Water Heater Specs

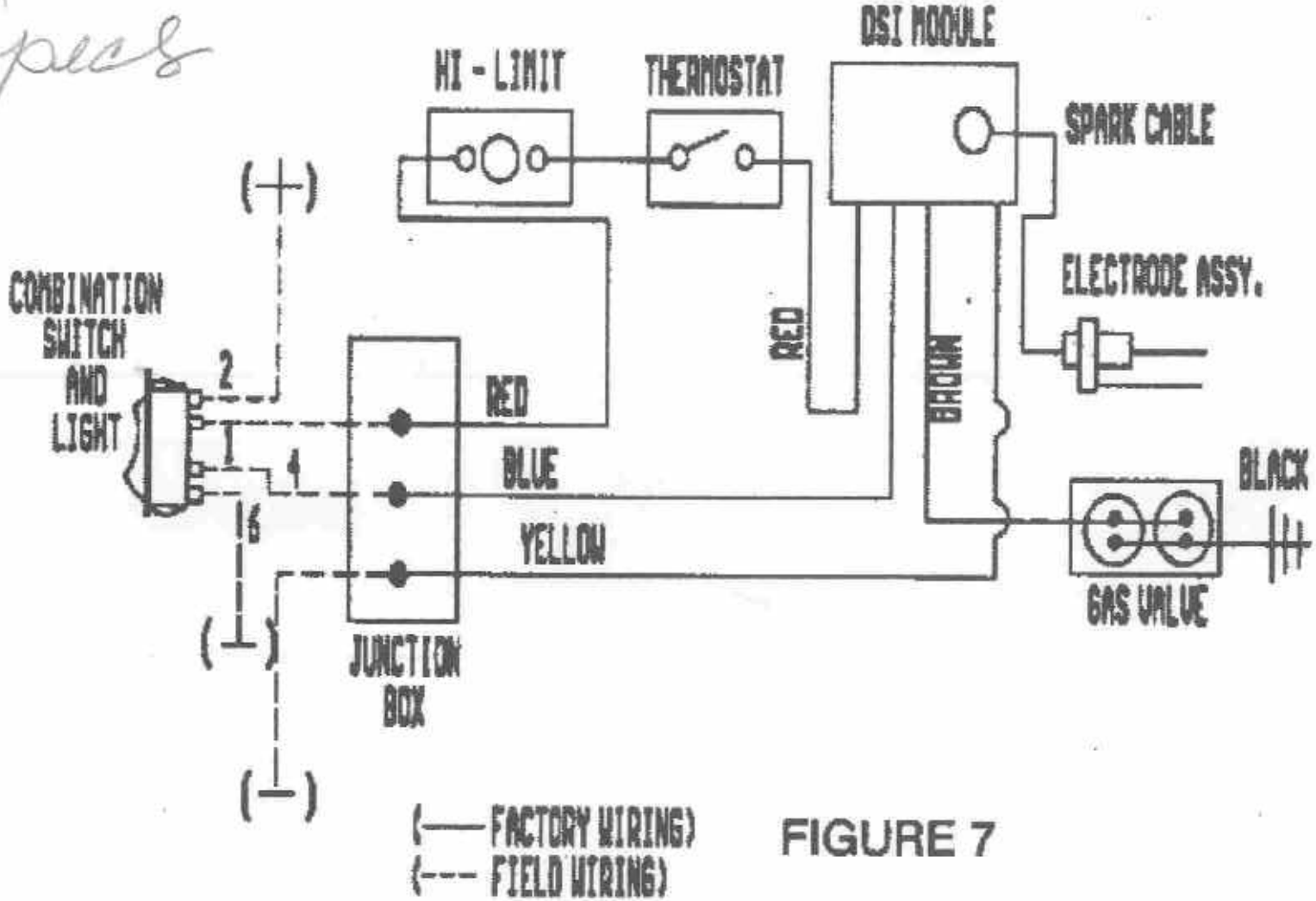


FIGURE 7

12 VOLT DC - WIRING DIAGRAM

DISCONNECT POWER SUPPLY BEFORE SERVICING THERMOSTAT AND HI-LIMIT UNDER ACCESS COVER

OPERATING, INSTALLATION AND SERVICE MANUAL

6500104

JUNE 1988

DIRECT SPARK IGNITION -- DIRECT VENT GAS WATER HEATER

FOR INSTALLATION IN RECREATIONAL VEHICLES AND MOBILE HOUSING

FOR YOUR SAFETY
WHAT TO DO IF YOU SMELL GAS

1. DO NOT TRY TO LIGHT ANY APPLIANCE.
2. DO NOT TOUCH ANY ELECTRIC SWITCH; DO NOT USE ANY PHONE IN YOUR BUILDING.
3. IMMEDIATELY CALL YOUR GAS SUPPLIER FROM A NEIGHBOR'S PHONE. FOLLOW THE GAS SUPPLIER'S INSTRUCTIONS.
4. IF YOU CANNOT REACH YOUR GAS SUPPLIER, CALL THE FIRE DEPARTMENT.

FREEZE WARNING

DRAIN HEATER IF SUBJECT TO FREEZING TEMPERATURES.

WARNING: IMPROPER INSTALLATION, ADJUSTMENT. ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE INJURY OR PROPERTY DAMAGE. REFER TO THIS MANUAL. FOR ASSISTANCE OR ADDITIONAL INFORMATION CONSULT A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE, OR OTHER COMBUSTIBLE MATERIALS OR LIQUIDS NEAR OR ADJACENT TO THIS HEATER OR ANY OTHER APPLIANCE. THIS APPLIANCE SHALL NOT BE INSTALLED IN ANY LOCATION WHERE FLAMMABLE LIQUIDS OR VAPORS ARE LIKELY TO BE PRESENT.

AN ODORANT IS ADDED TO THE GAS USED BY THIS WATER HEATER.

INSTALLER: AFFIX THESE INSTRUCTIONS TO OR ADJACENT TO WATER HEATER.
OWNER: RETAIN THESE INSTRUCTIONS AND WARRANTY FOR FUTURE REFERENCE.

ALL TECHNICAL AND WARRANTY QUESTIONS SHOULD BE DIRECTED TO THE COMPANY LISTED ON THE WARRANTY, OR RATING PLATE WHICH CAME WITH YOUR WATER HEATER.

INSTALLATION REQUIREMENTS

This installation must conform with the requirements of the authority having jurisdiction or in the absence of such requirements with the national fuel gas code ANSI Z223.1-1974: and American National Standard For Recreational Vehicles - 501C-1977, in Canada the installation should conform with the following standards.

A. For installation in Recreational Vehicles

1. Gas - CSA standard CSA Z240.4.2 Installation requirements for Propane Appliances and equipment in Recreational Vehicles.
2. Electrical - CSA standard C22.2 No. 148/Z240.6.2 Electrical Requirements for Recreational Vehicles.
3. Plumbing - CSA standard CSA Z240.3.2 Plumbing Requirements for Recreational Vehicles.

B. For installation in Mobile Housing

1. Gas - CSA standard CSA Z240.4.1 Installation Requirements For Gas Burning Appliances and Equipment in Mobile Homes.
2. Electrical - CSA standard CSA C22.1 Canadian Electrical Code Part 1.
3. Plumbing - CSA standard CSA Z240.3.1 Plumbing Requirements for Mobile Homes

Au Canada, l'installation doit satisfaire aux normes suivantes:

A. Pour installation dans les vehicules de loisir

1. Gaz - Norme ACNOR Z240.4.2 Exigences d'installation des appareils et de l'equipement a propane dans les vehicules de loisir.
2. Electricite - Norme ACNOR C22.2 No. 148/Z240.6.2 Exigences electriques des vehicules de loisir.
3. Plomberie - Norme ACNOR Z240.3.2 Exigences de plomberie des vehicules de loisir.

B. Pour Installation Dans Une Maison Roulante

1. Gaz - Norme ACNOR Z240.4.1 Exigences d'installation des appareils et de l'equipement a gaz dans les maisons roulantes.
2. Electricite - Norme ACNOR C22.1 Premiere partie du Code electrique Canadien.
3. Plomberie - Norme ACNOR Z240.3.1 Exigencies de plomberie des maisons roulantes.

(1) The appliance shall be disconnected from the gas supply piping system during any pressure testing of the system.

(2) The appliance and its gas connection shall be leak tested before placing the appliance in operation.

(3) All air for combustion must be supplied from outside the structure. Air for combustion must not be supplied from occupied spaces.

INSTALLATION INSTRUCTIONS

Minimum clearance from combustible materials on sides, top, floor, and rear = 0 inches. Provide room for access to rear of heater for servicing.

Degagement minimal de materiaux combustibles sur les cotes, le dessus, le plancher et a l'arriere = 0 pouces. Prevoyez suffisamment d'espace pour qu'un technicien puisse avoir acces & l'arriere du chauffe-eau.

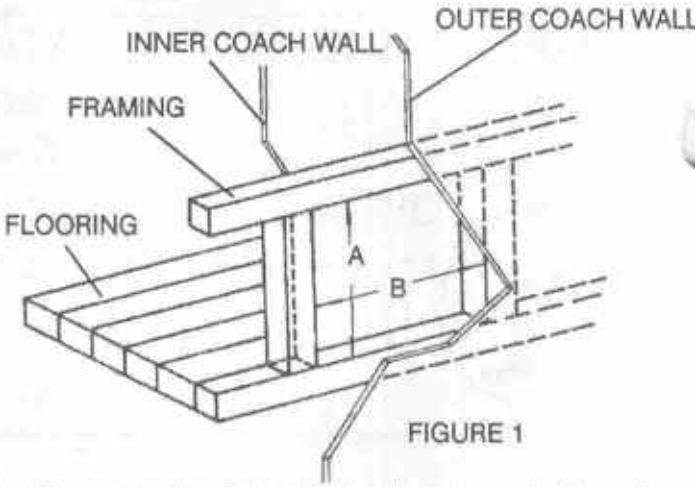


FIGURE 1

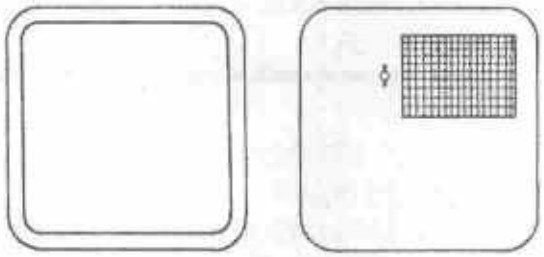
Provide an opening flush with floor in outer wall of coach as shown.

Wall of coach should contain framing as shown in Figure-1. Maintain inside dimensions listed below. Do not install on carpet unless the carpet is covered by a metal sheild, at least 2 inches greater than the width and lenght of the water heater.

N'installez pas le chauffe-eausur du tapis a moins que celui-oi ne soit recouvert d'une tole protectrice dont la surface est superieure d'au moins deux pouces en longueur et en largeur a la base du chauffe-eau.

6 Gal. Models	12-3/4"	12-3/4"
8 Gal. Models	12-3/4"	12-3/4"
10 Gal. Models	16-1/4"	16-1/4"

FLUSH MOUNT MODELS (SEPARATE DOOR FRAMES)



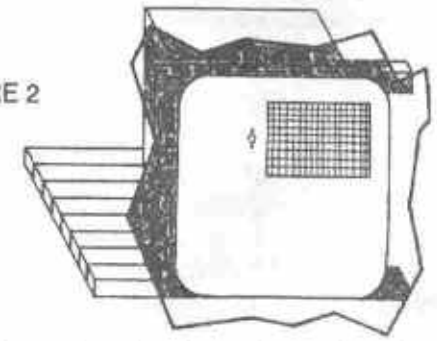


FIGURE 2

A. Insert heater into the framed opening. Front of housing should be flush with outside wall. Secure to coach with nails at bottom and sides of control housing compartment. Plac caulking to inside of housing frame. Insert frame into housing compartment and secure with three No. 10-24 x3 1/2" screws. Do not install on carpet unless the carpet is covered by a metal sheild, at least 2 inches greater than the width and length of the water heater.

B. To install door, locate holes in bottom of door over pins on the lower control housing frame. Close door so that the latch protrudes through the slot in the door. Turn latch 90 degrees to fasten door.

STANDARD MODELS (HINGED DOOR)

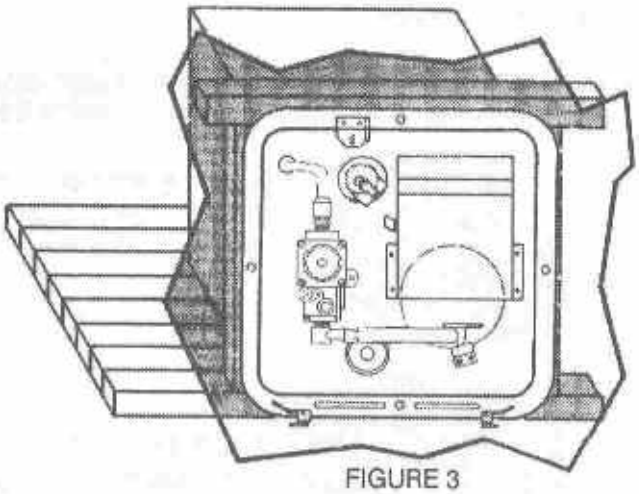


FIGURE 3

A. Insert heater into framed opening. Place caulking sealant between heater flange and outer wall of coach to insure water-tight bond. Secure heater to wall using twelve No.8 x 3/4" wood screws, screwed through holes, in front mounting panel of heater.

B. To install door, slip one hinge pin into slot on each side of door, then insert other end of hinge pins behind spring brackets on heater frame, close door so that latch protrudes through slot in door. Turn latch 90 degrees to fasten the door.

REAR CONNECTIONS

A. Connect water lines to fitting provided, 1/2" female pipe threads.

B. Connect 3/8" gas supply piping to gas connection supplied with heater. Turn on gas and check leaks, using a soap and water solution. Be sure that there is no gas leaks in the gas system.

C. Fill tank with water. Open hot water faucet to expel air from tank. When tank is filled, turn off faucet and check for leaks at connections.

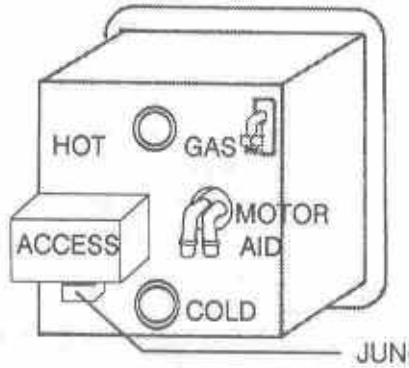


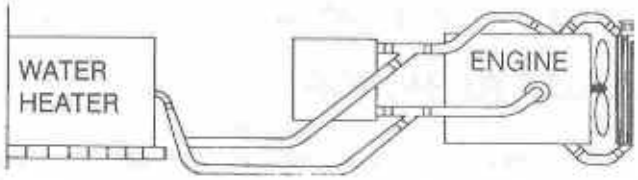
FIGURE 4

INSTALLATION OF MOTOR-AID EXCHANGER

(1) Place copper "Y"s in heater lines as shown in sketch.
(2) Secure hoses to "Y" s with hose clamps.
(3) Attached hose from motor-aid heat exchanger to "Y"s.
(4) Secure hoses to motor-aid and "Y"s with clamps.
(5) Check all connections for water leaks and proper water circulation through motor-aid heat exchanger, with engine running.

The motor-aid heat exchanger is designed to operate safely and efficiently for an indefinite period of time and should require no maintenance. Be sure to check your heater hoses for cracks after the first year of operation, since a cracked or broken hose could cause a great deal inconvenience on an outing.

FIGURE 5



ELECTRICAL CONNECTIONS

Refer to the following codes when making electrical connections. Make sure water heater is filled with water before making electrical connections. Make electrical connections shown on the following diagram. (Figure 7)

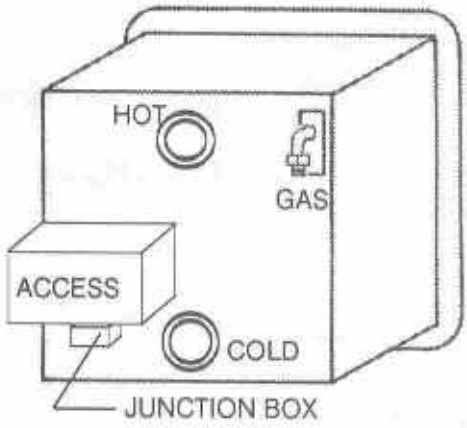


FIGURE 6

In Canada, the electrical installation should conform with CSA standard CSA C22.2 No.148/Z240.6.2 Electrical Requirements for Recreational Vehicles and CSA C22.1 Canadian Electrical Code Part I when installing the unit in Recreational Vehicles and Mobile Homes respectively.

Au Canada, l'installation electrique doit satisfaire a la norme ACNOR 22.2 N 148/Z240.6.2 Exigences electriques des vehicules de loisir ou a la norme ACNOR C22.1 Premeire partie du Code electrique Canadien selon que l'apparell est installe dans un vehicule de loisir ou une maison roulante.

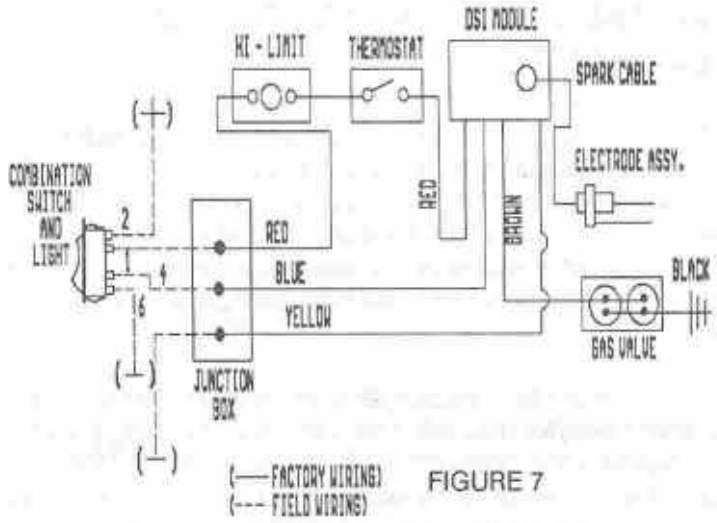


FIGURE 7

12 VOLT DC - WIRING DIAGRAM
DISCONNECT POWER SUPPLY BEFORE SERVICING
THERMOSTAT AND HI-LIMIT UNDER ACCESS COVER

SAFETY WARNINGS

Should overheating occur, or the gas supply fail to shut off, shut off the manual gas valve to the appliance before shutting off the electrical supply.

Do not use this appliance if any part has been submerged 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 that has been submerged under water.

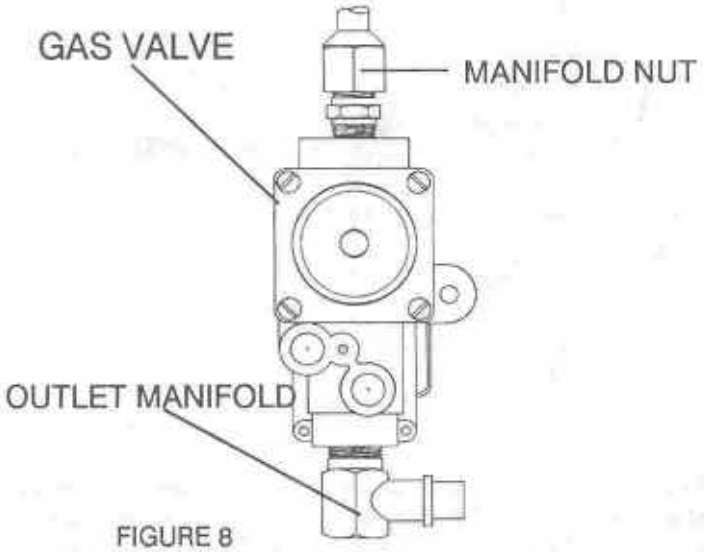


FIGURE 8

THERMOSTAT AND MANUAL RESET

This water heater is provided with a high temperature limit as a cut-off device. Temperature above 180 degrees F will cause manual reset button to trip shutting down main burner.

To activate burner, the water temperature must be below 100 degrees F, push reset button to re-activate burner.

REMISE A ZERO MANUELLE ET PAR THERMOSTAT

Ce chauffe-eau comporte une limite de temperature maximale qui actionne un dispositif de coupure. Dans l'eventualite d'une penne du thermostat, toute temperature supeieure a 180 F declenchera la commande de remise a zero manuelle et arretera le bruleur principal.

Pour remettre le bruleur en marche (la temperature de l'eau doit etre enferieure a 100 F, enfonces le bouton de remise a zero

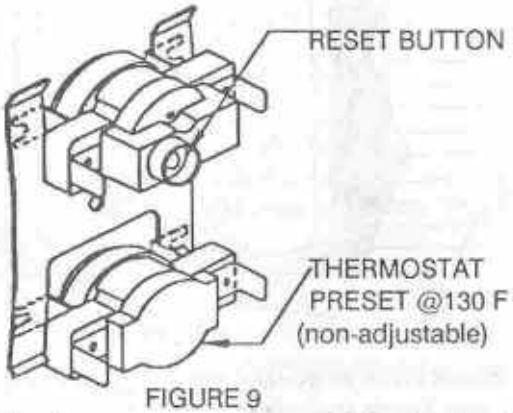


FIGURE 9
Located under access cover on rear of water heater.

BURNER

All air shutters are pre-set at the factory to obtain a blue or orange-blue flame. If it is necessary to adjust the air shutter, be sure to maintain the blue or orange-blue flame color. Do not allow the burner flame to burn with a yellow flame, because sooting will occur.

In cases where sooting has occurred, there is a possibility that this condition may be corrected by making the correct air shutter adjustment. If the burner flame continues to burn yellow after adjusting the air shutter, check for an obstruction in the burner or the flue box. A stiff brush is recommended for the removal of soot deposits. If there is soot in the burner, check to make sure the gas valve is shutting off clean. This can be checked by turning the off-on switch to the off position. There should be no flame at the burner orifice or at the burner.

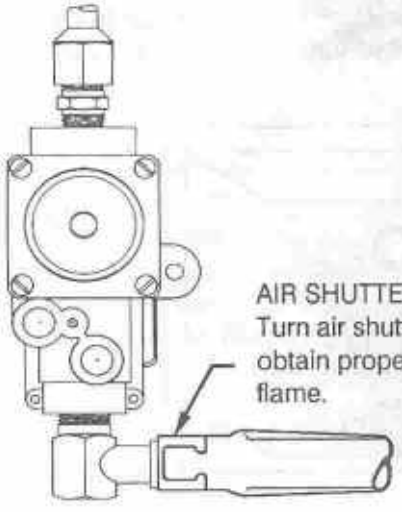


Figure 10

FOR YOUR SAFETY READ BEFORE OPERATING

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

A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

B. 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. 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.

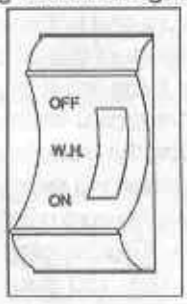
C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it; call a qualified service technician. Force or attempted repair may result in a fire or explosion.

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.

OPERATING INSTRUCTIONS

(1) STOP! Read the safety information provided.
(2) Turn off all electrical power to the appliance.
(3) Turn "OFF" gas supply.
(4) Wait five (5) minutes for gas to clear the area. If you smell gas then, STOP! Follow instructions in item B of the safety information. If you don't smell gas, go to next step.
(5) Turn "ON" gas supply.
(6) Turn on electrical power to the appliance.
(7) Turn switch to "ON" position, there will be a 15 second purge before spark. If burner does not light on first try, there will automatically be 2 more tries for ignition before lockout. Each ignition cycle will have a 15 second purge before spark.
(8) If lockout occurs before main burner lights, turn switch to "OFF" position, wait five (5) seconds and turn switch to "ON" position. This will re-start the ignition cycle. The first start-up of the heater may require several ignition cycles before all air is purged from the gas lines.

If the burner will not come on , the following items should be checked before calling a service man.
1. Switch turned off.
2. Gas supply to heater is empty or turned off.
3. Reset button on ECO is tripped .



TO TURN OFF WATER HEATER

(1) Turn switch to "OFF" position.
(2) Turn off electrical power to the appliance
(3) Turn off gas supply.
(4) If vehicle is to be stored or heater is going to be turned off while subject to freezing temperatures, drain water heater (see DRAINING AND STORAGE INSTRUCTION PAGE 4).