INSTRUCTIONS

RANGES

MODEL HCR SERIES ELECTRIC RANGE

MODELS

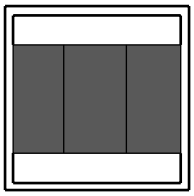
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HCR45	*ML-43801*
HCR46	*ML-43802*
HCR47	*ML-43803*
HCR48	*ML-43804*
HCR49	*ML-43805*
HCR50	*ML-43806*
HCR51	*ML-43807*
HCR56	*ML-43808*
HCR58	*ML-43809*
HCR401	*ML-43810*
HCR411	*ML-43811*
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HCR561	*ML-43815*

HOBART
CORPORATION

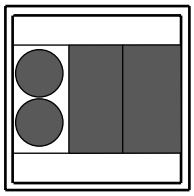
EXECUTIVE OFFICES
701 RIDGE AVENUE
TROY, OHIO 45374-0001

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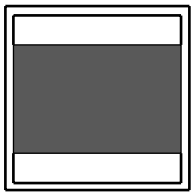
HCR RANGE MODELS



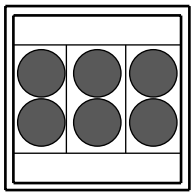
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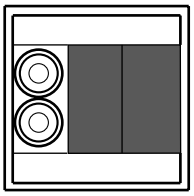
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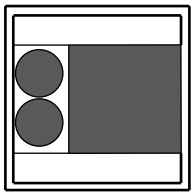
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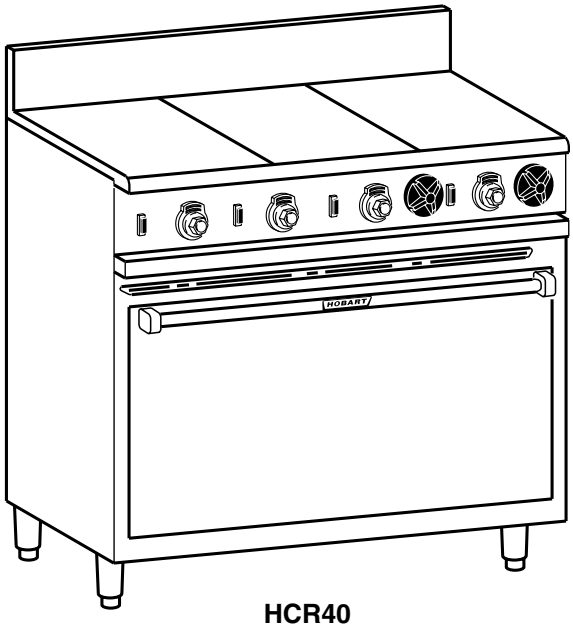
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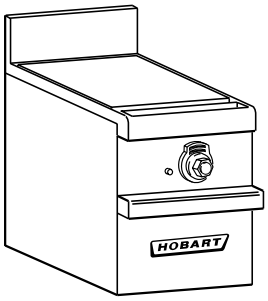
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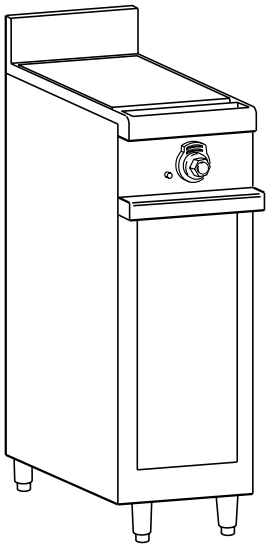
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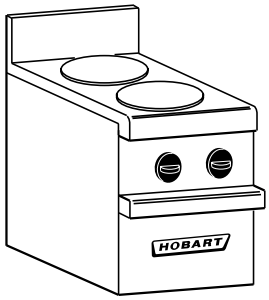
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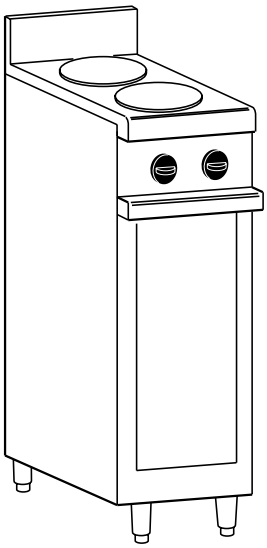
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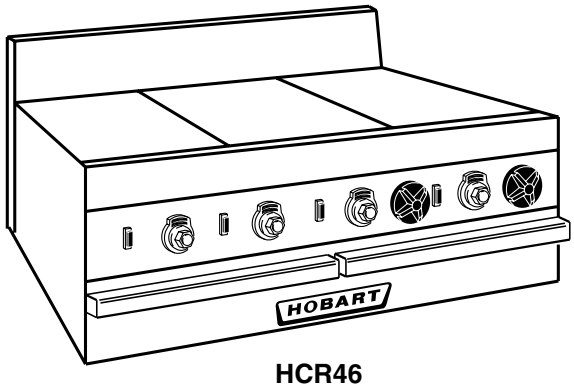
HCR44



HCR51



HCR45



HCR46

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Installation, Operation and Care of MODEL HCR SERIES ELECTRIC RANGE

SAVE THESE INSTRUCTIONS

GENERAL

The various Hobart Model HCR Series Ranges are equipped as follows:

MODEL	EQUIPPED WITH
RANGE WITH STANDARD OVEN	
HCR40	(3) 12" x 24" hot tops, 5 KW each
HCR41	(2) 12" x 24" hot tops and (2) 9 1/2" diameter round French hot plates (or high speed elements)
HCR42	36" wide griddle top
HCR43	(6) 9 1/2" diameter round French hot plates (or high speed elements)
HCR56	(2) 12" x 24" hot tops and (2) 9 1/2" diameter round high speed elements
HCR58	24" griddle top and (2) 9 1/2" diameter round French hot plates (or high speed elements)
EXPANDO UNITS	
HCR44	Full body expando unit with (1) 12" x 24" hot top
HCR45	Full body expando unit with (2) 9 1/2" diameter round French hot plates (or high speed elements)
HCR50	Modular (table) unit with (1) 12" x 24" hot top
HCR51	Modular (table) unit with (2) 9 1/2" diameter round French hot plates (or high speed elements)
MODULAR (TABLE) RANGES	
HCR46	(3) 12" x 24" hot tops, 5 KW each
HCR47	(2) 12" x 24" hot tops and (2) 9 1/2" diameter round French hot plates (or high speed elements)
HCR48	36" wide griddle top
HCR49	(6) 9 1/2" diameter round French hot plates (or high speed elements)
RANGE WITH CONVECTION OVEN	
HCR401	(3) 12" x 24" hot tops, 5 KW each
HCR411	(2) 12" x 24" hot tops and (2) 9 1/2" diameter round French hot plates (or high speed elements)
HCR421	36" wide griddle top
HCR431	(6) 9 1/2" diameter round French hot plates (or high speed elements)
HCR441	24" griddle and (2) 9 1/2" diameter round French hot plates (or high speed elements)
HCR561	(2) 12" x 24" hot tops and (2) 9 1/2" diameter round high speed elements

Hot tops are provided with clean-out grooves at left and right edges of range tops. Hot tops are not recommended for griddle work.

Optional high speed round tubular surface units are available in place of round French hot plates for use with 208 or 240 volt ranges only. High speed round tubular surface units are not recommended for stock pot work.

All ranges are equipped with adjustable 6" legs. Optionally, they may be equipped with no legs (for masonry base mounting) or a 4" toe base in place of legs. Ranges with ovens are equipped with one oven rack. One additional oven rack is available as an option. All full size free standing and modular ranges are provided with two drawers under the cooking tops; the left drawer is a baffled grease drawer, and the right drawer is a warming drawer.

INSTALLATION

UNPACKING

Immediately after unpacking the range, check it for possible shipping damage. If the range is found to be damaged after unpacking, save the packing material and contact the carrier within 15 days of delivery.

Prior to installation, verify that the electrical service agrees with the specifications on the data plate which is located on the front breaker cover door.

LOCATION

Position the range in its final installation position. Refer to the data plate for required clearances adjacent to combustible and non-combustible construction. When a broiler is installed over the range, refer to its data plate for clearance requirements as well as the range data plate. Install the range so that the conduit can be placed into the bottom entrance.

LEVELING

Using a carpenter level placed on top of the range, adjust the feet so the range is level from front to back and from side to side.

BATTERIED RANGES

You can place any combination of range models, along with expando units, in a battery. Modular models may be arranged in a battery as well. Spreader plates (available from Hobart Corporation) should be used when models are to be positioned close together in order to deflect grease which falls between ranges.

ELECTRICAL CONNECTIONS

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH TO INDICATE THAT YOU ARE WORKING ON THE CIRCUIT.

Bring conduit containing the proper supply wire (size and type in accordance with latest edition of the National Electrical Code ANSI/NFPA-70) to the range through the 2" hole located in the bottom of the range. On modular (table) ranges and expando units, the conduit enters the range through the clearance hole located in the back of the range. Use wire suitable for 75°C on ranges carrying more than 80 amps.

Connect the supply leads to the terminal block and the green grounding lead to the labeled ground lug.

ELECTRICAL DATA CHARTS

RANGES WITH STANDARD OVENS

"N/A" RANGES NOT AVAILABLE 480 VOLT

MODEL	TOTAL KW CONN.	3 PHASE LOAD KW PER PHASE 208V X-Y	240V Y-Z	480V X-Z	NOMINAL AMPS PER LINE WIRE 3 PHASE 208V X	Y	Z	240V X	Y	Z	480V X	Y	Z	1 PHASE 208V XYZ	240V XYZ	480V XYZ
HCR40,42	21.7	7.7	5	9	70	53	58	60	46	51	30	23	25	104	90	45
HCR40,42 / HCB48	27.7	10.7	8	9	82	78	71	71	68	61	30	34	36	133	115	N/A
HCR46,48	15	5	5	5	42	42	42	36	36	36	18	18	18	72	63	31
HCR46,48 / HCB48	21	8	8	5	54	67	54	47	58	47	18	29	29	101	88	44
HCR41,58	20.7	7.7	5	8	65	53	54	57	46	47	28	23	24	99	86	43
HCR41,58 / HCB48	26.7	10.7	8	8	78	78	67	68	68	58	28	34	34	128	111	N/A
HCR47	14	5	5	4	38	42	38	33	36	33	16	18	16	67	58	29
HCR47 / HCB48	20	8	8	4	50	67	50	43	58	43	16	29	27	96	83	42
HCR43	18.7	6.7	4	8	61	45	50	53	39	43	19	27	22	90	78	39
HCR43 / HCB48	24.7	9.7	7	8	74	70	63	64	60	54	27	30	33	119	103	N/A
HCR49	12	4	4	4	33	33	33	29	29	29	14	14	14	58	50	25
HCR49 / HCB48	18	7	7	4	46	58	46	40	51	40	14	25	25	87	75	38
HCR56	20.7	7.7	5	8	65	53	54	57	46	47	N/A	N/A	N/A	99	86	N/A
HCR56 / HCB48	26.7	10.7	8	8	78	78	67	68	68	58	N/A	N/A	N/A	128	111	N/A

RANGES WITH CONVECTION OVENS

MODEL	TOTAL KW CONN.	3 PHASE LOAD KW PER PHASE 208V,240V & 480V X-Y	Y-Z	X-Z	NOMINAL AMPS PER LINE WIRE 3 PHASE 208V X	Y	Z	240V X	Y	Z	480V X	Y	Z	1 PHASE 208V XYZ	240V XYZ
HCR401,421	22	6.2	6.2	9.6	66	51	66	57	45	57	29	22	29	106	92
HCR401,421/HCB48	28	9.2	9.2	9.6	78	76	78	68	66	68	34	33	34	135	117
HCR411,441	21	6.2	6.2	8.6	62	51	62	54	45	54	27	22	27	101	87
HCR411,441/HCB48	27	9.2	9.2	8.6	74	76	74	64	66	64	32	33	32	130	112
HCR431	19	5.2	5.2	8.6	58	43	58	50	37	50	25	19	25	91	79
HCR431/HCB48	25	8.2	8.2	8.6	70	68	70	61	59	61	30	29	30	120	104
HCR561	21	6.2	6.2	8.6	62	51	62	54	45	54	N/A	N/A	N/A	101	87
HCR561/HCB48	27	9.2	9.2	8.6	74	76	74	64	66	64	N/A	N/A	N/A	130	112

EXPANDO UNITS

MODEL	TOTAL KW CONN.	3 PHASE LOAD KW PER PHASE 208V X-Y	240V Y-Z	480V X-Z	NOMINAL AMPS PER LINE WIRE 3 PHASE 208V X	Y	Z	240V X	Y	Z	480V X	Y	Z	1 PHASE 208V XYZ	240V XYZ	480V XYZ
HCR44,50	5	—	—	5	—	—	—	—	—	—	—	—	—	24	21	11
HCR45,51	4	2	2	—	8	17	8	7	14	7	3.6	7.2	3.6	20	17	8.3

"HCB48" in above charts denotes a Model HCB48 Charbroiler installed on range.

OPERATION

WARNING: THE RANGE AND ITS PARTS ARE HOT. USE CARE WHEN OPERATING, SERVICING AND CLEANING THE RANGE.

BEFORE FIRST USE

Clean off the rust preventive compound on the surface units with a cloth dampened with a grease solvent. Wipe with a clean, damp cloth, then dry thoroughly.

Seasoning

The cast iron surface plates must be seasoned. To do this, grease the top, then turn the element switches to LO (or thermostat to 300°F) and allow the plates to heat up gradually for about 2 hours. Repeat this procedure a second time before regular use. Seasoning the surface plates will deter cracking of the cast iron and ensure a longer life.

TOP SURFACE ELEMENTS AND CONTROLS (Fig. 1)

CAUTION: Do not continuously operate surface units at maximum temperature; this is for occasional use only. This practice contributes not only to costly operation and waste of energy, but also to rapid deterioration of the heating elements and castings.

Element Switches — control and maintain heat to surface elements.

Element Indicator Lights — when lit, indicates power is being supplied to the element.

There are 3 different types of plates that may be used in the HCR Series Ranges.

PLATE & SIZE	USED IN MODELS	CONTROLS	TEMP. RANGE
Hot Top 12" X 24"	HCR40, HCR41, HCR44, HCR46, HCR47, HCR50, HCR56, HCR401, HCR411, HCR561	Thermostat provides control of a single element rated at 5 KW. Indicator light (next to thermostat) is ON when thermostat calls for heat and goes OFF when desired temperature is reached.	340 to 800°F
9½" Dia. French Hot Plates (or Optional Hi-Speed Elements)	HCR41, HCR43, HCR45, HCR47, HCR49, HCR51, HCR58, HCR411, HCR431, HCR441	Infinite switch (3-heat switch in 480 V. models) provides (according to its setting) a varying percent (about 7-100%) of its total input to the elements. Rated at 2 KW.	*
9½" Dia. Hi-Speed Elements	HCR56, HCR561	Infinite switch provides (according to its setting) a varying percent (about 7-100%) of its total input to the elements. Rated at 2 KW.	
Griddle Top 36"	HCR42, HCR48, HCR421	(3) thermostats, each with its own indicator cycling light.	175-550°F
Griddle Top 24"	HCR58, HCR441	(2) thermostats with individual indicator lights.	175-550°F

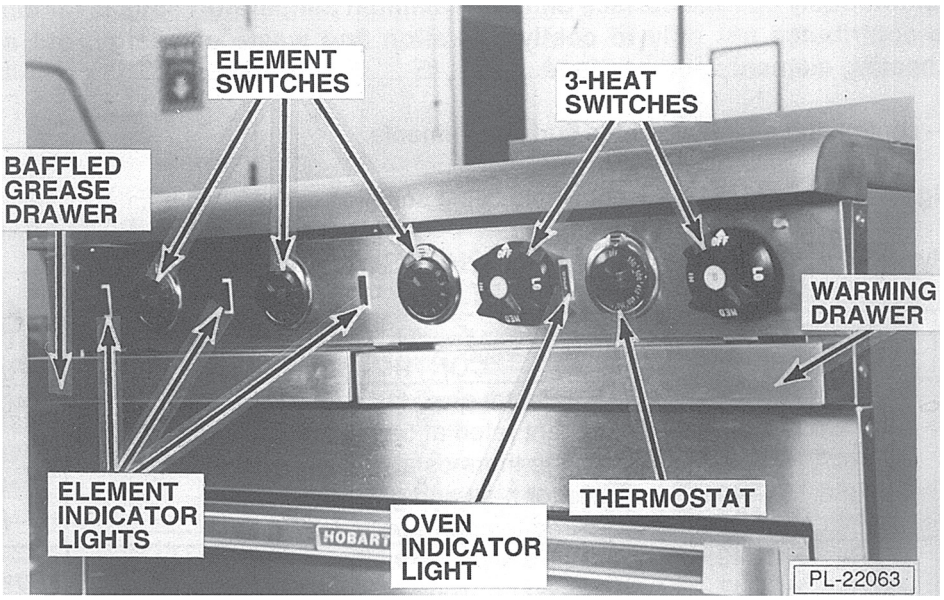
*The 9½" diameter French hot plates are energy saving units. A separate thermostat is built into each plate. When a plate's dial is set at the top range of the infinite switch and a pan or pot containing food is placed on the plate, the plate delivers 2,000 watts at a temperature lower than 800°F. When the cooking utensil is removed or boils dry, heat is no longer carried from the unit and the temperature rises. When the plate reaches from 820°F to 850°F, wattage is cut back to 950 watts, a 52.5% reduction.

OVEN CONTROLS (Fig. 1)

Thermostat — (located on the right side of the switch panel) controls and maintains oven temperature around the desired set temperature. Temperature range of the oven is from 175°F to 550°F.

3-Heat Switches — (two switches which are located one on each side of the thermostat) control the top and bottom oven heating elements, thereby controlling the rate of temperature build-up. At HI position, the maximum element power is utilized (both elements connected in parallel), at MED position, only one of the two elements is on (about one-half power), and at LO position, the two elements are on in series (about one-quarter power).

Oven Indicator Light — (located next to the thermostat) when lit, indicates the thermostat is calling for heat and when OFF, indicates the desired temperature is reached.



Model HCR40 Shown
Fig. 1

USING THE RANGE TOP

Use the high setting to bring food quickly up to its cooking temperature, then reduce to the actual cooking temperature. During traffic lulls, reduce plate temperature to idle around 200°F (or set 3-heat switch to MED). When turned to HI, plates will perform bulk cooking jobs just as rapidly.

12" x 24" Hot Top

Each hot top section is thermostatically controlled. Each may be independently operated at the same or different temperatures, providing you with selective heat control for general hot top work (sauteing, braising, pan frying and skillet work). Do not use the hot top for general griddling.

When ready to use the hot top section, wipe the surface clean of all grease and food particles. Position utensils so that as much of the hot top section area as possible is covered. Set control at dial setting.

French Hot Plate

French hot plates are designed for bulk cooking and stock pot work (up to 20 Qt. stock pots or 9-10" dia. pans). Stock pots of over 5-gallon capacity are not recommended for continuous use on French hot plate sections. 208/240 volt units are controlled by infinite heat switches. 480 volt models are controlled by 3-heat switches.

Optional High-Speed Units

High-speed units furnished in lieu of French hot plates on 208 and 240 volt models are controlled by infinite switches.

Griddle

Use for general griddling (hamburgers, eggs, pancakes, minute steaks, etc.) If using for the first time, griddle must be seasoned (see BEFORE FIRST USE in this manual).

To use, set dial at desired temperature and allow griddle to preheat (about 7 minutes to reach 350°F). Signal light will go off when preset temperature is reached. Then load and cook according to recipe, turning foods halfway through cooking time (unless recipe specifies otherwise).

Each 12" section of the griddle has its own thermostatically controlled heat zone and indicator light. This permits simultaneous cooking of different foods at different temperatures (such as eggs, 300°F; and bacon, 350°F); or using the entire griddle top at the same temperature; or using only one or two sections during off-peak periods for economical operation.

USING THE OVEN

When baking or roasting on one level only, remove rack and place food pans directly on oven deck. When using rack and deck at the same time, rotate foods halfway through cooking cycle. When baking on the rack, it may be necessary to set the bottom 3-heat switch at HI.

Preheat oven. Set top and bottom 3-heat switches to HI and thermostat to desired baking temperature. Keep oven door closed during preheating. While waiting for the oven to preheat, load food products into pans.

When set temperature is reached, allow oven signal light to go on and off at least twice so the oven is thoroughly heated and will brown baked products evenly. Set 3-heat switches at desired setting. Load oven as quickly as possible to reduce heat loss from open door. Place pans in center of rack and close door. Do not load small pans closer than 3" from door. Do not let pans touch the sides or back of the oven or each other.

When cooking is completed, open oven door and unload product. After oven cools, any spills should be wiped up as quickly as possible to prevent them from becoming stubborn stains.

OPERATING HINTS

Preheat the oven and surface units to cooking temperature before cooking the product. Become familiar with the function of the controls and the area of their operation.

Avoid excessive door opening. Also avoid direct air current on the oven.

Use flat-bottomed, straight-sided pots and pans.

Use covers for stock pot work. Water will boil much sooner and much less heat is required for cooking in a covered container.

Turn high speed elements off a few minutes before cooking is completed to use the heat stored in the element.

After each cooking load, scrape excess food and fat particles off the griddle surface, using a flexible spatula or wire brush.

COOKING TIPS

Oven

While it is recommended that the 3-heat switches be set to the HI position in order to preheat the oven to the desired temperature, it is necessary for some baking products to turn the 3-heat switch controlling the top elements to the MED or LO position in order to reduce the amount of radiant heat applied to the product so that the top portion of the product will not be burned.

Uneven cooking may be prevented by different settings for the top and bottom oven 3-heat switches. The amount of heat applied to a product inside the oven is affected not only by the setting of the thermostat and 3-heat switches, but also by its position inside the oven and the frequency of opening and closing the oven door.

Meat roasting is best performed in a balanced oven; 3-heat switch positions of HI and HI are suggested, with the thermostat setting at the low temperature recommended by the American Meat Institute and the Department of Agriculture. Top heat results in a well colored or carmelized finish to meats. When roasting fowl and a heavily browned appearance is not desired, set the top 3-heat switch at MED or LO. It is recommended that a meat thermometer be used for all meat roasting operations.

Range Top

Typical cooking operations described below (plus many other types of pot-and-pan work) require quick changes from high to low heats. With versatile Hobart range tops, you can maintain different sections at different temperatures and just shift utensils from one section to another when you wish to change the speed of cooking.

Sauteing: Frying in Small Amount of Fat — Heat fat in a frying pan on high heat. When fat is hot, switch to low heat and add food. Brown one side, turn and brown on second side. A flat-bottomed pan is recommended for sauteing. If a warped pan is used, food will be unevenly browned.

Pan Broiling: Cooking Meats in Frying Pan — Heat frying pan on high heat. Rub hot pan lightly with fat or suet to prevent meat from sticking. Add meat and brown on one side. Turn and brown on second side. Pour off fat as it accumulates.

Stewing: Browning Meat in Small Amount of Hot Fat, Then Cooking with Liquid in Covered Utensil — Season meats and dredge in flour, if desired. Brown in hot fat and add liquid. Leave on high heat until food reaches cooking temperature, then switch to low heat for the slow cooking that produces tender foods. (Meats can also be braised in the oven, with a covered pan, after browning on the surface unit.)

Stock Pot Work — Use high temperature setting to start food boiling. Use high heat only until steam flows freely from edge of utensil cover, then switch to low heat to continue cooking. If you are following a recipe, start timing when food reaches the boiling point. On French hot plates, stock pots of over 5-gallon capacity are not recommended for continuous use.

CLEANING

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY BEFORE CLEANING.

Daily (Or More Often If Necessary)

1. Empty and clean grease trays and troughs. Do not line grease tray with heat-reflecting foil.

2. While still warm, wipe surface tops with a cloth or other grease absorbing material (or scrape if necessary) to remove spillover, grease, etc., before they burn in. A crust on top of the range looks unsightly and slows down speed of cooking because it reduces the flow of heat to the utensil.

3. Keep oven clean to prevent smoking. Never allow grease or fat to accumulate. Use an enamel cleaner or damp cloth. The vitrious enamel on the oven interiors simplifies cleaning. Steel wool may be used for stubborn spots.
4. Clean stainless steel fronts with a damp cloth. Stubborn soil may be removed with a detergent. Rinse and dry with a soft clean cloth. Never use abrasive cleaners, sharp instruments or steel wool. They can scratch the finish.

5. Porcelain oven linings and door linings may be cleaned with a cloth dampened with detergent or oven cleaner. Rinse thoroughly and dry with a soft clean cloth.

6. Clean oven inspection and light window in the same manner as the liner or with a mild abrasive. Do not use scouring powder ; it will scratch and fog the glass and it is easy to build up an accumulation of excess scouring powder which is extremely difficult to remove.

7. Painted surfaces may be cleaned with a cloth dampened with detergent solution. Rinse and wipe dry with a soft clean cloth.

8. After each cleaning, reseason cast iron surface plates as described under BEFORE FIRST USE in this manual.

As Required

Wipe plates not in frequent use with cooking oil or any similar oil which will not cause an objectionable odor when heated.

BLOWER WHEEL (Convection Oven Models Only)

Occasionally, it may be desirable to clean the blower wheel. To do this, remove the fan cover at the rear of the oven and use a wire brush to remove grease and debris from the fan.

TROUBLESHOOTING

Unsatisfactory browning of the products baked in the oven is often caused by incorrect installation or operation. The most common problems and their causes are listed below.

PROBLEM	CAUSES
Bottom of product burned - top light, or vice versa	1. Incorrect switch positions. Use next lowest position for overbrowned surface and/or next highest for light surface. 2. Oven heated to temperature above proper baking temperature and insufficient time allowed for cooling. Approximate cooling time for 25°F drop with door open is 10 minutes. 3. Baking on both rack and deck without switching pans when half done. 4. Baking at consistently high temperatures.
Light sides, back, or front	1. Frequent door opening. 2. Insufficient preheat time to saturate oven, or insufficient time allowed when increasing temperature for different product. 3. Pans touching oven sides or back. Center pan(s) in oven.
Light front and dark back	1. Frequent door opening during baking period. Establish baking time and leave door closed until time has elapsed. 2. Vent fan pulling too much air from around the range. 3. Drafts blowing directly on oven front.
Uneven or spotty browning	1. Warped or dented pans. 2. Accumulation of spillage on deck. 3. Oven deck not level. 4. Pans of different finish or color.