This water heater design has been certified by the Canadian Standards Association for installation in recreation vehicles. This water heater is not for use in marine applications.

**SERVICE CALLS & QUESTIONS**
Location and phone numbers of qualified Service Centers can be found at our website http://www.atwoodmobile.com or call 815-877-5700 to have a Service Center List mailed.

**WARNING**
avoid possible injury or death

**CAUTION**
avoid possible injury and/or property damage

Installation and service must be performed by a qualified Service Technician, Service Center or gas supplier.

**WARNING**
FIRE OR EXPLOSION
• If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

➢ Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

**WHAT TO DO IF YOU SMELL GAS**
• Evacuate ALL persons from vehicle.
• Shut off gas supply at gas container or source.
• DO NOT touch any electrical switch, or use any phone or radio in vehicle.
• DO NOT start vehicle’s engine or electric generator.
• Contact nearest gas supplier or qualified Service Technician for repairs.
• If you cannot reach a gas supplier or qualified Service Technician, contact the nearest fire department.
• DO NOT turn on gas supply until gas leak(s) has been repaired.

**MODEL NUMBER CLARIFICATION**

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>4 GAL</th>
<th>6 GAL</th>
<th>10 GAL</th>
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<tr>
<td>Pilot Ignition</td>
<td>G4-7</td>
<td>G6A-7</td>
<td>G6A-8P</td>
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<td>G6A-8</td>
<td>GH6-7</td>
<td>G10-2</td>
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<td>Electronic Ignition</td>
<td>G6A-8E</td>
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<td>G10-2P</td>
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<td>G10-2P</td>
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<tr>
<td>Pilot Reight</td>
<td>P in MODEL</td>
<td>- SEE MODEL CLARIFICATION ABOVE</td>
<td></td>
</tr>
<tr>
<td>Heat Exchange</td>
<td>H in MODEL</td>
<td>- SEE MODEL CLARIFICATION ABOVE</td>
<td></td>
</tr>
<tr>
<td>Electronic Ignition</td>
<td>E in MODEL</td>
<td>- SEE MODEL CLARIFICATION ABOVE</td>
<td></td>
</tr>
<tr>
<td>Combination Gas/Electric</td>
<td>C in MODEL</td>
<td>- SEE MODEL CLARIFICATION ABOVE</td>
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**DIMENSIONS**

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<th>NET WT.</th>
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<tbody>
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<td>6 GALLON</td>
<td>16&quot; 12.5&quot;</td>
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<tr>
<td>10 GALLON</td>
<td>16&quot; 15.5&quot;</td>
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**SHIPPING WT.**

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<td>25 lbs</td>
</tr>
<tr>
<td>10 GALLON</td>
<td>32 lbs</td>
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</table>


WARNING

FIRE AND/OR EXPLOSION

- DO NOT use matches, candles or other sources of ignition when checking for gas leaks.

- Turn on gas and check water heater and all connections for gas leaks with leak detecting solution.

- Fill water heater tank, check all connections for water leaks (pg 1-A & B).

PRESSURE-TEMPERATURE RELIEF VALVE

This water heater is equipped with a temperature and pressure relief valve (pg 10) that complies with standard for Relief Valves and Automatic Gas Shutoff Devices for Hot Water Systems, ANSI Z21.22. This valve is a safety component and must not be removed for any reason other than replacement.

WARNING

EXPLOSION

- Do not place a valve, plug or reducing coupling on outlet part of relief valve.

If you use a discharge line, do not use a reducing coupling or other restriction smaller than outlet of relief valve. Allow complete drainage of both valve and line.

FOR REPLACEMENT PARTS:

- Do not install anything less than a combination temperature-pressure relief valve certified by a nationally recognized testing laboratory that maintains periodic inspection of product of listed equipment or materials, as meeting requirements for Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems, ANSI Z21.22. Valve must have a maximum set pressure not to exceed 150 psi.

- Install valve into opening provided and marked for this purpose on water heater.

- Installation must conform with local codes or in the absence of local codes, American National Standard for Recreational Vehicles, ANSI A119.2/NFPA 501C.

- For an external electrical source, ground this unit in accordance with National Electrical Code ANSI/NFPA70.

Your Atwood gas water heater is now ready for operation. Continue to HOW TO OPERATE YOUR WATER HEATER.

Electronic Ignition continue to Electronic Ignition WIRING INSTRUCTIONS.

Pilot Relight continue to Pilot Relight WIRING INSTRUCTIONS.
For HEAT EXCHANGE continue —
1. Push 5/8" dia. 2 or 3 coolant system hose with SAE 053 A Type "E" clamp attached (No 6-E) onto heat exchange tube as far as possible (No 6-B).
2. Spread hose clamp and slide toward heat exchange unit past annular groove (No 6-C) and release.
3. Continue to HOW TO OPERATE YOUR WATER HEATER and/or Electronic Ignition OPERATION.

For COMBINATION GAS/ELECTRIC MODELS continue —
This water heater is designed to operate with gas, electricity, or a combination of both.
Provide adequate clearance at rear of unit for service of water connections and operation of manually re-settable high temperature limit switch on combination gas/electric units.
1. Follow GENERAL INSTALLATION instructions.
NOTE: All wiring must comply with applicable electrical codes.
   * Use electrical metallic tubing, flexible metal conduit, metal clad cable, or nonmetallic-sheathed cable with grounding conductor. Wire must have a capacity of 1500 watts or greater. The wiring method must conform to applicable sections of article 551 of National Electrical Code ANSI/NFPA 70.
2. Refer to Wiring Diagram. Make 120 VAC electrical connections from junction box on back of unit.
   a. Connect hot lead to (1) Black.
   b. Connect common lead to (2) White.
   c. Connect ground wire from electrical service to (3) green ground lead in junction box. Place switch in “OFF” position.
   * When a cord and plug connection to the power supply are used on water heater, power cord must be UL listed as suitable for damp locations, hard or extra hard usage. It must be a flexible cord such as type S, SO, ST, STO, SJ, SJT, SJTO, HS or HSO cord as described in National Electrical Code, ANSI/NFPA 70. The length of external cord to water heater, measured to face of attachment plug, shall be no less than 2 feet nor more than 6 feet. Supply cord must be a minimum of 16 AWG and attachment plug must be rated at 20 amps.

![CONSUMER SAFETY WARNINGS](image)

**WARNING**

**EXPLOSION OR FIRE**
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Should overheating occur, or gas supply fail to shut off, turn OFF manual gas control valve to appliance, or turn gas OFF at the LP tank. On ELECTRONIC IGNITION MODEL turn operating switch to OFF position and remove red wire from left hand terminal of ECO switch or turn gas OFF at the LP tank.
- Use with LP gas only.
- Shut off gas appliances and pilot lights when refueling.
- On PILOT RELIGHT MODELS, turn off the ignition module when refueling gasoline tanks or LP tanks.
- Turn gas OFF at the LP tank when vehicle is in motion. This disables all gas appliances and pilot lights. Gas appliances must never be operated while vehicle is in motion. Unpredictable wind currents may be created which could cause flame reversal in the burner tube, which could result in fire damage. The thermal cut off fuse could also be unnecessarily activated resulting in a complete shutdown of the water heater requiring replacement of the thermal cut off. See maintenance of electronic ignition water heaters for further explanation of the thermal cut off.
- LP tanks must be filled by a qualified gas supplier only.

![HOW TO OPERATE YOUR WATER HEATER](image)

**CAUTION**

**ELECTRICAL DAMAGE**
- Label all wires before disconnecting when servicing controls.
- Verify proper operation after servicing.

Operation using gas continue to HOW TO OPERATE YOUR WATER HEATER, electrically continue to COMBINATION Gas/Electric OPERATION.

**ELECTRONIC IGNITION - WIRING INSTRUCTIONS**
1. Install unit according to GENERAL INSTALLATION instructions.
   NOTE: It is recommended unit be connected directly to a 12V DC battery or to filtered side of an AC/DC converter. Avoid connections to unfiltered side of an AC/DC converter whenever possible. Use a minimum of 18 gauge wire, UL and CSA listed.
2. Refer to WIRING DIAGRAM. Install remote switch in a convenient location. Position wall plate with buttons up. Before making connections turn switch OFF. The switch is off when the button is depressed towards terminal (3).
3. Installing wires:
   a. blue lead to switch terminal (6) on indicator light of switch
   b. terminal (4) on indicator light of switch to negative battery terminal
   c. green lead to negative battery terminal
   d. brown lead on water heater to terminal (3) on switch
   e. terminal 2 on switch to positive battery terminal
3. Read ELECTRONIC IGNITION OPERATION.

**PILOT RELIGHT - WIRING INSTRUCTION**
1. Install unit according to GENERAL INSTALLATION instructions.
2. Refer to Wiring Diagram. Use 18 gauge wire, UL/CSA listed.
3. Read PILOT & PILOT RELIGHT OPERATIONS.

**PILOT OPERATION**
1. Turn gas control valve knob (No 7-B or No 8-B) to OFF position.
2. Wait at least 5 minutes to allow accumulated gas in burner compartment to escape.
3. Water heater may be equipped with a White Rodgers® or Robertshaw Unifrot® Control.
FOR WHITE RODGERS® CONTROL (fig 7)
a. Turn lighting control knob (fig 7-B) to PILOT position and hold against stop while lighting pilot burner (fig 9-D).
b. Allow pilot to burn thirty seconds then release lighting control knob.
c. Turn lighting control knob (fig 7-B) to ON position.
d. If pilot does not remain lit, repeat operation allowing longer period before releasing lighting control knob.
e. Set temperature selection lever (fig 7-A) at mark between warm and hot position.
f. Close access door.

FOR A ROBERTSHAW UNITROL* (fig 8)
a. Turn lighting control dial (fig 8-B) to PILOT position.
b. Depress and hold reset push button (fig 8-A) while lighting pilot burner (fig 9-D).
c. Allow pilot to burn thirty seconds before releasing reset push button.
d. If pilot does not remain lit, repeat operation allowing longer period before releasing reset push button.
e. Turn lighting control dial (fig 8-B) to ON position.
f. Set temperature control dial (fig 8-C) at mid-point position between warm and hot.
g. Close access door.

4. For complete shut down and before servicing, turn gas control knob (fig 7-B or fig 8-B) to OFF position. When water heater is not in use set temperature control lever (White Rogers®) or dial (Robertshaw®) to lowest possible position.

⚠️ CAUTION
SCALDING INJURY
• Setting temperature control dial at a higher position will produce excessively hot water.

The temperature knob or lever is factory adjusted to its lowest dial setting. We recommended the mid-point position between warm and hot, as noted above. This will provide for energy efficient operation and sufficient hot water. Valves for reducing point of use temperature by mixing cold and hot water are available. Consult a licensed plumber or local plumbing authority.

5. To Adjust Main Burner (fig 9):
1. Loosen air shutter screw (fig 9-A).
2. Slide air shutter (fig 9-B) to right until some yellow appears in main burner flame.
3. Move air shutter (fig 9-B) to left until yellow disappears.
4. Retighten air shutter screw (fig 9-A).

Read MAINTENANCE AND CARE INSTRUCTIONS

COMBO gas/electric ELECTRIC OPERATION
1. For gas operation refer to Pilot, Pilot Relight or Electronic Ignition OPERATION section (as applicable).
2. For electrical operation use switch at the rear of water heater.
3. Completely fill tank with water.
4. Turn switch ON (fig 11-B) (located at rear of water heater). NOTE: Turning power on to heater without water covering heating element may burn out element and void warranty.
5. Check for proper operation. Water temperature is set at 140°F (60°C).
6. If the manual reset high temperature limit switch should operate, reset switch (fig 11-A) by depressing with pencil or other nonmetallic object. If still experiencing problems contact an authorized Atwood Service Center or Atwood Service Department. Read MAINTENANCE AND CARE INSTRUCTIONS.

MAINTENANCE AND CARE INSTRUCTIONS

SERVICE CALLS & QUESTIONS
Location and phone numbers of qualified Service Centers can be found at our website http://www.atwoodmobile.com or call 815-877-5700 to have a Service Center List mailed.

⚠️ WARNING
FIRE OR EXPLOSION
• Shut off gas supply at LP container before disconnecting a gas line.
• Keep control compartment clean and free of gasoline, combustible material, and flammable liquids and vapors.

AFTERMARKET WATER HEATING ELEMENT DEVICES

⚠️ WARNING
EXPLOSION / BURN INJURY
• Do not alter water heater, it will void warranty.
• Do not use Aftermarket heating elements, they can lack critical safety controls.
• Use of Aftermarket heating elements can lead to an out of control heating of water tank and a catastrophic wet side explosion.

The use of manufacturer’s aftermarket heating element devices may also result in damage to components or water heater. Atwood’s written warranty states – “failure or damage resulting from any alteration to our water heater is the owner’s responsibility”. Any alteration, like the addition of an aftermarket heating element device, will void the warranty.

GENERAL INFORMATION
• LP and Water system must be turned on.
• Have gas pressure tested periodically. Should be set at 11 inches of water column with three appliances running.
• Drain water heater at regular intervals (at least one time during the year).
• Drain water heater before storing RV for the winter or when the possibility of freezing exists.
• Keep vent and combustion air grill clear of any obstructions.
• Periodically, compare flame of main and pilot burners with fig 9 and main burner adjustments in HOW TO OPERATE YOUR WATER HEATER.
• When water heater is not in use set temperature control lever (White Rogers) or dial (Robertshaw) to lowest possible position. This will reduce the effects of low outdoor temperatures on calibration of temperature control mechanism.

ELECTRONIC IGNITION MAINTENANCE
Before replacing circuit board check for shorts external to board.
• If unit sparks but does not ignite and remote switch light comes on, check for voltage to valve. If there is no voltage, valve track may have blown. Check ECO and wiring to valve for a possible short.
• If unit operates but light does not come on at start or when in a lockout, remote switch light track may have blown. Check wiring to remote switch for a short.
* If unit is totally inoperative (no spark, valve or light), check for excessively high voltage to unit (more than 14 volts).
* If no ignition, check thermal cut-off. The thermal cutoff (fuse) is a device installed in the power supply line. This device will shut off electrical power and stop heater operation when activated. For example, if an obstruction within the fuse tube should occur, such as described above in the Preventative maintenance section, the burner flame/heat may contact the cutoff, resulting in a melting of the fuse element incorporated in the thermal cutoff. In order to restore power and proper operation of the water heater, the obstruction must be removed and the thermal cutoff must be replaced.

**PREVENTATIVE MAINTENANCE**

Spiders, mud wasps, and other insects can build nests in burner tube. This causes poor combustion, delayed ignition or ignition outside combustion tube. Listen for a change in burner sounds or in flame appearance from a hard blue flame to a soft lazy flame or one that is very yellow. These are indications of an obstruction in burner tube (fig 9-C). Inspect and clean on a regular basis.
- a. Remove air shutter screw (fig 9-A) and slide air shutter (fig 9-B) down burner tube.
- b. Run a flexible wire brush down burner tube (fig 9-C) until it is visible at end of burner tube.
- c. Vacuum burner where it enters combustion tube.
- d. Return air shutter to original position and replace screw.

**HOW TO CLEAN PILOT MODELS**

1. Check main burner orifice and pilot assembly for contamination (dirt, spider webs, etc.).
2. Clean main burner tube with small brush.
3. Main burner adjustment - open air shutter 1/4 way.
4. Low pilot flame. Check for contamination - if clean have the pilot orifice replaced.

**HOW TO CLEAN ELECTRONIC IGNITION MODEL**

1. Check main burner orifice.
2. Clean and adjust main burner.
3. Main burner and valve manifold must align with each other.
4. Check electrode for cracked porcelain.
5. Check electrode for proper gap - 1/8” between electrode and ground.
6. If module board functions intermittently, remove board and clean terminal block with pencil eraser.

**WATER HEATER TANK CARE**

**CAUTION**

- SCALDING INJURY

- Turn off water heater and allow time for water to cool before removing drain plug to flush tank.

**WINTERIZING (FLUSHING) INSTRUCTIONS**

1. Turn off main water supply - your pump or your water hook up source.
2. Drain water heater inner tank. Due to the location of the drain plug, approximately two quarts of water will remain in the bottom of the tank. This water contains most of the harmful corrosive particles. While draining the unit, if water flows sporadically or trickles instead of flowing steadily, we recommend one of two things. First, open the relief valve to allow air into the tank and secondly, take a small gauge wire or coat hanger device and poke through drain opening to eliminate any obstructions.
3. After thoroughly draining tank, flush with fresh pressure or fresh water.

**IF YOU USE FRESH WATER**, it may be pumped into the tank with the assistance of on-board pump or external water through the inlet or outlet found on rear of tank. It may also be applied through pressure temperature relief valve support located on front of unit. Continue this flushing process for approximately five minutes to allow ample time for fresh water to rigate stagnant water on bottom of tank and force deposits through drain opening.

4. Close off drain valve as well as pressure temperature relief valve.
5. After this procedure, there will be approximately two quarts of water left at the bottom of inner tank. Should this water freeze it will not cause any damage to the tank.
- Two or three times a year flush out tank. This may prolong the life of your tank and allow use of a full 6 gallons of hot water.

**PRESSURE-TEMPERATURE RELIEF VALVE**

**WARNING**

- EXPLOSION

Weeping or dripping of a pressure-temperature relief valve while the water heater is running DOES NOT mean it is defective. This is normal expansion of water as it is heated in the closed water system of a recreation vehicle.

The Atwood water heater is designed with an internal air gap at the top of the tank to reduce the possibility of weeping and dripping. In time, the expanding water will absorb this air.

**CAUTION**

- SCALDING INJURY

TO REPLACE THE AIR GAP FOLLOW THESE STEPS:

**STEP 1:** Turn off water heater.
**STEP 2:** Turn off incoming water supply.
**STEP 3:** Open a hot water faucet in coach.
**STEP 4:** Pull handle of pressure-temperature relief valve (fig 10) straight out and allow water to flow until it stops.
**STEP 5:** Allow pressure-temperature relief valve to snap shut; close hot water faucet; turn on water supply.

- At least once a year manually operate pressure-temperature relief valve (fig 10).

When pressure-temperature relief valve discharges again, repeat above procedure. For a permanent solution, we recommend one of the following:
- Install a pressure relief valve in cold water inlet line to water heater and attach a drain line from valve to outside of coach. Set to relieve at 100-125 PSI.
- Install a diaphragm-type expansion tank in cold water inlet line. Tank should be sized to allow for expansion of approximately 15 oz. of water and pre-charged to a pressure equal to water supply pressure.

These devices can be obtained from a plumbing contractor or service center.
WIRING DIAGRAMS

Dotted lines are wired by customer

12 volt DC

BATTERY

REMOTE SWITCH

SPARK IGNITION

Gas Solenoid Valves

Non-Ignition Light

Thermal Cut-Off

Remote Switch

Fixed Temperature Control Thermostat

Spark & Sense

PILOT RELIGHT

Spark Module

High Voltage Lead

Burner Electrode

Hot Lead

Switch

Ground Lead

Ground

Common Lead

Element

COMBO gas/electric

Fixed Thermostat

Manual Reset

High Temperature Limit Switch

CAUTION
ELECTRICAL DAMAGE

* Label all wires before disconnecting when servicing controls.
* Verify proper operation after servicing.

SCHÉMAS ÉLECTRIQUES

Les lignes pointillées indiquent le câblage par le client

ALLUMAGE ÉLECTRONIQUE

12 V c. c.

TÉLÉCOMMANDE

BATTERIE

RALLUMAGE DE VEILLEUSE

Filet de hauteur tension vers électrode du brûleur

Jer Chevron

Fil d'acier

NORD

SOUTH

Nord

SOUTH

Rallumage de veilleuse Module d'allumage

Thermostat de commande de température fixe

Allumage électronique

Coupure thermique

Jérяем

12 V c. c.

BATTERIE

COMBINAISON gaz-
électricité

Thermostat fixe

Interrupteur de limite supérieure de température à réarmement manuel

Fil de phase

Vert

Fil de masse

Blanc

Fil de neutre

Noir

Élément chauffant

ATTENTION

Domage électrique

* Lors de la réparation des commandes, étiqueter tous les fils avant de les déconnecter.
* Vérifier le bon fonctionnement après la déconnexion.