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Richmond water heater model 6g40-36f1 manual

Richmond water heater instructions. Richmond water heater model 6g40-36f3. Richmond water heater not heating. Richmond water heater model 6g40 36f1 manual. Richmond water heater settings. Richmond water heater model 6g40-36f3 parts. Richmond water heater 6g40-36f1 manual. Richmond water heater model 6g40-36f3 manual. Richmond water heater model 6g40-36f1. Richmond water heater troubleshooting guide.

Installation and Safety Guidelines for Essential 40 Gallon Water Heater: ****Physical Location:**** * Avoid areas prone to damage, such as moving vehicles or area flooding. * Do not install in bathrooms, bedrooms, or occupied rooms normally kept closed. * Keep a safe distance from combustible materials: * Front clearance: Measure from the gas control thermostat to the closet door. * Top clearance: Measure from the jacket top to the ceiling. ****Drainage and Ventilation:**** * Install a suitable drain pan under the water heater, ensuring it's centered and allows for proper air flow around the combustion air inlet openings. * Ensure the floor is strong enough to support the weight of the water heater when filled with water. ****Safety Precautions:**** * Avoid installing in spaces where liquids giving off flammable vapors are used or stored (e.g., gasoline, LP gas, paint, or adhesives). * Do not block or obstruct combustion air inlet openings or the Flammable Vapour Sensor. * Hot water lines should be insulated to conserve water and energy. Important installation clearances for water heaters include covering the entire floor with a wood or metal panel if installed in an alcove or closet. A minimum clearance of 24 inches from the front and top is also required for inspection and servicing. If installed on combustible floors, the water heater must not be directly placed on carpeting. However, a metal or wood panel can be used beneath it, extending at least 3 inches beyond its full width and depth in all directions. Proper operation of the water heater necessitates air for combustion and ventilation. A minimum clearance of 1.5 inches is required from the combination temperature and pressure relief valve to any wall or object. Additionally, a minimum of 1 inch is required between combustion air inlet openings and any obstruction. If installed in an unconfined space within a building of conventional construction, infiltration air may be adequate for proper combustion and ventilation. However, if installed in a confined space, provisions for combustion and ventilation air must be made. A confined space has a volume of less than 50 cubic feet per 1000 Btu/h of the aggregate input of all appliances within that space. In such cases, air must be supplied through two permanent openings of equal area, each with a minimum net free area not less than one square inch per 1000 Btu/h of the total input rating of all appliances in the enclosure. The combustion and ventilation air can also be supplied from outdoors or a freely ventilated attic or crawl space for buildings of unusually tight construction. If ducts are used to communicate with the outdoors, each opening must have a minimum net free area of not less than one square inch per 2000 Btu/h of the total input rating of all appliances in the enclosure. Furthermore, if duct openings are to be covered with a protective screen or grill, their net free area must be maintained. To determine the size of openings, you must consider the material used. Protective screening for these openings should be at least 1/4 inch mesh to prevent clogging from lint or debris. Corrosive Atmospheres The air in beauty shops, dry cleaning establishments, and photo processing labs often contains halogenated hydrocarbons. Air supplies containing these chemicals may seem safe, but when they pass through a gas flame, corrosive elements are released that can shorten the life of gas burning appliances. Common spray cans or gas leaks from A/C and refrigeration equipment release highly corrosive propellants after passing through a flame, which can void the water heater warranty if it fails due to operation in a corrosive atmosphere. Thermal Expansion Check if your local water utility company installed a check valve in the cold water line. This might be part of a separate back flow preventer or pressure reducing valve. A check valve in the cold water line can create a "closed water system." In an open system, expanding water flows back into the city main where the pressure is easily dissipated. Thermal expansion, which creates a rapid and dangerous pressure increase in the water heater and piping system, can lead to premature failure of the relief valve or the heater itself. To control thermal expansion, install an expansion tank between the water heater and check valve (see illustration). The expansion tank has an air cushion that compresses as the system pressure increases, relieving over-pressure conditions. Other methods are also available; consult your installing contractor, water supplier, or plumbing inspector for more information. Water Supply Connections Refer to the illustration below for typical installation suggestions. Install unions or flexible copper connectors on hot and cold water connections so the water heater can be easily disconnected or serviced if needed. Marked HOT and COLD water connections are 3/4 inch NPT on all models. Install a shut-off valve in the cold water line near the water heater. The relief valve's psi rating must match the water heater's max working pressure of 150 psi as stated on the rating plate. Its Btu/h capacity should also equal or exceed the water heater's input, as marked on its own rating plate. The outlet should be positioned above an open drain to prevent potential water damage. Piping used for hot water distribution must be approved type and discharge line cannot be smaller than the valve outlet. It should pitch downwards from the valve allowing complete drainage by gravity. Its end should not be threaded or concealed and protected from freezing. No valves, restrictions, or reducers can be installed in the discharge line. To fill the water heater, ensure the drain valve is closed then open the shut-off valve on the cold water supply line. Open each hot water faucet slowly to allow air to vent out and a steady flow indicates fullness. However, do not let the flammable vapour sensor get submerged in water. Condensation can occur when filling or drawing heavy water with very cold inlet temperatures causing drops of water falling on the burner producing sizzling sounds which will disappear once heated. If condensation continues check piping for possible leaks. The branch gas supply line should be 1/2 inch clean black steel pipe no more than 40 equivalent feet long. An union or certified semi-rigid or flexible connector should be installed near the water heater and a manual shut-off valve is mandated by NFPA. If flexible connectors are used their length must not exceed 36 inches and meet requirements in ANSI Z21.24-Connectors for Gas Appliances. Compound on threaded joints must be resistant to LP gas action and used sparingly only on male threads. A sediment trap shall be installed downstream of the equipment shutoff valve as close to the inlet as practical at the time of appliance installation. The sediment trap should either be a tee fitting with a capped nipple or other recognized effective device. Do not use excessive force in tightening the pipe joint at the gas control (thermostat) inlet, especially if Teflon compound is used, as it may damage the valve body. Inlet gas pressure must not exceed 10.5 inches w.c for natural gas or 14 inches w.c for LP gas. For purposes of input adjustment, check your water heater's rating plate to ensure minimum inlet gas pressure with main burner on. If high or low pressures are present contact your gas supplier for correction. Given article text here The water heater must be leak tested at normal operating pressures before installation. Turn on the manual gas shut-off valve near the water heater and use a soapy water solution to test for leaks at all connections and fittings. Bubbles indicate a gas leak that must be corrected. The factory connections to the gas control thermostat should also be leak tested after the water heater is placed in operation. Venting: This water heater requires proper venting with either a 3-inch or 4-inch, double wall. Type B vent connector. The vent connectors must be securely attached to the inducer outlet and match the same size diameter as the inducer outlet or larger. In certain installations, a larger vent connector size may be needed. Wiring: If local codes permit, the water heater can be connected to electric service with the provided power cord (do not use an extension cord). A grounding receptacle is required. If local codes do not allow cord connections, a 120 V, 50/60 Hz power supply must be connected to the black and white leads in the heater control enclosure. Insulation: For increased energy efficiency, some water heaters come with pipe insulation sections. Install the insulation according to the provided illustrations. Temperature and Pressure (T&P) Insulation Installation: This water heater has a 2 3/8-inch section of T&P insulation. Install it by slipping the insulation cover over the T&P Valve through the center hole and aligning the hole in the side with the opening of the T&P Valve. Heat Traps: Some water heaters come with factory-installed heat traps. Install them according to the provided illustrations, which may require additional 90° 3/4 inch NPT elbows or couplings. Important Installation Notes: * Check inlet gas pressure with main burner ON to ensure it is within the specified range. * Do not install this unit on a GFCI circuit. DO ensure proper ventilation, follow manufacturer guidelines for combustion and venting systems, and maintain clearances to combustibles as specified on the rating plate. Contact a qualified technician if the main burner won't stay lit. DO NOT block Combustion Air Inlet Openings or the Flammable Vapour Sensor, nor remove the Burner Access Door unless absolutely necessary. The water heater should be installed on a dry surface, away from standing water. Avoid exposing cleaners and solvents to the Flammable Vapour Sensor and do not operate the water heater if the sight glass or burner access door grommet is damaged. To start the water heater, remove the outer door, plug in the power cord, turn the ON/OFF switch to "ON," and ensure the gas control (thermostat) is also set to "ON." The blower will activate, followed by the pilot and main burner. Replace the outer door if no main burner flame is established; the gas control will attempt ignition three times before locking out. A warning light will alert the user of this condition. Regulate water temperature using the knob on the gas control (thermostat) while considering safety and energy conservation factors. The recommended starting point temperature is 120°F, but temperatures above 125°F can cause severe burns or death from scalding. Follow manufacturer guidelines for mixing valves to reduce point-of-use water temperature by mixing hot and cold water in branch lines. Distribution Systems, ASSE 1017 are to be put in place. For more information, see page 4 and consult a licensed plumber or your local plumbing authority. You can use the chart on the next page to figure out the right water temperature for your home. The hottest water comes just after the burner has turned off. To check the water temperature, turn on a hot water faucet and put a thermometer in the stream. If you keep taking short and frequent hot water draws, it might cause the top layer of water to get hotter than the rest. This is called "stacking" or "layering." Always test the water with your hand before using it and remember that hotter water makes scald injuries more likely. Also, always supervise young children or people who can't take care of themselves. The gas control (thermostat) has a built-in safety shutoff device that turns off the gas supply if the main burner is extinguished for any reason. If the water heater overheats or the gas supply doesn't turn off, turn off the manual gas control (thermostat) to the appliance. Don't use the water heater again until it's been checked by a qualified service technician. Sequence of Operation: The control verifies the vacuum switch is open during initial start-up or when there's a call for heat. It then energizes the blower motor for about 5 seconds. After that, it checks if the venting system isn't blocked and proceeds with self-diagnostics before starting the trial for ignition. Remove combustion gases from the water heater. 9. After the post-purge sequence, the controller de-energizes the blower motor and enters standby mode, awaiting the next heat request. This water heater features a flammable vapour sensor that the electronic control continuously monitors in all operation modes. If flammable vapours are detected, the control automatically shuts down the water heater, preventing it from restarting. The following materials can trigger the Flammable Vapour Sensor to shut down the water heater: gasoline vapours, certain flammable paints, stains, and thinners' vapours, vent pipe cement & solvents' vapours, bleach (direct contact with the sensor), and other flammable materials and their vapours. If the flammable vapour sensor shuts down the water heater, the electronic control displays an error code; promptly contact a qualified service technician in this case. Refer to the "NOTICE" on page 3 for more information. Care and cleaning of the water heater: Draining the Water Heater CAUTION: Turn off the gas supply at the thermostat or manual shutoff valve before draining water DANGER: Ensure no one is exposed to hot water released by the temperature and pressure relief valve. The drained tank water may be hot enough to cause scalding; direct it to a suitable drain to prevent injury or damage. Before turning off the cold water supply, open a hot water faucet to allow sufficient cold water into the tank, preventing scald risk while draining. Once the tank water cools down, turn off the cold water supply. Open a hot water faucet or lift the relief valve handle to admit air into the tank. Attach a garden hose to the drain valve and direct the stream of water to a drain; open the valve. Proper maintenance ensures years of trouble-free service from your water heater. Periodic inspections by qualified gas appliance repair personnel are recommended for the gas control, burner, relief valve, internal flue-way, and venting system. Establish and follow a routine preventative maintenance program. At least once a year, lift and release the temperature pressure relief valve lever handle to ensure it operates freely; allow several gallons to flush through the discharge line to an open drain. NOTICE: If the temperature and pressure relief valve discharges periodically, this may be due to thermal expansion in a closed water system. Contact your water supplier or plumbing contractor for correction guidance. DO NOT plug the relief valve outlet. Hard water deposits can accumulate at the tank's bottom; allow sediment buildup if necessary. Accumulated solids in the gas control sensors can cause erratic operation, leading to hot water temperatures that exceed the thermostat setting. Regularly draining a few quarts of water from the tank each month can help maintain cleanliness. Rapid faucet or valve closures can create banging noises in pipes, which can be minimized by installing risers and hammer arresting devices. The anode rod should be inspected annually and replaced when more than 6 inches of core wire is exposed. Ensure the cold water supply is shut off before removal. A combustion shut-off device will stop operation if undesirable conditions occur, such as flammable vapors or blocked air inlets. Contact a qualified technician if this happens. Annual inspections are required for proper ventilation and combustion air supply clearance. Don't block or obstruct air inlet openings around the water heater or the Flammable Vapour Sensor: The venting system must be inspected annually by removing the inducer and flue baffle, ensuring secure reinstallation of these components. If soot or deterioration is found, clean the flue with a local gas utility before resuming operation. Visual inspections are necessary for the pilot flame and main burner each year, with shutdown if unusual operation is detected. Cleaning the burner must be performed by qualified personnel due to gas piping disconnection and leak testing. The burner chamber is sealed; replacement of the burner access door gasket is required after removal. The appliance should be turned off to conserve energy and prevent dangerous hydrogen gas buildup. During freezing temperatures, water heaters and pipes should be drained to avoid damage. After a long shut-down period, qualified service personnel must check the water heater's operation and controls. Make sure the water heater is fully filled before restarting it. The anode rod helps prolong the glass-lined tank's life by slowly consuming itself, reducing corrosion. However, high sulfate and mineral content in water can cause hydrogen sulfide odor. Chlorination of the water supply minimizes this issue. Troubleshooting tips are provided for common problems: - Condensation occurs when a new water heater is filled; it should disappear as the tank warms up. - Excessive condensation may be caused by undersized water heaters, blockages in flues or combustion air inlet openings, or insufficient ventilation air supply. Other issues include: - Scale on top of the burner that needs to be removed by a qualified technician. - Blockages in flues or combustion air inlet openings require removal of obstruction or debris. - Insufficient combustion or ventilation air supply can lead to improper water heater operation. - The main burner may not stay lit due to problems with gas lines, vent pipes, pressure switches, wire connections, or the combustion shut-off device. If issues persist, it is recommended to contact a qualified service technician for assistance. No hot water due to excessive usage or system overload. Check if the relief valve outlet is closed. Ensure all faucets are shut off and consult the "Gas Valve LED Codes" section for error codes. Verify power supply (120VAC) and contact a technician if issues persist. Water temperature setpoint may be too high; refer to the "Water Temperature Setting" of The Water Heater section. Check gas supply pressure, manifold pressure, and pilot tube restriction. If the flame is out of sequence or lost, replace the gas control (thermostat). Investigate possible combustion air port blockage, jacket air holes obstruction, or vent termination compliance issues, as indicated by flashing codes: IDLE, Call For Heat, Low flame signal, Pressure switch failed closed, Pressure switch failed open, TCO limit lockout, Flame out of sequence, Failed trial for ignition, and Soft Lockout. Consult the "Gas Valve LED Codes" section for detailed information on addressing these conditions. Troubleshooting Guide for Sensored Valve Appliance Valve stuck in open position? Check gas control (thermostat) and replace if necessary. Flammable vapour sensor lockout: Ensure no gasoline or flammable gases are present. Reset control using ON/OFF switch, or replace FV sensor if faulty. FVS fault detected: Replace FV sensor, wiring, or gas control (thermostat). Temperature sensor fault detected: Check thermal well wiring and replace if necessary. Electronics fault detected: Replace gas control (thermostat) or thermal well. Valve fault detected: Reset or replace damaged gas control (thermostat). Important Safety Precautions: * Ensure power to water heater is "OFF" before servicing. * Label wires prior to disconnection to avoid wiring errors. * Verify proper operation after servicing. * Do not attempt repair of gas piping, remote control, burners, vent connectors, or other safety devices. Refer repairs to qualified service personnel. See also: 6G50S-40F3 and other models.