

An *oven* is a thermally insulated chamber used for the heating, baking, or drying of a substance, and most commonly used for cooking. Kilns and furnaces are special purpose ovens, used in pottery and metalworking, respectively.

Model No:

Serial No:

Date of Purchase:

Dealer's Name:

Phone:

**TABLE OF
CONTENTS**

Definition

Before Invention

Types of Ovens

Functions

Uses

Inventors/
Designers

Instructions

Design

Machine Manual

Product

Amazon Reviews

Story Time

Index

DEFINITION

An oven is a thermally insulated chamber used for the heating, baking, or drying of a substance, and most commonly used for cooking. Kilns and furnaces are special-purpose ovens, used in pottery and metallurgy, respectively.

The earliest ovens were found in Central Europe, and dated to 29,000 BC. They were roasting and boiling pits inside yurts used to cook mammoth. In Ukraine from 20,000 BC they used pits with hot coals covered in ashes. The food was wrapped in leaves and set on top, then covered with earth. In camps found in Mezhirich, each mammoth bone house had a hearth used for heating and cooking. Ovens were used by cultures who lived in the Indus Valley and in pre-dynastic Egypt. By 3200 BC, each mud-brick house had an oven in settlements across the Indus Valley. Ovens were used to cook food and to make bricks. Pre-dynastic civilizations in Egypt used kilns around 5000–4000 BC to make pottery.

Culinary historians credit the Greeks for developing bread baking significantly. Front-loaded bread ovens were developed in ancient Greece. The Greeks created a wide variety of doughs, loaf shapes, and styles of serving bread with other foods. Baking de-

veloped as a trade and profession as bread increasingly was prepared outside of the family home by specially trained workers to be sold to the public.

During the Middle Ages, instead of earth and ceramic ovens, Europeans used fireplaces in conjunction with large cauldrons. These were similar to the Dutch oven. Following the Middle-Ages, ovens underwent many changes over time from wood, iron, coal, gas, and even electric. Each design had its own motivation and purpose.

The wood burning stoves saw improvement through the addition of fire chambers that allowed better containment and release of smoke. Another recognizable oven would be the cast-iron stove. These were first used around the early 1700s when they themselves underwent several variations including the Stewart Oberlin iron stove that was smaller and had its own chimney.

In the early part of the 19th century, coal ovens were devel-

oped. Its shape was cylindrical and was made of heavy cast-iron. The gas oven saw its first use as early as the beginning of the 19th century as well. Gas stoves became very common household ovens once gas lines were available to most houses and neighborhoods. James Sharp patented one of the first gas stoves in 1826. Other various improvements to the gas stove included the AGA cooker invented in 1922 by Gustaf Dalén. The first electric ovens were invented in the very late 19th century, however, like many electrical inventions destined for commercial use, mass ownership of electrical ovens could not be a reality until better and more efficient use of electricity was available.

More recently, ovens have become slightly more high-tech in terms of cooking strategy. The microwave as a cooking tool was discovered by Percy Spencer in 1946, and with the help from engineers, the microwave oven was patented. The microwave oven uses microwave radiation to excite the

molecules in food causing friction, thus producing heat.

TYPES OF OVENS

Double Oven

Earth Oven

Ceramic Oven

Gas Oven

Masonry Oven

Microwave Oven

Toaster Oven

Wall Oven

Double oven: a built-in oven fixture that has either two ovens, or one oven and one microwave oven. It is usually built into the kitchen cabinet.

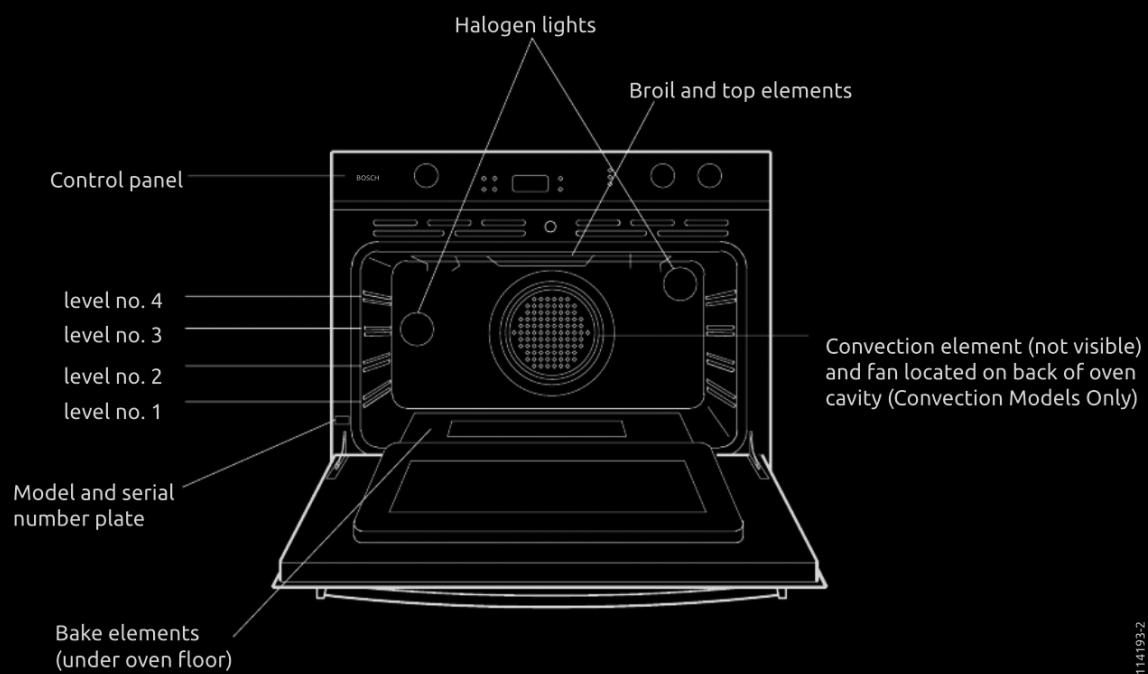
Earth oven: An earth oven is a pit dug into the ground and then heated, usually by rocks or smoldering debris. Historically these have been used by many cultures for cooking. Cooking times are usually long, and the process is usually cooking by slow roasting the food. Earth ovens are among the most common things archaeologists look for at an anthropological dig, as they are one of the key indicators of human civilization and static society.

Ceramic oven: The ceramic oven is an oven constructed of clay or any other ceramic material and takes different forms depending on the culture. The Indians refer to it as a tandoor, and use it for cooking. They can be dated back as far as 3,000 BC, and they have been argued to have their origins in the Indus Valley. Brick ovens are also another ceramic type oven. A culture most notable for the use of brick ovens is Italy and its intimate history with pizza. However, its history also dates further back to Roman times, wherein the brick oven was used not only for commercial use but household use as well.

Gas oven: One of the first recorded uses of a gas stove and oven referenced a dinner party in 1802 hosted by Zachaus Winzler, where all the food was prepared either on a gas stove or in its oven compartment. In 1834, British inventor James Sharp began to commercially produce gas ovens after installing one in his own house. In 1851, the Bower's Registered Gas Stove was displayed at the Great Exhibition. This stove would set the standard and basis for the modern gas oven. Notable improvements to the gas stove since include the addition of the thermostat which assisted in temperature regulation; also an enamel coating was added to the production of gas stoves and ovens in order to help with easier cleaning.

Masonry oven: Masonry ovens consist of a baking chamber made of fireproof brick, concrete, stone, or clay. Though traditionally wood-fired, coal-fired ovens were common in the 19th century. Modern masonry ovens are often fired with natural gas or even electricity, and are closely associated with artisanal bread and pizza. In the past, however, they were also used for any cooking task that required baking.

Microwave oven: An oven that uses micro radiation waves as a source of heat in order to cook food as opposed to a fire source. Conceptualized in 1946, Dr. Percy Spencer allegedly discovered the heating properties of microwaves while studying the magnetron. By 1947, the first commercial microwave was in use in Boston, Mass.



Toaster oven: Toaster ovens are small electric ovens with a front door, wire rack and removable baking pan. To toast bread with a toaster oven, slices of bread are placed horizontally on the rack. When the toast is done, the toaster turns off, but in most cases the door must be opened manually. Most toaster ovens are significantly larger than toasters, but are capable of performing most of the functions of electric ovens, albeit on a much smaller scale.

Wall oven: Wall ovens make it easier to work with large roasting pans and Dutch ovens. A width is typically 24, 27, or 30 inches. Mounted at waist or eye level, a wall oven eliminates bending. However, it can be nested under a countertop to save space. A separate wall oven is expensive compared with a range.

FUNCTIONS

Cooking

Cleaning

In cooking, the conventional oven is a kitchen appliance used for roasting and heating. Foods are normally cooked in this manner include meat, casseroles and baked goods such as bread, cake and other desserts. In modern times, the oven is used to cook and heat food in many households across the globe.

Modern ovens are typically fueled by either natural gas or electricity, with bottle gas models available but not common. When an oven is contained in a complete stove, the fuel used for the oven may be the same as or different from the fuel used for the burners on top of the stove. Ovens usually can use a variety of methods to cook. The most common may be to heat the oven from below. This is commonly used for baking and roasting. The oven may also be able to heat from the top to provide broiling (US) or grilling (UK/Commonwealth). In order to provide faster, evener cooking, a fan oven, which has a fan with a heating element around, that provides the

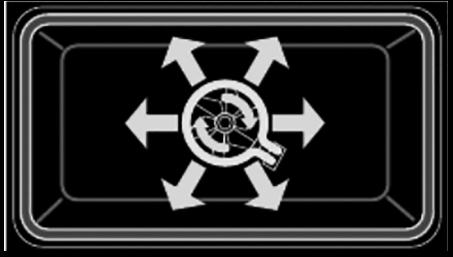
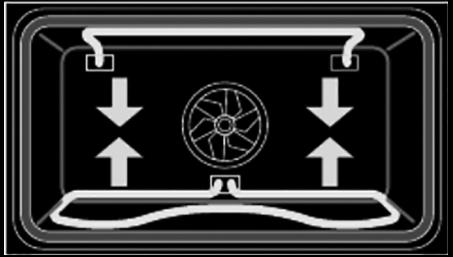
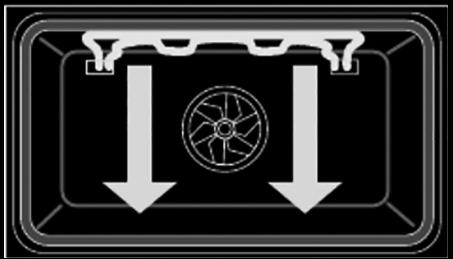
heat. Or a fan-assisted oven that uses a small fan to circulate the air in the cooking chamber, can be used. Both are also known as convection ovens. An oven may also provide an integrated rotisserie.

Ovens also vary in the way that they are controlled. The simplest ovens (for example, the AGA cooker) may not have any controls at all; the ovens simply run continuously at various temperatures. More conventional ovens have a simple thermostat which turns the oven on and off and selects the temperature at which it will operate. Set to the highest setting, this may also enable the broiler element. A timer may allow the oven to be turned on and off automatically at pre-set times. More sophisticated ovens may have complex, computer-based controls allowing a wide variety of operating modes and special features including the use of a temperature probe to automatically shut the oven off when the food is completely cooked to the desired degree.

Some ovens provide various aids to cleaning. Continuous cleaning ovens have the oven chamber coated with a catalytic surface that helps break down (oxidize) food splatters and spills over time. Self-cleaning ovens use pyrolytic decomposition (extreme heat) to oxidize dirt. Steam ovens may provide a wet-soak cycle to loosen dirt, allowing easier manual removal. In the absence of any special methods, chemical oven cleaners are sometimes used or just scrubbing.

USES

Outside the culinary world, ovens are used for a number of purposes.



Use One

A furnace can be used either to provide heat to a building or used to melt substances such as glass or metal for further processing. A blast furnace is a particular type of furnace generally associated with metal smelting (particularly steel manufac-

ture) using refined coke or similar hot-burning substance as a fuel, with air pumped in under pressure to increase the temperature of the fire. A blacksmith uses a temporarily blown furnace, the smith's heart to heat iron to a glowing red to yellow temperature.

Use Two

A kiln is a high-temperature oven used in wood drying, ceramics and cement manufacturing to convert mineral feedstock (in the form of clay or calcium or aluminum rocks) into a glassier, more solid form. In the case of ceramic kilns, a shaped clay object is the final

result, while cement kilns produce a substance called clinker that is crushed to make the final cement product. (Certain types of drying ovens used in food manufacture, especially those used in malting, are also referred to as kilns.)

Use Three

An autoclave is an oven-like device with features similar to a pressure cooker that allows the heating of aqueous solutions to higher temperatures than water's boiling point in order to sterilize the contents of the autoclave.

Use Four

Industrial ovens are similar to their culinary equivalents and are used for a number of different applications that do not require the high temperatures of a kiln or furnace.

**DESIGNERS/
INVENTORS**

Zachaus Winzler

James Sharp

Percy Lebaron
SpencerAlexis Bénoit
Soyer**Zachaus Winzler**

According to the Gas Museum, in Leicester, England, the first recorded use of gas for cooking was by a Moravian named Zachaus Winzler in 1802.

James Sharp

British inventor, James Sharp patented a gas stove in 1826, the first successful gas stove to appear on the market.

Percy Lebaron Spencer (July 9, 1894 – September 8, 1970) was an American physicist and inventor. He became known as the inventor of the microwave oven.

Spencer was born in Howland, Maine. Eighteen months later, Spencer's father died, and his mother soon left him in the care of his aunt and uncle. His uncle then died when Spencer was just seven years old. Spencer subsequently left grammar school to earn money to support himself and his aunt. From the ages of twelve to sixteen, he worked from sunrise to sunset at a spool mill. At the later age, he discovered that a local paper mill was soon to begin using electricity, a concept little known in his rural home region, and he accordingly began learning as much as possible about the phenomenon. Therefore, when he applied to work at the mill, he was one of three people hired to install electricity in the plant, despite never having received any formal training in electrical engineering or even finishing

grammar school. At the age of 18, Spencer decided to join the U.S. Navy. He had become interested in wireless communications after learning about the wireless operators aboard the Titanic when it sank. While with the navy, he made himself an expert on radio technology: "I just got hold of a lot of textbooks and taught myself while I was standing watch at night." He also subsequently taught himself trigonometry, calculus, chemistry, physics, and metallurgy, among other subjects.

By 1939 Spencer became one of the world's leading experts in radar tube design. Spencer worked at Raytheon, a contractor for the U.S. Department of Defense, as the chief of the power tube division. Largely due to his reputation and expertise, Spencer managed to help Raytheon win a government contract to develop and produce combat radar equipment for M.I.T.'s Radiation Laboratory. This was of huge importance to the Allies and became the military's second highest priority project during WWII,

behind the Manhattan Project. At that time, magnetrons were used to generate the microwave radio signals that are the core mechanism of radar, and they were being made at the rate of 17 per day at Raytheon. While working there, Spencer developed a more efficient way to manufacture them, by punching out and soldering together magnetron parts, rather than using machined parts. It also saw Spencer's staff rise from 15 employees to 5,000 over the course of the next few years. His improvements were among those that increased magnetron production to 2,600 per day. For his work, he was awarded the Distinguished Public Service Award by the U.S. Navy.

One day while building magnetrons, Spencer was standing in front of an active radar set when he noticed the candy bar he had in his pocket had melted. Spencer was not the first to notice this phenomenon, but he was the first to investigate it. He decided to experiment using food, including popcorn kernels, which became the

world's first microwaved popcorn. In another experiment, an egg was placed in a tea kettle, and the magnetron was placed directly above it. The result was the egg exploding in the face of one of his co-workers, who was looking in the kettle to observe. Spencer then created the first true microwave oven by attaching a high density electromagnetic field generator to an enclosed metal box. The magnetron emitted microwaves into the metal box blocking any escape, allowing for controlled and safe experimentation. He then placed various food items in the box, while observing effects and monitoring temperatures.

Raytheon filed a patent on October 8, 1945 for a microwave cooking oven, eventually named the Radarange. In 1947, the first commercially produced microwave oven was about 6 feet tall, weighed about 750 lbs, and cost about 5,000 US\$. In 1967 the first relatively affordable (\$495) and reasonably sized (counter-top) microwave oven was available for sale.

Spencer became Senior Vice President and a Senior Member of the Board of Directors at Raytheon. He received 300 patents during his career, and a building at the Raytheon Missile Defense Center in Burlington, Massachusetts is named in his honor. Other achievements and awards, besides the Distinguished Public Service Award, included a membership of the Institute of Radio Engineers, Fellowship in the American Academy of Arts and Sciences, and an honorary Doctor of Science from the University of Massachusetts, despite having no formal education.

For his invention, Spencer received no royalties, but he was paid a one-time \$2.00 gratuity from Raytheon, the same token payment the company made to all inventors on its payroll at that time for company patents.

Alexis Bénoit Soyer (4 February 1810 – 5 August 1858) was a French celebrity chef who became the most celebrated cook in Victorian England. He also tried to alleviate suffering of the Irish poor in the Great Irish Famine (1845–1849), and contributed a penny for the relief of the poor for every copy sold of his pamphlet *The Poor Man's Regenerator* (1847). He worked to improve the food provided to British soldiers in the Crimean War. A variant of the field stove he invented at that time, known as the “Soyer stove”, remained in use with the British army until 1982.

Alexis Benoist Soyer was born at Meaux-en-Brie in France. His father had several jobs, one of them as a grocer. At the age of nine he was sent by his parents to the cathedral church as they had decided on his becoming a priest. Soyer resisted the career path chosen for him and contrived his dismissal whereupon a year later, in 1821, he was sent to Paris where he lived with his elder brother Phillippe.[3] He became

an apprentice at the Grignon restaurant in Paris. Later, in 1826 he moved to Boulevard des Italiens restaurant, where he became a chief cook. By 1830, Soyer was a second cook to Prince Polignac, the French prime minister.

On 26 July 1830, while assisting in the kitchens of Prince Jules de Polignac, armed supporters of “Les Trois Glorieuses” burst in and shot two of the staff. Soyer escaped, and then fled to England where he joined the London household of Prince Adolphus, Duke of Cambridge, where his brother Philippe was head chef. Later, notably as chef of the Reform Club from 1837 to 1850, where he designed the innovative kitchens, he also worked for various other British notables, including the Duke of Sutherland, the Marquess of Waterford, William Lloyd of Aston Hall and the Marquess of Ailsa at St Margaret’s House, beside the Thames and Priory Gardens in Whitehall.

His wife Elizabeth Emma Jones, achieved considerable

popularity as a painter, chiefly of portraits. She was one of the youngest persons to exhibit at the Royal Academy; in 1823, at the age of 10, she submitted the Watercress Woman. Her portrait of Soyer was engraved by Henry Bryan Hall. She died in 1842 following complications suffered in a premature child-birth brought on by a thunder-storm. Distraught, Soyer erected a monument to her at Kensal Green Cemetery, London.

Soyer died on 5 August 1858. At the time of his death, he was designing a mobile cooking carriage for the British Army. On 11 August, he was buried beside his wife in Kensal Green Cemetery.

In 1837 Soyer became chef de cuisine at the Reform Club in London. He designed the kitchens with Charles Barry at the newly built Club, where his salary was to be more than £1,000 a year. He instituted many innovations, including cooking with gas, refrigerators cooled by cold water, and ovens with adjustable tempera-

tures. His kitchens were so famous that they were opened for conducted tours. When Queen Victoria was crowned on 28 June 1838, he prepared a breakfast for 2,000 people at the Club. Soyer's eponymous Lamb Cutlets Reform are still on the Club menu. Soyer was an able self-promoter. "Soyer's Sultana's Sauce" was marketed for him through Crosse & Blackwell in an exotic bottle with a label featuring Soyer himself, unmistakable in his trademark cocked hat.

At the same time Soyer was a social progressive. During the Great Irish Famine in April 1847, he invented a soup kitchen and was asked by the Government to go to Ireland to implement his idea. This was opened in Dublin and his "famine soup" was served to thousands of the poor for free. Unfortunately for the starving Irish, this selection by the Government was primarily based on low cost of the ingredients of the soups Soyer proposed, than on their nutritional value. While in Ireland he wrote Soy-

er's Charitable Cookery. He gave the proceeds of the book to various charities. He also opened an art gallery in London, and donated the entrance fees to charity to feed the poor.

In 1849 Soyer began to market his "magic stove" which allowed people to cook food wherever they were. It was designed to be a tabletop stove.

Soyer resigned from the Reform Club in May 1850. The next year, he opened his "Universal Symposium of All Nations" opposite the gates of the Great Exhibition in Hyde Park, on a site now occupied by the Royal Albert Hall. He was forced to close his great venture after losing £7,000.

Soyer wrote a number of books about cooking, possibly with assistance. His 1854 book A Shilling Cookery for the People was a recipe book for ordinary people who could not afford elaborate kitchen utensils or large amounts of exotic ingredients.

During the Crimean War, Soyer joined the troops at his own expense to advise the army on cooking. Later he was paid his expenses and wages equivalent to those of a Brigadier-General. He reorganized the provisioning of the army hospitals. He designed his own field stove, the Soyer Stove, and trained and installed in every regiment the “Regimental cook” so that soldiers would get an adequate meal and not suffer from malnutrition or die of food poisoning. He wrote *A Culinary Campaign* as a record of his activities in the Crimea. Catering standards within the British Army would remain inconsistent, however, and there would not be a single Army Catering Corps until 1945. This is now part of the Royal Logistic Corps, whose catering HQ is called Soyer’s House. His stove, or adaptions of it, remained in British military service into the late 20th century.

cooking. He also built a model kitchen at the Wellington Barracks in London.

Soyer returned to London on 3 May 1857. On 18 March 1858, he lectured at the United Service Institution on army

Thank you and congratulations on your choice and purchase of a Bosch oven.

A letter from
BOSH

Important Safety
Instructions

Whether you are an expert chef or a beginning cook we believe that you will find your Bosch oven meets and exceeds your expectations. Bosch engineers have spent years developing these units to be the most versatile and energy efficient so that you may take great pride in the quality of construction of these fine ovens. We also ask that you read this manual thoroughly before using your new oven.

Please pay particular attention to the Safety Instructions printed at the front of the book and the numerous safety hints and cautions placed throughout this manual.

Also, be sure to familiarize yourself with the proper operation of the oven and its cleaning and maintenance procedures. Adherence to these instructions and procedures will assure that you realize the full potential of your new Bosch oven as well as protect it from damage and yourself from injury.

-BOSH

WARNING! WARNING!

When using this appliance, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and/or injury to persons, including the following.

Read all instruction before using the oven:

Warning
One

Proper Installation-Be sure your appliance is properly installed and grounded by a qualified technician. Have the installer show you where the fuse or breaker box is located and how to turn off the power to the oven.

Warning
Two

Do not operate the oven if it is
damaged or not working properly.

Warning
Three

Never use your appliance for warming or heating the room.

Warning
Four

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

Warning
Five

Do not touch heating elements or interior surfaces of oven
Heating elements may be hot even though they are dark in color. Interior surfaces of the oven, including racks become hot enough to cause serious burns.

Warning
Six

Do not touch or let clothing or other flammable material come into contact with the heating elements or interior surfaces or racks of the oven during or immediately after use. Allow the oven to cool.

Warning
Seven

Wear proper apparel-loose fitting or hanging garments should never be worn while using the appliance. Fabric may ignite and result in personal injury.

Warning
Eight

Use only dry potholders. Moist or damp potholders on hot surfaces may result in burns from steam. Do not let potholder touch hot heating elements. Do not use a towel or other bulky cloth.

Warning
Nine

User Servicing -Do not repair or replace any part of the appliance unless specifically recommended in the manual. All other service should be referred to a qualified technician.

Warning
Ten

Storage in or on appliance
Flammable materials should
not be stored in an oven or near
surface units.

Warning
Eleven

Do not use water on grease fires. Smother fire or flame or use dry chemical or foam type extinguisher.

Warning
Twelve

Use care when opening the door Let hot air or steam escape before removing or replacing food.

Warning
Thirteen

Do not heat unopened food containers. Build-up of pressure may cause container to burst and result in injury.

Warning
Fourteen

Always keep oven vent
ducts unobstructed.

Warning
Fifteen

Always place oven racks in desired location while oven is cool. If rack must be moved while oven is hot, do not let potholder contact hot heating element in oven.

Warning
Sixteen

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

Warning
Seventeen

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.

Warning
Eighteen

Clean only parts listed in the
machine manual.

Warning
Nineteen

Before selecting self-cleaning option for the oven remove oven racks and other utensils.

Warning
Twenty

Check for off when done.
Always check the position of the oven control knobs when you have finished cooking to make sure they are all in the off positions.

Warning
Twenty-One

“CAUTION” Do not store items of interest to children in cabinets above the oven – children climbing on the oven to reach items could be burned or otherwise seriously injured. Always disconnect the electrical supply before servicing the oven.

The California safe drinking water and toxic enforcement act requires businesses to warn customers of potential exposure to substances which are known by the State of California to cause cancer or reproductive harm. The elimination of soil during self-cleaning generates some by-products which are on this list of substances. To minimize exposure to these substances, always operate this oven according to the instructions in this manual and provide good ventilation to the room during and immediately after self-cleaning the oven.

DESIGN

Cooling Fan

Rack(s)

Baking Elements

About Your Oven

Above you will find an illustration of a Bosch oven showing the components of the oven. This manual covers the complete line of Bosch single and double ovens so some of the features described may not be available on your oven.

Cooling Fan

All the ovens whether convection type or thermal type have a cooling fan to cool the control panel. You may hear this fan continue to run after cooking and/or cleaning has been completed. The fan will run as long as the oven is hot or the oven's function selector is turned to any position other than "Off". This is normal operation.

Each level guide consists of paired supports formed in the sidewalls on each side of the oven cavity.

The rack should be positioned within the paired supports. Each oven is provided with the following parts and utensils,.

Rack(s):

Always be sure to position the oven racks, etc. before turning the oven on.

Make sure that the rack(s) are level once they are in position.

To remove oven rack from the oven, lift rack at front and lift out.

To replace oven rack:

Point One: Place rear of rack between the rack level guides.

Point Two: While lifting front of rack, slide rack in all the way, then lower front.

Please refer to illustration if there is any question as to which side is the front of the rack.

Baking Elements

Broiling
Elements

Convection
Element

About Convection
Ovens

Baking Elements

The Bosch oven uses two baking elements: one located at the top of the oven and the second located below the floor of oven cavity to provide ease in cleaning the oven cavity.

Broiling Elements

Do not touch the heating elements or let potholders touch the broiler elements.

Never use a towel or bulky cloth for a potholder; they could catch on fire.

Convection Element

If you have purchased one of the convection oven models you will find the convection element (not visible) and fan located at the back of the oven cavity. This element and fan combination performs the cooking when in the convection bake mode. When in any of the convection modes the fan is on.

About Convection Ovens

Both the single ovens and double ovens are available as either conventional thermal ovens or as convection ovens. Although most people are familiar with the operation of a conventional thermal oven many are unclear as to how a convection oven works or in what ways it is superior to a conventional thermal oven.

Below you will find a brief explanation of how a convection oven works and its advantages.

In Bosch Ovens, the Genuine European Convection system (the 3 elements, fan and venting panel) circulates even, heated air throughout the oven. This process:

One Seals in juices and flavor

Two Provides even baking and browning

Three Saves time and energy

Four Baking on multiple levels at the same time

Five Dehydrates herbs, fruits and vegetables

Six Bakes whole meals at once with no flavor transfer

Seven Thaws evenly

Many of your own recipes have time and temperature instruction for the regular bake cycle. As a rule, most of these recipes can be cooked with better results in one of the convection cycles. In general, to convert standard recipes for use in convection, you reduce the temperature by about 25°F and check for doneness at the minimum suggested cooking time.

When baking on more than 1 rack it may be necessary to increase the cooking time a few minutes for each additional rack. As individual tastes vary, you may find you need to adjust the time and temperature to achieve desired results.

We do not recommend you use oven thermometers found at many grocery stores to check oven temperature. They may be inaccurate and are slow to respond to temperature changes.

Oven Models

There are 21 different models of Bosch ovens:

27" or 30", in white, black or stainless steel, in single or double oven configurations as well as being provided as either standard, thermal-type ovens or convection type, with the double ovens being available with either a single convection oven or with two convection ovens.

Single Oven Models	Convection	Colors		
		Wht	SS	Blk
HBL 432A UC	No	X		
HBL 435A UC	No		X	
HBL 436A UC	No			X
HBL 442A UC HBN 442A UC	Yes	X		
HBL 445A UC HBN 445A UC	Yes		X	
HBL 446A UC HBN 446A UC	Yes			X

Double Oven Models	Convection	Wht	SS	Blk
HBL 452A UC HBN 452A UC	Yes/No	X		
HBL 455A UC HBN 455A UC	Yes/No		X	
HBL 456A UC HBN 456A UC	Yes/No			X
HBL 462A UC HBN 462A UC	Yes/No	X		
HBL 465A UC HBN 465A UC	Yes/No		X	
HBL 466A UC HBN 466A UC	Yes/No			X

Oven Operation

Oven Control
PanelCooking Func-
tion SettingsManual Opera-
tion of the OvenElectronic
Control of Oven

Warning

Care and
Cleaning

Using Your Oven

It is very important to learn how to properly use your oven to obtain the best cooking results. Following you will find important information for the safe and efficient use of your oven.

Before Using for the First Time

Before using your Bosch oven for the first time remove all packing and foreign materials from the oven(s). Any material of this sort left in the oven(s) may melt and/or burn when the oven(s) are used.

Oven Control Panel

Programmer Push-Buttons

The programmer push-buttons are used to set and program the oven. See sections Timer and Programming the Oven for explanation on how to use the programmer push-buttons.

Programmer Display

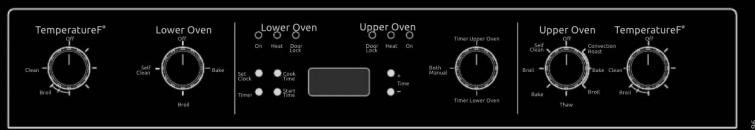
The programmer display performs many functions. When the electricity to your oven is first turned on the display will be blank. For information on setting the display and its use as a timer or for programmed cooking see sections Timer and programming the oven, following.

Timer/Manual Selector

The Timer/Manual selector knob is used to set the oven(s) for Manual or Timer mode.

On Light

The on light will be illuminated whenever the oven is on.



Heat Light

The heat light will be lit when you turn on your oven. When the oven reaches the set temperature the light will turn off to let you know the oven is preheated. (Preheat time should take approximately 12-15 minute when using 240 volts. If electrical supply is less than 240 volts preheat times will be longer).

The light is connected to the cooking elements and will turn off and on as the oven cycles to maintain the set temperature.

Door Lock Light

The door lock light will be illuminated whenever the oven is in the self-clean mode and the door is locked.

Temperature Control Knob

The temperature control knob is marked in degrees Fahrenheit (°F). This control knob is used to adjust the oven temperature.

Mode Selector

The mode selector knob is used to set the oven to Off, or for Self Clean, or to select the cooking function desired. A number of modes are available depending on the model oven you have purchased.

Broil
Bake (Roast)
Convection Bake
Convection Roast
Convection Broil
Thaw

Cooking Function Settings

Broil: Used for broiling. When set on Broil the top elements operate whenever heating.

Note: May be used with door open or closed.

Bake (Roast): This mode is used for baking, roasting and heating of casseroles, etc.

When set on Bake the top element and the bottom element operate whenever heating.

Convection Bake: The most versatile mode for baking and heating a variety of dishes. Also recommended for preparing large quantities of food on several racks. When set on Convection the rear circular bake element operates whenever heating. Fan operates.

Note: Lower element shown for clarity only. Lower element actually is located below floor of cavity.

Convection Roast: Use for roasting.

When set on Convection Roast the top element and the bottom element operate whenever heating. Fan operates.

Convection Broil: Use of fish and broiling thick cuts of meat. The door must be closed when Convection Broiling. When set on Convection Broil top elements operate whenever heating. Fan operates.

Thaw: Use for defrosting. When set on Thaw no elements operate, only the fan is on.

Time Upper
Oven

Both Manual

Timer Lower
Oven

Manual Operation of the Oven

Before turning on your oven, position the racks properly for their intended use. To change the position of the racks, lift rack at the front and pull out and re-insert at the desired level. For manual operation of the oven set the Timer/Manual Selector knob to manual. If you have a double oven, as shown above you have three setting positions available:

Timer Upper Oven - when on this setting the programmer must be used to control the upper oven while the lower oven may be operated manually

Both Manual - when on this setting both ovens may be used manually.

Timer Lower Oven - when on this setting the programmer must be used to control the lower oven while the upper oven may be operated manually.

Once you have set the mode selector to Manual or, if you have a double oven, decided

which oven you are going to use:

Point One: Set Mode selector knob for the oven to the cooking mode desired.

Note: The cooling fan will begin to run as soon as the function selector knob is turned from the Off position.

Point Two: Set the temperature control knob for the oven to the temperature desired.

Note: If you have a convection oven and have selected THAW it is not necessary to set the temperature control knob as no heating takes place in THAW mode.

Point Three: Once cooking has been completed be sure to turn the selector knob and the temperature knob to the Off position.

Electronic Control of Oven

Immediate Start /
Automatic
Shut-Off

Immediate Start /Automatic Shut-Off

To use the electronic control so that your cooking starts immediately and then shuts-off automatically:

Point One: Set the oven rack(s) as desired and place food in the oven.

Point Two: Make sure that the oven clock is set to the correct time.

Point Three: Set the Timer/Manual Selector to Timer for the single oven or to Timer Upper Oven or Timer Lower Oven for double oven, so that oven programmer is enabled for the oven you wish to use in programmed operation.

Point Four: Set oven Mode Selector knob to the cooking function desired:

Broil/Bake/Convection Bake/Convection Roast/Convection Broil/Thaw

Point Five: Set oven Temperature Control knob to the desired temperature.

Point Six: Depress Cook Time button, a “beep” will sound and the display will show set cook time on the right hand side of the display.

Point Seven: Then press either the plus (+) or minus (-) button, to the right of the display, to set the timer to the time interval desired. Maximum cooking time is 11 hours and 50 minutes (minimum cooking time is 1 minute).

Note: If the plus (+) or minus (-) button is not depressed within 5 seconds of touching the Cook Time button the Cook Time button will have to be depressed again to call up set cook time.

Point Eight: After the cook time has been set a “beep” will sound and the indicator word COOK will appear in the display and the oven will begin heating. Figure 9 shows what the display would look like at

this time if a cooking time of 2 hours and 30 minutes had been set.

Point Nine: At the end of the programmed cooking time, the oven will automatically shut-off and the indicator word cook will blink. Three “beeps” will sound and the oven will continue to beep every 10 seconds until any button is pushed.

Be sure to turn the Mode Selector knob and the Temperature knob to their Off positions after electronic controlled cooking has been completed.

that contain baking powder or yeast as these foods will not rise properly if cooked in this way. Also, please keep in mind that the time required for the oven to come up to temperature must be included in the cooking time. In most cases this means that approximately 10 minutes should be added to the cooking time. A preheat time is usually not necessary for convection function, but in all cases follow your recipe.

Cancel Cook
Time

To Cancel Cook Time

To cancel cook time at any time depress cook Time button twice.

Delayed Start/
Automatic
Shut Off

Delayed Start/Automatic Shut-Off

The programmer may also be used to have your oven start at a later time, cook for a preset cooking period and shut itself off automatically. This function is not recommended for foods

Warning

When using delayed cooking special consideration must be given to avoid potential sickness and spoiling of food:

Point One

Avoid using foods that will spoil while placed in the oven waiting for cooking to begin. In particular, avoid using foods containing eggs and dairy products in delayed cooking. In addition, unfrozen cooked or uncooked meats, poultry and fish should not be placed in the oven if they will be there for more than two hours.

Point Two

Do not allow food to remain in the oven more than one hour after the end of the cooking cycle.

Care & Cleaning

The Bosch line of ovens feature a pyrolytic self-cleaning function that eliminates the difficult and time consuming manual scrubbing of the oven interior. During self-cleaning the oven uses very high temperature (approx. 850°F) to burn away soil and grease. The fumes produced during this function of the oven are then filtered and expelled. You will note however that a powder ash residue will be left on the bottom of the oven after completion of self-cleaning. Once the oven has cooled sufficiently the residue may be removed using a damp cloth or sponge. See the following instruction on use of the self-clean function.

For parts of the oven other than the oven cavity the following cleaning methods are recommended:

Control Panel

Use warm soapy water or spray glass cleaner to clean the control panel. With a soft cloth or sponge wash, rinse and dry the control panel thoroughly. DO NOT use abrasive cleaners or steel wool pads. These will damage the surface.

Stainless Steel

To clean, use a standard cleaner designed for stainless steel such as: Cameo®, Bar KeepersFriend® or Bon-Ami®. Follow manufacture instructions. When clean, a polish such as Twinkle® or Stainless Steel Magic® can be applied.

DO NOT USE ABRA-SIVE MATERIALS SUCH AS STEEL WOOL OR ROUG SPONGES. IT WILL SCRATCH THE SURFACE.

Front of Oven Door(s) and Handle(s)

Use warm soapy water or spray glass cleaner to clean the glass door surface. With a soft cloth or sponge wash, rinse and dry the door front(s) and handle(s) thoroughly. DO NOT use abrasive cleaners or steel wool pads. These will damage the surface.

Boiler Pan and
Rack(s)

Frame
Outside Door
Gasket Area

Door Outside
Gasket Area

Using Self Clean
Function

Broiler Pan and Rack(s)

Use warm soapy water. With a steel wool pad wash, rinse and thoroughly dry the pan and/or rack(s). DO NOT clean the broiler pans or racks by leaving them in the oven when running the Self Clean function.

Frame Outside Door Gasket Area

Make sure oven is cool, then use warm soapy water. With a non-abrasive, plastic scrubbing pad clean the frame surface outside the door gasket area. This area must be cleaned by hand because the area outside the gasket does not get hot enough to burn off the soil.

Door Outside Gasket Area

Make sure oven is cool, then use warm soapy water. With a non-abrasive, plastic scrubbing pad clean the area outside the door gasket area. This area must be cleaned by hand because the area outside the gasket does not get hot enough to burn off the soil.

Using the Self Clean Function

The Self Clean function is a timed function and therefore is used just as if using the oven in Immediate Start/Automatic Shut-Off or Delayed Start/Automatic Shut-Off. There are a few preparations that must be made however as well as some post function clean-up that you will find described below:

Point One: Before using Self Clean be sure to remove the racks. Also, if you have placed any aluminum foil in the oven this should also be removed.

Note: If items are left in the oven during self-cleaning they may become damaged and racks will become discolored. Also, the racks will become difficult to slide in and out.

Point Two: Clean soil from the frame around the door, outside the door gasket. Do not clean the door gasket by hand as this could move or damage the gasket. The areas outside the gasket area must be cleaned by hand because these areas do

not become hot enough during Self Clean to burn away the soiled spots.

Point Three: Also wipe up excess grease and other food spills with a damp cloth. This will minimize the amount of smoke created during self-cleaning.

Point Four: Make sure that the oven door is completely closed and the oven clock is set to the correct time.

Point Five: Set the Timer/Manual Selector knob to Timer, for single oven, or to Timer Upper Oven or Timer Lower Oven, for double oven, so that oven programmer is enabled for the oven you wish to have self-clean.

Point Six: Set the Function Selector to Self Clean. The display will change to say SET - CLEAN - TIME with an initial setting of 3 hours. If the plus (+) or minus (-) buttons are not depressed within a few seconds, the display will revert to CLEAN function.

Point Seven: Set the Temperature Control to Clean.

Point Eight: If you wish to change to a cleaning time of other than 3 hours depress the COOK TIME button. A “beep” will sound and the display will show SET - CLEAN - TIME on the right hand side of the display as shown in Figure 13. The programmer setting is initially for a duration of 3 hours. The cleaning time can be set for 2 hours and 30 minutes to 4 hours depending on how soiled the oven cavity has become:

Use 2:30 - to - 3:30 hours for light soil.

Use 3:00 - to - 3:30 hours for medium soil.

Use 3:30 - to - 4:00 hours for heavy soil.

Point Nine: To adjust the cleaning time press the plus (+) or minus (-) button, to the right of the display.

Note: If the plus (+) or minus (-) button is not depressed

within 5 seconds of touching the COOK TIME button the COOK TIME button will have to be depressed again to call up SET - CLEAN - TIME.

Point Ten: After the Clean Time has been set a “beep” will sound and the indicator word CLEAN will appear in the display and the oven will begin the self-cleaning process. As the oven heats past 560°F the automatic door lock will operate to lock the door of the oven that is in Self Clean. The Door Lock indicator light will become illuminated to show that the door is locked. The door will remain locked and the indicator light will remain on throughout the self-cleaning process until the temperature drops below the 560°F temperature noted above.

Point Eleven: At the end of the programmed clean time the oven will automatically shut-off. Allow the oven to cool.

Point Twelve: Open the door. Then after making sure that the oven has cooled to a safe tem-

perature, use a damp cloth or sponge to clean out the powder ash residue left in the oven. If white spots remain in the oven they can be removed with a damp sponge. These white spots are normally just salt spots that cannot be removed by self-cleaning.

Point Thirteen: Reinstall the oven racks and broiler pan. Be sure to turn the selector knob and the temperature knob to the Off position after the electronic controlled self-cleaning has been completed.

Replacing an Oven Light

Each oven is equipped with two halogen lights located in the back wall of the oven. The lights are switched on when the door is opened or when the oven is in a cooking cycle. The oven lights are not illuminated during SELF CLEAN. Each light assembly consists of a removable lens, a light bulb as well as a light socket housing that is fixed in place. Light bulb replacement is considered to be a routine maintenance item.

To replace a light bulb:

Read WARNING on this page.

Turn off power at the main power supply (your fuse or breaker box).

In multifunction ovens remove the fan cover by unscrewing the four screws.

Remove the lens by unscrewing it.

Remove the light bulb from its socket by pulling it.

Replace the bulb with a new one taking care to don't touch it with naked fingers. Their grease can damage the bulb when it becomes hot. The bulb is halogen 12V-20W.

Screw the lens back on.

Replace the fan cover if the cavity is provided with.

Turn the power back on at the main power supply (your fuse or breaker box).

Problem Solving

Ovens may exhibit problems that are unrelated to a malfunction of the oven itself. Service calls for such items, not covered by warranty, must be paid for by you. The following may serve to answer your questions about a problem you are having without having to call a service person.

Problem Possible Cause
Suggestions

Nothing works oven not connected to correct electrical circuit.

Have oven connected to properly sized electrical power supply by a qualified electrician.

A household fuse may have blown or circuit breaker has tripped

Replace fuse or reset circuit breaker.

Power supply connections are loose. Have qualified electrician check connections.

The oven will not heat The Function Selector is in Off position Turn the function selector to a cooking function.

The Temperature knob of the oven is not turned up to a temperature.

Set the Temperature knob to temperature desired. Timed mode is selected, but cook time has not been set. Check display and review instruction for programming oven. Delayed cooking has been selected and start time has not been reached. Check time of day and check start time. Oven should start at preselected start time. To cancel delayed start press start time button twice. Clock displays incorrect time of day Time of day not properly set. See section of this manual headed Setting Electronic Clock.

Cooking results are not what was expected the oven is not leveled. Level oven.

Oven temperature calibration differs from your previous oven.

The calibration of your old oven may have drifted gradually over time, while your new oven is more exact. Adjust oven temperature settings as needed.

The oven was not preheated before baking. Preheat oven when recipe calls for preheated oven.

Incorrect cooking time, temperature or rack position being used.

The recipe has not been tested or is not from a reliable source.

Use only tested recipes from a reliable source.

The pan is not the correct type or size. Refer to a reliable cookbook or recipe for recommended pan size.

Browning or baking results are not like they used to be in the former oven.

Change temperature settings in convection bake as described on page 5 of this manual and increase baking time accordingly.

Door will not open Oven is in self clean and the oven temperature is above 560 °F. Wait for oven to finish and cool down. Oven has finished self clean but oven temperature is still above 560 °F.

Wait for oven to cool.

Oven light(s) will not work
Light bulb is burned out. Replace bulb as described in this manual inspection titled Replacing an Oven Light.

Oven is operating in self clean.
Lights do not come on in with self clean.

Introducing the new toaster that's an "oven," too!

The new General Electric Toast-R-Oven makes perfect toast "upstairs" or "down." Heats bread and rolls, toasts buttered bread right at the table!



Toasts 2 slices
Warms 6

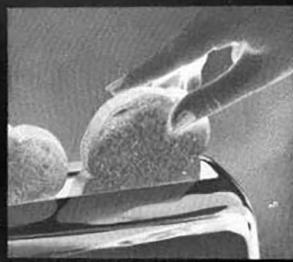
NEW
TOAST-R-OVEN
\$29.95*

*Manufacturer's recommended retail or Fair Trade price

HERE'S SOMETHING really new in toasters. The General Electric Toast-R-Oven does just about all your toasting, warming, browning jobs *right at your table*.

Makes toast "upstairs" to any delicious shade you want it. Keeps it warm "downstairs" in the oven. Just set the oven dial for warming rolls, buns or muffins.

And it's all so simple! You'll love the easy convenience of the General Electric Toast-R-Oven. Love its compact beauty, too. Why not see it at your General Electric dealer's soon. General Electric Company, Portable Appliance Department, Bridgeport 2, Connecticut.



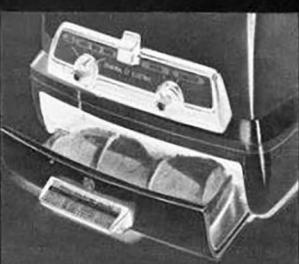
1. Make toast as you like it ... light, dark or in between with the upper part of your new General Electric Toast-R-Oven. Every slice of toast pops up good and high, so you don't have to dig or burn your fingers.



2. Compact oven warms up to 6 rolls, heats muffins, buns—any baked foods that used to mean using the range oven. Holds 8 pieces of toast at one time . . . 6 keeping warm, 2 toasting on top.



3. Press a button to lower toast and start heat. To get the oven temperature you need, set dial at left. Temperature chart on oven door shows you the "just right" heat for whatever you're preparing.



4. Like to toast buttered bread? And how about garlic-y French bread and crunchy oven toast? Just dial the shade you want. You can fix all these treats at the table with this really new toaster.

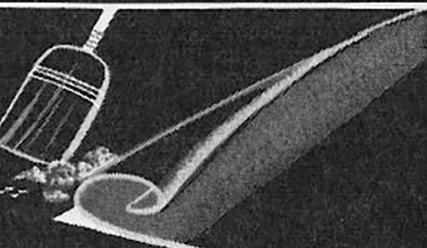


5. Toasted or melted cheese sandwiches, too . . . topped with a slice of tomato for good eating! Lovely to look at, easy to clean. Oven drawer slides out. Chromium finish dazzles at the flick of a soft cloth.

Progress Is Our Most Important Product

GENERAL  **ELECTRIC**

You wouldn't sweep
dust under the rug... so



DON'T PUT CLEAN FOOD IN A DIRTY OVEN!

Oven cleaning
is a cinch
with EASY-OFF!



NO STEEL WOOL
NO RAZOR BLADES
NO AMMONIA

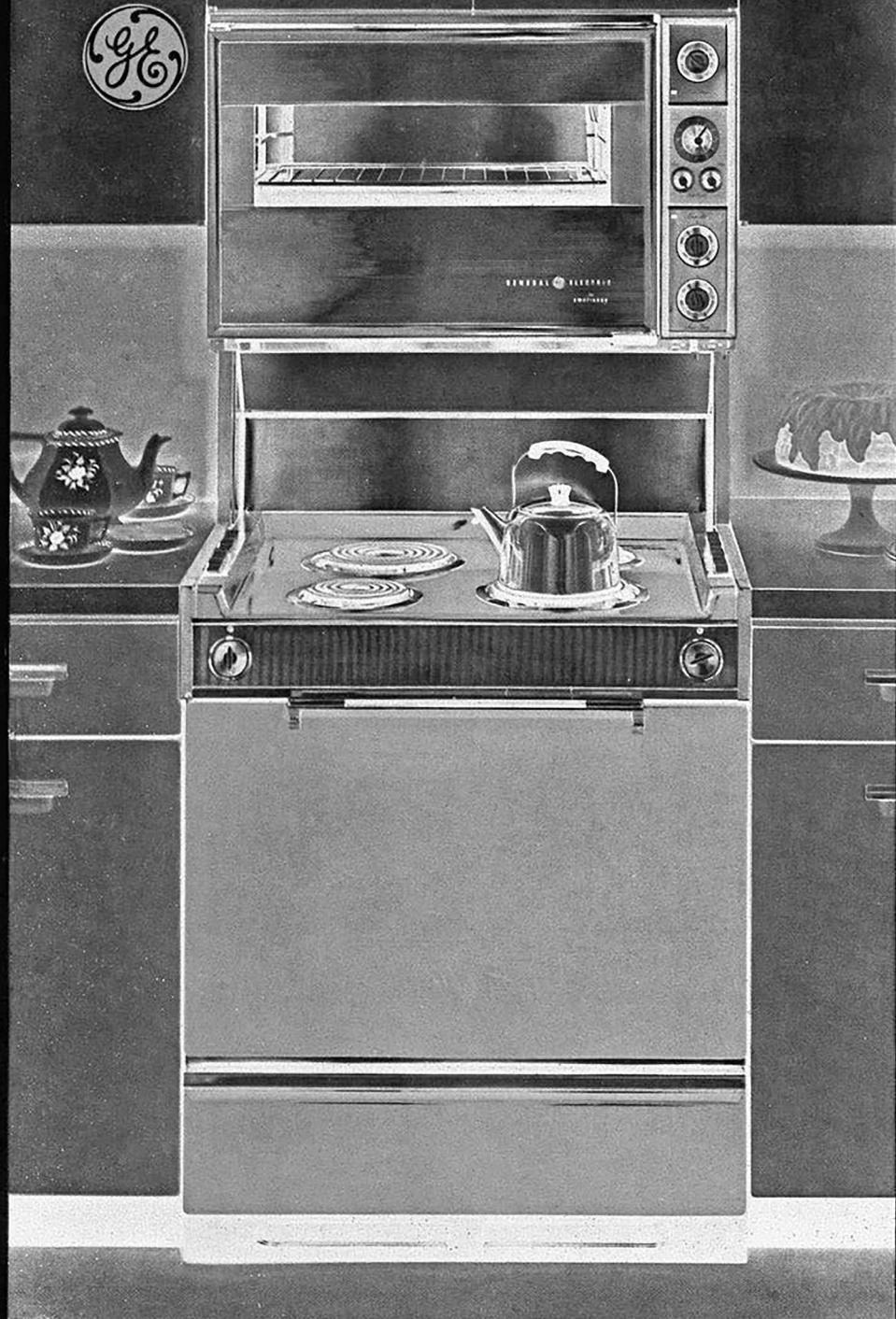
JUST SPREAD! LET SET! WIPE OFF!

Ovens sparkle like new... even baked-on grease wipes off burners, racks, grills, side-walls! Eight ounce jar 69¢... 16 oz. jar 98¢... free brush attached!

LET EASY-OFF DO THE WORK!

NEW americana'62

2 FULL OVENS... YET ONLY 30 INCHES WIDE



Shown, Model J790. In 4 Mix-or-Match colors, plus Dark Coppertone or White

Fits in to look built-in . . . without the built-in cost! And this wonderful new *look* is only part of the pleasure. Cooking's easy and pleasant . . . and so is clean-up. Practically everything lifts up or off for *easy* clean-up. No sooty pots or surfaces—because it's *flameless* cooking.

By any measure...

There is nothing just as good as General Electric

Progress Is Our Most Important Product.

GENERAL **ELECTRIC**



LIVE BETTER ELECTRICALLY WITH A HOTPOINT RANGE

TWO-OVEN LUXURY IN JUST 30 INCHES

(OF COURSE, IT'S A HOTPOINT!)

And with Hotpoint, both oven and range-top cooking are fully automatic!

You simply pre-select proper cooking times and temperatures

Amazingly modern! The Hotpoint TWIN-GLO vertical broiler cooks both sides at once, broils almost twice as fast. That mouth-watering outdoor flavor's sealed in. Foods cooked this way are so much more appetizing, juicy, tender.

And there's the new family-sized Hotpoint SUPER OVEN too! Its sparkling new silver-grey interior, automatically lighted, is so much easier to see into—and to clean. Automatically, it cooks a complete oven meal for 2... or for 24.

How you'll enjoy automatic range-top cooking. It's all electric, you just push a button. Now foods can't stick, burn, undercook, overcook—any quantity in any sized pan. And because both time and temperature are automatic with Hotpoint, pot-roasts, stews, soups, french-fried delicacies are sure and easy in the deep-well cooker.

New beauty—smart Fashion Front styling in your choice of five lovely colors or classic white. And all in just 30 inches. Go see it soon!



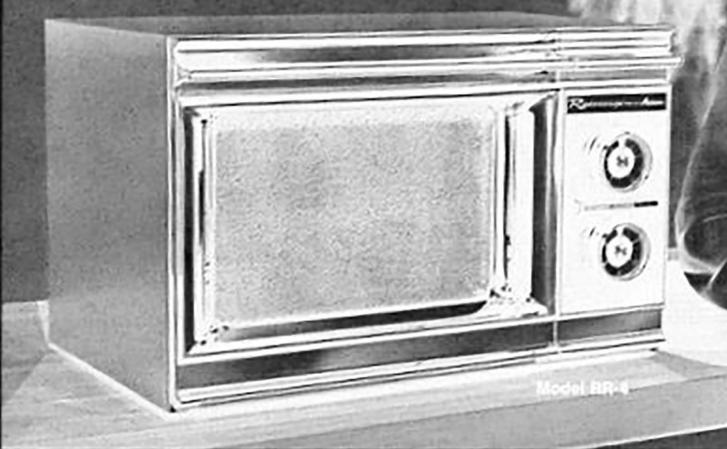
Be sure you also see this 1957 Hotpoint 39-inch, 2-oven range, most automatic ever built.

Hotpoint

Electric Ranges • Refrigerators • Automatic Washers • Clothes Dryers • Customline
Dishwashers • Disposals® • Water Heaters • Food Freezers • Air Conditioners • Television
HOTPOINT CO. (A Division of General Electric Company), CHICAGO 44

BARBARA HALE FOR AMANA:

"Make the greatest cooking discovery since fire."



Radarange® made only by *Amana*.

Cuts most cooking times by 75%. Bakes a potato in 4 minutes, cooks a hot dog in 20 seconds and a 5 lb. roast in 35 minutes.

Make the greatest cooking discovery since fire for yourself. Cooking with the Radarange oven is simple and easy. You cook most everything in about one-fourth the normal time. Only the food gets hot, the oven and your kitchen stay cool. You just put the food in, set the timer and push the start button. That's all . . . and cleanup is easy, too. A wipe of a damp cloth is all you need . . . operates on ordinary household current. And now there are 3 models and styles of Radarange ovens to choose from. Join the thousands and thousands of people already using the Radarange oven. And remember only Amana can make a Radarange! If it doesn't say Amana it's not a Radarange Microwave Oven. See it today at your Amana dealer or write Ann MacGregor, Dept. 175, Amana, Iowa 52203.



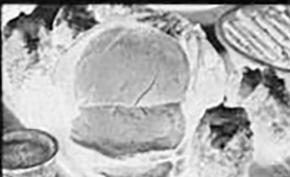
Cooks a hot dog in 20 seconds. A baked potato in 4 minutes.



Only the food gets hot. The oven and your kitchen stay cool.



Cooks on paper, glass, or china. Or you can put food directly on this exclusive Amana broiler tray.



This 5-pound roast took 35 minutes. Perfect for fresh vegetables, frozen food and leftovers, too.

Radarange®
MICROWAVE OVEN

made only by *Amana*®

Backed by a century-old tradition of fine craftsmanship.

AMANA REFRIGERATION, INC. • AMANA, IOWA 52203 • SUBSIDIARY OF RAYTHEON COMPANY

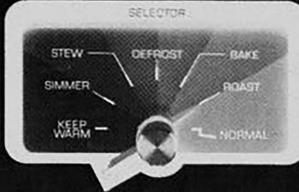
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If you think microwave ovens can't brown, look into a Tappan.

See that coil at the top of our Microwave Oven. That's Tappan's built-in browning element. It's patented. And it's very important. Because without it, fast-cooking foods (like chicken, casseroles or hamburgers) would come out looking pale and unappetizing.

But with our built-in browner, you just press a button to brown any food perfectly—crisp and delicious.



Tappan also has an easy-to-use Selector Control for precise cooking.

So if you want a Microwave Oven that does it all—from defrosting to browning and everything in between—look into a Tappan. You'll get a lot more out of it.

TAPPAN

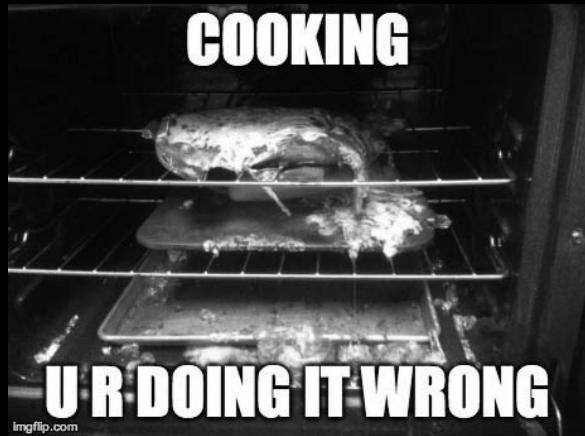
Appliances — Serving the heart of the home.
Mansfield, Ohio 44901



Tappan Nationwide Sentinel Service









★★★★★

I bought this one refurbished, not from Amazon, still with the 2 year warranty and really love the large extra wide size.

I've read others that criticize it for the 'old school' analog controls. But you know what, my old one had the digital read-out and controls but you had to keep punching the buttons to finally reach the desired temperature and length of time it stayed on. With the 'old fashioned' knobs of this Black and Decker I can quickly turn it to the desired temp and time. Actually much better, faster, more efficient.

I've found the temp, so far, to be about 20 degrees too high according to the oven thermometer but I've been accustomed to that with toaster ovens in general over the years I've owned them. If I'm aware of that I just adjust the temp accordingly. No real issue.

I first tried it with a couple pieces of bread for toast and it toasted the tops evenly and quickly. The bottoms had the

usual uneven spacing of browning typical with toaster ovens due to the rack the bread is sitting on, compared to dedicated toaster. But no real issue here, it was toast.

Next I tried some chocolate, chocolate chip muffins from scratch. This convection oven baked them evenly without my having to rotate the 12 muffin pan to evenly bake. It baked evenly for the entire baking time required. They all rose evenly to the same height and color. Nice... Oh, and I would never have been able to use the 12 muffin muffin pan in my old toaster oven.

I really like this convection toaster oven!

★★★★★

We used the same toaster oven for the first 7 years of our marriage. My husband complained time and time again about how ugly it was getting and that we needed to upgrade. Well, I did that for Father's Day! Now, we use our toaster ovens a lot. Literally on a daily basis. We use it for all of the regular things that you would expect like toast, bagels, frozen prepared meals, pizza, etc. We actually don't have a microwave so we use it to warm up all of our food as well! So it is used for almost every meal of the day.

I LOVE the size of this toaster oven and it is just pretty! It is so much more usable than our previous oven and it doesn't take up too much room on our countertop. I have successfully cooked things that I would have only cooked in our larger standard sized ovens previously like casseroles, bread, cookies, etc. It performed just as well as the larger oven. It's also nice not to have to heat up the entire house when I want to cook something. I do have to say that it cooks things more evenly

than our previous toaster oven as well.

I was specifically looking for a toaster oven with knobs versus a digital display. How many times have I had products with those fancy digital displays break?! Technology is great, but sometimes I just like to go back to the basics and I mean that in a good way. The knobs are easy to manoeuvre, but I did have a slight challenge making toast the first time. I couldn't quite figure it out. I'm sure that if I would have read the directions better that would have helped though. ;-)

Now...drumroll, please...the reason for 4 stars vs 5 stars? The buzzer! That sucker is LOUD. That's great when I want to be notified so that I can remove items from the oven, but when my kids are asleep, I have a migraine, etc then I would love the option to turn it off or lower the volume. That's definitely not a make or break detail and I would still purchase this toaster oven again. Especially for the great price!

★★★★★ I have been using a small toaster oven for several years, and recently had an opportunity to replace it with this new model from Black and Decker. After using it for several weeks, I can definitely recommend this model to anyone looking for a toaster oven with generous space, with easy-to-use controls, and which cooks fast.

In the story, a new type of oven is brought before the Sanhedrin and the rabbis debate whether or not this oven is susceptible to ritual impurity. Rabbi Eliezer ben Hurcanus argues that the oven is ritually pure while the other rabbis, including the nasi Rabban Gamaliel, argue that the oven is impure. When none of Rabbi Eliezer's arguments convince his colleagues, he cries out, "If the halakha is in accordance with my opinion, this carob tree will prove it." At this point, the carob tree leaps from the ground and moves far away. The other rabbis explain that a carob tree offers no proof in a debate over law. Rabbi Eliezer cries out, "If the halakha is in accordance with my opinion, the stream will prove it." The stream begins to flow backwards, but again the other rabbis point out that one does not cite a stream as proof in matters of law. Rabbi Eliezer cries out, "If the halakha is in accordance with my opinion, the walls of the study hall will prove it." The walls of the study hall begin to fall, but are then scolded by Rabbi Joshua ben Hananiah who reprimands the walls for interfering in a debate among scholars. Out of respect for Rabbi Joshua, they do not continue to fall, but out of respect for Rabbi Eliezer, they do not return to their original places.

In frustration, Rabbi Eliezer finally cries out, "If the halakha is in accordance with my opinion, Heaven will prove it." From Heaven a voice is heard, saying, "Why are you differing with Rabbi Eliezer, as the halakha is in accordance with his opinion in every place that he expresses an opinion?" Rabbi Joshua responds, "It [the Torah] is not in heaven" (Deuteronomy 30:12). He responds in this way because the Torah, which was given by God to mankind at Sinai, specifically instructs those who follow it that they are to look to the received Torah as their source and guide. The Torah says, "It is not in heaven, that you should say, 'Who will go up to heaven for us, and get it for us so that we may hear it and observe it?' Neither is it beyond the sea, that you should say, 'Who will cross to the other side of the sea for us, and get it for us so that

we may hear it and observe it?’ No, the word is very near to you; it is in your mouth and in your heart for you to observe” (Deuteronomy 30:12-14).

Rabbi Joshua’s response then expresses the view that the work of law is a work of human activity, and that the Torah itself supports this legal theory. The Torah is not a document of mystery which must have its innate meaning revealed by a minority, but it is instead a document from which law must be created through the human activity of debate and consensus. Rabbinic literature was capable of recognizing differing opinions as having a degree of legitimacy (Yer. Ber. 3b), yet the community remains united and the ruling which is ultimately followed comes through proper jurisprudence. As such, Rabbi Eliezer’s miraculous appeals represent a differing legal theory and were outside of proper jurisprudence which meant that they would not be followed. Instead the Jewish community followed the ruling of the majority in this issue and in others. The Talmud asks how God responded to this incident. We are told that upon hearing Rabbi Joshua’s response, God smiled and stated, “My children have triumphed over Me; My children have triumphed over Me.”

After this incident, the rabbis under Rabban Gamaliel choose to ostracize Rabbi Eliezer from their community. Rabbi Akiva, a student of Rabbi Eliezer, volunteers to bring this news to Rabbi Eliezer. Rabbi Akiva dresses himself in clothes of mourning, and he delicately says to Rabbi Eliezer, “My teacher, it appears to me that your colleagues are distancing themselves from you.” Rabbi Eliezer tears his clothes in mourning and begins to cry. It was said that Rabbi Eliezer had the power to destroy the whole world, yet due to the respectful manner in which he was ostracized, only a third of the world’s crops were destroyed.

When Rabbi Eliezer was given the news of being ostracized, Rabban Gamaliel was on a boat. A great storm picked up, and Rabban Gamaliel knew that this storm was retribution for the pain caused to Rabbi Eliezer. Rabban Gamaliel proclaims to God, “Master of the Universe, it is revealed and known before You that neither was it for my honor that I acted when ostracizing him, nor was it for the honor of the house of my father that I acted; rather, it was for Your honor, so that disputes will not proliferate in Israel.” When he spoke these words, the storm was calmed.

After this incident, Rabbi Eliezer continued to be in grief over being ostracized from the community. His wife and the sister of Rabban Gamaliel, Ima Shalom, was aware of the power that a prayer said in pain had to be heard. She attempted to interfere with her husband’s supplication prayers so that any calls for retribution or bemoaning of his fate would not be heard. Yet one day she was distracted and failed to interfere with Rabbi Eliezer’s prayers. At this moment, Rabban Gamaliel died. Rabbi Eliezer asked his wife how she knew that this would happen if he were to pray while in such pain. Ima Shalom explains the sentiment expressed in the discussion preceding the story of the Oven of Akhnai, she says, “This is the tradition that I received from the house of the father of my father: All the gates of Heaven are apt to be locked, except for the gates of prayer for victims of verbal mistreatment.”

INDEX

PAGES 6–26

Wikipedia

PAGES 27–69

BOSH Oven
Instruction
Manual

PAGES 70–77

Images from
Google

PAGES 78–81

Amazon

PAGES 82–84

Wikipedia