



Atmospheric Gas Residential WATER HEATERS

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OWNER'S MANUAL

GE Branded Atmospheric Gas Models

- GG30S**BXR
- GG30T**BXR
- GG40S**BXR
- GG40T**BXR
- GG50S**BXR
- GG50T**BXR
- GP30S**BXR
- GP30T**BXR
- GP40S**BXR
- GP40T**BXR
- GP50T**BXR

FRANÇAIS

Pour une version française de ce manuel d'utilisation, veuillez visiter notre site web à l'adresse GEAppliances.com.

ESPAÑOL

Para consultar una versión en español de este manual de instrucciones, visite nuestro sitio de internet GEAppliances.com.

Write the model and serial numbers here:

Model # _____

Serial # _____

You can find them on the rating label on the front side of your water heater.

THANK YOU FOR MAKING GE APPLIANCES A PART OF YOUR HOME.

Whether you grew up with GE Appliances, or this is your first, we're happy to have you in the family.

We take pride in the craftsmanship, innovation and design that goes into every GE Appliances product, and we think you will too. Among other things, registration of your appliance ensures that we can deliver important product information and warranty details when you need them.

Register your GE appliance now online. Helpful websites and phone numbers are available in the Consumer Support section of this Owner's Manual. You may also mail in the pre-printed registration card included in the packing material.



IMPORTANT SAFETY INFORMATION

READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE

⚠ WARNING

For your safety, the information in this manual must be followed to minimize the risk of fire or explosion, electric shock or to prevent property damage, personal injury or loss of life.

Be sure to read and understand the entire Use & Care Manual before attempting to install or operate this water heater. It may save you time and cost. Pay particular attention to the Safety Instructions. Failure to follow these warnings could result in serious bodily injury or death. Should you have problems understanding the instructions in this manual or have any questions, STOP and get help from a qualified service technician or the local gas and electric utility.

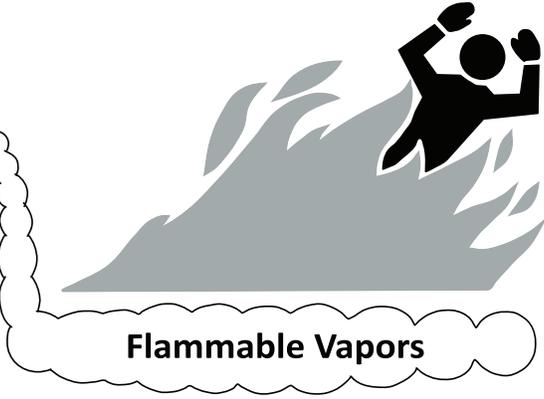
⚠ DANGER

To avoid danger of fire, explosion or asphyxiation from carbon monoxide, the water heater and its vent hood must be properly installed and vented to the outdoors as outlined in the Air Supply and Ventilation section of this manual and in accordance with local codes, the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1. DO NOT operate the water heater unless its ventilation and air supply system are installed and operating according to this manual and local or national codes.

⚠ WARNING



FLAMMABLE



Flammable Vapors

FIRE AND EXPLOSION HAZARD

Can result in serious injury or death

⚠ Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. Storage of or use of gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance can result in serious injury or death.

READ AND SAVE THESE INSTRUCTIONS

IMPORTANT SAFETY INFORMATION

READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE

WARNING

TO REDUCE RISK OF FIRE, EXPLOSION, INJURY, OR DEATH, follow these instructions:

- **SEALED BURNER ASSEMBLY SERVICE** should be performed by a qualified service technician.
- If **SEALED BURNER ACCESS DOOR** is removed, a new **GASKET** must be installed.
- Mounting **SCREWS** must be re-installed securely.
- Do not operate if **SCREWS** are missing.
- Do not operate if **SIGHT GLASS** or **RUBBER GROMMET** are damaged.

WARNING

Safety Precautions

- A.** Turn off gas to the water heater if it has been subjected to overheating, fire, flood or physical damage. Do not operate the water heater again until it has been thoroughly checked by a qualified service technician.
- B.** Confirm that the water heater is completely filled with water before turning it on.
- C.** Confirm that the cold water supply shut-off valve is open before turning the water heater on.
- D.** Never store combustible materials, such as paper products or rags, near the water heater.
- E.** Never store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. Storage or use of gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance can result in serious injury or death.
- F.** Call a service technician or other qualified person if there is any difficulty understanding or following instructions in this Use & Care Manual.

CAUTION

Risk of Fire - Hydrogen gas can be produced in a hot water system served by this water heater that has not been used for a long period of time (generally two weeks or more). **HYDROGEN GAS IS EXTREMELY FLAMMABLE!** To dissipate such gas and to reduce risk of injury, it is recommended that the hot water faucet be opened for several minutes at the kitchen sink before using any electrical appliance connected to the hot water system. If hydrogen is present, there will be an unusual sound such as air escaping through the pipe as the water begins to flow. Do not smoke or use an open flame near the faucet at the time it is open.

FOR INSTALLATIONS IN THE STATE OF CALIFORNIA

California Law requires that residential water heaters must be braced, anchored or strapped to resist falling or horizontal displacement due to earthquake motions. For residential water heaters up to 52-gallon (236.4 L) capacity, a brochure with generic earthquake bracing instructions can be obtained from: Office of the State Architect, 400 P Street, Sacramento, CA 95814 or you may call 916.324.5315 or ask a water heater dealer.

Applicable local codes shall always govern installation. For residential water heaters of a capacity greater than 52 gallons (236.4 L) consult the local building jurisdiction for acceptable bracing procedures.

READ AND SAVE THESE INSTRUCTIONS

IMPORTANT SAFETY INFORMATION

READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE

WATER TEMPERATURE ADJUSTMENT

Safety, energy conservation and hot water capacity are factors to be considered when selecting the water temperature setting of the water heater. Water temperatures above 125°F can cause severe burns or death from scalding. Be sure to read and follow the warnings outlined on the label pictured to the left. This label is also located on the front of the water heater.

DANGER



- Water temperature over 125°F can cause severe burns instantly or death from scalds.
- Temperature control settings usually approximate tap water temperature. However, factors could cause water temperature to exceed 160°F regardless of control settings.
- Children, disabled, and elderly are at highest risk of being scalded.
- See instruction manual before setting temperature at water heater.
- Feel water before bathing or showering.
- Temperature limiting valves are available, see manual.

Time/Temperature Relationship in Scalds

Temperature	Time to Produce a Serious Burn
120°F (49°C)	More than 5 minutes
125°F (52°C)	1-1/2 to 2 minutes
130°F (54°C)	About 30 seconds
135°F (57°C)	About 10 seconds
140°F (60°C)	Less than 5 seconds
145°F (63°C)	Less than 3 seconds
150°F (66°C)	About 1-1/2 seconds
155°F (68°C)	About 1 second

Table courtesy of Shriners Burn Institute

The chart shown above may be used as a guide in determining the proper water temperature for your home.

⚠ DANGER There is a Hot Water SCALD Potential if the water temperature thermostat is set too high. Households with small children, disabled or elderly persons may require a 120°F (49°C) or lower thermostat setting to prevent contact with HOT water.

READ AND SAVE THESE INSTRUCTIONS

Safety Control

For added safety, this water heater is equipped with a Flammable Vapor Ignition Resistance (FVIR) system. If flammable vapors (such as gasoline) are drawn into the water heater's air supply, the FVIR system is designed to isolate these vapors and shut down the water heater should they reach the pilot light and burner

DO NOT try to light the water heater if flammable vapors are present; this could cause a fire or explosion. When the flammable vapors have been removed, contact a qualified service technician. Replacement of the water heater due to a flammable vapor shutdown is not covered under the warranty.

Safety Precautions

- A. Turn off gas to the water heater if it has been subjected to overheating, fire, flood or physical damage. Do not operate the water heater again until it has been thoroughly checked by a qualified service technician.
- B. Confirm that the water heater is completely filled with water before turning it on.
- C. Confirm that the cold water supply shut-off valve is open before turning the water heater on.
- D. Never store combustible materials, such as paper products or rags, near the water heater.
- E. Never store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. Storage or use of gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance can result in serious injury or death.
- F. Call a service technician or other qualified person if there is any difficulty understanding or following instructions in this Use & Care Manual.

FOR YOUR SAFETY READ BEFORE LIGHTING

⚠ WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

This appliance has a pilot which must be lit by a piezo electric spark gas ignition system. When lighting the pilot, follow these instructions exactly.

A. BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

B. WHAT TO DO IF YOU SMELL GAS

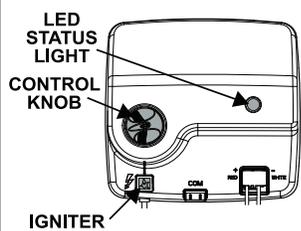
- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.

- If you cannot reach your gas supplier, call the fire department.

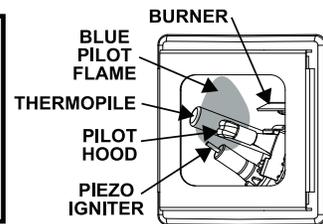
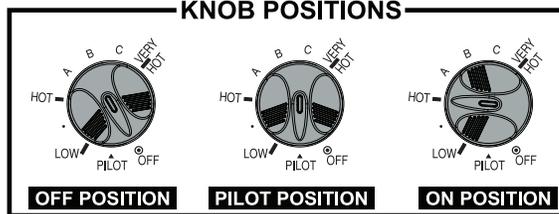
C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

LIGHTING INSTRUCTIONS



GAS CONTROL



PILOT SIGHT GLASS WINDOW

- STOP!** Read all safety warnings in the label above, before attempting to light the pilot.
- Turn the gas control/temperature knob counterclockwise to the **OFF POSITION**.
- Wait 10 minutes to clear any gas in the appliance. Smell for gas all around the appliance area. If you then smell gas, **STOP!** Follow "B" instructions in the safety information above. If you don't smell gas, go to the next step.
- Turn the control knob clockwise to the **PILOT POSITION**, push the knob down, and hold in position. (The pilot valve opens and allows gas to flow into the pilot burner.) NOTE: If the gas pipe is full of air (new installation), it takes longer to purge the air through the pilot before the pilot will light.
- Continue to hold the knob down, and depress the piezo igniter continuously, about once a second, to light the pilot flame. Hold the knob down, for about 30 seconds, or until the status indicator starts to blink.
NOTE: The LED should blink once every 3 seconds while holding a pilot flame. If it turns solid and does not begin to blink, repeat steps 2 through 5. If the pilot flame fails to light after 3 attempts, turn the knob counterclockwise to the OFF POSITION, and call a qualified service technician.
- Release the knob and turn it clockwise to the desired temperature setting, **ON POSITION** as shown in the illustration above. The **HOT** setting is approximately **120°F**. The burner will come on if the water temperature is significantly below the temperature setpoint, and the LED will begin to blink every 3 seconds as the appliance heats the water.

TO TURN OFF GAS TO APPLIANCE

- Turn the control knob counterclockwise to the **OFF POSITION**. The status light will stop blinking and the appliance will completely shut off.
- Turn off the gas supply to the appliance.

Extended Shutdown Periods

If the water heater will not be in use for an extended period of time, the appliance's gas and water should be turned off and the water heater drained to conserve energy and prevent a buildup of dangerous hydrogen gas.

NOTE: Refer to Hydrogen Gas Caution, page 4.

The water heater and pipes should also be drained if they could be exposed to freezing temperatures. After a long shutdown period, the water heater's operation and controls should be checked by a qualified service technician. Confirm that the water heater is completely filled before placing it in operation.

NOTE: Refer to Water Tank, page 10.

Temperature Control

Water temperature can be adjusted by turning the knob of the gas control/thermostat on the front of the water heater. Always read and understand safety instructions contained in the Use & Care Manual before adjusting the temperature setpoint.

NOTE: Refer to Water Temperature in Safety Information, page 5.

Safety and energy conservation should be considered when selecting the temperature setpoint of the water heater:

- The recommended setpoint for the water heater is 120°F (49°C), as water temperatures above 125°F can cause severe burns or death from scalding.
- Lower temperature setpoints increase energy savings.
- Higher temperature setpoints can increase the cleaning performance of dishwashers and washing machines, as well as killing bacteria.

Mixing Valves

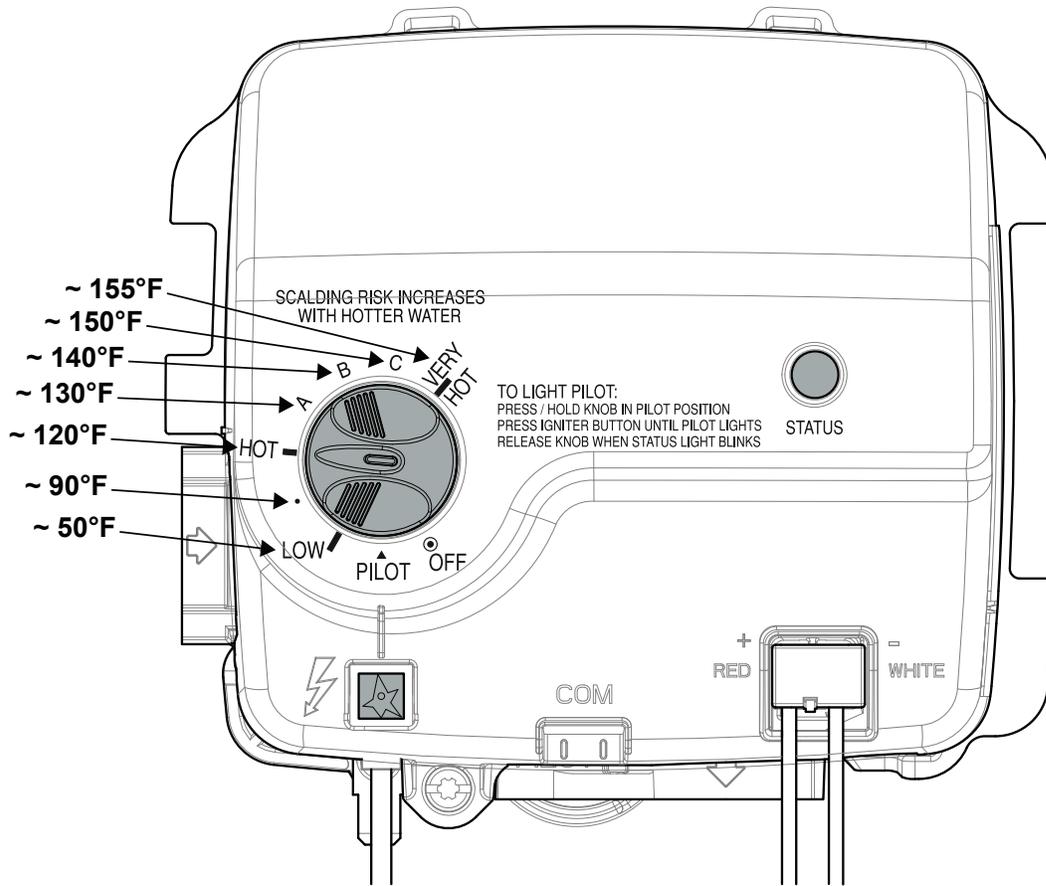
If the water heater's temperature is set above HOT (120°F/49°C), supplemental mixing valves are recommended to reduce point-of-use water temperature by mixing hot and cold water in branch water lines. Contact a licensed plumber or local plumbing authority for additional information.

Vacation Setting

This setting is recommended when you will be away from the home for an extended period of time and hot water is not needed. The vacation setting will reduce the water temperature to 50°F (10°C) to conserve energy.

NOTE: Refer to Hydrogen Gas Caution, page 4.

About the Gas Control/Thermostat



All temperatures listed on the water heater's gas control/thermostat are approximate.

Maximum water temperatures occur just after the water heater has completed a heating cycle. To determine the water temperature at point-of-use, open a hot water faucet and hold a thermometer under the stream of water.

Frequent, short uses of hot water can cause a phenomenon called stacking, when the temperature of the water at the top of the tank (closest to pipes delivering water to the home) exceeds the temperature at the bottom of the tank (where the gas control/thermostat is located).

Before use, always test the water temperature with your hand, keeping in mind that hotter water increases the danger of scalding.

NOTE: Refer to Water Temperature in Safety Information, page 5.

The gas control/thermostat is equipped with two safety shut-off devices:

- One is designed to shut off gas to the water heater's burner if the pilot light goes out.
- The other is designed to shut off gas to the burner if the water heater exceeds normal temperatures.

If one of these safety shut-off devices is activated, refer to Troubleshooting Tips, page 20.

⚠ WARNING If the water heater overheats or the gas supply fails to shut off, close the manual gas shut-off valve.

Turn off gas to the water heater if it has been subjected to overheating, fire, flood or physical damage. (Refer to Lighting and Shutdown, page 7.) Do not operate the water heater again until it has been thoroughly checked by a qualified service technician.

Do not use or attempt to repair the water heater if any part has been under water. Immediately call a qualified service technician to replace the unit.

Care and Cleaning

Exterior Surfaces

Hand wash with a damp cloth, using only warm water. Wipe dry using a dry, clean cloth.

Preventive Maintenance

For years of dependable service, the following annual maintenance program is recommended:

1. Test the Temperature and Pressure Relief Valve.
2. Drain and Flush the Water Heater Tank.
3. Inspect the Anode Rod.
4. Inspect the Gas Control/Thermostat.
5. Inspect the Pilot Light and Burner.
6. Inspect Water and Gas Systems.

NOTE: It is recommended that you call a service technician to perform these tasks.

Temperature and Pressure Relief Valve

▲ DANGER Risk of Scald - Before manually operating the relief valve, make certain no one will be exposed to the danger of coming in contact with the hot water released by the valve. The water may be hot enough to create a scald hazard. The water should be released into a suitable drain to prevent injury or property damage.

NOTE: If the temperature and pressure relief valve on the hot water heater discharges periodically, this may be due to thermal expansion in a closed water system. Contact the water supplier or a qualified service technician to correct this. Do not plug the relief valve outlet.

At least once a year, lift and release the lever handle on the temperature and pressure (T&P) relief valve, located on the right side of the water heater. Flush several gallons to the open drain below, confirming that the water flows freely through the T&P valve and discharge line.

Water Tank

Draining and Flushing the Water Heater

Over time, minerals contained in the water supply will begin to accumulate in the water heater's tank. Drain and flush the water heater at least once a year to clean any mineral deposits from the tank and ensure they do not interfere with proper functioning of the water heater. If the water supply is particularly hard (high in mineral content), it may be necessary to perform this process more often.

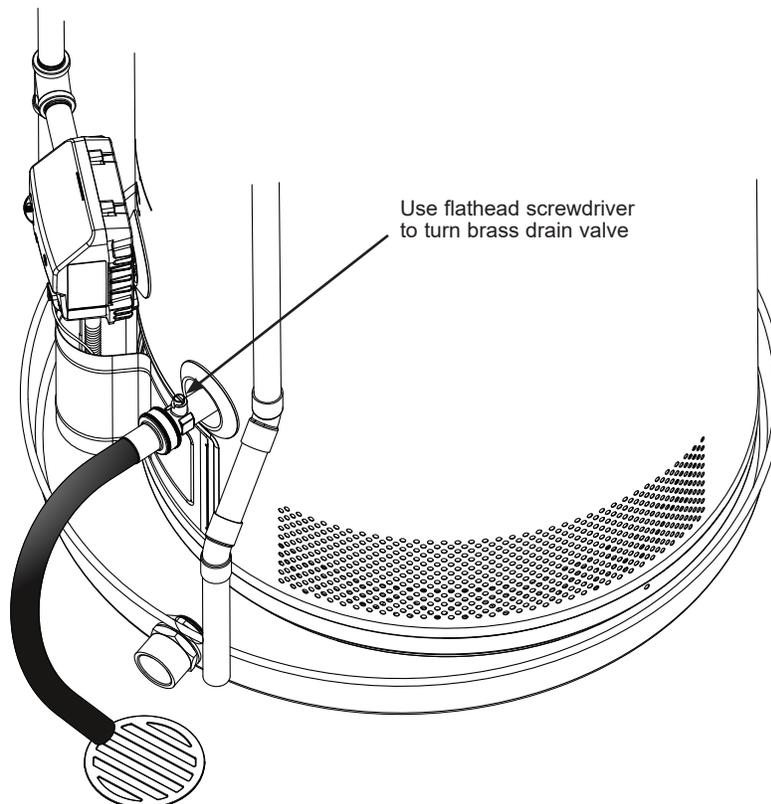
Draining the Tank:

1. Turn off the water heater and turn off gas to the unit. (See To Turn Off Gas To Appliance, page 7.)
2. Attach a garden hose to the drain valve located at the bottom of the unit and direct to a suitable drain.
3. Turn off the cold water supply.
4. Admit air to the tank by opening a hot water faucet or lifting the handle on the relief valve.
5. Open the drain valve.

Flushing the Tank:

1. Follow the steps above to drain the water heater.
2. Once the water heater is empty, with the drain valve open and garden hose attached to the drain valve, turn on the cold water supply.
3. Allow several gallons to flush through the drain valve and hose to an open drain.
4. Turn off the water supply and allow any water remaining in the tank to drain.
5. Repeat steps 3 and 4 until water runs clear.
6. Close the drain valve and completely fill the tank before turning on gas and relighting the unit. The tank is full when water runs continuously from an open hot water faucet.

Flushing should be done with an empty tank to promote additional removal of sediment.



Anode Rod Maintenance and Service

Anode rods are designed and installed to protect and extend the life of residential water storage tanks.

The anode rod must be removed from the water heater's tank and inspected annually, and replaced when more than 6" (15.2 cm) of core wire is exposed at either end of the rod. ***NOTE:** Artificially softened water will cause the anode rod to consume more rapidly.

The gas and cold water supply must be turned off before servicing the anode rod.

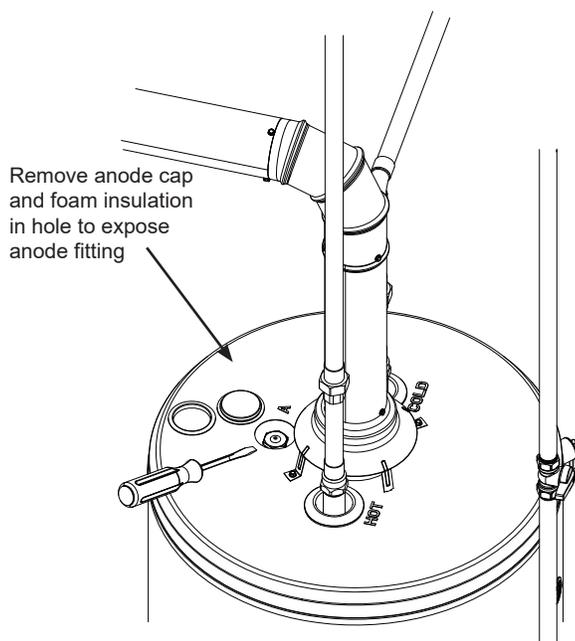
NOTICE: Do not remove the anode rod from the water heater's tank except for inspection and/or replacement, as operation with the anode rod removed will shorten the life of the glass-lined tank and will void warranty coverage.

Some areas have water conditions that may cause an odor to develop in the water heater. Special alloy replacement rods are available to address this condition.

***NOTE:** Failure to replace the anode rod when consumed voids the warranty for the tank. Warranty coverage for all other components remains intact and is unaffected by this maintenance requirement. The replacement anode rod and the inspection for consumption are not covered by the warranty.

Inspecting the Anode Rod:

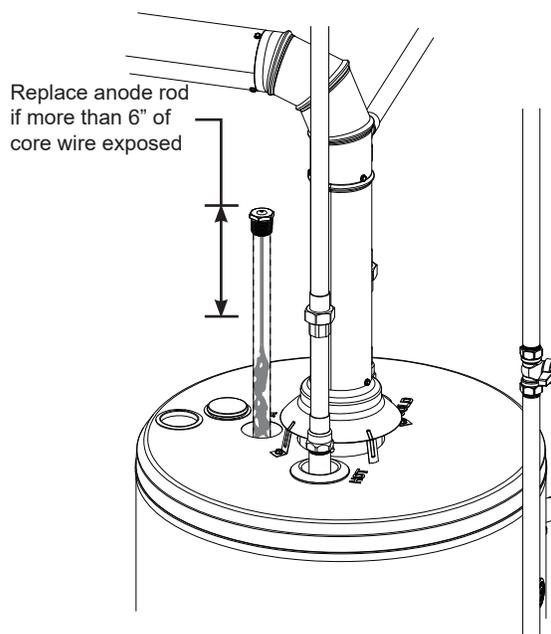
1. Turn off the water heater and drain 1-2 gallons of water from the tank. (Refer to Draining the Tank, page 10.)
2. Remove the anode cap and foam insulation beneath it with a flathead screwdriver. (Refer to illustration below.)



3. Unscrew the anode rod using a 1 1/16" socket/wrench and lift it out of the water heater.

4. Inspect the anode rod. If more than 6" of core wire is exposed, the anode rod should be replaced. (Refer to illustration below.) If the anode rod has not been depleted, reinsert it into the water heater following steps 2-6 below.

CAUTION DO NOT touch the vent hood or vent pipe located in front of the anode rod. These are very hot and present a burn hazard.



Installing the Anode Rod:

1. If a new anode rod is required, be sure to purchase the same type. For further information, contact a qualified service technician or GEA Customer Support at GEAppliances.com/waterheater.
2. Apply pipe joint compound or pipe thread sealant tape to the threads of the anode rod.
3. Insert the anode rod into the water heater and tighten with a torque wrench to 50 +/- 5 ft-lbs. of torque.
4. Close the drain valve, turn on the water supply and open a hot water faucet to remove any air trapped in the water lines.
5. Check for any leaks and repair.
6. Ensure that the water heater is completely full before relighting it. (Refer to Lighting Instructions, page 7.)

Gas Control/Thermostat Inspection

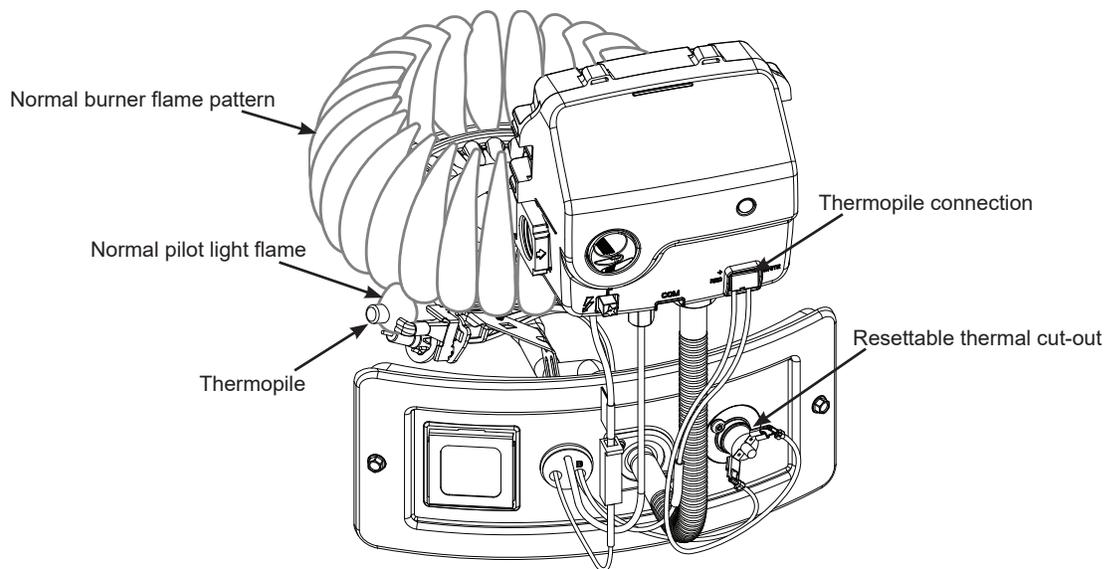
Once a year, visually inspect the gas control/thermostat cover, gas control knob and status light for any physical damage. Check for any loose connections or frayed wires as well.

If damage to any of these components is detected, call a service technician to repair or replace the gas control/thermostat.

Burner Inspection

Once a year, visually inspect the pilot light, then the main burner while in operation. Through the sight glass, confirm that both flames are blue and exhibit the pattern shown in the illustration below. If a different flame pattern or color is noted or soot has built up on the burner, turn off the water heater and call a qualified service technician.

⚠ CAUTION The pilot light and main burner are in a sealed chamber. Only a qualified service technician should access this chamber. Refer to Sealed Burner Assembly Warning, page 4.



Water and Gas Systems

Once a year, visually inspect the water pipes and connections, repairing any leaks or damaged fittings.

If you smell gas, refer to Lighting and Shutdown, page 7.

Check the water heater's venting system:

1. Visually inspect the vent hood and vent pipes to ensure they are firmly attached.

2. Visually check for soot or any physical deterioration of the venting system. If corrosion or soot are detected, call the local gas utility to address the problem and replace the venting system before placing the water heater back in operation.

Installation Instructions

LOCAL INSTALLATION REGULATIONS

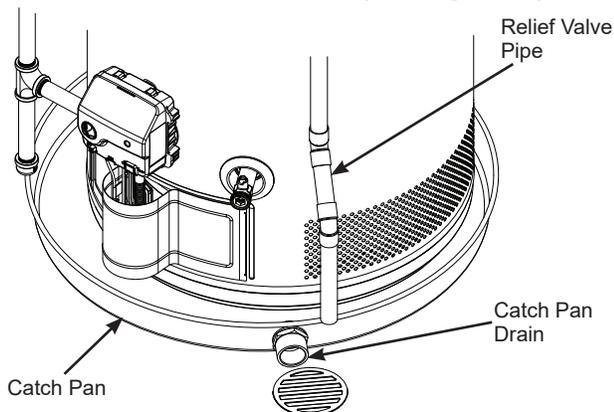
This appliance must be installed in accordance with local codes or, in the absence of local codes, the National Fuel Gas Code, ANSI Z223.1/NFPA 54 or the Natural Gas and Propane Installation Code, CSA B149.1. Not for installation in a Manufactured Home (Mobile Home).

LOCATION

The water heater should be installed indoors, in a dry, level area where the tank and water lines are protected from freezing temperatures. If needed, shims can be used under the base of the unit to level it.

All water heaters are subject to leaking, due to the corrosive properties of water over time. A ground floor or basement installation is suggested, to avoid property damage should leakage occur. Inspect and maintain the water heater according to this manual to minimize the potential for leakage and, if required, install a catch pan piped to a suitable drain.

Catch Pan Installation (If Required)



NOTE: The auxiliary catch pan MUST conform to local codes. Catch Pan Kits are available from the store where the water heater was purchased or GEApplianceparts.com. The catch pan outer diameter (OD) should be 3" (7.62 cm) minimum larger than the Water Heater base diameter.

LOCATION (Cont.)

The installation must allow sufficient airflow for combustion and ventilation, and should be as close to a gas vent or chimney as possible. Avoid areas where the water heater could be exposed to flammable liquids and vapors or a corrosive atmosphere.

The water heater can be installed on combustible flooring, but not directly on carpet. If the water heater must be located in a carpeted area, install a wood or metal panel as a barrier between the water heater and carpet; the panel should be 5" larger than the water heater in all directions.

To minimize thermal loss, the water heater should be close to the areas of greatest demand. Insulated water lines also help to maintain optimal temperatures from water heater to faucet.

The installation must allow sufficient access to the top, front and sides of the water heater for service. Moving the water heater for service is not covered under the warranty.

For installation requiring earthquake straps, minimal clearance around the sides of the water heater is acceptable. In this case, additional clearance should be provided on the opposite side of the unit to allow for service access. Refer to For Installations in the State of California, page 4.

Minimum Clearances from COMBUSTIBLE CONSTRUCTION				
LOCATION	FRONT CONTROL	SIDES	BACK	TOP COVER
ALCOVE	3"	0"	0"	12"
CLOSET	3"	0"	0"	12"

Minimum Clearances for INSTALLATION and SERVICE ACCESS						
LOCATION	FRONT CONTROL	SIDES	BACK	TOP COVER	COMBUSTION AIR INLETS	T&P RELIEF VALVE
ALCOVE	24"	0"	0"	24"	1"	1.5"
CLOSET	24"	0"	0"	24"	1"	1.5"

Refer to the rating plate beside the gas control/thermostat on the front of the water heater for further details.

Installation Instructions

AIR SUPPLY AND VENTILATION

Proper air supply and ventilation are essential to the safe, effective operation of this residential gas water heater. Air supply and ventilation must be in accordance with local codes or, in the absence of local codes, the National Fuel Gas Code, ANSI Z223.1/NFPA 54 or the Natural Gas and Propane Installation Code, CSA B149.1.

Air Supply

If the water heater is installed in an open room of a conventionally constructed building, sufficient air is typically present for proper combustion and ventilation. However, if the water heater is installed in a confined space or tightly insulated home, additional provisions must be made for combustion and ventilation air. A confined space offers less than 50 cubic feet of air per 1,000 BTUH (British thermal units per hour) for the appliances in that space. Each appliance's BTUH requirements should be listed on its rating plate.

Without an adequate supply of clean air, the water heater's pilot light will not function properly, and excessive amounts of carbon monoxide may be produced.

Corrosive Atmospheres

A corrosive atmosphere is created when compounds from aerosol sprays, cleaning products such as bleach and detergents or other chemicals become airborne and are drawn into the combustion air supply of a water heater or other gas appliance. When these compounds pass through the gas flame, they create corrosive elements that shorten the life of the appliance. Damage due to a corrosive atmosphere is not covered under the warranty.

AIR SUPPLY AND VENTILATION (Cont.)

Ventilation

The ventilation system for this water heater must be properly installed by a qualified service technician and free from any obstructions. The vent should not be shared by any power-vented appliance, nor should a damper be used anywhere in the system.

The new vent hood (provided with the water heater) must be attached to the gas vent or chimney by vent pipes. The diameter of the vent pipes must match that of the vent hood or be larger.

At least 12" of vertical vent pipe is recommended from the vent hood. Horizontal pipes must maintain a vertical pitch of at least 1/4" per foot, and the termination must be vertical. Vent joints must be secured by an approved method, such as sheet metal screws.

After the water heater's main burner has been in operation for 5 minutes, the vent hood can be tested for spillage by holding a lighted match or candle close to the vent hood relief opening. The smoke or flame should be pulled towards the opening.

For additional information, consult local codes, the National Fuel Gas Code, ANSI Z223.1/NFPA 54 or the Natural Gas and Propane Installation Code, CSA B149.1.

THERMAL EXPANSION

If the home's inlet water line includes a check valve, this will prevent water from flowing back into the city's water supply, creating a closed water system in the home. Heated water expands, causing increased pressure, which is then trapped in a closed water system. Referred to as thermal expansion, this rapid pressure increase can cause the water heater's relief valve to operate (releasing water) during heating cycles, potentially causing premature failure of the valve or the water heater. To control thermal expansion, install a thermal expansion tank in the cold water line between the water heater and check valve, as shown in the next illustration, page 16. Contact your installing contractor, water supplier or plumbing inspector for additional information.

Installation Instructions

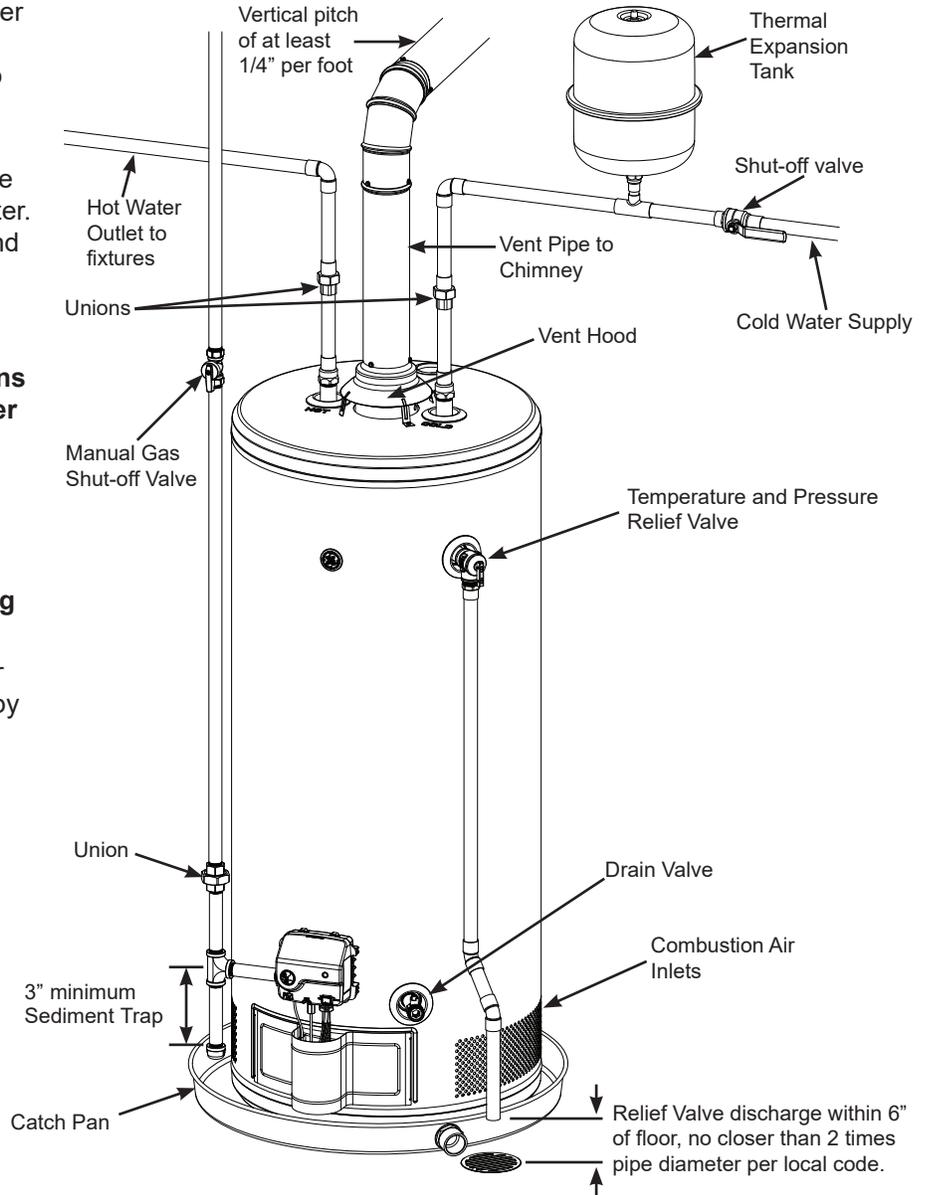
WATER SUPPLY AND DRAINAGE

Refer to the illustration below for recommended installation. The HOT and COLD water connections are 3/4" NPT (National Pipe Thread) and are clearly marked on all models. Use 3/4" female NPT fittings with sealant suitable for potable water when connecting to the inlet/outlet ports. The installation of unions is recommended on the HOT and COLD water connections so that the water heater may be easily disconnected for service. Piping should be routed to allow for anode rod inspection and service.

NOTE: Install a shut-off valve in the cold water line near the water heater. This will allow for easier service and maintenance of the unit.

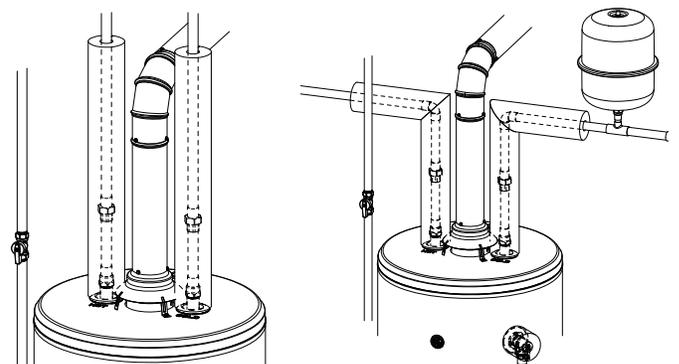
IMPORTANT: Do not apply heat to the HOT or COLD water connections. If sweat connections are used, sweat tubing to adapter before fitting the adapter to the COLD water connections on the water heater. Any heat applied to the HOT or COLD water connections will permanently damage the internal plastic lining in these ports.

Install a vacuum relief valve and/or anti-siphon device when required by local jurisdictions.



Typical vertical piping

Typical horizontal piping



HOT AND COLD PIPE INSULATION (if supplied with product)

For increased energy efficiency, some water heaters have been supplied with two 24" sections of pipe insulation. Install the insulation according to the illustrations on the right, as best meets your requirements.

Installation Instructions

TEMPERATURE AND PRESSURE RELIEF VALVE

⚠ WARNING Risk of Unit Damage - The pressure rating of the relief valve must not exceed 150 PSI (1.03 MPa), the maximum working pressure of the water heater as marked on the rating plate.

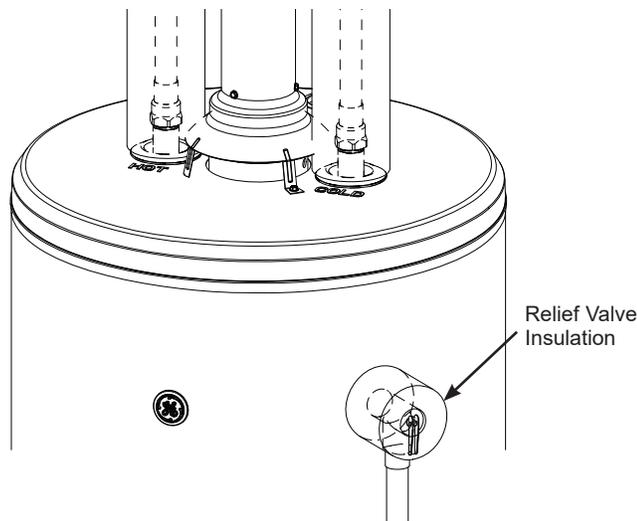
A new combination temperature and pressure (T&P) relief valve, complying with the Standard for Relief Valves and Automatic Gas Shut-Off Devices for Hot Water Supply Systems, ANSI Z21.22/CSA 4.4, is supplied and must remain installed in the opening provided and marked for this purpose on the water heater. No valve of any type should be installed between the relief valve and the tank. Local codes shall govern the installation of relief valves.

The BTUH rating of the temperature and pressure relief valve must not be less than the input rating of the water heater as indicated on the rating plate located on the front of the heater (1 watt=3.412 BTUH).

Connect the outlet of the relief valve to a suitable open drain so that the discharge water cannot contact live electrical parts or persons and to eliminate potential water damage.

Piping used should be of a type approved for hot water distribution. The discharge line must be no smaller than the outlet of the valve and must pitch downward from the valve to allow complete drainage (by gravity) of the relief valve and discharge line. The end of the discharge line should not be threaded or concealed and should be protected from freezing.

No valve of any type, restriction or reducer coupling should be installed in the discharge line.



(Model appearance may vary)

⚠ CAUTION

To reduce the risk of excessive pressures and temperatures in this water heater, install temperature and pressure protective equipment required by local codes and no less than a combination temperature and pressure relief valve certified by a nationally recognized testing laboratory that maintains periodic inspection of production of listed equipment or materials, as meeting the requirements for Relief Valves and Automatic Gas Shut-Off Devices for Hot Water Supply Systems, ANSI Z21.22 /CSA 4.4. This valve must be marked with a maximum set pressure not to exceed the marked maximum working pressure of the water heater. Install the valve into an opening provided and marked for this purpose in the water heater, and orient it or provide tubing so that any discharge from the valve exits only within 6 inches above, or at any distance below, the structural floor, and does not contact any live electrical part. The discharge opening must not be blocked or reduced in size under any circumstance.

TO FILL THE WATER HEATER

⚠ WARNING Risk of Unit Damage - The tank must be full of water before the water heater is turned on. The water heater warranty does not cover damage or failure resulting from operation with an empty or partially empty tank.

1. Check that the drain valve is completely closed.
2. Open the shut-off valve in the cold water supply line.
3. Open hot water faucets slowly, allowing air to vent from the water heater and pipes.
4. Wait until there is a steady flow of water from the hot water faucets; this indicates that the water heater is full.
5. Check connections and pipes for any leakage.

When the water heater is first filled with water, condensation may form on the tank and fittings. During use, condensation can be caused by a heavy water draw and very cold inlet water temperature.

This condition is not unusual and will resolve after the water is heated. If condensation persists, examine fittings for potential leaks and repair as required.

Installation Instructions

GAS SUPPLY

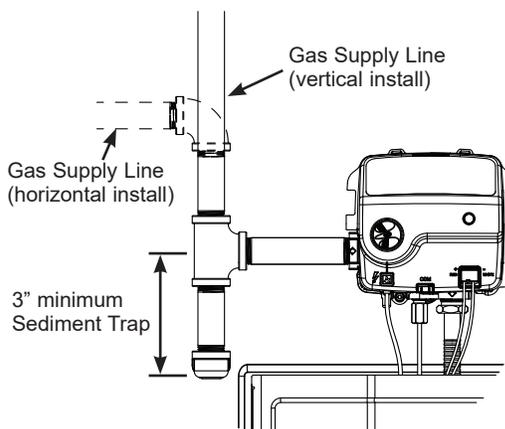
▲WARNING Only connect this water heater to the type of gas listed on its rating plate. Any attempt to adapt the water heater for use with a different type of gas could cause hazardous operating conditions.

The gas supply line should be composed of an approved gas piping material such as steel and properly sized for the water heater. Install an ANSI certified gas appliance connector or ground joint union in the gas line close to the water heater.

Any flexible connectors in the gas line must be 36" or shorter. Joint compound should be used sparingly on male threads only and must be resistant to liquid petroleum (LP) gas.

The National Fuel Gas Code (NFGC) requires that a manual gas shut-off valve be installed.

A sediment trap must be installed downstream of the shut-off valve, as close to the appliance as possible. Refer to the illustration below.



Connect the pipe to the gas control/thermostat inlet using a maximum torque of 40 ft-lbs. torque.

Gas pressure to the gas control/thermostat inlet must not exceed 14" w.c. for natural gas or LP gas. The rating plate lists both the maximum and minimum inlet gas pressures for the water heater. If gas pressure is not within the acceptable range, contact your gas provider.

Pressure Testing

- Gas test pressures exceeding 14" w.c. (1/2 PSI or 3.5 kPa) require disconnecting the water heater and gas shut-off valve from the gas supply line.
- Gas test pressures of 14" w.c. (1/2 PSI or 3.5 kPa) or lower require isolating the water heater from the gas supply line by closing the gas shut-off valve.

GAS SUPPLY (Cont.)

High Altitude

▲WARNING Do not install the water heater above the altitude specified on its rating plate. Installation above the certified altitude may cause the water heater to produce excessive amounts of carbon monoxide, which could cause serious injury or death.

The water heater is certified for operation at high altitudes. Please see the rating plate on the water heater for maximum altitude.

INSULATION BLANKETS

This water heater is designed for energy efficiency. **An insulation blanket is NOT RECOMMENDED, unless required by local codes.**

Any damage caused by an insulation blanket or other unapproved device is not covered under the warranty. Use of such devices can shorten the life of the water heater and pose a hazard to persons or property.

If an insulation blanket is required by local codes:

- **DO NOT** cover or attempt to relocate warning labels on the water heater.
- **DO NOT** insulate the top of the water heater; this will interfere with proper functioning of the vent hood.
- **DO NOT** cover the gas control/thermostat, gas valve, burner access door or temperature and pressure relief valve.
- **DO NOT** insulate the bottom of the water heater or cover the combustion air inlets.
- **FREQUENTLY INSPECT** the insulation blanket to ensure that it is securely in position and is not restricting airflow to the combustion air inlets at the base of the water heater.

Installation Instructions

COMBINATION POTABLE WATER AND SPACE HEATING

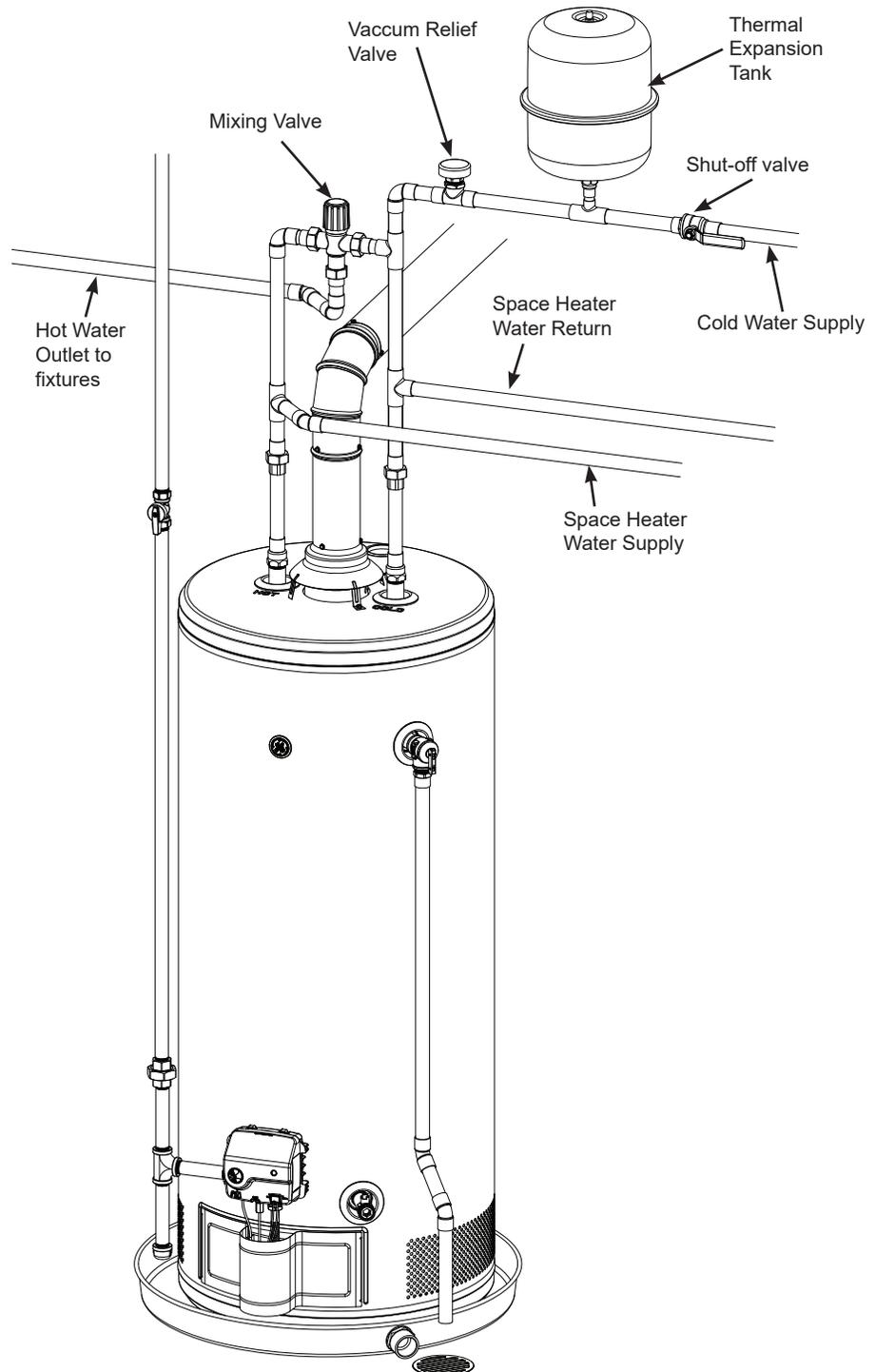
This water heater is suitable for combination potable water and space heating applications; it is not suitable for space heating alone.

If installed for combination water and space heating, components in both systems must be suitable for potable water. **DO NOT** connect the water heater to components that have been previously used for space heating alone, as they may be contaminated with toxic chemicals. Never introduce boiler treatment or other toxic chemicals into pipes or components connected with the water heater, as this will affect the potable water supply.

If the space heating system requires water at a temperature higher than 120°F (49°C), a mixing valve (meeting the Standard for Temperature Actuated Mixing Valves for Hot Water Distribution Systems, ASSE 1017) must be installed in the potable hot water line to reduce the danger of scalding.

Installation must comply with local and national codes.

NOTE: A maximum distance of 50' - 0" from the water heater to fan coil (developed length) is required in Massachusetts State.



Troubleshooting

Before you call for service....

Save time and money! Review the chart below first and you may not need to call for service.

⚠ CAUTION For your safety, **DO NOT** attempt to repair the gas control/thermostat, burners, gas pipes, vent pipes or safety devices. Call a qualified service technician for repair or replacement.

Problem	Possible Causes	What To Do
OPERATION AND PERFORMANCE		
Condensation	<i>New water heater filled for the first time</i>	• This is normal. The condensation will resolve after the water is heated.
	<i>Moisture accumulating from combustion process</i>	• This is normal and will resolve with time. Excessive moisture can extinguish the pilot light.
	<i>Undersized water heater</i>	• Use a water heater with the capacity to meet your household's needs.
Not enough or no hot water	<i>Demand exceeds capacity of water heater</i>	• Allow the water heater to recover after high demand.
	<i>Low gas pressure</i>	• Check gas supply and manifold pressure.
	<i>Pilot light outage</i>	• Check the pilot light through the sight glass. If needed, relight according to instructions in Lighting and Shutdown, page 7.
	<i>Water temperature set too low</i>	• Refer to Temperature Control and About the Gas Control/Thermostat, pages 8-9.
	<i>Open or leaking hot water faucet</i>	• Confirm that all faucets are closed and not leaking.
	<i>Resettable thermal cut-out device activated</i>	• Call a qualified service technician.
Water is too hot	<i>Water temperature set too high</i>	• See Temperature Control and About the Gas Control/Thermostat, pages 8-9.
	<i>Gas control/thermostat defective</i>	• Call a qualified service technician to replace the gas control/thermostat.
Yellow flame or soot	<i>Scale accumulated on burner</i>	• Call a qualified service technician to clean the burner.
	<i>Ventilation or combustion air restricted</i>	• Remove any obstruction from the vent pipes and combustion air inlets. See illustration on page 16.
	<i>Ventilation or combustion air insufficient</i>	• Proper air supply and ventilation are essential to the safe, effective operation of this water heater. See Air Supply and Ventilation, page 15.
Pilot burner will not light	<i>Air in gas line</i>	• Call a qualified service technician to clear air from the gas line.
	<i>Pilot burner clogged</i>	• Call a qualified service technician to clean or replace the pilot burner.
	<i>Pilot burner tube clogged or restricted</i>	• Call a qualified service technician to clean or replace the pilot burner.
	<i>Gas control/thermostat knob not depressed when attempting to light</i>	• See Lighting and Shutdown, page 7.
Pilot burner will not stay lit after gas control/thermostat knob is released	<i>Thermopile disconnected</i>	• Confirm that the thermopile wire connectors are firmly attached to the gas control/thermostat. See illustrations on pages 13 and 24.
	<i>Thermopile defective</i>	• Call a qualified service technician to replace the thermopile.
	<i>Safety magnet defective</i>	• Call a qualified service technician to replace the gas control/thermostat.
	<i>Gas control/thermostat's gas shut-off device activated</i>	• Call a qualified service technician to replace the gas control/thermostat.
	<i>Resettable thermal cut-out device activated</i>	• Call a qualified service technician to inspect the resettable thermal cut-out device.
Pilot burner lights, but main burner will not stay lit	<i>Resettable thermal cut-out device activated</i>	• Call a qualified service technician.
OTHER		
Rumbling noise	<i>Mineral buildup in water tank</i>	• Drain and flush the water tank. See Water Tank, page 11.
T&P relief valve popping or draining	<i>Pressure buildup caused by thermal expansion</i>	• Must be corrected. Call a qualified service technician or plumber. DO NOT plug the T&P relief valve.
Water dripping down surface of water heater	<i>Water pipes or connectors leaking</i>	• Tighten loose connectors. This should be done by a qualified service technician or plumbing contractor.
Hot water has rotten egg or sulfur smell	<i>Certain water supplies with high sulfate content will react with the anode rod that is present in all water heaters for corrosion protection of the tank</i>	<ul style="list-style-type: none"> • The odor can be reduced or eliminated in most water heaters by replacing the anode rod with less-active material rod. In some cases, an added step of chlorinating the water heater and all hot water lines may be necessary, contact your local water professional or plumber for options and instructions. Go to GEAppliances.com/waterheater for information on purchasing this replacement anode rod. A qualified servicer or plumber should do this replacement. Use of a non-GE Appliances approved anode rod, or operating the water heater without a GE Appliances approved anode rod will VOID the warranty. • In certain cases, increasing the tank temperature to 140°F (60°C) can reduce this odor issue. See the Water Temperature Adjustment section, page 5, for safety information. Installation of temperature limiting valves can be used to reduce risk of scalding.

Status Light Codes

FLASHES	COLOR	STATUS LIGHT CODE
0	—	Control Off/Pilot Out
1	Yellow	Normal Operation
2	Red	Thermopile Voltage Low
4	Red	Water Over Temperature
5	Red	Water Temperature Sensor
7	Red	Gas Control Failure
8	Red	Wait 10 minutes, Relight



 Normal Operation

 System Error

If the yellow Status Light is not blinking, relight the Pilot. See Lighting Instructions on water heater.

If the Status Light blinks more than 1 flash every 3 seconds, see Installation Instructions.

Status Light	Condition	Action
OFF	Gas control/thermostat turned off	Follow instructions in Lighting and Shutdown, page 7, to turn on the gas control/thermostat.
	Pilot burner not lit	Follow instructions in Lighting and Shutdown, page 7, to light the pilot burner.
	Power supply insufficient	Confirm that the thermopile wire connectors are firmly attached to the gas control/thermostat. Inspect thermopile wires and replace if damaged. Inspect pilot light assembly.
Constantly lit	Pilot light recently extinguished and thermopile cooling Gas control/thermostat knob recently turned off	Follow instructions in Lighting and Shutdown, page 7, to light the pilot burner.
1 blink every 3 seconds	Normal Gas control/thermostat knob in pilot position and pilot burner lit	Turn gas control/thermostat knob to desired setting.
2 blinks every 3 seconds	Low thermopile power, but pilot burner is lit	Confirm that the thermopile wire connectors are firmly attached to the gas control/thermostat. If fault still occurs, call a qualified service technician.
4 blinks every 3 seconds	High water temperature limit reached	Call a qualified service technician.
5 blinks every 3 seconds	Water temperature sensor failed	Call a qualified service technician.
7 blinks every 3 seconds	Gas control/thermostat failed	Call a qualified service technician.
8 blinks every 3 seconds	Faulty pilot flame signal	Pilot light is out. Wait 10 minutes and attempt to relight the pilot flame. If error continues, call a qualified service technician.

Replacement Parts

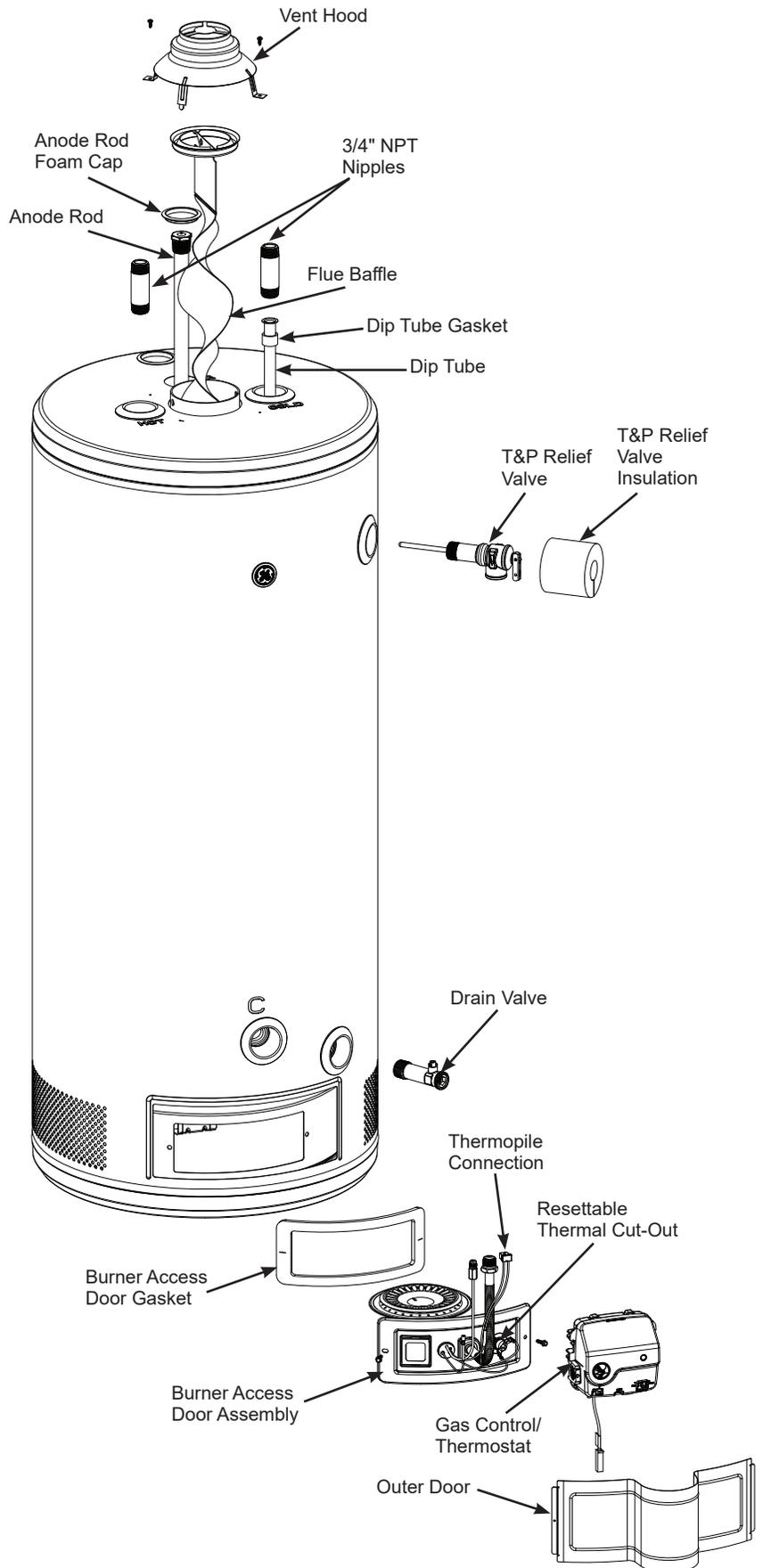
Instructions for Placing a Parts Order

To place orders using a Visa/MasterCard or Discover, contact **GEApplianceparts.com**.

All parts orders should include:

1. The model and serial number of the water heater (listed on the rating plate).
2. Specific type of gas (listed on the rating plate).
3. Part description (as labelled below) and number of parts required.

CAUTION For your safety, **DO NOT** attempt to repair the gas control/thermostat, burners, gas pipes, vent pipes or safety devices. Call a qualified service technician for repair or replacement.



GE Appliances Gas Water Heater Limited Warranty

LIMITED WARRANTY

All warranty service is provided by our Factory Service Centers, or an authorized Customer Care® technician. To schedule service for your GE water heater call GE Water Heaters at 1-800-943-8186. Please have your serial number and your model number available when calling for service. Servicing your appliance may require the use of the onboard data port for diagnostics. This gives a GE Appliances factory service technician the ability to quickly diagnose any issues with your appliance and helps GE Appliances improve its products by providing GE Appliances with information on your appliance. If you do not want your appliance data to be sent to GE Appliances, please advise your technician not to submit the data to GE Appliances at the time of service

For The Period Of:	We Will Replace:
One Year From the date of the original purchase	Any factory specified part of the water heater which fails due to a defect in materials or workmanship. During this limited one-year warranty , we will also provide, free of charge, all labor and related service to replace the defective part.
Second through Eighth, Tenth or Twelfth Year From the date of the original purchase	Any part of the Water Heater which fails due to a defect in materials or workmanship. During this limited second through the end of the warranty period , labor and related service to replace the defective part are not included. *Warranty is based on the 6th and 7th digit of model number located on rating plate (e.g.: GE50T <u>08</u> BAM has a part warranty of 8 years).

What Is Not Covered:

- Service trips to your home to teach you how to use the product.
- Improper installation, delivery or maintenance.
- Replacement parts shipping and handling and cost to remove defective part or tank after the first year limited warranty are NOT covered.
- Failure of the product if it is abused, misused, altered, or used for other than the intended purpose.
- Use of this product where water is microbiologically unsafe or of unknown quality, without adequate disinfection before or after the system.
- Replacement of house fuses or resetting of circuit breakers.
- Damage to the product caused by accident, lightning, fire, flood or acts of God.
- Incidental or consequential damage caused by possible defects with this appliance, its installation or repair.
- Product not accessible to provide required service in a safe manner. Attic installation must have flooring and accessible stairs.
- If product removed from original installation location.
- If product or other appliance must be moved for service access.
- Damage, malfunction or failure caused by the use of repair service not approved by GE Appliances.
- Damage, malfunction or failure caused by the use of unapproved parts or components.
- Damage, malfunction or failure caused by operating the water heater with the anode rod removed.
- Anode Rod inspection and replacement.
- Damage, malfunction or failure resulting from operating the water heater with an empty or partially empty tank.
- Damage, malfunction or failure caused by subjecting the tank to pressure greater than those shown on the rating label.
- Damage, malfunction or failure caused by operating the water heater with electrical voltage outside the voltage range listed on the rating label.
- Water heater failure due to the water heater being operated in a corrosive atmosphere.
- If this water heater is used for other than residential private family use, labor will not be covered under warranty, and the parts warranty is reduced to 1 year from the date of purchase.

EXCLUSION OF IMPLIED WARRANTIES—Your sole and exclusive remedy is product repair as provided in this Limited Warranty. Any implied warranties, including the implied warranties of merchantability or fitness for a particular purpose, are limited to one year or the shortest period allowed by law.

This limited warranty is extended to the original purchaser and any succeeding owner for products purchased for home use within the USA. If the product is located in an area where service by a GE Appliances Authorized Servicer is not available, you may be responsible for a trip charge or you may be required to bring the product to an Authorized GE Appliances Service location for service. In Alaska, the limited warranty excludes the cost of shipping or service calls to your home.

Some states do not allow the exclusion or limitation of incidental or consequential damages. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state. To know what your legal rights are, consult your local or state consumer affairs office or your state's Attorney General.

For product purchased outside of the US, contact your dealer for Warranty and Service information.

Warrantor for Products Purchased in the United States:

GE Appliances, a Haier company

Louisville, KY 40225

Staple your receipt here. Proof of the original purchase date is needed to obtain service under the warranty.

Consumer Support

Register Your Appliance

Register your new appliance online at your convenience! Timely product registration will allow for enhanced communication and prompt service under the terms of your warranty, should the need arise.

- Scan the QR Code on the product registration card or on the product itself.



NOTE: This is just an example of what a QR code represents visually.

- Go to **GEAppliances.com/register**
 - Mail in the registration card provided in the packaging with your water heater.
-

Consumer Service

If you have a question or need assistance with adjustments, repairs or routine maintenance for your new water heater:

- Review the Troubleshooting Tips and Care and Cleaning sections of this Use & Care Manual.
- Contact your local installer, plumbing contractor or previously agreed upon service agency.

NOTE: Your installer phone number may be located on the product label. If you still have issues, contact GEA Customer Support at **GEAppliances.com/waterheater**

Contact Us

If you are ultimately not satisfied with the service you receive, contact us on our website with all the details including your phone number, or write to:

In the US: General Manager, Customer Relations | GE Appliances, Appliance Park | Louisville, KY 40225
GEAppliances.com/contact