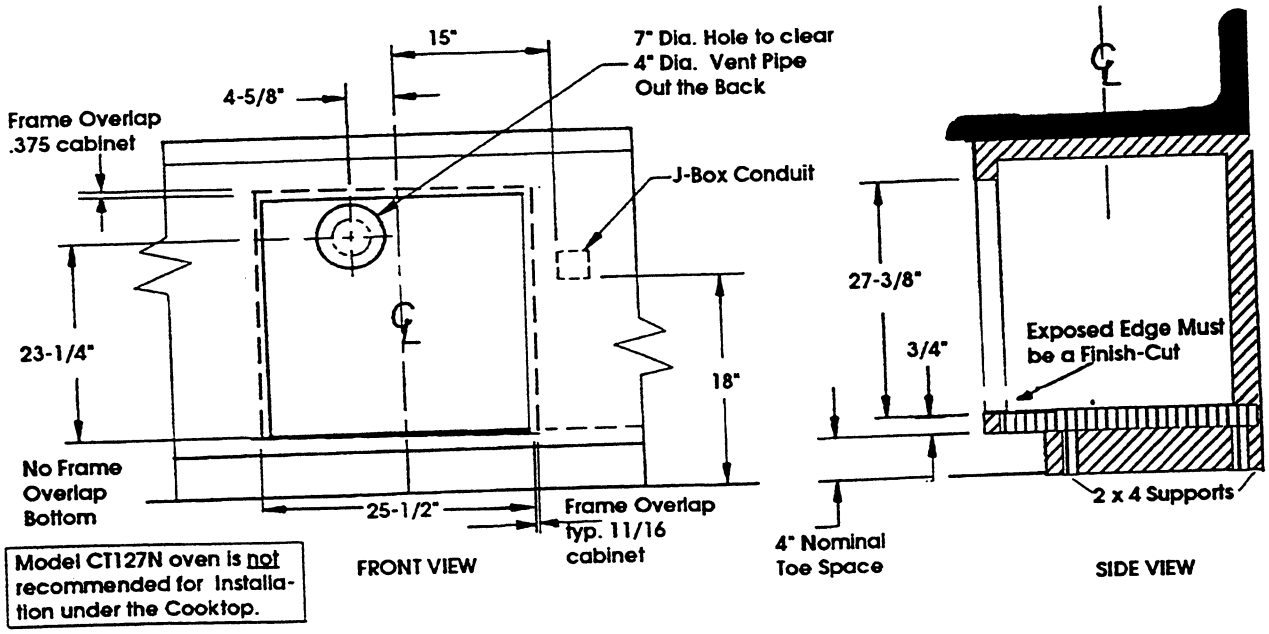


FIGURE 5-11

Cabinet Cutout—Under-The-Counter—New Construction

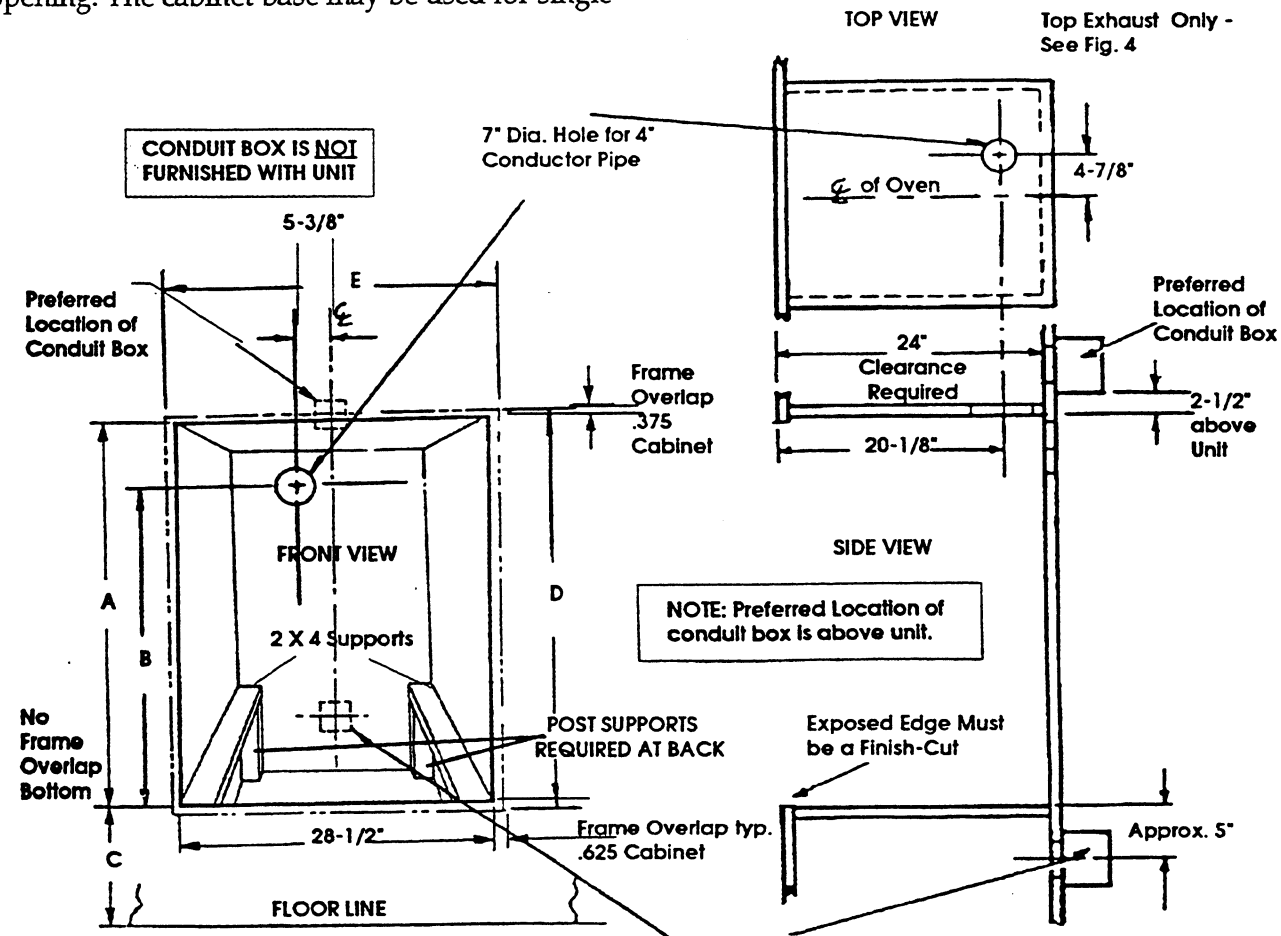
INSTALLING A 30" OVEN

Wall-Mounted Units

The cabinet cutout dimensions for wall-mounted and under-the-counter installations are shown in Figures 5-12 and 5-13. Also shown are the clearance hole locations for both rear and top ventilation using 4" diameter ventilation pipe, the recommended location for the cutout from the floor line, and the minimum oven support for wall mounted units. It should be noted that single ovens built under the counter, may be vented through the rear only. For oven support, install 2 x 4's extending from front-to-back, and flush with the side of the opening. The cabinet base may be used for single ovens if it is capable of supporting 250-pounds. The supporting base must be well secured to the floor or cabinet, and level with the floor line.

Under-The-Counter Units

A single oven (CT 130) that is installed under-the-counter allows for the installation of most Thermador Gas or Electric non-Cook'n' Vent model cooktops. (Figure 5-14 on page 5-9 shows the recommended cooktop models.) Down draft units cannot be installed in this configuration. Use only Thermador overhead ventilation. A Thermador cooktop should be installed on the same center line as the under-the-counter CT 130 oven.

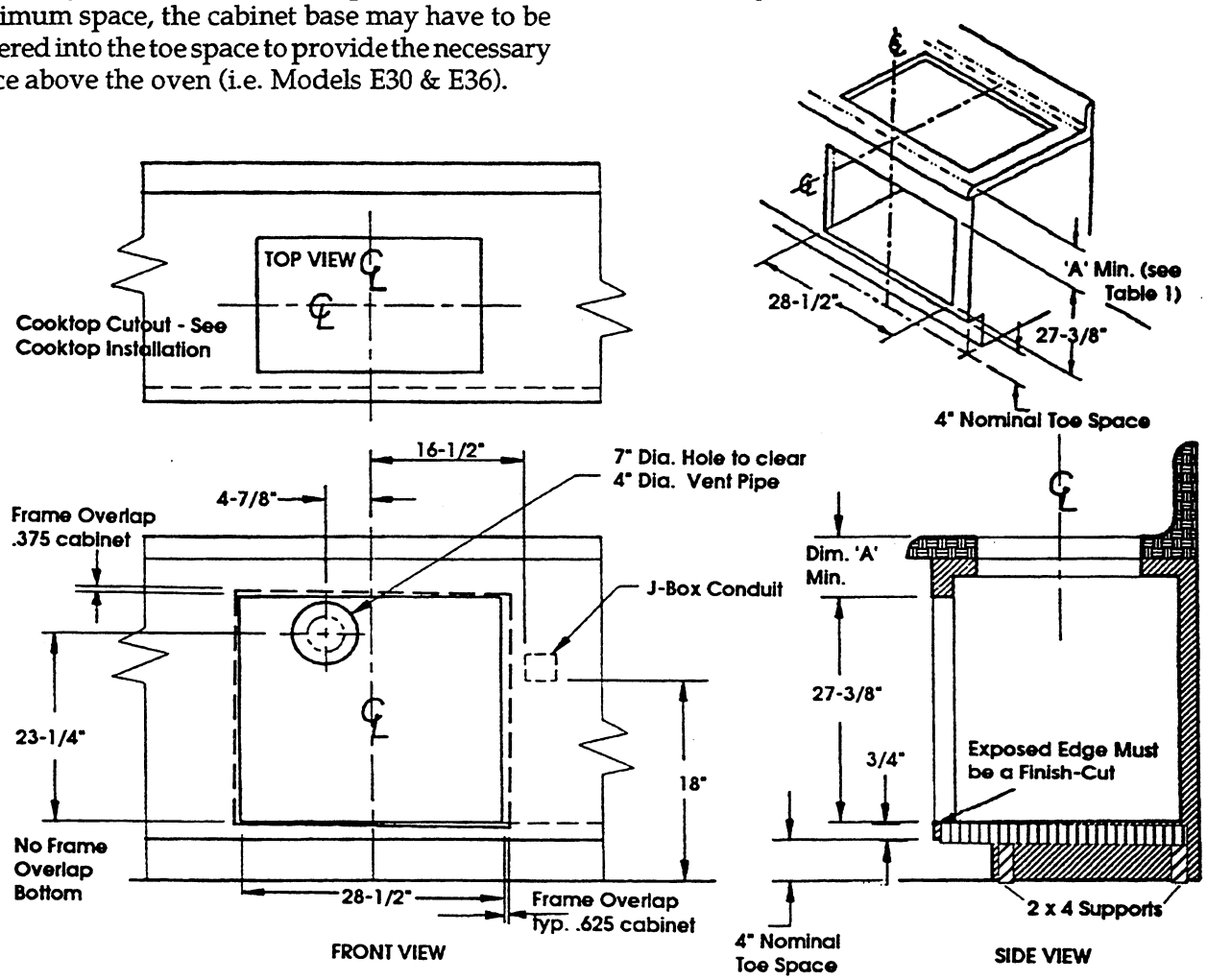


	Cabinet Cutout			Oven Overall Dim.	
	A	B	C	D	E
CT230	48-3/8"	44-1/4"	10"	48-3/4"	29-7/8"
CT130	27-3/8"	23-1/4"	31"	27-3/4"	29-7/8"

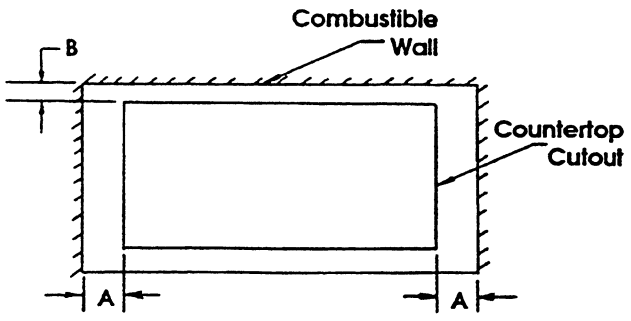
FIGURE 5-12
Cabinet Cutout—Wall-Mounted

Follow the installation instructions provided with the cooktop for installing the cooktop. Verify that sufficient clearance is available for the desired cooktop. Refer to Figures 5-13 and 5-14 for the minimum clearances. If the type of cabinet or countertop thickness does not provide for this minimum space, the cabinet base may have to be lowered into the toe space to provide the necessary space above the oven (i.e. Models E30 & E36).

Some cooktops require additional clearances to combustible walls. Refer to Figure 5-14 for specific models and their dimensions. NOTE: The Thermador Oven, Model CT 130 under-the-counter and cooktop combination, is a U.L. -approved installation (see Figure 5-14 on the next page).



TMH Cooktop Models Installation
Minimum Wall Clearance



Cooktop Model	Minimum Distance to Combustible Wall	
	A	B
TMH34	3-1/2"	2"
TMH36	2-7/8"	2-3/4"
TMH45	3-1/2"	2"

FIGURE 5-13
Cabinet Cutout—Under-The-Counter

Model Number		Minimum Clearance Required 'A' Dimension
E30 E36	Glass top - solid element	4" *
C30 C36	Glass ceramic top - electric	3-1/8"
TMH30 TMH34** TMH36** TMH36G TMH45**	Steel top coil electric	3"
GG30 GGS30 GGN30 GG36 GGS36 GGN36 GGS365 GGN365	Glass top - gas	3"
SGT30 SGS30 SGN30 SGT36G SGS36G SGN36G	Steel top gas	3"

* Requires 1-1/2" minimum countertop thickness or modification to cabinet base.

**Requires Kit Model: KIT130TMH and added clearance from cooktop to combustible walls

Consult your countertop supplier prior to making counter opening.

FIGURE 5-14

Under-The-Counter Installation With Thermador Cooktops

ELECTRICAL REQUIREMENTS

The 27" (CT 127N & CT 227N) and 30" (CT 130 & CT 230) model ovens are dual-rated. They are designed to be connected to a 120/240 VAC, or a 120/208VAC, 60 Hz, 3 wire, single-phase power source.

The models CT 127N and CT 130 require a 20-ampere circuit, and the models CT 227N and CT 230 require a 40-amp circuit.

The electrical supply should be 3-wire, single-phase, AC, with a grounded neutral. Install a suitable conduit box (not furnished). To facilitate service, the flexible conduit must not be shortened, and should be routed to allow easy removal of the oven.

IMPORTANT:

- Local codes vary! Installation, electrical connections, and grounding must comply with all applicable local codes.
- If the flexible metallic conduit is connected to a grounded metallic conduit system, the oven will be grounded through the metallic conduit.
- If local codes permit grounding through the neutral, connect both the bare ground wires and the white wire to the white supply wire.
- If local codes require a separate ground, separate the white wire and bare ground wire. Connect the white wire to white supply wire, and the bare ground to a separate ground.
- Before turning on power, be sure that all of the controls are turned to OFF. Look for the control knob dimple to be at the 12 o'clock position.

NOTE: When power is first applied to the unit, wait until the electronic control has checked itself and the LOCK stops blinking. If any error "E" messages are displayed, refer to the "Care and Use" Manual for error definition. Also refer to the "Troubleshooting" section for error code information on page 3-2.

INSTALLING THE OVEN

⚠ CAUTION

Do not move or lift the oven by the door handle. Door glass breakage may occur.

For easier installation, the oven door(s) can be removed to reduce the weight (26 Ibs. per door). To remove the doors (see Figure 5-15):

1. Open the door all the way.
2. Move the hinge lock over the hook on the door hinge so that the door cannot be closed.
3. Lift the front of the door and raise it several inches, then lift up and pull out on the hinges so the door is free of the supports.
4. Set the door aside in a location where it will not be knocked.

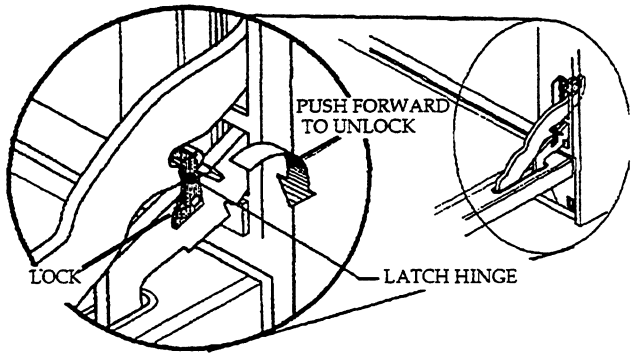


FIGURE 5-15
Removing The Oven Door

INDOOR-VENTED OVENS

1. Anchor the end of the flexible metallic conduit to the electrical conduit box with a suitable connector.
2. Connect the power supply leads to the oven conduit supply leads. Make sure that the neutral wire is connected to the white wire.
3. Carefully slide the oven into the cabinet opening. Be careful not to scratch the side trims.
4. Remove the protective covering from under the oven.
5. Secure the oven through the side of the front frame into the cabinet with the screws that were supplied with the oven parts. NOTE: Double ovens require four screws, two on each side. Single ovens require two screws, one on each side.

Proceed to "Mounting The Bottom Trims."

OUTDOOR-VENTED OVENS

1. Install the ducting between the oven and the outside wall or roof, and install the end cap. Be sure to caulk all of the outside cutouts and seal them.
2. Anchor the end of the flexible metallic conduit to the electrical conduit box with a suitable connector.
3. Connect the power supply leads to the oven conduit supply leads. Make sure that the neutral wire is connected to the white wire.
4. Carefully slide the oven into the cabinet opening. Be careful not to scratch the side trims.
5. Remove the protective covering from under the oven.
6. Loosen the screw on the slip joint that is over the ducting attached to the oven collar so it slides freely on the duct.
7. Install the end of the ducting that is over the oven collar, to the end of the ducting you installed in the wall or cabinet, and secure the connection.
8. Slide the slip joint down around the collar on top or rear of the oven as far as it will go, then tighten the screw securely.
9. Check to make sure that all of the ducting joints are secure and do not leak.
10. Secure the oven through the side of the front frame into the cabinet with the screws that were supplied with the oven parts. NOTE: Double ovens require four screws, two on each side. Single ovens require two screws, one on each side.

MOUNTING THE BOTTOM TRIMS

1. Mount the bottom vent trim to the oven (see Figure 5-16) with two screws that were supplied with the oven parts. When you install the trim, make sure that the front edge of the sheet metal fits into the trim, as shown in the side view of the Figure.

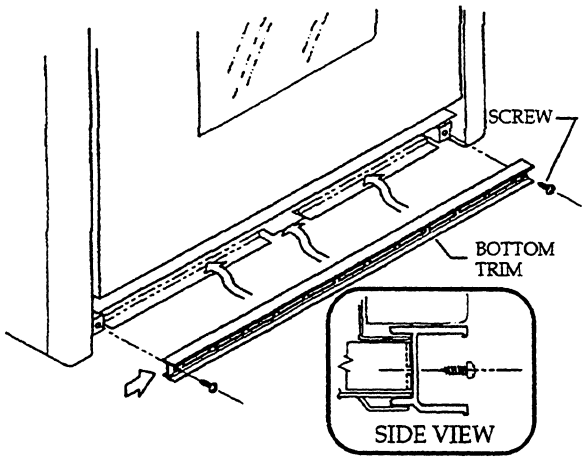


FIGURE 5-16
Installing The Bottom Trim

NOTE: If this is a new construction installation, skip the next step.

2. If needed, mount the bottom trim extension to the bottom trim (see Figure 5-17) with two screws that were supplied with the oven parts. NOTE: The bottom trim extension is $1\text{-}5/8$" high and will cover a standard 2" x 4".

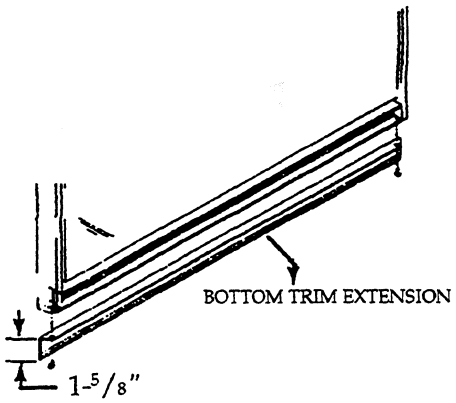


FIGURE 5-17
Installing The Bottom Trim Extension