GE Appliances

Service Handbook

Gas Ranges

1983 & Later Models

PREFACE

This **Handbook** contains information and service procedures to assist the service technician in correcting conditions that are not always obvious. Service procedures considered obvious are intentionally omitted.

Using the information in this **Handbook** in conjunction with mini-manual, which is included with the appliance (self clean models only) will provide comprehensive information on your model.

Non-self clean gas range products do not have mini-manuals, but equivalent information on gas adjustments, electrical wiring schematics, diagnosis, and service procedures as included in this **Handbook.**

Range wiring and schematic diagram is supplied with user information for all gas ranges.

IMPORTANT SAFETY NOTICE

Major appliances are complex electromechanical devices. General Electric Company's Major Appliance Service Publications are intended for use by individuals possessing adequate backgrounds of electrical, electronic and mechanical experience. Any attempt to repair a major appliance may result in personal injury and property damage. General Electric Company cannot be responsible for the interpretation of its service publications, nor can it assume any liability in connection with their use.

SAFE SERVICING PRACTICES

To preclude the possibility of resultant personal injury *and/or property damage, **it is important that safe servicing practices be observed. The following are examples, but without limitation, of such safe practices.

1. Before servicing, always disconnect the product from its electrical power source by removing the product's electrical plug from the wall receptacle, or by removing the fuse (or tripping the circuit breaker to OFF) in the branch circuit serving the product.

NOTE: If a specific diagnostic check requires electrical power be applied (e.g., a voltage or amperage measurement, etc), reconnect electrical power only for the time required for such a check, and disconnect it immediately thereafter. During any such check, ensure no other conductive parts (pans, etc) – or yourself – come in contact with exposed current-carrying metal parts.

2. Never interfere with or bypass the proper operation of any feature, part or device engineered into the product.

3. If a replacement part is required, use the specified General Electric Company part, or an equivalent which will provide comparable performance.

4. Prior to reconnecting the electrical power source to the appliance, be sure that:

   a) all electrical connections within the product are correctly and securely connected,

   b) all electrical harness leads are properly dressed and secured away from sharp edges, high-temperature components (e.g. resistors, heaters, etc.) and moving parts,

   c) any uninsulated current-carrying metal parts are secure and adequately spaced from all non-current-carrying metal parts,

   d) all electrical grounds – both internal and external to the product – are correctly and securely connected,

e) all gas connections are properly tightened.

f) all panels and covers are properly and securely reassembled.

5. Read the SAFETY PRACTICES section in this Book for additional SAFE SERVICING PRACTICES.

3. Don't attempt a product repair if you have any doubts as to your ability to complete it in a safe and satisfactory manner.

PERSONAL INJURY, in the form of electrical shock, burns, cuts or abrasions, etc., can occur spontaneously to the individual while attempting to repair or service the product; or may occur at a later time to any individual in the household who may come in contact with the product – unless safe servicing practices are observed.

**PROPERTY DAMAGE, resulting from fire, smoke, etc, can occur immediately or at a later time as a result of attempting to repair or service the product – unless safe servicing practices are observed.

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- 20-INCH APARTMENT
- 30-INCH FREE STANDING
- HI-LOW

BRAND CONFIG.	MODEL	TOP BURNER IGNITION	MASTER OVEN		
			TYPE	LOW BROIL	OVEN IGNITION
GE – 20″	JGAS02PH	PILOT	PORC.	X	PILOT
	EH	SPARK	PORC.	X	SPARK
GE – 30″	JGP300EH	SPARK			
Cooktops	JGP310EH	SPARK			
HP – 20″	RGA512OF	PILOT	PORC.	X	PILOT
	1F	SPARK	PORC.	X	SPARK
	PH	PILOT	PORC.	X	PILOT
	EH	SPARK	PORC.	X	SPARK
HP – 30″	RGB524OF	PILOT	PORC.	X	PILOT
	1F	SPARK	PORC.	X	SPARK
	PH	PILOT	PORC.	X	PILOT
	EH	SPARK	PORC.	X	SPARK
	RGB528OF	PILOT	PORC.	X	PILOT
	1F	SPARK	PORC.	X	SPARK
	PH	PILOT	PORC.	X	PILOT
	EH	SPARK	PORC.	X	SPARK
	RGB528GOF	PILOT	PORC.	X	PILOT
	1F	SPARK	PORC.	X	SPARK
	PH	PILOT	PORC.	X	PILOT
	EH	SPARK	PORC.	X	SPARK
	RBG628GOF	PILOT	C.C.	X	PILOT
	1F	SPARK	C.C.	X	SPARK
	PH	PILOT	C.C.	X	PILOT
	EH	SPARK	C.C.	X	SPARK
HP-HI/LO	RGH646G1F	SPARK	C.C.	X	SPARK-LOW *GLOW-BAR-UP

*UPPER OVEN GLOW-BAR IS "CARBORUNDUM" TYPE

H – MODEL GAS RANGES FROM TAPPAN

- FREE STANDING
- HI-LOWS
- WALL OVENS AND COOKTOPS

BRAND CONFIG.	MODEL	TOP BURNER IGNITION	MASTER OVEN				UPPER OVEN	
			TYPE	LOW BROIL	HIGH BROIL	OVEN IGNITION	TYPE	OVEN IGNITION*
GE – 30″	JGSS03PH	PILOT	PORC.	X		PILOT		
	EH	SPARK	PORC.	X		NORTON		
GE – 30″	JGBS16GPH	PILOT	PORC.	X		PILOT		
	GEH	SPARK	PORC.	X		NORTON		
	JGBC16GPH	PILOT	C.C.	X		PILOT		
	EH	SPARK	C.C.	X		NORTON		
	JGBC17GPH BG	PILOT	C.C.	X		PILOT		
	EH BG	SPARK	C.C.	X		NORTON		
GE – 30″	JGBP24GEH	SPARK	S.C.		X	NORTON		
	JGBP26GEH	SPARK	S.C.		X	NORTON		
	JGBP27GEH BG	SPARK	S.C.		X	NORTON		
GE - 36″	JGCC58-EH	SPARK	C.C.	X		NORTON		
GE - 36″	JGCS54-EH	SPARK	PORC.	X		SPARK		
GE-HI/LO	JGHC56GEH	SPARK	C.C.	X		NORTON	C.C.	GLOW-BAR
	JGHC60GEH	SPARK	C.C.	X		NORTON	MW	
	JGHP66GEH	SPARK	S.C.		X	NORTON	MW	
GE – 24″ WALL OVENS	JGKC15GEH		C.C.	X		NORTON		
	JGKS15GEH		PORC.	X		NORTON		
	JGKC16GEH		C.C.	X		NORTON		
GE – 36″ COOK-TOPS	JGP600-EH	SPARK						
	JGP600AEH	SPARK						
HP – 30″	RGB744GEH	SPARK	S.C.		X	NORTON		
	RGB745GEH	SPARK	S.C.		X	NORTON		
HP – 36″	RGC657EH	SPARK	C.C.	X		NORTON		
HP-HI/LO	RGH647GEH	SPARK	C.C.	X		NORTON	C.C.	GLOW-BAR
	RGH846GEH	SPARK	C.C.	X		NORTON	MW	
	RGH946GEH	SPARK	S.C.		X	NORTON	MW	
HP – 24″ WALL OVENS	RGJ515EH		PORC.	X		NORTON		
	RGJ616EH		C.C.	X		NORTON		

*GLOW-BAR IS "NORTON" TYPE

J – MODEL GAS RANGES FROM TAPPAN

• 30-INCH & HI-LOWS

BRAND CONFIG.	MODEL	TOP BURNER IGNITION	MASTER OVEN				UPPER OVEN	
			TYPE	LOW BROIL	HIGH BROIL	OVEN IGNITION	TYPE	OVEN IGNITION*
GE – 30"	JGSS03PJ	PILOT	PORC.	X		PILOT		
	EJ	SPARK	PORC.	X		SPARK		
	JGSS05GPJ	PILOT	PORC.	X		PILOT		
	EJ	SPARK	PORC.	X		SPARK		
	JGSC07GEJ	SPARK	C.C.	X		SPARK		
GE – 30"	JGBS16PJ	PILOT	PORC.	X		PILOT		
	EJ	SPARK	PORC.	X		SPARK		
	JGBS16GPJ	PILOT	PORC.	X		PILOT		
	EJ	SPARK	PORC.	X		SPARK		
	JGBC16GPJ	PILOT	C.C.	X		PILOT		
	EJ	SPARK	C.C.	X		SPARK#		
	JGBC17GEJ	SPARK	C.C.	X		SPARK#		
	JGBS18GEJ	SPARK	PORC.		X	NORTON		
GE – 30"	JGBP24GEJ	SPARK	S.C.		X	NORTON		
	JGBP26GEJ	SPARK	S.C.		X	NORTON		
	JGBP27GEJ	SPARK	S.C.		X	NORTON		
	JGBP28GEJ	SPARK	S.C.		X	NORTON		
HP – 30"	RGB744GEJ	SPARK	S.C.		X	NORTON		
	RGB746GEJ	SPARK	S.C.		X	NORTON		
GE-HI/LO	JGHC56GEJ	SPARK	C.C.	X		NORTON	C.C.	GLOW-BAR
	JGHP57GEJ	SPARK	S.C.		X	NORTON	C.C.	GLOW-BAR
	JGHC60GEJ	SPARK	C.C.	X		NORTON	M.W.	
	JGHP66GEJ	SPARK	S.C.		X	NORTON	M.W.	
HP-HI/LOW	RGH647GEJ	SPARK	C.C.	X		NORTON	C.C.	GLOW-BAR
	RGH846GEJ	SPARK	C.C.	X		NORTON	M.W.	
	RGH946GEJ	SPARK	S.C.		X	NORTON	M.W.	

*GLOW-BAR IS "NORTON" TYPE

#J5 MODEL SWITCHED TO NORTON GLOWBAR

F-J-K – MODEL GAS RANGES FROM MAGIC CHEF

- 20-INCH APARTMENT
- 30-INCH FREE STANDING
- 30-INCH COOKTOPS

BRAND CONFIG.	MODEL	TOP BURNER IGNITION	MASTER OVEN			
			TYPE	LOW BROIL	HIGH BROIL	OVEN IGNITION*
GE – 20"	JGAS02PK	PILOT	PORC.	X		PILOT
	EK	SPARK	PORC.	X		SPARK
GE – 30"	JGBP24GEF	SPARK	S.C.		X	GLOW-BAR
GE – 30" COOKTOPS	JGP300EJ	SPARK				
	JGP310EJ	SPARK				
HP – 20"	RGA512PK	PILOT	PORC.	X		PILOT
	EK	SPARK	PORC.	X		SPARK
HP – 30"	RGB524PJ	PILOT	PORC.	X		PILOT
	EJ	SPARK	PORC.	X		GLOW-BAR
	RGB528PJ	PILOT	PORC.	X		PILOT
	EJ	SPARK	PORC.	X		GLOW-BAR
	RGB528GPJ	PILOT	PORC.	X		PILOT
	EJ	SPARK	PORC.	X		GLOW-BAR
	RGB628GPJ	PILOT	C.C.	X		PILOT
	EJ	SPARK	C.C.	X		GLOW-BAR
	RGS525GEPJ BG	PILOT	PORC.	X		PILOT
	EJ BG	SPARK	PORC.	X		GLOW-BAR
*GLOW-BAR IS "NORTON" TYPE						

K – MODEL GAS RANGES FROM ROPER

• 30-INCH FREE STANDING & SLIDE-IN

BRAND CONFIG.	MODEL	TOP BURNER IGNITION	MASTER OVEN			
			TYPE	LOW BROIL	HIGH BROIL	OVEN IGNITION*
GE – 30" F/S	JGBS03PK	PILOT	PORC.	X		PILOT
	BS03EK	SPARK	PORC.	X		SPARK
	JGBS15PK	PILOT	PORC.	X		PILOT
	BS15EK	SPARK	PORC.	X		SPARK
	JGBS15GPK	PILOT	PORC.	X		PILOT
	BS15GEK	SPARK	PORC.	X		SPARK
GE – 30" S/I (30" WIDE BC CKTP)	JGSS05GPK	PILOT	PORC.	X		PILOT
	SS05GEK	SPARK	PORC.	X		SPARK
GE – 30" S/I (31" WIDE BC OVER-HANG CKTP)	JGSC08GEK	SPARK	C.C.	X		SPARK
	JGSP10GEK	SPARK	S.C.		X	GLOW-BAR
*GLOW-BAR IS "CARBORUNDUM" TYPE						

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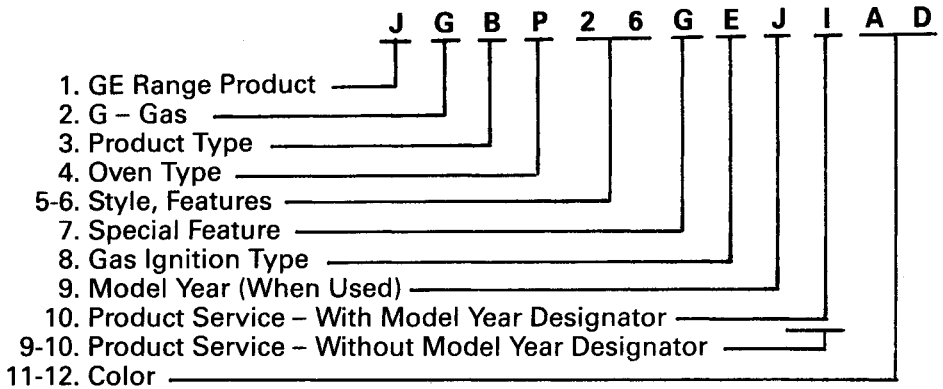
GE BRAND GAS RANGE MODEL NOMENCLATURE



EXPLANATION OF CODES

3. **RANGE PRODUCT TYPE**
   - A – 20″ Apartment Range
   - B – 30″ Free Standing
   - C – 36″ Free Standing
   - H – High/Low Range
   - K – Built-In Wall Oven Fitting 24″ Cabinet
   - P – Built-In Cooktop
   - S – Slide-In

4. **OVEN OR PRODUCT TYPE**
   - S – Standard
   - C – Continuous Clean
   - P – Pyrolitic Self-Clean
   - Also: Width for built-in cook tops – 3 (30″), 6 (36″)

5-6. **SPECIFIC STYLE FEATURE LEVEL**

7. **SPECIAL FEATURE**
   - G – Black Glass Door
   - Blank – No Special Feature

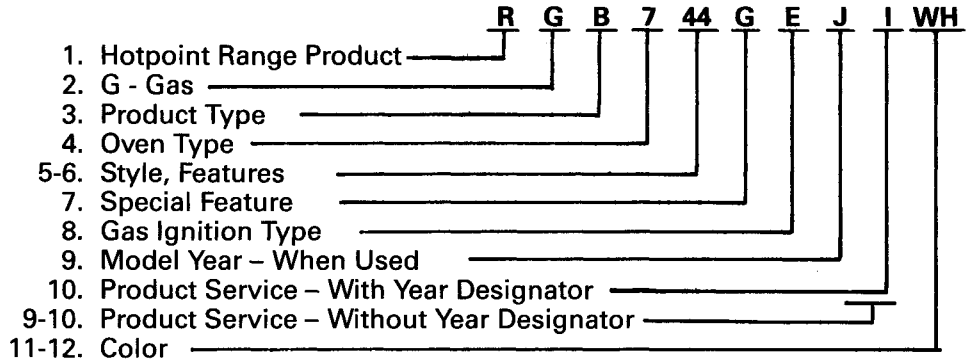
8. **GAS IGNITION TYPE**
   - E – Electric
   - P – Standing Pilot

9. **MODEL YEAR – (WHEN USED)**
   - F – 1984
   - H – 1985
   - J – 1986
   - K – 1987
   - L – 1988
   - M – 1989
   - N – 1990

GENERAL

11-12. **Color**
WH – White
AD – Almond
BC – Brushed Chrome
BG – Black Glass (when no other color applies)
WG – White Glass

HOTPOINT GAS RANGE MODEL NOMENCLATURE



EXPLANATION OF CODES

3. **RANGE PRODUCT TYPE**
A – 20″ Apartment Range
B – 30″ Free Standing
C – 36″ Free Standing
H – High/Low Range
J – Built-In Wall Oven Fitting 24″ Cabinet
P – Built-In Cooktop
S – Slide-In

4. **OVEN TYPE**
5. – Standard
6. – Continuous Clean
7. – Self Clean
8. – High/Low – c/c Lower, M.W. upper
9. – High/Low – sc Lower, M.W. Upper

5-6. **SPECIFIC STYLE, FEATURE LEVEL**

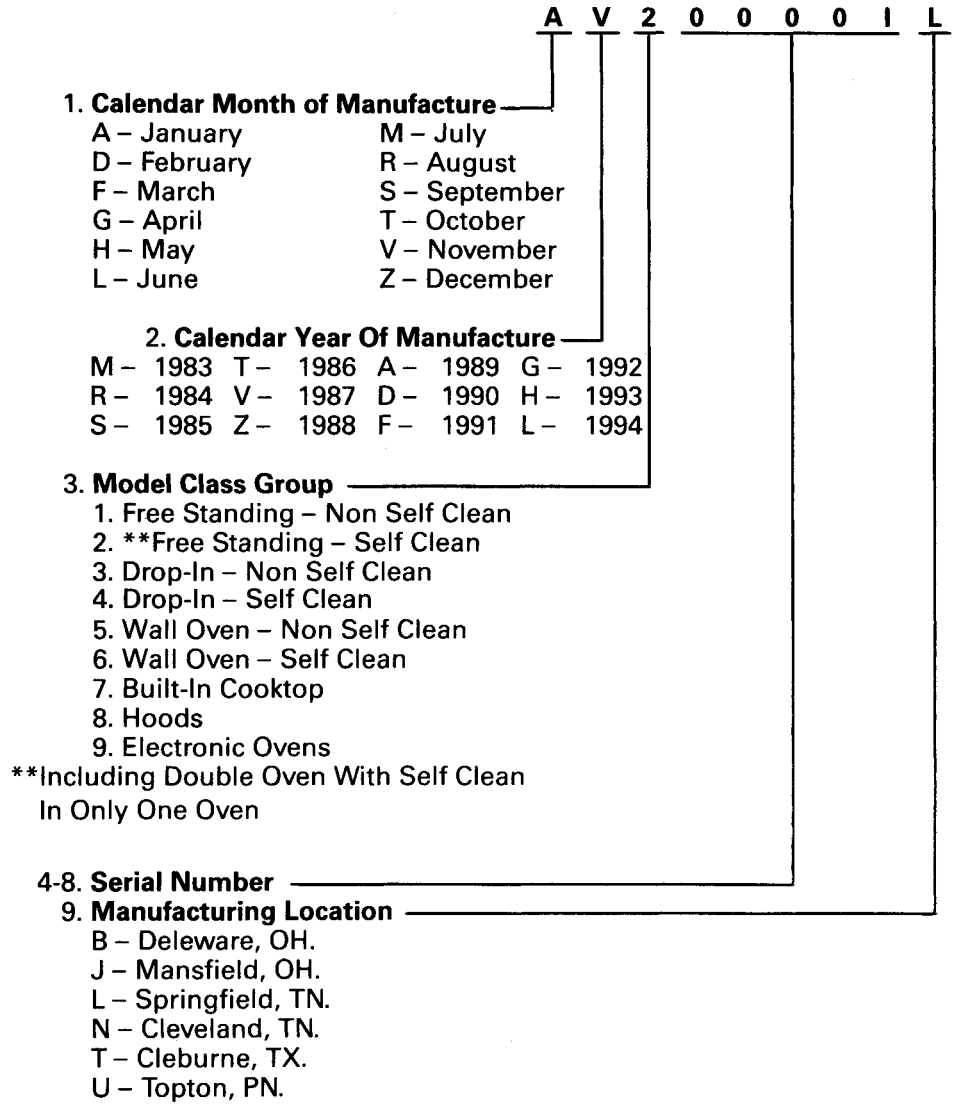
7. **SPECIAL FEATURE**
G – Black Glass Door
Blank – No Special Feature

8. **GAS IGNITION TYPE**
   1 or E – Electric
   O or P – Standing Pilot

9. **MODEL YEAR – WHEN USED**
   F – 1984 L – 1988
   H – 1985 M – 1989
   J – 1986 N – 1990
   K – 1987

11-12. **COLOR**
   WH – White
   AD – Almond
   BC – Brushed Chrome
   BG – Black Glass (When No Other Color Applies)

SERIAL NUMBER SYSTEM
GE AND HOTPOINT MODELS



CONTINUOUS CLEAN OVEN CARE

The inside of the oven – usually the top, back and sides – are finished with a special **coating** which cannot be cleaned in the usual manner with soap, detergents, steel wool pads, commercial oven cleaners, coarse abrasive pads or coarse brushes. Their use and/or the use of oven sprays will cause permanent damage.

Note: On some models, the inside of the door may also have the coating.

The special coating is a porous ceramic material which is dark in color and feels slightly rough to the touch. If magnified, the surface would appear as peaks, valleys, and sub-surface "tunnels." This rough finish tends to prevent grease spatters from forming little beads or droplets which run down the side walls of a hard-surface oven liner leaving unsightly streaks that require hand cleaning. Instead, when spatter hits the porous finish it is dispersed and is partially absorbed. This spreading action increases the exposure of oven soil to heated air, and makes it somewhat less noticeable.

Soil may not disappear completely and at some time after extended usage, stains may appear which cannot be removed.

The special coating works best on small amounts of spatter. It does not work well with larger spills, especially sugars, egg or dairy mixtures.

The special coating is not used on oven shelves. Shelves should be cleaned **outside the oven** to avoid damage to the special coating inside the oven.

To Clean the Continuous – Cleaning Oven:

1. Let range parts cool before handling. It is recommended that rubber gloves be worn when cleaning range parts.

2. Remove shelves and cookware.

3. Soil visibility may be reduced by operating the oven at 400°F. Close the door and turn OVEN TEMP knob to 400°F. Time for at least 4 hours. Repeated cycles may be necessary before improvement in appearance is apparent.

REMEMBER: DURING THE OPERATION OF THE OVEN, THE DOOR, WINDOW AND OTHER RANGE SURFACES WILL GET HOT ENOUGH TO CAUSE BURNS. DO NOT TOUCH. LET THE RANGE COOL BEFORE REPLACING OVEN SHELVES.

4. If a spillover or heavy soiling occurs on the porous surface, as soon as the oven has cooled, remove as much of the soil as possible using a small amount of water and a stiff bristle nylon brush. Use water sparingly and change it frequently, keeping it as clean as possible, and be sure to blot it up with paper towels, cloths, or sponges. **Do not rub or scrub** with paper towels, cloths or sponges, since they will leave unsightly lint on the oven finish. If water leaves a white ring on the finish as it dries, apply water again and **blot** it with a clean sponge, starting at the edge of the ring and working toward the center.

Do not use soap, detergent, steel wool pads, commercial oven cleaner, silicone oven sprays, coarse pads or coarse brushes on the porous surface. These products will spot, clog, and

mar the porous surface and reduce its ability to work.

Do not scrape the porous surface with a knife or spatula – they could permanently damage it.

RATING PLATE

The rating plate is located under the lift-up cooktop, or on the front frame behind broiler drawer. In addition to model number, and serial number, the rating plate contains information regarding ... burner BTU ratings, electrical rating, gas setting as left factory, gas conversion, and minimum horizontal clearance to vertical combustable surface.

MINI-MANUAL

Most self clean ranges contain a mini-manual. Non-self clean ranges do not have mini-manuals. Location of mini-manual:

- Gas manual – behind lower false panel or drawer
- Microwave (Hi/Low) – In MW Control Compartment

TOP-OF-RANGE COOKWARE

Aluminum: Medium-weight cookware is recommended because it heats quickly and evenly. Most foods brown evenly in an aluminum skillet. Minerals in food and water will stain but will not harm aluminum. A quick scour with a soap-filled wool pad after each use keeps aluminum cookware looking shiny new. Use saucepans with tight-fitting lids for cooking with minimum amounts of water.

Cast Iron: If heated slowly, most skillets will give satisfactory results.

Enamelware: Under some conditions, the enamel of some cookware may melt. Follow cookware manufacturer's recommendations for cooking methods.

Glass: There are two types of glass cookware – those for oven use only and those for top-of-range cooking (saucepans, coffee and teapots). Glass conducts heat very slowly.

Heatproof Glass Ceramic: Can be used for either surface or oven cooking. It conducts heat very slowly and cools very slowly. Check cookware manufacturer's directions to be sure it can be used on gas ranges.

Stainless Steel: This metal alone has poor heating properties, and is usually combined with copper, aluminum or other metals for improved heat distribution. Combination metal skillets usually work satisfactorily if they are used with medium heat as the manufacturer recommends.

BAKING PERFORMANCE

To insure good baking performance a gas oven should be preheated at least 15 minutes at the cooking temperature before placing food in the oven.

- Preheating is very important when using temperatures below 225° F. and when baking foods such as, biscuits, cookies, cakes and other pastries.

- Preheating is not necessary when roasting or for long-time cooking of whole meals.

IMPORTANT – Two of the most common customer education types

of baking complaints are:

1. Oven Temperature too low.
2. Takes too long to get oven up to temperature.

Both problems can usually be corrected by preheating oven for 15 minutes.

Common Baking Problems and possible Solutions

Pies

Burning around edges

- Oven too full; avoid overcrowding.
- Edges of crust too thin.
- Incorrect baking temperature.

Bottom crust soggy and unbaked

- Allow crust and/or filling to cool sufficiently before filling pie shell.
- Filling may be to thin or juicy.
- Filling allowed to stand in pie shell before baking. (Fill pie shells and bake immediately.)
- Ingredients and proper measuring affect the quality of the crust. Use a tested recipe and good technique. Make sure there are no tiny holes or tears in a bottom crust. "Patching" a pie crust could cause soaking.

Pie filling runs over

- Top and bottom crust not well sealed together.
- Edges of pie crust not built up high enough.
- Too much filling.
- Check size of pie plate.

Pastry is tough; crust not flaky.

- Too much handling.
- Fat too soft or cut in too fine.

Roll dough lightly and handle as little as possible.

CAKES

Cake rises higher on one side

- Batter spread unevenly in pan.
- Oven shelves not level.
- Using warped pans.
- Incorrect pan size.

Cakes cracking on top

- Check oven temperature.
- Batter too thick, follow recipe or exact package directions.
- Check for proper shelf position.
- Check pan size called for in recipe.
- Improper mixing of cake.

Cake falls

- Too much shortening, sugar or liquid.
- Check leavening agent, baking powder or baking soda to assure freshness. Make a habit to note expiration dates of packaged ingredients.
- Cake not baked long enough or at correct temperature.
- If adding oil to a cake mix, make certain the oil is the type and amount specified.

Crust is hard

- Check temperature
- Check shelf position.

Cake has soggy layer or streaks at bottom.

- Undermixing ingredients.
- Shortening too soft for proper creaming.
- Too much liquid.

COOKIES & BISCUITS

Doughy center; heavy crust on surface

- Check temperature
- Check shelf position.
- Follow baking instructions carefully as given in reliable recipe or on convenience food package.
- Flat cookie sheets will give more even baking results. Don't overcrowd foods on a baking sheet.

• Convenience foods used beyond their expiration date.

Browning more noticeable on one side

• Oven door not closed properly, check gasket seal.
• Check shelf position.

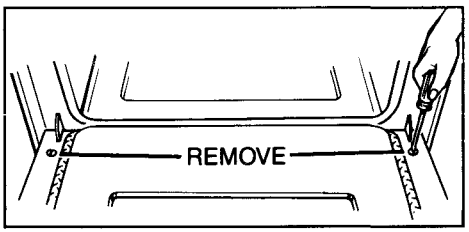
REMOVEABLE OVEN DOORS

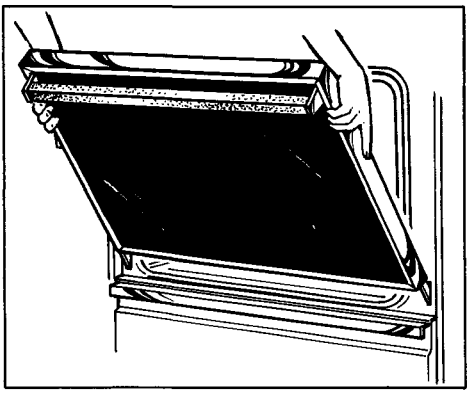
The oven door is user removable on all range models except for 20" apartment size, and the top oven door of Hi-Low ranges.

On some models the doors are fastened to the hinge supports by two screws on the inside door panel at the bottom. Other models have no screws and the door just lifts off.

To Remove Screw Mounted Door:

1. Open door fully and remove the two screws.
2. Close door to stop position (about 3 inches open)
3. Lift door straight up and off the hinges.





To Remove Door Without Screws:

1. Open door to stop position (about 3 inches open)
2. Lift door straight up and off the hinges

Note: Care should be taken not to place hands between the spring hinge and the oven door frame as the hinge could snap back and pinch fingers.

To replace the door, make sure the hinges are in the "out" position. Position the slots in the bottom of the door squarely over the hinges. Then lower the door slowly and evenly over both hinges at the same time. If hinges snap back against the oven frame, pull them back out.

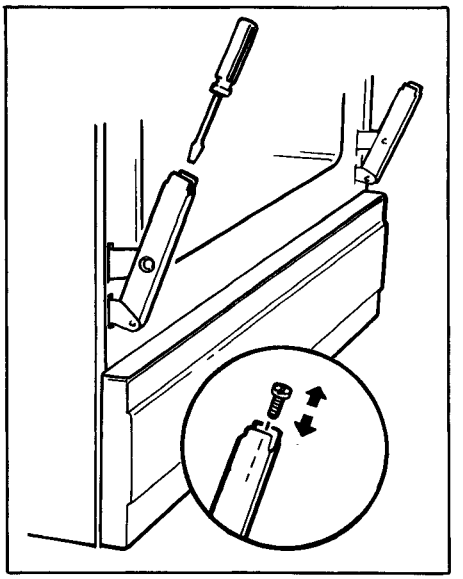
Replace screws on models so equipped.

Oven Door Height Adjustment - Tappan "J" Models

Repeated openings and closings can cause the oven door to work itself out of adjustment. One side may close higher than the other, and the door may not seal properly.

To adjust the height of the door:

1. Remove the door.



2. With a thin-bladed screwdriver, turn the screw in the opening at the top of each door hinge. Turn clockwise to lower, counterclockwise to raise each side of the door.

3. Replace the door, close it, and check alignment and door seal.

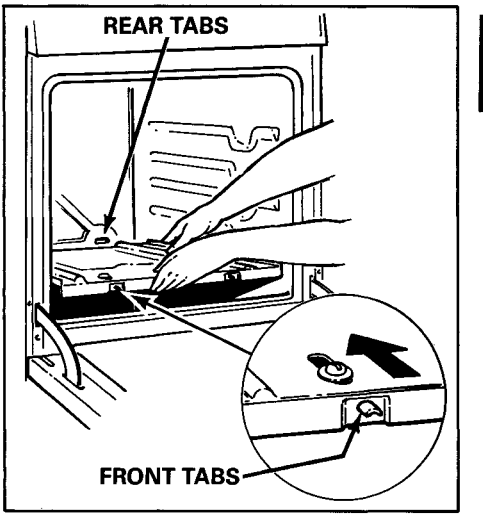
REMOVABLE OVEN BOTTOMS

The oven bottom can be removed for cleaning, and for service access to the lower oven burner. The method for removal varies by model type.

Listed below are various types of oven bottoms by basic model prefix and model year designator:

Model Prefix	Year
JGAS	K
RGA 5	K

(Magic chef 20")



To Remove:
Loosen two front screws (do not remove), and slide screws to rear to release front tabs. Lift front and pull forward to release rear tabs.

To Replace:
Insert rear tabs first, and lower front into place – slide screws forward and tighten.

Note: If not replaced correctly, it may warp and affect baking.

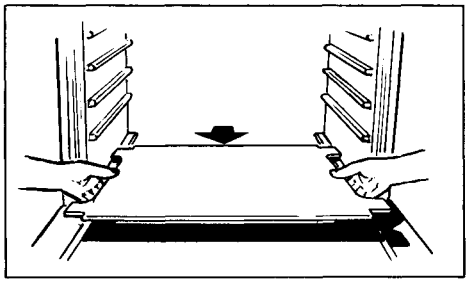
(Art No. WB1622)

Model Prefix	Year
JGAS	F & H
RGA 5	F & H
RGB 5	F & H
RGB 6	F & H
RGH 6	F

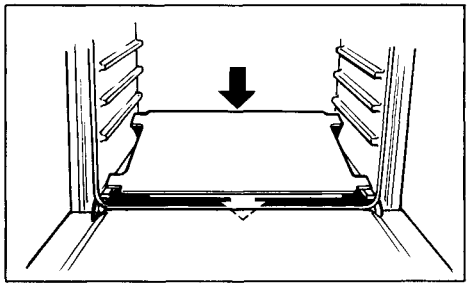
(Glenwood/Caloric)

Model Prefix	Year	Model Prefix	Year
JGBC	H	JGKC	H
JGBS	H	RGC6	H
JGCC	H	RGH6	H
JGSS	H	RGH8	H
JGHC	H	RGJ5	H

(Tappan)

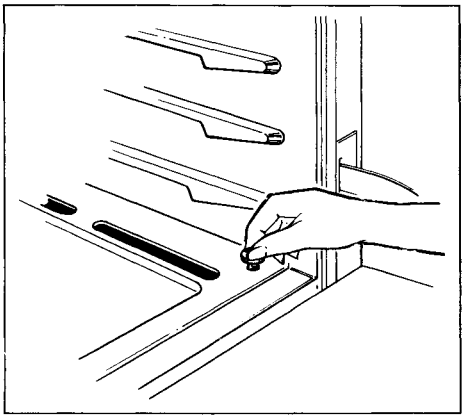


To remove: Lift the front edge of the oven bottom until it is clear of the oven front frame. Then pull it forward and out of the oven.

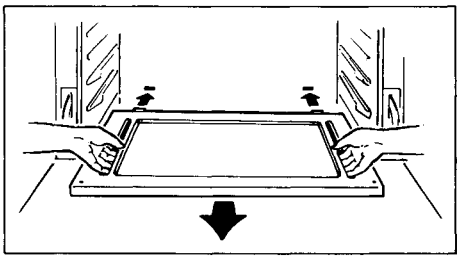


To replace: Place oven bottom into oven with rear edge lifted high enough to allow the metal brace on the underside of the oven bottom to drop behind the oven front frame. Then gently lower the rear of the oven bottom into place.

Note: If front lip is not installed under lip of front frame, the oven door will not close completely, and will cause "hot trim" and "hot knob" problems.



1. To remove: Remove the two knurled hold-down screws at each front corner. If screws are too tight to remove by hand, use a screwdriver.



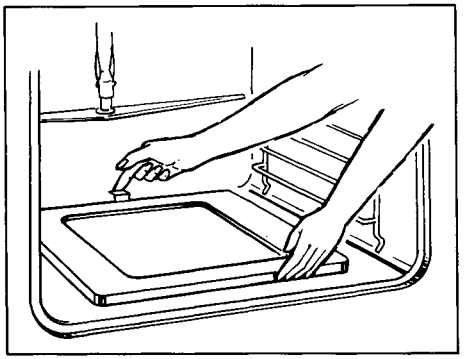
2. Place your fingers in the slots in the bottom an lift up the front edge of the oven bottom until it is clear of the oven front frame.

3. Pull the bottom forward and out of the oven, keeping the rear of the oven bottom gliding on the bottom of the lowest shelf glide. This keeps

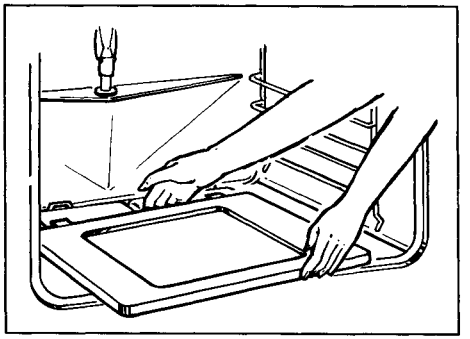
it from catching on the burner ignitor shield. To replace the bottom, reverse this procedure, making sure the two tabs on the rear of the oven bottom go into the slots at the rear.

Model Prefix	Year
JGBP	H
JGHP	H
RGB7	H
RGH9	H

(Tappan)



To Remove: Lift up on the clip in the center of the panel at the back side, and slide the panel toward the front of the range. This will disengage the two locking tabs on the front and rear edges. You may now lift the panel up and out.

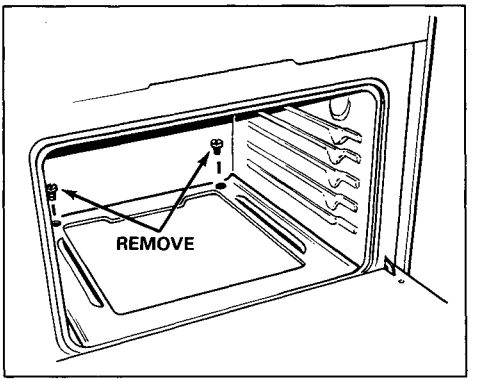


To replace: Insert the two locking tabs on the back side into the slots at the rear first, then slide the panel towards the back of the range to engage the front tabs. Then push down on the clip to lock the panel in place.

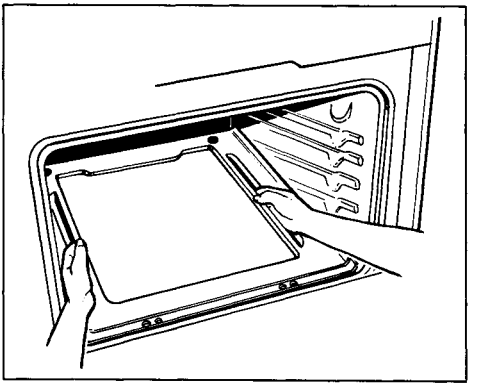
Note: You must hold the clip up while sliding the panel.

Model Prefix	Year	Model Prefix	Year
JGBC	J	JGHP	J
JGBS	J	RGB7	J
JGSC	J	RGH6	J
JGSS	J	RGH8	J
JGHC	J	RGH9	J
JGBP	J		

(Tappan)



To Remove: Remove the two knurled hold-down screws at the rear of the oven. If they are too tight to remove by hand, use a coin or screwdriver.



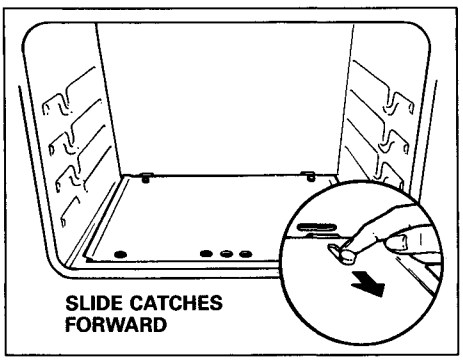
To lift out the oven bottom, place your fingers in the slots in the bottom

and lift the rear of the oven bottom up and back until the oven bottom is clear of the lip at the front. Then lift the bottom up and out.

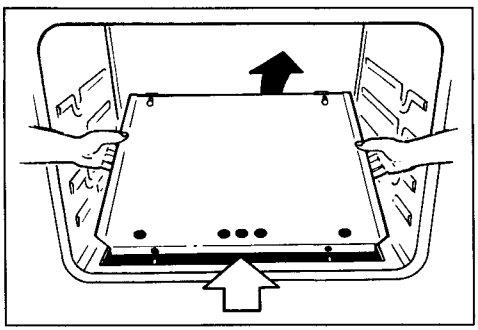
To replace: Place it in the oven with the back raised about 6 to 8 inches or until you can insert the front of the oven bottom under the hold-down lip at the front. Then push the back of the oven bottom down fully into place on the metal flanges and insert the hold-down screws.

Model Prefix	Year
RGB5	J
RGB6	J
RGS5	J
JGBP	F

(Magic Chef)



To remove: Slide the catch at each rear corner of the oven bottom panel toward you.

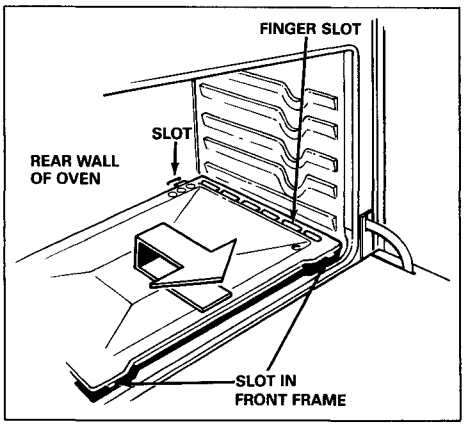


Lift the rear edge of the oven bottom panel slightly, slide it back until holes in front edge of panel clear pins in oven front frame, and take the panel out.

To replace: Fit holes onto pins, lower rear of panel gently, and slide catches back to lock panel in place.

Model Prefix	Year
JGBS	K
JGSC	K
JGSS	K

(Roper)



To remove:

1. Grasp oven bottom at finger slots on each side.

2. Lift front edge of oven bottom enough to raise tabs from slots in front frame.

3. Push oven bottom back about ¼" to release flange from front frame, then pull out.

To replace:

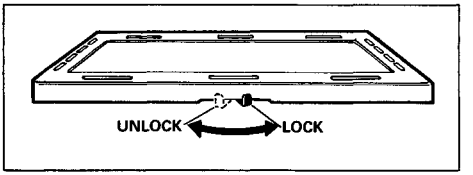
1. Slide oven bottom into oven so rear tabs fit into slots in rear wall of oven.

2. Grasp oven bottom at finger slots and push it back and then

down to hook the flange under the front frame.

3. Fit front tabs into slots in front frame.

Model	Year
JGSP10GE (Roper)	K



To remove:

1. Slide the tab at the center front of the oven bottom to the left.

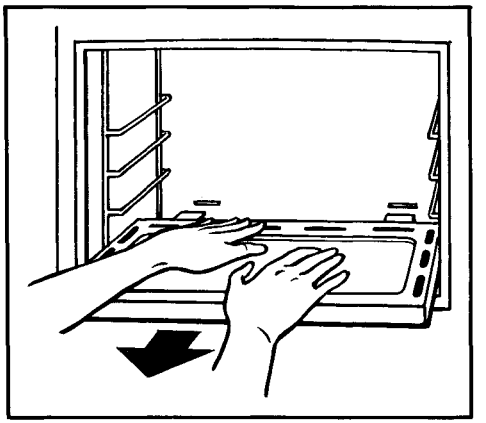
2. Lift the oven bottom up and out.

To replace:

1. Slip the oven bottom into the oven so the tabs in the rear of the oven bottom fit into the slots in the oven back.

2. Lower the front of the oven bottom into place and slide the front tab to the right to lock the oven bottom into place.

HIGH LOW MODELS – TOP OVEN

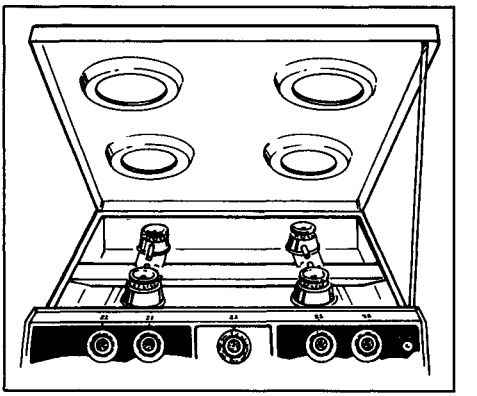


To Remove: Pull bottom forward and out.

LIFT-UP COOKTOPS

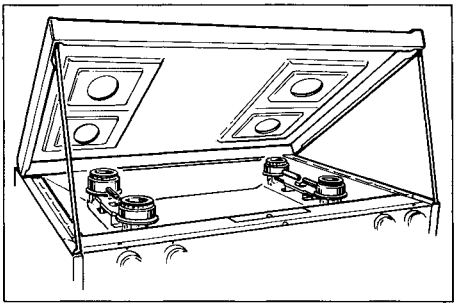
All gas ranges have a lift-up cooktop. Various types of support constuction is used depending on model types:

- One support arm
- Two support arms
- No support arms
- Lift-up/OFF – No support Arms



Typical One Support

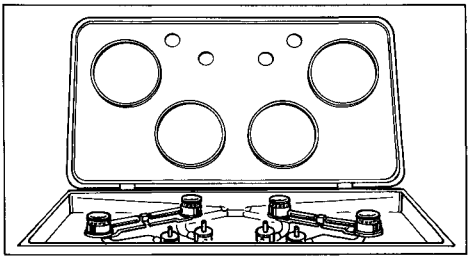
1. Remove grates and drip pans (if provided)
2. Lift top and raise support



Typical Two Supports

1. Remove grates and drip pans (if provided)
2. Raise top – supports raise up and snap in place at front corners of the range body.

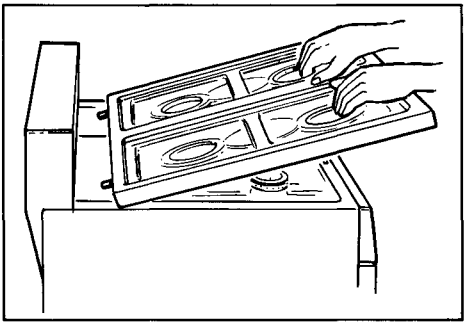
NOTE: Supports can be lifted out for cooktop removal



Hinged Top – Built In Cooktop

1. Remove grates, drip pans, and knobs.
2. Raise cooktop and hold, or rest against wall.

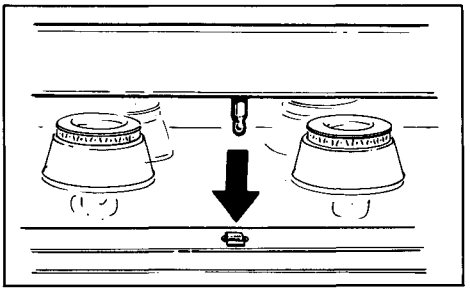
NOTE: Some hinged cooktops also have a support rod.



Typical Lift-up/Off Cooktop

1. Remove grates.
2. Lift cooktop at front and pull forward to release rear tabs.

To Replace:
Insert rear tabs into slots and lower cooktop – front tab or pin snaps into catch at front center area.



OVEN LAMP REPLACEMENT

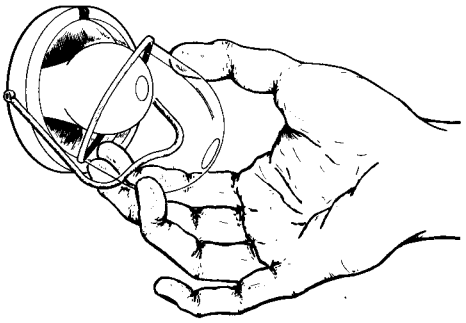
Before replacing the bulb, disconnect electric power to the range at the main fuse or circuit breaker panel or unplug the range from the electric outlet. Let the bulb cool completely before removing it. Do not touch a hot bulb with a damp cloth as the bulb will break.

NOTE: Extreme care should be taken when removing a lamp that has a broken glass bulb to prevent cuts from the glass

On some models the oven lamp has no cover. Many models, especially self clean ovens, use a glass cover assembly over the lamp. Various types of covers are used.

NOTE: If possible, remove the oven door for easier access.

Glass And Wire Bail



The oven lamp (bulb) is covered with a glass, removable cover which is held in place with a bail-shaped wire.

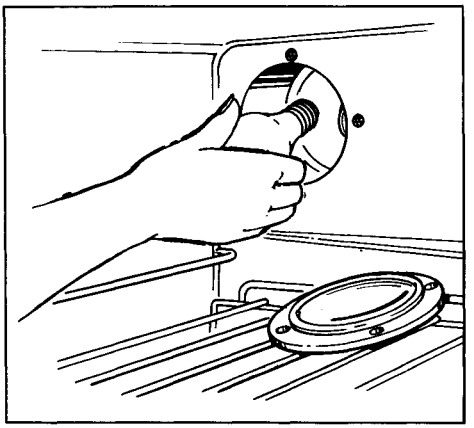
To remove: Hold hand under lamp bulb cover so it doesn't fall when released. With fingers of same hand, firmly push down wire bail until it clear cover. Lift off cover. DO NOT REMOVE ANY SCREWS TO REMOVE

(Art Nos. WB884,1622)

THIS COVER. Replace bulb with a 40-watt home appliance bulb.

To replace cover: Place cover into groove of lamp receptacle. Lift wire bail up to center of cover until it snaps into place. When in place, wire holds cover firmly. Be certain wire bail is not below depression in center of oven.

Round Lamp Cover

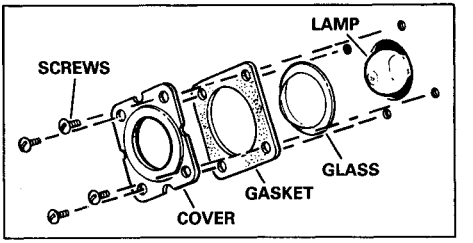


The oven lamp is covered with a round cover assembly consisting of a **metal ring, glass shield,** and **gasket.**

To Remove: Hold cover assembly while removing the screws on the metal ring. **The ring, glass and gasket are separate parts.** Replace bulb witha 40-watt home appliance lamp. **NOTE:** If possible, remove oven door for easier access.

To Replace Cover: Reassemble the parts in this order: Gasket first, then glass, and the metal ring. Fasten with the screws. **NOTE:** It is important that the gasket seals tightly; otherwise, heat from the oven during a self-cleaning cycle could break the lamp.

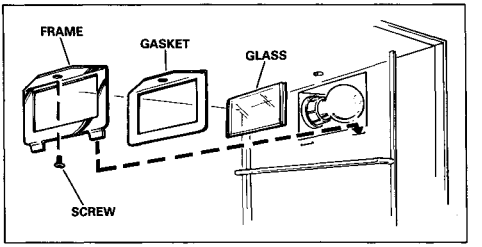
SQUARE LAMP COVER



To Remove: Remove the four screws while holding the cover assembly so it doesn't fall when released. Replace the bulb with a 40-watt home appliance lamp. **NOTE:** Remove oven door, if possible, for easier access.

To Replace Cover: Reassemble the parts in this order: glass cover, gasket, and then the square cover, fasten with the screws. **NOTE:** Gasket must be in place to prevent lamp from breaking during self-cleaning cycle.

Hi-Low Upper Oven Lamp Cover



To Remove: Remove the screw from the frame while holding the cover assembly so it doesn't fall when released. Replace the bulb with a 40-watt home appliance lamp.

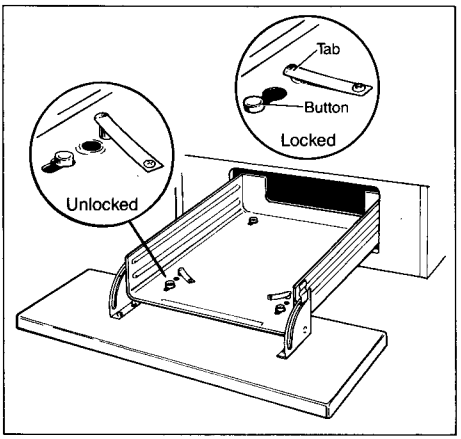
To Replace Cover: Assemble the glass, gasket, and metal frame in that order.

REMOVABLE BROILER DRAWERS

Some broiler drawers can be removed without removing any screws. The method for removal varies by model type. Listed below are these types by basic model prefix and model year designator.
(Models not listed are fastened with screws)

Model Prefix	Year
RGB5	J
RGB6	J
RGS5	J

(Magic Chef)



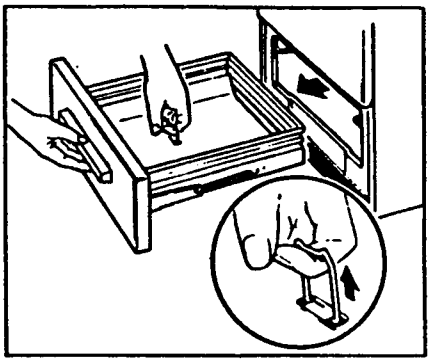
To Remove: Lift the two locking tabs near the front of the drawer and move move them aside. Pull the drawer forward to unlock it from buttons on the drawer slides, lift it and take it out.

To Replace: Replace the drawer so the four buttons on the drawer slides extend through the keyhole slots in the drawer. Push the drawer back until the buttons are in the smaller holes. Then move the locking tabs back into position until they snap into place.

Model Prefix	Year
JGAS02	K
RGA512	K

(Magic Chef)

To remove broiler drawer: When broiler is cool, remove rack and pan.



Then, with drawer out about halfway, pull metal clip located in center of drawer bottom upward as far as it will go (about 2 inches). The drawer can now be pulled all the way out of the compartment.

To replace: Slide grooves at top of drawer onto guide rails at sides of broiler compartment and push drawer in to close.

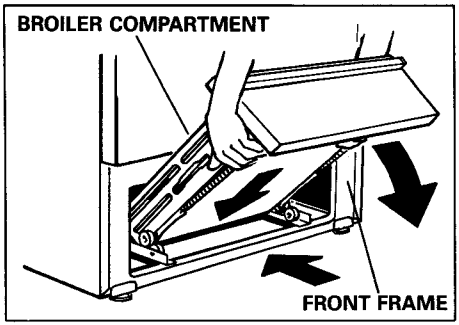
(Art No. WB1622)

Model Prefix	Year
JGBS	K
JGSC	K
JGSS	K

(Roper)

To remove:

1. When broiler is cool, remove rack and pan.



2. Pull the broiler drawer out until it stops, then push it back in about one inch.

3. Grasp handle, lift and pull broiler drawer out (lift the rollers located under the drawer over the roller guide stops in the range).

To replace:

1. Put the rollers under the broiler drawer behind the roller guide stops in the range.

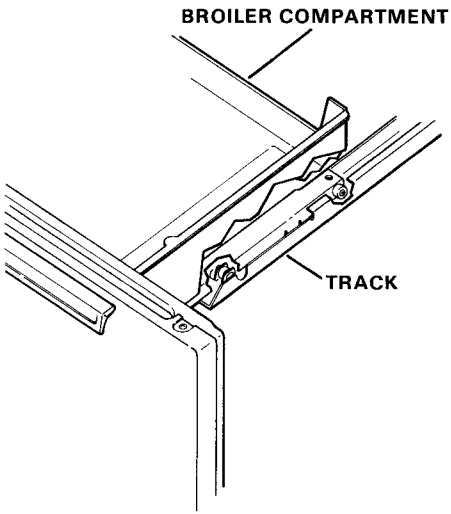
2. Hold the broiler drawer in the raised position as you slide it part way into the range. Then lower the drawer and push it completely closed.

Model Prefix	Year
RGB5	F & H
RGB6	F & H
RGH6	F & H

(Glenwood/Caloric)

The broiler has a track and roller assembly attached at the bottom, and rides in a similar track assembly at the bottom of the compartment. The track contains a **stop** near the front to prevent accidental pull-out.

The broiler can be removed by pulling out to the **stop,** and then lifting out.

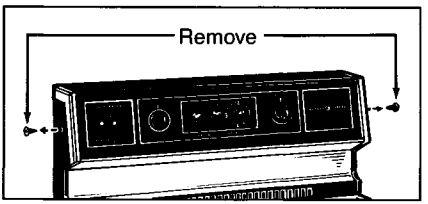


GENERAL

CONTROL PANEL GLASS REMOVAL

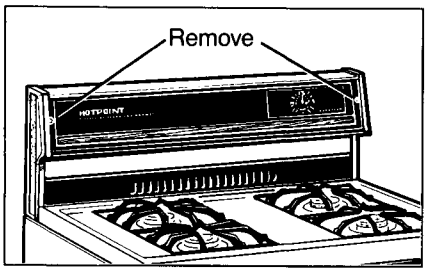
The control panel glass can be removed for cleaning and for service access to components. The method of removal varies by model type.

Tappan "H" & "J" Models

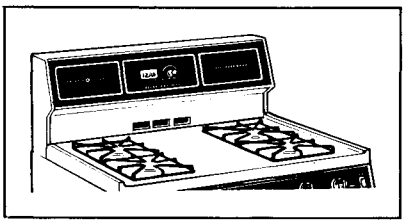


1. Remove knobs.
2. Remove metal strip at each end of glass – fastened by one screw at each side of backguard end caps.

Magic Chef "J" Models



Roper "K" Models

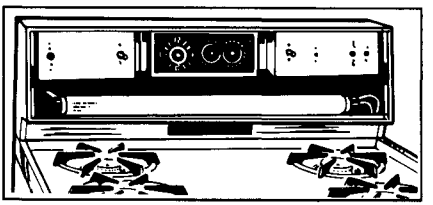


1. Remove knobs.
2. Remove backguard end cap on one side – 3 screws.
3. Slide control panel glass out.

FLUORESCENT LAMP REMOVAL

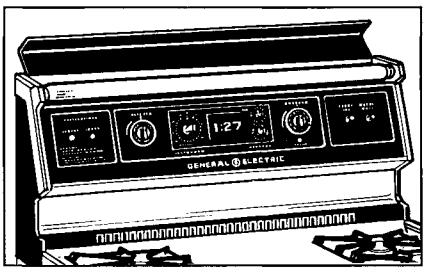
Some models have a fluorescent lamp for a surface light. The method of access and removal varies by model.

Tapan "H" Models



Fluorescent lamp is located inside backguard. Remove control panel glass for access.

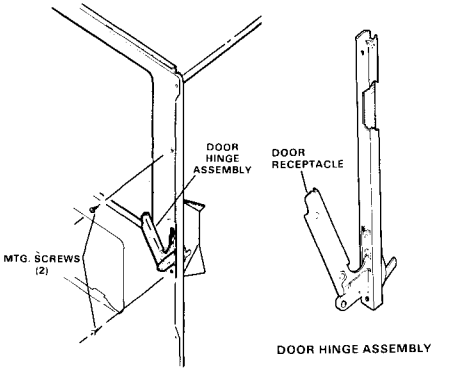
Tappan "J" Models



Raise lamp cover at top of backguard for easy access.

OVEN DOOR HINGES

Glenwood "F" & "H" Models



To Remove Hinge:
1. Lift off door.
2. Remove side panel and 2 hinge mounting screws.
3. Remove hinge assembly. It is not adjustable and is serviced as an assembly.

OVEN DOOR HINGES

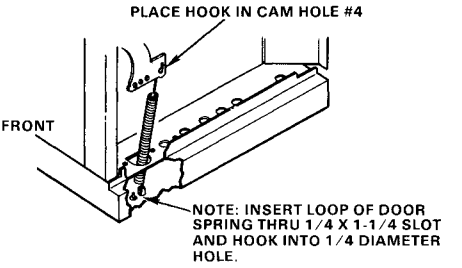
Tappan "H" Models

All door hinges are mounted to the front frame by two screws. To service:

Standard Ranges - Door springs can be unhooked at the bottom through the broil compartment. Then remove the hinge assembly.

Wall Ovens - Remove oven from cabinet and remove sides.

Self Clean Ranges - Oven door springs should be connected to hinge lever rear hole and slot in range base.



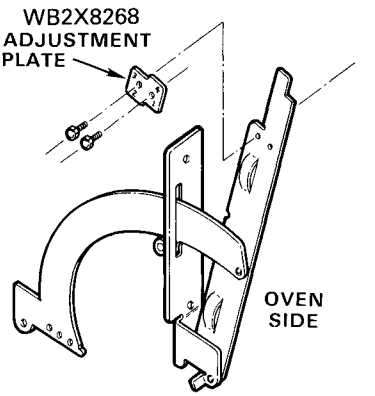
To replace or adjust a hinge spring the side panel must be removed.

OVEN DOOR HEIGHT ADJUSTMENT

Tappan "H" Models

A hinge adjustment plate (WB2X 4268) is available to provide parallel alignment of door and control panel. The plate has four (4) different size height adjustments depending on position.

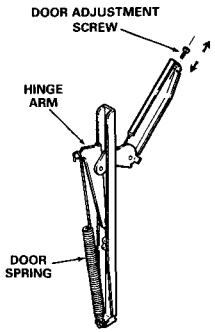
To Adjust Door
1. Remove oven door.
2. Install plate to oven side of door hinge to be adjusted.
3. Adjustment **height** positions are as follows:
   No. 3 - 5/32"
   No. 4 - 3/16"
   No. 2 -1/8"
   No. 1 - 1/16"



OVEN DOOR HINGES

Tappan "J" Models

The hinge assembly consists of a hinge, spring, and door adjustment screw.



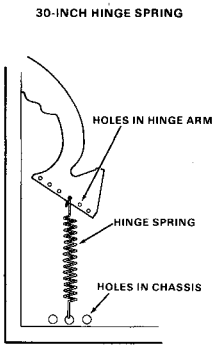
Different hinges and springs are used for various models. Refer to parts catalog for correct part number.

To Remove Hinge

1. Remove Door.
2. Remove three (3) hinge screws in front frame.
3. Carefully close hinge arm against front frame and work hinge assembly out opening.

OVEN DOOR HINGES

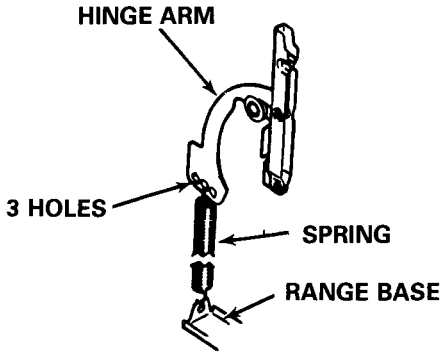
Magic Chef "J" Models



All 30-inch ranges use the same hinge spring. The spring tension can be adjusted to match the weight of the door. Six (6) holes in the hinge arm and three (3) in the chassis provide the adjustment.

OVEN DOOR HINGES

Roper "K" Models



Right and left hand hinges are different parts on the same range.

Three different springs are used depending on spring tension required for different weight doors. Springs have different catalog numbers and have a paint marking for identification.

Door Type	Spring
• Solid-Painted	White
• Window-Painted	White
• Solid-Black Glass	White
• Window-Black Glass	Blue
• Self Clean	Yellow

Hinge arm has three (3) holes for adjustment of spring tension.

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PAGE

SAFETY

In order for the appliance to function properly, the factory makes a considerable effort to see that a safe appliance leaves the factory. However, it must be installed properly and used intelligently by the customer.

In spite of all the precautions which were designed into the range for safety reasons, we must depend on properly installed ranges and that the customer is aware of the proper use and care.

The information contained in this section is to remind our service personnel that the range is safe for use by the user, and that the user should be instructed to read the User's Manual, so that he or she will be able to operate the range intelligently and obtain optimum results.

SAFETY PRACTICES

SERVICE PRACTICES

Safe and satisfactory operation of a gas range basically depends upon its design and, to a great extent, upon proper installation. However, there is one more area of safety to be considered: **SERVICE.**

Listed below are some general precautions and safety practices which should be followed in order to protect the service technician and the customer during service and after service has been completed.

1. If you smell gas: Extinguish any open flame, and open windows.

2. **Turn gas off** – Perform service to range with gas turned off unless needed for testing.

3. **Checking for gas leaks** – Never check for leaks with a **match, or any other kind of open flame.** A soap and water (suds) solution should be used for this purpose. Apply suds to the suspected area, and watch for air bubbles which indicate a leak. **Correct leaks by tightening fittings, screws, connections, applying approved compound, or by installing new parts.**

4. **Using lights** – Use hand flashlights only when servicing a range or checking for gas leaks. Electric switches should not be operated where leaks are suspected. (This will avoid creating arcing or sparks which could ignite the gas). If electric lights are already turned **on,** they **should not** be turned off.

5. **Do not smoke** – Do not smoke while servicing a gas range, especially if working on piping or components which contains or has contained gas.

6. **Check range when service completed** – After service has been completed, make electrical connection, **relight** all pilots, and check for leaks. Advise customer of condition of range before leaving.

7. **Adhere to all local regulations and codes when performing service.**

CUSTOMER USAGE PRACTICE

IMPORTANT SAFETY INSTRUCTIONS

These safety instruction are in the customer's use and care manual.

When You Get Your Range

- **Have the installer show you the location of the range gas cut-off valve and how to shut is off if necessary.**

- **Have your range installed and properly grounded by a qualified installer,** in accordance with the Installation Instructions. Any adjustment and service should be performed only by qualified gas range installers or service technicians.

- **Plug your range into a 120-volt grounded outlet only.** Do not remove the round grounding prong from the plug. If in doubt about the grounding of the home electrical system, it is your personal responsibility and obligation to have an ungrounded outlet replaced with a properly-grounded three-prong outlet in accordance with the National Electrical Code. Do not use an extension cord with this appliance.

- **Be sure all packing materials are removed from the range** before operating it, to prevent fire or smoke damage should the packing material ignite.

- **Be sure your range is correctly adjusted by a qualified service technician or installer for the type of gas (Natural or LP) on which it is to be used.** Your range can be converted for use on one type of gas or the other. See Installation Instructions.

- **After prolonged use of a range, high floor temperatures may result and many floor coverings will not withstand this kind of use.** Never install the range over vinyl tile or linoleum that cannot withstand such type of use. Never install it directly over interior kitchen carpeting.

Using Your Range

- **Don't leave children alone or unattended where a range is hot or in operation.** They could be seriously burned.

- **Don't allow anyone to climb, stand or hang on the door or range top.** They could damage the range and even tip it over causing severe personal injury.

- **CAUTION: ITEMS OF INTEREST TO CHILDREN SHOULD NOT BE STORED IN CABINETS ABOVE A RANGE OR ON THE BACKSPLASH OF A RANGE**– CHILDREN CLIMBING ON THE RANGE TO REACH ITEM COULD BE SERIOUSLY INJURED.

- **Let burner grates and other surfaces cool before touching them or leaving them where children can reach them.**

- **Never wear loose fitting or hanging garments while using the appliance.** Flammable material could be ignited if brought in contact with flame or hot oven surfaces and may cause severe burns.

- **Never use your appliance for warming or heating the room.** Prolonged use of the range without

adequate ventilation can be hazardous.

• **Do not use water on grease fires.** Never pick up a flaming pan. Turn off burner, then smother flaming pan by covering pan completely with well fitting lid, cookie sheet or flat tray.

Flaming grease outside a pan can be put out by covering with baking soda or, if available, a multi-purpose dry chemical or foam fire extinguisher.

• **Do not store flammable materials in an oven or near the cooktop.**

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

• **When cooking pork,** follow our directions exactly and always cook the meat to at least 170°F. This assures that, in the remote possibility that trichina may be present in the meat, it will be killed and meat will be safe to eat.

Surface Cooking

• **Always use the LITE position when igniting top burners** and make sure the burners have ignited.

• **Never leave surface burners unattended at HI flame settings.** Boilover causes smoking and greasy spillovers that may catch on fire.

• **Adjust top burner flame size so it does not extend beyond the edge of the cooking utensil.** Excessive flame is hazardous.

• **Use only dry potholder** – moist or damp potholders on hot surfaces may result in burns from steam. D not let potholders come near ope flames when lifting utensils. Do nc use a towel or other bulky cloth i place of a potholder.

• **To minimize the possibility of burns** ignition of flammable materials, an spillage, turn the cookware handle toward the side or back of the rang without extending over adjacen burners.

• **Always turn surface burner to OF before removig utensil.**

• **Carefully watch food being fried a HI flame setting.**

• **Never block the vents (air openings of the range.** They provide the ai inlet and outlet which is necessar for the range to opereate properl with correct combustion.

• **Do not use a wok on the cookin surface if the wok has a round meta ring which is placed over the burne grate to support the wok.** This ring acts as a heat trap which ma damage the burner grate and burne head. Also, it may cause the burne to work improperly. This may caus a carbon monoxide level above tha allowed by current standards resulting in a health hazard.

• **Food for frying should be as dry a possible.** Frost of frozen foods o moisture on fresh foods can caus hot fat to bubble up and over side of pan.

• **Use least possible amount of fat fo effective shallow or deep-fat frying** Filling the pan too full of fat ca cause spillovers when food is added

• **If a combination of oils or fat will be used in frying,** stir together before heating, or as fats melt slowly.

• **Always heat fat slowly,** and watch as it heats.

• **Use deep fat thermometer whenever possible** to prevent overheating fat beyond the smoking point.

• **Use proper pan size** – Avoid pans that are unstable or easily tipped. Select utensils having flat bottoms large enough to properly contain food avoiding boilovers and spillovers, and large enough to cover burner grate. This will both save cleaning and prevent hazardous accumulations of food, since heavy spattering or spillovers left on range can ignite. Use pans with handles that can be easily grasped and remain cool.

• **Use only glass cookware that is recommended** for use on gas burners.

• **Keep all plastics away from top burners.**

• **To avoid the possibility of a burn, always be certain that the controls for all burners are at OFF position and all grates are cool before attempting to remove a grate.**

• **When flaming foods under the hood, turn the fan off. The fan, if operating, may spread the flame.**

• **If range is located near a window,** do not use long curtains which could blow over the top burners and create a fire hazard.

• **If you smell gas,** turn off the gas to the range and call a qualified service technician. Never use an open flame to locate a leak.

Baking, Broiling and Roasting

• **Do not use oven for a storage area.**

• **Stand away from the range when opening the door of a hot oven. The hot air or steam which escapes can cause burns to hands, face and/or eyes.**

• **Don't heat unopened food containers in the oven. Pressure could build up and the container could burst causing an injury.**

• **Don't use aluminum foil anywhere in the oven except as described in this book.** Misuse could result in a fire hazard or damage to the range.

• **Use only glass cookware that is recommended** for use in gas ovens.

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

• **Always remove broiler pan from the oven as soon as you finish broiling.** Grease left in the pan can catch fire if oven is used without removing the grease from the broiler pan.

• **When broiling, if meat is too close to the flame, the fat may ignite.** Trim excess fat to prevent excessive flare-ups.

• **Make sure broiler pan is in place correctly** to reduce the possibility of grease fires.

• **If you should have a grease fire in the broiler pan,** turn off oven, and

keep oven door closed to contain fire until it burns out.

Self-Cleaning Oven

• **Do not clean the door gasket.** The door gasket is essential for a good seal. Be careful not to rub, damage or move it.

• **Do not use oven cleaners.** No commercial oven cleaner or oven liner protective coating of any kind should be used in or around any part of the oven.

• **Remove the broiler pan and other cookware** before self-cleaning the oven.

INSTALLATION

NOTE: IN SOME CASES. THE POWER CORD OF THE RANGE IS DRAPED AROUND THE OVEN VENT ASSEMBLY WHEN THE RANGE IS UNCRATED. BE SURE TO UNWRAP THE CORD FROM THE OVEN VENT BEFORE YOU INSTALL THE RANGE.

PROVIDE ADEQUATE GAS SUPPLY

This range is designed to operate on natural gas at 4" of water column pressure or on LP gas at 10" of water column pressure. It is shipped from the factory set for natural gas. If it is to be used with LP gas, adjustments must be made (see Gas Conversions).

A convertible pressure regulator is connected in series with the manifold of the range and must remain in series with the supply line regardless of whether natural or LP gas is being used.

FOR PROPER OPERATION; THE MAXIMUM INLET PRESSURE TO THE REGULATOR MUST BE NO MORE THAN 14" OF WATER COLUMN PRESSURE. For checking the regulator, the inlet pressure must be at least 1" greater than the regulator output setting. If the regulator is set for 4" of water column pressure, the inlet pressure must be at least 5". If the regulator is set for 10", the inlet pressure must be at least 11".

The gas supply line into the range should be a ½" or ¾" I.D. flexible metal appliance connector five feet in length.

SEAL THE OPENINGS

Seal any openings in the wall behind the range and in the floor under the range when hookups are completed.

CONNECT THE RANGE TO GAS

Install a manual shut-off valve in the gas line in an easily-accessible location outside of the range. Be sure you know and where to shut-off the gas supply to the range.

ELECTRICAL REQUIREMENTS:

120-volt, 60 Hertz, individual, properly grounded branch circuit protected by a 15 amp. circuit breaker or time delay fuse.

Extension Cord Cautions:

Because of potential safety hazards under certain conditions we strongly recommend against the use of an extension cord. However, if you still elect to use an extension cord. It is absolutely necessary that it be a UL listed 3-Wire grounding type appli-

ance extension cord and that the current carrying rating of the cord in amperes be equivalent to or greater than the branch circuit rating. Such extension cords are obtainable through your local service organization.

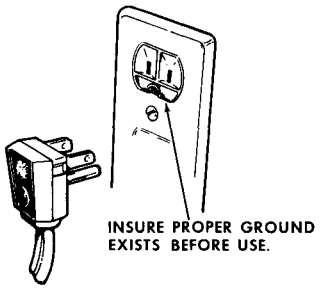
GROUNDING

IMPORTANT: (Please read carefully). FOR PERSONAL SAFETY, THIS APPLIANCE MUST BE PROPERLY GROUNDED.

The power cord of this appliance is equipped ith a three-prong (grounding) plug which mates with a standard three-prong grounding wall receptacle to minimize the possibility of electric shock hazard from this appliance.

The customer should have the wall receptacle and circuit checked by a qualified electrician to make sure the receptacle is properly grounded.

PREFERRED METHOD



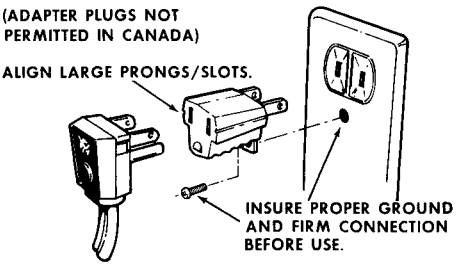
Where a standard two-prong wall receptacle is encountered, it is the personal responsibility and obligation of the customer to have it replaced with a properly grounded three-prong wall receptacle. **DO NOT, UNDER ANY CIRCUMSTANCES, CUT OR REMOVE THE THIRD (GROUND) PRONG FROM THE POWER CORD.**

USAGE SITUATIONS WHERE THE APPLIANCE POWER CORD WILL BE DISCONNECTED INFREQUENTLY

For 15 amp. circuits only. Do not use an adapter on a 20 amp. circuit. Where local codes permit, a TEMPORARY CONNECTION may be made to a properly grounded two-prong wall receptacle by the use of a UL listed adapter available at most hardware stores

The larger slot in the adapter must be aligned with the larger slot in the wall receptacle to provide proper polarity in the connection of the power cord.

TEMPORARY METHOD



CAUTION: ATTACHING THE ADAPTER GROUND TERMINAL TO THE WALL RECEPTACLE COVER SCREW DOES NOT GROUND THE APPLIANCE UNLESS THE COVER SCREW IS METAL, AND NOT INSULATED, AND THE WALL RECEPTACLE IS GROUNDED THROUGH THE HOUSE WIRING. THE CUSTOMER SHOULD HAVE THE CIRCUIT CHECKED BY A QUALIFIED ELECTRICIAN TO MAKE SURE THE RECEPTACLE IS PROPERLY GROUNDED.

When disconnecting the power cord from the adapter, always hold adapter with one hand. If this is not done, the adpater ground terminal is very likely to break with repeated use. Should this happen, DO NOT USE the appliance until a proper ground has again been established.

USAGE SITUATIONS WHERE APLIANCE POWER CORD WILL BE DISCONNECTED FREQUENTLY.

Do not use an adapter plug in these situations because disconnecting of the power cord places undue strain on the adapter and leads to eventual failure of the adapter ground terminal. The customer should have the two-prong wall receptacle replaced with a three-prong (grounding) receptacle by a qualified electrician before using the appliance.

Installing the Range

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

Do not install the range over kitchen carpeting unless you place an insulating pad or sheet of ¼-inch-thick plywood between the range and carpeting.

When the floor covering ends at the front of the range, the area that the range will rest on should be built up with plywood or similar material to the same level or higher than the floor covering. This will allow the range to be moved for cleaning or servicing.

Leveling the Range

Your range must be level in order to produce proper cooking and baking result. After it is in its final location, place a level horizontally on an oven shelf and check the levelness front to back and side to side. Level the range by adjusting the leveling legs or by placing shims under the corners as needed.

PRODUCT SAFETY DEVICES

Safety devices and features have been engineered into the product to protect the user and the servicer. Safety devices must never be removed, by-passed, or altered in such a manner as to defeat the purpose for which they were intended.

Listed below are various safety devices together with the reason each device is incorporated in the gas range.

Pressure Regulator — Maintains proper and steady gas pressure for operation of range controls. The regulator must be set for the type of gas being used – **natural** or LP. After servicing the regulator make certain it is set properly before completing service.

Gas Burner Orifices — Universal orifices are used on top burner valves and oven valves. They must be adjusted or set for the type of gas being used – **natural** or LP.

After servicing a valve or orifice make certain it is adjusted properly before completing service.

Oven Safety Valve — The oven valve is designed to be a safety valve. Two basic designs are used in gas ranges.

Hydraulic type valve
Electric type valve

Both types are safety valves because they are indirectly operated by the oven thermostat, which controls a pilot flame or electric ignitor, to open and close the oven valve.

Latch Assembly — Locks the door during self cleaning cycle. Prevents possible injury to user by preventing door opening at high temperatures where ignition of soil could take place with the in-rush of air.

Grounded Range Frame — The ground prong of the gas range electric power cord is connected to the range frame-usually a green lead fastened by a screw. In addition, any part or component capable of conducting an electric current is grounded by it's mounting.

If any ground wire, screw, strap, nut, etc. is removed for service, or any other reason, it must be reconnected to it's original position with the original fastener before the appliance is put into operation again.

Failure to do so can create a possible shock hazard.

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THREE DISTRIBUTION SYSTEMS

GE and Hotpoint Gas Ranges have been sourced from several different GAS Range Manufacturers – see model section for model numbers and source listing. Other pertinent component information may also be identified in the listing.

Regardless of Gas Range manufacturer, there are three (3) basic types of gas distribution systems used:

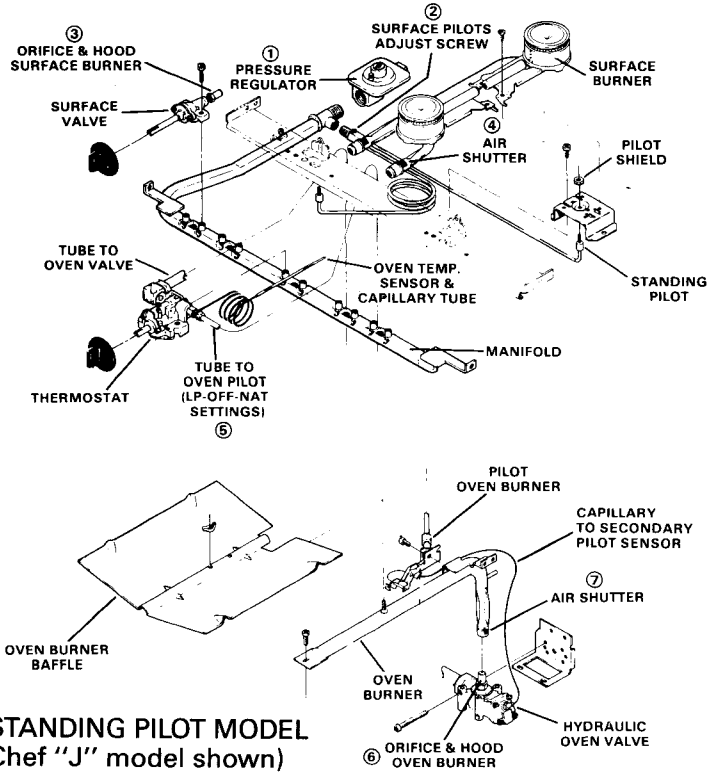
1. STANDING PILOT – COOKTOP AND OVEN
2. ELECTRIC IGNITION – COOKTOP AND OVEN (SPARK TYPE)
3. ELECTRIC IGNITION – COOKTOP (SPARK), OVEN (GLOWBAR)

NOTE: All Built-In Cooktops, Wall Ovens, and Hi/Low Top Ovens have electric ignition:

- Cooktops – spark
- Wall Ovens and Hi/Low Top Oven – Glowbar

Typical Descriptions of the three basic systems folow:

STANDING PILOT – TOP & OVEN



TYPICAL STANDING PILOT MODEL
(Magic Chef "J" model shown)

(Art No. WB1500)

STANDING PILOT – TOP & OVEN

The gas supply line is connected to the range pressure regulator which is connected to the manifold.

NOTE: Depending on model, the regulator is located at the end of the manifold under the cooktop, or is located behind the range and connected to the manifold by a separate tube. (See pressure regulator).

From the manifold gas is distributed to the top burners through burner valves, and to the oven burner through the thermostat and oven valve.

NOTE: Depending on model, the surface or top burners connect directly over the orifices on the end of the top valves, or to separate orifices on the bottom of the burner box and connected to the top valves by separate tubes. (see top burners).

The oven thermostat mounts to the manifold, and it has two tubes which go to the oven. The larger tube goes to the oven valve, and the smaller tube goes to the pilot assembly. A small amount of gas supplies the standing, or primary, pilot. When the thermostat is turned to a cooking temperature, a larger amount of gas goes through the pilot tube and the flame enlarges to a secondary pilot. The oven valve sensor senses this secondary pilot flame, and the oven valve turns on gas to the oven burner after about 30 seconds. Gas is supplied directly to the oven valve when the thermostat is turned to an "on" position.

STANDING PILOT COMPONENTS

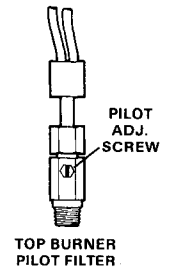
Components associated with standing pilot systems are outlined in the following information.

TOP BURNER PILOTS

The two top pilots and the oven pilot must be match lit initially. The top pilots are located between each pair of burners. Raise the cooktop for access to the pilots. The pilot flame should be ¼" or less if possible, with a slight yellow tip. (see note) Adjust the pilot by the adjusting screw on the pilot filter.

NOTE: If pilot is too low, top burner ignition may not occur. If the pilot is too high, carbon (soot) will accumulate under the cooktop and cooktop may rust.

The pilot filter and adjust screw is located under the cooktop.



OVEN STANDING PILOT

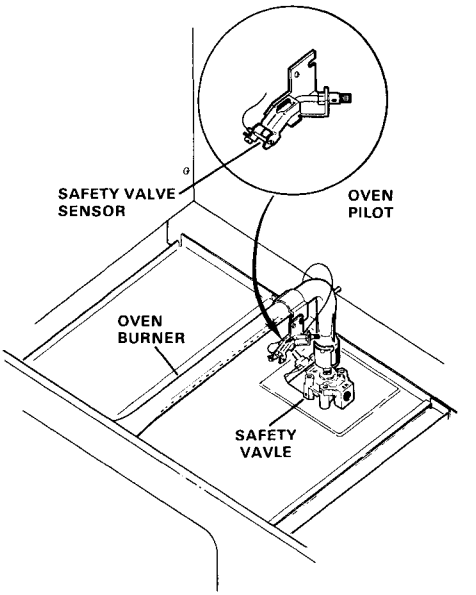
The oven pilot assembly works in conjunction with the oven thermostat, and oven safety valve.

Oven pilot and oven burner gas is controlled by the thermostat. When the thermostat is "off" all oven gas is off. When the thermostat is set to some temperature, gas flows to the oven pilot and to the oven safety valve.

The **oven valve** is a hydraulic type with a mercury-filled bulb which mounts to the oven pilot assembly.

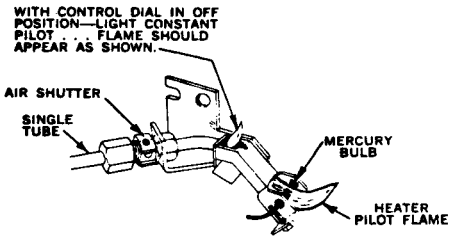
Gas is always flowing to the oven pilot assembly to provide a standing pilot.

When the thermostat is turned "ON" to any temperature setting, additional pilot gas flows through the small pilot line to the pilot assembly. Immediately the standing pilot flame should enlarge and extend down the pilot assembly to engulf the bulb of the oven safety valve. At the same time, gas will flow through the large line from the oven thermostat to the oven valve. The valve however, is closed to the oven burner until the pilot flame (heater pilot) heats the oven valve bulb enough to open the oven valve and allow gas to flow to the oven burner.



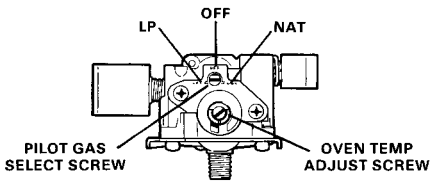
Typically it takes approximately 30 seconds of pilot flame heating of the mercury filled bulb of the oven valve

to open the valve and permit gas flow to the oven burner. At this time the pilot ignites the over burner.



PILOT GAS SELECT ADJUSTMENT

A pilot gas select adjust screw on the oven thermostat must be set for type of gas (Nat. or LP). This controls the proper gas flow for the oven pilot. An "off" position is also available between the Nat. and LP positions. **The select key is accessible by removing the knob.**



FRONT VIEW

Oven Pilot Flame Adjustment

The oven standing pilot flame size is not adjustable as such. If the pilot does not extend down the pilot assembly to engulf the oven valve bulb when the thermostat calls for "TURN ON," then check the following:

1. Turn oven thermostat to "OFF" position.
2. Turn off range gas supply.
2. Disconnect pilot gas line at **thermostat** and at pilot assembly – blow through the tubing to clear out any obstruction.
4. Remove the pilot assembly and locate the hole in its side in front of the pilot orifice. Carefully insert a pocket size screwdriver in the hole and push the "hat shaped" orifice out of the pilot body – **blow through the orifice** to clear any blockage of the orifice – **the orifice is only .014" in size.** Do not enlarge the orifice.
5. Make certain pilot select screw is set for type of gas being used.

Oven Thermostats

Two different type thermostats were used on standing pilot ranges.

- "Robertshaw ELO" – used on Tappan, Magic Chef, & Hardwick models
- "Harper/Wyman – used on Glenwood/Caloric models

Both types are basic gas hydraulic type thermostats in which the stem and core act as a manual shut off valve for gas to the oven valve.

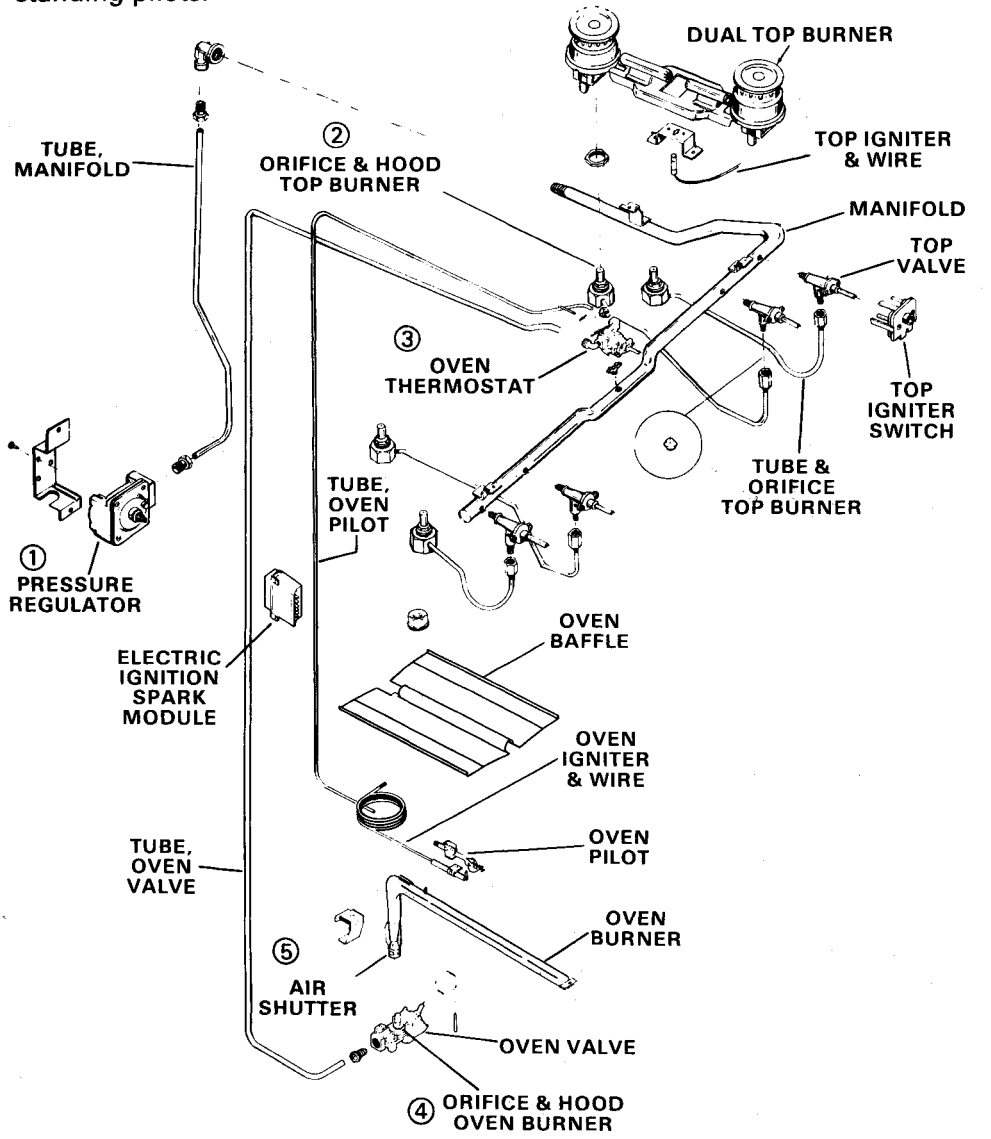
Robertshaw ELO Thermostat

Two things should be noted about the "Robertshaw Model ELO" thermostat used on the standing pilot ranges:

1. To **prevent pilot outage** when the thermostat is turned "on", a small orifice inside the thermostat connects the main oven valve chamber and outlet with the pilot outlet. Without this orifice the rush of gas into the thermostat inlet would tend to lower pressure for the gas going down to the small standing pilot flame.

Electric Ignition
Top and Oven – Spark

This gas distribution system is similar to standing pilot models except **Electric Spark Ignition** is used for **Top Burners and for the oven** instead of standing pilots.



Typical electric ignition model with spark system – cooktop & oven (Tappan "J" models shown)

(Art No. WB1503)

GAS DISTRIBUTION SYSTEMS AND COMPONENTS

The gas supply line connects to the pressure regulator which is connected to the manifold.

NOTE: Depending on model, the regulator is located under the cooktop, or behind the range and is connected to the manifold by a separate tube. (See Pressure Regulator).

From the manifold gas is distributed to the top burners through burner valves, and to the oven burner through the thermostat and oven valve.

NOTE: Depending on model, the surface or top burners connect directly over the orifices on the end of the top valves, or to separate orifices on the bottom of the burner box and connected to the top valves by separate tubes. (See Top Burners).

The surface burner valves have electric ignition switches. The thermostat is very much like the one used on standing pilot models. The only differences are: (a) No gas flows through the oven thermostat (for a standing pilot flame) when it is in its "OFF" position, and (b) An electric ignition switch for the oven pilot is mounted on the thermostat shaft.

When the thermostat is turned from "OFF" to any cooking temperature, gas flows through the oven pilot tube to the pilot assembly. At the same time, the thermostat electric ignition switch closes and this causes sparking of the oven electric igniter, which ignites the oven pilot secondary flame.

The secondary pilot flame size is the same as for the standing pilot system. The hydraulic oven valve sensor senses the secondary pilot flame, and this turns on gas to the oven burner after about 30 seconds.

The oven valve and oven pilot assembly is identical to the ones used on standing pilot models, and they operate the same – except no pilot flame is present until the oven thermostat is turned "on" to some temperature setting. The thermostat then cycles the pilot flame from a standing pilot size to a heater pilot size, to operate the valve and burner.

Oven Thermostats

Two different type thermostats:

- "ROBERTSHAW ELO – Tappan, Magic Chef, and Hardwick models.
- "HARPER/WYMAN" – Glenwood/ Caloric Models.

Important – These thermostats **are not** interchangeable with standing pilot model thermostats.

Robertshaw ELO Thermostat

If the temperature is set above 400 degrees, when the temperature is reached, the oven burner flame is modulated down rather than going off. The burner flame then cycles from the low modulated flame to full size to maintain an even temperature.

Electric Ignition – Spark System Top and oven (2 + 1)

This spark ignition system consists of a solid state module, three electrodes (2 for top burners & 1 for the oven), and five switches to energize the circuit – there is one switch for each top burner valve and one for the oven thermostat.

Note: This system is commonly called 2 + 1 spark ignition.

The module is powered by 120 volts. All input and output wiring connections are marked on the body of the module.

Two different types (manufacturers) of modules have been used (KIGASS & HARPER/WYMAN). Both types operate the same electrically, but are not interchangeable due to mounting. The terminal legends for each type are as follows:

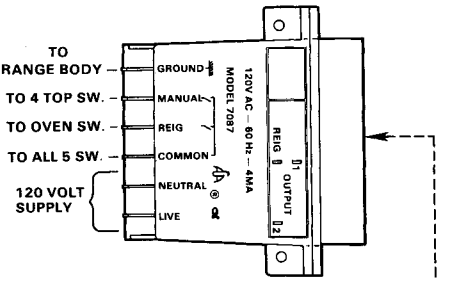
Inputs

"Kigass" (Red) "Harper/Wyman" (Tan)

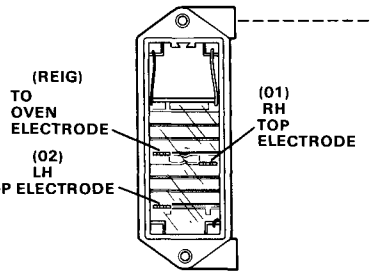
GROUND	12 - GROUND	CONNECTS TO RANGE BODY	
MANUAL	8 - MANUAL	4 TOP VALVE SWITCHES	
REIG	9 - REIG	OVEN T'STAT SWITCH	
COMMON	7 - COMMON	ALL 5 SWITCHES	
NEUTRAL	6 - NEUTRAL	120 V SUPPLY.	
LIVE	5 - LIVE		

Outputs

01	1 - MAN	TOP BURNER ELECTRODE
02	2 - MAN	TOP BURNER ELECTRODE
REIG	4 - REIG	OVEN ELECTRODE



SPARK IGNITION MODULE
"KIGASS" TYPE



END VIEW

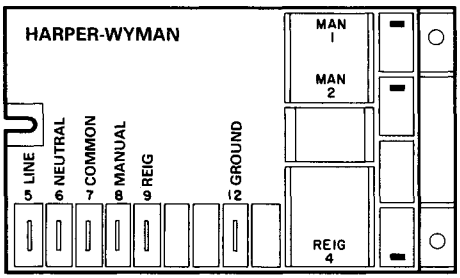
The module contains an electronic circuit and pulse transformer within the module which produces periodic high voltage pulses to all electrodes at a rate of approximately 2 pulses (sparks) per second. The high voltage pulses are about 13.5 KV but presents no serious shock hazard because of the very low current (3-4 milliamps).

CAUTION: While there is no serious shock hazard involved, it should be pointed out the shock can be felt if

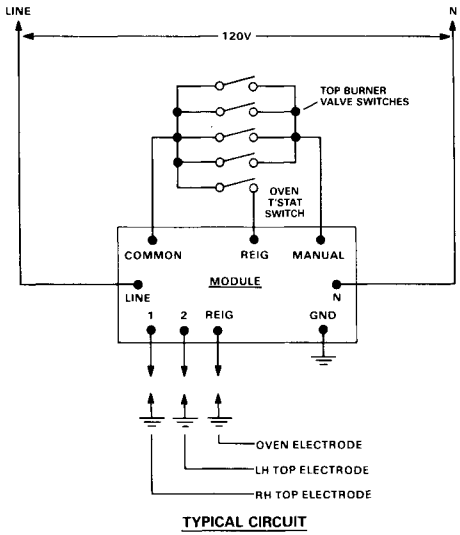
exposed to it. For this reason it is not recommended to handle the electrodes or high voltage leads when the ignition is turned "on".

Location of the top and oven (2 + 1) spark module varies by range manufacturer. (See model list – Front of book):

MANUFACTURER	MODEL TYPE	LOCATION
TAPPAN	30" (J)	BACK OF RANGE BODY
GLENWOOD	ALL (F-H-J)	BACK OF RANGE BODY
ROPER	30" (K)	BACK OF RANGE BODY
HARDWICK-MAGIC CHEF	20" (K)	R.H. BODY SIDE (REMOVE R.H. SIDE PANEL)



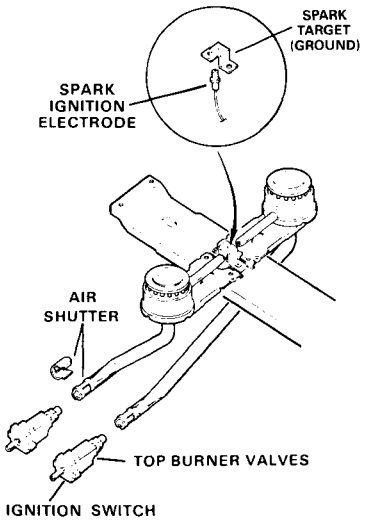
HARPER-WYMAN SPARK MODULE



TYPICAL CIRCUIT

Top Burner Spark Ignition

Two spark electrodes (ignitors) are used for the top burners, one for each pair of burners. The electrode is located between the flash tubes where a pilot normally would be located. A metal bracket covers the electrode and serves as the spark target. (Range Frame Ground)

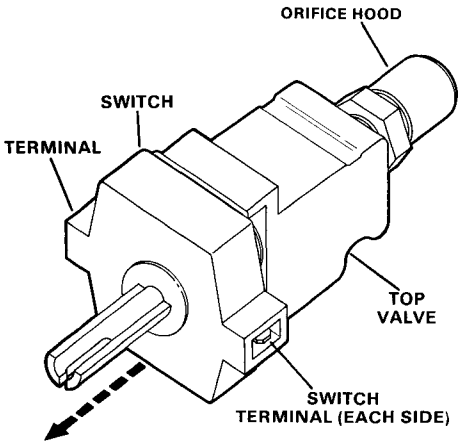


The top burner valve is a standard type valve with a special micro switch located on the shaft. The switch terminals are on each side. The hub of the switch rotates with shaft to turn the switch "on" when the knob is set at the "lite " position. **When any switch is closed all electrodes spark.**

After the top burner is lit and the knob is moved from the "lite" position, the switch opens and the sparking stops.

The switches merely slip over the valve shaft, therefore service to the switch is simple. The switches can be continuity tested by removing the

leads and checking across the switch terminals while turning the valve to the "lite" position. **Caution: Gas will be flowing from the valve during the test.** Turn valve to "off" as soon as possible.



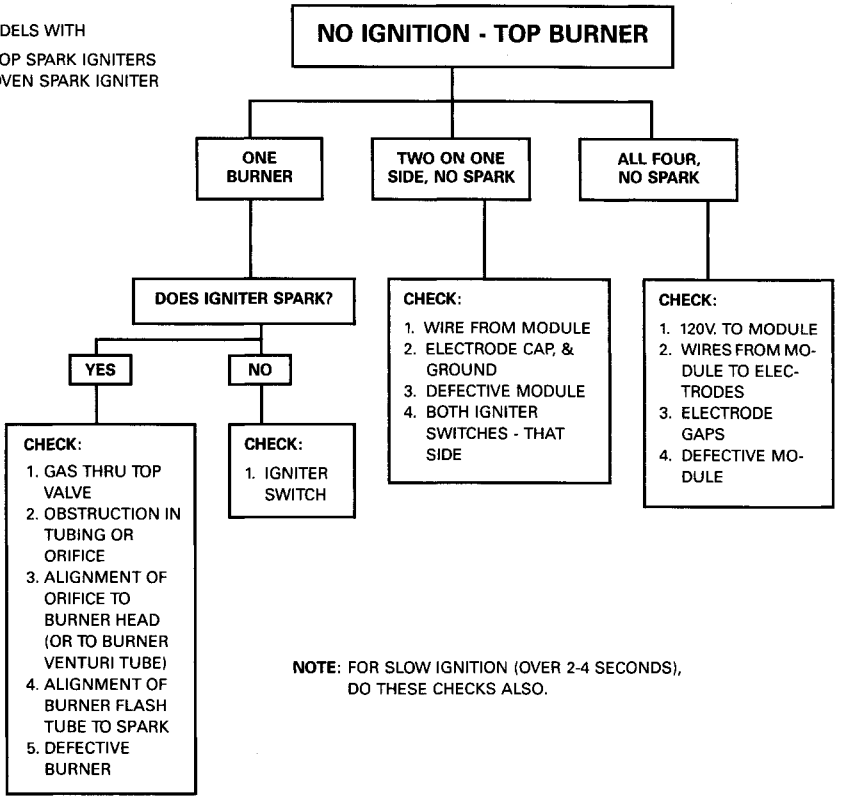
TYPICAL SWITCH

Trouble – Shooting
No Ignition – Top Burners

The following flow chart should be used for diagnosing a top burner "No Ignition" problem:

GAS DISTRIBUTION SYSTEMS AND COMPONENTS

MODELS WITH
- TOP SPARK IGNITERS
- OVEN SPARK IGNITER

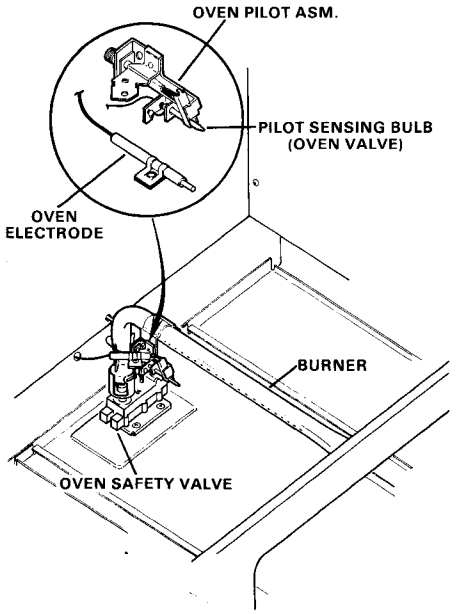


NOTE: FOR SLOW IGNITION (OVER 2-4 SECONDS), DO THESE CHECKS ALSO.

Oven Burner Spark Ignition

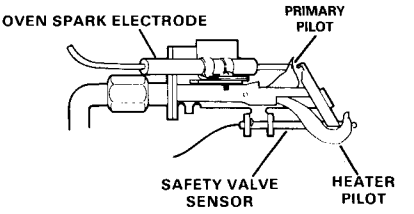
The thermostat also uses an ignition switch on the shaft. This switch closes when the shaft is at any setting execept "off" – There is no "lite" position like on top burner valves.

When the knob is turned to a temperature setting, pilot gas flows and the oven electrode "sparks" until the pilot ignites. The electrode senses the presence of the pilot flame and stops "sparking" due to reduced circuit resistance. **(Remember, when the oven electrode "sparks," the top burner electrodes do also, and vice versa.)**



The pilot assembly mounts to the side of the oven burner and houses the oven electrode and sensing bulb of the oven safety valve. The oven thermostat controls the gas flow to the pilot. When the oven is calling for heat, the pilot flame is elongated and envelops the safety valve bulb. The safety valve opens and allows main gas to the burner. When the oven is at set temperature, the elongated pilot flame reduces to a small primary pilot flame – the safety valve then closes.

NOTE: The oven has a reignition (REIG) feature – if the oven pilot blows out, the oven electrode will automatically "spark" again to relight the pilot.

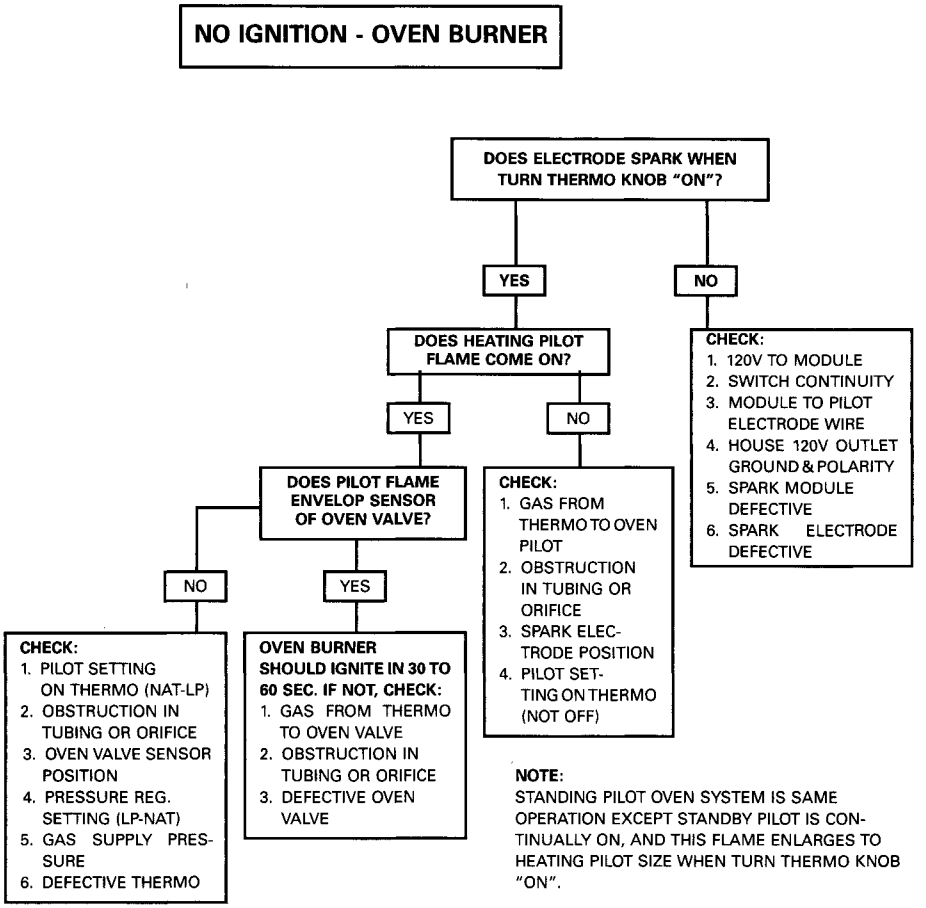


IMPORTANT
120-VOLT SUPPLY POLARITY AND GROUNDING

If the "L" and "Neutral" polarity on the 120-Volt wall receptacle is reversed – or if the receptacle is not grounded – then there is likely to be a problem of random sparking with the "2 + 1". Electronic module. This random sparking is caused by the oven "Flame Sensing" spark system, and it may occur with the oven burner either on or off.

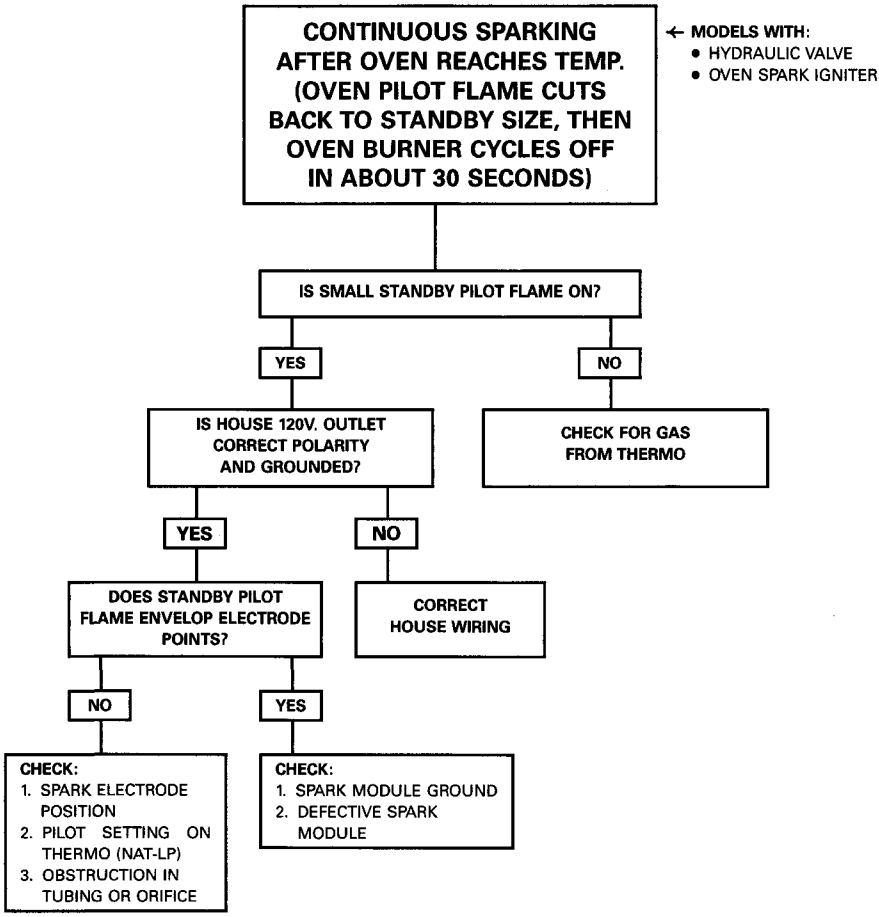
Trouble Shooting
No Ignition – Oven

The following flow chart should be used for diagnosing an oven "no ignition" problem (spark system):



(REFER TO "FIELD CORRECTIONS" SECTION FOR SPECIFIC PROBLEMS)

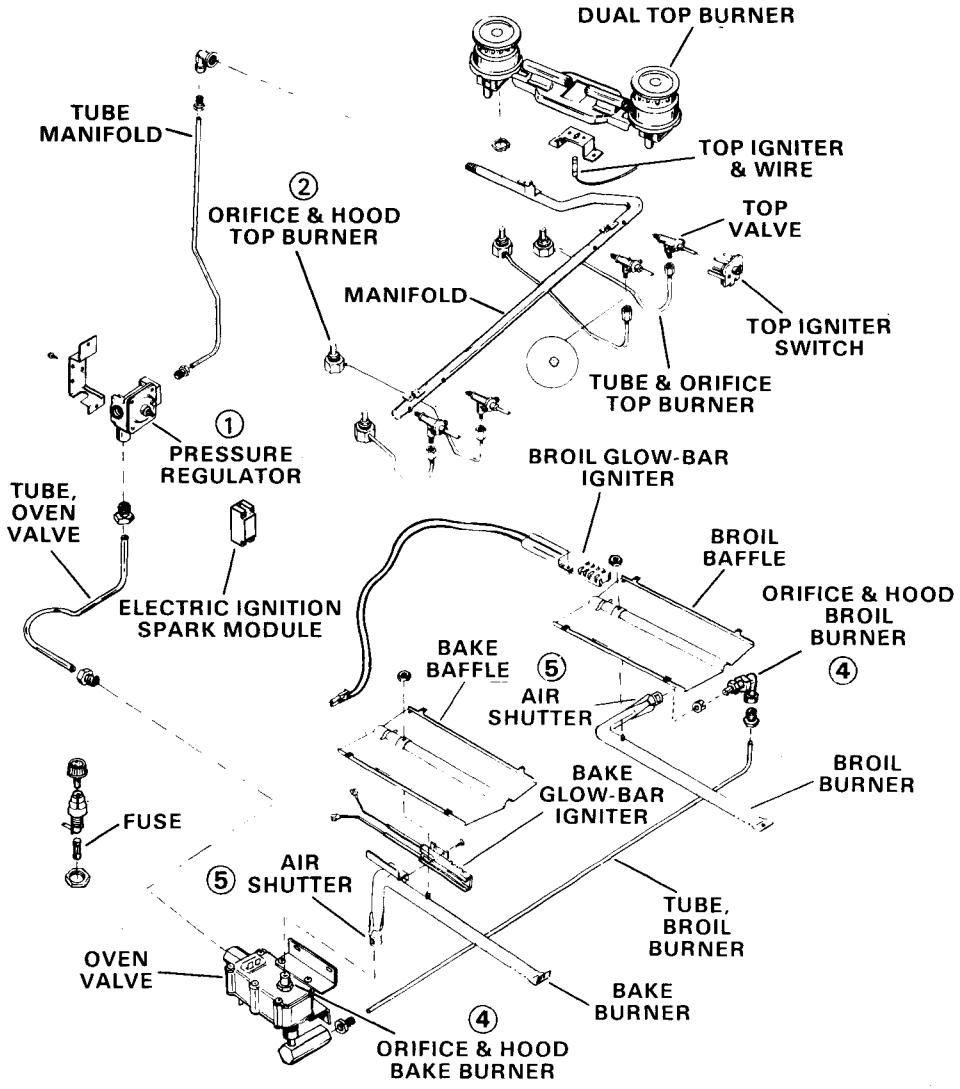
TROUBLE – SHOOTING
CONTINOUS SPARKING – OVEN USE



(REFER TO "FIELD CORRECTIONS" SECTION FOR SPECIFIC PROBLEMS)

GAS DISTRIBUTION SYSTEMS AND COMPONENTS

ELECTRIC IGNITION TOP SPARK – OVEN GLOW-BAR



TYPICAL ELECTRIC IGNITION MODEL – TOP SPARK & OVEN GLOWBAR (Tappan self clean "J" model shown)

(Art No. WB1503)

This system uses **spark ignition for top burners,** and a **glowbar igniter for the oven.**

The gas supply line connects to the pressure regulator which is connected to the manifold

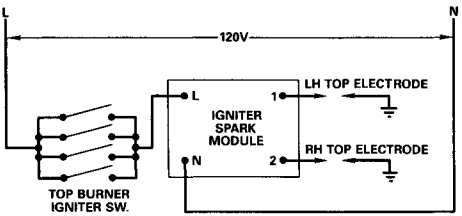
NOTE: Depending on model, the regulator is located under the cooktop, or behind the range and is connected to the manifold by a separate tube. (see pressure regulator)

From the manifold gas is distributed to the top burners through burner valves. **Gas flow to the oven is through an on-off valve mounted to the manifold, (or on the pressure regulator), and then directly to an electric open valve.** The oven thermostat is electric and therefore has no gas connections to it.

NOTE: Depending on model, the top burners connect directly over the orifices on the end of the top valves, or to separate orifices on the bottom of the burner box and connected to the top valves by separate tubes. (see top burners)

Top Burner Spark Ignition

This spark ignition system consists of a solid state spark module, two electrodes (spark igniters), and four valve switches. To energize the circuit – each top burner valve has its own separate switch.



TOP BURNER SPARK IGNITION CIRCUIT

Typical Top Burner (only) Spark System

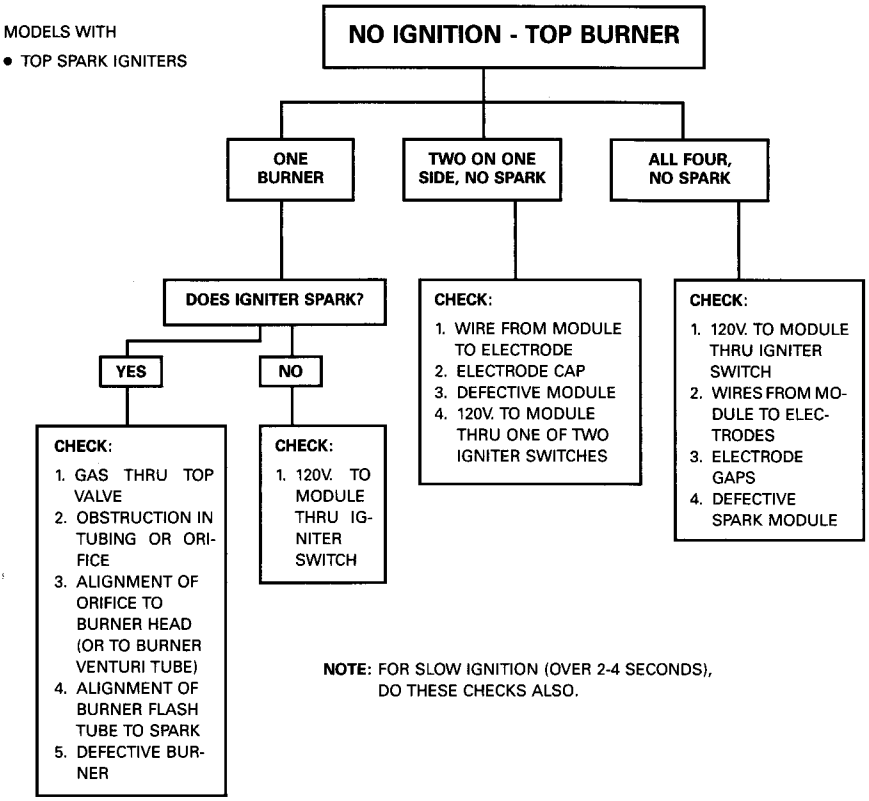
The spark module contains an electronic circuit which produces periodic high voltage pulses (apprx. 2 sparks per second) to both top burner electrodes when the module input is connected to the 120 volt supply.

The module has four terminals:
L & N – 120 Volt Input
1 & 2 – High voltage output leads to spark electrodes.

The four top burner igniter switches are connected in parallel in the line (L) input. Each switch mounts on the valve shaft. When a top burner valve knob is turned "on" to the "lite" position, the switch contacts close and connects 120 volt power to the spark module.

When 120 volts is supplied to the module, the output at terminals "1" to "2", provides a high voltage pulse which creates a spark between each of the two spark gap electrodes and ground. The spark then ignites the burner. After the top burner is lit and the knob is moved from the "lite" position, the switch opens and the sparking stops.

(Art No. WB1622)



Location of the top burner spark module varies by range, manufacturer. (See model list-front of book):

Manufacturer	Model Type	Location
Tappan	30" (H)	R.H. Body side (remove R.H. side panel)
Tappan	30" (J)	Back of range body
Magic Chef	30" (J)	Back of range body
Roper (self clean)	30" (K)	Compartment behind lower drawer

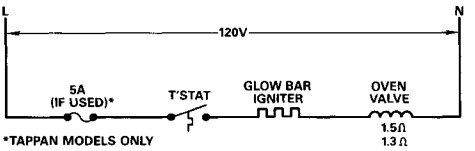
OVEN IGNITION GLOW-BAR IGNITER

An oven glow-bar igniter mounts parallel or adjacent to the oven burner and, with voltage applied, can reach temperatures in excess of 2000 degrees F, which is well above the temperature required to ignite the burner gas.

The typical glow-bar ignition system consists of a **series circuit** of the following components:

- Electric glow-bar igniter
- Electric gas valve
- Electric oven thermostat

Other components such as an oven select switch, timer contacts, etc, may be used, but does not change the basic circuit operation. (Refer to range schematic/wiring diagram for details.



TYPICAL GLOWBAR IGNITION CIRCUIT

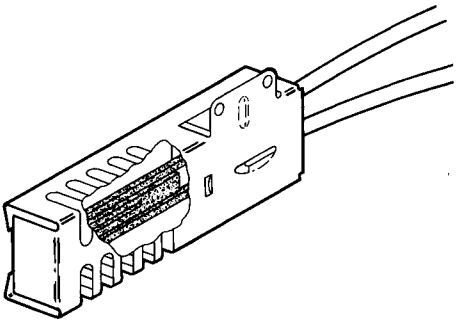
When the thermostat is turned to cooking temperature, the switch contacts close and applies 120 volts across the series circuit. Current flows through the glow-bar and through the bi-metal heater coil inside the oven valve which is normally closed. As the glow-bar heats up, its resistance decreases, and more current flows.

The gas oven valve is current operated and will not open until the series circuit current increases to the **minimum operating current of the valve.**

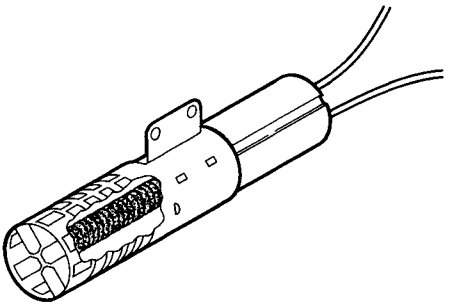
Important – Two different types of glow-bar igniters (and matching valves) have been used, and the **minimum operating currents are different:**

Glow-Bar	Shape	Min. Current To Open Valve
*Norton	Flat	3.2 Amps (3.2-3.6A)
Carborundum	Tubular	2.5 Amps (2.5-3.0A)

*Used on most ovens



NORTON GLOWBAR



CARBORUNDUM GLOWBAR

When the current reaches the operating range, the valve opens and allows gas to flow to the oven burner which ignites. This generally takes 30-60 seconds from cold start. The glow-bar will cycle "on" and

"off" as the thermostat cycles to maintain oven temperature.

CAUTION:

The glow-bar may glow red and appear to be operating properly, but the current through the series circuit may be too low to allow the oven valve to operate. For a non-ignition complaint, always check the current through the glow-bar with a clamp-on amp probe. THE CURRENT MUST BE AT LEAST THE MIN. CURRENT FOR THE TYPE OF GLOW-BAR IN USE. If not – replace the glow-bar not the valve.

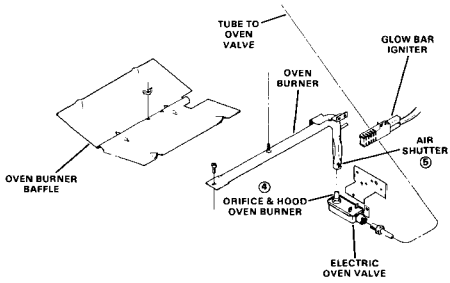
Glow-Bar Igniter Service

Since the glow-bar igniter must be located adjacent to the oven burner, the igniter can be serviced by removing the oven bottom and burner baffle. The igniter is usually mounted to a bracket by two screws.

NOTE: Ovens with a separate bake and broil burner will have separate igniters. The broil igniter can be serviced by removing the broil burner baffle.

OVEN ELECTRIC GAS VALVE

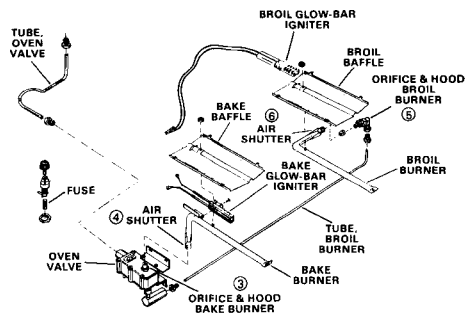
An electrically operated oven gas valve is used on all range ovens that have a glow-bar ignition system. The gas valve supplies gas to the oven burner. **For most ranges, which have only one burner, the gas valve is located directly under the oven burner, and contains the burner orifice and a single inlet gas line** from a shut-off valve.



SINGLE BURNER OVEN VALVE
(MAGIC CHEF "J" MODEL SHOWN)

For ranges which have two burners (bake and broil),a larger (dual section) valve is used, and may be located directly under the bake burner, or on the back of the range.

If the dual section gas valve is located directly under the bake burner, the valve configuration will contain the bake burner orifice, an inlet supply gas line tube, and a second gas tube running to the broil burner orifice.

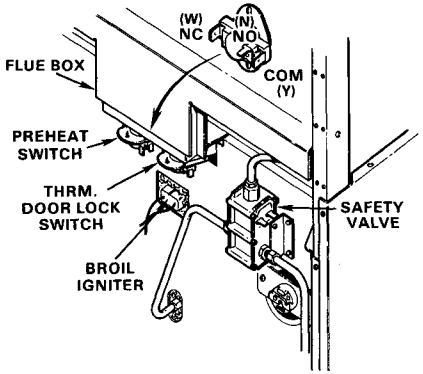


DUAL OVEN VALVE-UNDER BURNER
(TAPPAN "J" MODEL SHOWN)

If the dual section gas valve is located in remote areas, such as on the back of the range, The valve configuration will contain three (3) separate gas line tubes.

- Inlet tube – supply from shut-off valves.

- Outlet tube – to separate bake burner orifice.
- Outlet tube – to separate broil burner orifice.



(BACK OF RANGE – TAPPAN "H" MODEL SHOWN)

NOTE: Electric gas valves are connected in series with glow-bar igniter and are low voltage, low resistance and low current operated.

Typical Ratings:
3-4 V.AC.
1-2 OHMS
Min. 2.5 Amps – Carborundum Igniter
Min. 3.2 Amps – Norton Igniter

MODELS WITH
- ELECTRIC VALVE
- GLOW-BAR IGNITER

NO IGNITION - OVEN BURNER

DOES GLOW-BAR GET RED WHEN SET FOR BAKE & T'STAT TURNED "ON"?

YES

WITH CLAMP-ON AMMETER, CHECK FOR MIN. AMPS
- NORTON IGNITER 3.2A.
- CARBORUNDUM IGNITER - 2.5A.

YES

CHECK:
- PRESSURE REG/ CUT-OFF VALVE
- GAS AT OVEN VALVE
- OVEN VALVE FAILED

NO

REPLACE GLOW-BAR IGNITER

NO

- REFER TO RANGE SCHEMATIC
- CHECK FOR 120 VOLTS THROUGH BAKE CIRCUIT
- 5 AMP FUSE*

- REPLACE - REPAIR
- VARIFY FAILED IGNITER OR VALVE BY CONTINUITY TEST BEFORE REMOVING

NOTE: FOR HIGH BROIL BURNER, USE SAME PROCEDURE, EXCEPT ELECTRICAL CIRCUIT IS DIFFERENT.

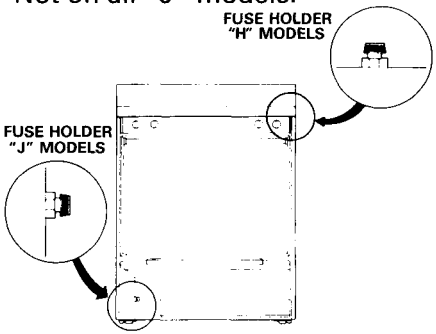
*5 AMP FUSE USED ON TAPPAN "H" & SOME "J" MODELS
"H" RANGES - LOCATED UNDER COOKTOP
"J" RANGES - LOCATED BEHIND LOWER DRAWER
"H" WALL OVEN - LOCATED NEXT TO OVEN VALVE

Oven Valve 5A, Fuse Tappan Models

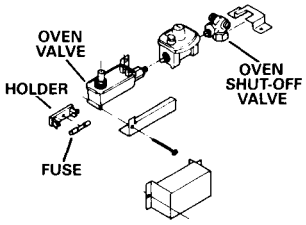
Tappan model ranges and wall ovens with glow-bar igniters have a 5 amp fuse to protect the electric oven valve. (Note-other manufacturers do not use a fuse)

Depending on model, the fuse (if used) is in different locations:
- "H" Model Ranges-Under Cooktop
- "J" Model Ranges-Drawer Area*
- Wall ovens-by oven valve

* Not on all "J" models.



FUSE-TAPPAN RANGES

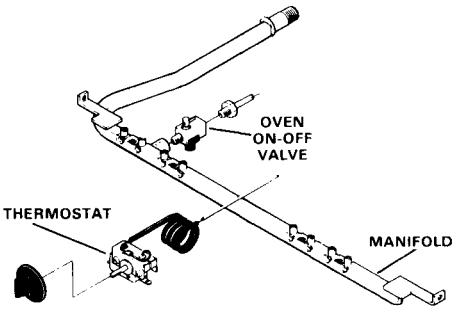


FUSE-TAPPAN WALL OVENS

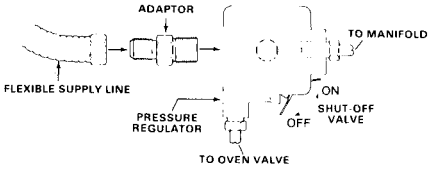
Oven Shut-Off Valve Models With Glow-Bar Igniter

All ranges with glow-bar oven igniters have an oven gas shut-off valve in the gas supply line to the oven valve. Depending on model, the shut-off valve is in different locations:

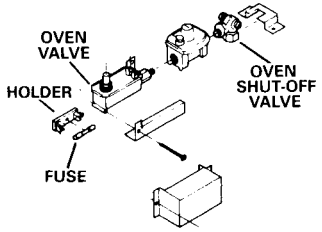
- Ranges except Tappan "J" mods-UNDER COOKTOP
- Tappan "J" mods-PART OF PRESSURE REGULATOR
- Wall ovens-NEXT TO OVEN VALVE



OVEN SHUT-OFF VALVE – MOST MODS.



OVEN SHUT-OFF VALVE – TAPPAN "J" MODS.



TAPPAN WALL OVENS

(Art Nos. WB1500,1622

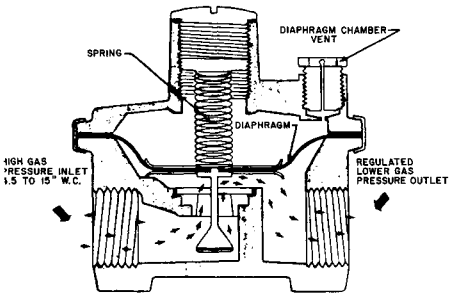
Pressure Regulator

The pressure regulator is the heart of the range operation.

The range controls and burners are designed to operate at a steady pressure for the type of gas in use – **Natural** or **LP.**

A pressure regulator can only **decrease** the pressure – **it cannot increase it.**

A typical pressure reguator is divided into two (2) main sections – **upper** and **lower** and are isolated and separated by a **spring loaded diaphragm.** The gas flow is through the lower section; and air and spring tension in the top.



High pressure gas enters the inlet end and passes through an opening to the regulated lower gas pressure outlet. The spring loaded diaphragm moves up and down automatically as needed to maintain a steady flow and outlet pressure. The spring tension must be set for the type of gas in use.

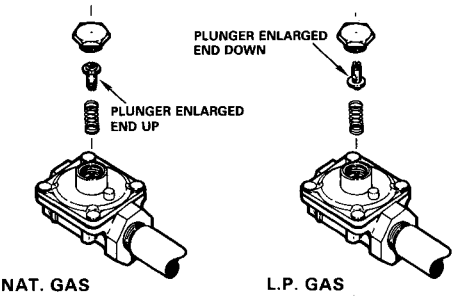
Important: For proper operation, the input pressure must be at least 1" higher than the regulated output pressure.

Different types of regulators are used and method of setting will therefore be different. In any case **LP** gas setting requires more spring tension than natural.

(**NOTE:** Exposed end of cap and plunger is marked NAT or LP)

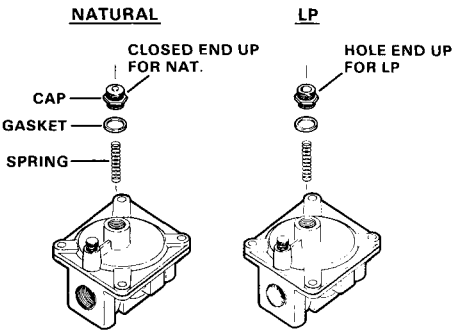
One typical type uses a plunger with an enlarged end. To set, remove the cap and locate the plunger:

- NAT.GAS-enlarged end up (4" W.C.)
- LP GAS-enlarged end down (10" W.C.)



Another type regulator uses a cap with a recessed hole at one end. Install the cap:

- NAT. GAS **closed end** up.
- LP GAS **hole end** up.

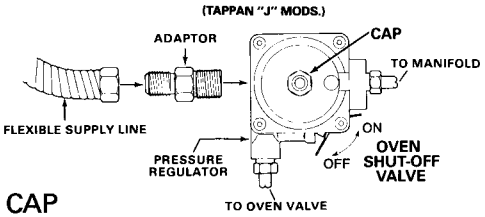


PRESSURE REGULATOR

(Art Nos. WB1375,1622)

Another type of regulator has the oven shut-off valve built into the regulator. This type of regulator is used on Tappan built "J" model self-clean ovens, and also standard ovens with bake and broil burners. (All with oven glow-bar ignition systems)

The regulator is located on the back of the range and can be accessed by removing the lower drawer, or panel.



CAP
- NAT. GAS – closed end out.
- LP GAS – hole end out.

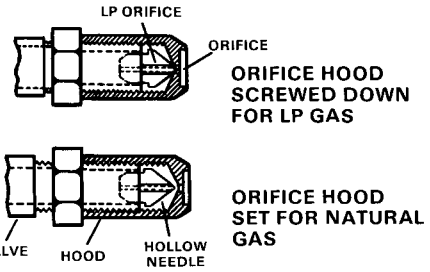
ORIFICES

All range models use universal orifices for top burner valves and oven controls. The universal type orifice can be used on natural or LP gas.

A hollow needle in the end of the valve allows gas to pass through it and around it as long as the orifice cap is not seated against the needle. When the orifice cap is screwed down against the needle, gas can pass through the center of the needle only. This feature therefore makes the orifice adjustable so it can be used on natural or LP gas.

Natural Gas – The orifice cap must be unscrewed away from the needle to allow gas to flow around the needle as well as through it.

LP Gas – The orifice cap must be screwed down so the gas can pass though the center of the needle only. This provides the correct size orifice for LP.



TOP BURNER VALVES

Top burner valves are basically two types:

- Continuous or 90° Valves
- Hi-Med-Sim-Wm or 225° Valves

Both Types Are "Push-To-Turn"

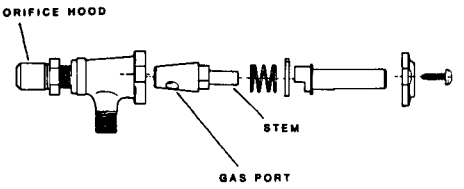
Either type may be used on standing pilot or electric ignition type ranges. In either case their operation is basically the same.

To Use:

- **Standing Pilot Models** – turn knob to "Hi" or "Lite" position until burner ignites, then turn knob to flame size desired.
- **Electric Ignition Models** – Turn knob to "Lite" position – pilot ignitor will "spark". When burner ignites, turn knob to desired flame size.

90° Valve Operation

The 90° valve is very simple in construction and operation. **It can rotate only 90°.** The valve "stem" has a large opening or orifice which allows gas to pass from the manifold through the valve body and out the orifice in the end of the orifice hood.



90° VALVE

When the valve is in the "Off" position, the stem hole is not in line with valve body hole and no gas can flow.

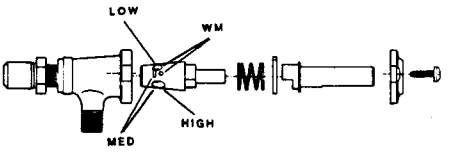
When the valve is turned to "Hi", all of the stem hole is exposed for maximum gas flow. As the valve is turned less of the hole is exposed and therefore less gas flow, and a small flame.

225° Valves

This valve rotates about 225° as it has several marked settings – HI, MED, SIM, and WM.

The valve is constructed and operates exactly as the 90° valve except it has three (3 separate holes or orifices in the valve stem to provide all of the settings.

- HI – All of the Large "HI" orifice is exposed.
- MED – Part of "HI" and part of "LOW" orifices are exposed.
- LOW – LOW orifice is exposed.
- WM – Part of "LOW" and "WM" orifice is exposed.



225° VALVE

A specific metered gas flow therefore occurs at each setting.

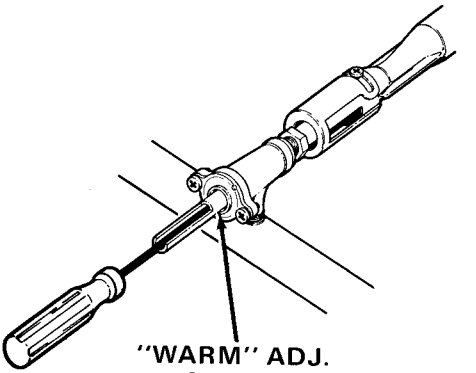
Top Burner "Warm" Adjustment

Some top burner valves have a "warm" setting which can be adjusted.

To Adjust:

1. Turn knob to "lite" position until burner ignites.
2. **Quickly** turn knob to **"warm"**– burner flame should reduce to small size **but should not go out.**

If burner goes out – remove knob and adjust small screw in valve shaft to increase **or** decrease the flame size at **"warm"**. Adjust until the flame is as small as possible without extinguishing when the valve is quickly turned from **"lite"** to **"warm"**.



TOP BURNERS WITH AIR ADJUSTMENT

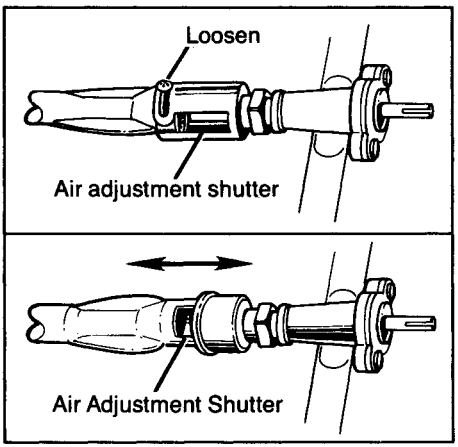
All ranges, except Tappan "J" models, have adjustable air shutters on the top burners.

Air Adjustment
An air adjustment shutter for each surface burner regulates the flow of air to the flame.

When the right amount of air flows into the burner, the flame will be steady, relatively quiet and have approximately ¾" sharp blue cones without yellow tips. This usually results when the shutter is about halfway open.

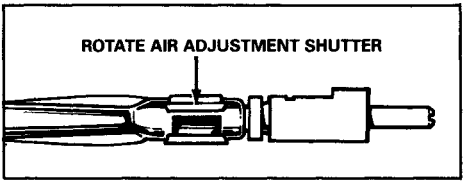
With too much air, the flame will be unsteady, possibly won't burn all the way around, and will be noisy, sounding like a blowtorch.

With not enough air, you won't see any sharp blue cones in the flame, you may see yellow tips, and soot may accumulate on pots and pans.



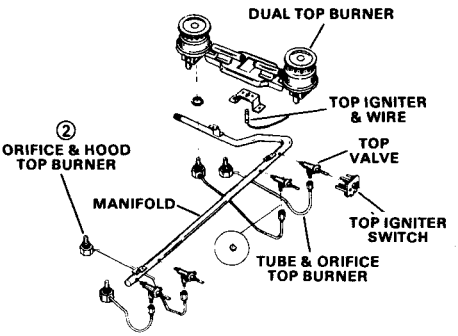
The air adjustment shutters set on the hood of the valve and are either locked in place with Phillips head screws or positioned on the burner tubes by friction fit.

To adjust the flow of air to the burners, loosen the Phillips head screws and rotate the shutters (or apply a blade-type screwdriver against the friction-fit shutters and push) to allow more or less air into the burner tubes as needed.



TOP BURNERS NO AIR ADJUSTMENT (TAPPAN "J" MODELS)

THE Tappan surface burner design has not previously been used on gas ranges from any manufacturer. The big difference is that there is NO AIR SHUTTER ADJUSTMENT on the burners.



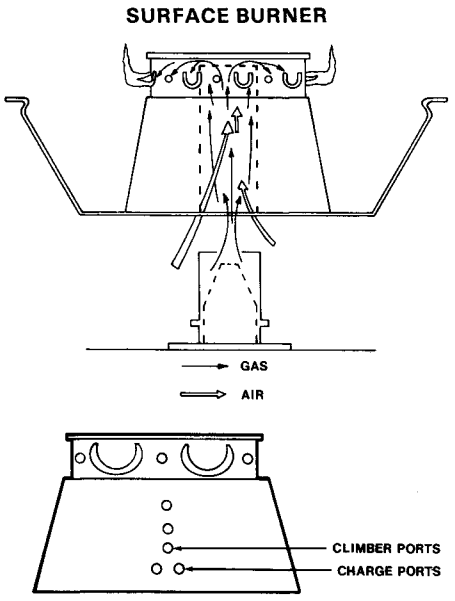
The valves are mounted to the manifold, and aluminum tubes (called Mixer Elbows on the catalog pages) run under the burner box from each valve to bring gas to the orifices. The

(Art No. WB1622)

orifices are located in the bottom of the burner box, one directly under each surface burner head.

The orifice size of the hood is number 54 drill for NAT gas. The orifice size of the inner needle is number 66 drill for LP gas.

When gas leaves the orifice of the mixer elbow it passes through the air, and is injected into the bottom of the top burner head. As the gas passes between the orifice and the burner head, air is mixed with gas to form a combustible mixture. The burner head disperses the gas air mixture from around the top for the burner flame, and from ports on the side for ignition. The two lower ports, on the side of the burner head, inject gas down the flash tube to be ignited by the pilot. The other three ports one side to the burner head are to allow the flame to climb the side of the burner head to ignite the burner gas.



(Art No. WB1503)

The reasons that no air shutter is required for this system are:

1. The tolerances in the dimensions and alignment of the orifice opening to the bottom of the burner head are controlled very tightly. On prior designs, the air shutter was needed to compensate for dimension and alignment differences from orifice opening to the end of the burner venturi tube.

2. The dimensions were designed to give good performance on LP gas, which is more critical than NAT gas. Therefore, when the orifice is set up for NAT gas, the performance remains good.

The most critical dimension is the distance from orifice to the bottom of burner head. The most critical alignments are (a) centering of orifice to centerline of burner head, and (b) vertical alignment of orifice spud. If there are problems with the surface burner flame, check that the burner head has not been pushed down, and that the orifice spud is vertical and centered under the burner head.

NORMAL TOP BURNER OPERATION

The following information appears in the user book.

"Due to the unique design on the top burners, you may at times experience a **blowing** or **hissing sound** when burners are intially turned on.

This is a **normal condition** which is due to improved injection of gas and air into top burner and should not be cause for concern. It does not require a service call.

The blowing or hissing will occur for a period of 30 to 45 seconds or until burner heats up.

When a cooking vessel is placed on top grate prior to turning on burner or if burner flame is adjusted to accommodate pan size, blowing or hissing sound is greatly diminished.

Illustration #1 indicated how flames would appear after initial turn on. Flame would have slight lifting away from burner and would be approximately horizontal.

Illustration #2 indicates how flames will appear after heat up or 30 to 45 seconds after turn on. Flames will stabilize and curve upwards."

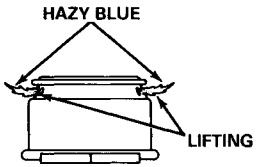


ILLUSTRATION 1

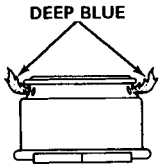


ILLUSTRATION 2

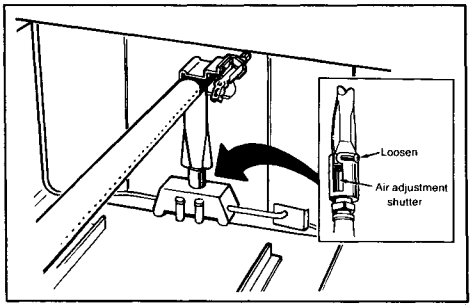
Oven Burner Air Adjustment

(Non-self clean ovens except JGBS18 GEJ)*

The air adjustment shutter for the oven burner regulates the flow of air to the flame.

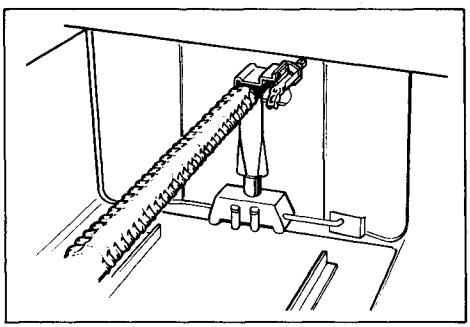
The shutter for the oven burner is near the back wall of the oven behind the broiler drawer or panel.

*SEE TAPPAN "J" SELF-CLEAN



To reach the shutter, remove the **oven bottom** and the **burner baffle. Also pull out or remove the broiler drawer.**

To adjust the flow of air to the burner, loosen the Phillips head screw and rotate the shutter to allow more or less air into the burner tube as needed.



To determine if the burner flame is proper, light the burner. The flame should have ½" to ¾" blue cones with no yellow tipping. When the baffle is back in place, the flame will resettle.

NOTE:
- **Natural Gas** – Shutter usually half open or more.
- **LP Gas** – Shutter usually full open.

(Art Nos. WB1577,1622)

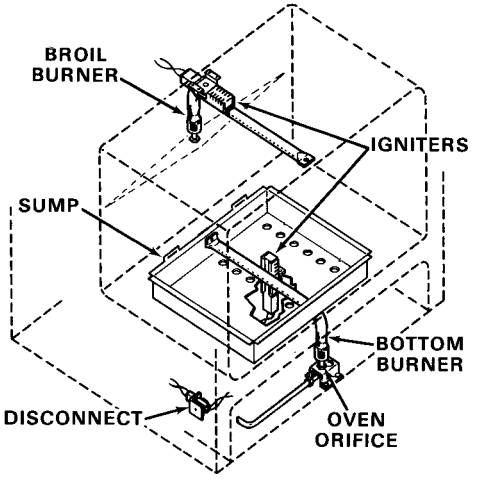
OVEN BURNER AIR ADJUSTMENT

(Self Clean Ovens)

Self clean gas ranges have two burners – a top (broil) burner and a bottom (oven) burner. Location and adjustment of air shutters vary by range model:

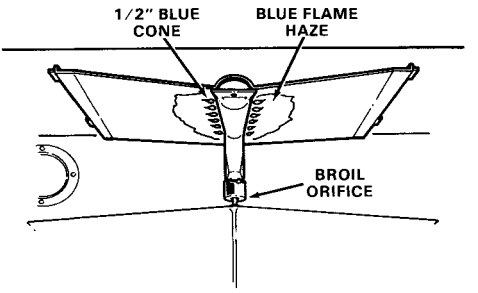
Tappan "H" Model Self Clean

The air shutter for the top (broil) burner is on the back wall of the oven; the shutter top for the bottom burner is behind the lower panel.



To Adjust Broil Burner

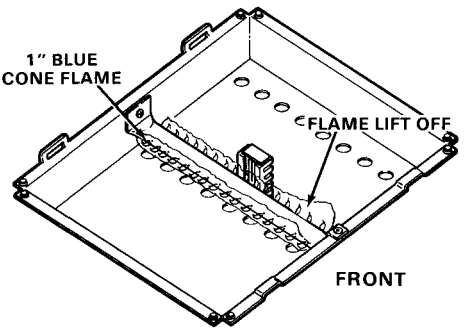
Adjust air shutter of broil burner for a sharp ½-inch cone flame at each port. It should be steady with no yellow tips. A blue flame "haze" will extend over most of the baffle.



TO ADJUST BOTTOM BURNER

1. Remove oven bottom and burner baffle.
2. Remove lower panel and heat shield for access to air shutter.
3. Observe flame and adjust air shutter to provide a one (1) inch cone flame with no yellow tips.

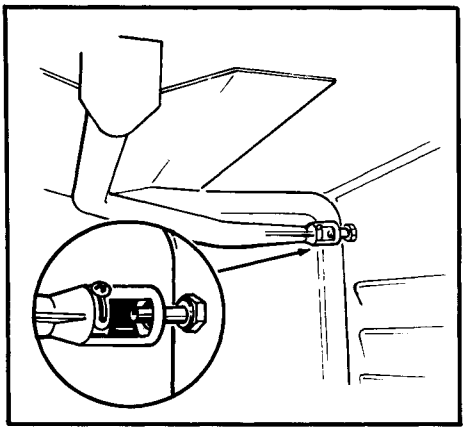
NOTE: Without the baffle in place, the flame should slightly lift off the **front end** of the burner for 2-3 inches. (When baffle is in place, the flame will resettle.)



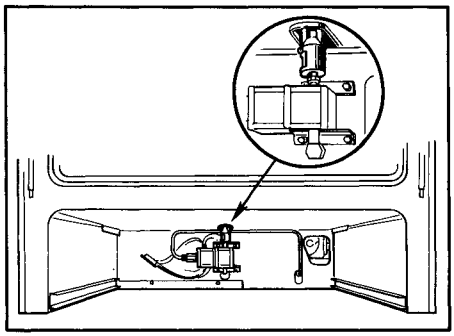
NOTE:

- **Natural Gas** – Shutters usually half open or more.
- **LP Gas** – Shutters usually full open.

Tappan "J" Models Self-Clean And JGBS18 GEJ Non-Self-Clean

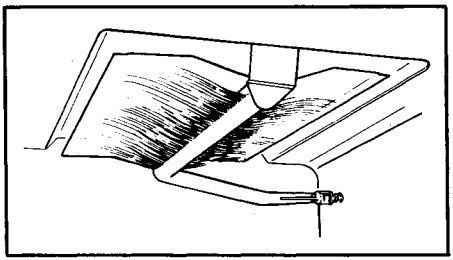


The air adjustment shutter for the top (broil) burner is in the upper right-hand corner near the rear wall of the oven.

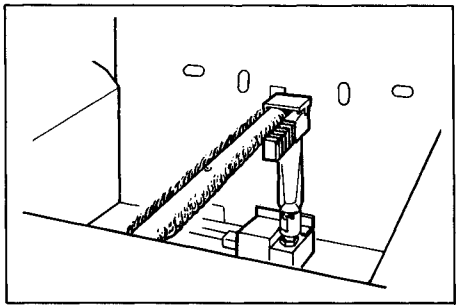


The shutter of the bottom (oven) burner is near the back wall of the oven behind the storage drawer or panel under the oven.

To adjust the flow of air to either burner, loosen the Philips head screw and rotate the shutter to allow more or less air into the burner tube as needed.



The flame for the top (broil) burner should be steady with approximately 1-inch blue cones and should not extend out over the baffle edges.

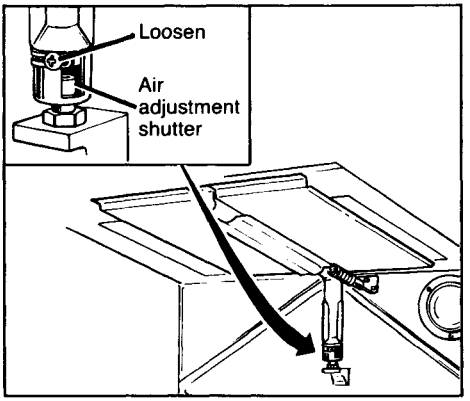


To determine if the bottom (oven) burner flame is proper, remove the oven bottom and the burner baffle. The flame should have ½" to ¾" blue cones with no yellow tipping. When the baffle is back in place, the flame will resettle.

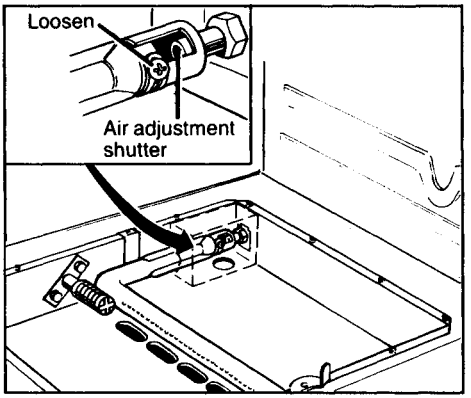
NOTE:

- **Natural Gas** – Shutters usually half open or more
- **LP Gas** – Shutters usually full open

Roper "K" Model Self-Clean JGSP10 GEK

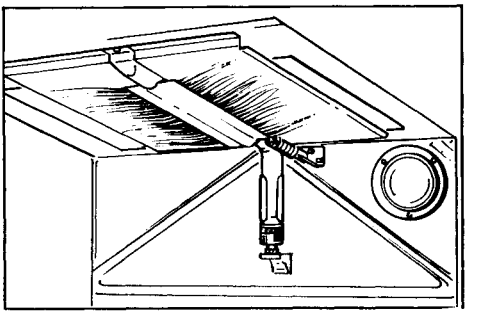


The air adjustment shutter for the top (broil) burner is in the center of the rear wall of the oven.

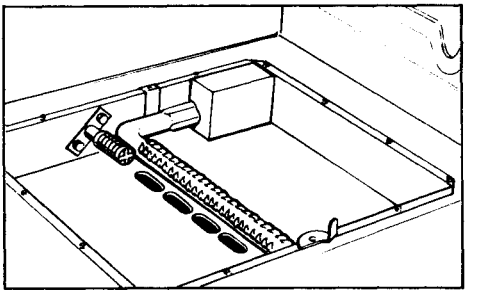


The shutter for the bottom (oven) burner is near the back wall under the oven bottom.

To adjust the flow of air to either burner, loosen the Phillips head screw and rotate the shutter to allow more or less air into the burner tube as needed.



The flame for the top (broil) burner should be steady with approximately 1-inch blue cones and should not extend out over the baffle edges.



To determine if the bottom (oven) burner flame is proper, remove the oven bottom and the burner baffle. The flame should have ½" to ¾" blue cones with no yellow tipping. When the baffle is back in place, the flame will resettle.

OVEN THERMOSTATS

Gas range thermostats are basically one of two types:

- **Hydraulic gas type** – with gas connection
- **Hydraulic electric type** – no gas connection

The hydraulic gas type thermostat is used on non-self clean standing pilot models and non-self clean spark ignition oven models . . . these

models use a hydraulic type oven burner valve. The electric type thermostat is used on ranges which have "glow-bar" oven igniters – this includes some non-self clean models and all self-clean models ... these models use an electric type oven burner valve.

***It* is important to be aware that the heating and temperature characteristics vary considerably from one manufacturers range to another. These variations mainly involve the initial heat-up, or bake preheat time of the oven ... this can be critical to baking performance.**

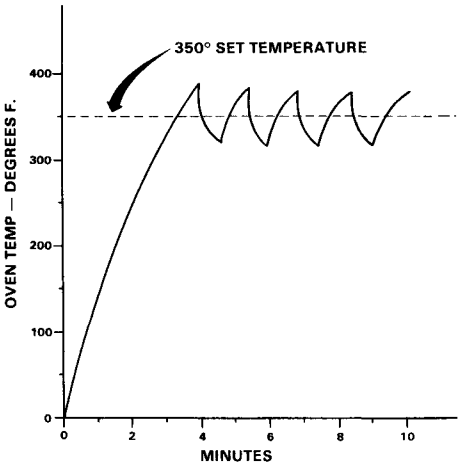
Important: In general, with foods which require preheating, the oven should be **preheated for 15 minutes** before placing food in the oven.

The following temperature curves for various ranges show the heating characteristics and times for the oven to reach the selected bake temperature. **Understanding these characteristics can prevent unnecessary replacement of thermostats, and solve many customer education type problems:**

NON-SELF CLEAN OVENS

GLENWOOD "F" & "H"
TAPPAN "H" & "J"
MAGIC CHEF "J" & "K"
ROPER "K"

- Non-self clean oven gas range
- Bake selected
- 350° temperature setting



THERMOSTAT OVEN TEMPERATURE CALIBRATION

- **Adjustment Screw In Thermostat Shaft (Some Mods.)**
  - Remove knob & use small screwdriver
  - Turn screw cw ↷ to lower temp.
  - Turn screw ccw ↶ to raise temp.
  - Temp change 65° for 30 angular degrees rotation

NOTE: 30 angular degrees rotation is equivalent to 5 minute increments of a clock

- **Adjustment On Back Thermostat Knob (Some Mods)**
  - Loosen plate screws & move plate as needed
  - Knob marked (example: 25° per notch)

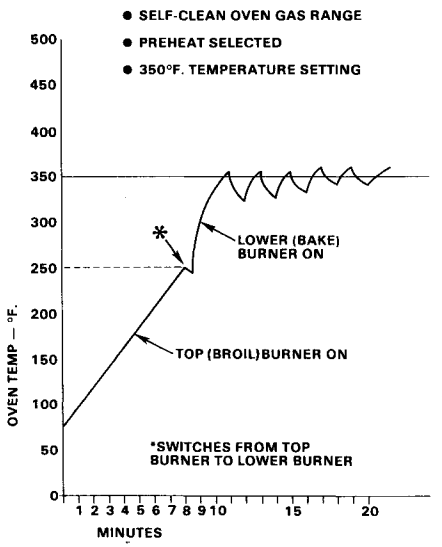
NOTE: "Off" & "Broil" not lined up with index mark possible customer complaint.

(Art No. WB1622)

TAPPAN "H" MODELS

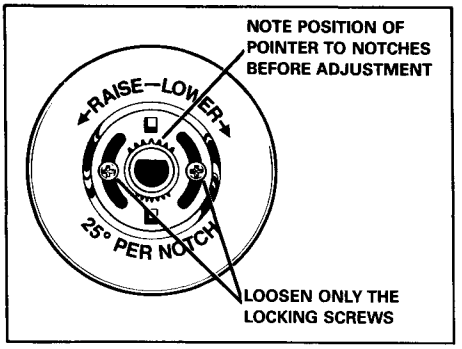
MODELS
JGBP 24 GEH, 26 GEH, 27 GEH
JGHP 66 GEH
RGB 744 GEH
RGH 946 GEH

PREHEAT OPERATION



THERMOSTAT OVEN TEMPERATURE CALIBRATIONS

- **Adjustment On Back Of Knob Only**
  - Loosen screws & move skirt as needed.
  - Knob marked (Example: 25° per notch).

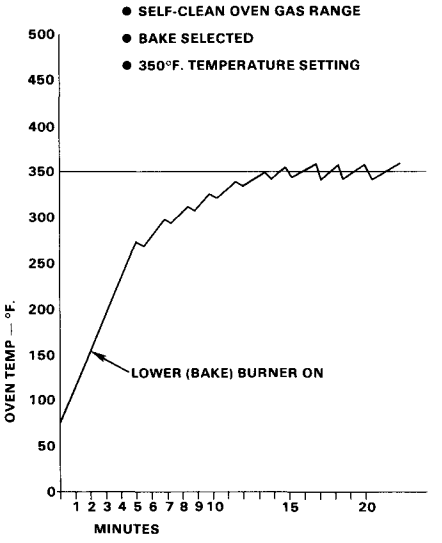


(Art No. WB1622)

TAPPAN "H" MODELS

MODELS
JGBP 24 GEH, 26 GEH, 27 GEH
JGHP 66 GEH
RGB 774 GEH
RGH 946 GEH

BAKE OPERATION



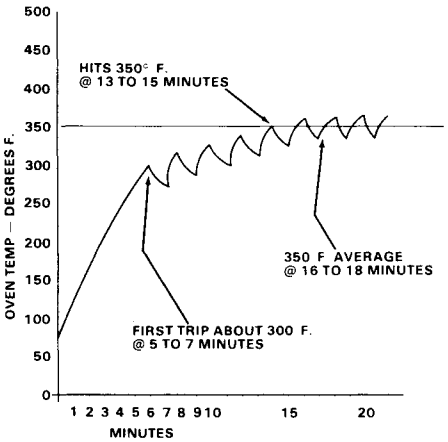
THERMOSTAT OVEN TEMPERATURE CALIBRATION

- **Adjustment on back of knob only**
  - Loosen screws & move skirt as needed
  - Knob marked (example: 25° per notch)

TAPPAN "J" MODELS

MODELS
JGBP 24 GEJ, 26 GEJ, 27 GEJ, 28 GEJ
JGHP 57 GEJ, 66 GEJ
RGB 744 GEJ, 746 GEJ
RGH 946 GEJ

- Self-clean oven gas range
- Bake selected
- 350° F. temperature setting



THERMOSTAT OVEN TEMPERATURE CALIBRATION

- **Adjustment Screw In Thermostat Shaft**
  - Remove knob & use small screwdriver.
  - Turn screw cw ↷ to lower temp.
  - Turn screw ccw ↶ to raise temp.
  - Temp change 65° for 30 angular degrees rotation

NOTE: 30 angular degrees rotation is equivalent to 5 minute increments of a clock

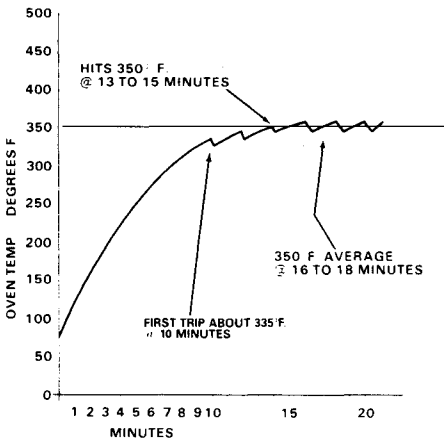
- **Adjustment On Back Of Thermostat Knob (Some Mods)**
  - Loosen plate screws & move plate as needed
  - Knob marked (example: 25° per notch)

NOTE: "Off & "Broil" not lined up with index mark – possible customer complaint.

MAGIC CHEF "F" MODEL

JGBP 24 GEF

- Self-clean oven gas range
- Bake selected
- 350° F. temperature setting



THERMOSTAT OVEN TEMPERATURE CALIBRATION

- **Adjustment Screw In Thermostat Shaft**
  - Remove knob & use small screwdriver.
  - Turn screw cw ↷ to lower temp.
  - Turn screw ccw ↶ to raise temp.
  - Temp change 65° for 30 angular degrees rotation

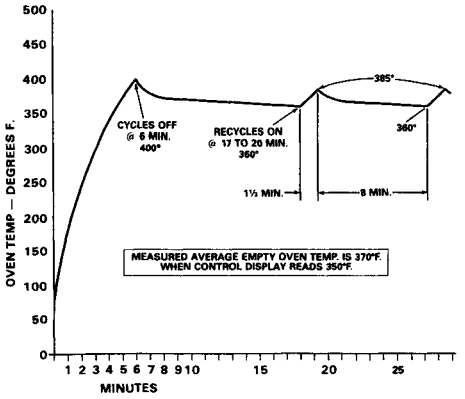
NOTE: 30 angular degrees rotation is equivalent to 5 minute increments of a clock

- **No Adjustment On Knob**

ROPER "K" MODEL

JGSP 10 GEK

- Self-clean oven gas range
- Bake selected
- 350° F. temperature setting



- **FACTORY CALIBRATION**

- Control readout is 20° less than actual empty oven temprature (as read by tech with oven tester)

- This is to achieve optimum baking results with fast-acting control sensor.

- **TO ADJUST CALIBRATION**

1. Push bake button

2. Turn set knob to 550° F temperature

3. Quickly push & hold in bake button (within 2 sec.)

   – Display goes blank then shows degrees difference from factory calibration. If not adjusted before, will read 00.

4. Turn set knob to adjust control oven temp from +35° F hotter to –35° F cooler, in 5° F steps.

(**NOTE:** If control beeps and flashes – push cancel button and start over)

5. Push clock button – display returns to time of day.

NOTE: Bake adjustment does not affect self-clean temperature.

MEASURING OVEN TEMPERATURE

It is absolutely necessary to use a thermocouple type oven tester to accurately measure oven temperature. No other type of thermometer can take its place.

NOTE: Before testing an oven to check thermostat calibration, inspect the thermostat capillary. It should be properly mounted in its clips and should not touch the wall of the oven liner.

1. Place rack in center position. Remove all utensils and other racks.

2. Clip unshielded thermocouple to center of rack. Run leads out bottom of door at hinge to preserve top seal.

3. Place oven tester on floor or chair next to range.

4. Turn oven to "BAKE", and set control to 350 degree setting.

5. Allow oven to preheat for 15 minutes.

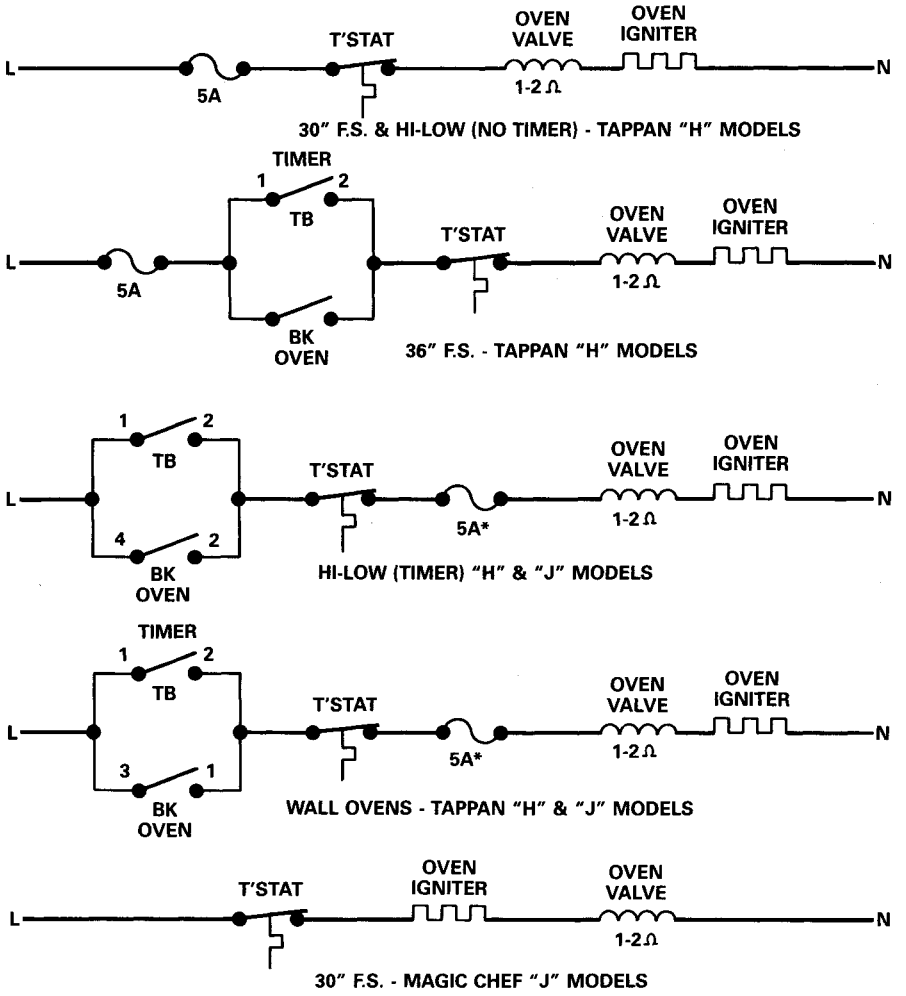
6. After this waiting period, **record the next three** "ON" and "OFF" cycles and compute the average temperature. **(See example below.)**

(Example) TYPICAL READINGS

		Average
Min (ON)	330	
		−350
Max (OFF)	370	
Min (ON)	330	
		−350 (350 Final Avg)
Max (OFF)	370	
Min (ON)	330	
		−350
Max (OFF)	370	

TYPICAL OVEN CIRCUITS

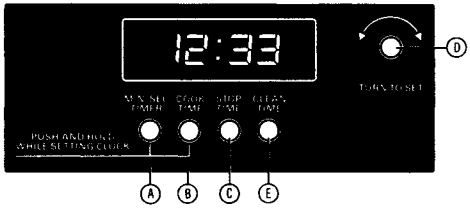
Simplified circuits of non-self clean ovens (with Glo-Bar igniter) are shown below. Refer to range schematic and wiring diagrams for specific diagrams.



*5A. FUSE NOT IN ALL TAPPAN "J" MODELS

ELECTRONIC TIMER

(JGBP28GEJ)
The electronic timer has push buttons to set the clock, and to select MIN/SEC Timer, Cook Time, Stop Time, and Clean functions. A rotary knob is used to set the time for function selected.



When power is first connected to the range or after a power outage, the display will flash showing figure 8's alternating with two flashing indicators directly above buttons (A) and (B).

NOTE: The clock must be set to time of day for any timing function to work.

- TO SET CLOCK
  1. Press & hold in Buttons A & B
  2. Rotate Knob D

- TO SET MINUTE/SECOND SIGNAL TIMER
  1. Press Button A
  2. Rotate Knob D (99 mins. max.)

- TO SET OVEN TIMER
  1. Turn Oven Set Knob to Timed Bake
  2. Turn Oven Temp. Knob to desired temp.
  3. Press Button B
  4. Rotate Knob D to desired cook time

A **COOKPOT** symbol is displayed to indicate timer countdown.

5. For Delayed Start, press Button C and rotate Knob D to desired stop time.

- TO SET FOR SELF-CLEANING
  1. Press Button E (3 hours appears)
  2. To change Clean Time, rotate Knob D (3 hours - 59 min. maximum)
  3. For delayed start, press Button C and rotate Knob D to desired stop time.

• An indicator will appear above the button pushed, indicating what is appearing in the display window.

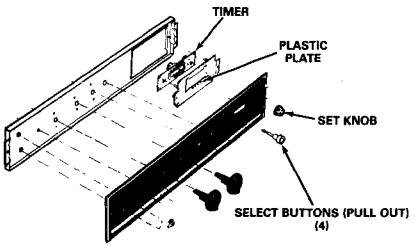
• Flashing indicators will appear above the other buttons, indicating that times have been set.

(Art No. WB1629)

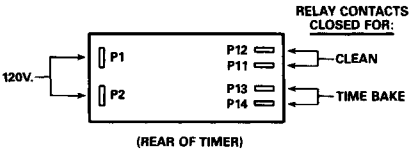
TIMER SERVICE

The Electronic timer consists of a printed circuit board and display which includes two low voltage relays.The relays perform the same circuit switching function as provided by timer contacts on standard range timers.

The timer is mounted to a plastic plate by five screens. The assembly is fastened to the instrument bracket in the backguard.



Electrical connections are as follows:

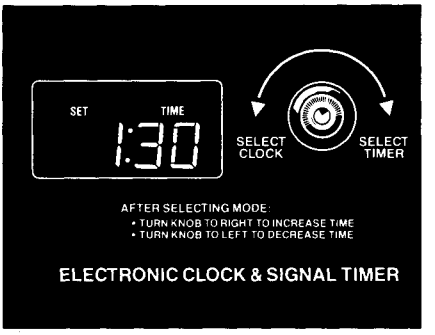


ELECTRONIC CLOCK

JGBS15K)

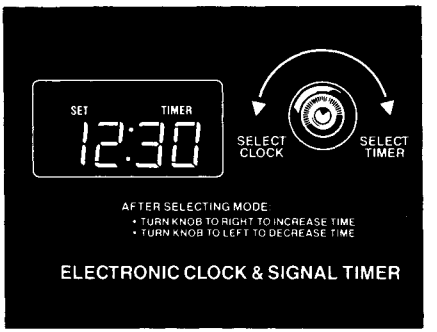
This type electronic clock is a CLOCK and TIMER only — it performs no automatic oven timing function.

- TO SET CLOCK
  1. Turn knob to LEFT until words "SET TIME" displayed.
  2. Turn knob either direction to enter time. (Example 1:30)



CLOCK

- TO SET TIMER
  1. Turn knob to RIGHT until words "SET TIMER" displayed.
  2. Turn knob either direction to enter time — minutes and seconds. (Example 12 min. & 30 sec.) — Max. time is 9 hrs. & 50 min.



TIMER

To cancel the timer, turn the knob in either direction until 0:00 appears in the display.

At the end of the timer operation, after the 3 beeps, the display returns to time of day automatically. During the timer function, the display flashes back to the time of day every 10 seconds.

ELECTRONIC CONTROL

(JGSP10GEK)
All oven operations — TIME & TEMP — are controlled by the electronic control and separate relay board. (Refer to mini-manual and self-clean section for details.)

PUSH BUTTONS are used to select the function, and a SET KNOB is used to enter time and oven temperature. An 1100 OHM oven sensor controls oven temperature. (Refer to mini-manual & self-clean section for circuit details.)

- TO SET THE CLOCK
  1. Push CLOCK button.
  2. Turn SET knob to correct time of day. Clock is now set.

- TO SET THE MINUTE/SECOND TIMER
  1. Push TIMER button.
  2. Turn SET knob to desired amount of time (up to 9 hours and 50 minutes). The Minute/Second Timer will immediately begin to count down.
  3. When time is up, the End-of-Cycle Tone (3 long beeps) will sound.

TO CANCEL THE TIMER
Push and hold TIMER button for three seconds. This will clear the Minute/Second Timer function.

OVEN "ON" INDICATOR

The word "ON" is displayed when BAKE, BROIL, or CLEAN circuit is energized.

- TO BAKE
  1. Push BAKE button.
  2. Turn SET knob until desired temperature is displayed.

  NOTE: Lowest temp setting is 170° — display will start at 100° and increase to selected temp.

  A one-second beep will sound when the oven has preheated to and stabilized at selected temperature.
  NOTE: The display will show the selected temperature throughout bake cycle.

  3. When finished baking, push OVEN CANCEL button.

- TO BROIL
  1. Push BROIL button.
  2. Turn SET knob until choice of HI BROIL or LO BROIL is displayed.
     - HI BROIL — broil burner stays on.
     - LO BROIL — burner "ON" 50 secs. & "OFF" 10 secs.

  NOTE: First "ON" cycle may be longer.

When finished broiling, push the OVEN CANCEL button.

- TO TIME BAKE
  1. Push COOK TIME button.
  2. Turn SET knob to set length of baking time.
  3. Push BAKE button.
  4. Turn SET knob to set desired temperature.

  When cook time is reached, the End-of-Cycle Tone will sound and the oven will turn off.

- TO DELAY START TIME BAKE
  1. Push COOK TIME button.
  2. Set length of baking time with SET knob.
  3. Push STOP TIME button.
  4. Turn SET knob to time of day when baking should be completed.
  5. Push BAKE button.
  6. Turn SET knob to desired temperature.

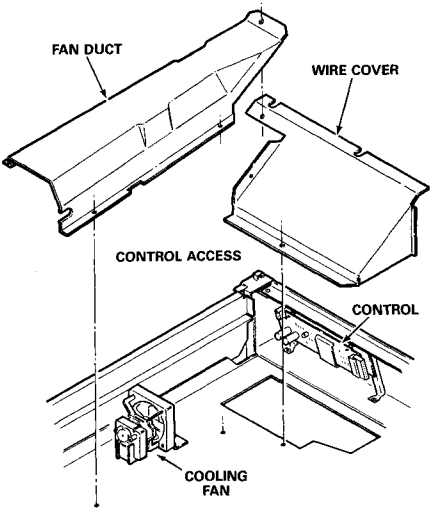
  When stop time is reached, the End-of-Cycle Tone will sound and the oven will turn off.

CANCEL BUTTON
Use to terminate or cancel any function.

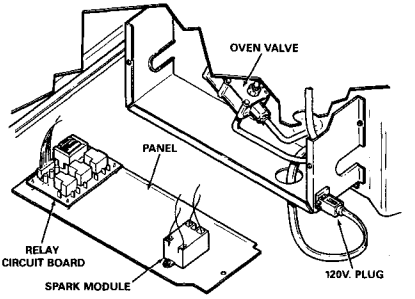
TONES
The control has various audio communication tones (beeps) to advise the user of operation status. (Refer to Customer User Book for details.)

DIAGNOSTIC FAILURE CODES
The electronic control contains built-in diagnostics for certain failures. (Refer to SELF CLEAN SECTION or MINI-MANUAL for details.)

CONTROL AND RELAY BOARD SERVICE
The electronic control is located under the cooktop and is accessible by removing two (2) metal access covers.



The relay board is located under the range behind the storage drawer. (Refer to SELF CLEAN SECTION and MINI-MANUAL for details.)



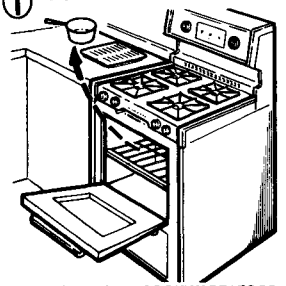
BOTTOM OF RANGE

INDEX

INDEX

OPERATION
(H-MODELS FROM TAPPAN)

① TO START SELF CLEAN OPERATION.



REMOVE ALL COOKWARE/ FOOD AND HEAVY SOIL DEPOSITS FROM OVEN. CLOSE DOOR.

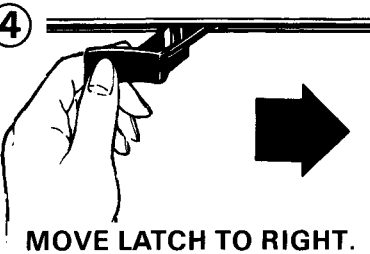
② ON THE CLOCK

SET POINTER ON STOP DIAL AHEAD FROM PRESENT TIME OF DAY, 2 HOURS FOR LIGHT SOIL TO 3-4 HOURS FOR HEAVY SOIL.
EXAMPLE: IF TIME OF DAY IS 3:00 SET STOP DIAL TO 6:00 FOR A 3 HOUR CLEAN.

③ SET BOTH

TURN OVEN SET AND OVEN TEMP KNOBS TO CLEAN
- **''CLEANING'' LIGHT SHOULD BE "ON"**

④



MOVE LATCH TO RIGHT.

⑤
ABOUT 30 MINUTES LATER **"LOCKED"** LIGHT SHOULD BE

—ON—

WAIT!

THE DOOR IS LOCKED AND THE OVEN IS CLEANING

WHEN THE CLEAN CYCLE HAS ENDED, THE **"LOCKED"** LIGHT GOES OFF.

- MOVE LATCH TO LEFT*
- TURN OVEN SET AND OVEN TEMP KNOBS TO OFF

*Oven set switch must be in clean position to energize solenoid.

NOTE: CHECK START DIAL TO BE CERTAIN POINTER IS AT THE SAME TIME AS THE RANGE CLOCK. IF NOT, TURN START KNOB UNTIL IT POPS OUT AND CANNOT BE TURNED.

DOOR GETS HOT DURING SELF-CLEAN CYCLE. DO NOT TOUCH.

SELF-CLEAN OVEN

H-MODEL COMPONENTS

Self-clean ovens have two burners — a bake burner and a broil burner, each with a separate igniter and a dual section valve.

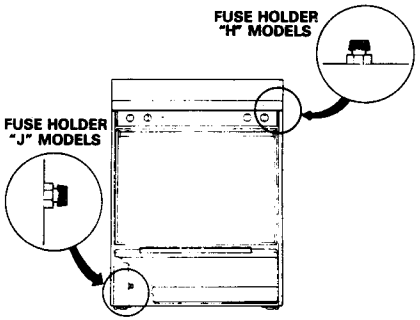
The components used in self-clean consist of the following:

- 5 Amp Fuse
- Self-Clean Latch
- Door Latch Switch
- Latch Solenoid
- Thermal Door Lock Switch
- Select Switch
- Oven Thermostat - Dual Temp
- Oven Valve
- Timer
- Clean & Lock Lights

The oven safety valve and thermal lock switch are located at rear of range.

5 AMP FUSE

A 5 Amp Fuse is used to protect the electric oven burner valve in case of a short circuit or excessive current draw by the igniters.



FUSE-TAPPAN RANGES

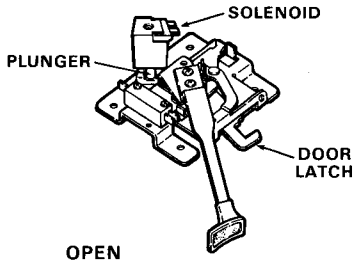
The fuse is located under the cooktop in the right rear corner of the burner box - accessible by raising the cooktop.

SELF-CLEAN LATCH

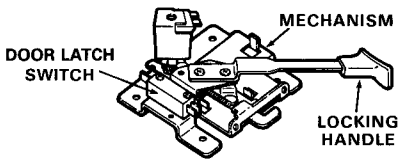
The self-clean latch assembly is located under the cooktop. The primary purpose of the latch is to lock the door in the closed position whenever the oven is set for CLEAN and the oven temperature is above 675° F.

The latch assembly consists of the mechanism, solenoid, latch switch, and handle.

To service latch: Raise cooktop and remove metal cover.



OPEN



CLOSED

The solenoid is fastened to the back of the mechanism. The solenoid plunger prevents the handle from being moved until the solenoid is energized. The solenoid is serviced as a separate part.

(Art Nos. WB1622, 1450)

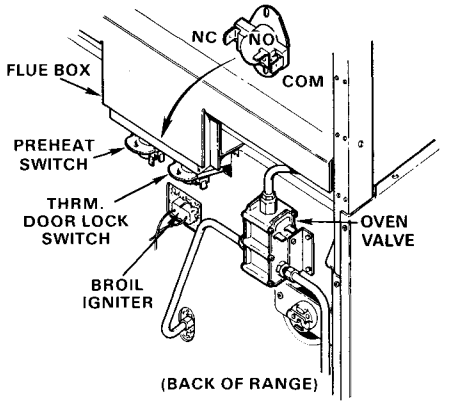
The latch switch is mounted on the left side of the latch and is operated by movement of the latch handle. It's purpose is to insure that the door is latched before the clean circuit can be energized. (See Circuit)

OVEN SELECT SWITCH

In the clean position, energizes various portions of the self clean circuit. (See Circuit)

THERMAL DOOR LOCK SWITCH

The thermal door lock switch is a thermal disk type switch located on the back of the flue box. Its purpose is to open the latch solenoid circuit when the oven reaches "lock-up" temperature. (See Circuit)



OVEN VALVE

Same oven valve used for all cooking modes. It is a dual-section valve, located on back of range, and contains both the bake, and broil valve coils. (See Circuit)

TIMER

The stop dial is advanced 2-4 hours which determines the length of the self-clean cycle.

CLEAN LIGHT

Indicates that the oven switch is set at CLEAN.

LOCK LIGHT

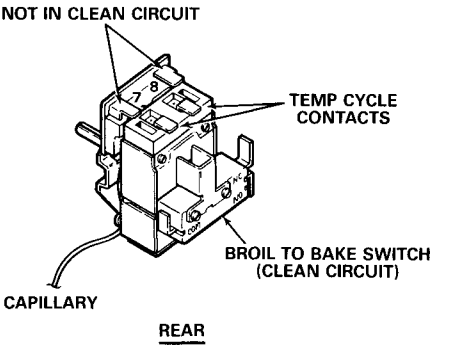
Indicates oven has exceeded lock-up temperature - door is locked.

OVEN THERMOSTAT-DUAL TEMP

The dual-temp oven thermostat is a diaphragm-type hydraulic thermostat which controls the normal span of oven temperatures from 150°F to 550°F (broil) plus a precalibrated CLEAN temperature of approx. 880°F.

NOTE: THE SELF-CLEAN TEMPERATURE CANNOT BE ADJUSTED.

The thermostat contains two (2) internal cycling contacts, and five (5) external switching contacts, to control various circuits. (See Circuit)



CAUTION

The hydraulic material contained within the sealed capillary/bulb assembly of this control is caustic. If any of this material is contacted by skin, first wipe area dry and wash with water.

Repeated bending or very sharp bends of the capillary/bulb should be avoided. If the assembly should be ruptured, a simple crimp made by pliers on each side of the rupture will adequately reseal the assembly for safe handling.

CLEAN CIRCUIT

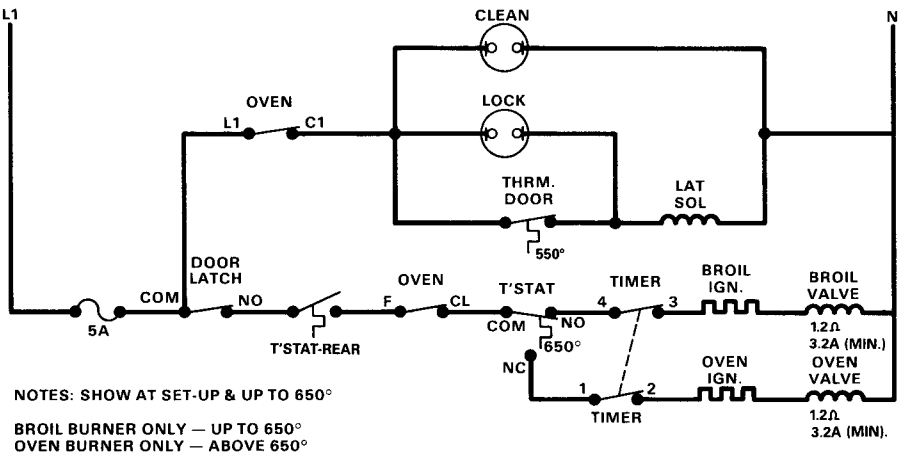
To start a clean cycle the select switch, thermostat, and timer must be set for CLEAN, and door must be latched.

With the select switch set at CLEAN, the latch solenoid is energized and allows the latch to be moved to the clean or latched position - the CLEAN indicator light also turns "on". In the latched position the latch operates a door latch switch and completes the circuit to energize the broil burner circuit. (The broil burner heat creates a "stack" or "flue" effect to insure venting).

When the oven temperature reaches approx. 550°F the thermal door switch (located on the flue box) opens the latch solenoid circuit, and turns the lock light "on". At about 650° oven temperature, thermostat contacts open at COM-NO, and close COM-NC. This opens the broil burner circuit and connects the bake burner circuit.

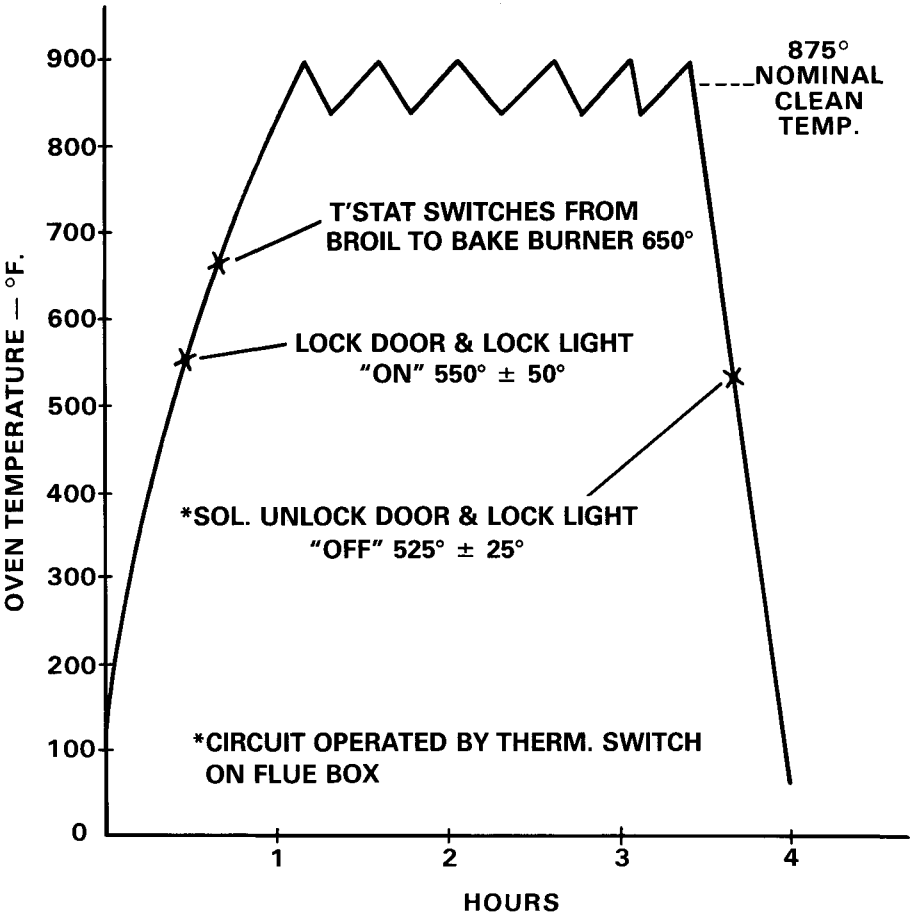
From a cold start it takes about 45 minutes for the oven to reach clean temperature (nominal 875°F). The oven thermostat cycling contacts (1-2) then cycle the oven bake burner "off" and "on" to maintain temperature (approx. 3 min. "on" and 1 min. "off" - 75% "on time").

CLEAN



Below is a clean cycle temperature curve showing the relationship between door lock-up (lock light) and burner operation.

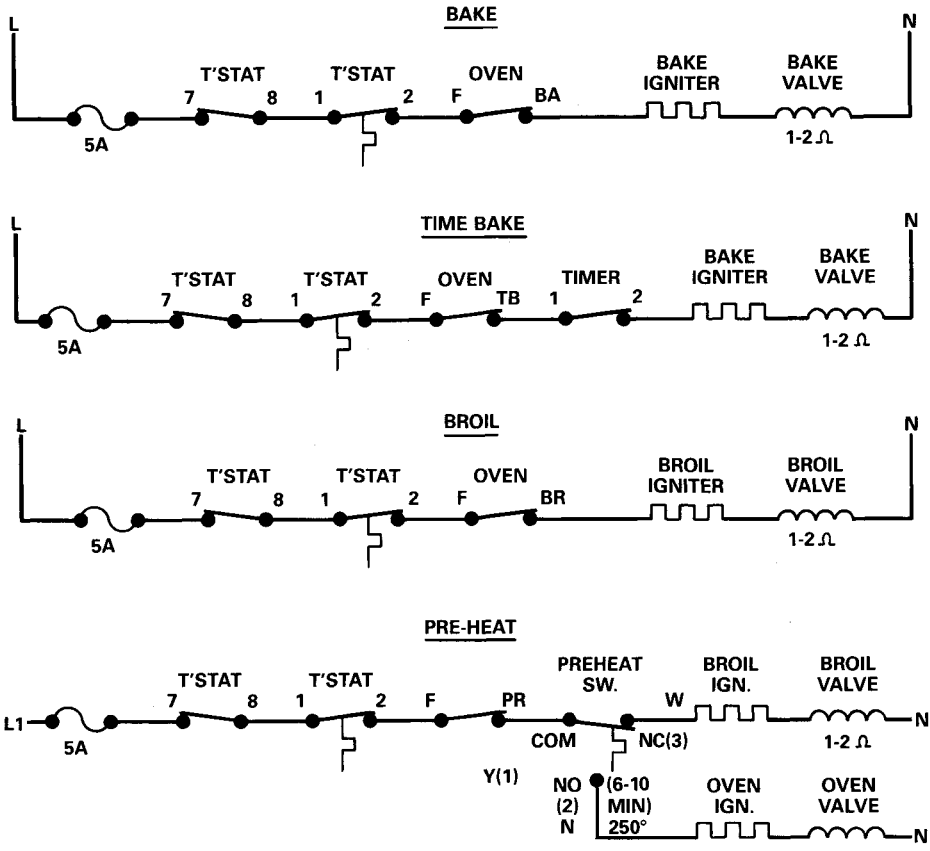
"H" MODEL GAS RANGES
SELF CLEAN TEMP. CURVE



• NO CLEAN TEMP. ADJ.

(Art No. WB1629)

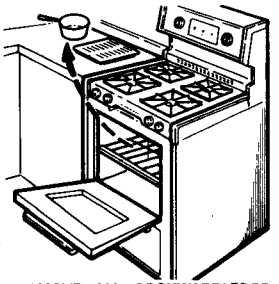
TAPPAN "H" MODEL



OPERATION

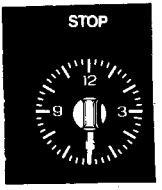
(J-MODELS FROM TAPPAN-STD. TIMER)

① TO START SELF CLEAN OPERATION.



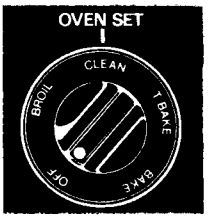
REMOVE ALL COOKWARE/ FOOD AND HEAVY SOIL DEPOSITS FROM OVEN. CLOSE DOOR.

② **ON THE CLOCK**



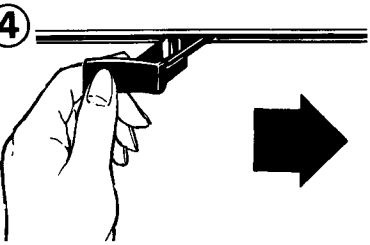
SET POINTER ON STOP DIAL AHEAD FROM PRESENT TIME OF DAY, 2 HOURS FOR LIGHT SOIL TO 3-4 HOURS FOR HEAVY SOIL.
EXAMPLE: IF TIME OF DAY IS 3:00 SET STOP DIAL TO 6:00 FOR A 3 HOUR CLEAN.

③



TURN OVEN SET KNOB TO CLEAN

④



MOVE LATCH TO RIGHT.

- **"CLEANING" LIGHT SHOULD BE "ON"**

⑤

ABOUT 30 MINUTES LATER **"LOCKED"** LIGHT SHOULD BE

ON

WAIT!

THE DOOR IS LOCKED AND THE OVEN IS CLEANING

WHEN THE CLEAN CYCLE HAS ENDED, THE **"LOCKED"** LIGHT GOES OFF.

- MOVE LATCH TO LEFT*
- TURN OVEN SET OFF

NOTE: CHECK START DIAL TO BE CERTAIN POINTER IS AT THE SAME TIME AS THE RANGE CLOCK. IF NOT, TURN START KNOB UNTIL IT POPS OUT AND CANNOT BE TURNED.

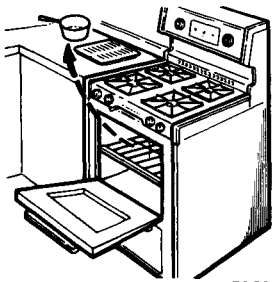
DOOR GETS HOT DURING SELF-CLEAN CYCLE. DO NOT TOUCH.

(Art No. WB1629)

SELF-CLEAN OVEN

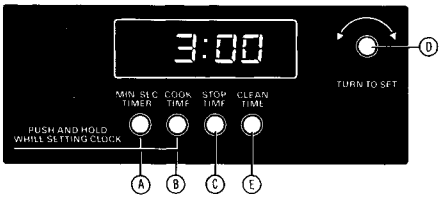
OPERATION
(JGBP28GEJ-ELECTRONIC TIMER)

① TO START SELF CLEAN OPERATION.



REMOVE ALL COOKWARE/ FOOD AND HEAVY SOIL DEPOSITS FROM OVEN. CLOSE DOOR.

② ON THE CLOCK

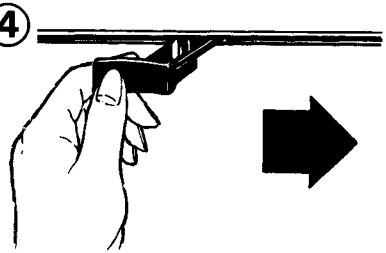


- **PUSH "CLEAN TIME" BUTTON (E) (3:00 IS DISPLAYED FOR 3 HOUR CLEAN CYCLE)**
- **CAN CHANGE BY ROTATING KNOB (D) (3 HRS. 59 MIN. MAXIMUM)**

③

TURN OVEN SET KNOB TO CLEAN

④



MOVE LATCH TO RIGHT.

- **"CLEANING" LIGHT SHOULD BE "ON"**

⑤

ABOUT 30 MINUTES LATER **"LOCKED"** LIGHT SHOULD BE

ON

WAIT!

THE DOOR IS LOCKED AND THE OVEN IS CLEANING

WHEN THE CLEAN CYCLE HAS ENDED, THE **"LOCKED"** LIGHT GOES OFF.

- MOVE LATCH TO LEFT*
- TURN OVEN SET OFF

NOTE: CHECK START DIAL TO BE CERTAIN POINTER IS AT THE SAME TIME AS THE RANGE CLOCK. IF NOT, TURN START KNOB UNTIL IT POPS OUT AND CANNOT BE TURNED.

DOOR GETS HOT DURING SELF-CLEAN CYCLE. DO NOT TOUCH.

(Art No. WB1629)

J-MODEL COMPONENTS

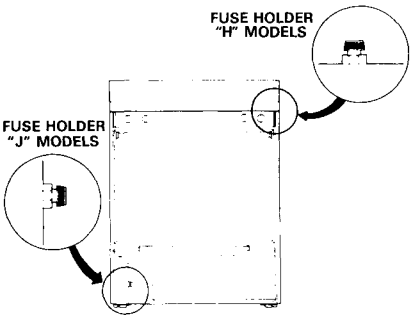
Self-clean ovens have two burners — a bake burner and a broil burner, each with a separate igniter and a dual section valve.

The components used in self-clean consist of the following:

- 5 Amp Fuse (Some Models)
- Self-Clean Latch
- Lock Switch
- Oven Select Switch
- Timer-Dial or Electronic
- Oven Valve
- Clean & Lock Lights
- Clean Thermostat

5 AMP FUSE (Some Models)

A 5 Amp Fuse is used (on some models) to protect the electric oven burner valve in case of a short circuit or excessive current draw by the igniters.

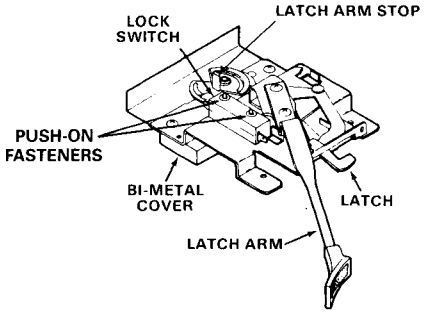


FUSE-TAPPAN RANGES

When used, the fuse is located at the bottom of the range on the left side in the drawer area - remove the drawer for access.

SELF-CLEAN LATCH

The self-clean latch assembly is located under the burner box at the front. The primary purpose of the latch is to lock the door in the closed position during the clean cycle when the oven temperature is above 675° F.



The latch assembly consists of a bi-metal operated mechanism, a lock switch (micro-switch), and latch arm or handle.

The lock switch is mounted on the left side of the latch and is operated by the movement of the latch arm. It's purpose is to connect the bake thermostat circuit for cooking cycles, and the clean thermostat circuit for clean cycle. (See Circuit)

The bi-metal coil spring is located on the bottom of the latch. It is encased in a metal case or cover, which is positioned directly over the oven liner so it is exposed to the oven heat. The coil is coupled to a metal latch arm stop on top of the latch.

SELF-CLEAN OVEN

As the bi-metal coil is heated from the oven, the coil rotates and turns the latch arm stop to a point where it blocks the latch arm and mechanically prevents the ability to unlatch the door - this "lock-up" action occurs at approx. 600° - 650°F oven temperature.

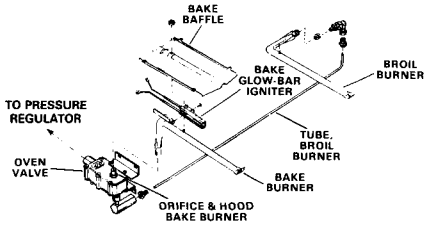
The lock switch is mounted by two (2) push-on fasteners and can be serviced through a cover in the burner box. The latch mechanism cannot be serviced except by removing the top burners and burner box.

OVEN SELECT SWITCH

In the clean position, one set of contacts (CL-F) connects the bake burner circuit. (See Circuit)

OVEN VALVE

Same oven valve used for all cooking modes. It is a dual-section valve, located under the range at the rear, and contains both the bake, and broil valve coils. (See Circuit)



CLEAN LIGHT

Indicates that the door is latched and the timer is set for CLEAN. (See Circuit)

LATCH LIGHT

Indicates oven has exceeded lock-up temperature - door is locked.

TIMER

Timer must be set to time length of clean cycle.

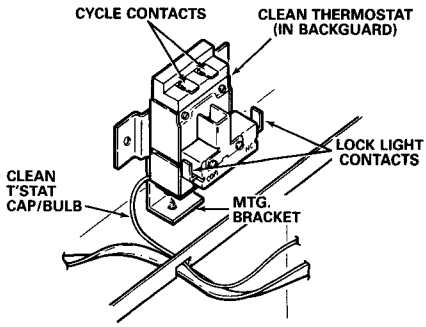
- **Dial Type Timer** - The stop dial must be advanced 2-4 hours.
- **Electronic Timer** - Clean button automatically sets 3-hour cycle.

CLEAN THERMOSTAT

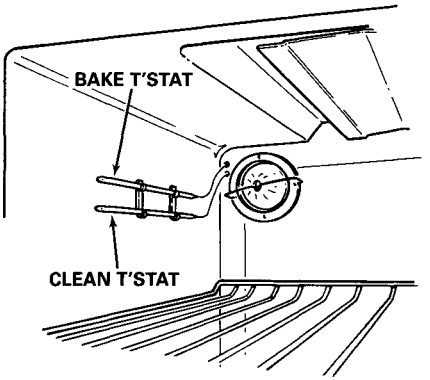
A separate oven thermostat is used to control the clean temperature and circuit. The thermostat is a diaphragm-type hydraulic thermostat which is pre-calibrated to control a clean temperature of approx. 880°F.

NOTE: THE CLEAN TEMPERATURE CANNOT BE ADJUSTED.

The clean thermostat is located inside the backguard, and can only be accessed by removing the backguard rear cover. The clean thermostat is therefore separate from the bake thermostat. The capillary/bulb assembly of both thermostats enter the oven at the top left rear corner.



(Art No. WB1629



The clean thermostat contains two (2) sets of thermal contacts.

- Clean temp. cycle contacts - internal
- Lock Light contacts - external (See Circuit)

CAUTION

The hydraulic material contained within the sealed capillary/bulb assembly of this control is caustic. If any of this material is contacted by skin, first wipe area dry and wash with water.

Repeated bending or very sharp bends of the capillary/bulb should be avoided. If the assembly should be ruptured, a simple crimp made by pliers on each side of the rupture will adequately reseal the assembly for safe handling.

CLEAN CIRCUIT

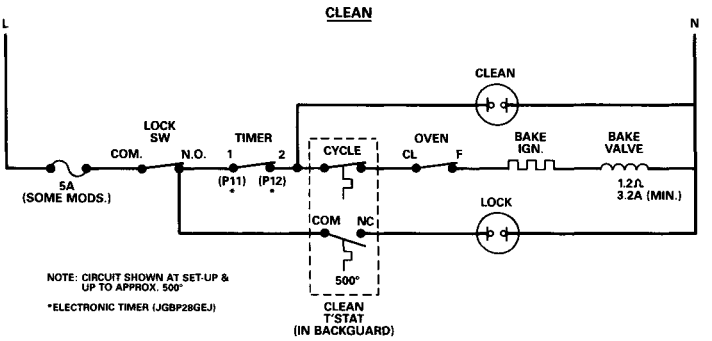
To start a clean cycle the oven select switch and timer must be set for CLEAN, and door must be latched. This energizes the bake coil which operates the bake burner only for the clean cycle.

NOTE: The clean indicator light turns "on" when the door is latched and timer is set - even if the select switch is not set at clean.

When the oven temperature reaches approx. 550° F the clean thermostat contacts COM & N.C. close and turns the lock light "on".

NOTE: The mechanical bi-metal latch automatically locks the door when the oven reaches approx. 615° F (it must be locked before the oven exceeds 675° F.

From a cold start it takes about 45 minutes for the oven to reach clean temperature (nominal 875° F). The oven thermostat cycling contacts (1-2) then cycle the oven bake burner "off" and "on" to maintain temperature.



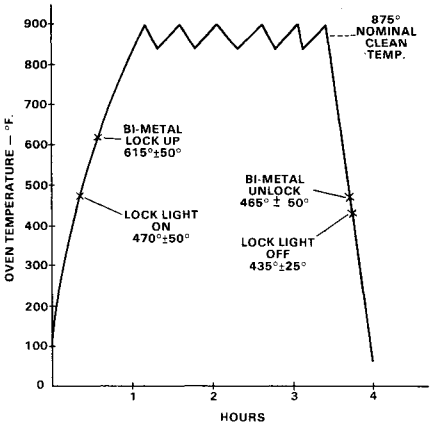
SELF-CLEAN OVEN

Below is a clean cycle temperature curve showing the relationship between the bi-metal lock-up of the door latch and the lock light.

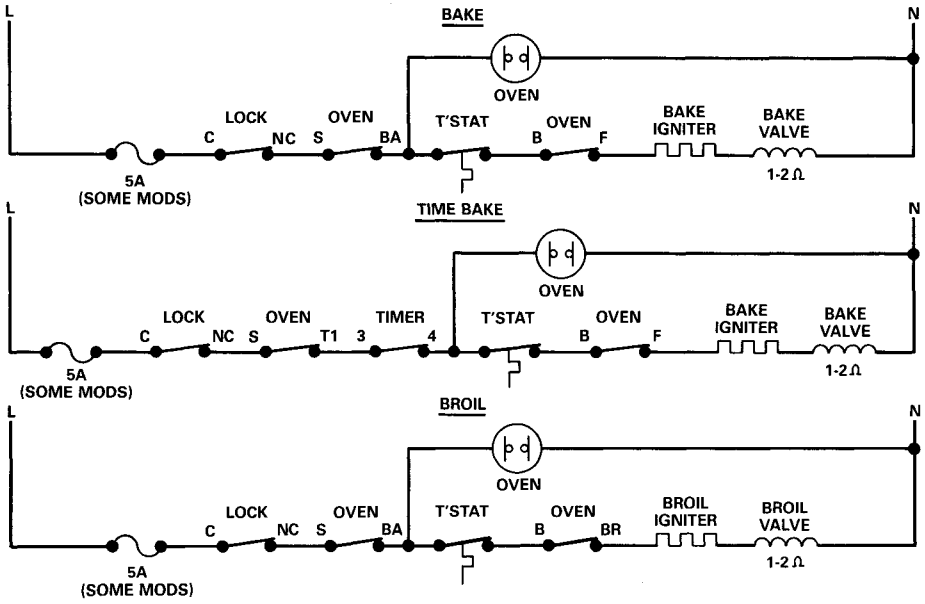
The typical sequence of operation is that the lock light comes "on" first and goes "off" last.

NOTE: There can be up to a 6-minute time differential between the light coming on after the bi-metal lock up when the oven temperature is rising, and up to 6-minute time differential during cooldown also.

1987 "J" MODEL GAS RANGES
SELF CLEAN CYCLE OPERATION



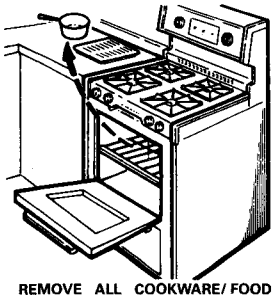
"J" MODEL TAPPAN MODELS
(SELF-CLEAN MODELS)



(Art Nos. WB1500, 1629)

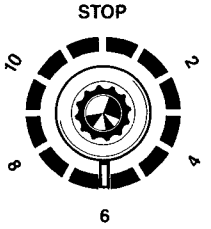
OPERATION (JGBP24GEF)

① TO START SELF CLEAN OPERATION.



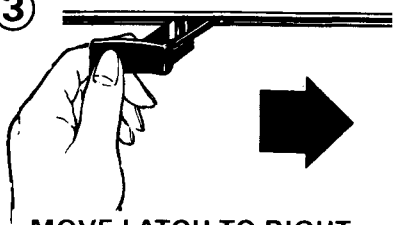
REMOVE ALL COOKWARE/ FOOD AND HEAVY SOIL DEPOSITS FROM OVEN. CLOSE DOOR.

② ON THE CLOCK



SET POINTER ON STOP DIAL AHEAD FROM PRESENT TIME OF DAY, 2 HOURS FOR LIGHT SOIL TO 3-4 HOURS FOR HEAVY SOIL.
EXAMPLE: IF TIME OF DAY IS 3:00 SET STOP DIAL TO 6:00 FOR A 3 HOUR CLEAN.

③



MOVE LATCH TO RIGHT.

④ SET BOTH

- **TURN OVEN SET KNOB TO "CLEAN OR TIME BAKE"**
- **TURN OVEN TEMP KNOB TO "CLEAN" (CCW PAST BROIL)**

⑤

ABOUT 30 MINUTES LATER **"LOCKED"** LIGHT SHOULD BE

THE DOOR IS LOCKED AND THE OVEN IS CLEANING

WHEN THE CLEAN CYCLE HAS ENDED, THE **"LOCKED"** LIGHT GOES OFF.

- MOVE LATCH TO LEFT
- TURN OVEN SET TO "BAKE OR BROIL"
- TURN OVEN TEMP TO "OFF"

NOTE: CHECK START DIAL TO BE CERTAIN POINTER IS AT THE SAME TIME AS THE RANGE CLOCK. IF NOT, TURN START KNOB UNTIL IT POPS OUT AND CANNOT BE TURNED.

DOOR GETS HOT DURING SELF-CLEAN CYCLE. DO NOT TOUCH.

(Art No. WB1629)

JGBP24GEF COMPONENTS

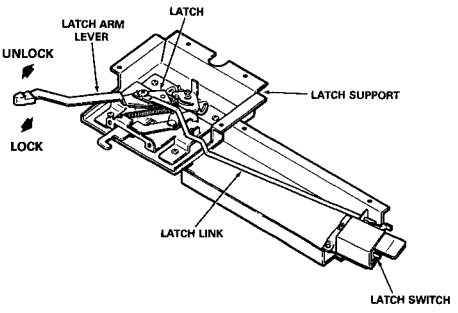
The self-clean oven has two burners — a bake burner and a broil burner, each with a separate igniter and a dual section valve.

The components used in self-clean consist of the following:

- Door Locking Mechanism
- Door Latch Switches (1 & 2)
- Oven Select Switch
- Timer
- Oven Valve
- Thermal Switches (1 & 2)
- Lock Light
- Thermostat — Dual Temp.

DOOR LOCKING MECHANISM

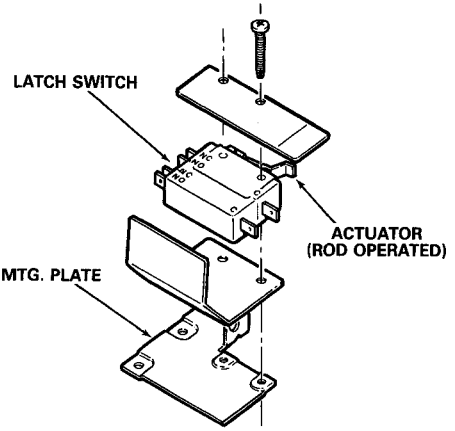
The latch and locking mechanism is located under the burner box at the front. The primary purpose of the latch is to lock the door in the closed position during the clean cycle when the oven temperature is above 675° F.



The door locking mechanism consists of a bi-metal operated latch, a latch switch (operated by a metal link), and a latch lever.

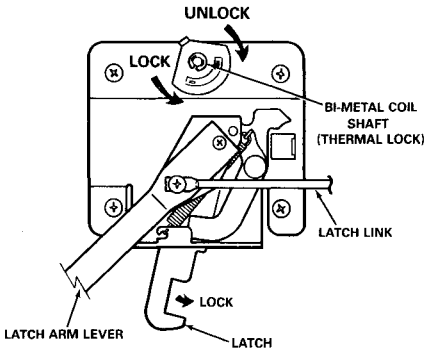
The latch switch consists of a two (2) micro-switch assembly mounted to a bracket on the right side of the latch. The switches are operated by a latch link (rod) fastened to the latch lever.

The switch can be checked by removing a cover in the burner box, but to replace the switch, the side panel must be removed.



The purpose of the latch switch is to set up the proper circuit for cooking mode (unlatched) and clean mode (latched). The schematic and wiring diagram refers to the switches as door latch switch #1 & #2. (See circuit)

The bi-metal latch coil spring is located on the bottom of the latch. It is encased in a metal case or cover, which is positioned directly over the oven liner so it is exposed to the oven heat. The coil is coupled to a metal latch arm stop on the top of the latch.



As the bi-metal coil is heated from the oven, the coil rotates and turns the latch arm stop to a point where it blocks the latch arm and mechanically prevents the ability to unlatch the door — this "Lock-up" action must occur before the oven temperature exceeds 675° F.

OVEN SELECT SWITCH

The oven select switch has only two (2) positions and 2 sets of contacts:

- "Bake or Broil"
- "Clean or time Bake"

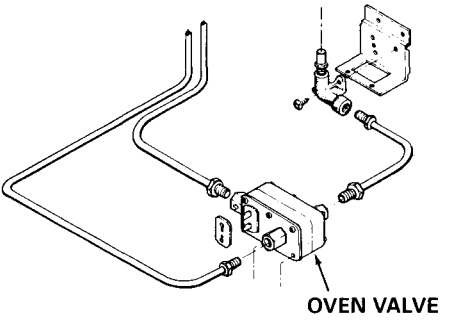
In the "Clean or time Bake" position contacts (2-4) are closed as part of the clean circuit. (See circuit)

TIMER

The stop dial of the timer must be advanced 2-4 hours which determines the length of the self-clean cycle.

OVEN VALVE

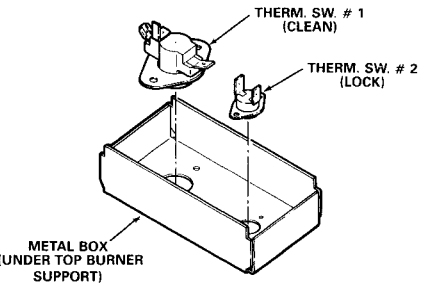
Same oven valve used for all cooking modes. It is a dual-section valve located at the rear of the range at the bottom, and contains the bake and broil coils (see circuit).



REAR OF RANGE

THERMAL SWITCHES

Two (2) disk-type thermal switches are used in the clean circuit. The switches are located in a metal box in the burner box under the top burner support.



- **THERMAL SWITCH #1** — used to switch from broil burner to bake burner when oven reaches approx. 650° F (see circuit)
- **THERMAL SWITCH #2** — used to turn on LOCK LIGHT at approx. 675° F. (see circuit).

LOCK LIGHT

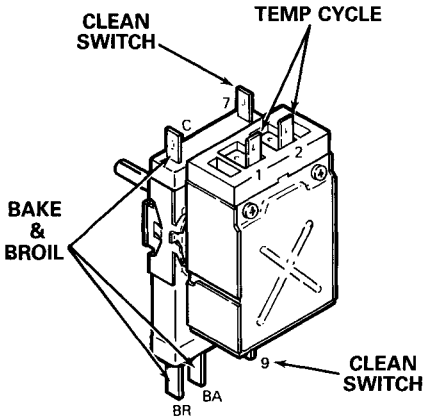
Indicates oven has exceeded lock-up temperature of 675° F. — door is locked. The lock light is located on the back guard and is controlled by thermal switch #2 (see circuit).

OVEN THERMOSTAT-DUAL TEMP

The dual-temp oven thermostat is a diaphragm-type hydraulic thermostat which controls the normal span of oven temperatures from 150° F to 550° (broil) plus a precalibrated clean temperature of approx. 900° F.

NOTE: THE CLEAN TEMPERATURE CANNOT BE ADJUSTED.

The thermostat has internal cycling contacts (1-2), and an external switch package with two sets of switching contacts to control bake, broil, and clean circuits (see circuit).



The electrical terminals are marked as follows:

C, BA, BR } Switch contacts for Bake/Broil

7-9 Switch contacts for Clean

1-2 Temp cycle contacts — Bake & Clean

CAUTION

The hydraulic material contained within the sealed capillary/bulb assembly of this control is caustic. If any of this material is contacted by skin, first wipe area dry and wash with water.

Repeaded bending or very sharp bends of the capillary/bulb should be avoided. If the assembly should be ruptured, a simple crimp made by pliers on each side of the rupture will adequately reseal the assembly for safe handling.

CLEAN CIRCUIT

To start a clean cycle the oven select switch, thermostat, and timer must be set for CLEAN, and the door must be latched.

From set-up and up to approximately 650° the broil burner circuit is energized through thermal switch #1 (contacts 1-3).

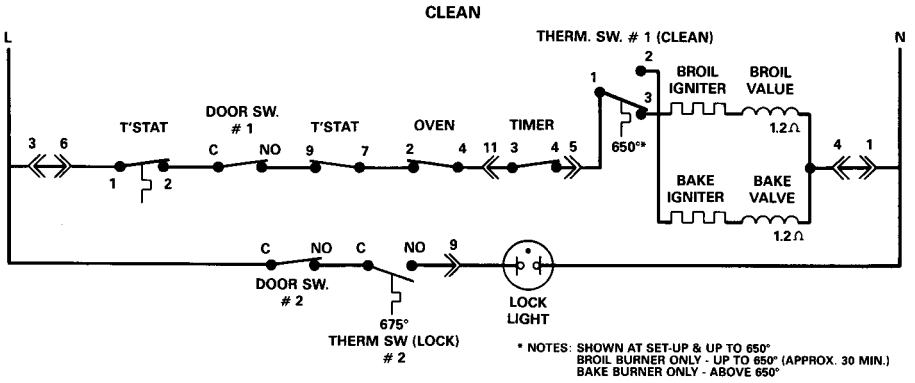
When the oven reaches approximately 650° F, thermal switch #1 opens contacts 1-3, and closes contacts 1-2. This opens the broil burner circuit, and connects the bake burner circuit.

The bake burner is used the remainder of the clean cycle.

When the oven reaches approximately 675° F, thermal switch #2 closes (C-NO) and turns "on" the lock light.

Note: The mechanical bi-metal latch automatically locks the door before the oven exceeds 675° F.

From a cold start it takes about 45 minutes for the oven to reach clean temperature (nominal 900° F). The oven thermostat cycle contacts (1-2) cycle the bake burner "off" and "on" to maintain temperature.

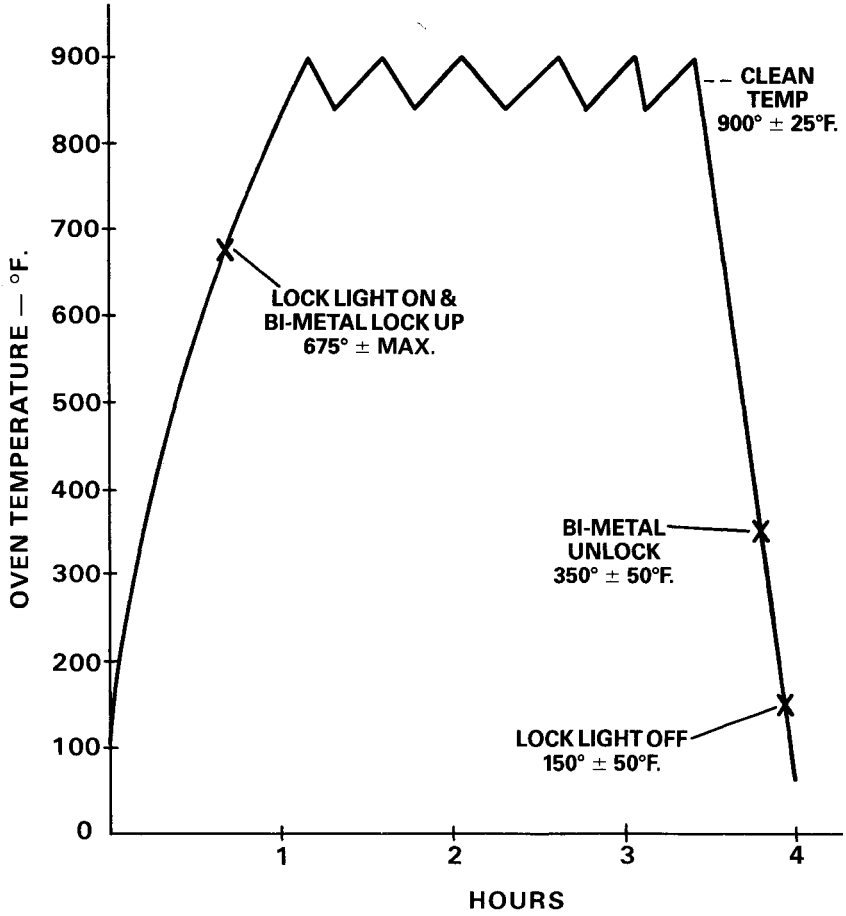


SELF-CLEAN OVEN

Below is a clean cycle temperature curve showing the relationship between the bi-metal lock-up of the door latch, and the lock light.

The lock light may come "on" before or after the door locks on heat-up, but it will go "off" last on cool-down.

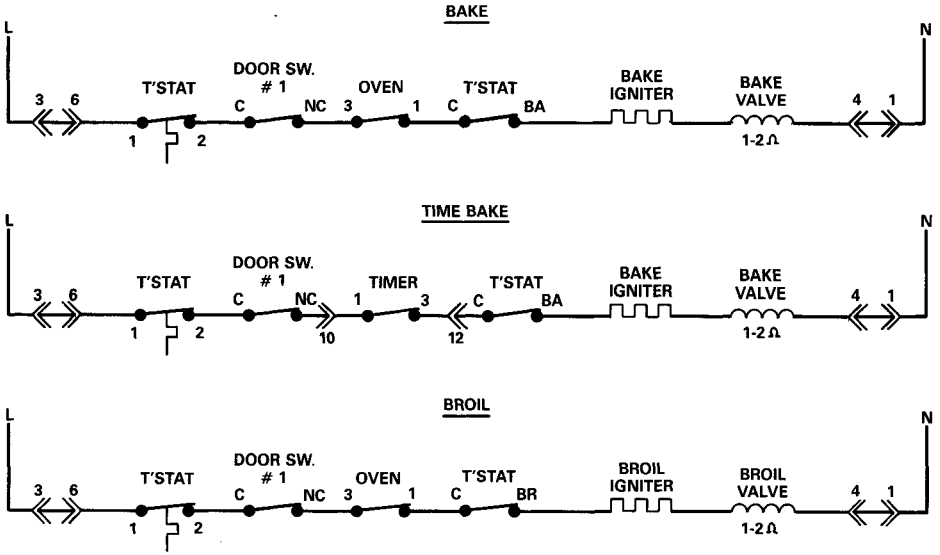
MODEL JGBP24GEF
SELF CLEAN CYCLE OPERATION



• NO CLEAN TEMP. ADJ.

(Art No. WB1629)

JGBP24GEF MAGIC CHEF MODEL
(SELF-CLEAN MODEL)

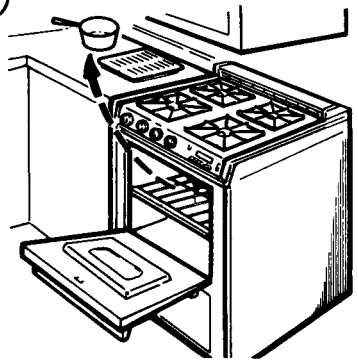


(Art No. WB1629)

SELF-CLEAN OVEN

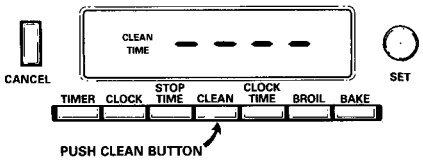
OPERATION (JGSP10GEK)

① TO START SELF CLEAN OPERATION



REMOVE ALL COOKWARE/FOOD AND HEAVY SOIL DEPOSITS FROM OVEN.

② ON THE CONTROL



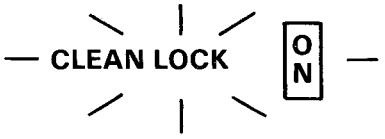
PUSH CLEAN BUTTON
(WORDS "CLEAN TIME & – – – –" DISPLAYED)

③

ROTATE SET KNOB ½ TURN ("3:30" DISPLAYED— CLEAN TIME)

④

ABOUT 15 SECONDS LATER "CLEAN LOCK ON" IS DISPLAYED



WAIT!

- DOOR LOCKS AUTOMATICALLY & THE OVEN IS CLEANING

WHEN THE CLEAN CYCLE HAS ENDED, THE WORD **"LOCK"** GOES OUT.

- DOOR UNLOCKS AUTOMATICALLY

NOTES:

- At set-up, if door is not closed, after 20-30 seconds the word "DOOR" is displayed and control beeps. Close door, touch "CANCEL" and begin again.
- FAN is on during cleaning time and until heat decreases and unlocks door.
- When cleaning time ends, display shows time-of-day and "LOCK". 20-30 minutes later, "LOCK" goes out and door unlocks.

DOOR GETS HOT DURING SELF-CLEAN CYCLE. DO NOT TOUCH.

(Art No. WB1629)

JGSP10GEK COMPONENTS

The self-clean oven has two burners — a bake burner and a broil burner, each with a separate igniter and a dual section valve.

The components used in self-clean consist of the following:

- Electronic Control System
  - — Electronic Control (ERC)
  - — Relay Circuit Board
  - — Oven Sensor
- Motorized Door Lock
  - — Latch
  - — Motor
  - — Door Switch
  - — Anticipator (Heater & Switch)
  - — Lock Switches 1 & 2
- Fan - for Control
- Oven Valve

ELECTRONIC CONTROL SYSTEM

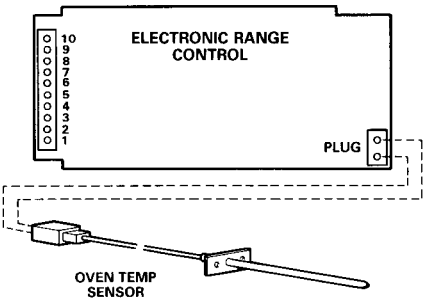
The Control System consists of three (3) components:

1. Electronic Range Control (ERC)
2. Relay Circuit Board
3. Oven Temperature Sensor

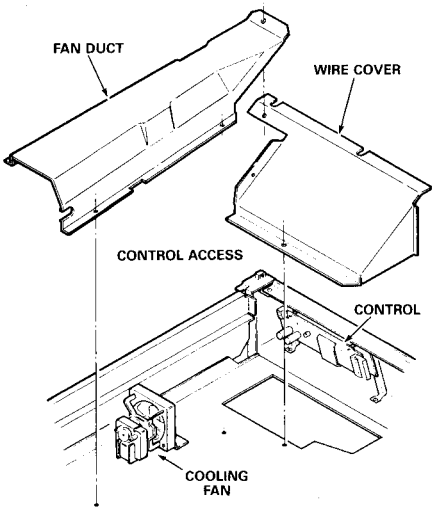
The control system components provide the same functions as a conventional clock, oven select switch, and the oven temperature control or thermostat.

ELECTRONIC CONTROL (ERC)

The ERC is a solid state smart board and display which contains user push-buttons to set the clock, timer, bake, broil, and self-clean functions. All temperature functions are controlled by the oven sensor which plugs into the control.



The control can be serviced through an access cover in the front of the burner box.



OVEN SENSOR

The oven temperature is measured by an oven sensor located in the upper rear wall of the oven. The sensor increases in resistance as the temperature increases, which reduces current flow in the sensor circuit. The ERC monitors the sensor current and cycles the bake or broil relays on and off — this in turn turns the oven on and off.

SELF-CLEAN OVEN

SENSOR RESISTANCE TEST

REMOVE POWER FROM RANGE.

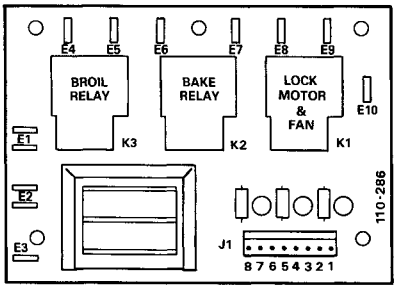
TO TEST AT ERC: Remove 2 wire sensor harness disconnect at right side of ERC. With oven at room temperature, check resistance across two sensor leads (should be approx. 1100 ohms). If sensor circuit reads open or shorted, test at oven disconnect to determine if problem is in sensor or harness.

TO TEST AT OVEN DISCONNECT: Remove 2 screws holding sensor at upper right rear oven wall. Gently pull sensor to expose wire harness disconnect. Disconnect sensor and test sensor resistance (should be approx. 1100 ohms). If sensor checks open or shorted, replace.

CAUTION: If improperly installed, sensor disconnect will melt during self-clean. Do not install against oven cavity. Be sure to push sensor disconnect through cavity and mainback so that it is visible from rear of range.

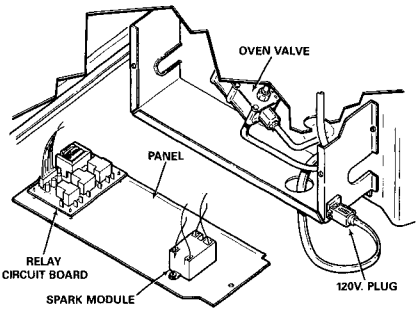
RELAY CIRCUIT BOARD

The relay circuit board contains the step-down transformer which provides the low-voltage AC needed to operate the electronic control (ERC). It also contains the 3 relays which control bake, broil, and the lock motor and fan. The relay coils are rated at 25V DC supplied from the control.



RELAY CIRCUIT BOARD

The relay circuit board is located in a compartment behind the lower storage drawer.



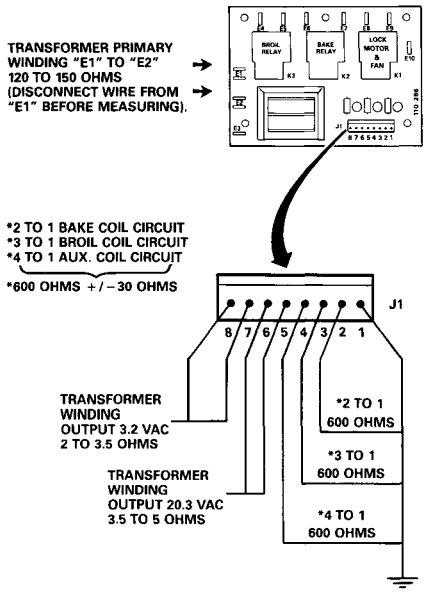
BOTTOM OF RANGE

The 8-pin connector of the relay board connects to the 10-pin connector on the control. Various Resistance and Voltage tests can be made at the Relay Board, and the control.

NOTE: When making resistance checks - remove power from relay board by disconnecting E1, or unplug range.

RELAY CIRCUIT OHMMETER TESTS:

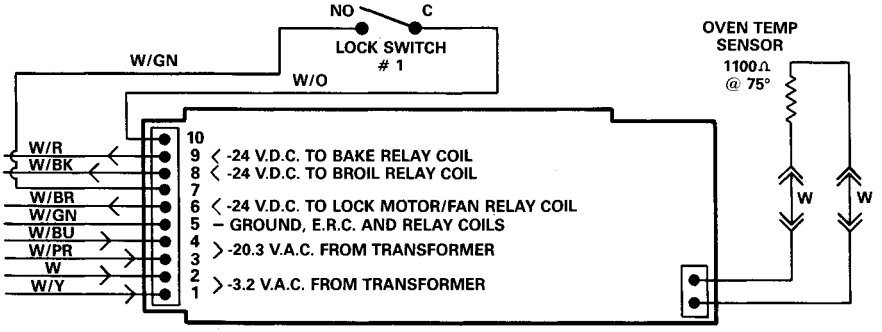
Relay coil circuits and transformer windings will have connector configuration as shown.



CONTROL VOLTAGE TESTS

With power applied and all wire harnesses connected, measure the voltage present at the E.R.C. harness pins as follows:

WIRE	ERC PIN NO(S)	VOLTAGE IN MODE OF OPERATION
White/ Orange	10 to Ground	0 Volts All Modes
White/ Red	9 to Ground	Approx. -19 to -24 VDC **In Bake**
White/ Black	8 to Ground	Approx. -19 to -24 VDC **In Broil**
White/ Orange	7 to Ground	0 Volts All Modes
White/ Brown	6 to Ground	Approx. -19 to -24 VDC **In Clean**
White/ Green	5 to Ground	0 Volts All Modes
White/Blue to W/Violet	4 to 3	Approx. 21 VAV - All Modes
White/ White to W/Yellow	2 to 1	Approx. 3.2 VAC - All Modes



ELECTRONIC RANGE CONTROL

DIAGNOSTIC FAILURE CODES

The control contains built-in diagnostics. When the control detects a failure in the control and sensor circuit, power will be removed from relays, failure tone (rapid beeps) will sound, and a failure code will appear in the display.

CODE	CAUSE	CORRECTION
F0, F1 or F5	Failed transistor	Replace control
F2	Oven temp. over 590°F with unlocked door or over 990°F with locked door.	Test door lock switch and relay contacts.
	High resistance connection in sensor circuit.	*Take sensor resistance reading at the sensor disconnect on back of ERC.
F3	Open sensor or open in sensor circuit or sensor shorted to ground	*Test sensor circuit resistance—lead to lead and each lead to ground
F4	Shorted sensor or short in sensor harness	*Test sensor circuit resistance—lead to lead and each lead to ground
F6	Timekeeping circuit problem (such as momentary 60 Hz frequency change	Reset operation (if applicable)
F7	Stuck ERC button or switch	Ensure free movement of buttons. If necessary remove lens and determine problem area—button section of lens or ERC
F8	Temperature processing component failure	Replace control

*IMPORTANT — When ohmmeter testing, don't bend harness connecter terminals with meter probes.

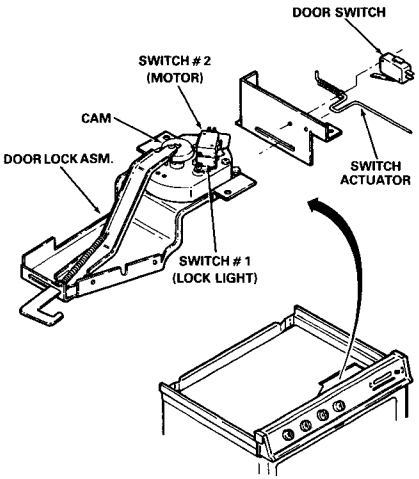
MOTORIZED DOOR LOCK

The door locks automatically when control is set for clean.

The lock assembly consists of a motor, latch, 2-lock switches, door switch, and an anticipator circuit.

The lock motor drives a cam, on top of the motor, whichs operates the latch arm and hook. The two (2) lock switches are mounted on top of the motor and are also operated by the motor cam.

The door switch is located on the right side of the motor and is operated by a spring-loaded activator rod as the door is opened or closed—the switch is closed when the door is closed.

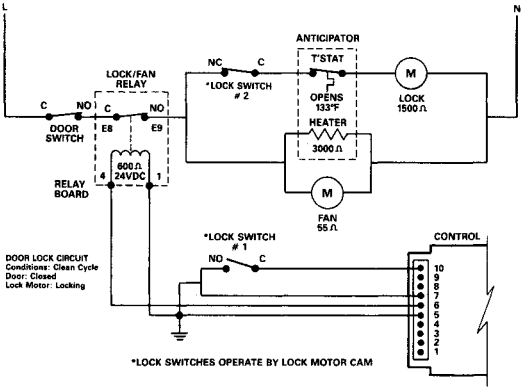


(Art No. WB1629)

TO SET: Push CLEAN button, turn SET knob 1/2" turn clockwise. Display will show 3 hrs. 30 min.

PROCESS:

DOOR LOCKS IMMEDIATELY—Fan/Lock relay energizes, closing contacts C and N O. 120 VAC is applied to lock motor, fan motor, and anticipator heater.

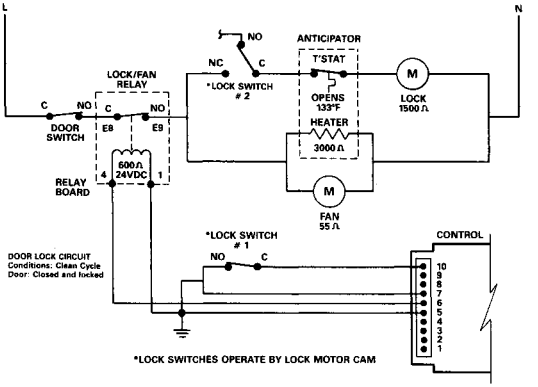


When the locking motor cam has rotated 1/2 turn (180 degrees rotation), the cam movement:

1. pulls the lock arm to the locked position, securing the oven door.
2. Switches the contacts within Lock Switch #2 to transfer from 'NC' to 'NO'. This opens the circuit to the lock motor and sets the switch for the unlock operation when the clean cycle is complete.

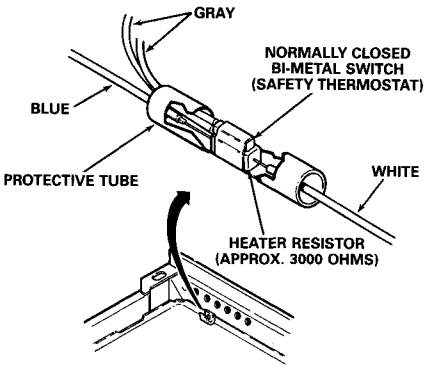
NOTE: The circuit through the fan motor and anticipator heater are still complete. The fan motor is running and the anticipator heater is generating heat.

3. Closes lock switch #1 which illuminates the lock light indicator on the ERC display.



THE ANTICIPATOR OPENS THE LOCK MOTOR CIRCUIT

The anticipator is a normally closed, bi-metal switch attached to a heater resistor.

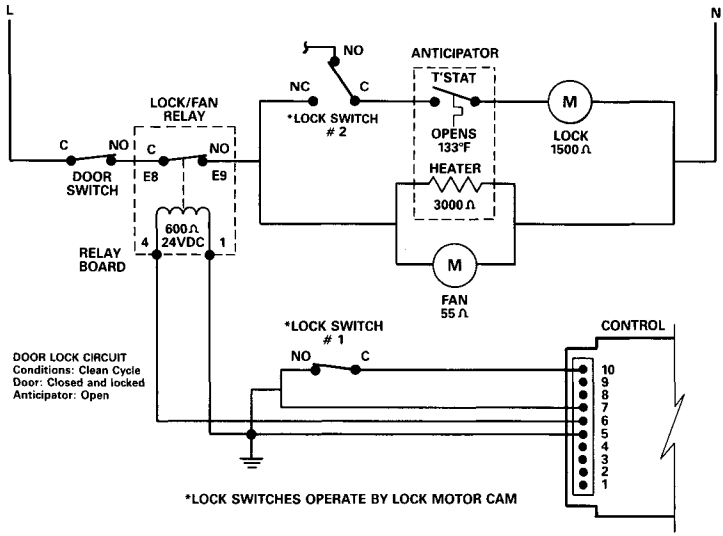


ANTICIPATOR

The anticipator circuit is used with the Robertshaw motorized door lock control system, as the programming of the Robertshaw control requires the door lock to cycle to the locked position and back to the un-locked position each time power is applied to the control, regardless of the oven temperature.

After approximately 5 minutes of a clean cycle, the "Heat Anticipator" has generated sufficient heat to open the "Bi-Metal Safety Thermostat." The cool down process, to close the Safety Thermostat, can take up to 45 minutes depending on the location of the Anticipator.

The "Safety Thermostat" is in series with the lock motor and provides an additional safety to prevent the oven door from unlocking during a clean cycle. The open Safety Thermostat, eliminates the possibility of the door unlocking after a power failure or momentary power loss.



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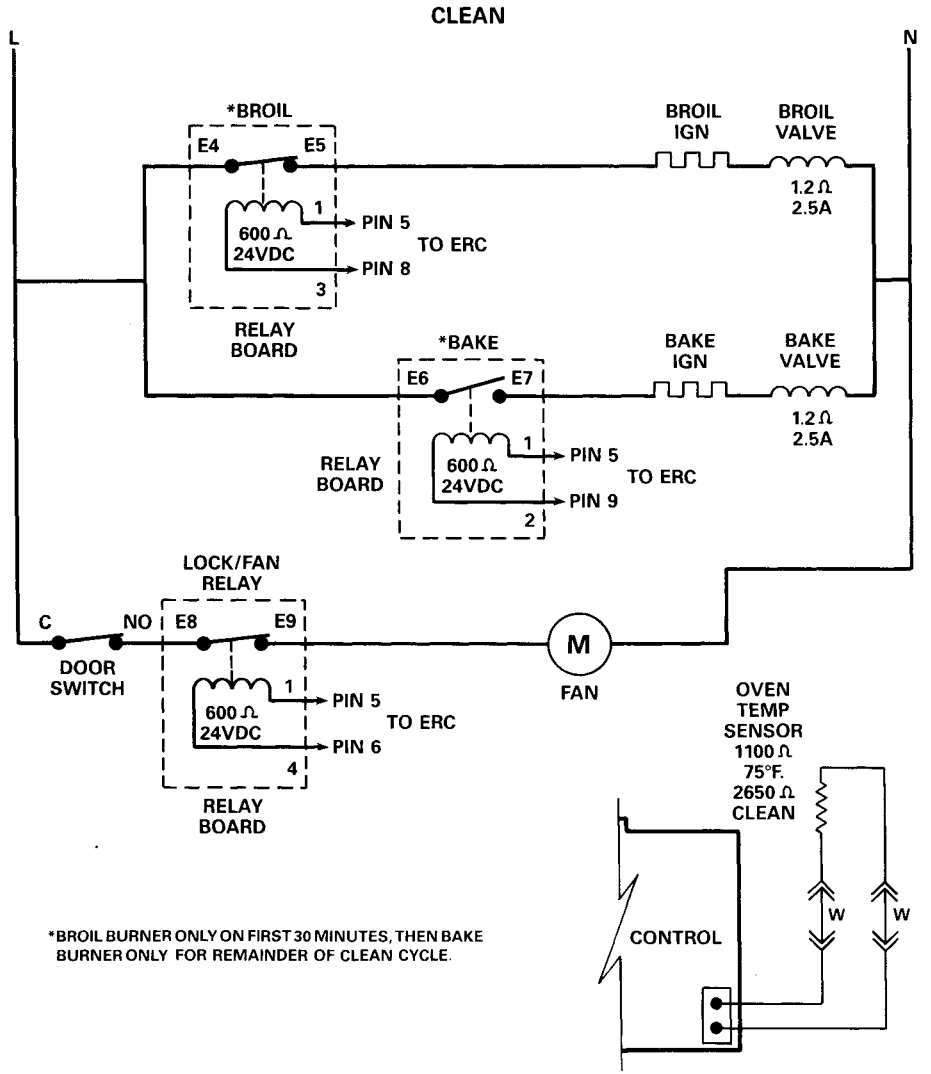
CLEAN CIRCUIT

For approximately the first 30 minutes of the clean cycle the broil relay is energized by the control which turns on the broil burner only to start the clean cycle.

After the first 30 minutes the control de-energizes the broil relay and energizes the bake relay which turns on the bake burner only.

The oven sensor tracks the oven temperature during the clean cycle and cycles the bake burner (relay) "on" and "off" to maintain oven temperature at approx. 875° F.

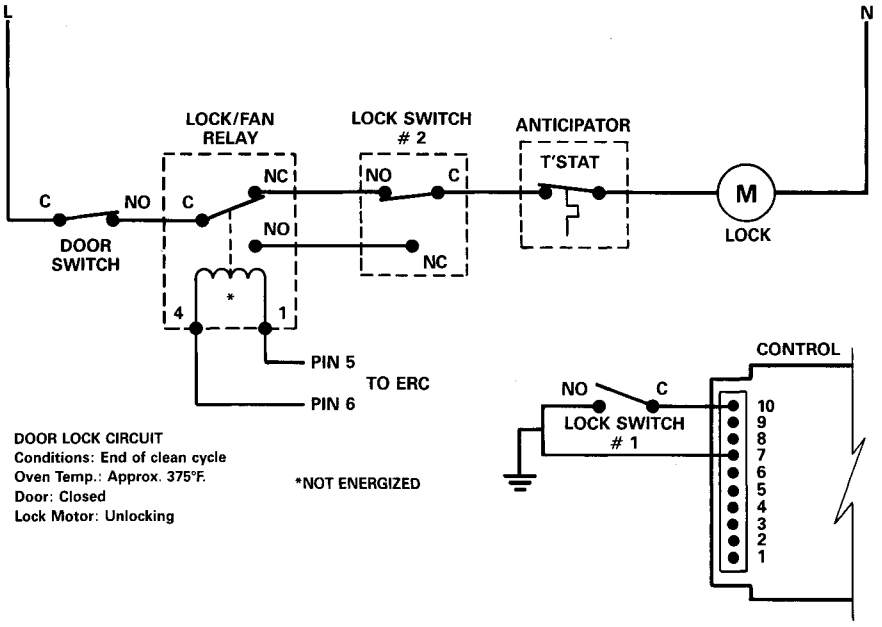
The fan stays "on" for the entire clean cycle.



*BROIL BURNER ONLY ON FIRST 30 MINUTES, THEN BAKE BURNER ONLY FOR REMAINDER OF CLEAN CYCLE.

When the Clean Cycle is complete, and the oven has cooled to approximately 375 degrees, the ERC removes power from the Lock-Fan relay coil. The following sequence unlocks the door and resets all switches in preparation for the next clean cycle.

1. When the ERC removes power from the Lock-Fan relay coil, the relay switch transfers from the 'NO' to the 'NC' position.
2. As the oven continues to cool, the anticipator safety thermostat closes. This completes the circuit, shown below, through the lock motor.
3. The lock motor will run until the cam has revolved 1/2 turn (180 degrees). The rotating cam will:
   - Pull the lock arm to the unlatched position.
   - Open lock switch #1, turning off the lock indicator light in the ERC display.
   - Cause lock switch #2 to transfer from the 'NO' to 'NC' position. This will open the circuit to the lock motor and position the switch for the next clean cycle.



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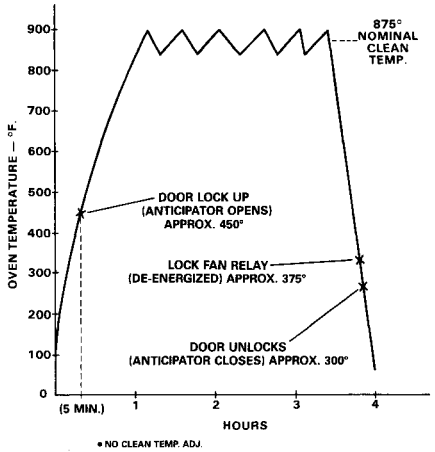
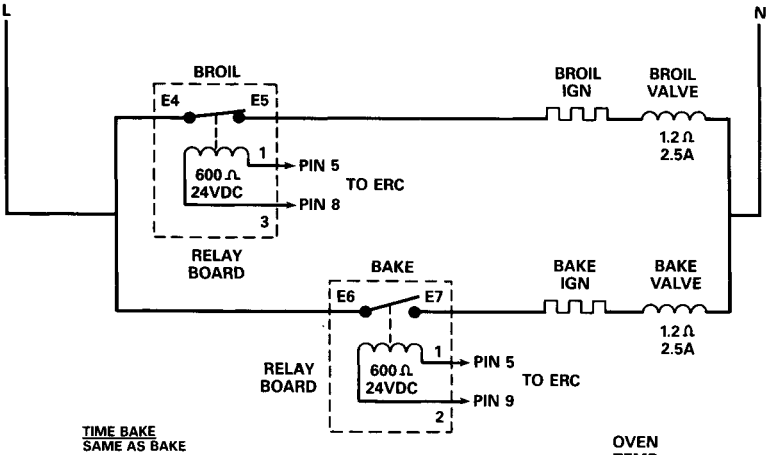
ROPER JGSP10GEK
SELF CLEAN CYCLE

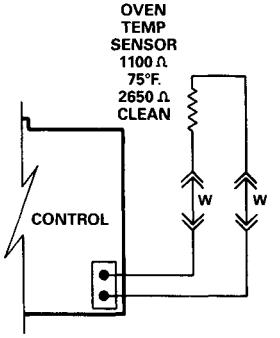


• NO CLEAN TEMP. ADJ.



TIME BAKE
SAME AS BAKE
EXCEPT BAKE
RELAY TURNS OFF
AFTER TIME-OUT

BAKE-TIME BAKE-BROIL



INDEX
CONVERSION TO LP GAS

CONVERSION TO NATURAL GAS

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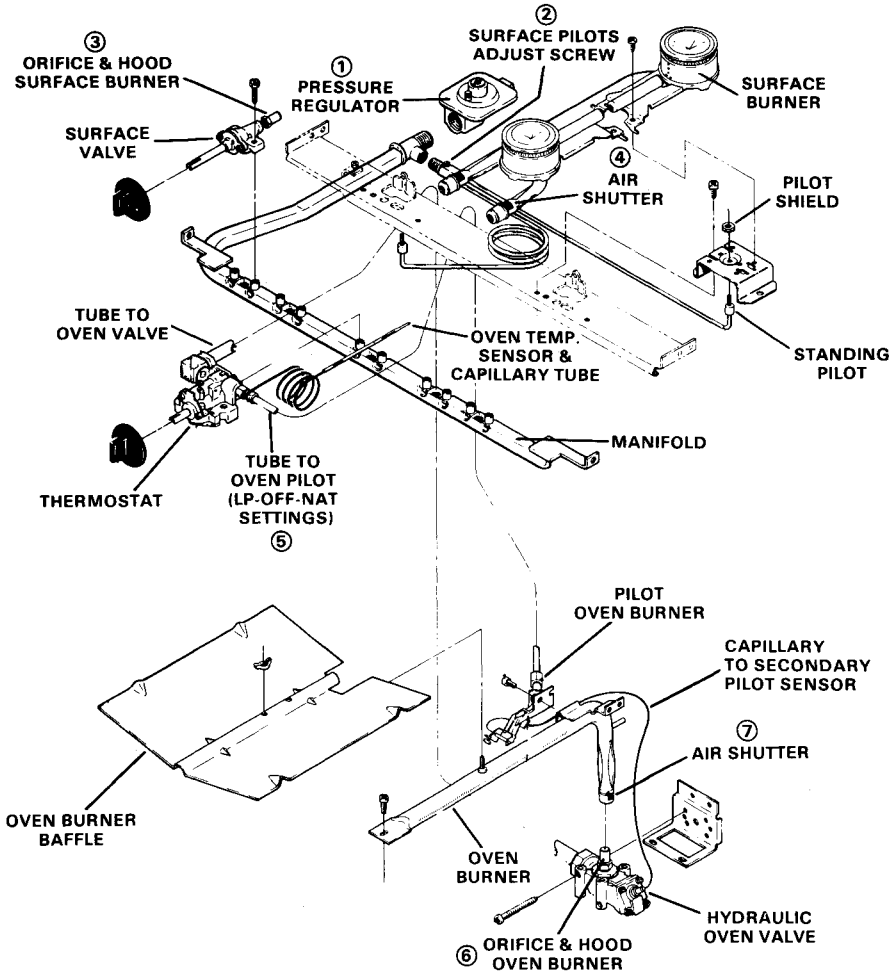
STANDING PILOT MODELS



TYPICAL STANDING PILOT MODEL
(MAGIC CHEF "J" MODEL SHOWN)

(Art No. WB1629)

RANGES — CONVERSION TO LP GAS

STANDING PILOT MODELS

1. PRESSURE REGULATOR — LP shows on cap or plunger.
2. SURFACE PILOT ADJUST SCREW — pilot flame ⅛" above shield.
3. SURFACE BURNER ORIFICES — hoods turned down all way (approx. 2½ turns)

   CAUTION: Do not overtighten hoods — can damage inner LP orifice opening.

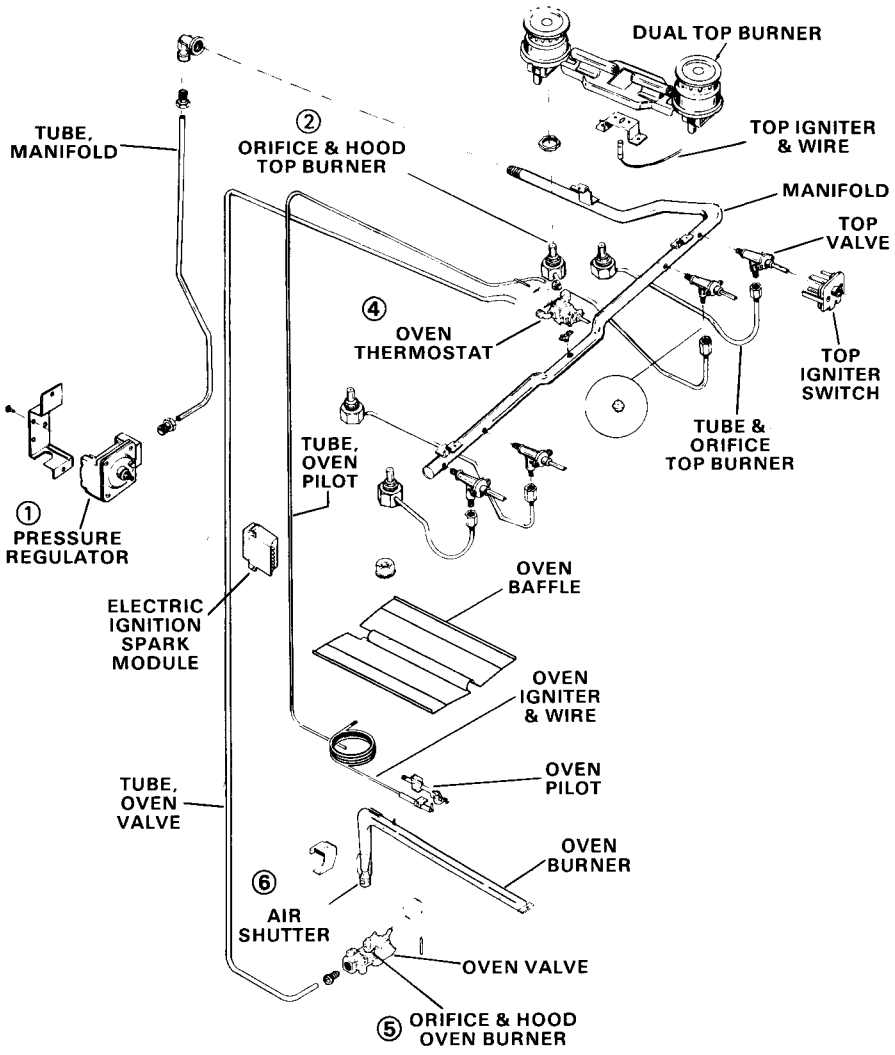
4. SURFACE BURNER AIR SHUTTERS — all way open for LP.
   NOTE: Tappan "J" models do not have air shutters.
5. OVEN PILOT SETTING (LP-OFF-NAT) on oven thermostat — set to **LP.**
6. OVEN BURNER ORIFICE — hood turned down all way (approx. 2½ turns).

   CAUTION: Do not overtighten hood — can damage inner LP orifice opening.

7. OVEN BURNER AIR SHUTTER — all way open for LP.

ELECTRIC IGNITION MODELS

- TOP-SPARK
- OVEN-SPARK



TYPICAL ELECTRIC IGNITION MODEL - SPARK SYSTEM - COOKTOP & OVEN
(TAPPAN "J" MODEL SHOWN)

(Art No. WB1629)

RANGES — CONVERSION TO LP GAS

ELECTRIC IGNITION MODELS

- TOP — SPARK
- OVEN — SPARK

1. PRESSURE REGULATOR — LP shows on cap or plunger.
2. SURFACE BURNER ORIFICES — hoods turned down all way (approx. 2½ turns).

   CAUTION: Do not overtighten hoods — can damage inner LP orifice opening.

3. SURFACE BURNER AIR SHUTTERS — all way open for LP.

   NOTE: Tappan "J" models do not have air shutters.

4. OVEN PILOT SETTING (LP-OFF-NAT) on oven thermostat — set to **LP.**
5. OVEN BURNER ORIFICE — hood turned down all way (approx. 2½ turns).

   CAUTION: Do not overtighten hood — can damage inner LP orifice opening.

6. OVEN BURNER AIR SHUTTER — all way open for LP.

HI-LOW MODELS — ALSO:

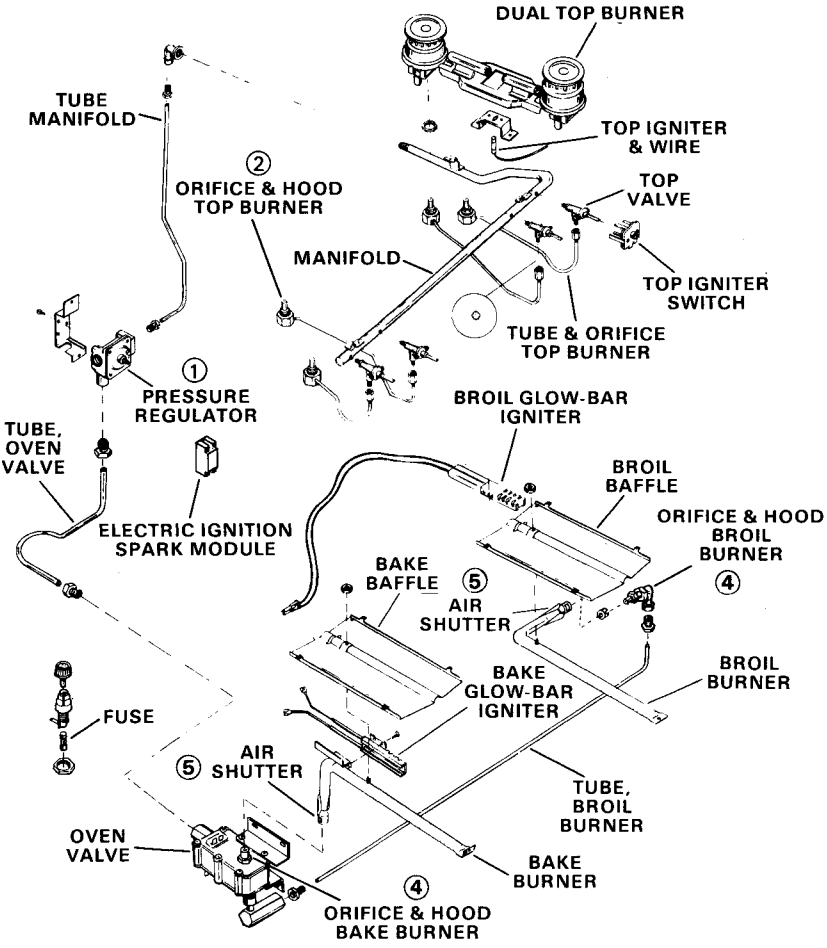
7. TOP OVEN BURNER ORIFICE — hood turned down all way (approx. 2½ turns).

   CAUTION: Do not overtighten — can damage inner LP orifice opening.

8. TOP OVEN BURNER AIR SHUTTER — all way open for LP.

ELECTRIC IGNITION MODELS

- TOP — SPARK
- OVEN — GLOW BAR



TYPICAL ELECTRIC IGNITION MODEL - TOP SPARK & OVEN GLOWBAR
(TAPPAN SELF CLEAN "J" MODEL SHOWN)

(Art No. WB1629)

RANGES — CONVERSION TO LP GAS

ELECTRIC IGNITION MODELS

- TOP — SPARK
- OVEN — GLOW BAR

1. PRESSURE REGULATOR — LP shows on cap or plunger.
2. SURFACE BURNER ORIFICES — hoods turned down all way (approx. 2½ turns).

   CAUTION: Do not overtighten hoods — can damage inner LP orifice opening.

3. SURFACE BURNER AIR SHUTTERS — all way open for LP.

   NOTE: Tappan "J" models do not have air shutters.

4. OVEN BURNER ORIFICE(S) — hood turned down all way (approx. 2½ turns).

   NOTE: if range has separate bake and broil burners, both orifice hoods must be adjusted.

   CAUTION: Do not overtighten hoods — can damage inner LP orifice opening.

5. OVEN BURNER AIR SHUTTER — all way open for LP.

   NOTE: if range has separate bake and broil burners, both orifice hoods must be adjusted.

HI-LOW MODELS — ALSO:

6. TOP OVEN BURNER ORIFICE — hood turned down all way (approx. 2½ turns).

   CAUTION: Do not overtighten hoods — can damage inner LP orifice opening.

7. TOP OVEN BURNER AIR SHUTTER — all way open for LP.

BUILT-IN COOKTOPS — CONVERSION TO LP GAS

ELECTRIC IGNITION MODELS

1. PRESSURE REGULATOR — LP shows on cap or plunger.
2. SURFACE BURNER ORIFICES — hoods turned down all way (approx. 2½ turns).
3. SURFACE BURNER AIR SHUTTERS — all way open for LP.

WALL OVENS — CONVERSION TO LP GAS

ELECTRIC IGNITION MODELS

1. PRESSURE REGULATOR — LP shows on cap or plunger.
2. OVEN BURNER ORIFICE — hood turned down all way (approx. 2½ turns).
3. OVEN BURNER AIR SHUTTER — all way open for LP.

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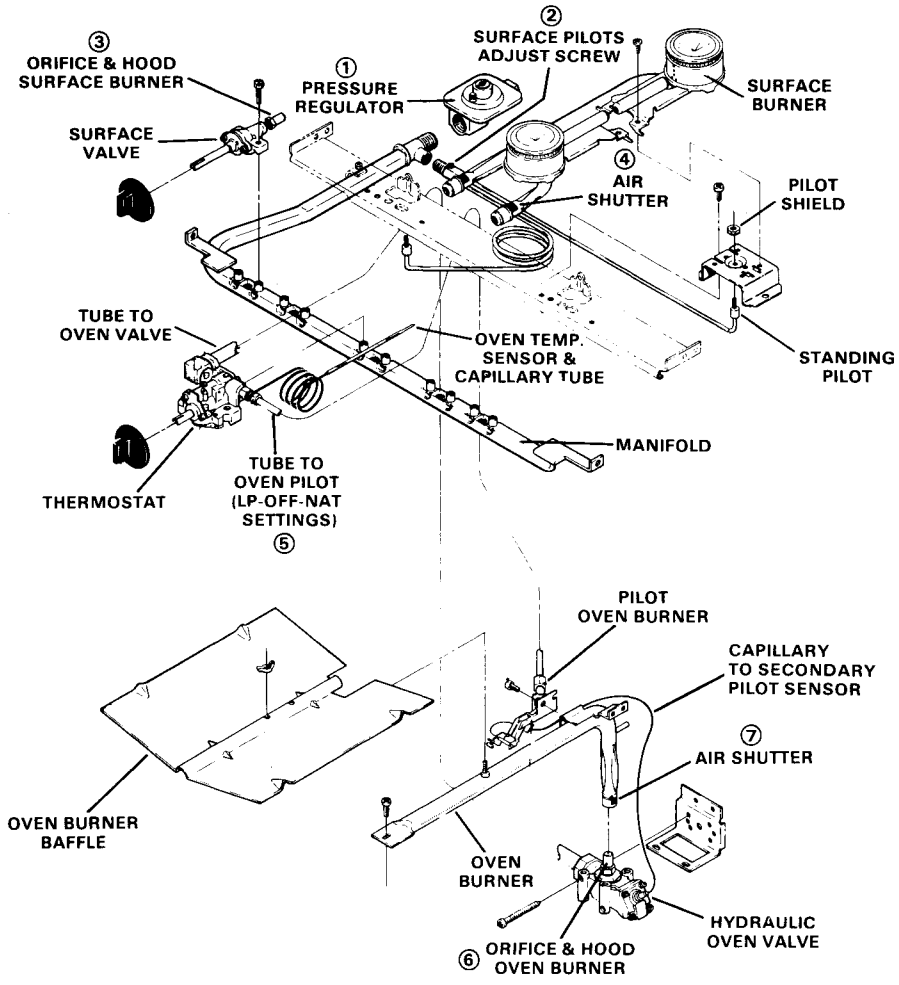
STANDING PILOT MODELS



TYPICAL STANDING PILOT MODEL
(MAGIC CHEF "J" MODEL SHOWN)

(Art No. WB1629)

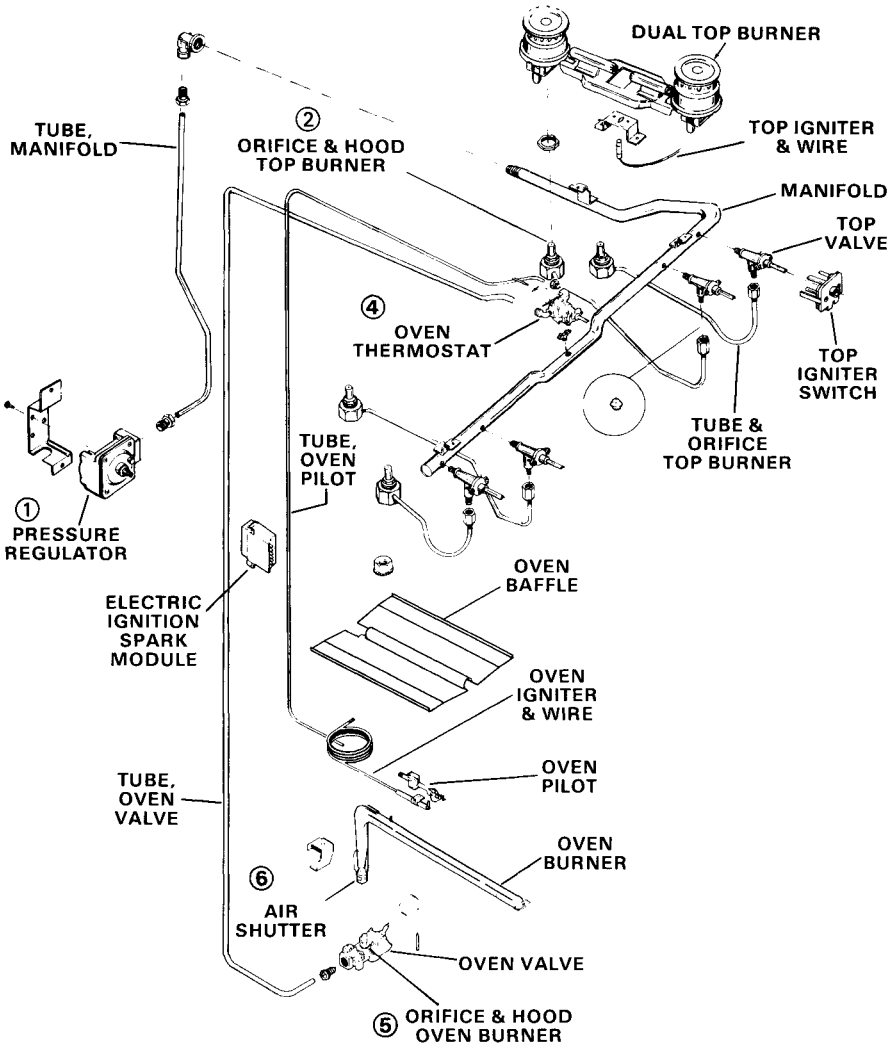
RANGES — CONVERSION TO NATURAL GAS

STANDING PILOT MODELS

1. PRESSURE REGULATOR — NAT shows on cap or plunger.
2. SURFACE PILOT ADJUST SCREW — pilot flame 1/8" above shield.
3. SURFACE BURNER ORIFICES — hoods unscrewed (approx. 2½ turns from LP seat).
4. SURFACE BURNER AIR SHUTTERS — approx. ½ - 2/3 open (no yellow flame).
   NOTE: Tappan "J" models do not have air shutters.
5. OVEN PILOT SETTING (LP-OFF-NAT) on oven thermostat — set to **NAT.**
6. OVEN BURNER ORIFICE — hood unscrewed (approx. 2½ turns from LP seat).
7. OVEN BURNER AIR SHUTTER — approx. ½ - 2/3 open (no yellow flame).

ELECTRIC IGNITION MODELS

- TOP — SPARK
- OVEN — SPARK



TYPICAL ELECTRIC IGNITION MODEL - SPARK SYSTEM - COOKTOP & OVEN
(TAPPAN "J" MODEL SHOWN)

(Art No. WB1629)

RANGES — CONVERSION TO NATURAL GAS

ELECTRIC IGNITION MODELS

- TOP — SPARK
- OVEN — SPARK

1. PRESSURE REGULATOR — NAT shows on cap or plunger.
2. SURFACE BURNER ORIFICES — hoods unscrewed (approx. 2½ turns from LP seat).
3. SURFACE BURNER AIR SHUTTERS — approx. ½ - ⅔ open (no yellow flame).

   NOTE: Tappan "J" models do not have air shutters.

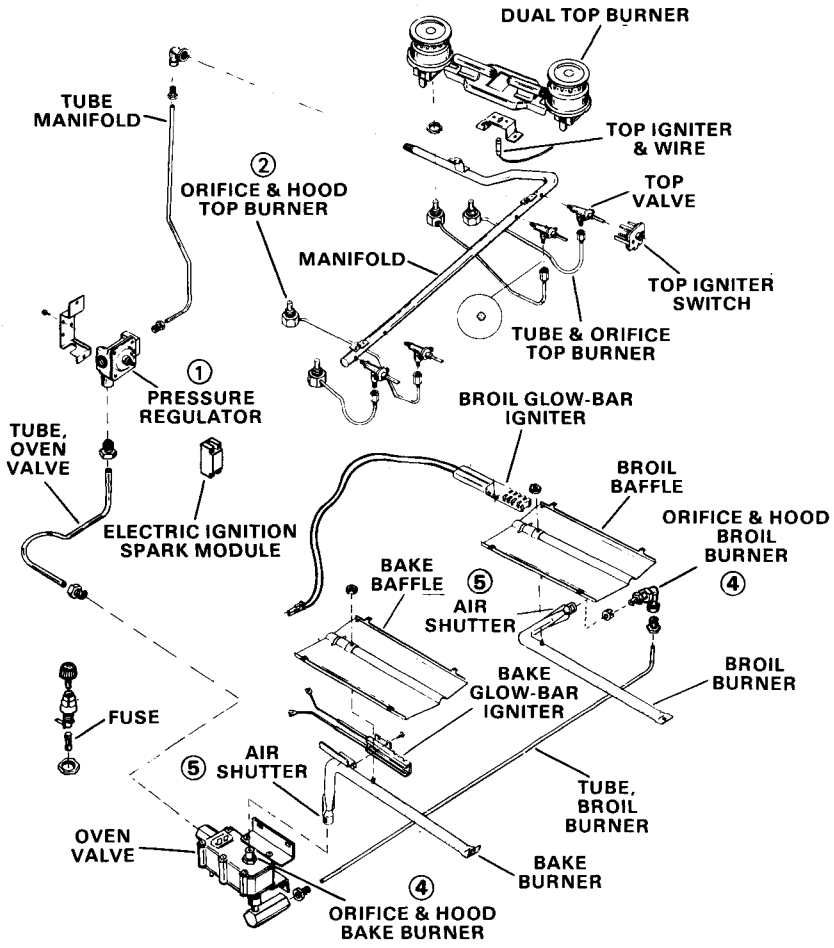
4. OVEN PILOT SETTING (LP-OFF-NAT) on oven thermostat — set to **NAT.**
5. OVEN BURNER ORIFICE — hood unscrewed (approx. 2½ turns from LP seat).
6. OVEN BURNER AIR SHUTTER — approx. ½ - ⅔ open (no yellow flame).

HI-LOW MODELS — ALSO:

7. TOP OVEN BURNER ORIFICE — hood unscrewed (approx. 2½ turns from LP seat).
8. TOP OVEN BURNER AIR SHUTTER — approx. ½ - ⅔ open (no yellow flame).

ELECTRIC IGNITION MODELS

- TOP — SPARK
- OVEN — GLOW BAR



TYPICAL ELECTRIC IGNITION MODEL - TOP SPARK & OVEN GLOWBAR (TAPPAN SELF CLEAN "J" MODEL SHOWN)

(Art No. WB1629)

RANGES — CONVERSION TO NATURAL GAS

ELECTRIC IGNITION MODELS

- TOP — SPARK
- OVEN — GLOW BAR

1. PRESSURE REGULATOR — NAT shows on cap or plunger.
2. SURFACE BURNER ORIFICES — hoods unscrewed (approx. 2½ turns from LP seat).
3. SURFACE BURNER AIR SHUTTERS — approx. ½ - ⅔ open (no yellow flame).

   NOTE: Tappan "J" models do not have air shutters.

4. OVEN BURNER ORIFICE(S) — hood unscrewed (approx. 2½ turns from LP seat).

   NOTE: if range has separate bake and broil burners, both orifice hoods must be adjusted.

5. OVEN BURNER AIR SHUTTER — approx. ½ - ⅔ open (no yellow flame).

   NOTE: if range has separate bake and broil burners, both air shutters must be adjusted.

HI-LOW MODELS — ALSO:

6. TOP OVEN BURNER ORIFICE — hood unscrewed (approx. 2½ turns from LP seat).
7. TOP OVEN BURNER AIR SHUTTER — approx. ½ - ⅔ open (no yellow flame).

BUILT-IN COOKTOPS — CONVERSION TO NATURAL GAS

ELECTRIC IGNITION MODELS

1. PRESSURE REGULATOR — NAT shows on cap or plunger.
2. SURFACE BURNER ORIFICES — hoods unscrewed (approx. 2½ turns from LP seat).
3. SURFACE BURNER AIR SHUTTERS — approx. ½ - ⅔ open (no yellow flame).

WALL OVENS — CONVERSION TO NATURAL GAS

ELECTRIC IGNITION MODELS

1. PRESSURE REGULATOR — NAT shows on cap or plunger.
2. OVEN BURNER ORIFICE — hood unscrewed (approx. 2½ turns from LP seat).
3. OVEN BURNER AIR SHUTTER — approx. ½ - ⅔ open (no yellow flame).

INDEX

PRECAUTIONS TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

A. DO NOT OPERATE OR ALLOW THE OVEN TO BE OPERATED WITH THE DOOR OPEN.

B. MAKE THE FOLLOWING SAFETY CHECKS ON ALL OVENS TO BE SERVICED BEFORE ACTIVATING THE MAGNETRON OR OTHER MICROWAVE SOURCE, AND MAKE REPAIRS AS NECESSARY.
   1. INTERLOCK OPERATION
   2. PROPER DOOR CLOSING
   3. SEAL AND SEALING SURFACES (ARCING, WEAR, AND OTHER DAMAGE)
   4. DAMAGE TO OR LOOSENING OF HINGES AND LATCHES
   5. EVIDENCE OF DROPPING OR ABUSE.

C. BEFORE TURNING ON MICROWAVE POWER FOR ANY SERVICE TEST OR INSPECTION WITHIN THE MICROWAVE GENERATING COMPARTMENTS, CHECK THE MAGNETRON, WAVE GUIDE OR TRANSMISSION LINE, AND CAVITY FOR PROPER ALIGNMENT, INTEGRITY, AND CONNECTIONS.

D. ANY DEFECTIVE OR MISADJUSTED COMPONENTS IN THE INTERLOCK, MONITOR, DOOR SEAL, AND MICROWAVE GENERATION AND TRANSMISSION SYSTEMS SHALL BE REPAIRED, REPLACED, OR ADJUSTED BY PROCEDURES DESCRIBED IN THIS MANUAL BEFORE THE OVEN IS RELEASED TO THE OWNER.

E. A MICROWAVE LEAKAGE CHECK TO VERIFY COMPLIANCE WITH THE FEDERAL PERFORMANCE STANDARD SHOULD BE PERFORMED ON EACH OVEN PRIOR TO RELEASE TO THE OWNER.

MICROWAVE LEAKAGE TEST

A microwave leakage test must be performed any time a door is removed, replaced, disassembled, or adjusted for any reason.

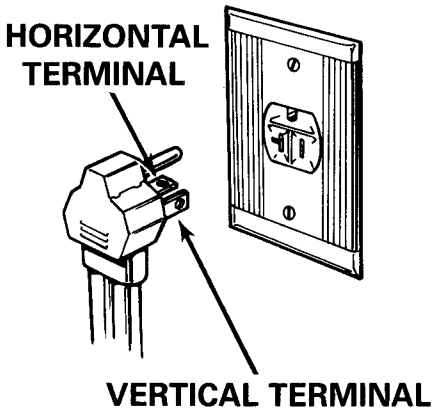
THE MAXIMUM LEAKAGE ALLOWED IS 5MW/CM^2

WHEN REPLACING THE MAGNETRON, BE CERTAIN THE R.F. GASKET IS IN PLACE AND MOUNT NUTS ARE TIGHTENED SECURELY TO WAVE-GUIDE. FAILURE TO DO SO CAN RESULT IN HAZARDOUS LEVELS OF MICROWAVE LEAKAGE.

HI-LOW MICROWAVE
Tappan "H" & "J" Models

The Hi-Low Microwave Ranges require a **20-amp receptacle** and supply circuit. A 20 amp receptacle is **supplied with the range and must be used by the installer to match to 20 amp line cord** of the range. (20 amp cords have one vertical terminal and one horizontal terminal - will not fit a 15 amp receptacle.)

The reason for the 20 amp circuit is the microwave oven and the electric ignition circuits exceed 15 amps when used at the same time.



Control Functions
The touch control has three functions:

- **Cook 1 and Cook 2**
  Microwave for a preset amount of time using Power Level 10 or change power level after setting time. Cook 1 and Cook 2 allow you to program 2-stage cooking at two different power levels.
- **Temp Cook**
  Use the temperature probe to cook with a preset temperature. You can program any temperature from 100° to 199°F. Zeros as well as 100 are automatic. For setting a temperature such as 155, you would simply touch the "5" pad twice. Or for setting a temperature such as 160, you would only touch "6".

Other Pads
- Number Pads
- Power Level
- Clear
- Start

A mechanical "on-off" button at the bottom of the control controls power to the control and display.

NOTE: There is no time-of-day clock function in the control display. The display is blank when control is not in use.

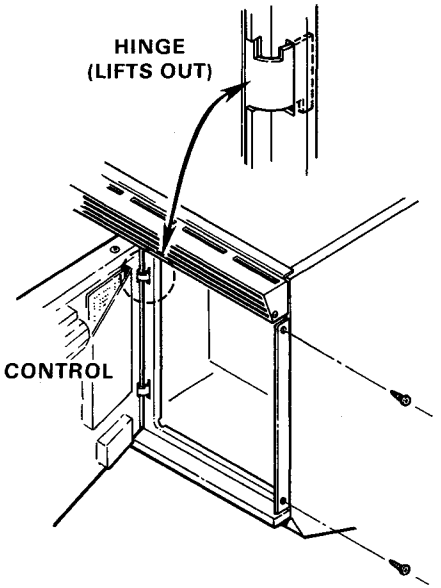
MINI-MANUAL

The microwave mini-manual is located inside the control compartment. Remove control panel for access.

CONTROL SERVICE

The control and **most** of the major components can be serviced through the control panel area:

1. Disconnect power.
2. Remove two screws from side of control.
3. Open control service position.
4. Control can be lifted from its hinge mounting for more hand room - **do not lose ferrite strip on handle side.**



CONTROL SERVICE POSITION

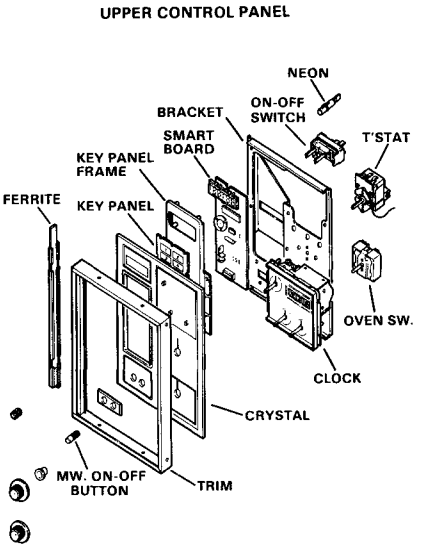
NOTE: Control wiring or thermostat capillary tube may restrict movement of control panel. Reach inside and pull capillary up into compartment as necessary.

Protect painted face of cavity at bottom hinge location to prevent scratching paint while servicing control.

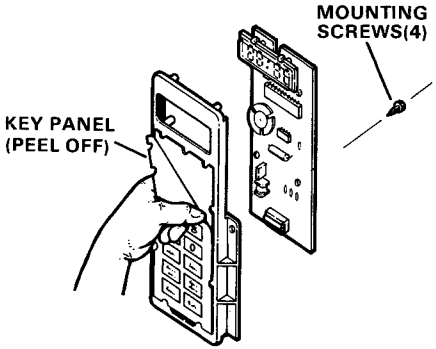
SMART BOARD & KEY PANEL SERVICE

The control smart board and key panel can be serviced with the control panel opened to the service position.

1. Disconnect power.
2. Open control and discharge capacitor (NOTE: Capacitor may have an external or internal shunt resistor for auto discharge).



3. Remove control trim and crystal - two (2) top and bottom screws of control trim.
4. Remove smart board - 4 screws and ribbon connector.
5. Remove key panel and plastic frame assembly - 4 screws.
6. Key panel peels off plastic frame.



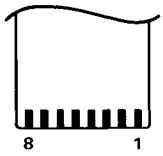
NOTE: Replacement panel has mastic back. Remove paper and press key panel to frame using notches for alignment.

MICROWAVE

Key Panel Test

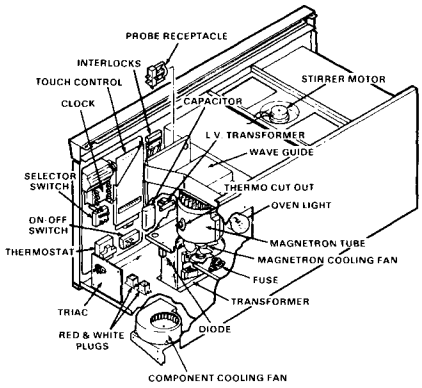
The key panel pads can be continuity tested. For ease of handling, the key panel should be removed from smart board and placed on a flat surface with pads facing you and ribbon straight down. Connections are numbered from right to left.

PAD	CONN.	PAD	CONN.
COOK 1	2-6	5	7-6
COOK 2	2-5	4	7-5
START	2-4	6	7-4
CANCEL	2-3	7	7-3
9	1-6	1	8-6
8	1-5	0	8-5
PROBE	1-4	2	8-4
PWR LEV	1-3	3	8-3



COMPONENT LOCATIONS

The microwave component section is as shown. Control components, interlocks, triac, rectifier and capacitor can be serviced through the control panel area.



Other component service requires moving the range out from the wall, and removing the top R.H. side panel (screws at top, rear, control, and side panel trim).

FUSE

The microwave fuse is a 20 amp plug fuse located behind the magnetron and fan. A fiber barrier must be removed from the magnetron area to gain access.

IMPORTANT - WHEN A FUSE BLOWS DUE TO INTERLOCK OPERATION, THE PRIMARY, SECONDARY, AND MONITOR SWITCHES MUST BE REPLACED.

TRIAC

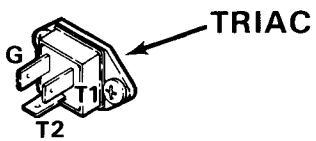
A triac is used as the switching device to turn the power transformer "on" and "off", cycling the magnetron. The triac gate voltage is ½ volt D.C. and can be measured between (G) and (T2).

The triac can also be tested out of the circuit with an ohm meter.

TRIAC TEST

- Disconnect Leads

	RK10K	DIGITAL
T1-G	0Ω	70Ω
T2-G	∝ Ω	∝ Ω
T1-T2	∝ Ω	∝ Ω

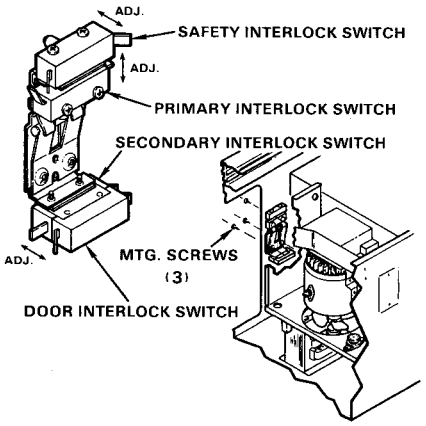


(Art No. WB1450)

INTERLOCKS

Two interlocks, a door sense switch, and the monitor switch are mounted to a bracket assembly on the handle side of the cavity. **From top to bottom the switches are as follows:**

- **Monitor**
- **Primary Interlock**
- **Secondary Interlock - Front**
- **Door Sense Switch - Rear**



IMPORTANT - WHEN A FUSE BLOWS DUE TO OPERATION OF THE INTERLOCKS, THE PRIMARY, SECONDARY, AND MONITOR SWITCH MUST BE REPLACED TOGETHER.

When the door is closed and latched, the door operates the monitor switch button direct. The interlocks are operated by the latch pawl as it engages a spring loaded roller on the interlock assembly.

To adjust or replace switches, remove the three (3) screws holding the switch bracket assembly to the front frame.

NOTE: The assembly and each of the switches are adjustable.

Latch and Roller Assembly Adjustment

With door closed and latched, must set firmly in lower crook of the latch.

To Adjust:

1. Open control panel.
2. Loosen the switch mounting bracket three (3) screws, on the front frame, and move the assembly up **or** down as needed. Tighten the screws.

To Test Monitor

1. Remove switch leads to isolate switch.
2. Check continuity of switch:
   - Door closed - infinity ohms
   - Door open - zero ohms

To Adjust Monitor

Loosen switch mounting screws and move switch forward or to rear as needed to meet test conditions.

To Test Primary & Secondary Interlocks

1. Remove switch leads.
2. Check continuity of each switch:
   - Door closed - zero ohms
   - Door open - infinity ohms

To Adjust Primary Interlock

Loosen switch mounting screws and move switch up or down to meet test conditions.

To Test Door Sense Switch

1. Remove switch leads.
2. Check continuity of each switch:
   - Door closed - infinity ohms
   - Door open - zero ohms

To Adjust Secondary and Door Sense Switch

1. Loosen switch mounting screws.
2. Move both bottom switches forward or to rear to meet test conditions.

Important: Latch and roller assembly, and all interlocks must be adjusted to meet all test conditions.

STIRRER

The stirrer is motor driven at the top of the cavity.

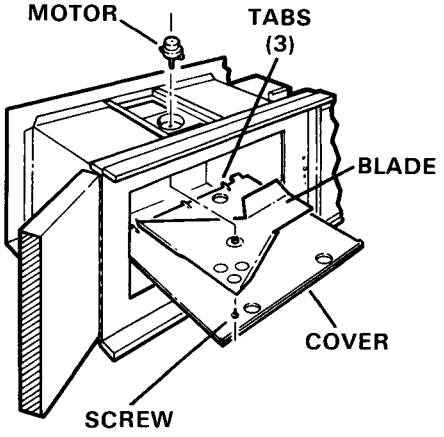
To Remove the Cover and Blade

Grasp the cover at the finger holes and push cover to rear to disengage lip at front. Then pull cover down and out.

The blade is fastened by one screw.

Stirrer Motor

To service the stirrer motor, the R.H. side panel and top must be removed.

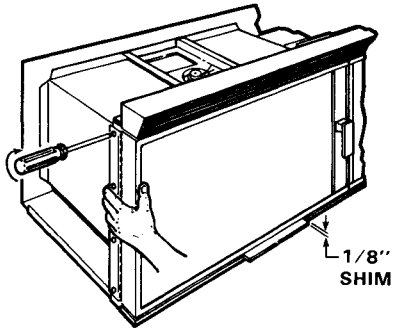


DOOR

The microwave door is fastened by four (4) hinge screws.

To Adjust Door

1. Remove left upper side panel.
2. Place a ⅛-inch shim between bottom of door and trim.
3. Close and latch door.
4. Loosen hinge screws and position door for proper alignment and flush fit with cavity front.
5. Tighten screws - center screws first, then outer.
6. Check latch and roller adjustment, and adjust if necessary.

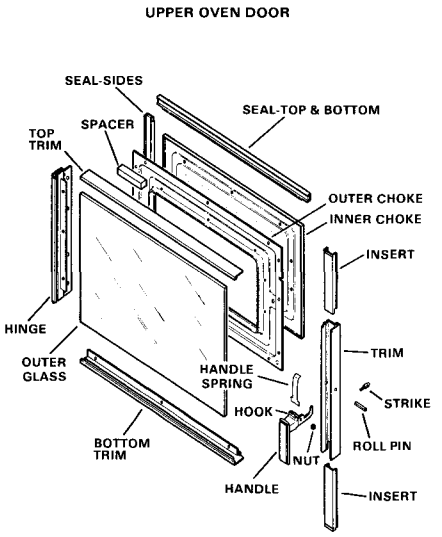


To Disassemble Door

Remove door hinge screws and lift off door. Place on flat surface for disassembly.

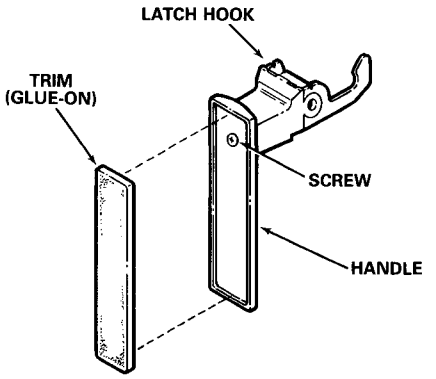
CAUTION: Be certain to install all ferrite seals around edges of door during reassembly.

MAKE LEAKAGE CHECK AFTER ANY DOOR SERVICE.



LATCH HANDLE

The production latch and handle assembly consists of a separate hook and plastic handle fastened together by a screw. A plastic trim piece is then glued over the handle to cover the screw. The hook is fastened in the door by a roll pin. All parts are cataloged as separate parts.



PRODUCTION HANDLE & LATCH HOOK

If only the handle is broken it can be replaced without door disassembly. If the hook is broken the door must be removed and disassembled to remove the roll pin.

NOTE: Refer to "Field Corrections" section for special handle service for repeat handle breakage problems.

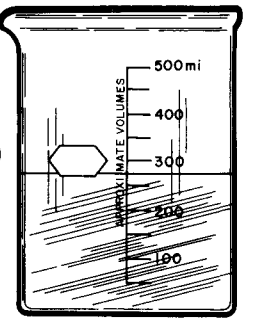
MAKE LEAKAGE CHECK AFTER ANY DOOR SERVICE.

MICROWAVE LEAKAGE TEST
A microwave leakage test must be performed any time a door is removed, replaced, disassembled, or adjusted for any reason.
THE MAXIMUM LEAKAGE ALLOWED IS 5MW/CM².

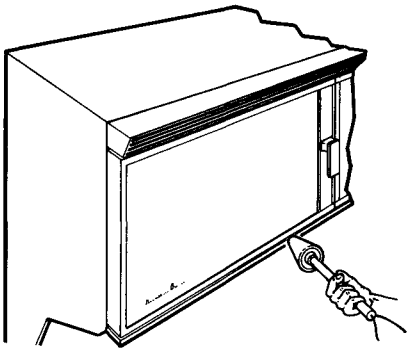
MICROWAVE LEAKAGE TEST

1. Place 275 ml. water in 600 ml. beaker (WB64X5010).
2. Place beaker in center of oven shelf.
3. Set meter to 2450 MHz scale.
4. Turn oven "on" for 5 minute test.

WB64X5010 BEAKER



5. Hold probe perpendicular to surface being tested and scan surfaces at rate of one inch/sec. Test following areas:
   - Entire perimeter of door and control panel.
   - Viewing surface of door window.
   - Exhaust vents.
6. Maximum allowable leakage 5MW/CM².
7. Record data on service invoice and microwave leakage report.



COOLING FANS

There are two cooling fans used with the microwave oven:

- Magnetron Fan
- MW Component Fan

The **Magnetron Fan** is inside the microwave section directly under the magnetron.

The **Component Fan** is located under the microwave section.

Depending on model the component fan operates as follows:

All Models - Fan is "on" anytime microwave oven is in use—operated by microwave oven **"on-off"** switch (see schematic).

"J" Self-Clean Models - Fan is also "on" during self-clean cycle when lock light is "on"—operated by **relay** in control panel compartment (see schematic).

STANDARD TEST LOAD — POWER TEST

The standard test load is **one liter** (1000 ml.) **water** with a starting temperature of 59°-75° in a 1000 ml. beaker (WB64X73). (DO NOT USE ANY OTHER LOAD OR DISH AS RESULTS WILL VARY FROM STANDARD.)

PERFORMANCE TEST

1. Measure line voltage (loaded). This test is based on normal voltage variations of 105V to 130V. Low voltage will affect power and temperature rise.
2. Place WB64X73 beaker containing **exactly** one liter (1000 ml.) 59°-75° water in center of shelf. Record the starting water temperature with an accurate glass thermometer.
3. Set at HIGH (Power) - set timer past 2-minute mark.
4. Turn oven "ON" and time for exactly two minutes.
5. At end of two-minute period, record the water temperature. The difference between the starting and ending temperature is the temperature rise.

Depending on line voltage, the normal temperature rise should be:

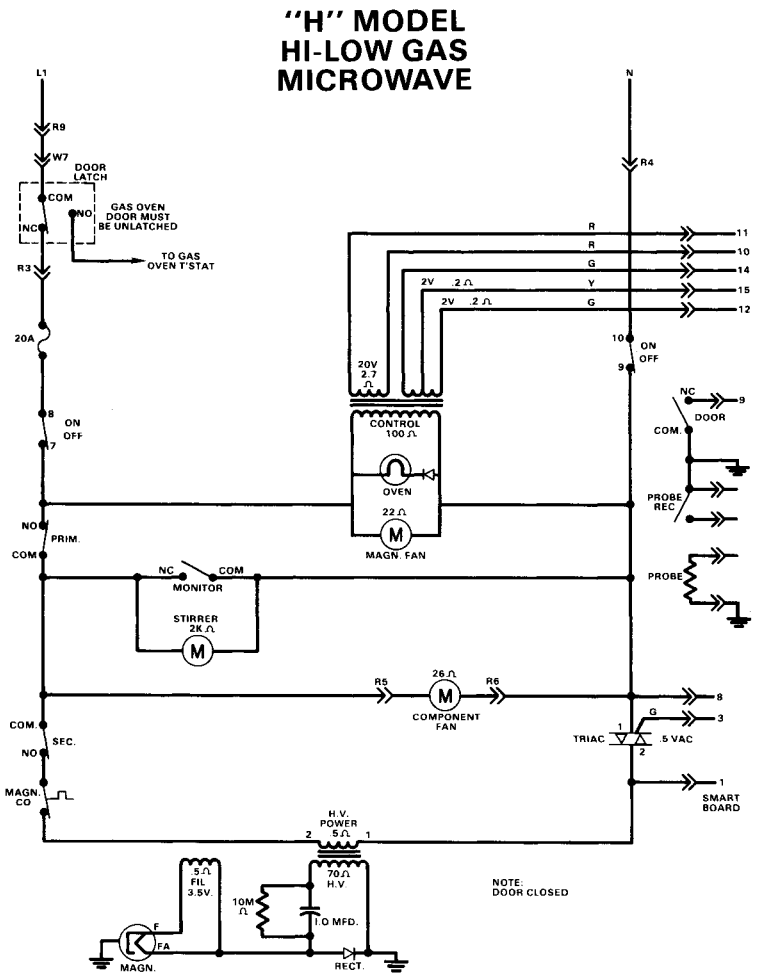
Line Volts	Normal Temperature Rise
120V.	26°F. - 34°F.

MICROWAVE SCHEMATICS

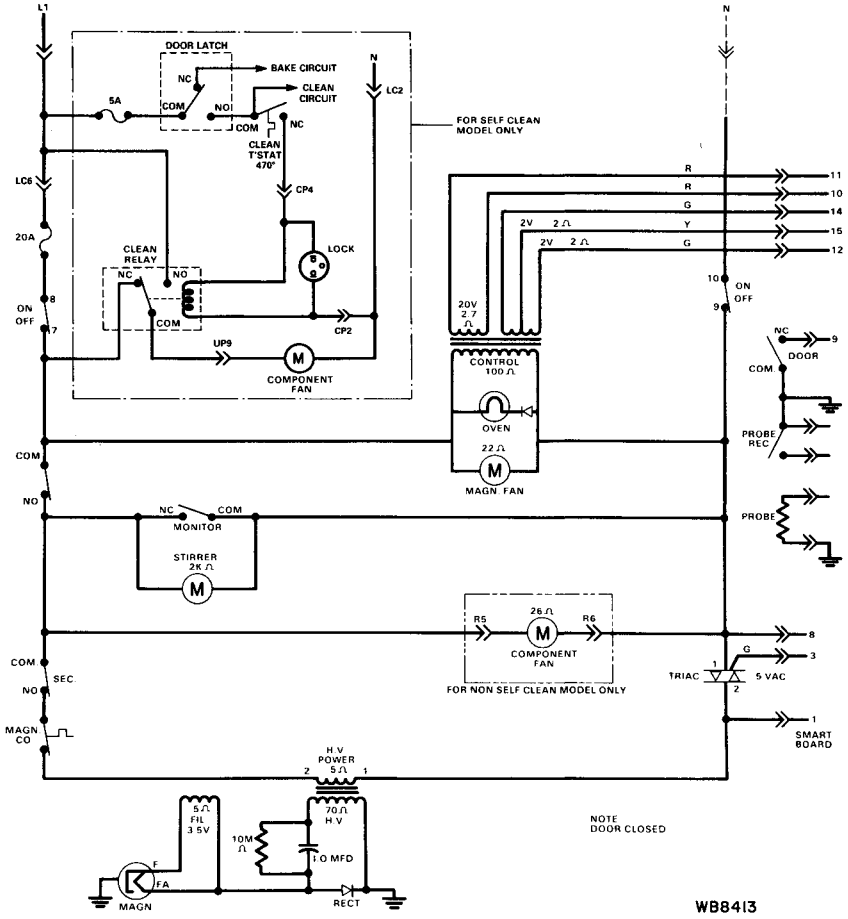
Simplified schematics are shown on following pages. Basic differences between "H" and "J" models are as follows:

"H" Self Clean Models - The microwave oven **cannot** be used during the self clean cycle. Line power is connected to the microwave oven through the gas oven door **latch switch** only when the door is latched.

"J" Self Clean Models - The microwave oven **can** be used during the self clean cycle. A **clean relay,** connected in parallel with the lock light, turns on the component fan when the lock light is energized by the clean thermostat.

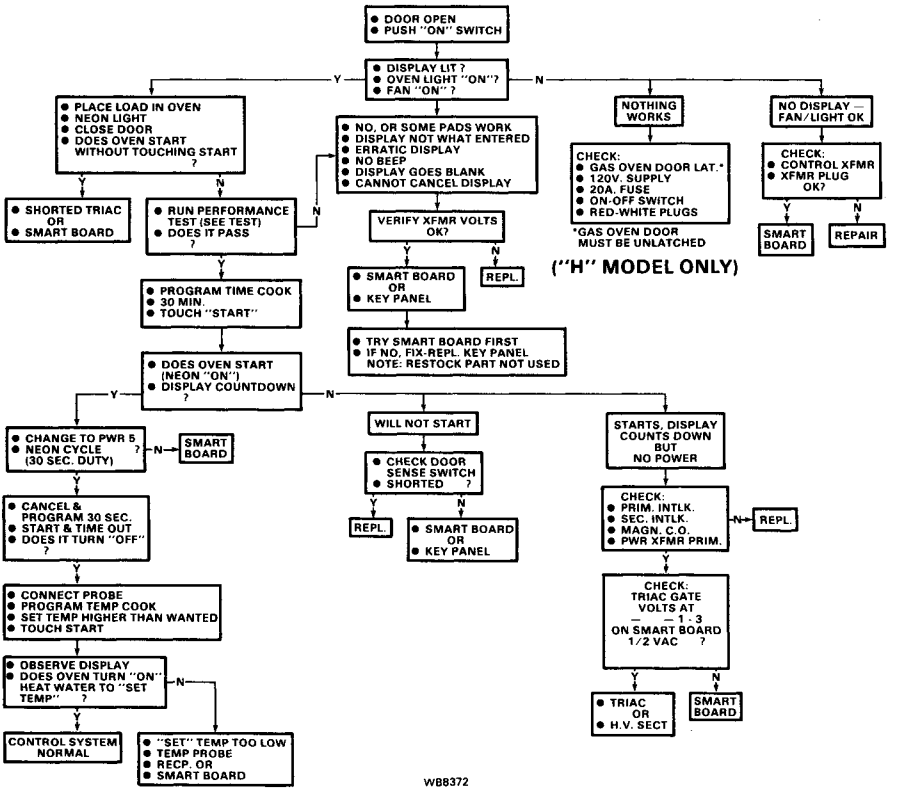


HI-LOW GAS MICROWAVE "J" MODEL



(Art No. WB8413)

HI-LOW GAS
MICROWAVE FLOW CHART



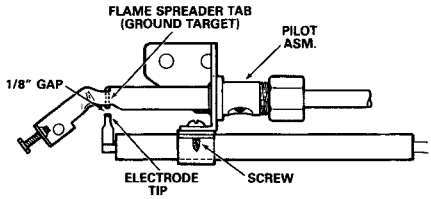
INDEX

SPARK IGNITERS — SPARK WHEN OVEN CYCLES OFF — (TAPPAN "J" MODEL)

Some possible causes are:

- Pilot orifice burr/blockage
- Pilot tube blockage
- Pilot/igniter position
- Thermostat
- Low gas pressure
- Air draft at pilot
- 120V polarity/grounding

Check size and position of standby pilot flame - should be ⅜-½". Tip of **original** igniter should be in lower ¼ of pilot flame, and should be ⅛" from ground target - adjust/bend as necessary.

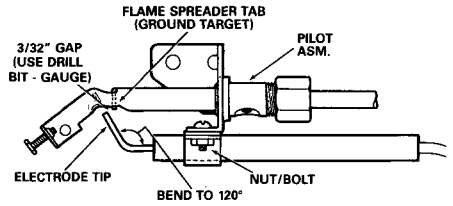


ORIGINAL TYPE IGNITER

If above does not correct - install replacement kit - WB2X9368. Kit includes:

- New Harper Wyman module (bone white color)
- New igniter - wire tip
- Mtg. nut & bolt
- Instruction sheet

Replacement Igniter is new type with wire tip (may have 90° bend). **Important:** Position of igniter tip is critical. If replacement has 90° bend it is necessary to bend to 120° as shown below. The tip spark gap should be 3/32" max. - use drill bit as gauge. (Do not disconnect pilot assembly - replace igniter with pilot in place. Do not overtighten nut - can crack igniter.)



REPLACEMENT - NEW TYPE IGNITER

Follow instruction sheet step-by-step. Check oven burner ignition - burner should ignite on first or second spark; if not - recheck igniter adjustment.

OVEN IGNITION "BOOM NOISE" (TAPPAN "J" MODELS)

The loud "boom" noise is caused by delayed ignition of second side of oven burner on ranges with glowbar igniter (generally occurs about 10 seconds after oven initially turned on).

The basic source of the problem and corrections are listed below:

- **Flame cross-over ports in burner clogged** - Can be corrected by cleaning out grease.
- **Burner to valve orifice out of alignment** - Bend/adjust oven valve mounting to align with orifice.
- **Low gas pressure to oven valve** - Check for obstructions in tubing - verify gas pressure with manometer at oven orifice and incoming line pressure. Make certain pressure regulator at correct setting (NAT-LP).

FIELD CORRECTIONS

NO IGNITION — BAKE AND BROIL BURNER (TAPPAN "J" MODELS)

No ignition problems on models with glowbar igniters can be caused by blown 5 amp glowbar fuse due to a short circuit - problem may be intermittent. Check for:

- Aluminum foil of insulation shorting latch switch terminal to ground.
- Oven select switch terminals bent and shorted.
- Other glowbar circuit wiring shorts.

TOP BURNER VALVES — HARD TO TURN (TAPPAN "J" MODELS)

Hard-to-turn valves are caused by defective valve grease, or breakdown of valve grease due to excessive valve temperatures caused by insulation voids under burner box.

When replacing hard-to-turn valves, disassemble burner box and add insulation, if necessary, at valve area and over flue box.

Note: Do not attempt to lubricate valves - replace only.

TOP BURNER FLAMES HAVE YELLOW TIPS — LP GAS (TAPPAN "J" MODELS)

Some yellow tip flames on top burners are normal for LP gas. This burner is designed to provide good performance on LP gas and no adjustment is available.

TOP BURNER YELLOW FLAMES AND CARBON BUILD-UP (TAPPAN "J" MODELS)

Yellow flames and carbon build-up problems with top burners are generally caused by **mis-adjusted burner orifices, low gas pressure,** or **bad LP gas mixture.**

Orifices - Make certain orifices are turned all the way down against the LP needle.

Gas Pressure - Check with manometer at one top burner (with one other burner "ON"). If pressure is low (under 10" W.C.) problem is range regulator or LP gas supply.

TOP BURNER NOISE — BLOWING & HISSING (TAPPAN "J" MODELS)

Blowing and hissing type noise from top burners during the first 30-45 seconds of operation is **normal** for this burner design. Noise will diminish after burner heats up (see Gas Distribution Systems, Section D, Page D-25).

This condition is normal - Do not replace burner.

Note: If range is on LP gas and burner noise persists for long period of time, **check orifice** - it may not be fully seated against LP needle, or may be too tight and damaged needle.

TOP BURNER FLAME ERRATIC WITH OVEN IN USE (TAPPAN "J" MODELS)

Erratic top burner flame or outage during oven use can be caused by oven flue gasses leaking under cooktop. Check flue box — it should be **flush with vent openings** in backguard above cooktop rear edge. If not, bend to fit or replace flue box.

Note: If burner box very hot, check for insulation void under burner box.

TOP BURNER VALVES — ERRATIC "WARM" FLAME (TAPPAN "J" MODELS)

Erratic or no flame at "warm" setting of 225° tri-set top burner valves can be caused by defective valve grease, and/or excessive temperatures as result of insulation voids under burner box.

These conditions cause the valve core grease to soften, run, and clog the internal "warm" port in valve.

Do not attempt to repair the valve -**replace only.**

TOP BURNER VALVES — GAS LEAK — WARM ADJ. SCREW (TAPPAN "J" MODELS)

Gas leaks can occur at the "warm" adjust screw in the shaft of 225° tri-set valves **due to a defective valve.** While the volume of gas is not great, it can be detected by smell.

Replace any valve that leaks.

TOP BURNER VALVES — HI & MED FLAME (TAPPAN "J" MODELS)

The flame size at "HI" and "MED" settings are about the same size which sometimes generates customer complaints.

This is a normal operation of this type valve and should be considered as customer education - **Do not replace the valve.**

Since there is no detent action at the "MED" setting, the user can turn the knob to a slightly lower setting to get the desired flame size.

GAP AT TOP OF BLACK GLASS DOOR (TAPPAN "J" MODELS)

There is a ¼-inch air gap (space) at the top of the door glass between the top edge of the glass and the door frame.

The gap **is part of the door design** to provide an **air flow** path through the door. Cooling air enters the door through slots at the bottom and exits at the top of the black glass.

The gap is normal and no trim is missing.

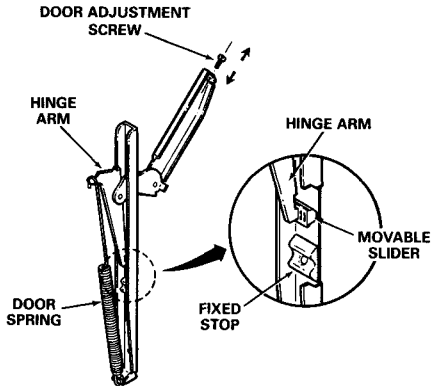
DOOR SPACE NOT SAME ON BOTH SIDES (TAPPAN "J" MODELS)

The spacing between the door and the body side panels should be the same on both sides as the R.H. and L.H. hinges are the same.

If spacing is considerably different from one side to the other, the hinges are not to specifications and should be replaced as a pair. **No in-out hinge adjustment available.** (The door can be adjusted up-down at each hinge - remove door for access to adjustment screw).

DOOR HINGE NOISE (TAPPAN "J" MODELS)

A broken or missing movable plastic slider in the hinge assembly will cause the hinge to **"catch"** and make a loud **noise** when the door is opened or closed.



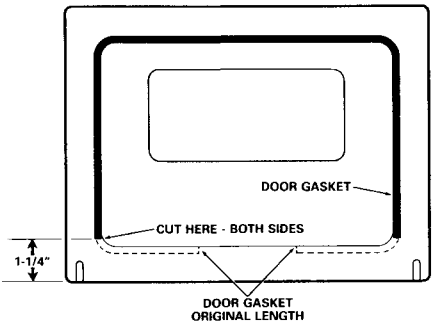
To verify, remove the hinge assembly (3 screws) — and inspect. The inside end of the hinge arm should be engaged in the slot of a black or dark gray **plastic movable slider**. If the **movable slider** is broken or missing, the metal hinge arm will scrape on bare metal as the hinge arm moves.

TOP BURNER KNOBS — HOT OR MELTING (TAPPAN "J" MODELS)

Top burner knobs on **non-self clean ranges** will get extremely hot and deform (melt) if the door gasket is not sealing across the top. A large gap (⅛"-¼") between the gasket and the front frame will cause the problem.

Possible causes are:

- **Defective hinges** — With door removed and the hinges set in the closed position, check for a maximum ⅛" space between the top of hinge arm and front frame. If more than ⅛", shim the hinge to rear at the top screw, or replace the hinge.
- **Oven door too high or low** — Door should be positioned so that gasket fits into opening in front frame. Adjust door up or down as needed. Each hinge has an adjustment screw. Remove door for access to screws.
- **Gasket bind at bottom** — Sometimes the door gasket can bind at the bottom and not allow the top to close. If door gasket extends across bottom of door, cut off each side of gasket about 1¼" from bottom of door. (NOTE - shorter gasket started production in October 1988.)
- **Door insulation voids** — Disassemble door and check insulation.



(Art No. WB1629)

HOT COOKTOPS (TAPPAN "J" MODELS)

Gas range cooktops are normally hot, especially self clean models during clean cycle or when broiling.

Possible causes of excessive surface temperatures are:

- **Oven vent alignment** — If flue box is not positioned properly in backguard, oven vent heat will escape under cooktop. Bend or replace flue box to correct.
- **Insulation voids under burner box** — Disassemble burner box and check insulation as necessary to fill any voids.

TOP OVEN TOO HOT (TAPPAN "J" MODELS)

Baking performance problems are sometimes encountered with breads and pastries in the top oven of Hi-Low ranges. The complaints are generally "burned" or "overcooked" on bottom of the food.

Possible causes are as follows:

- **Black bottom pan being used** — Advise customer to use shiny surface utensils to avoid heat absorption and over browning.
- **Burner flame too hot for small oven** — If range is on natural gas, try reducing the flame size down to about ½ original size by turning down the burner orifice.

TOP OVEN CORNER SAGS (TAPPAN "J" HI-LOW MODEL)

The right front corner of the top oven on hi-low ovens will sag if the top oven **structure is not welded square**, or if the **mounting screws are loose** in the structure angle brackets or vertical support posts.

If the sag is greater than ⅛" repair as follows:

1. Remove top oven sides and rear panel.
2. Loosen all screws holding structure to angle brackets and both vertical support posts.
3. Block up the side of the oven that is too low, and retighten all screws.
4. Remove the support blocking and check dimensions on both sides.
5. **NOTE:** In severe cases where the above steps do not help the problem, it may be necessary to drill new holes in the vertical support post to raise the angle bracket height on low side.

OVEN PILOT OUTAGE AND OVEN POPPING NOISE (TAPPAN "H1" MODELS)

Bowing of the oven back wall may cause two problems on Tappan "H1" model 30" and 36" standard ovens.

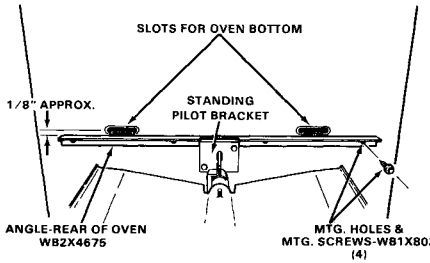
- **Oven pilot outage** — bowed back wall causes "chimney effect" of air blowing on pilot as door is opened or closed.
- **Oven popping noise** — occurs during baking as oven heats up (oil can affect).

Both problems can be corrected by adding an angle bracket across the the oven wall – drill 1/16" screw mounting holes.

Parts needed:
WB 2 x 4675 BRACKET (1)
WB 1 x 802 SCREW (4)

Standing pilot models — locate and mount bracket as shown:

FIELD CORRECTIONS



Electric ignition models — there is no pilot bracket. Locate angle bracket ½" above the slots.

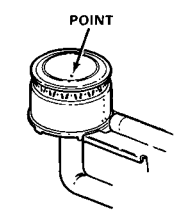
NOTE: starting with "H2" models, the bracket was used in production.

TOP BURNER CHROME BOWLS — TURNING BLUE (TAPPAN "H" MODELS)

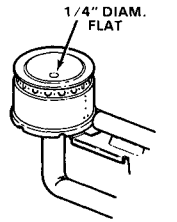
When replacing top burner chrome bowls because of discoloration (turning blue) on "H" model ranges, the following service procedure should be followed:

1. Check burner types — two different types were used:
   - Original (Harper-Wyman)
   - Replacement (Lincoln)

   NOTE: The two types can be identified by the pattern on top of the burner head.



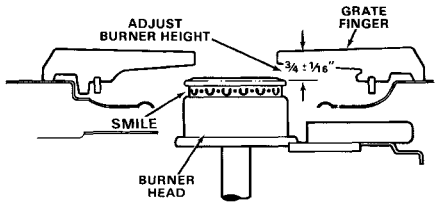
HARPER-WYMAN (ORIGINAL)



LINCOLN (REPLACEMENT) WB28X61 - FRONT WB28X62 - REAR

2. If original is Harper-Wyman type, replace with Lincoln type:
   Front — WB 28x61
   Rear — WB 28x62

3. Adjust two (2) **rear burner heads** to height of ¾-inch from top of Burner Head (outer flat surface) to top of Grate Finger.

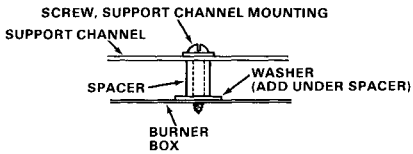


To do this, leave shipping screws in place that hold burner brackets to support channel in burner box (or else hold in place by hand) - and pull up on rear burner heads to raise their height. This bends flash-tube bracket at burner head and raises burner.

NOTE: Front burners **cannot** be adjusted, and do **not** need to be adjusted.

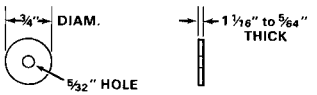
4. Replace chrome bowls —WB 32x84.

5. For 36" models only (JGCC58 & RGC657) — same service procedure as above **plus, before adjusting rear burner height**, add a plated or brass washer under the spacer from the center of the burner box to the support channel.



(Art Nos. WB1480 1474)

● Obtain shim washer locally, with approx. dimensions shown:



OVEN SLOW TO HEAT — SELF-CLEAN RANGE (TAPPAN "H" & "J" MODELS)

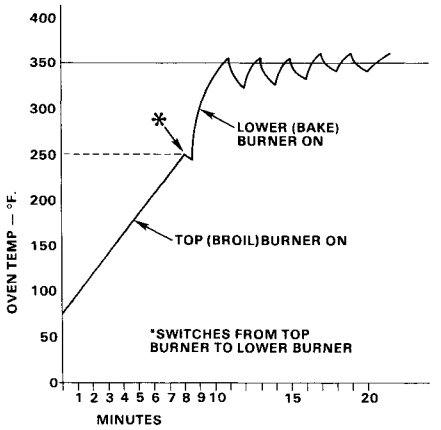
Two common customer education type complaints on Tappan "H" & "J" model self-clean ovens are:

- OVEN TEMP TOO LOW
- LONG HEAT-UP TIME

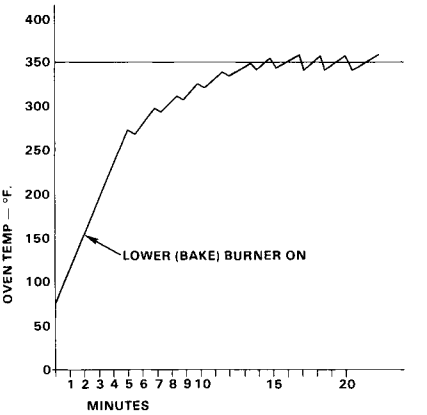
These are **normal** characteristics, as self-clean ranges typically take a longer time to preheat to the set temperature than does a standard-oven gas range.

Do not replace oven thermostats and valves for normal characteristics.

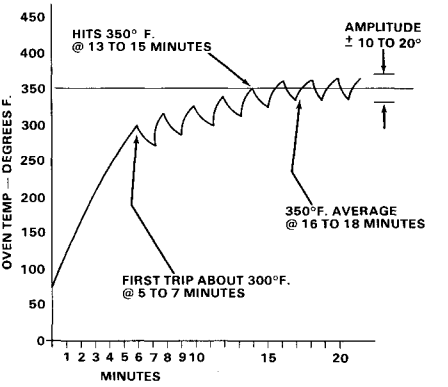
Normal temperature curves and heat-up times at 350° oven setting for "H" & "J" models are shown below:



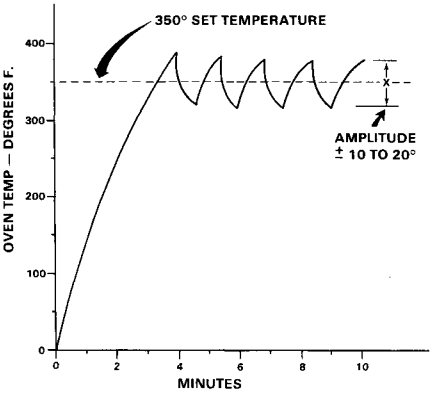
PRE HEAT SETTING
"H" SELF-CLEAN OVEN



BAKE SETTING
"H" SELF-CLEAN OVEN



BAKE SETTING
"J" SELF-CLEAN OVEN



BAKE SETTING
TYPICAL STANDARD OVEN

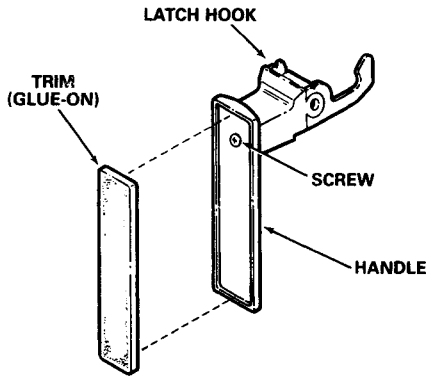
(Art Nos. WB1474, 1622, 1503, 1508)

FIELD CORRECTIONS

MICROWAVE OVEN DOOR LATCH HANDLE BREAKS (TAPPAN "H" & "J" MODELS)

The microwave oven door latch handle operates by lever action and can break if excessive closure force is used.

The production latch and handle assembly consists of a separate hook and plastic handle fastened together by a screw. A plastic trim piece is then glued over the handle to cover the screw. The hook is fastened in the door by a roll pin. All parts are cataloged as separate parts.



PRODUCTION HANDLE & LATCH HOOK

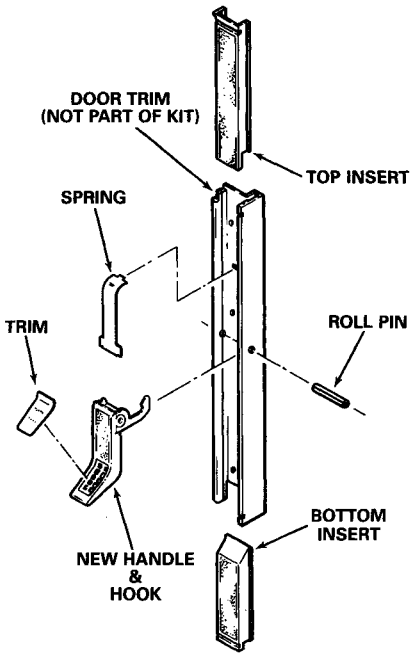
If only the handle is broken it can be replaced without door disassembly. If the hook is broken the door must be removed and disassembled to remove the roll pin.

For **repeat breakage problems**, a special design break-proof handle is available for service — **order WB 15x277 handle kit.**

The new handle kit consists of:

- One-piece handle and hook
- Roll pin
- Handle trim ("stick-on")
- Plastic inserts for door trim (matches new handle)

To install the handle kit the door must be removed and disassembled to remove the roll pin.



Install handle and replace original trim inserts with new parts supplied in kit. Attach handle trim to bottom of handle.

MICROWAVE LEAKAGE TEST

A microwave leakage test must be performed anytime a door is removed, replaced, disassembled, or adjusted for any reason.

THE MAXIMUM LEAKAGE ALLOWED IS 5MW/CM².

(Art No. WB1629)

OVEN BURNER WILL NOT COME ON/PILOT GOES OUT (ROPER "K" MODELS)

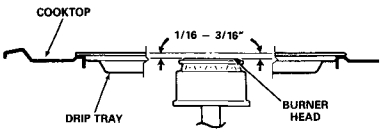
No oven ignition or oven pilot outage **(top burner OK)** problems are usually caused by one of the following:

- **Obstruction in oven pilot tubing** — disconnect both ends and blow through tubing. Also check ends of tubing for burrs.
- **Pilot gas restriction inside thermostat** — can sometimes be cleared by rotating **NAT-OFF-LP** pilot select screw several times. If pilot flame still too small, replace thermostat.
- **Defective oven valve** — with thermostat turned "ON", if elongated flame envelops sensor normally and valve does not open, replace valve.

TOP BURNER — DELAYED IGNITION (ROPER "K" MODELS)

Delayed ignition of top burners, on models with spark igniters, can be caused by mis-alignment of burner head.

Check burner head position with respect to cooktop. Top of burner head should be 1/16"-3/16" below cooktop surface. Bend burner bracket if necessary, to adjust height.



NO GAS FLOW REGULATOR BACKWARDS (ROPER "K" MODELS)

When a new range does not operate (oven and top burners) inspect the pressure regulator for proper installation — it may be backwards.

Check the gas flow arrow on the pressure regulator body — it should be pointed towards the range manifold. Another method for identification, if the arrow is not visible, is the location of the regulator vent. It should be on the range side of the regulator.

Reinstall the regulator if backwards.

ODOR — DURING OVEN USE

Odors emitting from a new range's oven should be considered normal. Often the odor will be described as a "burning", "acid" or "oily" smell that is more intense when the oven is turned on. This condition is more likely to be noticed when using a new range that has the self-clean feature as opposed to a model that has a standard oven. Self-cleaning ovens have a heavier blanket of insulation around the oven. During the production procedure, chemical solutions are used to aid in the installation of the insulation blanket and oven cavity. The odor caused by this solution will usually wear off in a very short time. To speed the process, the consumer may set-up a self-clean cycle lasting a minimum of 3 hours. The 3 hour self-clean will "break-in" the oven faster than normal baking routines.

** These odors are not harmful to any food that happens to be in or on the oven!

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Pub. No. 31-0264