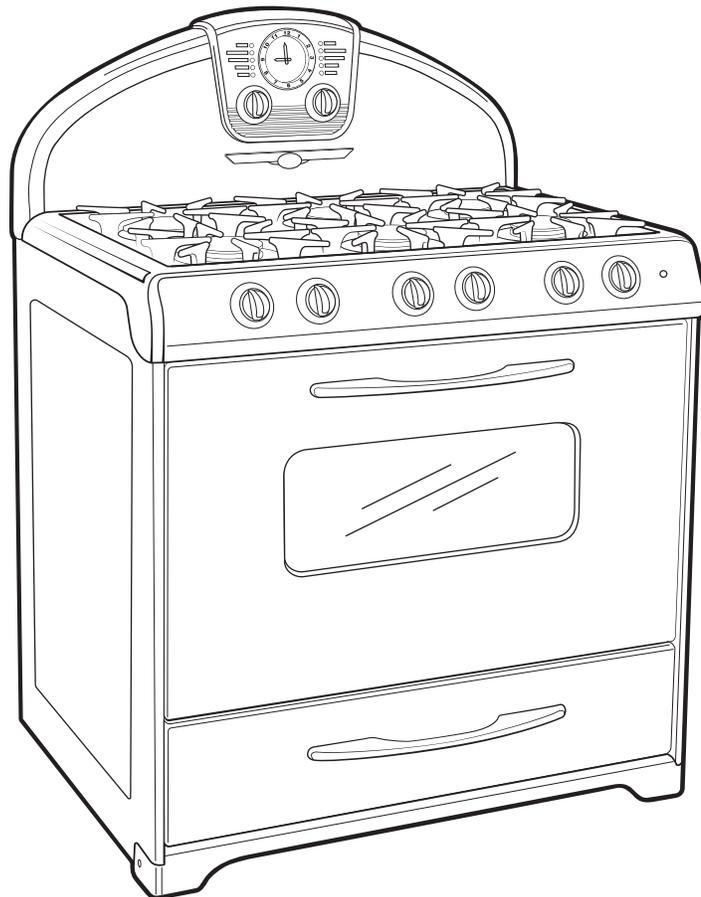




Installation and Operating Instructions for

# NORTHSTAR

**Electric Ranges (Model 1954)**  
**Dual Fuel Ranges (Model 1947 & 1955)**  
**Gas Ranges (Model 1956)**

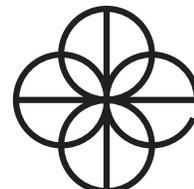


**NOTE: COOLING FAN**

When the oven is heated, a fan turns on to moderate the temperature of the switches. The fan will automatically shut off when the oven cools.

This is a normal part of the stove's operation.

Thank you for purchasing a Northstar Retro Range. You have purchased a quality, world-class product. Years of engineering experience have gone into its manufacturing. To ensure that you will enjoy many years of trouble-free operation, we have developed this User Guide. It is full of valuable information on how to operate and maintain your range properly and safely. Please read it carefully.



**ELMIRA**  
STOVE WORKS

# GAS RANGE WARNING

**WARNING: If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.**

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS**
  - Do not try to light any appliance.
  - Do not touch any electrical switch.
  - Do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier

## **WARNING**

NEVER cover any slots, holes or passages in the oven bottom or cover an entire rack with materials such as aluminum foil. Doing so blocks airflow through the oven and may cause carbon monoxide poisoning. Aluminum foil linings may also trap heat, causing a fire hazard.

THIS RANGE IS CERTIFIED TO CSA/ANSI Z21.1-2018/CSA 1.1-2018

## **WARNING**

NEVER operate the top surface cooking section of this appliance unattended

- Failure to follow this warning statement could result in fire, explosion, or burn hazard that could cause property damage, personal injury, or death.
- If a fire should occur, keep away from the appliance and immediately call your fire department.

**DO NOT ATTEMPT TO EXTINGUISH AN OIL/GREASE FIRE WITH WATER.**

## **WARNING**

NEVER use this appliance as a space heater to heat or warm the room.

Doing so may result in carbon monoxide poisoning and overheating of the oven.

# BEFORE USING YOUR RANGE READ THIS BOOK CAREFULLY

## If you received a damaged range:

Immediately contact the dealer that sold you the range.

## Before you request service:

Check Troubleshooting. It lists causes of minor operating problems that you may be able to correct yourself.

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# SAFETY INSTRUCTIONS

## Anti-Tip Device



- All Ranges can tip.
- Injury to Persons could result.
- Install Anti-Tip Device packaged with Range.
- Verify that the Anti-Tip device is engaged.
- See Installation Instruction on page 7.

### (All Models)

**IMPORTANT!** Save these instructions for the local inspector's use.

**WARNING!** Prior to installing this appliance, read the Safety Instructions as they relate to Installation on pages 4 through 6 of this manual. Failure to follow these instructions could result in serious electric hazard, risk of fire, and/or personal injury.

**Models 1947, 1954 and 1955 are equipped with a 240 volt, standard range power cord & plug. See page 4 for amp ratings of each model.**

**Models 1956 comes with a 120 volt, 10 amp power cord & plug.**

Use this appliance for its intended use, as described in this manual.

Never use your appliance for warming or heating the room.

Do not assume that you know how to operate all parts of the range. Some features may work differently from those of your previous range.

Do not climb, stand or hang on the door or range top. This can damage the range or tip it over, causing severe personal injury.

## State of California Proposition 65 Warning (USA only)

- The range contains chemicals known to the State of California to cause cancer and birth defects of other reproductive harm.
- Gas appliances can cause low level exposure to Proposition 65-Listed substances (carbon monoxide, formaldehyde, soot etc) caused by the incomplete combustion of LP liquid propane) or natural gas

## Children

Do not leave children alone in the area where your range is in use. They should never be allowed to stand or sit on any part of this appliance.

Instruct your small children that the range is not a toy and could hurt them. As your children grow up, teach them the proper and safe use of the range.

Children must be taught not to use the oven door as a stepping stool to reach the cabinet above, as it may result in an injury.

## Caution

**Do not store items of interest to children on console above the range or on the back of the cooking surface. Children climbing to reach items could be seriously injured.**

When cleaning cycle is on, the oven door and cooking surface will be hot. Keep children away from the range as a safety precaution.

## Storage

Do not store gasoline, flammable vapors or materials, etc., in the oven, storage drawer, warmer or around the appliance area.

## Hot Surface

Exercise caution. Surfaces may be hot enough to burn. Electric elements may be hot even when they appear dark in color.

Do not operate surface burners without utensils in place.

Allow elements and burner surfaces to cool before cleaning. If a wet sponge or cloth is used to wipe spills on a hot cooking area, be careful to avoid steam burn. Some cleaners can produce noxious fumes if applied to a hot surface.

Loose clothing of flammable material (pot holders) could ignite if brought in contact with hot burners and may cause severe burns.

Moist or damp pot holders on hot surfaces may result in burns from steam. Do not let pot holders touch hot heating elements. Do not use towels or other bulky cloths as pot holders.

Cooktop temperatures increase with the number of elements on. With three or four elements turned on, surface temperatures are high. Exercise care when touching the cooktop.

## Fire (Optional Exhaust Hood)

Keep the hood and grease filters clean to maintain good venting and to avoid grease fires.

Do not let cooking grease or other flammable materials accumulate in or near the range.

## Grease

Grease is flammable and should be handled carefully. Avoid letting grease deposits collect around the range in vent fans. Don't leave cans of drippings sit around the range; refrigerate or dispose of promptly. Let quantities of hot fat (a pan of deep fat for example) cool before attempting to move or handle it. Grease fires can often be extinguished by quickly putting on the pan lid or by covering with baking soda. **Do not attempt to extinguish with water** because this will spread the fire.

**Never pick up a flaming pan.**

## Oven

Stand away from range when opening the oven door. Hot air or steam which escapes can cause burns.

Do not heat unopened food containers in the oven. Pressure could build up and the container could burst, causing injury or damage to the range.

Keep oven vent ducts unobstructed.

Keep oven free from grease build up.

Place oven rack in desired position while oven is cool. If rack must be handled when hot, do not let pot holder touch heating elements in the oven.

Pull out oven rack to the rack stop to reduce chance of burns from touching hot surfaces of the door and oven.

When using cooking or roasting bags in oven, follow the manufacturer's directions.

Do not use your oven to dry newspapers.

### **Aluminum Foil**

Do not use aluminum foil to cover oven racks. This will restrict heat circulation. Do not place aluminum foil in bottom of oven as a spill protector. Permanent damage to oven will result.

### **Plastics**

All plastics are vulnerable to heat, although some will withstand higher temperatures than others. Keep all plastics away from parts of the range which may become slightly more than warm when the range is in operation.

### **Self-Cleaning Oven**

The door gasket is essential for a good seal. Care should be taken not to rub, damage or move the gasket.

Do not use oven cleaners on self-cleaning ovens prior to cleaning. Damage may occur to oven finish at high temperatures. Remove aluminum or plastic utensils, food or combustible materials from oven and cooktop before self-cleaning. *(See Self-Cleaning – Page 15)*

*NOTE: Oven cleaner will not harm porcelain oven but should not be used in conjunction with selfcleaning.*

### **Surface Cooking**

Use proper pan size. Select pans large enough to cover the element. The use of undersized pans will expose a portion of the element which may result in burns, ignition of clothing or spillovers directly on element.

Never leave surface units unattended at high heat setting. Boil over or boil dry conditions could result in a fire.

Do not use glass or glazed ceramic cookware on the surface burners, as sudden change in temperature may break them.

Always turn off surface unit, before removing pots or pans.

Turn handle of the pan toward the center of the cooktop, without extending over nearby elements. This will reduce the possibility of accidentally overturning the pan.

Let hot pans cool in a safe place, out of the reach of young children. Never set hot pots on a combustible surface.

Do not use decorative metal covers on electric surface elements. A covered element, when turned on, could result in a burn or damage to the element.

### **Frying**

Use as little oil as possible. Filling the pan too full of oil can cause spillovers when food is added.

Foods for frying should be as dry as possible. Frost on frozen foods or moisture on fresh foods can cause hot oil to bubble up. Spillovers, fire and burns from splatters could occur.

Use a deep fat thermometer whenever possible to prevent overheating oil beyond smoking point.

### **Deep Fryer**

Use extreme caution when moving a hot grease kettle or disposing of hot grease.

### **Ventilating Hoods**

Clean ventilation hood frequently — grease should not be allowed to accumulate on hood or filter. When flaming foods under the hood, turn the fan off. The fan, when operating, may spread flame.

### **Service**

Do not repair or service any part of the range unless specifically recommended in this manual. All other servicing should be referred to a qualified technician. Disconnect the range from wall receptacle, fuse, or breaker before performing service.

### **Safety**

Your range, like many other household items, is heavy and can settle into soft floor coverings such as cushion vinyl or carpeting. When moving the range on this type of flooring use care.

If your range must stand beside a refrigerator, allow at least 2" between the two appliances for air circulation. The heat from the range may affect refrigerator performance.

Make sure that all the packing materials have been removed and that all controls are in the off position before plugging in the power cord.

### **Electrical Connection**

<b>Amperage requirements</b>	<b>BTU's NAT</b>	<b>BTU's LP</b>
Model 1947- 40 Amps, 240 Volts	66,000	59,400
1954- 40 Amps, 240 Volts	—	—
1955- 25 Amps, 240 Volts	43,000	38,700
1956- 10 Amps, 110 Volts	59,000	53,100

All ranges come with standard 4 wire range cord attached. This cord must be plugged into a standard range receptacle provided by your electrician.

### **Power Cord Installation on Electric Oven Models**

Be sure your appliance is properly installed and grounded by a qualified electrician in accordance with installation instructions and local building codes.

The new US revised electrical code states that all new construction must use a FOUR WIRE range power cord. Existing construction in the USA may use a three wire range power cord. Note: The difference is a four wire cord has a separate (green) ground, a three wire cord is grounded through the (white) neutral.

When ordering, if a 3 wire cord is specified, you must purchase that cord at a Home Depot or hardware store.

To install a 3 wire cord, remove the lower back panel of the ranges so the power block is visible.

Unscrew the terminal nuts and insert the range cord wires through the bushing hole and attach the wires to the terminal block. Tighten the 3 nuts. The center wire of the range cord must go to the center position on the terminal block. That center wire must be grounded to the chassis if it has not been done so at the factory.

- Attach the ringed terminal of the green or bare copper wire to the range body with the green ground screw.
- Check power with multimeter. You must have 110 volts between white and black. You must have 110 volts between white and red. You must have 220 volts between red and black. If range receptacle is wired wrong, clock transformer will be severely damaged and will not be covered by manufacturer's warranty. Replace back panel of range. Plug the power cord in and turn power on.

## SAFETY INSTRUCTIONS – GAS

### Important Instructions

**Do not use range as a heater. Never** use the range as a kitchen heater. Prolonged use of the range without adequate ventilation can be hazardous. Oven controls and top burners are not designed for home heating and component failures that may result from such abuse are definitely not covered by the warranty.

**WARNING:** *In the State of Massachusetts, the following installation instructions apply:*

- *Installations and repairs must be performed by a qualified or licensed contractor, plumber, or gasfitter qualified by the State of Massachusetts.*
- *If using a ball valve, it shall be a T-handle type.*
- *A flexible gas connector, when used, must not exceed 3 feet and or be connected in series.*

#1 This installation must conform with local codes and ordinances. In the absence of local codes, installations must conform with American National Standard, National Fuel Gas Code ANSI Z223.1–latest edition (\*\*) or CAN/CGA-B149–latest edition (\*\*\*) installation codes.

#2 Input ratings shown on the serial/rating plate are for elevations up to 2,000 feet (609.6 m). For elevations above 2,000 feet (609.6 m), ratings are reduced at a rate of 4% for each 1,000 feet (304.8 cm) above sea level.

### Mobile Home Installation

The installation of this range must conform to the Manufactured Home Construction and Safety Standards, Title 24 CFR, Part 3280 (formerly the Federal Standard

for Mobile Home Construction and Safety, Title 24, HUD, Part 280); or when such standard is not applicable, the Standard for Manufactured Homes Installations 1982 (Manufactured Home Sites, Communities and Setups), ANSI A225.1q/NFPA 501A\* or with local codes.

The installation of this range must conform with the current standards CAN/CSA-Z240–latest edition\*\*\* or with local codes. When this range is installed in a mobile home, it must be secured to the floor during transit. Any method of securing the range is adequate as long as it conforms to the standards listed above.

Note: The metal chassis of the range **MUST** be earth-grounded in order for the control panel and burner spark ignition to work. Check with a qualified electrician if you are in doubt as to whether the metal chassis of range is earth-grounded.

Copies of the standards listed may be obtained from:

\* National Fire Protection Association  
Batterymarch Park  
Quincy, Massachusetts 02269

\*\* American Gas Association  
1515 Wilson Boulevard  
Arlington, Virginia 22209

\*\*\* Canadian Standard Association  
178 Rexdale Boulevard  
Rexdale (Toronto), Ontario M9W 1R3

### Floor Covering

Never install a range over inferior kitchen carpeting, vinyl tile or linoleum. These should be able to withstand at least 175°F without shrinking, warping or discoloring.

### Curtains

If your range is near a window, use an appropriate window treatment. Do not use long curtains which could blow over the top burners and create a fire hazard.

### If You Smell Gas

If this is a new range installation, your installer has not done a proper job of checking for leaks. Connections can loosen in transportation. If the range connections are not perfectly tight, you can have a small leak and therefore a faint gas smell.

### FINDING A GAS LEAK IS USUALLY NOT A “DO IT YOURSELF” PROCEDURE.

Some leaks can only be found with the controls in the “on” position exposing the user to serious burns. Never use a match or flame to locate a leak. **Turn off the gas to the range and call a qualified serviceman.**

**Flame Size:** Top burner flame size should be adjusted so it does not extend beyond the edge of the cooking utensil. Excessive flame is hazardous.

**Use of High Flame:** When using a high flame, never leave any pans unattended on this heat setting for long periods. Hot oil is particularly hazardous since it can become hot enough to ignite.

Do not obstruct the flow of combustion and ventilation air to the range.

Any openings in the wall, behind the range or the floor under the range must be sealed.

## Venting

Never block the vents (air openings of the range). They provide the air inlet and outlet which is necessary for the range to operate properly with correct combustion. The oven vent is located at the rear of the main top.

## Type of Gas

Natural and LP Gas (propane). Ranges are factory assembled for natural gas unless otherwise specified and cannot be used with LP Gas without some adjustments. Be sure your range is correctly adjusted by a qualified serviceman or installer for the type of gas on which it is to be used. (See Conversion, page 12-15).

**NOTE:** In this manual, propane is referred to as LP (liquid petroleum).

**Gas hook up locations - Models 1947 and 1955: The 1/2" steel gas elbow exits the stove on the right side, 33" off the floor. Model 1956: the connection is located in the center, 2" off the floor.**

## INSTALLING YOUR RANGE



### WARNING - RANGE TIPPING HAZARD

- \* All ranges can tip and injury can result. To prevent accidental tipping of the range, attach it to the floor, wall or cabinet by installing the Anti-Tip Bracket supplied.
- \* A risk of tip-over may exist if the appliance is not installed in accordance with these instructions.
- \* If the range is pulled away from the wall for cleaning, service or any other reason, ensure that the Anti-Tip Device is properly reengaged when the range is pushed back against the wall. In the event of abnormal usage (such as a person standing, sitting, or leaning on an open door), failure to take this precaution can result in tipping of the range. Personal injury might result from spilled hot liquids or from the range itself.



### WARNING - ELECTRICAL SHOCK HAZARD

- \* Use extreme caution when drilling holes into the wall or floor. There may be concealed electrical wires located behind the wall or under the floor.

- \* Identify the electrical circuits that could be affected by the installation of the Anti-Tip Bracket, then turn off the power to these circuits.
- \* Failure to follow these instructions may result in electrical shock or personal injuries.

**WARNING:**

- All Ranges can tip.
- Injury to Persons could result.
- Install Anti-Tip Device packaged with Range.
- Verify that the Anti-Tip device is engaged.
- See Installation Instruction.



**WARNING****Tip Over Hazard**

A child or adult can tip the range and be killed. Install anti-tip bracket to floor or wall per installation instructions. Slide range back so rear range foot is engaged in the slot of the anti-tip bracket. Re-engage anti-tip bracket if range is moved. Do not operate range without anti-tip bracket installed and engaged. Failure to follow these instructions can result in death or serious burns to children and adults.

### ATTENTION - PROPERTY DAMAGE

- \* Contact a qualified Installer or Contractor to determine the proper method for drilling holes through the wall or floor material (such as ceramic tile, hardwood, etc.)
- \* Do not slide the range across an unprotected floor.
- \* Failure to follow these instructions may result in damage to wall or floor coverings. Be sure your appliance is properly installed and grounded by a qualified technician in accordance with the installation instructions and local building codes.

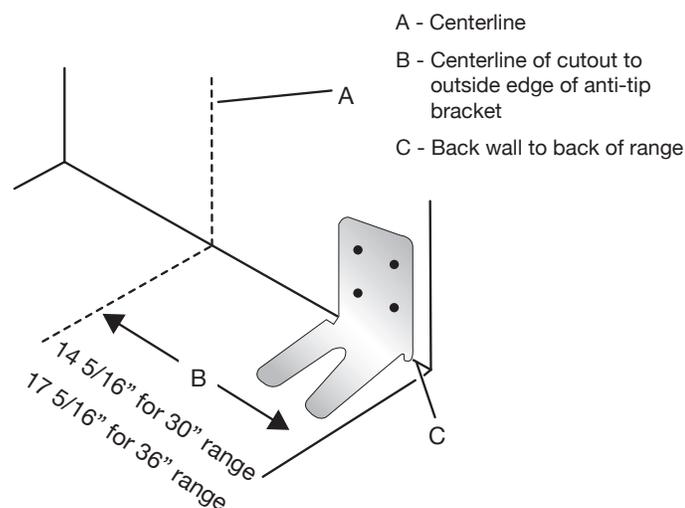
## Tools Needed for Installation of Anti-Tip Bracket:

- \* Screw Driver, #2 Red Robertson (square)
- \* Drill, Electric or Cordless
- \* Measuring tape
- \* 1/8" drill bit (wood or metal wall or floor)
- \* 3/16" carbide-tipped masonry drill bit (concrete or concrete block wall or floor)
- \* 3/16" anchors, drywall or concrete, 4 each (not required if mounting bracket is being attached to solid wood or metal)
- \* Hammer (if installing anchors)
- \* Pencil or other marker

## IMPORTANT INSTALLATION INFORMATION:

The Anti-Tip Bracket works in conjunction with either rear right or rear left leveler-choose which side best suits your install method. First step is to ensure the leveler is raised enough to allow the prongs of the Anti-Tip Bracket to freely slide around leveler bolt-this should be tested before you fasten bracket to wall or floor.

To correctly determine mounting position of Anti-Tip Bracket, measure width of cabinet opening. Assuming range will be centered in middle of opening, mark middle of opening and measure 14 5/16" for 30" range or 17 5/16" for 36" range -measurement from middle of opening to outside edge of Anti-tip bracket. This position will allow leveler bolt to line up with center of "V" in bracket. Once position is determined, follow below instructions.



- \* The Anti-Tip Bracket may be attached to a solid wood cabinet having a minimum wall thickness of 3/4"
- \* The thickness of the wall or floor may require use of longer screws, available at your local hardware store.
- \* In all cases, at least two (2) of the bracket mounting screws must be fastened to solid wood or metal.
- \* Use appropriate anchors when fastening bracket to any material other than hardwood or metal.

## Prepare holes at fastener locations as identified below:

- \* For walls, wall studs or floors composed of solid wood or metal, drill 1/8" pilot holes.
- \* For walls or floors composed of drywall, sheetrock, or other soft materials, drill 3/16" holes to a minimum depth of 1 3/4", then tap plastic anchors into each of the holes using a hammer.
- \* For walls or floors having ceramic tile covering, drill 3/16" holes through the tile only and then drill 1/8" pilot holes through material behind the tile.
- \* Secure bracket with appropriate screws.
- \* After gas/electrical connections have been made, carefully slide range into opening using floor protection to avoid damage, ensuring that range leveler is engaged into Anti-Tip Bracket.
- \* If range is moved to a new location, or pulled out from wall and re-installed, installer must ensure range is engaged into Anti-Tip Bracket before completing installation. Failure to follow these instructions may result in death or serious burns to adults and children.

## Power cord installation

The new U.S. revised electrical code states that all new construction must use a FOUR WIRE range power cord. Existing construction may use a three wire range power cord. *NOTE: The difference is, a four wire cord has a separate ground. A three wire cord is grounded through the neutral.*

Installation, adjustment and service of this range must be performed only by a qualified gas range installer or electrical serviceman. This is necessary to insure proper operation of the range and to avoid the possibility of damage to the range or injury to the users.

**WARNING:** Be careful when reaching into storage cabinets above range while it is in operation. One might accidentally contact a hot burner when using a hand for support or have one's clothing come in contact with top burner flame.

## Location

If possible, the range should be located to avoid the main “traffic path” through the kitchen or where an open door might block a passageway or create an awkward working situation. If possible, it should be so located where cabinet working space is available on either side. Drafty locations should be avoided to prevent gas burner outage and poor air circulation.

## Temperatures

To cook, you must have heat. Some parts of the range are therefore going to get warm or even hot. Consider this in choosing a range location. Do not leave children alone or unattended near the range when it is in use. Let burner grids and other surfaces cool before touching them or leaving them where children can reach them.

## Clearances

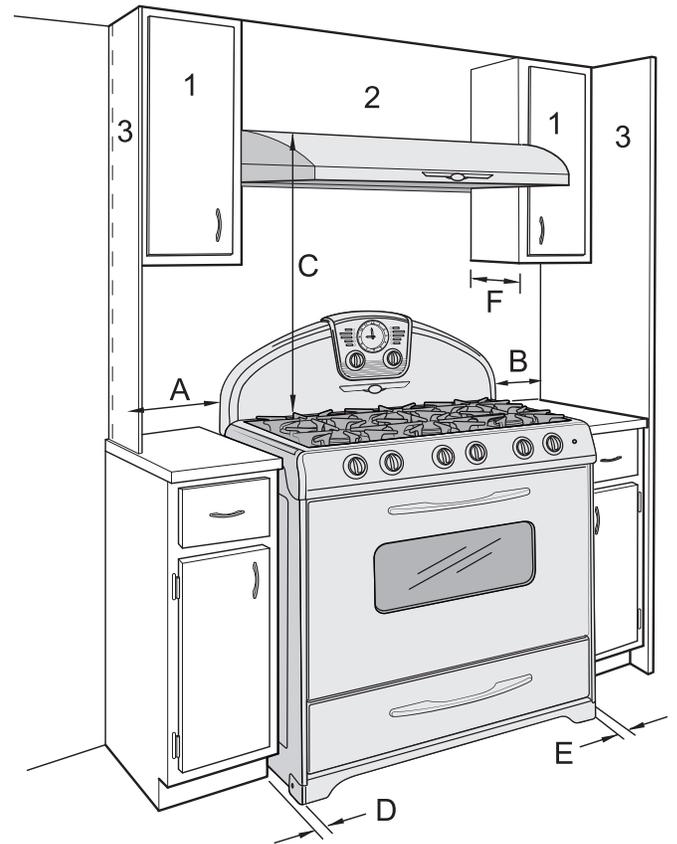
This range may be installed with adjacent surfaces touching the base cabinets and the back flush with the back wall. Models 1947, 1955 and 1956 gas ranges require a CGA/AGA approved stainless steel gas flex line or a flexible copper coil 1/2” in diameter and at least three feet long so the range can be moved for service.

To eliminate the risk of burns or fire by reaching over heated surface burners, cabinet storage above the range should be avoided. If overhead storage is unavoidable, clearances between the cooking surface and unprotected wood or metal overhead cabinets must be no less than 32”. The clearances on electric models between the cooktop and unprotected overhead cupboards is 30”. This distance may be reduced to 24” when the bottom wood or metal cabinets are protected by not less than 1/4” thick flame retarding millboard covered with not less than No. 28MSG sheet steel, 0.015” thick stainless steel, 0.024” thick aluminum or 0.020” thick copper.

**NOTE:** Clearances specified to combustible construction (walls and materials) are based on a temperature rise of wood resulting from appliance operation. These clearances are suitable for walls of studding, lath and plaster or other types of combustible material which have a density of 20 lbs. per cu. ft. or more. No evaluation of clearances has been made for low density cellulose, fibre board and similar materials which have a density of less than 20 lbs. per cu. ft., nor to plastic tiles or sheeting.

The maximum depth of upper cabinets installed above the range is 13”.

See the **Minimum Clearances Chart** for electric and gas models below.



## Minimum Clearances to Combustibles

	A	B	C	D	E	F
All Electric Model 1954	0"	0"	30"	0"	0"	13" max.
Dual Fuel Models 1947 & 1955	3" min. ht. 18"	3" min. ht. 18"	32"	0"	0"	13" max.
All Gas Model 1956	3" min. ht. 18"	3" min. ht. 18"	32"	0"	0"	13" max.

- 1 = End of section of overhead cabinet
- 2 = Overhead center cabinet
- 3 = End wall or divider

Hood should be installed 28” to 30” from the bottom of hood to the range cook top. See Full Installation information in Exhaust Hood Manual.

It is the responsibility of the installer to comply with the installation clearances specified in this manual.

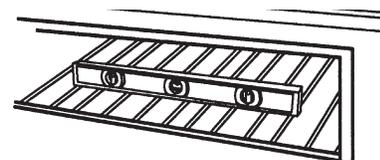
## Cabinet Openings

Models 1954, 1955 and 1956 will fit into a 30 1/4” cabinet opening.

Model 1947 will fit into a 36 1/4” cabinet opening.

## Leveling Your Range

Place rack in oven. Place level on rack, first side to side, then front to back.

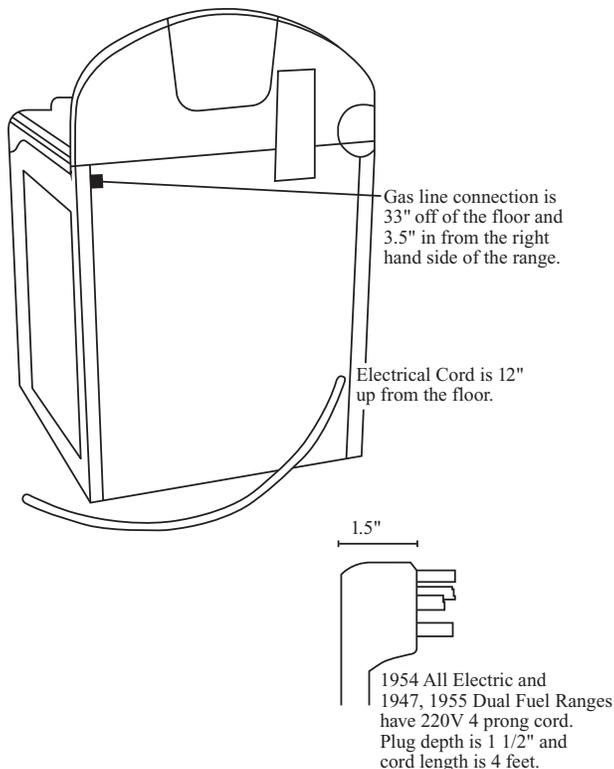


If the range is not level, adjust leveling legs up or down with pliers or your fingers until range is level.

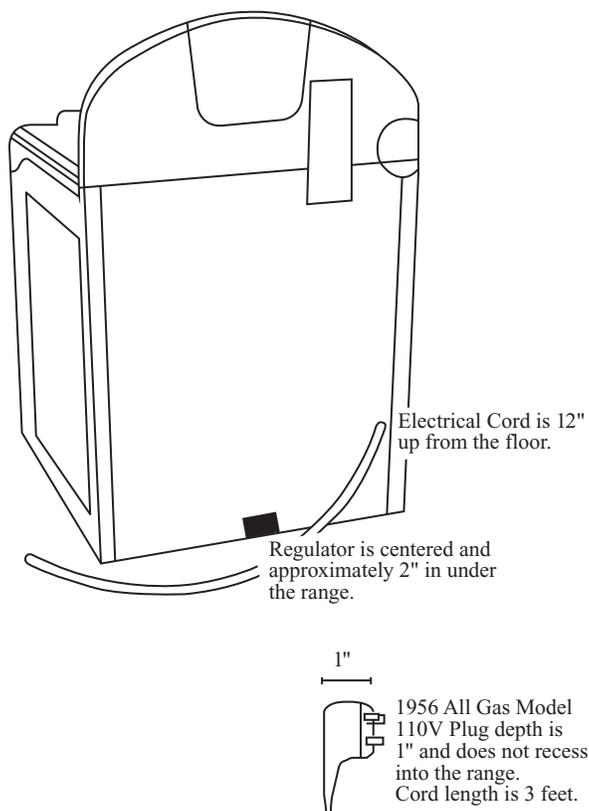
*NOTE: Oven must be level for satisfactory baking performance.*

## Electrical and Gas Connection Locations

Dual Fuel Range 1947, 1955

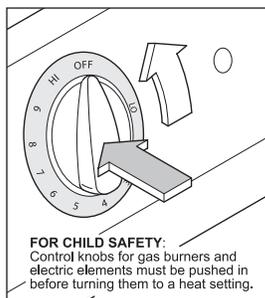


All Gas Range 1956



## ELECTRIC COOKTOP

### Surface Elements Controls



Control knobs must be pushed in before turning them to a setting. They can be set anywhere between MAX and MIN.

The controls for the surface elements provide infinite heat settings. The numbers on the dial serve as a reference. The control can be turned to any setting to provide the exact heat required.

*NOTE: The "Push to Turn Safety Control Knobs" on the range are designed for child safety and to prevent accidental operation.*

**Before using your glass cooktop for the first time: turn the elements on MAX without a pan for 5 to 8 minutes or until smoking stops. This smoking is normal and non toxic.**

### High Speed Radiant - Electric Top Burners

Consists of a set of special RADIANT HEATER coils embedded in thermal insulation. The element is designed for fast heat response. You can see it light up almost immediately.

Each element is fitted with a thermal limiter to ensure the ceramic glass does not exceed the maximum SAFE operating temperature. You may notice the element going on and off a number of times during use. This is a normal occurrence.

To maximize the efficiency of this type of element we suggest you use it similarly to your previous burner. Turn to maximum until the desired temperature is reached, then turn it down to the setting that best maintains the desired heat.

- H or 9 – To start foods cooking and to bring foods to a boil.
- 8-7 – To hold a rapid boil.
- 6-5 – To fry foods.
- 4 – To cook large amounts of vegetables
- 3-2 – To keep food cooking after starting it on a lower setting.
- L – To keep foods warm until ready to serve.

### Controls

The radiant heating elements are controlled by a commonly used Infinite Heat Switch that works on the principle of percent on, percent off. For example, when the switch is turned to the medium setting, the element will be on only 50% of the time. Because of the fast heat-up with these types of elements, you will notice the units switching on and off.

## Cookware

The best cooking results and the most economical use of electricity will be achieved by using smooth, flat-bottom pans. Pans should be at least the same size or slightly larger than the cooking area. Ceramic cookware suitable for stovetop cooking may be used. If pans smaller than the size of the heating element are used, care should be taken as the handles may get hot.

Built into each element, is a safety device which protects the element from overheating. If using pans which are not ideal, for example concave or convex bottom pans with shiny bases, or those with ridged or grooved bottoms, the thermal limiter can cause the element to switch off and on during cooking, which means that food will take longer to cook.

Very thin, badly dented, and distorted pans with uneven bottoms should not be used.

Pans with very shiny or reflective bottoms should not be used.

Never place utensils with a skirt (e.g. a wok) on the heated area.

Pans should not have rough bottoms. Do not slide pots on the ceramic glass cooking surface, as this may mark or scratch the cooktop.

If pans with aluminum bottoms are slid across the cooking surface, metal marks could result. Such marks are easily cleaned with any non-abrasive stainless steel cleaner, provided they are removed immediately and not allowed to bake onto the surface.

Any guidelines or recommendations given by the saucepan or cooking utensil manufacturer should be followed.

## SELECTION & USE OF POTS & PANS

### Flat Bottoms

Thick, flat bottoms absorb and distribute the heat from the element more evenly. Thin, uneven bottoms waste energy and create hot spots that may burn the food onto cookware.

Glass cooktops require heavy gauge flat bottom pans for best cooking results.

Check flatness with a ruler or straight edge. See figure 7.

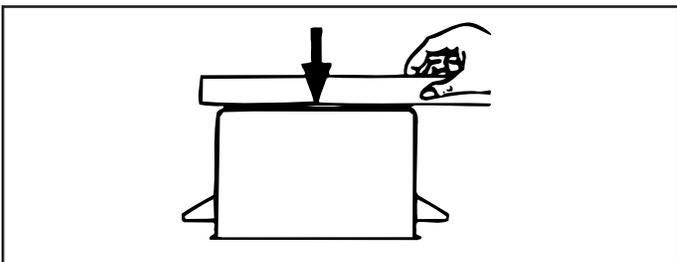


Figure 7

## Pot Diameter

Select element to match pan diameter. The pot should be slightly larger than the element to obtain best energy usage, and avoid spillovers flowing directly onto element.

Do not use pans extending more than one inch beyond element, except while canning. See figure 8.

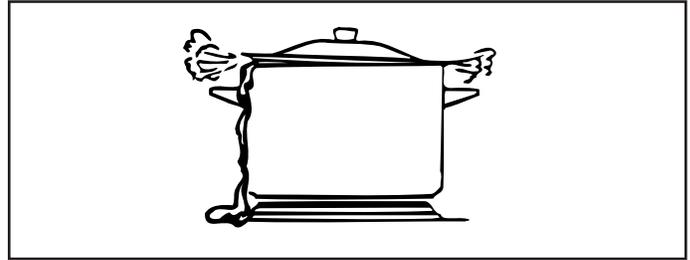


Figure 8

Small diameter pans waste energy and spillage can flow onto element. This increases chance of fire and burns.

Use non-stick coated cookware, for easier clean up. Glass or pyroceram pans should be used only as the manufacturer describes.

Pressure cookers, deep fat fryers, canners, etc. must be of the correct size and have flat bottoms to work properly.

## Energy Tips

Use cookware with tight-fitting lids, and flat bottoms which completely cover the heated portion of the element. Watch foods when bringing them to cooking temperatures at high heat. When food reaches cooking temperature, reduce heat to lowest setting that will keep it cooking.

Use residual heat with surface cooking. For example, when cooking eggs in the shell, bring water to a boil, then turn element off, and allow heat in water to complete cooking.

When boiling water for tea or coffee, heat only the amount needed. Do not use a wire trivet or any other kind of heat retarding pad between the pan and the element.

## Things Not To Do On A Ceramic Cooktop

- Do not leave pots unattended or elements ON for extended periods of time. If an element is mistakenly left on for an extended period of time the built in thermal limiter will ensure that the heat build-up is insufficient to cause any adverse effects.
- Do not cook directly on the ceramic cooktop. The surface of the cooktop can be damaged, and will be more difficult to clean.
- Do not use wire trivets mats or aluminum foil. They offer no cooking advantages and can damage the ceramic glass surface. Never place plastic or any other material which might melt on any part of the cooktop.
- Do not use the cooktop as a chopping board or cutting surface. This type of use can scratch the surface.
- Do not leave heavy spills during cooking. Turn heat off and allow surface to cool down. Remove the spills

with a clean, damp cloth (no detergent), taking care to avoid burning fingers. If there is detergent in the cloth, you may leave a layer of soil-laden film on the cooktop surface, which can result in discoloration next time the element is switched “on”. If a detergent film builds up, use a ceramic glass cleaner-conditioner.

## Care and Cleaning

To keep the exterior chrome trim in spotless condition, wipe with a warm soapy cloth. **Do not clean hot chrome surface with a soapy cloth, use automotive chrome cleaner on cool surface.**

*See page 28 for complete cleaning guide.*

### Caution - Product Damage Hazard

Before using any cleaners, ensure that it is suitable for application on chrome trim.

Make sure that the glass ceramic surface has cooled down before applying any cleaning materials.

## 1. Saving on Cleaning Time

- Make sure the bottom of pots and pans and cooking area are clean and dry.

Select correct heat settings and use saucepans large enough to accommodate food and liquid to eliminate boilovers and splattering.

- Wipe up food spills and splatters from adjacent heating areas before cooking.
- Do not drag or slide pots along the surface.

## 2. Daily Care

- Use a ceramic glass cleaner-conditioner, available at supermarkets and major department stores. As the cleaner-conditioner cleans, it leaves a protective coating of silicone on the smooth surface, which helps prevent scratches and abrasions in which food particles can collect. It also helps prevent the build-up of mineral deposits, and will make future cleaning easier.
- When cool, apply a dab of cleaner-conditioner in the center of each heated area to be cleaned.
- For normal cleaning start with about 1 ml (1/8 tsp) of cleaner-conditioner, and apply more if needed.
- Clean unit with a damp clean paper towel. To remove more stubborn spots, use a slightly dampened non-impregnated plastic or nylon pad specially made for non-stick utensils.
- Wipe off this application with another clean, damp paper towel, and wipe dry.
- Use liquid cleansers to remove any discoloration, especially in hard water areas. A non-impregnated plastic or nylon pad specially made for non-stick utensils may also be used with these cleaners. Do not apply excessive pressure while rubbing. This could cause scratches over time.
- Apply cleaner-conditioner and polish with paper towel or a soft dry cloth.

- Any smearing or hazing on the surface may be removed with a lightly dampened paper towel, and polished with a soft dry cloth.
- Do not use a sponge or a dishcloth. They may leave a film of soil-laden detergent on the heating area which may turn brown and resemble a discoloration the next time the area is heated. If that should happen, cleaner-conditioner will remove it.

## Warning

### Personal Injury Hazard

- **NOTE:** If a wet paper towel is used to remove spillovers from warm cooking area, be careful to avoid steam burns.
- Never mix different household cleaning products. Chemical mixtures may interact, with objectionable or even hazardous results.

## Do Use

Ceramic glass cleaner-conditioner should be used regularly to clean and protect glass-smooth top cooking surface. If you run out, you may temporarily use baking soda as a cleaning powder.

## Do Not Use

1. Household detergents and bleaches.
2. Impregnated plastic or nylon pads.
3. Soap pads; these will scratch and mark.
4. Household abrasive powders except where specified; these may scratch depending on the pressure applied in use.
5. Chemical oven cleaners, e.g. aerosols and oven pads. These are caustic cleaners, and may etch the surface.
6. Rust stain or bath and sink stain removers, as these will mark and etch the surface.
7. Metal scrubbers.

## How To Deal With Burned-On Spots (Model 1954)

1. Make sure area to be cleaned is warm to the touch.
2. The careful use of a stainless steel razor blade held at approximately 30 degrees to the surface can be used to remove stubborn burned-on spots from the surface.
3. Use cleaner-conditioner, and finally wipe the cooktop clean with a paper towel or damp cloth.

If after the use of recommended materials there are some persistent stains or marks on the cooktop, the unit should be cleaned using a liquid cleanser. This will remove any accumulated residue of cleaner-conditioner, and if applied with a non-impregnated plastic or nylon pad for non-stick pans, for at least three to four minutes, it will also take off the film caused by salts and minerals before it has an opportunity to discolor or develop into a problem. Finish off with a touch of cleaner-conditioner, polish to a high lustre.

Any smearing or streaking on the surface may be removed with lightly dampened paper towel and polished with a soft dry cloth.

## Metal Marks

Certain metal pots, especially those with aluminum bottoms may leave marks on the surface, especially if the pan is allowed to slide. Use the cleaner-conditioner before the unit is used again to prevent the mark from baking on the surface.

## Caution (Model 1954)

### Product Damage Hazard

Ceramic glass cleaner-conditioner should be applied regularly after use of other cleaners, otherwise over a period of time the surface of the ceramic glass may roughen, and cleaning will become progressively more difficult. Staining may also occur.

## Important Notes

1. In the event of the cooktop being scratched, soil will collect and appear as fine lines. These are not fully removable, but can be minimized by the daily use of cleaner-conditioner. These scratches do not affect cooking performance.
2. Soil from sugar solutions must be removed from the cooktop before the syrup has set, otherwise it can permanently bond to the ceramic surface.

## CANNING

For best results, use a flat bottom, heavy gauge canner. Canners with rippled bottoms will not work on electric burners because the bottom does not make enough contact with the element.

## GAS COOKTOP

Gas cooktops are more forgiving than electric cooktops. Most cookware will work, although tight fitting lids are recommended for efficient cooking on both. Always adjust the burner controls so that flames do not extend past the edges of pots or pans.

## Top Burners (Models 1947, 1955, 1956)

Your gas range is equipped with “state of the art” “Sealed Gas Burners” and an “Auto-Reignition System”. The sealed gas burners spread the heat evenly across the bottom of the cooking utensil and provide infinite heat control. The auto-reignition system senses when a burner flame has gone out and will automatically reignite that burner. There are no standing pilots to light or adjust.

See this page for cleaning and maintenance of top burners.

## Operating Range During a Power Failure

To light a top burner during a power failure, hold a lit match to the desired burner head. Turn the corresponding control knob to any numbered position. After burner lights, adjust flame to desired setting.

**The gas oven requires electricity to operate.**

## Removal of Burner Knobs

Apply a piece of duct tape to the surface of the knob for better grip. Pull off by hand or with a pair of pliers.

## Manual Burner Adjustment On Low

The burners have been pre-adjusted at the factory for best performance. You may manually adjust the low settings up or down by removing the control knob while the burner is lit and in the low position. While holding the valve stem so it doesn't turn, insert a small flat blade screwdriver into the stem and turn the small brass screw slightly in either direction until desired flame height is obtained. Valve must be adjusted so low flame licks around burner cap no less than 1/8". See figure 11.

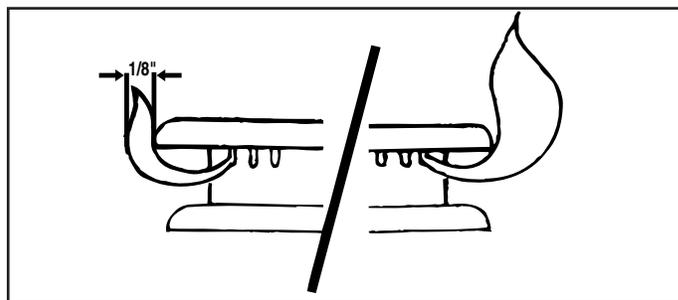


Figure 11

Figure 12

**NOTE:** Low adjustment will not effect flame heights at other settings. If a top burner flame has been adjusted too low, the electronic ignitor may start to spark while burner is on. Readjust flame until ignitor stops sparking.

## Flame Appearance

The burners have been pre-adjusted at the factory to a clean blue flame. On LP gas, a slight orange tip may be visible. If flame is not as above, your gas serviceman can check the regulator for proper setting with a water manometer (U-gauge). The stove pressure should be within + or - 10% of the pressure setting shown in this manual.

## GAS BURNER CLEANING

- **The burner caps** should be routinely removed and cleaned. Always clean burner caps after a spillover. Keeping the burner caps clean aids in proper ignition and an even flame. Set burner caps into indents in burner base.
- **For proper flow** of gas and ignition of the burner, **DO NOT ALLOW SPILLS, FOOD, CLEANING AGENTS OR ANY OTHER MATERIAL TO ENTER THE GAS ORIFICE OPENING.**
- **Gas must flow freely** through the small hole in the brass orifice for the burner to light properly. This area must be free of any soil and be kept protected from boilovers or spillovers. **ALWAYS** keep the burner caps in place whenever a surface burner is in use.

**Occasionally check** the burner flames for proper size and shape as shown. A good flame is blue in color. If flames lift off ports they are yellow and usually noisy. You may need to clean the burners. See figure 12.

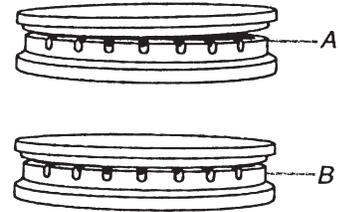
### If Ignitors Continue to Click:

If your ignitors continue to click after lighting, the probable cause is dirt or moisture around the burner, or between the burner and ignitor. Clean these areas thoroughly with household cleaner or soap and water. Dry thoroughly or sparking may still occur. (You may have to use a hair dryer to completely dry the area.) If the condition persists, but on low setting only, you may need to increase the burner flame (see “Manual Burner Adjustment” – this page). If the condition persists, check for damaged ignitors. Very rarely, the spark module may need to be replaced. Ignitors and spark modules, with installation instructions, can be ordered from Elmira Stove Works, and must be serviced from under the cook top.

### To Clean Burners:

1. **Lift** the burner cap straight up from the burner base.
2. **Clean** burner cap with warm, soapy water and a sponge. You can also clean with a nonabrasive scrubbing pad or cleanser. Do not clean burner cap in dishwasher.
3. **If the gas orifice opening** has become soiled or clogged, use a cotton swab or a soft cloth to clean the area.
4. **If ports are clogged**, clean with a straight pin. **Do not enlarge or distort port. Do not leave anything stuck in the ports.**

5. **After cleaning** the orifice opening and ports, replace the burner cap. **Make sure** cap is set straight on burner and that the tabs on cap fit into the grooves of burner base.
6. **Check** the burner for proper lighting after cleaning.
7. Replace the burner cap, making sure the alignment pins on the cap are properly aligned with the burner base.



A. Incorrect  
B. Correct

8. Turn on the burner. If the burner does not light, check cap alignment. If the burner still does not light, do not service the sealed burner yourself. Contact a trained repair specialist.

**NOTE:** If a gas burner burns with an uneven orange flame, reposition the burner cap so it sits flat on the burner housing. If burner lights slowly, have your gas service person check the gas pressure to the appliance.

If a top burner flame has been adjusted too low, the electronic ignitor may start to spark. Readjust flame on low until ignitor stops sparking.

When cleaning around the surface burner, use care. If cleaning cloth should catch the ignitor, it could damage it, preventing ignition.

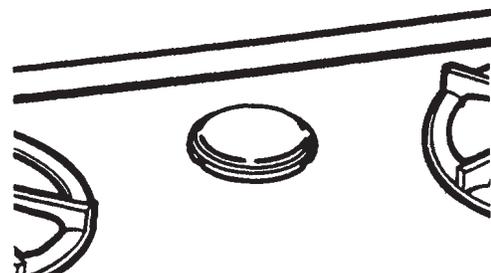
If surface burner does not light, check if ignitor is broken, soiled or wet. If clogged, clean the small port beneath the ignitor using a straight pin.

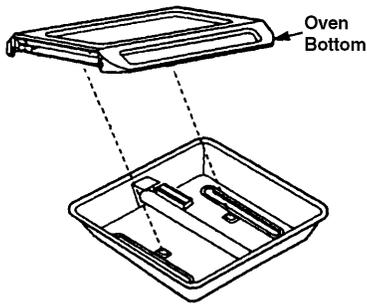
Wipe acid or sugar spills as soon as the cooktop has cooled as these spills can discolor the surface.

See Cleaning Guide – Page 28.

## OVEN VENTING - MODEL 1956

### The Oven Vent





Hot air and moisture escape from the oven through a vent in the center rear of the cooktop. **Do not block the vent.** Poor baking/roasting and bad combustion can result. The oven bottom must be in place for burner to bake properly on model 1956.

## GAS SUPPLY SYSTEM

### Gas and Electrical Supplies

Before connecting to the supply systems, be sure that the installation conforms with the local codes or, in the absence of local codes, with the National Fuel Code, ANSI Z223.1 latest edition or in Canada, CAN/CGA B149 installation codes. See page 4 for electrical requirements.

### Gas Piping to Range

The gas supply piping to the range should be 3/4" pipe which is then reduced to 1/2" at the regulator. With "LP" gas, the size of the piping to the range should be determined by your gas fitter.

When connecting pipe to the die cast regulator fitting, use two wrenches. Excess pressure or tightening the pipe too tight can cause the regulator to crack, resulting in a gas leak or a possible fire or explosion.

Make sure that if flexible connectors are used in connecting the appliance to the gas supply, they are AGA and/or CGA approved. Poorly designed connectors can be a source of gas leaks. Even if AGA/CGA approved flexible connectors are used, the customer should be cautioned against kinking or damaging the connection when moving or cleaning the range. This could cause a gas leak.

### Manual Shutoff

Install a manual shutoff valve in the gas line, in an accessible location, near the unit. Know where the gas valve is so you can shut off the gas to the range quickly. Suitable pipe thread sealant must be used which is approved for use with "LP"/Natural gas. Be sure to use this thread sealant on all pipe connections.

### Pressure Testing

The appliance, and its individual shutoff valve must be disconnected from the gas supply piping system during

### GAS-SUPPLY PRESSURE REQUIREMENTS\*

Gas Type	Minimum Manifold Pressure	Min. Gas-Supply Pressure**
Natural Gas	5-in. Water Column	6-in. Water Column
Liquid Propane (LP)	10-in. Water Column	11-in. Water Column

\*Gas-supply pressure for testing the regulator setting shall be at least 1 in. water column (249 Pa) above the specified manifold pressure; \*\*Max. gas-supply pressure for all models: 1/2 psi.

any pressure testing of that system at test pressures in excess of 1/2 psi (3.5 kPa).

The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply system at test pressures equal to or less than 1/2 psig (3.5kPa).

The gas supply pressure for checking the regulator setting shall be at least one inch w.c. above manufacturer's specified manifold pressure.

### Gas Leak Testing

After the final gas connection has been made, all the top burner valves should be closed and the gas supply and manual shutoff turned on. All connections in the gas supply line and in the range should be tested with soap suds or electronic sniffer for leaks. If a leak is present, bubbles will appear. The leak should be stopped by tightening the joint, or unscrewing completely and applying additional pipe dope and re-tightened. Any factory connections which may have been disturbed should be retested.

**A match should never be used when testing for leaks. All fittings have been tightened and tested at the factory. If a leak is detected, tighten the fitting. Don't use pipe dope on factory fittings.**

## FUEL CONVERSION OF RANGE TOP

### Warning – Fire Hazard

- Locate gas supply shut off valve to the appliance.
- Shut off gas supply before converting fuels.
- Make all conversions before turning gas supply back on.

Failure to follow these instructions could result in fire, explosion or other personal injury.

### Models 1947, 1955 & 1956

All of our ranges are factory set to burn natural gas unless "LP" is specified. If you are converting from Natural Gas

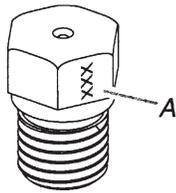
to “LP”, or from “LP” to Natural Gas , please following the instructions below:

**Order the required conversion kit from the factory.**

SAVE THE ORFICES REMOVED FROM THE APPLIANCE FOR FUTURE USE.

Burner	Large	Medium	Small
Nat. Gas	#50 (1.75 mm)	#55 (1.32 mm)	#57 (1.09 mm)
LP/Propane	#64 (.91 mm)	#65 (.89 mm)	#70 (.71 mm)

Gas orifice spuds are stamped with the number on the side. Be sure to replace the correct orifices based on the chart above.



A. Stamped number

## Fuel Conversion of Regulator on Models 1947 and 1955

### Disconnect Power to Range

- Open oven door and remove it, see removal instructions on page 16.

- With a Phillips driver, undo the 2 screws holding the top down (center of range, below cooktop).

- Pull top forward about 2” then lift front. Raise the service stay on each side to hold the top up.

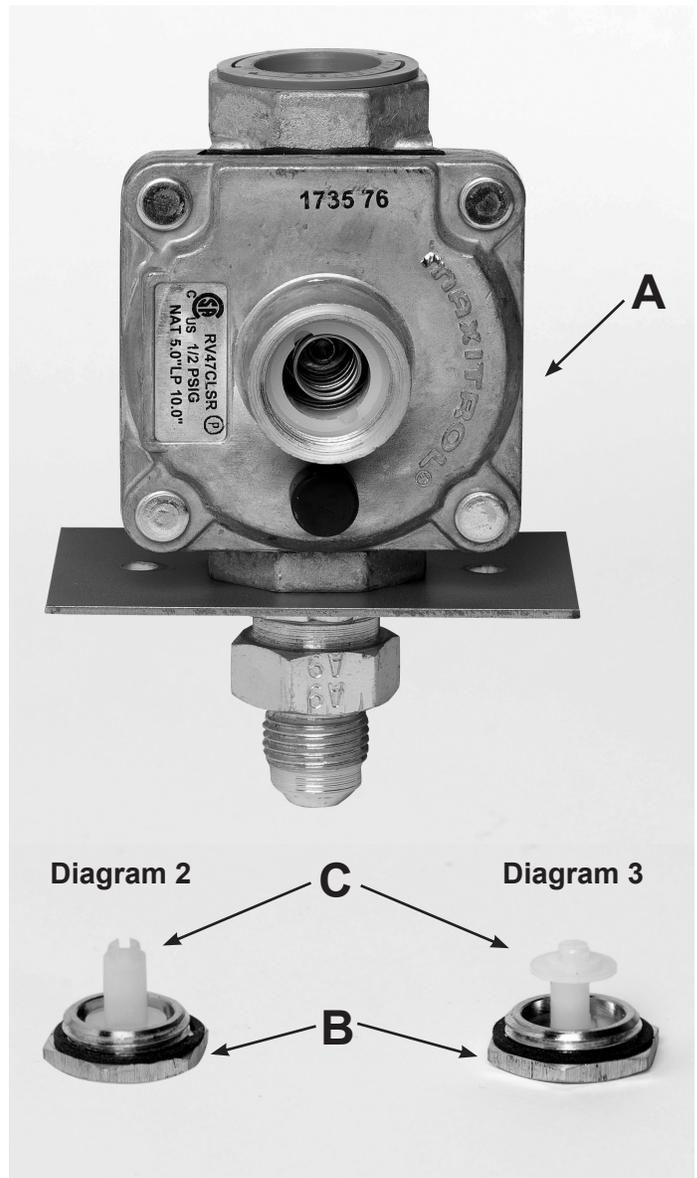
- Regulator (A) is located on the back right area under the cooktop.

Unscrew and remove the regulator cap (B) from the front center of the regulator by turning counter clockwise.

- Do not remove spring behind regulator cap.
- Pull pin (C) out of regulator cap.
- For Natural Gas, pin should be snapped back into regulator cap as in Diagram 2.

- For Liquid Propane (LP) Gas, pin should be snapped back into regulator cap as in Diagram 3.
- Reinstall regulator cap (B) into regulator, making sure nut does not cross-thread. Do not over-tighten.

- Lower and re-attach cooktop with 2 screws



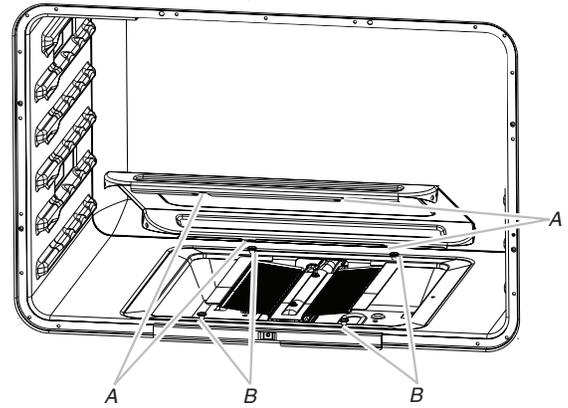
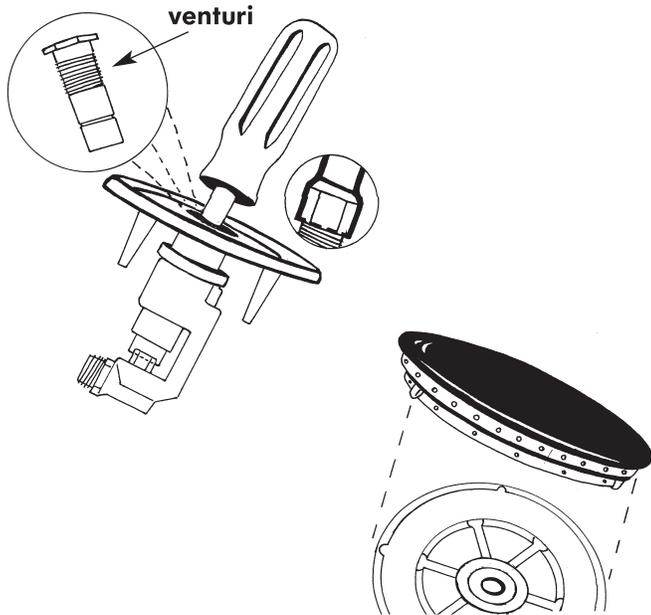
## Replacing rangetop orifices

Tools required to replace orifices.

Small adjustable wrench.

1. Remove burner caps.
2. With the small adjustable wrench, unscrew the Brass Venturi and remove.
3. Remove the orifices in each of the top burners by turning the 7 mm nut driver counter clockwise. Putting a piece of folded masking tape inside the nut driver-sticky side out, will help hold the spud in the driver while removing and replacing spuds.
4. Replace the removed orifice spud with the correct and corresponding new orifice spud as per the chart. Orifice sizes are stamped on the side of orifice spud.
5. Reinstall the Brass Venturi.
6. When installing the burner caps, be sure that the tabs in the cap fit into the grooves of the burner base.

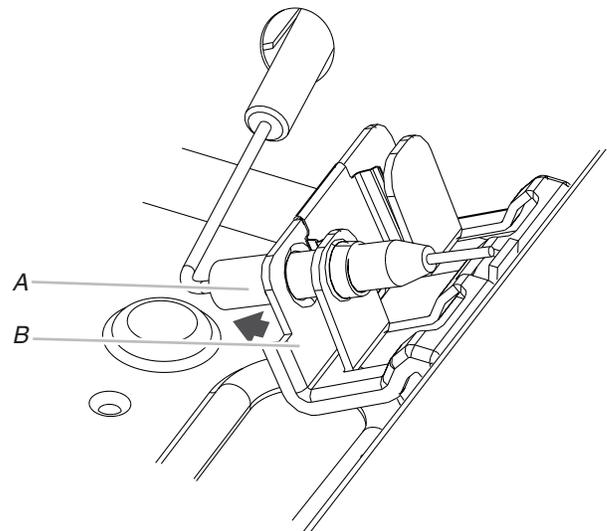
	Nat. Gas	LP/Propane
Large Burner Takes	1.75 mm (#50)	.91 mm (#64)
Medium Burner Takes	1.32 mm (#55)	.89 mm (#65)
Small Burner Takes	1.09 mm (#57)	.71 mm (#70)



3. Lower cover, and slide to left or right to slide shoulder screw into the narrow ends of the notches, then lock into place.

## OVEN CONVERSION MODEL 1956 TO PROPANE

Pull electrode out of bracket.



A. Grasp electrode here.  
B. Bracket

### – Fire Hazard

- Locate gas supply shut off valve on the pressure regulator.
- Shut off gas supply before converting to L.P. gas.
- Make all conversions before turning gas supply valve back on.

Failure to follow these instructions could result in fire, explosion or other personal injury.

### Fuel Conversion of Regulator on Models 1956 (gas oven)

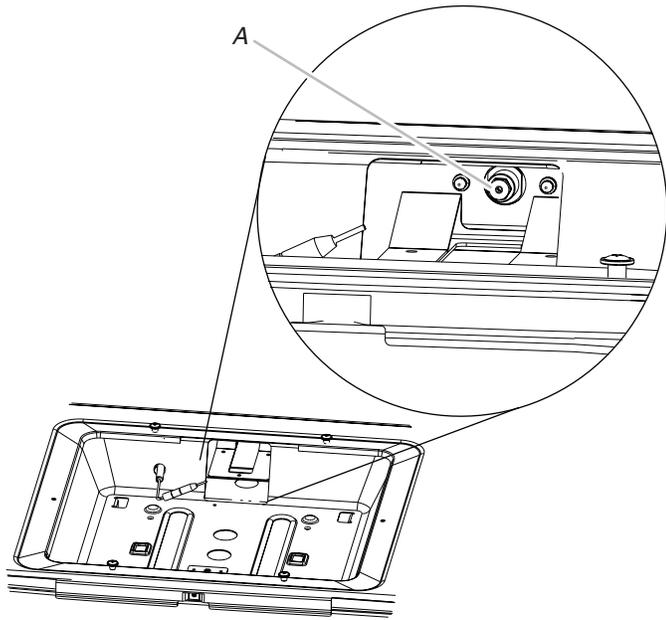
#### Disconnect Power to Range

- Remove storage drawer. See page 22
- Locate the regulator at the rear of storage drawer compartment. This may also be serviced from rear of range.

### Remove or Replace Oven Bake Burner Cover

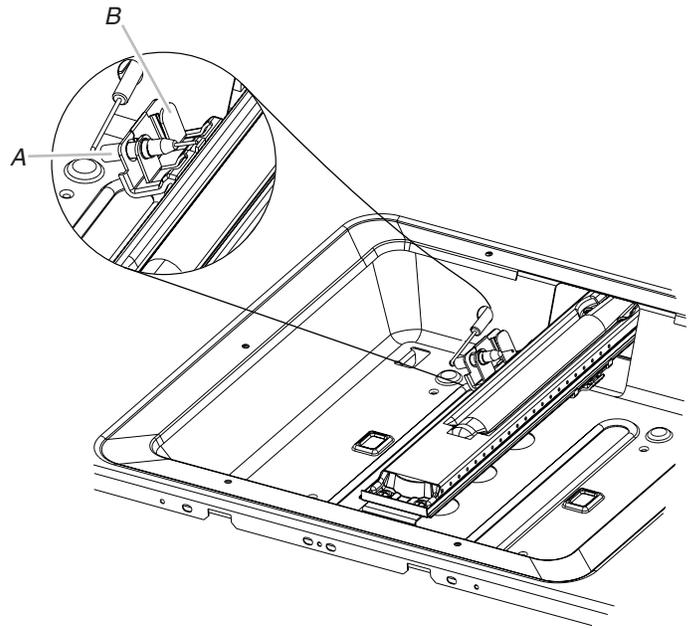
1. Unscrew the terminal nuts and insert the range cord wires through the bushing hole and attach the wires to the terminal block. Tighten the 3 nuts. The center wire of the range cord must go to the center position on the terminal block. That center wire must be grounded to the chassis if it has not been done so at the factory.
2. Align notches on the oven bake burner cover with shoulder screws in the bottom of the oven.

1. Remove oven bake burner cover. See Page 19.
2. Remove bracket that fastens the bake burner to oven.
3. Slide bake burner out so the gas orifice may be seen.
4. Apply masking tape to the end of a 7 mm nut driver to help hold the gas orifice spud in the nut driver while changing it. Insert nut driver into the gas opening, and press down onto the gas orifice spud counterclockwise and lifting out. Set natural gas orifice spud aside.
5. Install propane bake burner orifice with 7 mm nut driver and tighten.



A. Propane gas orifice spud

Propane gas orifice spuds are marked with a number. Install the oven bake burner orifice spud.

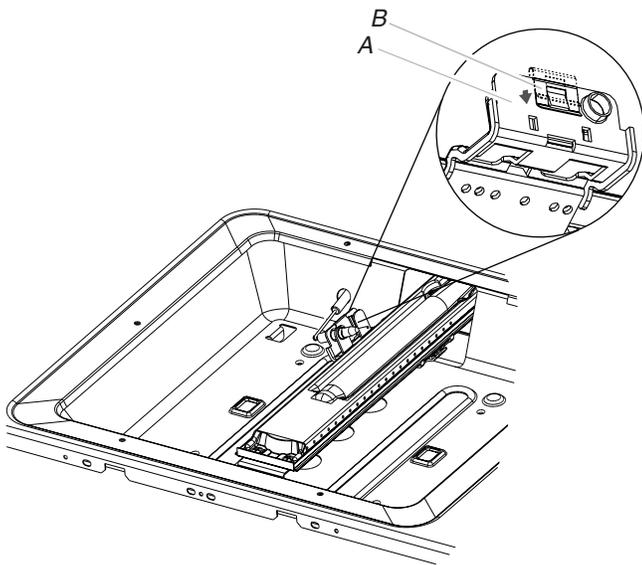


A. Oven bake burner electrode  
B. Oven bake burner electrode bracket

Reinstall the oven bake burner and oven bake burner screws. See Step 4 for illustration.

Replace oven baffle and oven baffle nuts. The front holes will be aligned, and a click will sound when baffle is seated.

Push down on the clip on the electrode bracket.

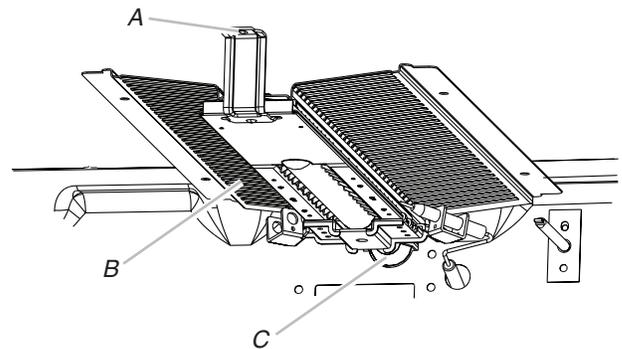


A. Oven bake burner electrode bracket  
B. Electrode bracket clip

Replace oven bake burner electrode inside bracket.

## BROIL BURNER CONVERSION TO PROPANE

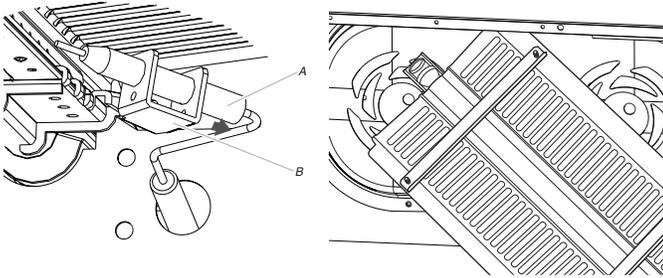
Using a Philips driver, remove broil burner screw. Set aside with side igniter positioned on the right.



A. Broil burner screw  
B. Broil burner  
C. Broil burner orifice hole

## SETTING CLOCK – ALL MODELS

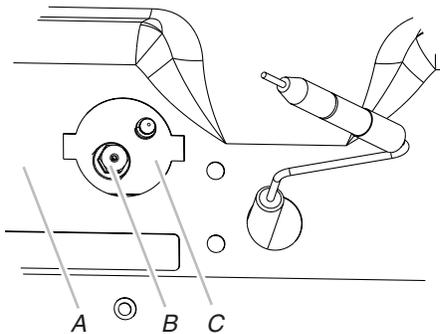
Pull the broil burner toward you until it slides out of the hole in the oven back, and pull the electrode out of the bracket. The broil burner will hang down in the back of the oven while you change the orifice.



A. Grasp electrode here.  
B. Bracket

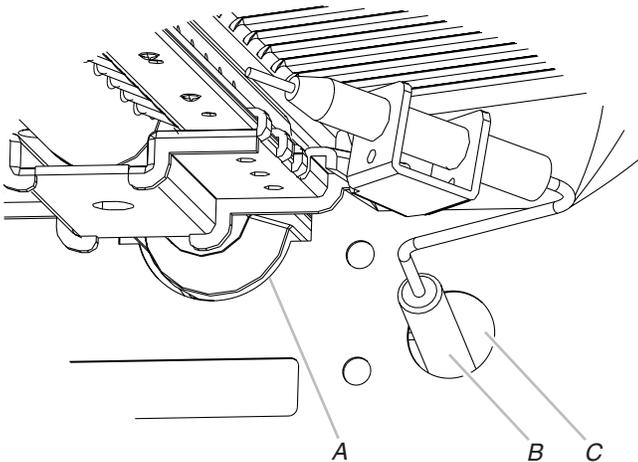
Broil burner hanging  
in back of oven

Apply masking tape to the end of a 7 mm nut driver to help hold the gas orifice spud in the nut driver while changing it. Insert nut driver into the gas opening, and press down onto the gas orifice spud, then remove by turning the orifice spud counterclockwise and lifting out. Set natural gas orifice spud aside.



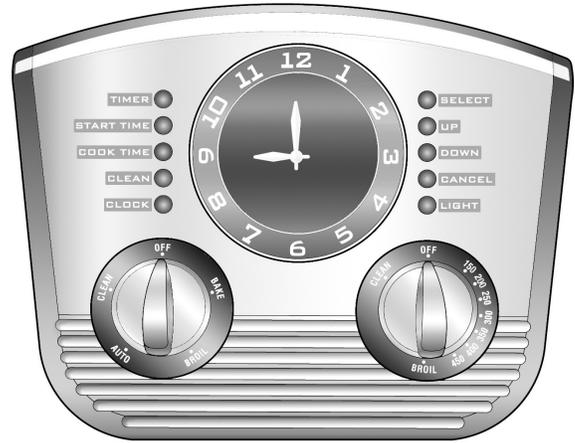
A. Oven back  
B. Broil burner orifice  
C. Broil burner orifice hole

Replace the broil burner in the hole in the oven back with the broil burner assembly inside the broil burner electrode hole as illustrated.



A. Broil burner orifice hole  
B. Broil burner electrode  
C. Broil burner electrode hole

Reinstall the oven broil burner screw. See Step 1 for illustration. The screw is aligned with the hole when a click sounds.



Setting clock initially or after power failure (if control is flashing)

1. To set time: Touch UP or DOWN button until correct time is shown.

Resetting time (if control is not flashing)

2. Push SELECT 5 times until CLOCK light is illuminated. Push UP or DOWN until correct time is shown.

**NOTE:** You must act within 3 seconds or the function you are trying to set will cancel.

### SETTING MINUTE TIMER:

1. Touch SELECT once. 00:00 will appear. Within 3 seconds press UP for time in minutes.

### BAKE OR BROIL

Turn Selector switch to bake or broil. Set oven thermostat to desired temperature.

**Preheating oven** on bake normally takes about 15 minutes, indicator cycle light will go out when oven has reached temperature. The Broiler takes about 3 minutes to preheat. After preheating, broiler may be set to variable temperatures by adjusting the thermostat.

### DELAYED BAKE

**(Oven turns on and off automatically):**

1. Touch SELECT 2 times. Current time will flash. Press UP until the correct START TIME has been reached. Wait 3 seconds. Touch SELECT once. COOKTIME will appear. Press UP until the proper cooktime has been reached. Set the oven selector to AUTO and thermostat to the correct temperature.

## TIMED BAKE

### (Oven turns off automatically):

1. Touch SELECT 3 times. COOKTIME will appear. Press UP until the proper cooktime has been reached. Set the oven selector to AUTO and the thermostat to the correct temperature.

**NOTE:** On delayed bake and time bake allow an extra 12 minutes for oven to preheat.

## OVEN LIGHT

Press LIGHT. Oven lights will turn on or off.

## CLOCK vs. DIGITAL DISPLAY

### If Clock does not agree with Digital Display

1. Press SELECT 5 times. Clock indicator will illuminate.
2. Press UP and DOWN arrows at the same time.
3. Adjust analog hands UP or DOWN to correct time.
4. 12:00 will appear on the display after 3 seconds.
5. Adjust digital time UP or DOWN to match the clock hands. (start within 3 seconds)

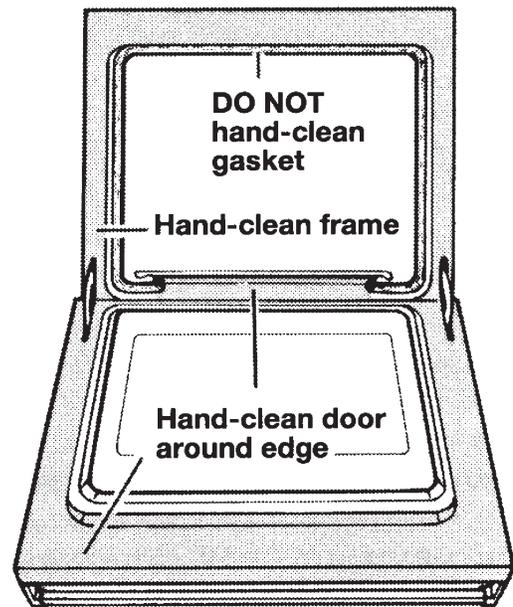
## SELF CLEAN

1. Touch SELECT 4 times. CLEAN will appear and 3:00 will be displayed on clock. Although we recommend 3:00 for most oven cleaning, by selecting UP or DOWN you can change the length of the clean cycle.

Set the oven selector and thermostat to CLEAN. Within 10 seconds the door will lock and the oven will start to clean. If you want to cancel oven cleaning press cancel. If the oven has reached 575°F the oven door can only be opened after a 30 minute cool down as shown on the clock. It is a good idea to remove oven racks before cleaning oven as they will become discolored.

## IMPORTANT

**DO NOT TURN SELECTOR AND THERMOSTAT OFF UNTIL SELF CLEANING AND COOL DOWN HAVE FINISHED OR OVEN DOOR WILL NOT OPEN.**



### Before You Start Self Cleaning

- **Hand-clean** the areas shown. They do not get hot enough during the cleaning cycle for soil to burn away, and could get baked on during cleaning. Use hot water and detergent or a soapy steel-wool pad for cleaning. Oven cleaners may be used in oven but must be completely removed before self-cleaning cycle begins.

**NOTE:** Do not clean, move or bend the gasket. Poor cleaning, baking and roasting may result.

- **Wipe out** any loose soil or grease. This will help reduce smoke during the cleaning cycle.
- **Remove** the broiler pan grid and anything else being stored in the oven.

**NOTE:** If oven racks are cleaned in the self-cleaning cycle, they will become discoloured and more difficult to slide.

If you clean racks in the self-cleaning cycle, place them on the 2nd, 3rd and 4th rack guides.

### For Best Cleaning Results

- **Clean the oven before** it gets heavily soiled. Cleaning a very soiled oven takes longer and results in more smoke than usual.
- **After the oven is cool, wipe up** any residue or ash with a damp cloth or sponge. If any spots remain, clean with a mild abrasive cleaners or mildly abrasive pad.
- **If the self-cleaning cycle does not get the oven as clean as you expected,** the cycle may not have been set long enough or you may not have prepared the oven properly. Set the self-cleaning cycle longer the next time and hand-clean areas noted above.

By turning exhaust fan on while self-cleaning most smoke and odor in kitchen will be eliminated.

## Automatic Door Lock

As soon as you program the oven for the self-cleaning function, the door will automatically lock. It will remain locked throughout the entire cycle. The door will automatically unlock when the temperature lowers to a safe level.

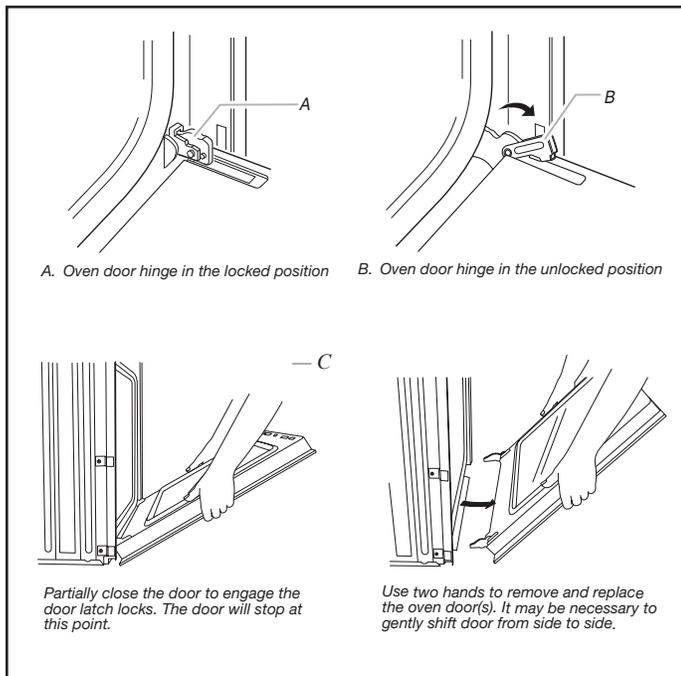
**Important:** After self cleaning the oven, the oven selector knob must be left in the clean position until the oven has cooled down and the door has unlocked. If you have turned the selector off prior to the door unlocking, turn the selector and control to “Clean”. The door will unlock. You can then turn the selector to “Off”.

## MAINTENANCE & MINOR REPAIR

### Removable Oven Door

The oven door is removable to allow easier manual cleaning inside the oven if desired.

### Oven Door Removal:



Open the oven door. Flip the latch locks down on each hinge so they lock the hinge open when door is partially closed. See Figures A and B. Grab the door as shown in Figure C and remove.

### Replacing the Door:

Grab door as shown in Figure C and push hinges into hinge receivers in range. With door partially open, rotate the latch locks forward to the unlock position. Close door completely. If door does not close evenly the hinges are not properly set in the receiver notches.

## Resetting Breakers

In case of a stove malfunction, try resetting the breaker, at the main breaker panel.

## Clock Malfunction

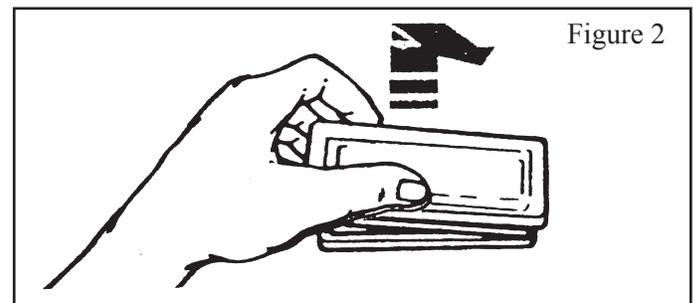
If you have experienced a power surge or loss of power recently, your clock may have “locked up”. Turn off power to your range for about 15 seconds then reconnect. This should reset clock/control and it should now function normally.

## REPLACING OVEN LIGHTS

### To Replace Oven Lights on all Models

These oven bulbs are 120 volt, 25 watt halogen bulbs and are available where bulbs are sold.

1. Before replacing bulbs make sure the oven is off and power to range has been disconnected.
2. Remove glass lens by grasping the front edge and pulling away from the oven side. See Figure 2



3. Remove old bulb from socket. Do not touch new bulb with bare hands. Oil from hands will make bulb burn-out prematurely. Use a clean cloth or paper towel to grasp bulb when installing.
4. Snap lens back into fixture. Reconnect power.

## Lubrication

Lubricate the following with white lubricant:

- Oven door hinges (if they squeak).
- If burner control knobs stick, remove knobs and lubricate around switch shaft with a small amount of white lube. Replace knobs on switches.

## IMPORTANT

**If in doubt about how to handle service, call us at the factory for help at: 1-800-295-8498.**

## OPTIONAL – WARMER DRAWER

### WARMING DRAWER CONTROLS

#### Setting the Temperature (Models 1954, 1955)

Turn the warmer thermostat knob to the desired setting. Temperatures can range from 80 degrees to 225 degrees.

**WARNING: Food Poisoning Hazard!** Do not let food sit for more than one hour before or after cooking. Doing so can result in food poisoning or sickness.

#### Moist-Dry Slide

The Moist-Dry slide allows you to open or close the vent slots in the door. The MOIST setting holds moisture in, while the DRY setting allows steam and moisture to escape from the drawer.

To keep foods moist, put slide on MOIST, closing the vents. Closing the vents will seal the drawer and keep hot food soft and moist.

To keep foods crisp, put slide on DRY, opening the vents. Opening the vents releases moisture from the drawer and keeps hot food crisp and dry.

The warming drawer is ideal for keeping hot cooked foods at serving temperature. It may also be used for warming breads and pastries.

Different types of food may be placed in the warming drawer at the same time. For best results, do not hold food longer than one hour. For small quantities or heat-sensitive foods (such as eggs), do not hold longer than 30 minutes.

Food must be at serving temperature before being placed in the warming drawer. (Breads, pastries, and fruit pies may be heated from room temperature on the HI setting.)

Remove food from plastic bags and place in oven-safe container. Cover foods with a lid or aluminum foil. Do not cover with plastic wrap. Empty serving dishes and dinner plates can be heated while the warming drawer is preheating.

### Storage or Warmer Drawer Removal Instructions

- If the storage or warmer drawer is not removed or installed properly, ball bearing race could be damaged.

- DO NOT REMOVE THE DRAWER UNLESS ABSOLUTELY NECESSARY.
- If removing drawer, pull it out to the stop.
- Slide the black nylon tab on each side towards you.
- Slowly pull the drawer straight out of the ball bearing track.
- When reinstalling the drawer, extend the ball bearing track inside the stove fully towards you.
- It works best with 2 people, one on each side of the drawer.
- Slowly push drawer straight into the track until it is fully closed.
- Drawer should now open and close freely.

### Proofing Bread

Proofing bread prepares dough for baking by activating the yeast. Proofing twice is recommended.

#### To Proof:

1. Cover dough with lightly oiled wax paper and place temperature safe bowl(s) directly on bottom of drawer.
2. Set control knob to 80°F
3. Place vent on MOIST setting.
4. Check dough periodically for proofing progress.
5. Verify doneness by pressing 2 fingers 1/2" (1.27 cm) into dough. If indentation remains, the dough is ready.

For second proofing of dough, follow steps 1-4.

### Warming Tips

- Do not line warming drawer with aluminum foil.
- Keep food covered if it was cooked with a cover on it.
- Use narrow strips of foil to shield pie crust edges from further browning in drawer.
- Place tent-shaped foil loosely over meat or poultry to prevent dryness and further browning while in the drawer.
- The use of aluminum foil to cover foods may cause moisture to collect and drip into the drawer.

## CONVECTION COOKING TIPS

### For Convection Models

To learn how to use your convection oven to the best advantage, refer to *Convection Cooking* on page 23.

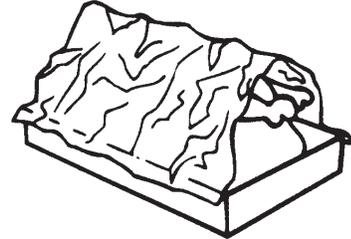
1. The fan-forced hot air movement permits baking and roasting on as many as 3 levels at once.
2. The Delay feature can not be used when using *Convection* for baked items e.g...pies, cakes, cookies.
3. There should be a minimum of 1" (2.5 cm) between the walls and the pans used.
4. Position food in oven to allow free flow of air around the convection fan.
5. Uniform spacing of baking dishes will produce the most even results.
6. Place bread pans lengthwise facing the oven door.
7. Do not use aluminum foil for convection baking. It may block airflow.
8. True convection cooking is used for baking breads, cakes and other foods which require gentle heating. This setting is also recommended when baking large quantities of food on more than one rack.  
Convection cooking creates more moisture in the kitchen than normal, usually because more food is being cooked at one time. We suggest that the exhaust blower be set on low when convection cooking.
9. For convection roasting, do not use a roasting pan with high sides, as it cuts down the free flow of air circulating around the food. Use the convection roasting rack on the broiler pan.
10. Convection cooking of frozen convenience foods:
  - Preheating the oven is not necessary.
  - Cooking times will be similar to package recommendations. Follow suggestions for oven temperatures and use of cookie sheets and foil coverings.
  - Most foods are best placed in the middle of the oven.
  - If more than one item is being cooked, stagger foods on multiple racks for proper air circulation.

### Closed Door Broiling only

2. Use the **broiler pan and grid for broiling**. They are designed to drain excess liquid and fat away from the cooking surface to help prevent spatter, smoke and fire.
3. Turn food only once during broiling. Using tongs to turn meats prevents loss of juices. Use *Minute Timer* for timing each side.

### Roasting tips

- **Roast** meats fat-side up in a shallow pan using a roasting rack.
- **Use a roasting pan** that fits the size of the food to be roasted. Meat juices may overflow the sides of a pan that is too small. Too large of a pan will result in increased over spatter.
- **Spatter can be reduced** by lining the bottom of the roasting pan with lightly crushed aluminum foil.



- **A foil tent** will slow down surface browning for long-term roasting, as when roasting a turkey. Place tent-shaped foil loosely over meat to allow for air circulation. Do not seal foil or meat will be steamed.
- **Use an accurate meat thermometer** to determine when meat has reached desired degree of doneness. Insert the thermometer into the center of the thickest portion of the meat or inner thigh or breast of poultry. For an accurate reading, the tip of the thermometer should not touch fat, bone or gristle.
- **After reading the thermometer once**, push it further into the meat 1/2 inch or more and read again. If the temperature drops, return the meat to the oven for more cooking.
- **Check pork and poultry** with a thermometer in 2-3 places to ensure adequate doneness.
- **Poultry and roasts will be easier to carve** if loosely covered with foil and allowed to stand 10-15 minutes after removal from the oven.

### Convection Broiling

(On Convection Models)

1. **Keep the oven door closed.**
2. **Use the convection roasting rack and broiler pan for convection broiling.** Convection broiling is essentially high-temperature convection cooking, combining fan-circulated hot air with the direct heat of the broiler element.
3. Do not cover the roasting rack with tin foil as this will block air flow and extend cooking time.
4. The circulating air creates a seal on all sides of the food so that turning of foods is often not necessary.

## General Broiling Tips

1. The surface of the food should be at least 3" (7.4 cm) away from the broil element.
2. For steaks and chops, slash fat evenly, at 2" (5 cm) intervals, around the outside edges of meat to prevent curling.
3. Meats and poultry can be marinated before broiling. Brush foods with barbecue sauce only during the last 5 to 10 minutes of broiling.
4. Place food on a cold pan to prevent sticking. If the rack is hot, grease it or grease the food.

## Air Circulation

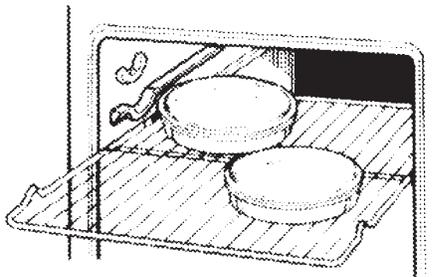
The hot air must circulate around the pans in the oven for even heat to reach all parts of the oven. This results in better baking.

### For best air circulation:

- Place the pans so that one is not directly over the other.
- For best results, allow 1-1/2" to 2" (3.7-5 cm) of space around each pan and between pans and oven walls. There must be a minimum space of 1" (2.6 cm).

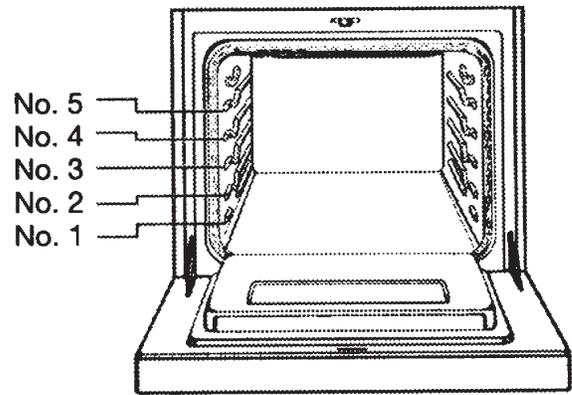


- When baking with one pan, place pan in the center of the oven rack.
- When baking with two pans, place pans in opposite corners of the oven rack.



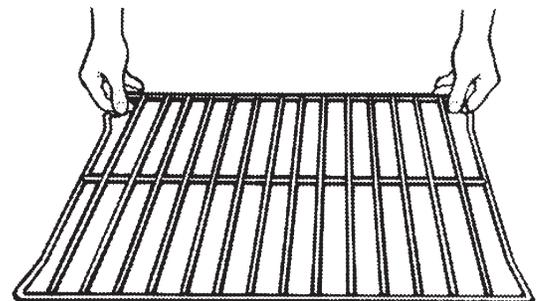
**NOTE:** Opening the oven door will cause heat loss, longer cooking times and unsatisfactory baking or roasting results. Rely on your timer.

## Oven Rack Positions



Your oven has five rack positions. Rack position 1 is the lowest position, or closest to the bottom of the oven. Rack position 5 is the highest position, or farthest from the bottom of the oven.

There are three straight racks. Be sure to position the oven rack(s) before putting food into the oven or turning the oven on.



Rear of rack

### To remove oven racks:

Lift rack at front and pull out.

### To replace oven racks:

1. Place rear of rack on rack guides.
2. While lifting front of rack, push in all the way. Lower front.

## For Proper Cooking, Follow These Guidelines:

- **When using one rack**, place the rack so the **top of the food** will be centered in the oven.
- **When using two racks**, place racks in positions 3 and 1 (the closest to the oven bottom).
- **Use only one cookie sheet** in the oven at a time when using the regular Bake setting.

## Rack Placement for Specific Foods:

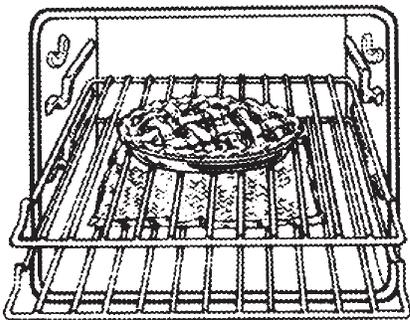
(For rack positions, see “Rack Positions” on page 19.)

FOOD	RACK POSITION
Frozen Pies	1 or 2
Angel and bundt cakes, most quick breads, yeast breads, casseroles, meats	2
Cookies, biscuits, muffins, cakes, non frozen pies	2 or 3

## Using Aluminum Foil in the Oven

- **Do not use aluminum foil for convection cooking.** Aluminum foil may block airflow.
- **Do not use foil on the oven bottom of Model 1947**
- **Do not cover the broiler grid with foil.** Poor drainage of grease may result in a fire.

When using aluminum foil for **non-convection cooking** to catch spillovers from pies or casseroles, follow these instructions.



- **Place the foil on the oven rack below the rack with the food.** Turn foil edges up and make sure foil is about 1 inch (2.5 cm) larger all around than the dish holding the food.
- **Do not cover the entire rack** with aluminum foil. It will reduce air circulation and cause poor cooking results.

# STANDARD OVEN MEAT ROASTING CHART

- Roast at oven temperature of 325°F.\*

\*For chicken, set the oven temperature to 350°F.

Preheating is not needed.

- Place roasting pan on rack position 1 or 2. See page 20 for rack positions.

MEAT	APPROXIMATE WEIGHT	APPROXIMATE MINUTES PER POUND	MEAT THERMOMETER TEMPERATURE
<b>Beef</b>			
<b>rolled rib</b>	3-5 lbs		
• rare		25-29	140°F
• medium		35-37	160°F
• well-done		45-47	170°F
<b>standing rib</b>	6-7 lbs		
• rare		23-25	140°F
• medium		30-32	160°F
• well-done		35-40	170°F
rump roast	4-6 lbs		
• medium		25-30	160°F
• well-done		35-37	170°F
<b>Lamb</b>			
<b>leg</b>	6-7 lbs		
• rare		18-29	140°F
• medium		21-24	150-155°F
• well-done		30-32	180°F
<b>Pork</b>			
<b>loin</b>	3-4 lbs	45-48	170°F
	5-6 lbs	40-44	185°F
<b>shoulder</b>	4-5 lbs	40-44	185°F
<b>ham, fully cooked</b>	3-5 lbs	17-18	130°F
	8-10 lbs	13-14	130°F
<b>Poultry</b>			
<b>chicken*</b>	3-4 lbs	28-30	185°F
<b>turkey, unstuffed</b>	10-16 lbs	14-19	170-180°F
	18-25 lbs	11-15	170-180°F
<b>Veal</b>			
<b>loin</b>	3-4 lbs	35-38	170°F
<b>shoulder</b>	5-6 lbs	43-45	170°F

# STANDARD OVEN BAKING CHART

Food	Oven Temperature	Approximate Cooking Time (Minutes)
<b>Breads, yeast</b>		
• loaf	375°F	30-40
• rolls, pan	400°F	12-15
<b>Breads, quick</b>		
• biscuits	450°F	10-15
• muffins	400°F	20-25
• popovers	450°F	20-25
• corn bread	425°F	25-30
• nut bread	350°F	60-75
• gingerbread	350°F	25-30
<b>Cakes</b>		
• angel food	375°F	30-40
• layer cake	350-375°F	20-30
• loaf cake	350°F	35-45
• sponge cake	350°F	35-45
• pound cake	350°F	34-45
• fruit cake	300°F	2-2 1/2 hrs
• sheet cake	300°F	25-35
<b>Cookies</b>		
• drop	375°F	10-15
• rolled and refrigerated	375°F	8-12
• chocolate	375°F	10-15
• fruit and molasses	375°F	10-15
• brownies	350°F	20-30
• macarons	350°F	12-15

Food	Oven Temperature	Approximate Cooking Time (Minutes)
<b>Miscellaneous</b>		
• apples, baked	375°F	50-60
• beans, baked	300°F	5-6 hrs
• custard, cup	325°F	35-40
• potatoes, baked	400°F	75
• pudding		
• bread	350°F	45-60
• cottage	375°F	30-40
• rice	325°F	40-60
• scalloped dishes	350°F	60-90
• soufflé	350°F	50-60
<b>Pastries</b>		
• cream puffs	400°F	35-40
• custard and pumpkin pie	350°F	30-40
• pastry shell	450°F	10-12
• two crust fruit pie		
cooked filling	400°F	25-30
uncooked filling	400°F	40-50
• meringue topping	350°F	10-15
<b>Temperatures and times are guidelines only and may need to be adjusted to individual tastes.</b>		

## Broiling Chart:

The recommended rack position is numbered lowest (1) to highest (5). Preheat broiler for five minutes before placing food in oven.

MEAT	RACK POSITION	TEMPERATURE	APPROXIMATE TIME (MINUTES)	
			SIDE 1	SIDE 2
<b>Steak, 1" thick</b>	4	500°F		
• rare			4	4
• medium			6	6
• well-done			8	8
<b>Steak, 1 1/2" thick</b>	4	500°F		
• rare			8	8
• medium			10	10
<b>Hamburger patties or steaks, 1/2" thick or less</b>				
• medium	4	500°F	6	4
<b>Lamb chops, 1" thick</b>	4	400°F	9	9
<b>Ham slice, 1/2" thick</b>	4	500°F	5	5
<b>precooked 1" thick</b>	4	500°F	10	10
<b>Pork chops, 1" thick</b>	4	450°F	12	12
<b>Frankfurters</b>	4	500°F	4	4
<b>Chicken pieces</b>	3	500°F	16	16
<b>Fish, 1" thick</b>	3	350°F	10	10
<b>Beef liver, 1/2" thick</b>	4	350°F	5	5

Temperatures and times are guidelines only and may need to be adjusted to individual tastes.

# INTRODUCTION TO CONVECTION COOKING

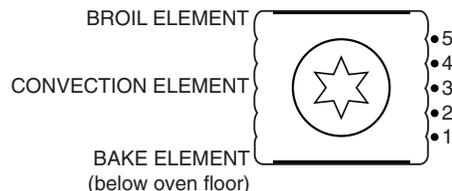
Welcome to convection cooking, the ultimate culinary technique that uses fan-circulated hot air to efficiently create delicious meals with appetite appeal.

## Air Flow

The secret to convection cooking lies in maintaining a consistent temperature throughout the oven during the cooking process. The fan circulates hot air in your convection oven continually to distribute heat more evenly than the natural movement of air. This fundamental difference means food is cooked on all sides, sealing in natural flavour and moisture. Avoid blocking the air circulation fan at the rear of the oven with a large dish, as this will interrupt free flow of air throughout the oven. It is important not to cover foods with foil, so that surface areas remain exposed to the moving air. The effective use of circulating air also means that many of your convection creations require shorter cooking times at lower oven temperatures, so you enjoy the added benefits of less time spent in the kitchen, and greater energy savings.

## Preheating

When preheating the oven is specified in a recipe, normal time is approximately 15 minutes.



## Multi-Level Convection Cooking

An immediate practical benefit of the convection cooking method is that hot air movement allows you to load the oven racks to capacity. For instance, you can bake four loaves of bread as quickly as you might finish two, with outstanding, uniform results. You may choose to cook your main course and side dishes or dessert, at the same time. For greatest success with multi-level cooking, stagger dishes on opposite corners of the oven racks to the ones above and below. Be

# CONVECTION MEAT ROASTING CHART

Set Cooking Selections to: CONVECTION/BAKE  
R - Rare M - Medium WD - Well Done

FOOD	APPROXIMATE COOKING TIME PER LB. (500G)	RACK POSITION	OVEN TEMPERATURE	INTERNAL TEMPERATURE OF MEAT WHEN COOKED
<b>Beef</b>				
Standing Prime Rib	R - 20-25 min M - 25-30 min WD - 30-35 min	2	300°F/145°C	140°F/60°C 160°F/70°C 170°F/75°C
Rolled Rib	R - 22-25 min M - 27-30 min WD - 32-35 min	2	300°F/145°C	140°F/60°C 160°F/70°C 170°F/75°C
Rump, Sirloin Tip	R - 20-25 min M - 25-30 min WD - 30-35 min	2	300°F/145°C	140°F/60°C 160°F/70°C 170°F/75°C
Pot Roast (braised)	35-40 min	2	300°F/145°C	170°F/75°C
Meatloaf	20-25 min	2	325°F/160°C	170°F/75°C
<b>Veal</b>				
Leg, Loin, Rib	M - 25-35 min	2	325°F/160°C	160°F/70°C
Shoulder, Blade	WD - 30-40 min	2	300°F/145°C	170°F/75°C
<b>Pork</b>				
Loin	30-40 min	2	325°F/160°C	170°F/75°C
Shoulder	35-40 min	2	325°F/160°C	170°F/75°C
Tenderloin	25-30 min	2	325°F/160°C	170°F/75°C
<b>Ham</b>				
Fresh (uncooked)	25-35 min	2	300°F/145°C	170°F/75°C
Pre-cooked	15-20 min	2	300°F/145°C	140°F/60°C
<b>Lamb</b>				
Leg, Shoulder	M - 25-30 min WD - 30-35 min	2 2	300°F/145°C	160°F/70°C 170°F/75°C
Rib, Rack, Loin	M - 20-25 min WD - 25-30 min	2 2	300°F/145°C	160°F/70°C 170°F/75°C

sure to leave at least one inch (2.5 cm) of space between the individual pans, and the diagram shown here indicates which convection feature and rack position you should be using for that particular recipe. At the Convection setting, the center element surrounding the fan at the rear of the oven is on. At the Convection/Broil setting, the top element in the oven will heat up. At the Convection/Bake setting, the lower element will be in use. Rack positions number from 1 at the bottom to 5 at the top.

## Convection Baking and Roasting

Your convection oven utilizes precise, consistent temperature control to ensure absolutely even baking and roasting results. In particular, foods that require browning are greatly enhanced by the hot air convection cooking method. Depending on the quantities you wish to prepare, convection cooked foods can be positioned on single or multiple racks. When roasting whole poultry or large cuts of meat, you can effectively lower oven temperature settings, and substantially reduce cooking times. You will notice the remarkable difference in convection cooked foods.

## Memorable Meats

Convection cooking techniques contribute special appeal to your meat dishes by locking in flavour and retaining moisture. The result is meat that is evenly browned outside and tender and naturally juicy inside.

Before roasting or broiling, brush the entire surface of lean meats with butter or oil. This will increase moisture retention and enhance browning. Position cuts of meat, uncovered, on the raised convection roasting rack, so that heat freely reaches all sides.

Convection oven methods can conveniently reduce the length of time required to roast meats, in comparison to conventional roasting. Therefore, meat should be checked shortly before the end of recommended cooking times, to avoid over-cooking.

Insert an accurate meat thermometer into the thickest part of the meat, taking care to avoid any bone, fat or gristle. Once the desired internal temperature is reached, remove the meat from the oven and let stand for a few minutes. This allows the juices to settle for easier carving.

## Convection Broiling

Convection broiling is essentially high-temperature convection cooking, combining fan-circulated hot air with the direct heat of the broiler element. We recommend preheating your oven first to maintain an even temperature during cooking. Convection broiling times will depend upon the variable temperature selected and the rack position used. Do not cover the broiling rack with tin foil as this will block air flow and extend cooking time. The oven door must remain closed while convection broiling. Circulating air creates a seal on all sides of the food so that turning foods is often not necessary.

## Bakeware Selection

Bakeware with lower sides allows for constant air circulation around all surface areas of food, for more even cooking. High-sided casserole dishes and bread pans should be positioned on the lower racks in the oven where they will benefit from optimal heat distribution. For the most appetizing browning results, use matte or dull finish metal pans as they conduct heat more efficiently. Dark finishes on bakeware will absorb more heat than reflective surfaces, resulting in darker, crispy bottom crusts more suitable for pies and breads. Shiny muffin tins, cake pans and cookie sheets tend to reflect heat, producing light, tender crusts. Glass, ceramic, and stainless steel dishes may not transmit heat as evenly as metal bakeware.

## Perfect Poultry

Preheating your oven to cook poultry is often not necessary, but we do suggest that you consult your individual recipes first. As you will notice in the Convection Poultry Roasting Chart, convection roasting temperatures are generally 25°F (15°C) lower than those used in conventional ovens.

Poultry is completely cooked when an accurate meat thermometer, inserted at the thickest part of the breast or inner thigh, registers 185°F (85°C). The juices will run clear and the meat should pull easily away from the bone.

Glazes or sauces may be brushed onto poultry during the last half of cooking time, for the perfect finishing touch.

## Delicate Fish & Seafood

A limitless variety of fish and seafood can be elegantly prepared using different convection cooking methods. Variable Convection/Broil temperature settings offer you greater diversity compared to conventional broiling.

Before Convection/Broiling we recommend that you baste all surface areas of your fish and seafood with oil or butter. Reduce your oven temperature for broiling thin fillets, and use a higher setting for broiling thicker fish steaks. Lower temperatures may require longer cooking times, but thorough hot air circulation eliminates the need to handle or turn fragile fish during convection cooking.

Testing fish and seafood during the last few minutes of recommended cooking time will ensure flawless results without over-cooking. When the fish is opaque and flakes easily, remove from the oven and serve.

## Savory Vegetables & Side Dishes

Oven-baking your vegetables is no longer limited to potatoes! Take full advantage of multi-level cooking and simultaneously prepare appetizing, piping hot accompaniments to your main meal with no cross-over flavors. Continuous heat distribution throughout your convection oven offers you the opportunity to efficiently prepare a variety of side dishes and vegetables.

As you prepare your own favorites, remember that more dense rice and pasta casseroles may require longer cooking times. To allow for thoroughly cooked centers without over-browned outside edges, lower oven temperatures at least 25°F (15°C), but not lower than 300°F (145°C).

## CONVECTION POULTRY ROASTING CHART

Set Cooking Selections to: TRUE CONVECTION

FOOD	APPROXIMATE WEIGHT	APPROXIMATE COOKING TIME PER LB. (500g)	RACK POSITION	OVEN TEMPERATURE NOT PREHEATED	INTERNAL TEMPERATURE OF POULTRY WHEN COOKED
Chicken, Whole	3 - 5 lb. (1.5 - 2.2 kg)	20-25 min	2	325°F/160°C	185°F/85°C
Parts, Quarters	3 lb. (1.5 kg)	18-25 min	2 or 3	325°F/160°C	185°F/85°C
Turkey, Unstuffed	13 lb. and under (5.85 kg)	10-15 min	2	300°F/145°C	185°F/85°C
	over 13 lb. (5.85 kg)	10-12 min	1 or 2	300°F/145°C	185°F/85°C
Capon, Unstuffed	4 - 7 lb. (1.8 - 3.1 kg)	15-20 min	2	325°F/160°C	185°F/85°C
Domestic Duck	3 - 5 lb. (1.5 - 2.2 kg)	25-30 min	2	325°F/160°C	185°F/85°C
		then 15 min		400°F/205°C	185°F/85°C
Domestic Goose	4 - 8 lb. (1.8 - 3.6 kg)	30-35 min	2	300°F/145°C	185°F/85°C
				300°F/145°C	185°F/85°C
Cornish Hen	1 - 1.5 lb. (0.5 - 0.7 kg)	50-60 min	2 or 3	325°F/160°C	185°F/85°C

Stuffed poultry may require additional cooking time.

### Incredible Egg & Cheese Dishes

You'll be delighted with the significant difference convection cooking makes, particularly to the preparation of dishes that are sensitive to fluctuations in oven temperature.

With a consistently maintained temperature throughout the oven, a fabulous soufflé, with a light-textured interior and an exquisitely golden crust, will no longer elude you. You'll enjoy complete success creating ham and swiss cheese soufflé as egg whites rise evenly while the wonderful flavour of cheese is gently blending in.

Most egg and cheese dishes bake higher and lighter using the constantly moving air in a convection oven. Positioning dishes in the center of the oven makes efficient use of evenly distributed heat, guaranteeing perfect results with your egg and cheese dishes.

### Effortless Quick Breads

Whether your family's preference leans toward delicious snack muffins or a hearty fruit and nut loaf, your convection range makes baking their favourites easy and rewarding!

Using a preheated oven will ensure quick breads are completely cooked in the center and delicately browned outside.

Enhanced heat distribution during convection baking may finish smaller items, such as biscuits and muffins, sooner than you might anticipate. Check for the desired level of doneness shortly before the end of recommended cooking times.

The moisture content and density of quick breads require convection oven temperatures within the same range as conventional baking temperatures.

## CONVECTION YEAST BREAD BAKING CHART

Set Cooking Selections to: TRUE CONVECTION

FOOD	SIZE OF BAKING DISH	RACK POSITION	PREHEATED OVEN TEMPERATURE	APPROXIMATE COOKING TIME
<b>Yeast Breads</b>				
Loaves	Bread Pans 9" x 5" (23 cm x 13 cm)	2	350°F/175°C	30-35 min
Dinner Rolls	Single Pan	3	350°F/175°C	10-15 min
	Multiple Pans	1, 3	350°F/175°C	12-15 min
<b>Homemade Pizza</b>				
	Single	3	400°F/205°C	15 min
	Multiple	2, 4	400°F/205°C	15-20 min

## CONVECTION QUICK BREADS BAKING CHART

Set Cooking Selections to: TRUE CONVECTION

FOOD	SIZE OF BAKING DISH	RACK POSITION	PREHEATED OVEN TEMPERATURE	APPROXIMATE COOKING TIME
<b>Yeast Breads</b>				
Muffins	Single Pan	3	375°F/190°C	18-25 min
	Multiple Pans	1, 3, 5		18-25 min
Biscuits	Single Sheet	3	425°F/220°C	8 min
	Multiple Sheets	1, 3, 5		10 min
Fruit & Nut Loaves	Loaf Pan 8" x 4" (21 cm x 12 cm)	2	325°F/160°C	45-60 min

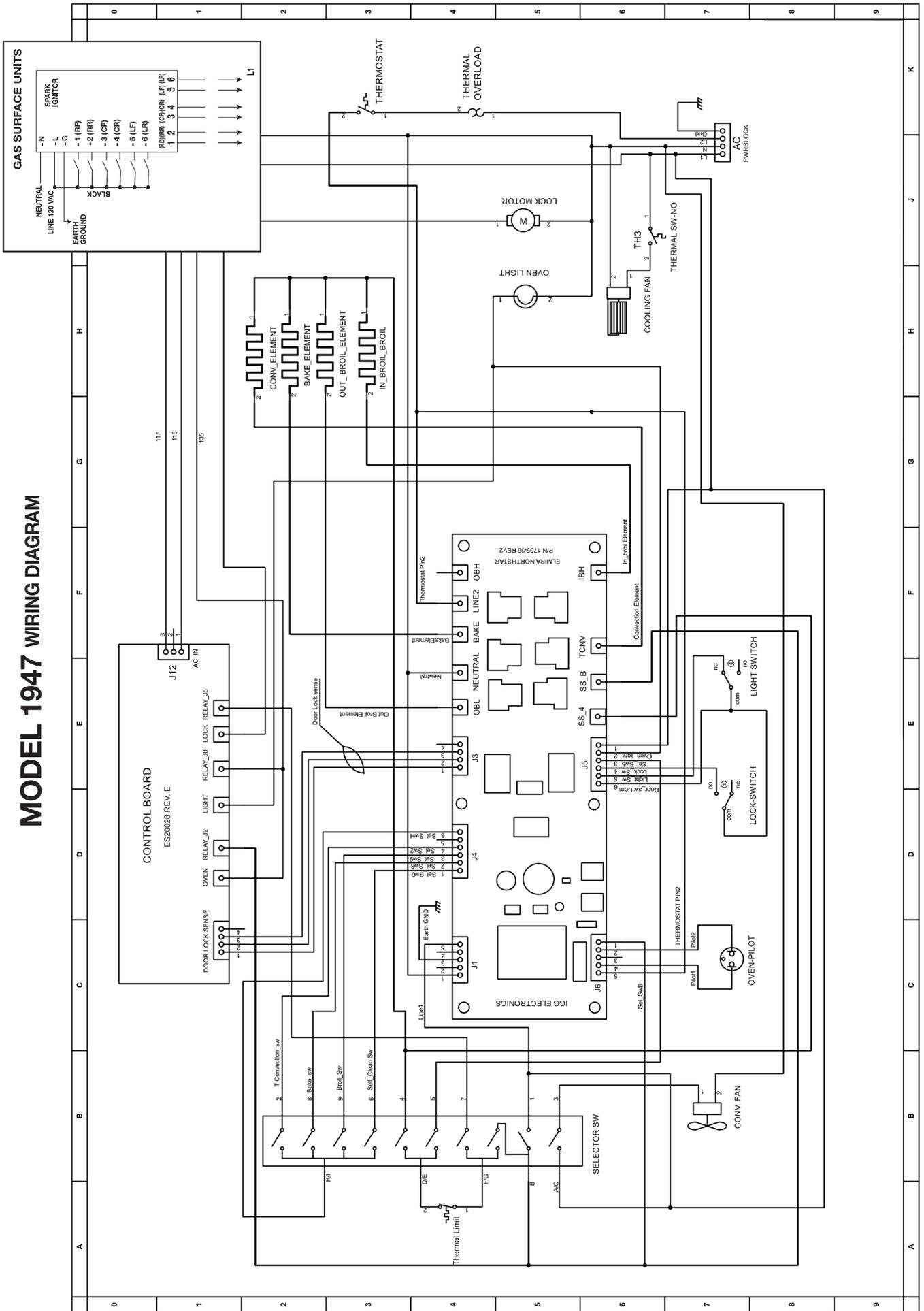
## CONVECTION DESSERT BAKING CHART

Set Cooking Selections to: TRUE CONVECTION

FOOD	SIZE OF BAKING DISH	RACK POSITION	PREHEATED OVEN TEMPERATURE	APPROXIMATE COOKING TIME
<b>Cookies</b>				
Dropped	Single Sheet	3	350°F/175°C	8-10 min
	Multiple Sheets	1, 3, 5	350°F/175°C	10-12 min
Rolled	Single Sheet	3	375°F/190°C	8-10 min
	Multiple Sheets	1, 3, 5	375°F/190°C	10-12 min
Brownies	Square Pan			
Loaves	8" - 9" (20 cm - 23 cm)	2	325°F/160°C	35 min
<b>Cakes</b>				
	Round or Square Pan 8" - 9" (20 cm - 23 cm)			
	Single Pan	2	325°F/160°C	30-35 min
	Multiple Pans	2, 4	325°F/160°C	30-35 min
	Rectangular Pan 9" x 13" (23 cm x 33 cm)	2	325°F/160°C	30-35 min
	Bundt Pan 10" (25 cm)	2	325°F/160°C	40-45 min
	Cupcakes	2	325°F/160°C	20-25 min
	Loaf Pan 9" x 5" (23 cm x 13 cm)	2	325°F/160°C	50-60 min
	Angel Food or Spring Form Pan	2	325°F/160°C	35-40 min
<b>Pies</b>				
With Filling	Single 9" (23 cm)	3	375°F/190°C	50-55 min
	Multiple 9" (23 cm)	1, 3, 5	375°F/190°C	55-60 min
Without Filling	Single 9" (23 cm)	3	375°F/190°C	8-10 min
	Multiple 9" (23 cm)	1, 3, 5	375°F/190°C	8-10 min



# MODEL 1947 WIRING DIAGRAM



## CLEANING GUIDE

Part	What To Use	How To Clean
<b>Control Knobs</b>	<ul style="list-style-type: none"> <li>• Soft sponge</li> <li>• Warm, soapy water</li> </ul>	<ul style="list-style-type: none"> <li>• Turn knobs to OFF and pull straight off control panel.</li> <li>• Wash, rinse and dry thoroughly. Do not soak.</li> <li>• Replace knobs. Make sure all knobs point to OFF.</li> </ul> <p><b>Do Not Use</b> steel wool or abrasive cleaners. They will damage the finish.</p>
<b>Exterior Non-Colored Surfaces</b>	<ul style="list-style-type: none"> <li>• Soft sponge</li> <li>• Warm, soapy water</li> <li>• VIM, Flitz or Soft Scrub cleaners</li> </ul>	<ul style="list-style-type: none"> <li>• Wash, rinse and dry thoroughly.</li> <li>• Use non-abrasive, plastic scrubbing pad on heavily soiled areas.</li> <li>• Follow directions on the container.</li> <li>• Do not use abrasive or harsh cleaners.</li> </ul>
<b>Glass Cook Tops</b> <i>also see page 9</i>	<ul style="list-style-type: none"> <li>• Soft cloth with warm, soapy water</li> <li>• Vim or Glass Stove Top Cleaner</li> <li>• Corning Cleaner-Conditioner</li> <li>• Dry Baking Soda</li> </ul>	<ul style="list-style-type: none"> <li>• Follow directions on container.</li> <li>• Do not use abrasive or harsh cleaners.</li> <li>• Apply to soiled areas dry with soft cloth.</li> </ul>
<b>Porcelain-Enamel Gas Grates</b>	<ul style="list-style-type: none"> <li>• Non-abrasive, plastic scrubbing pad</li> <li>• Warm, soapy water</li> <li>• Wax with Turtle Wax</li> </ul>	<ul style="list-style-type: none"> <li>• Wipe off excess spills.</li> <li>• Wash, rinse and dry thoroughly.</li> </ul>
<b>Broiler Pan &amp; Grid</b> <i>(Clean after each use)</i>	<ul style="list-style-type: none"> <li>• Steel-wool pad</li> <li>• Warm, soapy water <i>OR</i></li> <li>• Self-cleaning cycle</li> </ul>	<ul style="list-style-type: none"> <li>• Wash, rinse and dry thoroughly <i>OR</i></li> <li>• Leave in oven during self-cleaning cycle.</li> </ul>
<b>Oven Racks</b>	<ul style="list-style-type: none"> <li>• Steel-wool pad</li> <li>• Warm, soapy water <i>OR</i></li> <li>• Self-cleaning cycle</li> </ul>	<ul style="list-style-type: none"> <li>• Wash, rinse and dry thoroughly</li> <li>• Remove from oven during self-cleaning cycle.</li> </ul>
<b>Chrome Trim</b>	<ul style="list-style-type: none"> <li>• Maas cleaner, follow directions on tube</li> <li>• Tarnite metal polish (follow directions on can)</li> </ul>	<p><b>NOTE:</b> Racks will discolor and become harder to slide if left in oven during self cleaning cycle. Apply a small amount of vegetable oil to the side rungs to aid sliding.</p>
<b>Stainless Steel Warming Drawer</b>	<ul style="list-style-type: none"> <li>• Stainless Steel Cleaner and Polish <i>OR</i></li> <li>• Windex &amp; Papertowel</li> </ul>	<ul style="list-style-type: none"> <li>• Before cleaning make sure drawer is cool</li> <li>• Wash with hot soapy water</li> <li>• Rinse &amp; dry, then use cleaner or windex.</li> <li>• Rub cleaner in direction of the grain.</li> </ul>
<b>How Can I Clean Stains Off Painted Enamel?</b>	<ul style="list-style-type: none"> <li>• Soft sponge</li> <li>• Warm, soapy water <i>OR</i></li> <li>• Windex</li> </ul>	<ul style="list-style-type: none"> <li>• Wash, rinse and dry thoroughly.</li> <li>• Follow directions on the container.</li> </ul>
<b>Pancake Griddle</b> <i>(Option)</i>	<ul style="list-style-type: none"> <li>• Plastic scouring pad with soap &amp; water</li> </ul>	<ul style="list-style-type: none"> <li>• Soak then wash in hot soapy water.</li> </ul>

### **STAINS TO COOKTOP:**

**Acid (tomato, cherries, rhubarb, citrus, milk and vinegar) will permanently stain cooktop and trim if not wiped up immediately.**

## SERVICING RANGE UNDER COOK TOP

(Servicing should be done by a person knowledgeable in appliance service.) Disconnect power to range. Open oven door and remove it. See removal instructions on page 16. With a Philips Driver, undo the 2 screws holding the top down. Pull top forward about 2" then lift front up about 10". Raise the service stays on each side to hold top up.

## RANGE TROUBLESHOOTING

### Before Calling For Service...PHONE OUR HELP LINE AT: 1-800-295-8498.

You will need to provide a complete description of the problem, your appliance's complete model and serial numbers and the purchase or installation date (see Warranty). This information is needed to properly identify parts needed.

If your range should fail to operate, review the following list before calling for service.

*Note: Most electrical clock malfunctions can be corrected by turning the power off to the range for about 15 seconds. (Clock and Control will reset itself).*

Problem	Check...	What To Do
Nothing will operate	<ul style="list-style-type: none"> <li>• Is the power cord plugged into a live circuit with proper voltage?</li> <li>• Has a household fuse blown or a circuit breaker tripped?</li> </ul>	<ul style="list-style-type: none"> <li>• Plug the power cord into a live circuit with proper voltage.</li> <li>• Replace fuse or reset breaker.</li> </ul>
The oven will not operate	<ul style="list-style-type: none"> <li>• Has the clock been set?</li> <li>• Have the controls been set correctly?</li> <li>• Has a delayed start been programmed?</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to instructions for setting the electronic controls (page 15).</li> <li>• Wait for the start time.</li> </ul>
The electric surface elements will not operate	<ul style="list-style-type: none"> <li>• Has a household fuse blown or a circuit breaker tripped?</li> <li>• Are the control knobs set correctly?</li> <li>• Is a control knob sticking or broken?</li> </ul>	<ul style="list-style-type: none"> <li>• Replace household fuse or reset circuit breaker.</li> <li>• Push control knobs in before turning to a setting.</li> <li>• See LUBRICATION (page 17).</li> </ul>
Cooktop control knobs will not turn	<ul style="list-style-type: none"> <li>• Are you pushing in before turning?</li> <li>• See LUBRICATION page 17.</li> </ul>	<ul style="list-style-type: none"> <li>• Push control knobs in before turning to a setting. Call factory for help.</li> </ul>
The self-cleaning cycle will not operate	<ul style="list-style-type: none"> <li>• Does the range clock show the correct time of day?</li> <li>• Has a delayed start time been programmed?</li> </ul>	<ul style="list-style-type: none"> <li>• Reset clock to show the correct time of day (page 15).</li> <li>• Wait for the start time to be reached or reset for immediate start.</li> </ul>
Fan runs after oven is shut off		<ul style="list-style-type: none"> <li>• This is normal. The fan will stop running when the oven has cooled.</li> </ul>
Control is "locked up" (meaning no buttons will function)	<ul style="list-style-type: none"> <li>• There has been a power interruption.</li> </ul>	<ul style="list-style-type: none"> <li>• Reset the main power breaker to the range.</li> </ul>
Cooking results are not what you expected	<ul style="list-style-type: none"> <li>• Is the range level?</li> <li>• Is the oven preheated before baking?</li> <li>• Has the recipe been tested or is it from a reliable source?</li> <li>• Is the pan used the type or size recommended in a reliable cookbook?</li> <li>• Is there proper air circulation around the pan when baking?</li> <li>• Does cooking utensil fit the surface burner being used?</li> </ul>	<ul style="list-style-type: none"> <li>• Level range (see Installation instructions page 6).</li> <li>• Preheat oven when called for in recipe.</li> <li>• Use only tested recipes from a reliable source.</li> <li>• Refer to a reliable cookbook for recommended pan type and size.</li> <li>• Allow 1" to 2" (3.5-5 cm) of air space on all sides of pan.</li> <li>• Pan should be the same size or slightly larger than surface element being used.</li> </ul>

## GAS TROUBLESHOOTING

Problem	Check...	What To Do
Ignitor doesn't spark when knobs are turned to light.	Dirt on ignitor, defective spark module or valve switch.	Clean ignitors and area between ignitor and burner. Replace module or valve switch.
Burners spark but one does not light.	Check burner, cap, ignitor and orifice for dirt.	Clean dirt from burner, cap or orifice.
Spark occurs at ignitor when all control knobs are off.	Module. Water has been spilled on control panel.	Replace module. Unplug range and let control panel dry overnight.

Proper grounding and polarity are necessary for correct operation of the electric ignition system on model 1956. If the wall receptacle does not provide correct polarity, the ignitor will become grounded and click occasionally, even after the burner is ignited. A qualified electrician should check the wall receptacle for correct polarity and grounding. This sparking condition will also occur if there is a breeze across the burners or when on low. **Warning: Do not touch ignitor when it is sparking.**

**FOR WARRANTY SERVICE  
OUR FACTORY HELP LINE NUMBER IS:  
1-800-295-8498**

## **WARRANTY**

Your **NorthStar Range** is warranted by **Elmira Stove Works** to be free from defects in material and workmanship for a period of one year from the date of purchase. Elements, burners and smooth tops are warranted for five years.

**Elmira Stove Works** warrants to replace any parts free of charge which become defective during the period of this warranty. It also warrants to provide fair service labor rates to install the warranted parts during the first year. Glass, light bulbs, enamel, and chrome plating are not covered by the warranty. Warranty is subject to the terms outlined below.

### **Terms and Conditions**

This warranty applies only for residential use in the country of purchase. The range must be properly installed according to this manual and to local building and safety codes. Abuse, accident, alteration or misuse will void this warranty.

Neither **Elmira Stove Works** nor the dealer is liable for any damages or claims resulting from failure of the range or from service delays beyond their control.

Parts repaired or replaced through this warranty are warranted for the balance of the original warranty period.

This warranty does not cover any cost of making the appliance readily available for service, and does not cover labor performed at overtime or premium rates.

Purchase Date: \_\_\_\_\_ Store: \_\_\_\_\_

Store Address: \_\_\_\_\_

**Range Model** \_\_\_\_\_

**Serial Number** \_\_\_\_\_

**Elmira Stove Works**

**E-mail: [info@elmirastoveworks.com](mailto:info@elmirastoveworks.com)**

**[www.elmirastoveworks.com](http://www.elmirastoveworks.com)**