INSTRUCTIONS

BROILERS

MODEL HCB SERIES ELECTRIC BROILERS

MODELS

HCB42	*ML-43816*
HCB43	*ML-43817*
HCB45	*ML-43819*
HCB46	*ML-43820*
HCB47	*ML-43821*
HCB48	*ML-43822*
HCB421	*ML-43823*
HCB440	*ML-43818*
HCB441	*ML-43824*

HOBART
CORPORATION

EXECUTIVE OFFICES
701 RIDGE AVENUE
TROY, OHIO 45374-0001

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Installation, Operation and Care of MODEL HCB SERIES ELECTRIC BROILERS

SAVE THESE INSTRUCTIONS

GENERAL

Your Hobart Model HCB Series Broiler is a heavy duty electric broiler with infinite switch controls on 208 and 240 volt models and 4-position, 3-heat switch controls on 480 volt models. It features a heat-holding inverted "V" grid design that provides meat branding with minimum meat contact. It also provides a floating drip shield for fat run-off into the grease collector which reduces fat smoking. The overhead broiling elements quickly generate infra-red broiling heat.

Your broiler may be used for browning, finishing, as a cheese melter, for heating, as well as for broiling beef, pork, chicken, fish, etc.

Adjustable 6" legs are furnished as standard equipment. Optionally, the broiler may be provided without legs (for masonry base mounting), or with a 4" toe base in place of legs.

Other optional features include a 480 volt model, modular stand for the modular (table) model broiler, and one additional oven rack for models with an oven.

Following is a description of the models in the HCB Series.

MODEL	DESCRIPTION
HCB42	Single section broiler with standard oven below
HCB43	Single section broiler with storage space below
HCB45	Double section broilers with storage space below
HCB46	Modular single section broiler
HCB47	Modular double section broiler
HCB48	Backshelf broiler for mounting over a 3-ft. range
HCB421	Single section broiler with convection oven below
HCB440	Double section broilers with standard oven below
HCB441	Double section broilers with convection oven below

INSTALLATION

UNPACKING

Immediately after unpacking the broiler, check for possible shipping damage. If the broiler 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 breaker access panel of Models HCB42, 43, 440, 45, 421 and 441, on the front of the riser cover of Model HCB48, and on the front panel of the modular models.

ALL MODELS EXCEPT HCB48

LOCATION

Position the broiler in its final installation position. Refer to the data plate for required clearances from combustible construction. Install so that the conduit can be placed into the bottom entrance on models with ovens and through the clearance hole provided in the back on the modular models.

LEVELING

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

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 to the broiler (select size and type of wire in accordance withthe latest edition of the National Electrical Code ANSI/NFPA-70 suitable for carrying the equipment's rated amps and voltage. Use wires suitable for 75°C on broilers carrying more than 80 amps). On models with an oven or storace space below the broiler, conduit enters into the broiler through the hole provided in the bottom. On modular models, the conduit enters through the clearance hole provided in the back and is terminated on the vertical panel behind the terminal block.

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

ELECTRICAL DATA CHART

BROILERS WITH STANDARD OVENS

"N/A" BROILERS NOT AVAILABLE IN 480V 1 PHASE

		3 PHASE LOAD KW PER PHASE			3 PHASE LOAD KW PER PHASE			NOMINAL AMPS PER LINE WIRE											
	TOTAL KW	208 & 240V			480V			3 PHASE 208V			3 PHASE 240V			3 PHASE 480V			1` PHASE 208V	1` PHASE 240V	1` PHASE 480V
MODEL	CONN.	X-Y	Y-Z	X-Z	X-Y	Y-Z	X-Z	X	Y	Z	X	Y	Z	X	Y	Z	XYZ	XYZ	XYZ
HCB42	18.7	5.7	6.0	7.0	8.7	6.0	4.0	52	49	54	45	42	47	23	27	18	90	78	39
HCB440	30.7	11.7	9.0	12.0	8.7	10.0	12.0	99	86	87	86	75	76	37	34	40	148	129	N/A

BROILERS WITH CONVECTION OVENS

"N/A" BROILERS NOT AVAILABLE IN 480V 1 PHASE

MODEL	TOTAL KW CONN.	3 PHASE LOAD KW PER PHASE 208 & 240V			3PHASE LOAD KW PER PHASE 480V			NOMINAL AMPS PER LINE WIRE 3 PHASE 208V			240V			480V			1` PHASE 208V	240V	480V
		X-Y	Y-Z	X-Z	X-Y	Y-Z	X-Z	X	Y	Z	X	Y	Z	X	Y	Z	XYZ	XYZ	XYZ
HCB421	19.0	4.2	7.2	7.6	7.2	7.2	4.6	65	53	54	43	41	53	21	26	21	91	79	40
HCB441	31.0	10.2	10.2	10.6	7.2	13.2	10.6	87	85	87	75	74	75	32	37	43	149	129	N/A

MODULAR BROILERS OR BROILERS WITH STORAGE SPACE BELOW

"N/A" BROILERS NOT AVAILABLE IN 480V 1 PHASE

MODEL	TOTAL KW CONN.	3 PHASE LOAD KW PER PHASE 208 & 240V			3PHASE LOAD KW PER PHASE 480V			NOMINAL AMPS PER LINE WIRE 3 PHASE 208V			240V			480V			1` PHASE 208V	240V	480V
		X-Y	Y-Z	X-Z	X-Y	Y-Z	X-Z	X	Y	Z	X	Y	Z	X	Y	Z	XYZ	XYZ	XYZ
HCB43,46	12.0	3.0	6.0	3.0	6.0	6.0	—	25	37	37	22	32	32	11	23	11	58	50	25
HCB45,47	24.0	9.0	9.0	6.0-	6.0	12.0	6.0	62	75	62	54	65	54	22	32	32	115	100	N/A

MODEL HCB48 BACKSHELF BROILER

The Model HCB48 backshelf broiler is similar to the other heavy duty broilers except that it has a smaller capacity and the heating element (divided electrically into two sections) is controlled by a single 3-heat switch on 480 volt models, and the left and right control of the broiler is maintained by two infinite switches on 208 volt, 240 volt, and 220/380 volt construction.

ASSEMBLY

The heavy duty Hobart backshelf broiler is designed to be mounted 21" above the cooking surface of the Hobart 36" range. The two broiler legs slide in and are mounted to the two channels provided in the back of the range.

Bring the broiler leads (A1, A2, B1, B2 in 208, 240 and 480 volt models & X, Y, N in 220/380 or 240/415 volt models down and through the range's burner box compartment to the circuit breakers or the terminal block and connect them to the proper terminal as shown on the wiring diagram of the range or the schematic decal mounted to the breaker closure.

Broilers wired for 3-phase service may be changed to 1-phase or vice versa by simply relocating 2 of the 4 broiler leads on the range's terminal block as shown in the wiring diagram of the particular range to which the broiler is mounted.

ELECTRICAL DATA CHART FOR MODEL HCB48

RANGES NOT AVAILABLE "N/A" 480 VOLT 1 PHASE

MOUNTED ON RANGE MODEL	TOTAL KW CONN.	3 PHASE LOAD KW PER PHASE			NOMINAL AMPS PER LINE WIRE											
					3 PHASE									1 PHASE		
		208V	240V	480V	208V			240V			480V			208V	240V	480V
		X-Y	Y-Z	X-Z	X	Y	Z	X	Y	Z	X	Y	Z	XYZ	XYZ	XYZ
HCR40,42	27.7	10.7	8	9	82	78	71	71	68	61	30	34	36	133	115	N/A
HCR41,56,58	26.7	10.7	8	8	78	78	67	68	68	58	28	34	34	128	111	N/A
HCR43	24.7	9.7	7	8	74	70	63	64	60	54	27	30	33	119	103	N/A
HCR46,48	21	8	8	5	54	67	54	47	58	47	18	29	29	101	88	44
HCR47	20	8	8	4	50	67	50	43	58	43	16	29	27	96	83	42
HCR49	18	7	7	4	46	58	46	40	51	40	14	25	25	87	75	38
HCR401,421	28	9.2	9.2	9.6	78	76	78	68	66	68	34	33	34	135	117	N/A
HCR411,441,561	27	9.2	9.2	8.6	74	76	74	64	66	64	32	33	32	130	112	N/A
HCR431	25	8.2	8.2	6.6	70	68	70	61	59	61	30	29	30	120	104	N/A

ELECTRICAL TESTS

Turn each switch from LOW through HIGH and verify that it controls the heating elements correctly.

Free Standing Models — 208V & 240V

Left switch controls front element, LOW—HIGH
Right switch controls rear element, LOW—HIGH

Free Standing Models — 480V

Left switch controls two front elements
Right switch controls two rear elements:
- LOW = 2 elements on LOW
- MED = 1 element on HIGH and 1 element OFF
- HIGH = 2 elements on HIGH

Model HCB48 — 208V & 240V

Top switch controls left element, LOW—HIGH
Bottom switch controls right element, LOW—HIGH

Model HCB48 — 480V

One switch controls 2 elements:
- LOW = left and right elements on LOW
- MED = left element OFF, right element on HIGH
- HIGH = left and right elements on HIGH

OPERATION

WARNING: THE BROILER AND ITS PARTS ARE HOT. USE CARE WHEN OPERATING, SERVICING AND CLEANING THE BROILER. USE INSULATED HAND PROTECTION WHEN LOADING AND UNLOADING PRODUCT.

BROILER SECTION

The grid is of the V bar type, which permits easy scraping with a steak turner during operation. Drippings from the broiling food go through the grid onto the drip shield and into the grease collector.

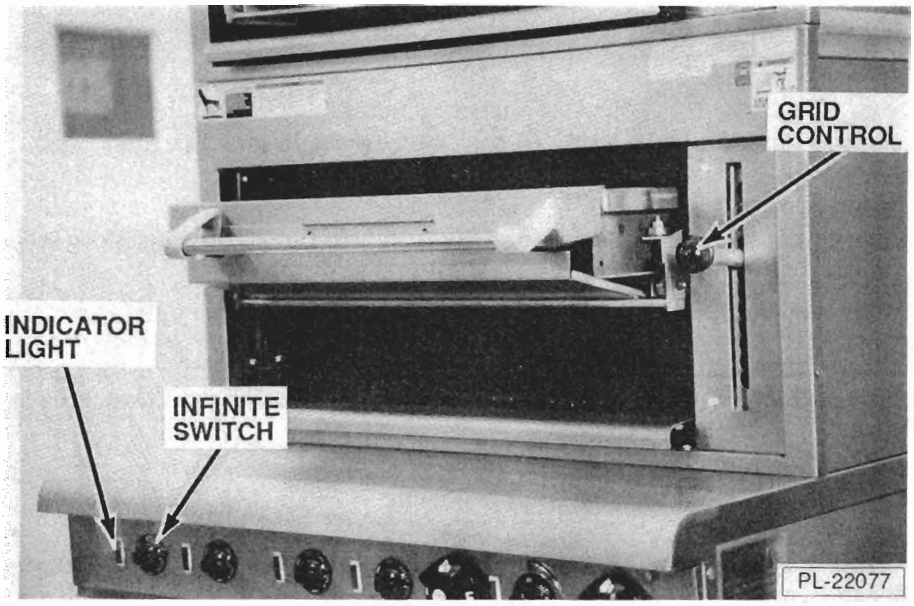
CONTROLS — (Fig. 1)

Infinite Switches — (208 and 240 volt models) control and maintain independently the front and rear sections of the broiler. The setting of the switch on the left-hand side of the broiler section of the switch panel controls the various percent-on time of the two front elements, and the switch on the right-hand side of the broiler section of the switch panel controls the two rear elements. The percent-on time varies from approximately 10% in the VERY LOW position to 100% in the HIGH position.

4-Position, 3-Heat Switches — (480 volt models) control and maintain independently the front and rear sections of the broiler. The HIGH position provides full power (both elements connected in parallel), at MED position one element only is on providing one-half power, at LOW position both elements are connected in series, providing about one-quarter power, and at the OFF position the elements are completely turned off.

Grid Control — the distance of the grid surface from the elements is controlled by the pull and release grid handle at the right of the broiler. The handle locks in 13 positions over the 6" grid travel.

Indicator Lights — when lit, indicates power is being supplied to the broiler elements.



Model HCB44 Shown
Fig. 1

Model HCB48

Two infinite switches control independently the left and right heating elements in 208, 240, 220/380 and 240/415 volt models, providing a variable range of on-time from 22% to 100%. On 480 volt models, a 3-heat, 4-position switch controls both elements, providing approximately 100, 50, 25 & 0% of total available power as it rotates from HIGH to MED to LO and OFF positions. Each of the two heating elements is 3.0 K.W. The removable sliding grid with usable area of 13" x 25" can be mounted in 3 separate positions allowing loading clearance from 1.25" to 5". The removable drip pan is located under the broiler on the left side.

PREHEATING

All Models Except HCB48: To preheat broiler, turn both front and rear element switches to HIGH. Always preheat broiler with both switches at HIGH before setting switches to use only a portion or all of the broiler. The elements will heat, at full input, to broiling radiance in approximately 5 minutes.

Model HCB48 — To preheat broiler, turn switch(es) to HIGH. After broiler is preheated, keep switch(es) on HIGH to heat entire broiler; turn switch(es) to MEDIUM to heat half of broiler; turn switch(es) to LOW to keep broiler at standby. Use LOW setting for slow barbecuing, toasting, and keeping foods warm.

USING THE BROILER (ALL MODELS)

1. Preheat broiler as described above. When the broiler is thoroughly preheated, set switches to desired setting.

2. Prepare product to be broiled and place on grid.

3. Adjust grid to desired height by pulling out on grid handle and moving grid to desired notch. The following settings are suggested for rare, medium, and well done meats:

Rare:	Place meat within 1" to 2" of broiler element for fast browning.
Medium:	Place meat at 4" (or more) from broiler element for slow broiling.
Well Done:	Place meat at 3" to 4" from broiler element. It will be thoroughly cooked by the time it is browned.

   Oil grid thoroughly before broiling fish to prevent fish from sticking. Place fish on grid parallel to bars and tail to broiler back for easy turning.

4. Broil food on one side for half of total time. Season browned side and turn food over. Continue broiling for remaining time.

5. Serve food at once on hot plate or platter. If food must be held before serving, store in food warmer or oven.

BRANDING MEATS

To give steaks and chops a "charcoal-ember-broiled" look, turn switches to HIGH and heat grid before actual broiling by raising to its highest position. After heating for 5 or 10 minutes, lower grid and immediately load meat. Adjust grid and broil as usual.

POWER FAILURE (MODEL HCB48)

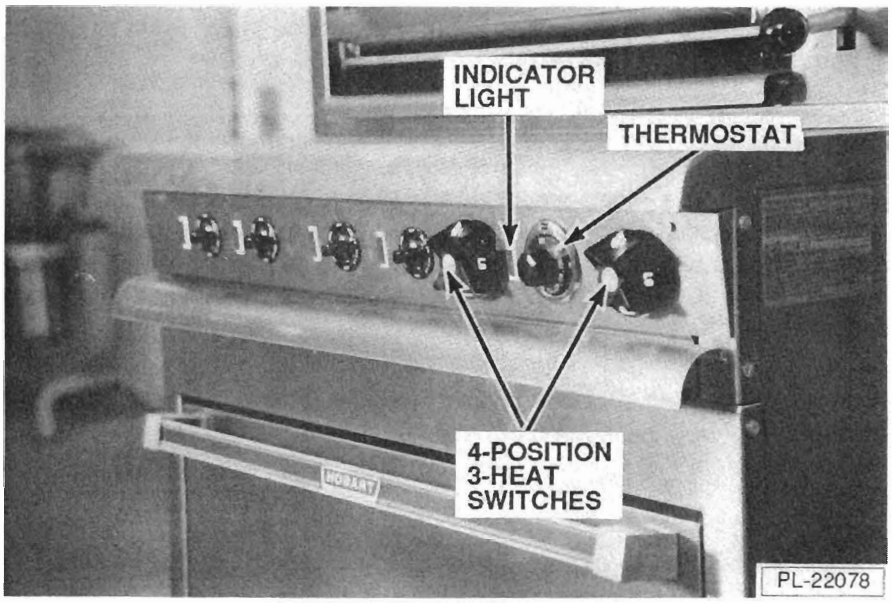
If power outage occurs, the broiler will automatically shut down. When power is restored, turn broiler on HIGH and preheat for 5 minutes prior to cooking.

OVEN SECTION

4-Position, 3-Heat Switches — (two switches located on each side of the thermostat on the right side of the switch panel) control the top and bottom heating elements, thereby controlling the rate of temperature build-up of the oven. The HIGH position provides full power (both elements connected in parallel), at MED position one element only is on (about one-half power), at LOW position both elements are connected in series (about one-quarter power), and at the OFF position the elements are completely turned off.

Thermostat — controls and maintains the temperature of the oven around the desired set temperature. Temperature range of the oven is from 175°F to 550°F.

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



Model HCB44 Shown
Fig. 2

BEFORE FIRST USE

Remove steel oven deck and clean in the sink. After cleaning, lightly, but thoroughly, coat with cooking oil and allow to season in the oven at 450°F for 30 to 60 minutes. This seasoning will lessen sticking of spillage and inhibit rust.

PREHEATING THE OVEN

Set top and bottom switches to HIGH. Set thermostat to desired baking temperature. The oven indicator light will light and remain lit until the oven reaches the set temperature. It is desirable to allow the indicator light to go on and off at least twice before loading the oven so the oven will be thoroughly heated and will brown baked products evenly.

After the first cycle (oven indicator light on and off), set the 3-heat switches as desired for baking. 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.

LOADING THE OVEN

Load as rapidly as possible to prevent excessive heat loss. Place pans directly on the rack and in rows back to front, beginning on the right, until oven rack is full. Do not place pans closer than 1" to the door; do not let pans touch the sides or back of the oven or each other.

BAKING AND ROASTING

When roasting, 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.

Baking

While it is recommended that the 3-heat switches be set to the HIGH 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 (left of the thermostat) to the MED or LOW 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.

Meat Roasting

Meat roasting is best performed in a balanced oven; 3-heat switch positions of HIGH and HIGH are suggested, with the thermostat set at the 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 oven switch at MEDIUM or LOW. The use of a meat thermometer is strongly recommended for all meat roasting operations.

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

BAKING CHART

This baking chart is a guide only. Recipes, mixing procedures, utensils and individual standards of doneness, browning, etc., can result in variations in the precise time, temperature and switch setting necessary to product a satisfactory product. The following suggested times, temperatures and switch settings should be adjusted to suit your operation.

PRODUCT	TEMPERATURE (°F)	TIME (MIN.)	TOP SWITCH SETTING	BOTTOM SWITCH SETTING
Bread	375-425	35-50	MED	MED
Rolls	375-425	20-30	MED	MED
Cake (Layer)	350-375	20-30	MED	MED
Cupcakes	375-400	15-20	MED	MED
Loaf Cake	350-375	20-30	MED	MED
Angel Cake	300-335	35-50	MED	MED
Corn Bread	400-425	25-30	HI	MED
Fruit Pies	400-425	40-60	MED	MED
Meringue Pies	425-450	5-8	HI	OFF
Browning Biscuits	400-425	12-18	MED	MED

BROILING TIMES

This broiling chart is a guide only. Broiling times may be varied to suit individual tastes and preferences.

Meat	Thickness (Inches)	Weight Range (Pounds)	Total Time, Minutes One-Half Time on Each Side)		
			Rare	Medium	Well Done
BEEF					
Rib Steak	1	1-1 1/2	6-8	8-10	10-12
Club Steak	1	1-1 1/2	6-8	8-10	10-12
Porterhouse	1	1 1/2-2	6-8	8-10	10-12
Porterhouse	1 1/2	2 1/2-3	8-10	11-13	14-16
Porterhouse	2	3-3 1/2	10-12	13-15	16-18
Sirloin	1	2 1/2-3 1/2	6-8	8-10	10-12
Sirloin	1 1/2	3 1/2-4 1/2	8-10	11-13	14-16
Sirloin	2	5-5 1/2	10-12	13-15	16-18
Ground Beef Patties	3/4	6-8 oz. each	3-4	4-6	6-8
Tenderloin	1	—	6-8	8-10	10-12
LAMB					
Rib or Loin Chops (1 Rib)	3/4	2-3 oz. each	—	8-10	10-12
Double Rib	1 1/2	4-5 oz. each	—	11-13	14-16
Lamb Shoulder Chops	3/4	3-4 oz. each	—	8-10	10-12
Lamb Shoulder Chops	1 1/2	5-6 oz. each	—	11-13	14-16
Lamb Patties	3/4	6-8 oz. each	—	4-6	6-8
HAM AND SAUSAGE					
Ham Slices	1/2	9-12 oz. each	—	—	6-8
Ham Slices	3/4	1-1/4	—	—	8-10
Ham Slices	1	1 1/4-1 3/4	—	—	10-12
Pork Sausage Links	—	12-16 to the lb.	—	—	4-5
BROILING CHICKEN					
Halves (Drawn)	—	1-1 1/2	—	—	18-22

CLEANING

Interior Broiler Surfaces

Thoroughly clean all interior surfaces of the broiling compartment(s) at least once a week, or more often if required. Wipe surfaces with a damp cloth, but never use water to clean inside the broiling compartment(s). Use a long-handled scraper and soft brush to loosen stubborn food particles. Do not use abrasive cleaners on interior surfaces.

Do not clean heating elements; they are self-cleaning.

Grease Collector(s)

Remove drip pan(s) as often as necessary and pour off drippings. Wash and dry pan(s) thoroughly and replace in compartment(s).

Floating Drip Shield(s)

Remove floating drip shield(s) and clean in a sink. To remove floating drip shield, raise grid, lift up and support rear of drip shield with one hand while lifting front of shield up past the drip shield retainer with the other hand. Lower and drag shield out of the broiler compartment. After cleaning, replace shield(s) in broiler compartment(s).

Model HCB48

Follow the recommended procedure for general care and cleaning provided with the range to which the broiler is mounted.

Oven

Stainless steel oven fronts may be cleaned 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 will scratch the finish.

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

Painted surfaces may be cleaned with a cloth dampened with detergent solution. Rinse thoroughly and wipe dry with a clean soft cloth. An occasional application of silicone base auto polish will help to maintain a "like new" appearance.

Remove steel deck and scour in the sink. After scouring, reseason deck as described in BEFORE FIRST USE in the OVEN section of this manual.

Blower Wheel (Models HCB421, HCB441)

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.