JENN-AIR

Use and Care Manual

Induction Cooktop Cartridge

MODELS A130 R — A130 F — A135 R — A135 F

SAFETY PRECAUTIONS

Read before operating your induction cooktop.

All appliances — regardless of the manufacturer — have the potential through improper or careless use to create safety problems. Therefore the following safety precautions should be observed.

1. Be certain your appliance has been properly installed and grounded by a qualified technician.
2. Never use the cooktop for heating anything other than the proper cooking utensils.
3. Wear proper apparel — loose fitting or hanging garments should never be worn while using the appliance.
4. Do not attempt to open the cabinet housing the cartridge components, service, repair or replace any part of the appliance. All servicing should be referred to a qualified authorized Jenn-Air Servicing Contractor.
5. Do not use water on grease fires. Smother fire or flame or use dry chemical (such as baking soda) or foam type extinguisher.
6. Children should not be left alone or unattended in area when the appliance is in use. They should never be allowed to sit or stand on any part of the appliance.
7. Caution — do not store items of interest to children in cabinets above a range or on the backsplash of a range — children climbing on the range to reach items could be seriously injured.
8. Do not touch surface of cooking areas immediately after removing a utensil since the surface may be hot where the utensil was sitting. Do not place any plastic items on a hot surface.
9. Use only cooking utensils made of ferromagnetic materials (porcelain enamel-on-steel, cast iron, magnetic stainless steel) and with a diameter over 4 inches.

10. Be sure utensils are centered over the cooking area and use the proper size utensil for the cooking area.
11. Never leave surface unit unattended while using high heat setting since boilover could occur.
12. Do not use aluminum foil or foil containers on the cooktop; these may become very hot.
13. Utensil handles should be turned inward and not extend over adjacent cooking areas to minimize danger of accidental contact with hot utensils or spillage.
14. Since the glass-ceramic cooktop can be broken, do not hit the top surface of the cooktop or drop anything heavy on it; do not store heavy objects in cabinet over cooktop since these could fall onto the cooktop.
15. Do not cook on a cooktop with broken glass. If the glass is broken, cleaning solutions or spillovers may penetrate the broken cooktop and create a risk of electrical shock or ruin the cooktop. If the glass is broken, remove cooktop from range and contact an authorized Jenn-Air Service Contractor to have it repaired.
16. Do not submerge cartridge in water or allow water to enter through the air inlets or outlets since this may damage the cartridge.
17. Do not insert objects into or block the air inlets or outlets.
18. Do not stack cartridge where it may fall or be damaged.
19. Never store other materials or items on top of the cartridge or use it for a counter since these could damage or mar the glass surface.
20. Control switches on the range or cooktop must be OFF when the cartridge is installed or removed.
21. Do not use the cooking surface for a cutting board.
22. Do not use the appliance for other than its intended use.

— SAVE THESE INSTRUCTIONS —

Induction Cooking

Induction cooking is a revolutionary way of cooking.

The physical principle that makes induction cooking possible is not a new one. For over 50 years, industry has used the induction process to heat-treat or melt metals.

Experimenting with induction cooking began as early as 1890. However, the technology necessary to make induction cooking available in the home is a more recent development.

Induction cooking makes surface cooking faster and easier. The induction cooktop cartridge also has some built-in design features that provide greater performance and energy efficiency. For these reasons, it is destined to become a favored way of surface cooking by anyone who has the opportunity to cook with induction.

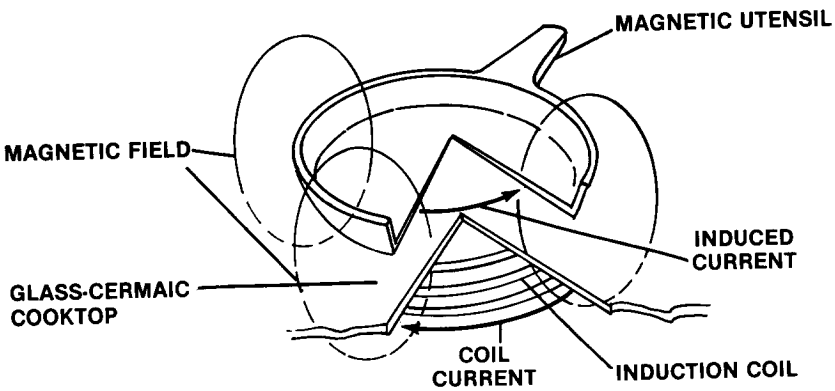
The Induction Process

The cooking process is based on a unique application of electromotive force.

Underneath the glass-ceramic cooktop surface there is a flat coil of wire for each cooking surface area. Each coil has its own solid state power supply.

When the range surface control know is turned on HI, this solid state circuit converts the electrical current into a high frequency alternating current.

This alternating current flows through the coil and creates an alternating magnetic field. The intensity of this field can be varied by using the slide control on the induction cartridge.



When a utensil containing magnetic materials (ferromagnetic elements such as iron, nickel, cobalt, or various alloys) is brought into the oscillating magnetic field, the current will flow through the utensil. This is an induced current; hence, the name induction. Because this current flow is in the opposite direction of the coil under the glass cooktop, the molecules in the utensil are caused to move back and forth rapidly. This movement, resistance to electrical flow, causes the utensil to heat very rapidly. It is the hot utensil that cooks the food not the electrical heating element or glass-ceramic cooktop as is the case with conventional electric ranges.

Glass-ceramic does not contain any ferromagnetic materials; it is transparent to the current. Since it is unaffected by the current, it provides an easy to care for surface that remains relatively cool during the cooking process.

The cooktop surface will remain cooler than the utensil. The heat that is felt on the surface underneath the utensil is reflected from the utensil. Because the surface does not get very hot, spillovers will not burn on. The glass surface is easily cleaned with a damp sponge. The area surrounding the utensil will remain at room temperature. (See Fig. A)

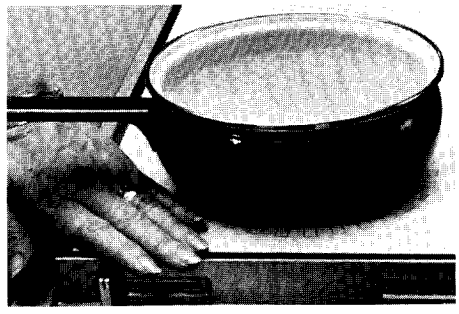


Fig. A

There is no flame or hot electrical coil to ignite clothing, dishtowels or hot pads.

The induction cooktop cooks faster than other electrical cooktops. Its performance is similar to that of gas ranges. It responds instantly to provide heat desired from a high speed boiling to a simmer. The heat level is so sensitive that even chocolate can be melted on a low temperature without burning or cheese sauce can be made without sticking or burning. (See Fig. B)

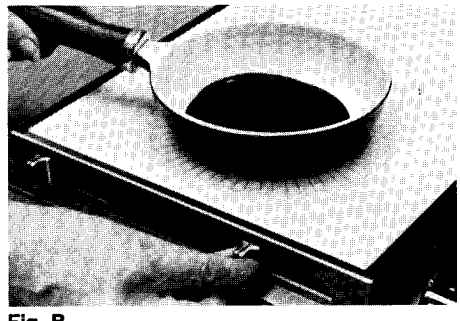


Fig. B

Induction cooking is energy efficient. It never uses more energy than what is needed. Only the utensil is heated. If the utensil is smaller than the cooking area, the cooktop converts energy needed to the size utensil being used. If the utensil is lifted from the cooktop surface, the electronic circuit shuts down automatically; no heating power is provided to the cooking area until the utensil is replaced on the cooktop. (See Fig. C)

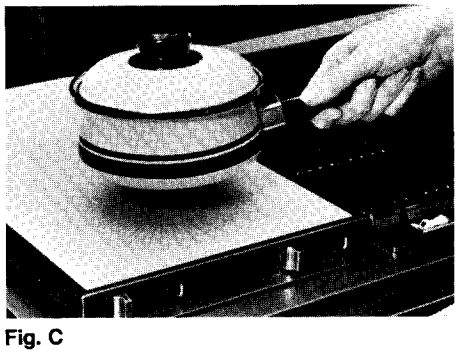


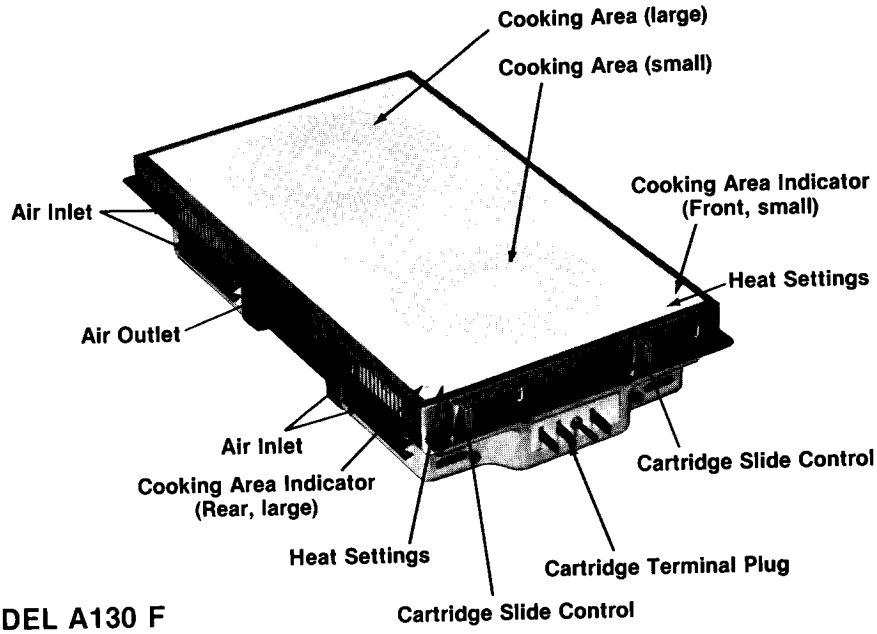
Fig. C

Since only certain size magnetic utensils are heated, small items, such as spatulas or other cooking tools (if placed on the cooking surface) are not heated and thus pose no danger of becoming hot.

The cooktop also has other built-in protective devices that prevent the unit from overheating or which detect whether the correct utensil (size, material) is being used. (See pages 18 and 19 for more details).

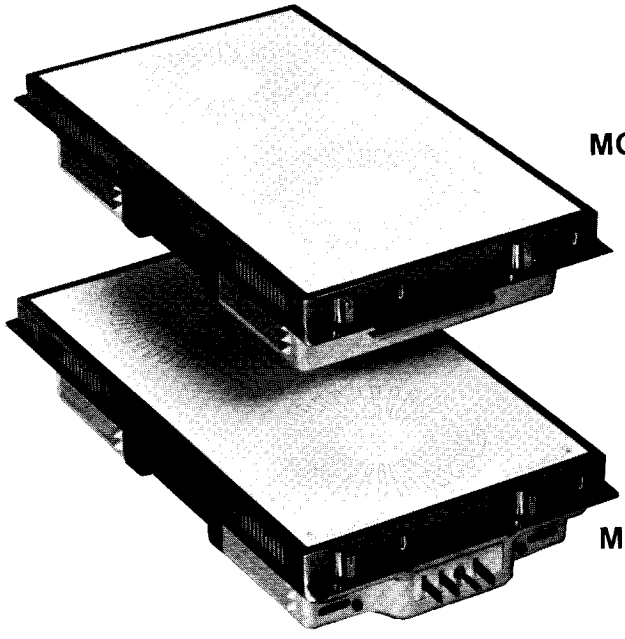
The following information explains in more detail how the design features can make surface cooking on the induction cooktop such a unique and enjoyable experience.

Parts of the Cartridge



MODEL A130 F

Cartridge Models



MODEL A130R

MODEL A130F

Also available black glass cartridges, Models A135R and A135F

Installing and Removing the Induction Cartridge

There are four models of the induction cartridge: A130 R and A135 R (rear) and A130 F and A135 F (front). The F models (cartridge terminal plug is located at the front of the cartridge) should be plugged into a terminal receptacle located in the front of the grill basin. A R model (cartridge terminal plug is located on the end opposite the slide control) is plugged into the terminal receptacle located in the rear of the grill basin. (See Fig. D)

Fig. D

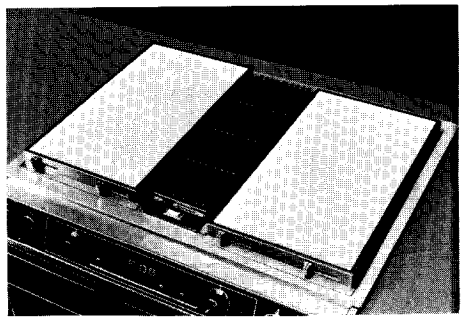


Fig. E

For ranges with terminal plugs located only in the fronts of the grill basins, only F model cartridges can be used. For ranges with terminal plugs located in both the front and back of the grill basin, both the R and F model cartridges can be used with the range. If only one induction cartridge is purchased, the one selected would depend on the cooking bay desired to be used on the convertible cooktop or grill range.

Whenever the induction cartridge is installed properly, the slide controls will be located in the front of the range. (See Fig. E)

To Install Cartridge

1. Determine into which grill basin area the cartridge is to be installed.
2. Be sure range surface control knobs are in the OFF position. (See Fig. F)

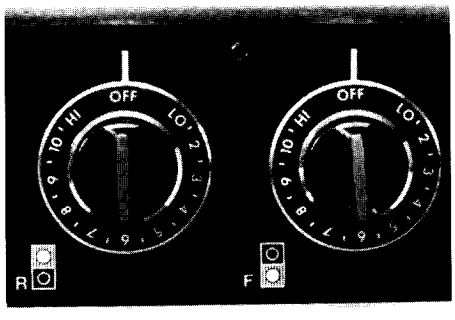


Fig. F

3. Remove the grill element, grill-rock cartridges or grill grates if these are in the grill basin area.
4. Clean the grill basin if there is any grease accumulation or food soil. Refer to the use and care manual for the convertible cooktop or grill-range for cleaning instructions.

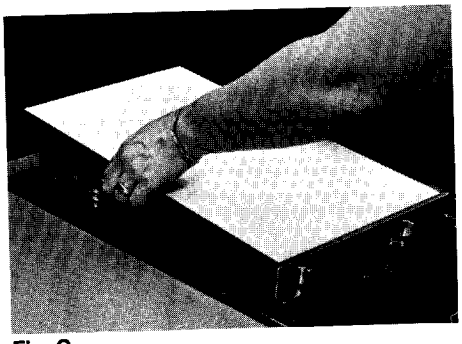


Fig. G

5. Hold cartridge by placing hands into air outlet holes. Position the cartridge terminal plug towards the terminal receptacle. Slide the cartridge towards the receptacle until the cartridge is completely engaged. (See Fig. G)
6. Lower the opposite end of the cartridge into the range top until it is seated properly.
7. Once the cartridge is installed, the slide controls on the cartridge should be facing the front of the range where the surface control knobs are located. The cartridge is now ready for use.

To Remove Cartridge

1. Turn range surface control knob to the OFF position.
2. Lift cartridge slightly, no more than 1 or 2 inches, or until base of cartridge clears the range top. Lifting the cartridge too high while cartridge is still engaged in the receptacle could damage the terminal plug on the cartridge.
3. To disengage terminal, hold cartridge by the sides and pull away from the terminal receptacle. Lift out when fully unplugged.

To Store Cartridge

1. Do not stack a cartridge where it may fall or be damaged. Do not store other items or materials on top of the glass since these could damage or mar the surface.
2. Do not store a cartridge in areas such as garage, attic or basement where it can be exposed to dust or insects.

Control Operation

To Set Controls

- The induction cartridge is operated by using two controls, one on the range and one on the induction cartridge, to control heat to the cooking surface to be heated. (See Fig. H)
- To provide power to the cartridge, *turn the range surface control knob for the appropriate cooking surface from OFF to HI and leave it on this setting while cooking.* (See Fig. I) *Using a setting other than HI voids the warranty.*

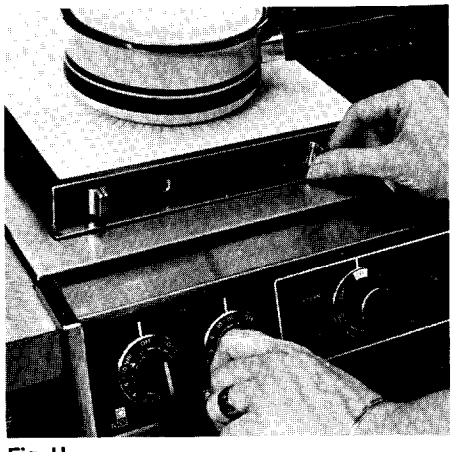


Fig. H

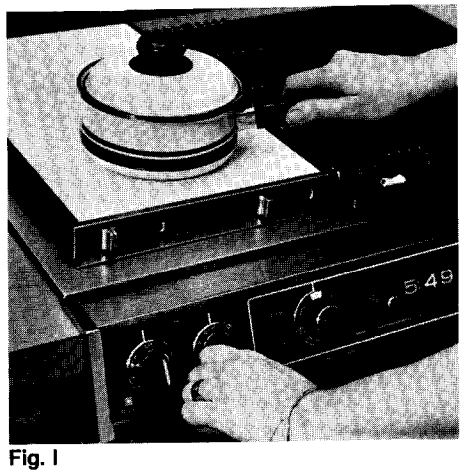


Fig. I

- *Do not turn the range surface control knob from the HI* position. On the HI setting, 100 percent power is provided to the induction cartridge. If the knob is turned from HI to another setting, the incoming power to the cartridge will be reduced and the fan will cycle on and off; this will affect the cartridge's performance (speed of cooking) and could damage the cartridge. (See Fig. J)
- A red indicator light on the range top will glow when a range surface control is turned from the OFF position. (Note: this light will glow even if the induction cartridge is not properly installed).

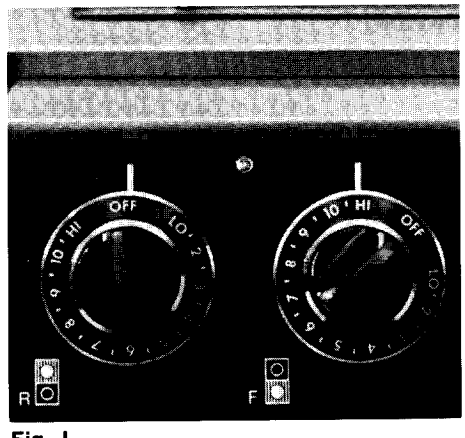


Fig. J

- *Use the slide control on the induction cartridge to regulate the degree of power to the cooking area.* When the induction slide control is set on the HI setting, 100 percent of the power to the unit is available for cooking. As the slide control is moved from the HI position, the percentage of power is reduced. It is not necessary to move the slide control very much to increase or decrease the desired heat to the utensil. Refer to the information on page 11 for suggested control settings. The line on the slide control knob indicates the power level position. (See Fig. K)

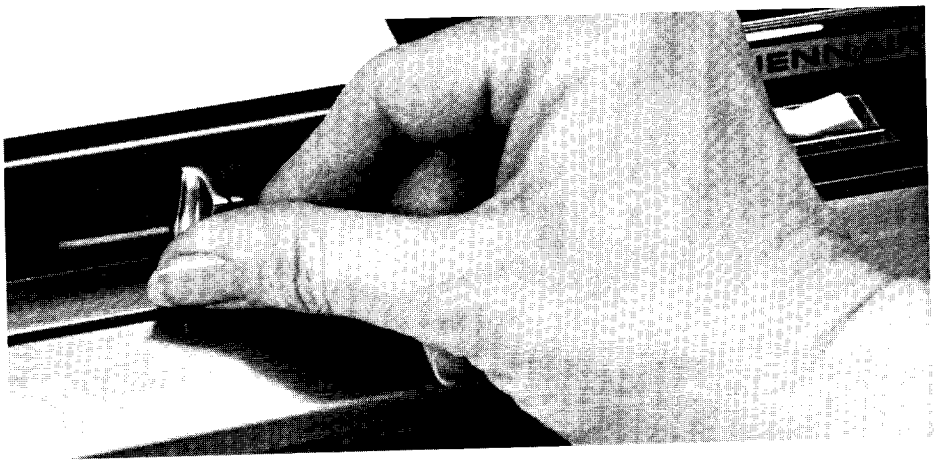
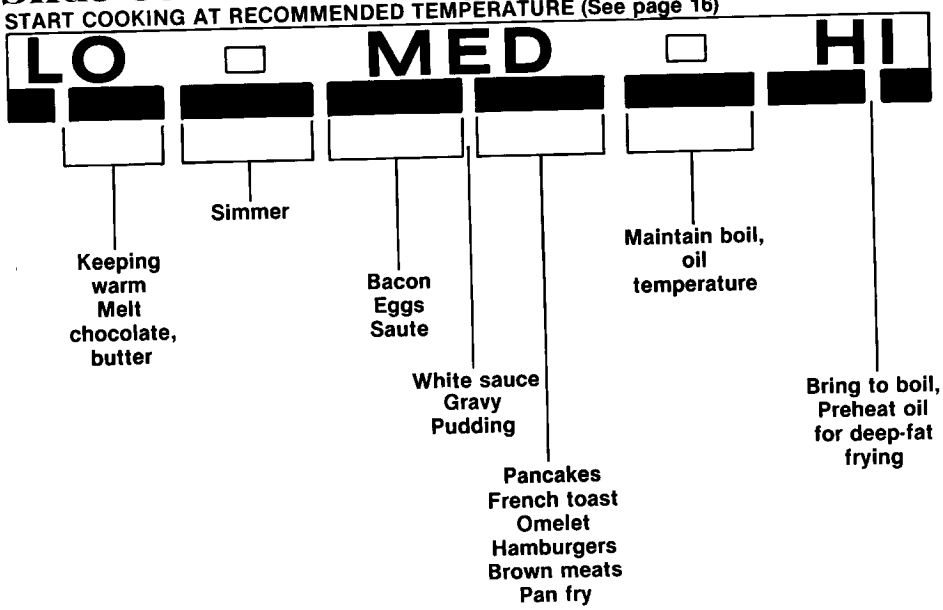


Fig. K

- When the slide control is on any setting other than HI, a light clicking sound may be noticed. This is the sound of the unit cycling on and off, which is normal.
- If the proper type of utensil is on the selected cooking area, it will begin heating as soon as the range surface control knob is turned on.
- To turn off the induction cartridge, turn the range surface control knob to the OFF position. The induction cartridge slide control can be left on at any position. However, a good practice to follow would be to set the control on the LO setting. This might prevent the cook from later starting to cook at too high a temperature.

Slide Control Cooking Guide

START COOKING AT RECOMMENDED TEMPERATURE (See page 16)



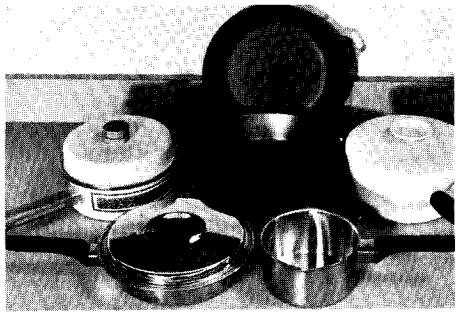
Note: These are only suggested control settings. The differences in volume and amount of food, utensils used and the available voltage will affect the control setting.

Cooking Utensils

The utensils used must be capable of conducting the induced current. Only magnetic utensils, those made of a ferromagnetic material, will work on the induction cooktop.

Utensils made of these ferromagnetic materials will work on the induction cooktop:

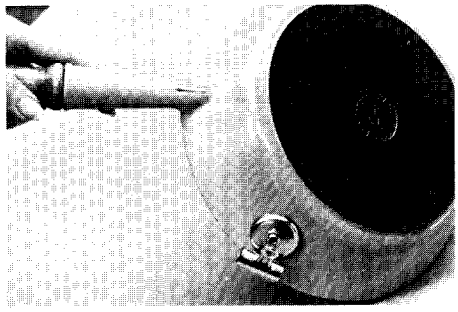
- porcelain enamel-on-steel
- porcelain enamel-on-cast iron
- cast iron
- three-ply stainless steel with carbon steel core
- magnetic stainless steel



Utensils made of these nonferromagnetic materials will not work on the induction cooktop:

- aluminum or aluminum clad
- copper or copper clad
- nonmagnetic stainless steel
- glass-ceramic or heat resistant glass
- earthenware

Note: An easy way to determine whether a utensil will work is to use a kitchen magnet. If the magnet will stick to the bottom of the utensil, it can be used with the induction cooktop.



Cookware Tips for Best Peformance

Although cooking utensils made from any of the ferromagnetic materials noted on page 12 will work on the induction cooktop, there is a difference in utensil performance. The type and gauge of the metal will affect heat distribution, durability and ease of cleaning the utensil. Different utensils may be needed for cooking various types of foods.

As is the case when cooking on other types of cooktops, the better the quality of materials, construction and workmanship of the utensil, the better its performance. Inexpensive porcelain enamel-on-steel utensils will tend to crack, craze and warp after some usage. Foods will also tend to scorch and burn in thin gauged utensils.

The following information on cookware can be used in selecting utensils that will provide the best performance on the induction cooktop.

Material

- Cookware made from magnetic steel, such as three-ply stainless steel or porcelain enamel-on-steel, will heat more quickly than utensils made from cast iron. These utensils perform well in bringing water to a boil quickly and in simmering, stewing or deep-fat frying foods. (See Fig. L)

Fig. L

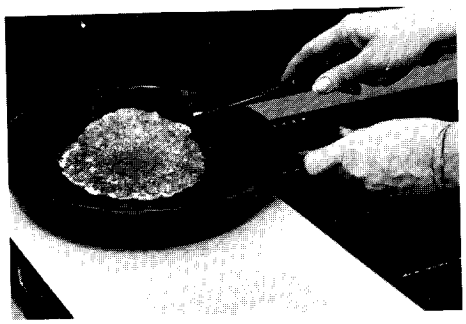


Fig. M

- Since cast iron utensils take longer to heat, they perform well when overall good even browning is preferred, as when preparing pancakes. (See Fig. M)

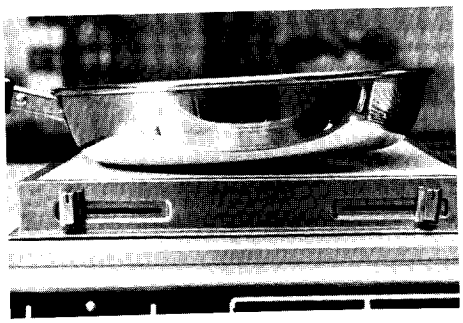


Fig. N

- Heavier utensils (thick gauge metals or cast iron) should be used for foods that are sensitive to scorching such as milk base foods or chocolate.
- Certain utensils will warp when subjected to heat. This is due to the gauge of the metal and the process used in shaping the metal during manufacturing. Warpage can be reduced if the utensil is heated more slowly. (See Fig. N)

Shape, Size

- Utensils must have a bottom diameter over 4 inches in order to work on the induction cooktop.
- The bottom of the utensil does not need to be perfectly flat to be used; however, a warped pan may move around on the cooktop surface. Pan warping could also cause some cooking problems when trying to cook small volumes of food, such as eggs, since these may not cook evenly.
- For more even browning when pan-frying or pan-broiling, use a skillet with a bottom diameter of 8 to 8½ inches, or smaller, on the large element. (Note: the measurement given for skillets and frypans by manufacturers is the top diameter). (See Fig. O)
- Depending on the shape of the utensil, some round bottom pans (such as woks) may not work on the induction cartridge even though made from ferromagnetic materials.
- Utensils with indentions or legs may work but with poor performance.
- Round shaped pans are better than rectangular ones since the latter may warp and browning results will not be even.
- The utensil size should match the cooking area being used. (See Fig. P)
- Only use utensils designed for surface cooking.

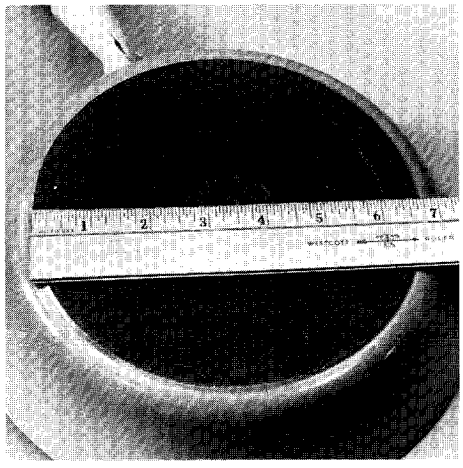


Fig. O

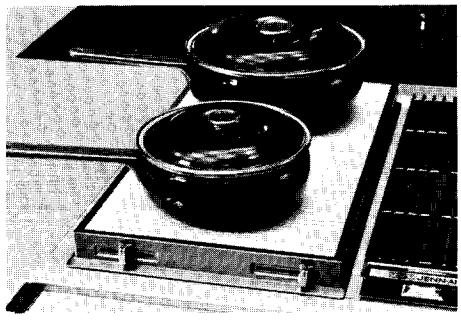


Fig. P

Important

- Do not use aluminum foil or foil containers on the cooktop. Aluminum foil and some containers are made from magnetic materials which will become hot very quickly.

Cookware Performance

There are many different brands of cookware available that will work with the induction cooktop. The following are some of those more commonly available on a nationwide basis that were tested with the Jenn-Air induction cooktop.

Although all worked reasonably well, those which were rated the best in overall performance (good heat distribution, evenness of browning, less prone to warp, easy to clean) are starred (★).

There are other points to consider in selecting cookware such as construction, shape, handle construction, storage capabilities, care requirements and cost.

Stainless Steel (tri-ply construction)

★ Ekco, "Flint"
Vollrath, "Queen"
Regal Ware, "Three-Ply Stainless"
Regal Ware, "Duncan Hines"
Revere Ware "7000 Line — Stainless Steel"

Porcelain Enamel-on-Steel

★ Copco, "Copcogold"
★ Ontzi-ola, various patterns/sets
General Housewares, various patterns/sets
Magefesa

Porcelain Enamel-on-Cast Iron

★ Le Creuset
★ Copco, "Copco Black" and other patterns/sets

Note: A brand of cast iron is not noted since there are numerous brands available.

Cooking Guidelines

Before using the induction cooktop cartridge the first time to cook food, experiment with the controls by boiling water in an open pan so that you can observe how the cartridge performs. Bring the water to a boil on the HI setting. Watch where the bubbles first begin to form; that's where the pan first begins to get hot and where food could scorch if cooked at too high a temperature. Once the water boils, move the slide control up and down to observe how it instantly responds. (See Fig. Q)

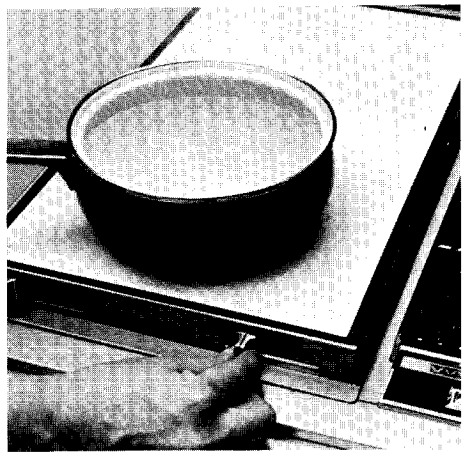


Fig. Q

Recommended Cooking Procedures

- Set the utensil on the area to be used before turning on the controls.
- Place the utensil in the center of the design on the cooktop.
- Do not heat an empty utensil. If a pan needs to be preheated before frying or sauteing, add butter or oil to the pan before heating. Heating an empty utensil may cause the pan to warp and/or may cause the cooktop to shut down. (See page 18 for information regarding the thermal sensor.)
- Since induction cooking is fast (possibly faster than what you have been accustomed to), **start cooking at the recommended cooking temperature.** For instance when frying bacon, start cooking on MED. (See Fig. R) Do not turn slide control to HI with the intent of lowering the heat once the pan becomes hot enough to fry the bacon. The utensil begins to heat immediately with induction and could become too hot; food could be burned before the heat is reduced.

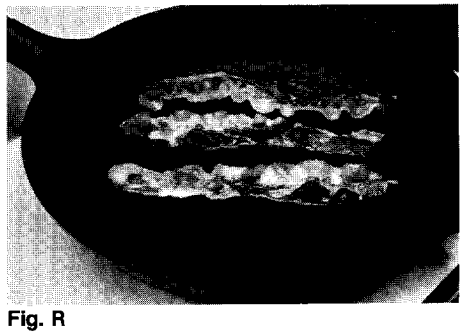


Fig. R

- Use the HI setting only to bring liquids to a boil or to bring oil up to temperature for deep-fat frying. Once the boiling point has been reached, the temperature should be reduced.
- Sustained high heat temperature can cause pans to warp, food to scorch or burn onto the utensil; thus leave the slide control on HI only when necessary.
- Many foods can start cooking in the medium range temperature setting. The slide control can then be adjusted to continue cooking at a lower or higher setting if necessary.

- For energy efficiency, use the lowest setting necessary; few foods need temperatures higher than MED LO to MED to sustain cooking.
- If a food starts to boil over, a mishap can be averted by reducing the heat setting; the induction cooktop responds instantly.
- Do not leave cooking foods unattended on the cooktop unless they are being cooked on a LO to MED LO setting. Check periodically to prevent utensil from boiling dry.

Fig. S

- Use lids or covers on utensils to more quickly bring foods to a boil and for energy efficiency.
- High fat foods, such as butter and chocolate, can be melted successfully at the LO to MED LO setting without using a double boiler. (See Fig. S)
- More even browning and less chance of pan warpage will occur if the heat setting is increased gradually when pan-broiling. For example, heat utensil on MED setting for a few minutes before moving control to the MED HI position used with some pan-frying.

- *Slowly* heat and cool porcelain pans. Rapid changes in temperature may cause crazing.

Design Features

Cooling Fan

When the induction cooktop is turned on, a slight whirring sound will be heard. This sound is from a small fan inside the cartridge which cools the electronics. Air is pulled through the air inlets and exhausted through the air outlets. You will feel a slight breeze as air is circulated through the induction cartridge. Do not operate the cartridge if the fan does not come on. If the fan does not operate, the overheating protective device will eventually cut the cartridge off.

Thermal Sensor

A thermal sensor, an overheating protective device inside the cooktop cartridge, will cut off power to the induction element if the electronics become too hot. This feature serves to protect the electronics.

There are several situations that may cause the thermal sensor to cut off the power (all of which are influenced by the size and type of the utensil) including:

- allowing a pan to boil dry.
- preheating utensil for long period of time without any oil or food in utensil.
- heating oil for deep-fat frying at the HI setting for a long period of time.
- blocking the air inlets or outlets so that air is not allowed to circulate through cartridge. (See Fig. T)

Fig. T

If this situation should occur, the induction element will stay off until the temperature inside the cartridge has cooled to a safe operating level.

Should the cooktop cut off, turn off the surface controls, remove the utensil, and allow cartridge to cool. Normally, it may take about 10 minutes for the cartridge to cool sufficiently so that cooking can be resumed.

In the event no one is in the kitchen to correct the problem that caused the cartridge to cut off, it will cycle on again once the internal cartridge temperature has cooled to a safe operating level and eventually shut down again once it becomes overheated.

Note: Allowing a utensil to boil dry can possibly damage it permanently.

Utensil Sensor

Each surface cooking area has a utensil sensor which will cause a "beep-beep" to come from the cartridge if the cooktop is turned on and any one of the following situations exists:

- no utensil is sitting on the cooking area being energized.
- utensil is not centered properly on cooking area.

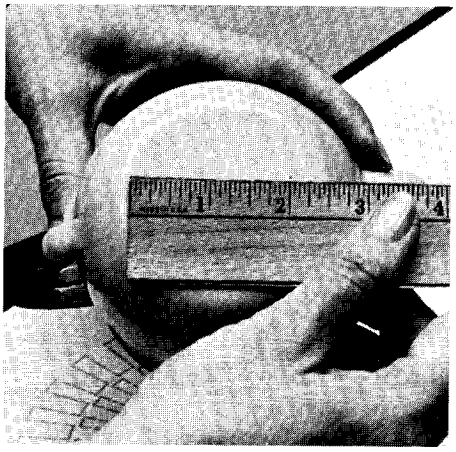


Fig. U

- utensil made from nonmagnetic materials or low levels of magnetic materials (insufficient for the heat to be induced to) is sitting on the cooking area being energized.
- utensil is lifted from the cooktop surface without turning the range surface control OFF.
- size (diameter) or shape of magnetic utensil is incorrect. (See Fig. U)

This beeping sound alerts you that you need to do something. The beeping will continue indefinitely until you correct the situation. Although the beeping is not harmful to the cartridge, it should not be allowed to continue for extended periods of time. While the beeping is occurring, no heat is being produced by the cooking area.

Other Design Features

Besides the design features described previously, the following are characteristic of the induction cooktop.

- the induction cooktop *will not heat* jewelry, rings, or similar small items made of magnetic materials since these items are too small. An object must be 4 inches in diameter to keep the unit on.
- the induction process is not like that utilized in a microwave oven. Microwaves heat food. For safety reasons, microwave energy is confined to the oven cavity. The alternating current generated by an induction cooktop heats magnetic utensils.
- if the induction cooktop is located near a radio or remote controlled TV receiver, it could interfere with the reception on these appliances when it is on.

Cleaning and Caring for the Induction Cartridge

Glass-Ceramic Cooktop

Since the glass cooking surface does not get hot enough during normal use to burn food spatters on the glass, most spills can be wiped up with a clean cloth or sponge. If you exercise care, you can wipe up spills while you are cooking.

For normal, daily cleaning, wipe with a damp sponge or cloth. If the glass is stained, use a soapy cloth. If necessary, use a liquid or soft scrub cleanser such as 409, Bon-Ami or BarKeeper's Friend to remove a stubborn stain. (See Fig. V)

If a cleanser is used, wipe with a damp cloth to remove any residual cleaner.

Do not use these to clean the glass-ceramic: *soap pads containing metal fibers such as steel wool or S.O.S. pads, oven cleaning compounds, rust stain removers or cleansers not specifically recommended for use on glass-ceramic.*

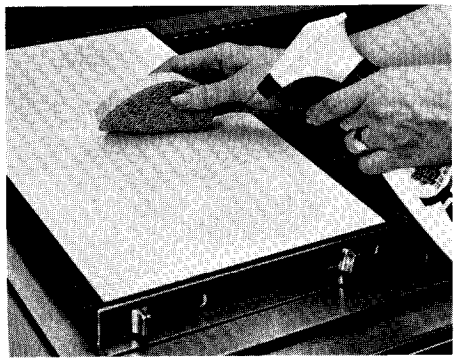


Fig. V

Cabinet Housing

The stainless steel metal trim that is visible on the cooktop surface can be cleaned with a damp cloth or sponge.

Use a soft scrub cleanser on any soil that is not removed with a sponge. Use Zud or Comet to remove any discoloration on the stainless (rub cleanser with the grain to avoid streaking the surface).

Clean the control knobs with a slightly damp cloth.

The under housing of the cabinet can be wiped with a slightly damp cloth, if necessary. (See Fig. W)

Fig. W

IMPORTANT

NEVER IMMERSE THE INDUCTION CARTRIDGE IN WATER. This could damage the internal wiring.

DO NOT POUR WATER ON THE CARTRIDGE. This could damage the cartridge.

DO NOT POUR WATER into the air inlets on the under housing of the cartridge.

Before You Call for Service

Check the following list to be sure a service call is necessary. A quick reference of this manual, as well as reviewing additional items to check, may prevent an unneeded service call.

If the cartridge does not operate:

- check if the cartridge is properly installed.
- the surface control knob may not be turned ON.
- check for a blown circuit fuse or a tripped main circuit breaker.
- the range surface control switch may be at fault. Switch cartridge to other side of range; if it operates on that side, range control switch may be at fault.

If the cartridge "beeps" and the utensil is not heating:

- the utensil being used may not be made from a ferromagnetic metal or may not be of the proper shape or diameter.
- the utensil may not be centered properly on the cooking area.
- the surface control knob has been turned on for the wrong cooking area.

If the cartridge stops heating during the cooking process:

- the ambient temperature may be abnormally high.
- the air inlet or outlet openings may be blocked.
- the utensil has boiled dry, or is empty, causing the overheating protective device to automatically switch the element off.
- the surface control knob may have been turned off or turned from the HI position.

All specifications subject to change by manufacturer without notice.

SPECIFICATIONS

Power Source: AC 208/240 volts 60Hz

Wattage: 2730/3200

Input on cooking Areas: 72 to 1200 W — small cooking area
120 to 2000 W — large cooking area

INDUCTION CARTRIDGE WARRANTY

FULL TWO YEAR WARRANTY: For a period of two (2) years from the date of original purchase, Jenn-Air Company will repair or replace any defective part of the induction cartridge free of any charge.

LIMITED EXTENDED WARRANTY: During the third year from date of original purchase, Jenn-Air Company will replace free of charge for the part itself, the glass-ceramic in surface glass-ceramic cartridges which fails due to thermal breakage because of defects in materials or workmanship, with the owner paying all other costs such as labor costs, cartage, and serviceman's travel charges.

CANADIAN WARRANTY: In Canada, this repair or replacement of defective parts is offered through Jenn-Air Company's Canadian distributors and Service Contractors appointed by them.

WARRANTY SERVICE: Under the full warranty, service must be performed by an authorized Jenn-Air Service Contractor, or in Canada, by a distributor authorized Service Contractor. Contact the dealer from which you purchased the unit, an authorized Service Contractor, or contact Jenn-Air by writing the Jenn-Air Consumer Services Department, at Jenn-Air Company, 3035 Shadeland Avenue, Indianapolis, Indiana 46226-0901. Please be sure to include Model Number, Serial Number, and date of original purchase. Service will be provided during normal business hours. All replacement parts assume the unused portion of this warranty.

OWNER'S RESPONSIBILITIES include providing normal care and maintenance, providing proof of purchase on request, replacing parts that fail as a result of misuse of the appliance, and having the appliance reasonably accessible for service if the defective part cannot easily be brought to an authorized Service Contractor.

OTHER CONDITIONS: This warranty covers only Jenn-Air induction cartridge manufactured at the time this warranty was offered by Jenn-Air Company. The warranty begins on the date of original purchase and applies only to normal home use within the United States of America, including Alaska and Hawaii, and Canada. The warranty shall not apply if the serial number is defaced, if service is provided by someone other than an authorized Service Contractor, where the defect is due to damage, product alteration, accident, abuse, or connection to an improper electrical supply, or where the product is not used in accordance with use and care instructions or the installation does not comply with Jenn-Air installation instructions.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.