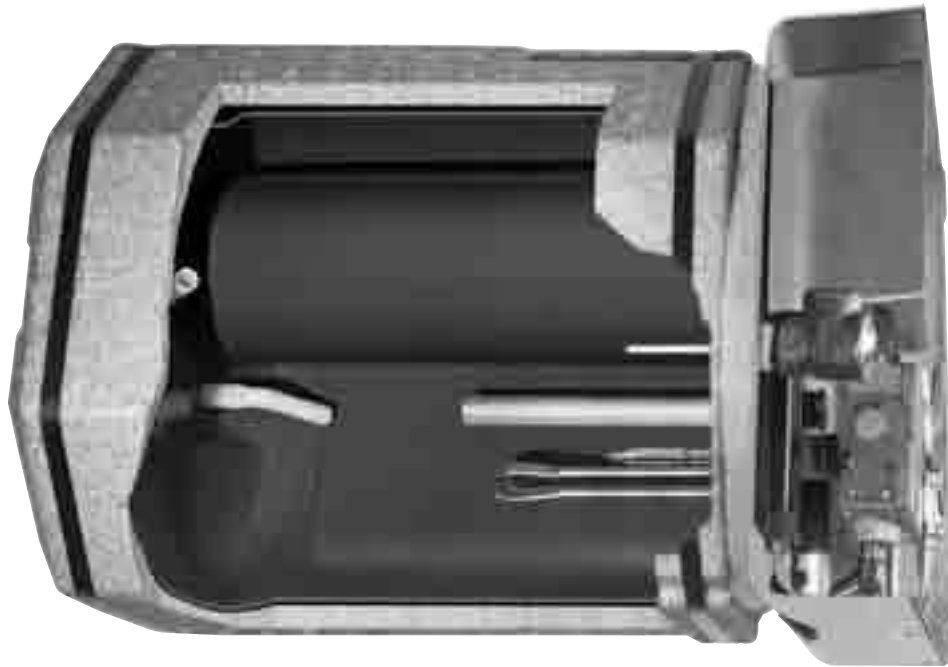


# **SUBURBAN WATER HEATER SERVICE & TRAINING MANUAL**



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# INTRODUCTION

This Service and Training Manual provided by the Suburban Products Factory Service Department is intended to be used by qualified service technicians only as a valuable tool in terms of product identification, troubleshooting and diagnosis of service issues, and as an outline for information concerning proper procedures for filing warranty service claims.

Included in this manual are product and component identification descriptions, sequence of operation information, maintenance and service recommendations, and warranty processing procedures. In addition to the information available in this manual other resources for servicing Suburban Products RV appliances include our website at [www.RVComfort.com](http://www.RVComfort.com), our **Factory Service Department Support Line at 423-775-2131 EXT. 7102**, and our **Customer Service Department Office at 423-775-2131 EXT. 7101**.

Having an understanding of the appliance's sequence of operation and access to or knowledge of the wiring diagram are the cornerstones of proper diagnosis and troubleshooting. Other points of emphasis include an understanding of the appliance's individual component identification and function, the adherence to proper installation methods which includes variables such as voltage and gas pressure, along with constant measurable factors such as the compliance to the physical installation tolerances and clearances. This manual is designed to assist service technicians in making the correct diagnosis efficiently.

Proper maintenance and service of an appliance is of the utmost importance. Failure to keep the appliance clean and well maintained is a significant contributing factor in the component breakdown and premature failure of the appliance.

## **SERVICE TOOLS REQUIRED:**

Manometer or U-Tube

Multi-Meter

Circuit Board Tester - Part No. 641511

Gas Thermostat Wrench

Various Nut Drivers

Various Open End Wrenches

Adjustable Wrench

Phillips Screwdriver

Leak Test Solution

Needle Nose Pliers

1 1/16" & 1 1/2" Sockets with Ratchet  
and Extensions

Safety Glasses

# SUBURBAN RV WATER HEATERS

The Suburban line of water heaters includes high recovery gas, gas-electric and motor aid models with sizes and features to match the requirements of almost any recreational vehicle. Suburban uses a porcelain-lined, steel water heater tank with an anode rod to “absorb” the electrolytical action. The anode rod is attached to the drain plug and can be easily inspected and replaced, as necessary, when the tank is drained.

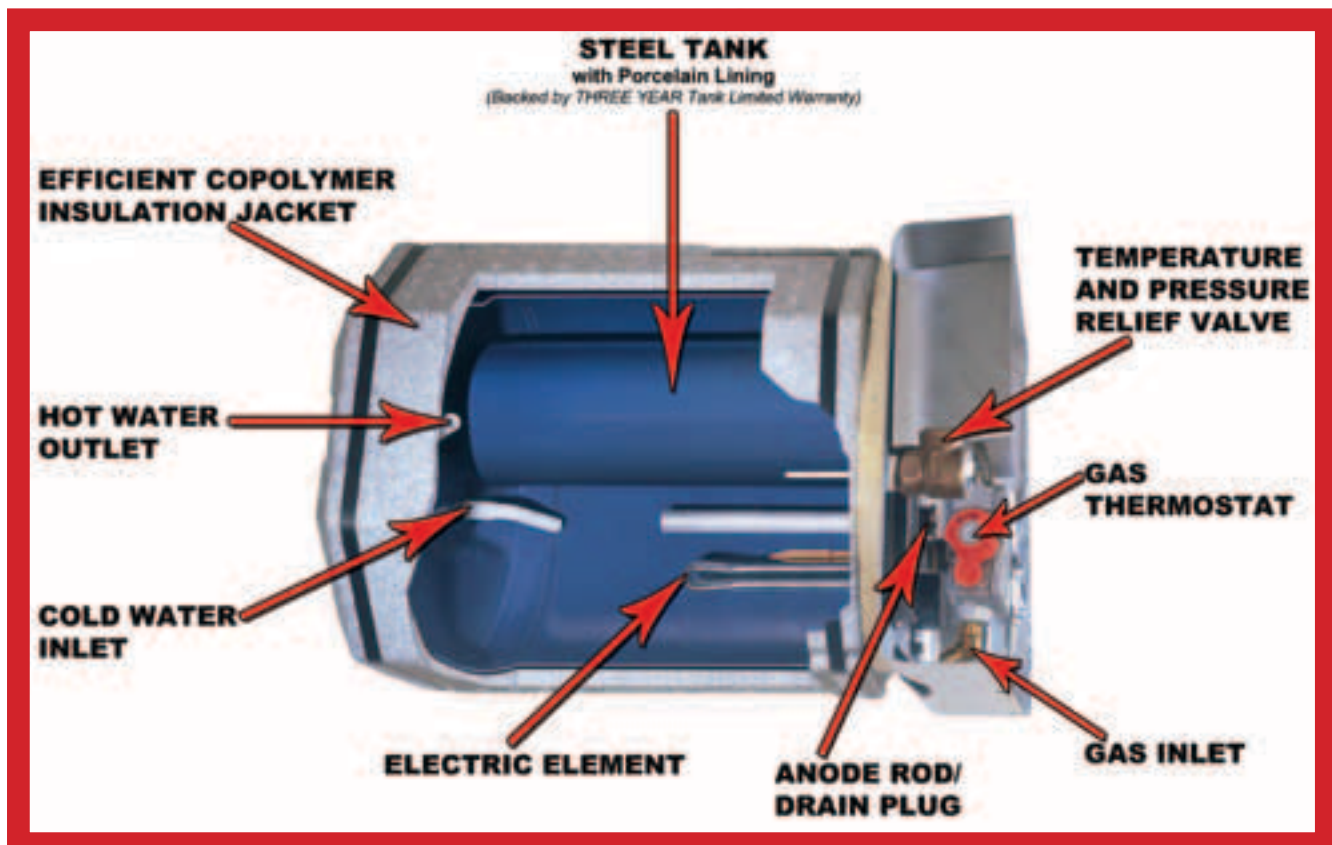
The module board is completely protected from moisture and the outside environment by being placed at the rear of the unit inside the coach, which makes it possible to locate the module board on the appliance or on the wall next to the appliance.

The Suburban water heater has a fast recovery time and fewer cool water cycles. 6, 10, 12 and 16 gallon water heaters have 12,000 BTU/h input and a recovery rate of 10.2 gallons per hour. Combination gas/electric models are equipped with a 1440 watt element to recover at 6.0 gallons per hour. The 4 gallon water heater has 9,000 BTU/h input and a recovery rate of 7.6 gallons per hour. The tank is insulated with a molded copolymer insulation. This insulation helps retain heat.

All the water heaters are designed for easy installation, operation and maintenance. The controls are located in the front of the water heater along with the anode rod for better serviceability.

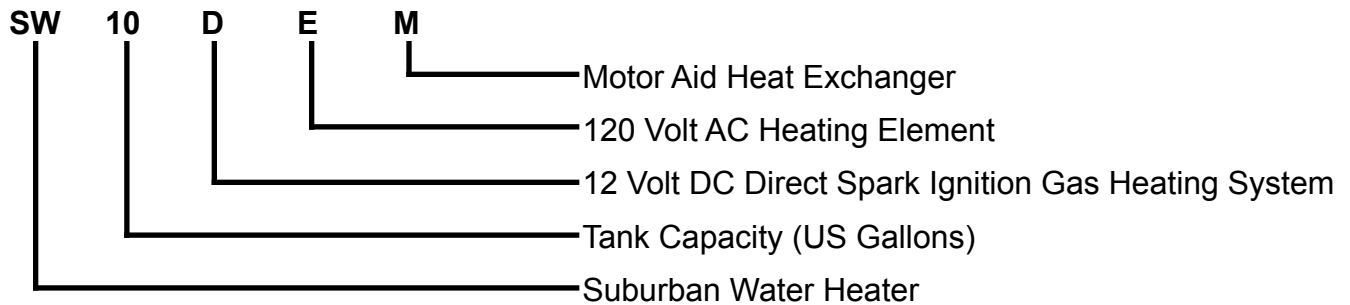
## WATER HEATER OVERALL CONSTRUCTION Glass-lined Tank

The steel, glass-lined tanks provide long life under varying water conditions. This same construction is what is used for more than 7 million residential water heaters sold annually. Three (3) year limited tank warranty, replaceable anode rod, high output, fast recovery, and foam jacket are on all gas/electric models.



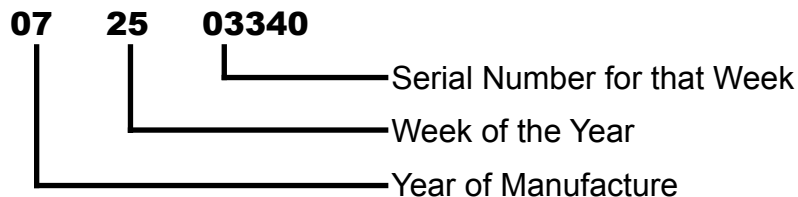
# SUBURBAN RV WATER HEATER IDENTIFICATION

## EXAMPLE OF MODEL NUMBER EXPLANATION



## EXAMPLE SERIAL NUMBER DESCRIPTION

### Sample Serial Number:



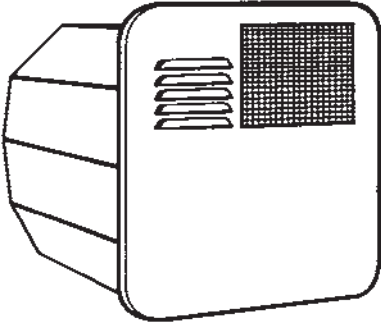
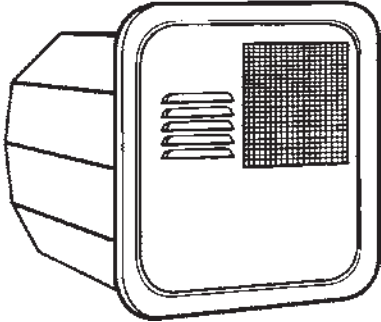
## MODEL OPTIONS:

- P: Pilot Gas Heating Only
- PR: Pilot Gas heating with 12 Volt DC Pilot Re-igniter
- PE: Pilot Gas Heating with 120 Volt AC Heating Element
- PER: Pilot Gas Heating with 12 Volt DC Pilot Re-igniter and 120 Volt AC Heating Element
- D: 12 Volt DC Direct Spark Ignition Gas Heating Only
- DE: 12 Volt DC Direct Spark Ignition Gas Heating and 120 Volt AC Heating Element
- DEL: 12 Volt DC Direct Spark Ignition Gas Heating and 120 Volt AC Heating Element with 12 Volt Relay for Interior Operation of Electric Heating System.
- DEM: 12 Volt DC Direct Spark Ignition Gas Heating and 120 Volt AC Heating Element and Motor Aid Heat Exchanger  
\*(Motor Home Only)
- V: 120 Volt DC Direct Spark Ignition Gas Heating Only
- VE: 120 Volt DC Direct Spark Ignition Gas Heating and 120 Volt AC Heating Element

## CAPACITY SIZES:

- 4 Gallon
- 6 Gallon
- 10 Gallon
- 12 Gallon
- 16 Gallon

# SUBURBAN RV WATER HEATERS

SPEC SHEET	MODEL NUMBER	NOM. GALS.	BTU/h INPUT	Height	Width	Depth	Shipping Weight
 <b>Radius Corner Door</b>	<b>STANDARD PILOT</b>						
	SW4P	4	9,000	12-11/16"	12-11/16"	16-1/8"	30
	<b>SUPER PERFORMANCE PILOT</b>						
	SW6P	6	12,000	12-11/16"	12-11/16"	19-3/16"	37
	SW10P	10	12,000	16-7/32"	16-7/32"	20-1/2"	48
	<b>SUPER PERFORMANCE PILOT WITH RE-IGNITOR</b>						
	SW6PR	6	12,000	12-11/16"	12-11/16"	19-3/16"	37
	SW10PR	10	12,000	16-7/32"	16-7/32"	20-1/2"	48
	<b>SUPER PERFORMANCE COMBINATION ELECTRIC AND PILOT</b>						
	SW6PE	6	12,000	12-11/16"	12-11/16"	19-3/16"	37
SW10PE	10	12,000	16-7/32"	16-7/32"	20-1/2"	48	
 <b>Flush Mount Door</b>	<b>SUPER PERFORMANCE COMBINATION ELECTRIC AND PILOT W/RE-IGNITOR</b>						
	SW6PER	6	12,000	12-11/16"	12-11/16"	19-3/16"	37
	SW10PER	10	12,000	16-7/32"	16-7/32"	20-1/2"	49
	<b>DIRECT SPARK IGNITION</b>						
	SW6D	6	12,000	12-11/16"	12-11/16"	19-3/16"	35
	SW10D	10	12,000	16-7/32"	16-7/32"	20-1/2"	49
	SW12D	12	12,000	16-7/32"	16-7/32"	22-1/4"	51
	SW16D	16	12,000	16-7/32"	16-7/32"	27"	53
	<b>ELECTRIC and DIRECT SPARK IGNITION</b>						
	SW6DE	6	12,000	12-11/16"	12-11/16"	19-3/16"	37
SW10DE	10	12,000	16-7/32"	16-7/32"	20-1/2"	50	
SW12DE	12	12,000	16-7/32"	16-7/32"	22-1/4"	52	
SW16DE	16	12,000	16-7/32"	16-7/32"	27"	53	
<b>ELECTRIC with 12 VOLT RELAY and DIRECT SPARK IGNITION</b>							
SW6DEL	6	12,000	12-11/16"	12-11/16"	19-3/16"	37	
SW10DEL	10	12,000	16-7/32"	16-7/32"	20-1/2"	50	
SW12DEL	12	12,000	16-7/32"	16-7/32"	22-1/4"	52	
SW16DEL	16	12,000	16-7/32"	16-7/32"	27"	53	
<b>ELECTRIC and DIRECT SPARK IGNITION with MOTOR AID</b>							
SW6DEM	6	12,000	12-11/16"	12-11/16"	19-3/16"	39	
SW10DEM	10	12,000	16-7/32"	16-7/32"	20-1/2"	60	
SW12DEM	12	12,000	16-7/32"	16-7/32"	22-1/4"	62	
SW16DEM	16	12,000	16-7/32"	16-7/32"	27"	64	
<b>120 VOLT AC DIRECT SPARK IGNITION</b>							
SW16V	16	12,000	16-7/32"	16-7/32"	27"	53	
<b>ELECTRIC and 120 VOLT AC DIRECT SPARK IGNITION</b>							
SW16VE	16	12,000	16-7/32"	16-7/32"	27"	53	

**WATER HEATERS AND DOORS ARE SOLD SEPERATELY**

ACCESSORIES	DESCRIPTION
520821	Re-Ignitor Kit (Applicable only to models above. See #991801501)
6261ACW	Door, Colonial White, SW Model, Radius Corner - 4, 6 Gallon
697205	Door, Colonial White, V Model, Radius Corner - 4, 6 and 8 Gallon
690578	Door, Colonial White, V Model, Square Corner - 4, 6 and 8 Gallon
520781	Kit to adapt old V Model 6 Gallon Radius Door to SW6 Water Heater
6255ACW	Door, Colonial White, SW Model, Flush Mount - 4, 6 Gallon
697221	Door, Colonial White, V Model, Flush Mount - 6 Gallon
520771	Kit to adapt old V Model Flush Mount Door to SW6 Water Heater
6257ACW	Door, Colonial White, V Model, Radius Corner - 10 Gallon
697213	Door, Colonial White, V Model, Square Corner - 10 Gallon
6259ACW	Door, Colonial White, SW Model, Flush Mount, 10, 12 & 16 Gallon
520787	Door Kit (6 Gallon Aluminum Tank Replacement Kit) Colonial White
520818	Door Kit (6 Gallon Aluminum Tank Replacement Kit) Polar White

# INSTALLATION INSTRUCTIONS

Minimum clearance is 0" from combustible construction on sides, top, floor and rear **as listed in the installation manual for your specific model**. Provide room for access to rear of heater for servicing.

Provide an opening flush with floor in outer wall of coach. Wall of coach should be framed as shown in Figure 1. Maintain inside dimensions listed below. Do not install on carpet unless the carpet is covered by a metal or wood shield covering the entire area underneath the water heater. If preferred, cut away the carpet from this area. Chocks must be in place to secure rear of unit (See Figure 1A).

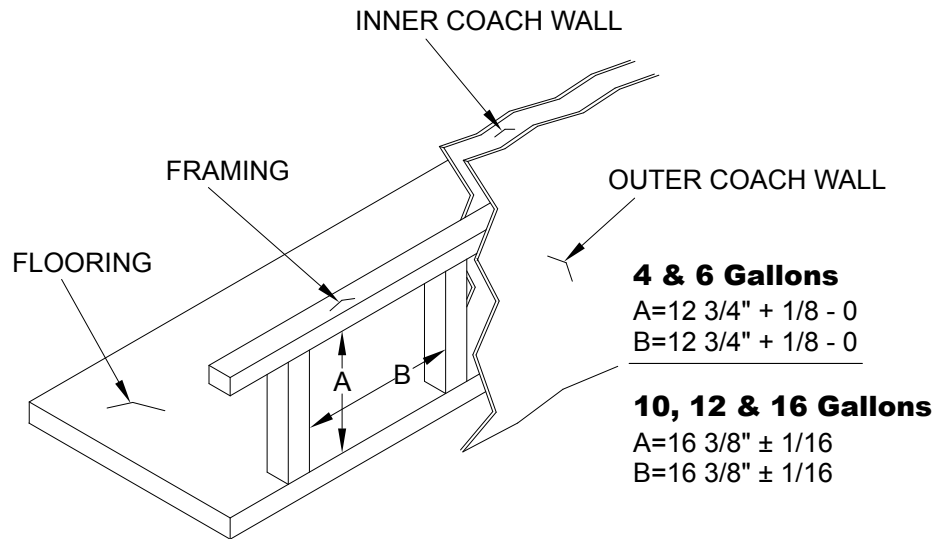


Figure 1

## WATER HEATER AS VIEW FROM INSIDE R.V.

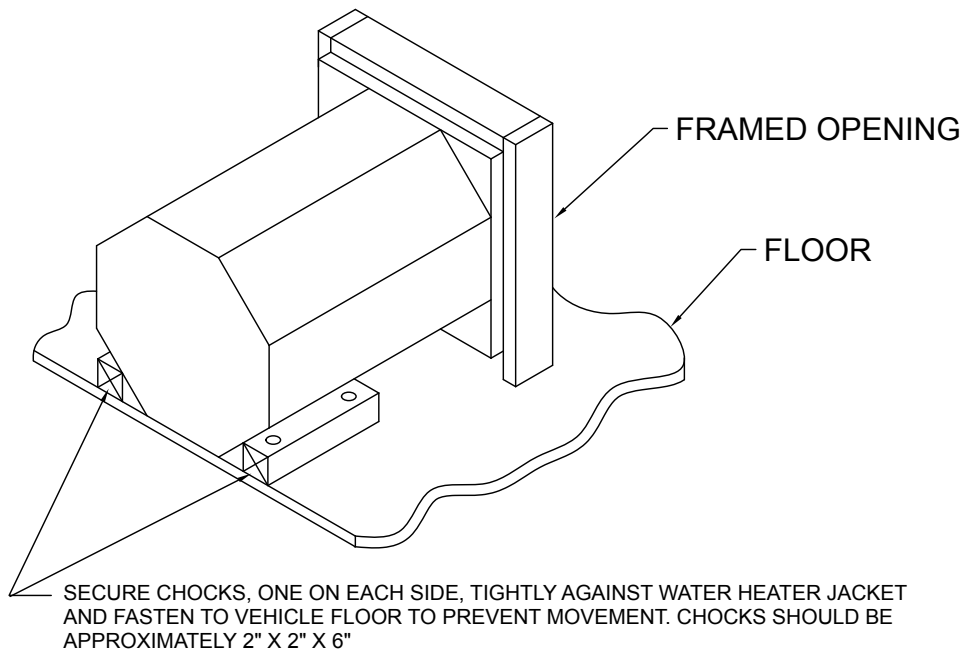


Figure 1A

# INSTALLATION USING FLUSH MOUNT FRAME AND DOOR

(4, 6, 10, 12 & 16 Gallons)

- A. Position heater into framed opening. Slide unit into opening until the front of the control housing is flush with the exterior coach skin as illustrated.
  - B. Secure the control housing to the coach wall (framed opening) at the top and sides of control housing compartment using screws or other suitable fasteners. Recess the screws or fasteners back far enough from the front edge of the control housing (approximately 1 1/2") in order to clear the flange on the door frame. The door frame, when installed, must not overlap onto screw or other fastener head. If due to the wall thickness, it is not possible to secure the water heater without covering the fastener head with the door frame, it is important to not over tighten the fastener and distort the control housing. Over tightening of the fastener may cause leaks between the control housing and the door frame.
- NOTE: Caulk around screw or fastener heads to assure water tight seal.**
- C. Install chocks, one on each side of water heater, as illustrated in Figure 1A.
  - D. On mesa or yoder type sidewalls, flatten the wall area around the opening.
  - E. Caulk around framed opening as illustrated in Figure 2.
  - F. Caulk around door frame using 2 beads of silicone caulking (or suitable caulking) one on the flange to seal the control housing and one around back side of frame to seal to coach skin. (See detail A in Figure 2)
  - G. Insert door frame into control housing and secure with four (4) No. 8-15 x 3 1/2" screws provided for 10 and 12 gallon applications and (3) No. 8-15 x 3 1/2" screws provided for 4 & 6 gallon applications.
  - H. To install door, place the two holes in the bottom of the door over the door pins on the frame. Close the door so that the latch protrudes through the slot in the door. Turn latch 90 degrees to fasten door closed.

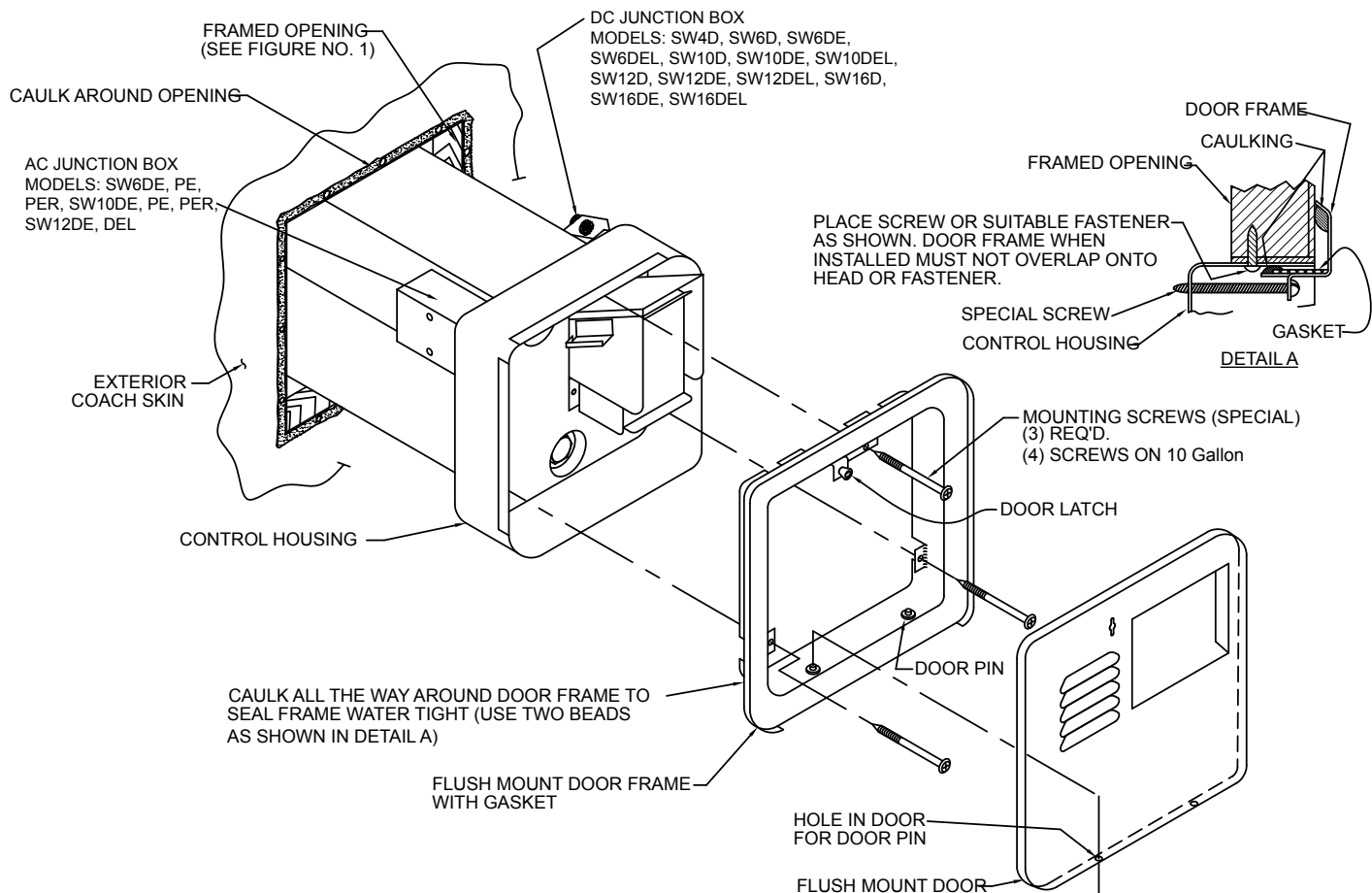


Figure 2



# INSTALLATION USING RADIUS FRAME AND DOOR

(4 and 6 Gallon Only)

- A. Position heater into framed opening as illustrated.
- B. On mesa or yoder type sidewalls, flatten the wall area around the opening.
- C. Caulk around framed opening (trailer skin) as illustrated in Figure 3.
- D. Apply a bead of silicone caulking (or suitable caulking) around the inner edge of the control housing. See detail "A" in Figure 3. This will seal the frame to control housing.
- E. Apply a bead of silicone caulking (or suitable caulking) around back side of door frame. See detail "A" in Figure 3. This will seal frame to coach skin.
- F. Fit the door frame into control housing (over the caulking already applied) and pull frame tight to control housing using the three (3) No. 8-15 x 3 1/2" screws provided.
- G. Push water heater into framed opening until back side of door frame is against the side of the coach and firmly attach with screws around the perimeter of the frame. NOTE: The two holes in bottom of frame identified as "A" in Figure 3 are also used to mount door hinge to the frame.
- H. Install chocks, one on each side of water heater, as illustrated in Figure 1A.
- I. Attach door to frame as illustrated in Figure 3.
- J. Close the door so that the door latch protrudes through the slot in the door. Turn latch 90 degrees to fasten door shut.

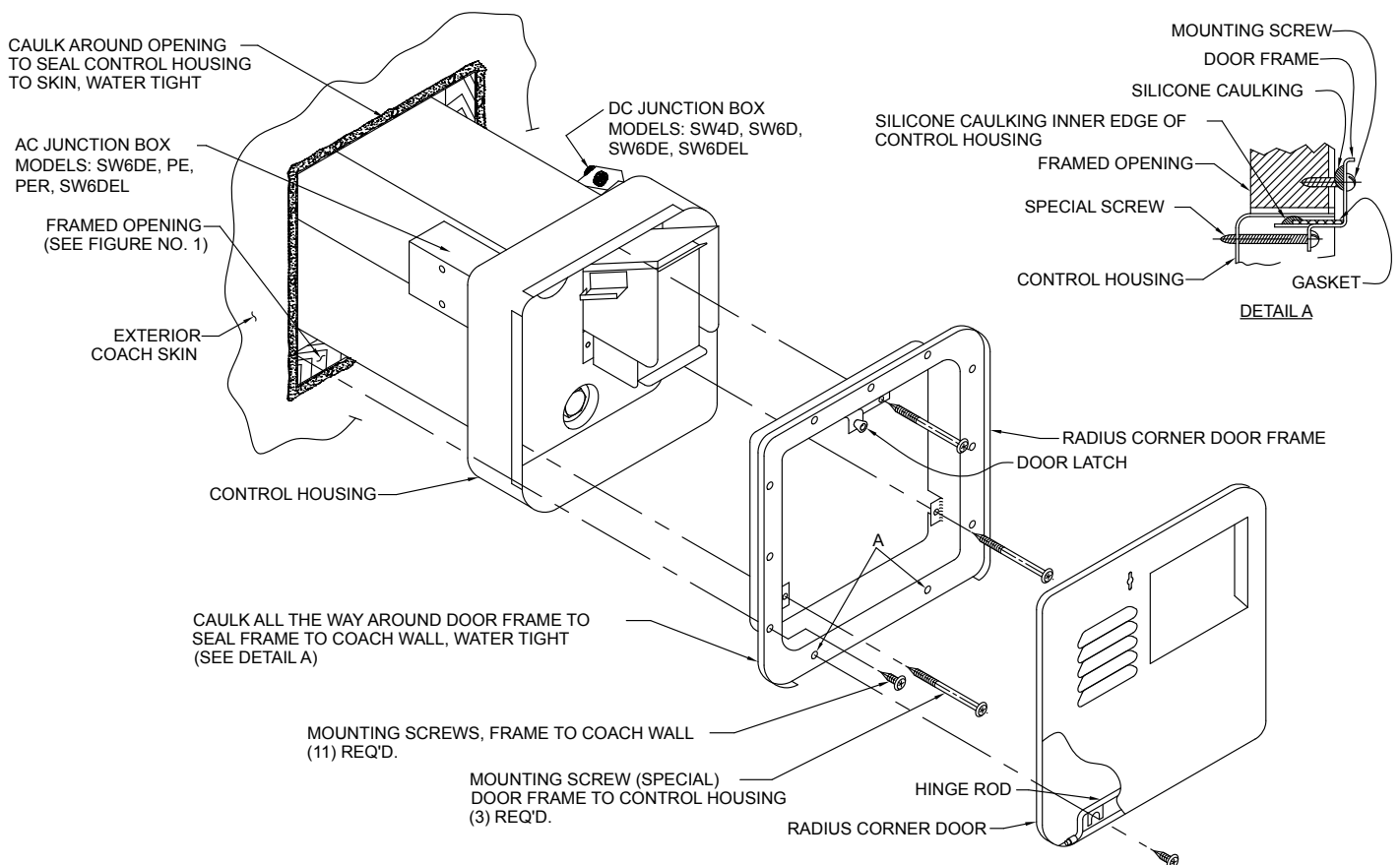


Figure 3

# MAKING WATER CONNECTIONS

- A. Water connections are made at the rear of the water heater. Refer to Figure 4. Connect the hot and cold water lines to the 1/2" female pipe fitting provided on rear of tank. These fittings are marked "HOT" and "COLD". **NOTE:** Inside each fitting is a plastic fill tube. Its purpose is to enhance water circulation. **DO NOT REMOVE PLASTIC FILL TUBE.**

**IMPORTANT:** Use a pipe thread compound suitable for potable water or pipe thread tape on all connections to assure they will not leak.

- B. Fill tank with water. Open both hot and cold water faucets to expel air from tank. When tank is filled and water flows from faucets, close both faucets and check all connections for leaks.

**CAUTION:** If you use air pressure to check for leaks, the pressure must not exceed 30 PSI.

**NOTE:** After leak testing, drain water from tank.

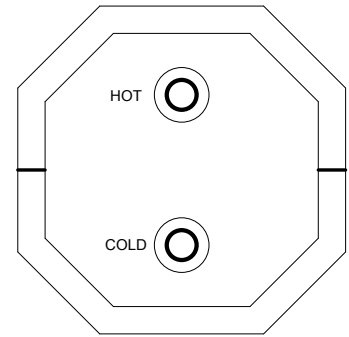


Figure 4

# MAKING GAS CONNECTIONS

- A. Connect a 3/8" gas supply line to the 3/8 flare fitting at gas valve located in the control housing. When making the gas connection, hold the gas fitting on the valve with a wrench when tightening the flare nut. Failure to hold fitting secure could result in a gas leak due to fitting being damaged.

**NOTE:** It will be necessary to remove the grommet from the control housing, make the gas connection at the valve, then reinstall grommet.

- B. Turn on gas and check all fittings and connections for leaks, using a soap and water solution. Correct even the slightest leak immediately.

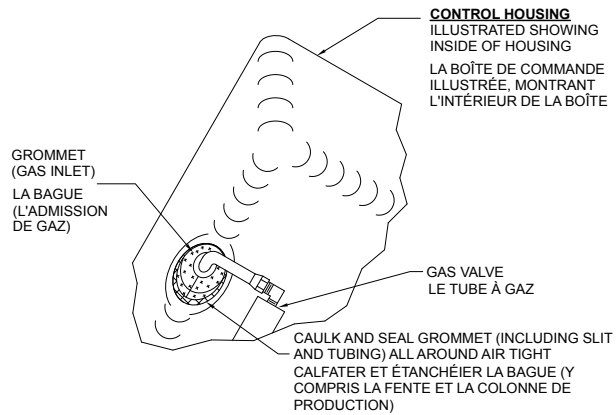


Figure 5

## GAS PRESSURE REQUIREMENTS

Supply Pressure: Minimum 11" WC, Maximum 14" WC  
WC = Water Column

## DC/AC VOLTAGE REQUIREMENTS

Models with pilot reignitor and all DSI Models

All Models with electric elements 120 VAC Gas Control

Minimum 10.5 Volts D.C.

Total connected Watts 1440 - 12 amps

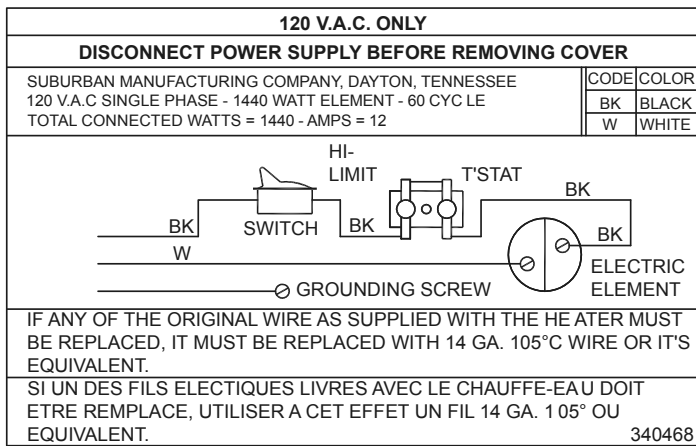
Maximum 13.5 Volts D.C.

120 Volts A.C.

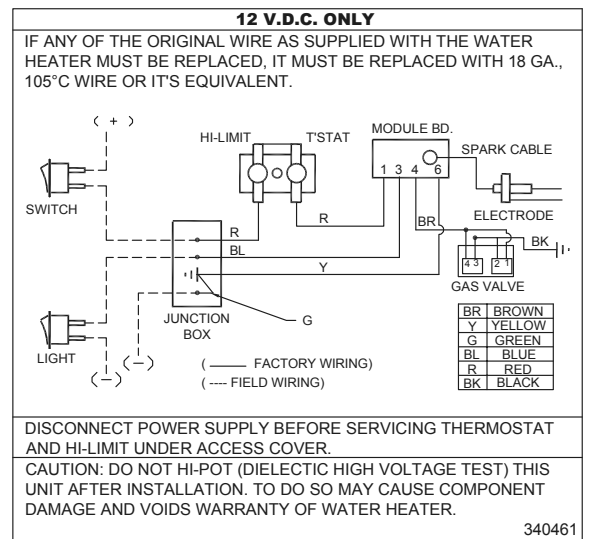
# MAKING ELECTRICAL CONNECTIONS

- A. Refer to Figure 2 (on page 8), for location of A.C. and D.C. junction box on specific models. All A.C. connections must be inside junction box.
- B. The electrical connections must be made in accordance with local codes and regulations. In the absence of local codes and regulations, refer back to the installation and operation manual.
- C. Be sure the switch for the electric element is "OFF" and that the water heater is filled with water before powering element. Failure to do so will result in BURN-OUT of the electric element.

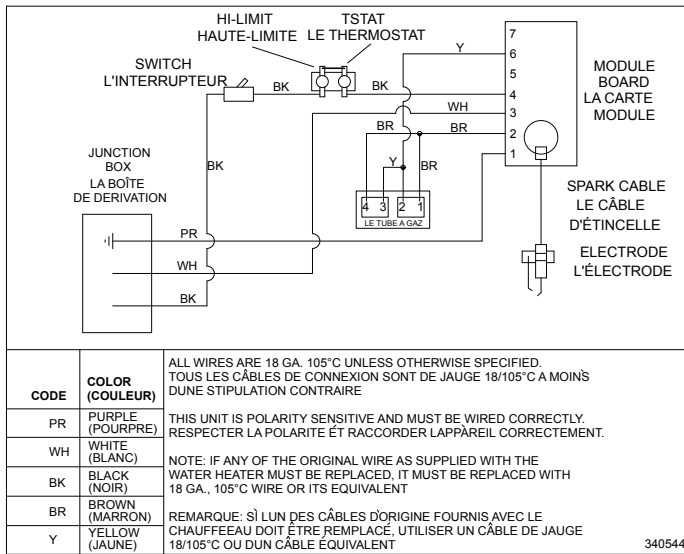
**NOTE:** Check rating plate and wiring diagram (Figure 6, 7, 8, 9, 10, 11) before proceeding. Install a fused safety switch or circuit breaker of adequate capacity between heater and electrical power source. Attach the black and white wires from the fused switch or breaker to corresponding colored wires in heater junction box. A wire from a well grounded source must be attached to the green nut in the junction box.



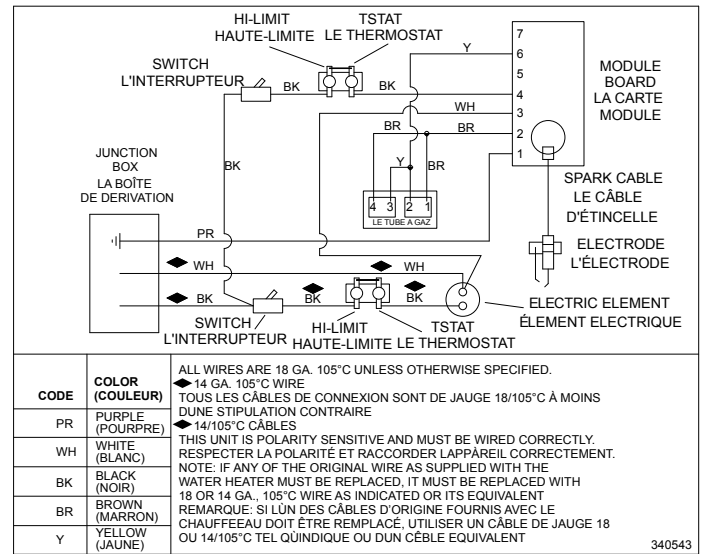
**Figure 6**  
120 V.A.C.



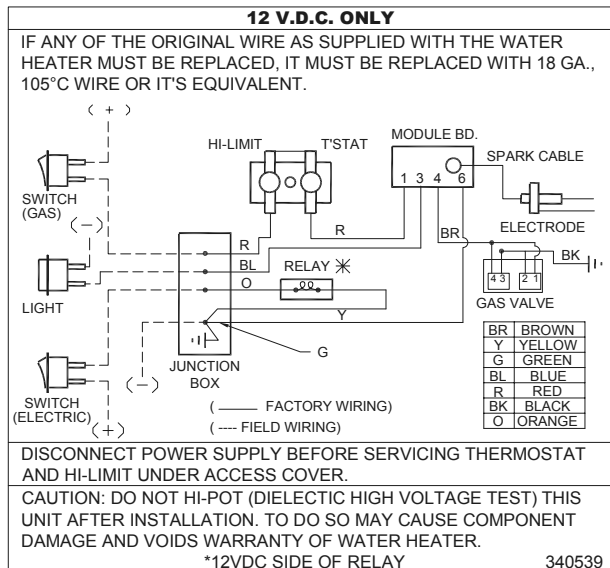
**Figure 7**  
12 V.D.C.



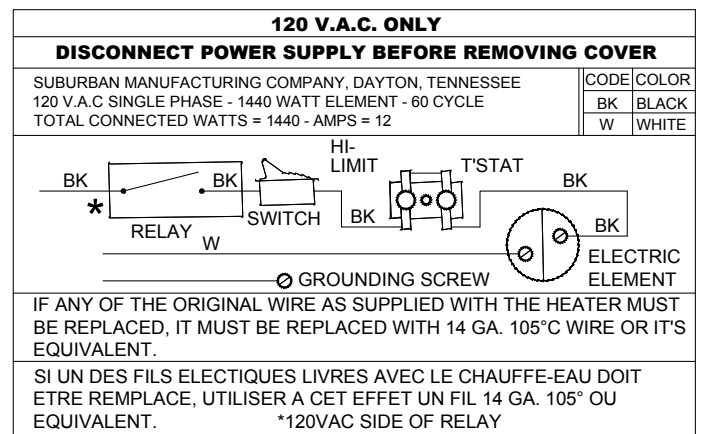
**Figure 8**  
120 V.A.C. SW16V



**Figure 9**  
120 V.A.C. SW16VE



**Figure 10**  
12 V.A.C. for MODELS SW6, 10, 12, & 16DEL



**Figure 11**  
120 V.A.C. for MODELS SW6, 10, 12, & 16DEL

# LIGHTING INSTRUCTIONS FOR PILOT MODELS

## OPERATING AND LIGHTING INSTRUCTIONS

APPLICABLE TO MODELS SW4P • SW6P • SW10P • SW6PE • SW10PE

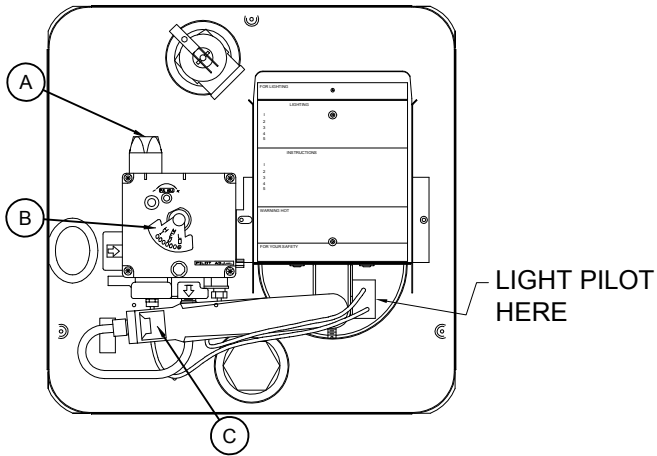
**WARNING!** If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

### SAFETY INFORMATION

- A. This appliance has a pilot which must be lit by hand. When lighting the pilot, follow these instructions exactly.
- 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 chock or reset button. Never use tools. If the knob will not push in or turn by hand, do not 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.

E. Before operating heater, check the location of the vent to make sure it will not be blocked by the opening of any door on the trailer. If it can be blocked, do not operate the water heater with the door open.

### LIGHTING INSTRUCTIONS

*If the water heater comes equipped with a reignitor control, see "Lighting Instructions for Reignitor Control."*

1. **STOP!** Read the safety information provided.
2. Depress and turn knob (A) clockwise ⇒ to "OFF" position.
3. Turn off all electric power to the appliance (gas/electric models only).
4. Wait five minutes for gas to clear the area. If you smell gas then STOP! Follow instructions in items B above in the safety information. If you do not smell gas, go to the next step.
5. Depress and turn knob (A) counter clockwise ⇐ to "Pilot" position, press down and light pilot where indicated. (See illustration).

**CAUTION: Do not attempt to light at main burner orifice (C) in illustration.**

6. Hold knob depressed until pilot remains on for 30 seconds. If it does not hold, repeat procedure.
7. Depress and turn knob (A) counter clockwise ⇐ to "ON" position. The control knob has a straight line designation beyond the "ON" position. Turn to this position when moving the valve from the "Pilot" position to the "ON" position.
8. If pilot goes out, repeat steps 2 through 6. On initial start-up, this may take several minutes in order to purge the air from the gas lines and the pilot remain on.
9. Turn on all electrical power to appliance if the combination gas/electric feature is a part of the water heater.
10. Set temperature dial (B) to desired setting.

**CAUTION: Temperature setting on control was factory set at low (120°F/49°C) to reduce risk of scald injury. Setting the temperature dial past the low position will increase the risk of scald injury. Children, disabled, elderly and diabetics are at highest risk of being scalded.**

### TO TURN OFF WATER HEATER

1. Turn temperature dial (B) clockwise ⇒ to the lowest setting.
2. Turn off electrical power to the appliance.
3. Depress and turn knob (A) clockwise ⇒ to the "OFF" position.
4. If vehicle is to be stored or heater is going to be turned off while subject to freezing temperature, drain water heater. (See "Draining and Storage Instruction")

# LIGHTING INSTRUCTIONS FOR REIGNITOR MODELS

## OPERATING AND LIGHTING INSTRUCTIONS

APPLICABLE TO MODELS SW6PR • SW10PR • SW6PER • SW10PER

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

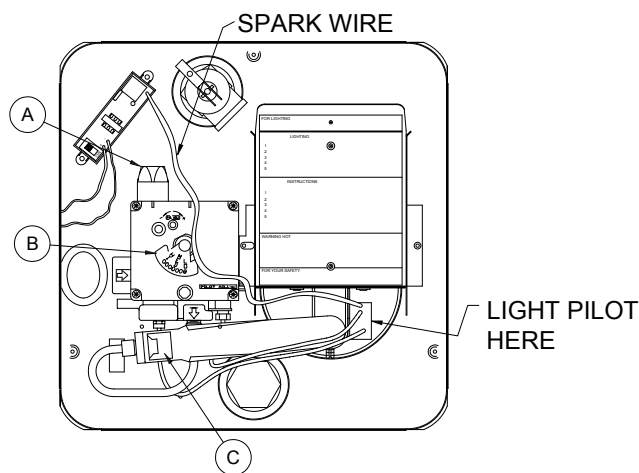
1. **STOP!** Read the safety information provided. (Refer to PREVIOUS PAGE)
2. Place reignitor control in the "OFF" Position.
3. Depress and turn knob (A) clockwise ⇒ to "OFF" position.
4. Turn off all electric power to the appliance (gas/electric models only).
5. Wait five(5) minutes for gas to clear the area. If you smell gas then **STOP!** Follow instructions in items B on the previous page under **SAFETY INFORMATION**. If you do not smell gas, go to the next step.
6. Turn gas supply on.
7. Turn on electrical power to the appliance.
8. Depress and turn knob (A) counter clockwise ⇐ to "Pilot" position, press down and switch the electric reignitor module to "ON" position. Spark will start between electrode tip and pilot hood.
9. When pilot lights, the spark will stop. Continue depressing knob (A) for approximately one minute or until pilot light remains lit. On the initial start-up, it may take several minutes in order to purge the air from the gas lines and the pilot remain on.
10. Depress and turn knob (A) counter clockwise ⇐ to "ON" position. The control knob has a straight line designation beyond the "ON" position. Turn to this position when moving the valve from the "Pilot" position to the "ON" position.
11. Set temperature dial (B) to desired setting.

**CAUTION:** Temperature setting on control was factory set at low (120°F/49°C) to reduce risk of scald injury. Setting the temperature dial past the low position will increase the risk of scald injury. Children, disabled, elderly and diabetics are at highest risk of being scalded.

**NOTE:** When the reignitor switch is in the "ON" position, the reignitor will operate automatically when the pilot flame is extinguished.

**NOTE:** When the vehicle is to be stored or the LP gas supply is to be turned off, be sure to turn the reignitor control switch to the "OFF" position. This will prevent the battery from being discharged (the reignitor will continue sparking).

**NOTE:** The reignitor has an alarm which will sound when the pilot is extinguished or if the LP supply is turned off. The alarm will serve as a reminder to turn off the reignitor.



### TO TURN OFF WATER HEATER

1. Turn temperature dial (B) clockwise ⇒ to the lowest setting.
2. Turn off the reignitor.
3. Turn off electrical power to the appliance.
4. Depress and turn knob (A) clockwise ⇒ to the "OFF" position.
5. If vehicle is to be stored or heater is going to be turned off while subject to freezing temperature, drain water heater. (See "Draining and Storage Instruction")

## ELECTRICAL CONNECTION (RE-IGNITOR MODELS)

A. Applicable to models: SW6 & SW10PR or PER.

B. Make 12 volt D.C. connections to re-ignitor as illustrated in Figure 12.

It is recommended to use insulated terminals for all electrical connections.

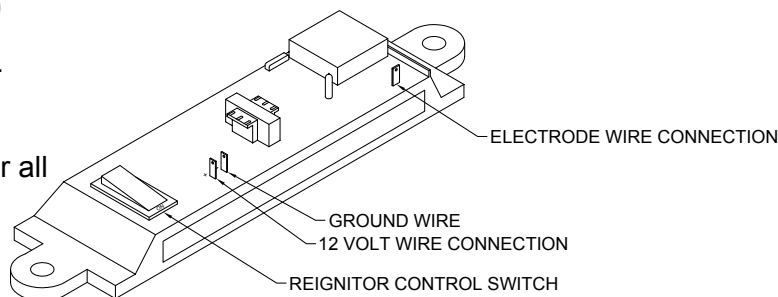


Figure 12

# OPERATING INSTRUCTIONS FOR DSI MODELS

**WARNING! IF YOU DO NOT FOLLOW THESE INSTRUCTIONS EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.**

**WARNING! BEFORE OPERATING WATER HEATER, BE SURE TANK IS FILLED WITH WATER. SEE "SAFETY WARNINGS."**

## SAFETY INFORMATION

- 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.

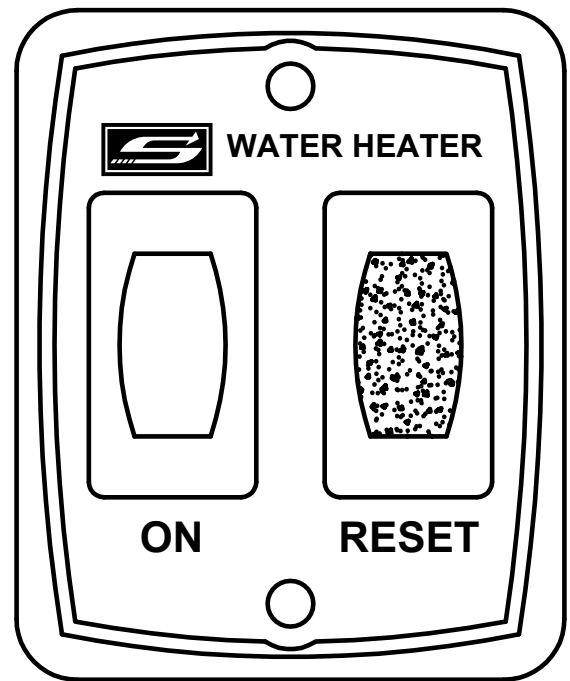
- C. This is an automatic gas valve, no adjustments are necessary. Do not attempt to repair the gas valve. This may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the application and to replace any part of the control system and any gas control which has been under water.
- E. **Before operating water heater**, check the location of the vent to make sure it will not be blocked by the opening of any door on the trailer. If it can be blocked, do not operate the water heater with the door open.

## OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information provided.
2. Turn off all electric 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 items B above, under **SAFETY INFORMATION**. If you do not smell gas, go to the next step.
5. Turn "ON" gas supply.
6. Turn on electrical power to the appliance.
7. Turn switch to "ON" position. If the burner does not light, the system will automatically attempt two more tries for ignition before lock-out. NOTE: Each ignition cycle will have a 15 second purge before spark cycle if system is a three try system.
8. If LOCKOUT occurs before main burner lights, turn switch to "OFF," wait five(5) seconds and turn switch to "ON" position. This will restart 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.

1. Switch turned "OFF."
2. Gas supply to heater is empty or turned off.
3. Reset button on ECO is tripped.





# OPERATING INSTRUCTIONS FOR 120 Volt DSI MODELS

## FOR YOUR SAFETY READ BEFORE LIGHTING

**WARNING!** If the user of this appliance fails to maintain it in the condition in which it was shipped from the factory or if the appliance is not used solely for its intended purpose or if the appliance is not maintained in accordance with the instruction in this manual, then the risk of a fire and/or the production of carbon monoxide exists which can cause personal injury, property damage or loss of life.

### OPERATING AND LIGHTING INSTRUCTIONS

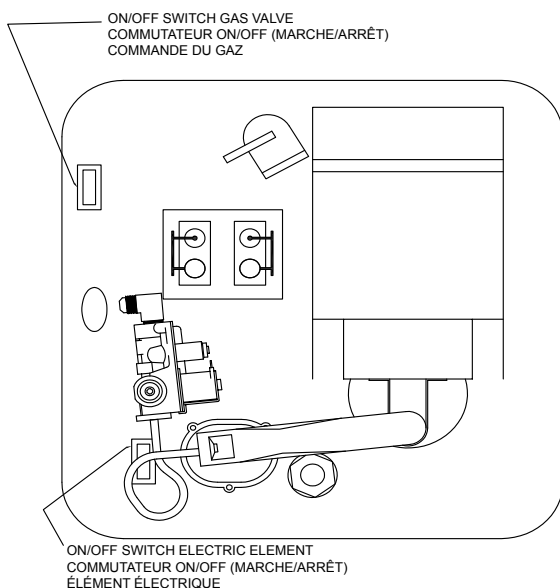
**WARNING!** If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

**WARNING!** Before operating water heater, be sure tank is filled with water. See "Safety Warnings".

- 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. This is an automatic gas valve, no adjustments are necessary. Do not attempt to repair the gas valve. This 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.
  - E. Before operating water heater, check the location of the vent to make sure it will not be blocked by the opening of any door on the trailer. If it can be blocked, do not operate the water heater with the door open.



### OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information provided.
2. Turn off all electric power to the appliance.
3. Turn "OFF" gas supply.
4. Wait five 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. If the burner does not light, the system will automatically attempt two more tries for ignition before lock-out. NOTE: Each ignition cycle will have a 15 second purge before spark cycle if system is a three try system.
8. If lockout occurs before main burner lights, turn switch to "OFF", wait five seconds and turn switch to "ON" position. This will restart 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 person.**

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 temperature, drain water heater. (See "Draining and Storage Instructions.")

# SUBURBAN DSI WATER HEATER SEQUENCE

<u>ELAPSED TIME</u>	<u>FUNCTION TIME</u>	<u>SEQUENCE OF OPERATION</u>	<u>FAULT</u>
0 Seconds	15-18 Seconds	The ON/OFF switch controls the operating circuit to the Water Heater. When the thermostat closes power is applied to the module board. The reset light will illuminate. The module board will perform a pre trial for ignition purge cycle.	<ul style="list-style-type: none"> <li>• NO RESET LIGHT </li> </ul>
20-25 Seconds	5-7 Seconds	<p style="text-align: center;"><b>TRIAL FOR IGNITION</b></p> <p>The reset light turns off. The module board then simultaneously provides voltage (10.5-13.5 VDC) to the gas valve allowing fuel to flow to the burner and creates a high voltage current through the electrode wire to the electrode creating spark for ignition. As the fuel exits the burner tube it passes through the spark at the electrode and ignites. The electrode is heated by the burner flame generating a small micro amp current which travels back through the electrode and wire to the module board to prove flame sense.</p>	<ul style="list-style-type: none"> <li>• NO IGNITION </li> <li>• NO SPARK</li> <li>• GAS VALVE DOESN'T OPEN</li> <li>• BURNER LIGHTS MOMENTARILY, THEN GOES BACK OUT</li> </ul>
69-75 Seconds	44-50 Seconds	<p>*If ignition is not successful, the module board will attempt 2 more trials for ignition, each trail for ignition will be preceded by a 15-18 second purge cycle, during which time the reset light will be illuminated. If all three trails for ignition are unsuccessful, the module board will go into the LOCKOUT mode. The reset light will remain illuminated during LOCKOUT.</p>	<ul style="list-style-type: none"> <li>• DELAYED IGNITION (back firing)</li> <li>• LOCKOUT </li> </ul>
	Varies	<p style="text-align: center;"><b>HEATING CYCLE</b></p> <p>Once flame sense is confirmed, the module board will stop sending the high voltage current to the electrode and continue applying voltage to the gas valve until the thermostat opens or the power switch is turned off.</p>	<ul style="list-style-type: none"> <li>• NO HOT WATER AT FAUCET OR WATER NOT HOT ENOUGH</li> <li>• WATER TEMPERATURE TOO HOT</li> <li>• EXCESSIVE WEEPING FROM T&amp;P VALVE</li> </ul>
			<ul style="list-style-type: none"> <li>• SOOT IN EXHAUST VENT </li> </ul>



# OF OPERATION & TROUBLESHOOTING CHART

## TEST PROCEDURES

## CORRECTIVE ACTION

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Confirm power present at ON/OFF Switch ..... (10.5 volt DC min - 13.5 volt DC max)</li> </ul>  | <p>Confirm and correct power supply.</p>  |
| <ul style="list-style-type: none"> <li>• Confirm that thermostat and ECO are closed, and that power is present at.... thermostat</li> </ul>   | <p>Reset ECO if open, confirm that water in tank is cold, replace thermostat if found to be defective.</p>  |
| <ul style="list-style-type: none"> <li>• Confirm power is present on red wire to module board, and on blue wire to .... reset light, confirm that ground connections are secured, test reset light bulb</li> </ul>  | <p>Repair or replace wiring if defective, replace module board or switch/lamp assembly if found to be defective.</p>  |
| <ul style="list-style-type: none"> <li>• Inspect burner and orifice for debris, confirm gas and spark are ..... present, inspect electrode for proper gap (1/8"), test module board with field tester</li> </ul>  | <p>Clean or replace burner, correct electrode gap, replace module board if found to be defective.</p>   |
| <ul style="list-style-type: none"> <li>• Inspect electrode and wire connections, test module board with field tester ....</li> </ul>  | <p>Correct electrode gap, clean or correct electrode wire connections, replace module board if found to be defective.</p>                                     |
| <ul style="list-style-type: none"> <li>• Check for proper voltage (10.5 min - 13.5 max) on brown wire at ..... gas valve (during TFI), confirm proper gas pressure available (11" WC - 14" WC), measure resistance through solenoids (30-50 OHM's), inspect brown wire for open or short</li> </ul>   | <p>Correct voltage supply, correct gas pressure, replace gas valve if found to be defective, repair or replace wire if defective.</p>                         |
| <ul style="list-style-type: none"> <li>• Inspect electrode for: proper gap, damaged porcelain insulator, ..... carbon build up on tip, loose or corroded wire connections, confirm proper flame impingement at electrode, inspect burner and orifice for debris, confirm that gas pressure is correct, test module board with field tester</li> </ul> | <p>Replace electrode, module board, gas valve, or electrode wire if found defective. Clean or replace burner tube, correct gas pressure.</p>                  |
| <ul style="list-style-type: none"> <li>• Inspect electrode for crack in porcelain, proper gap (1/8"), ..... or carbon build up on tip, ensure that spark is present at electrode tip, inspect burner for debris, inspect electrode wire for short (including against the back side fo the appliance door when in closed position)</li> </ul>          | <p>Replace electrode or wire if defective, clean electrode tips with Emory cloth, adjust electrode if sparking incorrectly, clean or replace burner tube.</p> |
| <ul style="list-style-type: none"> <li>• Follow previously described trouble shooting procedures .....</li> </ul>   | <p>To reset the appliance from LOCKOUT mode, turn the power switch off for 5-10 seconds and then turn the switch back on.</p>                                 |
| <ul style="list-style-type: none"> <li>• Inspect by-pass valve for proper position, confirm that all plumbing system .... mixing valves are closed (including outside shower valves), confirm that thermostat is operating correctly, confirm that diffuser tubes are properly installed</li> </ul>   | <p>Set by-pass valves to correct position, close open mixing valves, replace thermostat if defective, replace diffuser tube ('s).</p>                         |
| <ul style="list-style-type: none"> <li>• Inspect that thermostat is secure to tank and opening at correct temberature . 130 degrees F, plus or minus 5 degrees F</li> </ul>   | <p>Replace or secure thermostat</p>   |
| <ul style="list-style-type: none"> <li>• Install air pocket in tank, confirm water temperature is within operating range 130 degrees F, plus or minus 5 degrees F, inspect relief valve for signs of contamination at seal</li> </ul>   | <p>Replace thermostat or relief valve if found to be defective, install accumulator tank to plumbing system per manufacturers installation instructions.</p>  |
| <ul style="list-style-type: none"> <li>• Check for proper gas pressure (11"WC-14" WC), inspect burner ..... flue tube, and vent for debris</li> </ul>   | <p>Set to correct gas pressure, replace valve if found to be defective, clean or replace burner tube, clean flue tube and vent assembly.</p>                  |

# OPERATING INSTRUCTIONS FOR UNITS WITH ELECTRIC ELEMENT

Electric water heaters are designed to operate with a minimum amount of service problems; however, proper operation and care is essential.

By far the most common trouble with electric water heaters results from energizing the water heater before it is filled with water. Even brief operation of the electric element without water in the tank will burn-out the electric heating element.

To energize the electric heating element, turn the switch to "on". The switch is located behind the water heater door in the lower left corner of the control housing. The water temperature will be regulated by the thermostat.

## 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 temperature, drain water heater. (See *Winterizing Instructions*.)

## ELECTRIC HEATING SYSTEM SEQUENCE OF OPERATION

The Sequence of Operation for the electric heating system is relatively simple. With suitable AC power (120 VAC) supplied to the appliance turn on the electric power switch located at the lower left hand corner of the front of the water heater. This will supply power to the thermostat/ECO assembly which when closed will supply power to the heating element. When the thermostat is satisfied, the thermostat will open the circuit and stop supplying power to the heating element.

## ELECTRIC HEATING SYSTEM TROUBLESHOOTING INFORMATION

<u>FAULT</u>	<u>TEST PROCEDURES</u>	<u>CORRECTIVE ACTION</u>
• <b>NO HOT WATER OR WATER NOT HOT ENOUGH</b>	Confirm that thermostat and element have proper voltage present (120 VAC), measure resistance through element (10 Ohms), inspect by-pass valve (if equipped) for proper positioning, inspect diffuser tubes for correct position.	Replace thermostat or element, if found to be defective, set by-pass to correct position, correct power supply issues, replace diffuser tube('s) if found defective.
• <b>WATER TOO HOT</b>	Inspect that thermostat is secure to tank and opening at proper water temperature (130 +/- 5 degrees).	Replace or secure thermostat
• <b>EXCESSIVE WEeping FROM P &amp; T VALVE</b>	Confirm water is within thermostat operating range (130 +/- 5 degrees), inspect relief valve for evidence of contamination at the seal, install air pocket in tank.	Replace thermostat or relief valve if found to be defective, install accumulator tank to plumbing system per manufacturers installation instructions.
• <b>NOISE FROM ELEMENT WHEN HEATING</b>	Remove and inspect element for sediment deposit buildup or cracks in sheathing	Clean or replace element

# COMPONENT ID

## ELECTRIC ELEMENT

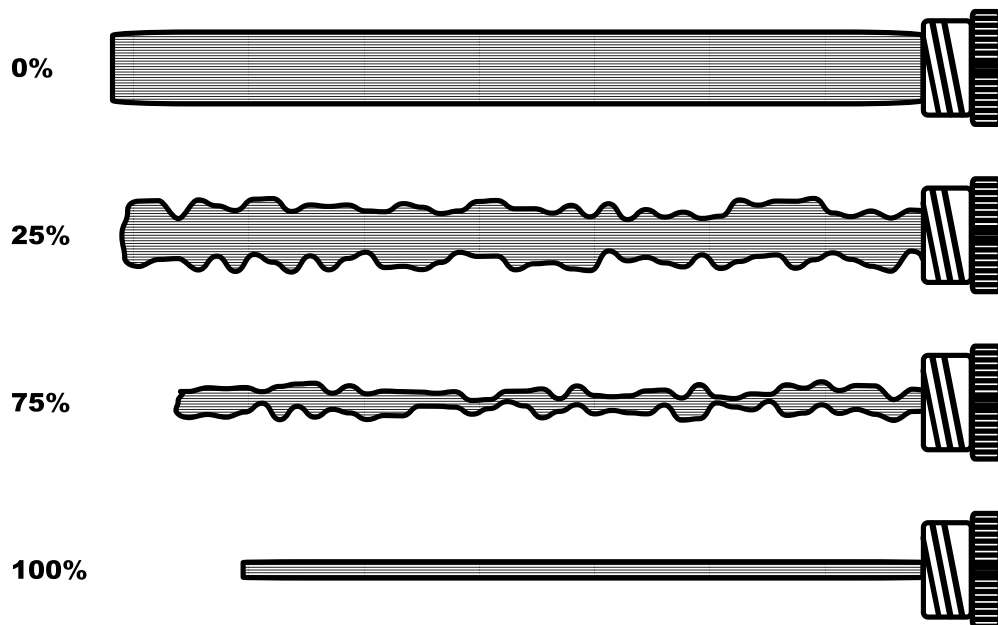
1. An AC electrical heating coil that is immersed in water.



120 VAC  
1440 WATTS  
12 AMPS  
OHM Value: 10  
SCREW-IN ELEMENT

## ANODE PROTECTION - WATER HEATER

Each Suburban water heater is equipped with a replaceable anode rod. The sacrificial anode, equalizes aggressive water action providing cathodic protection for the tank. The anode rod is a very important factor in tank life and should only be removed for inspection or draining. Replacement of the anode rod is recommended when consumption or weight loss is greater than 75%. With regular inspection and replacement of the anode, tank life can be greatly extended. Frequency of anode replacement will vary depending on the water conditions and usage. Sediment on the bottom of the tank forms a layer of insulation between the gas burner and the water. The sediment slows heat transfer and overheats the tank bottom. Overheating weakens the steel and damages the glass lining, shortening the tank life. In addition, it lowers the energy efficiency of the tank.



## OPERATING THE WATER HEATER WITHOUT THE ANODE, VOIDS SUBURBAN'S LIMITED WARRANTY

**WARNING! DO NOT REPLACE THE ANODE ROD WITH ANY NON-SUBURBAN ACCESSORY PART, SUCH AS AN "ADD-ON" ELECTRIC HEATING ELEMENT. ITEMS SUCH AS THESE ARE NOT APPROVED TO BE INSTALLED IN SUBURBAN PRODUCTS. THIS COULD CREATE AN UNSAFE CONDITION AND WILL ALSO VOID ALL WARRANTIES.**

# PRESSURE RELIEF VALVE

The temperature and pressure relief valve is designed to open if the temperature of the water within the heater reaches 210°F, or if the water pressure in the heater reaches 150 pounds. Recreational vehicle water systems are closed systems and during the water heating cycle the pressure build-up in the water system will reach 150 PSI. When this pressure is reached, the pressure relief valve will open and water will drip from the valve. This dripping will continue until the pressure is reduced to below 150 pounds, and the valve closes. This condition is normal and does not indicate a defective relief valve.

**WARNING! DO NOT PLACE A VALVE BETWEEN THE RELIEF VALVE AND THE TANK.  
DO NOT PLUG THE RELIEF VALVE UNDER ANY CIRCUMSTANCES.**



## WATER WEEPING OR DRIPPING FROM PRESSURE RELIEF VALVE

You may experience water weeping or dripping from your water heater's Pressure and Temperature (P & T) Relief Valve when your water heater is operating. Water weeping or dripping from the P & T Valve does not always mean the P & T Valve is defective. As water is heated, it expands. The water system in a recreational vehicle is a closed system and does not allow for the expansion of heated water. When the pressure of the water system exceeds the relieving point of the P & T Valve, the valve will relieve the excess pressure.

Suburban recommends that a check valve not be installed directly at the inlet to the water heater tank. This will increase weeping of the pressure relief valve.

**WARNING! Do not remove or plug the relief valve.**

One way to reduce the frequency of this occurrence is to maintain an air pocket at the top of the water heater tank. This air pocket will form in the tank by design. However, it will be reduced over time by the everyday use of your water heater.

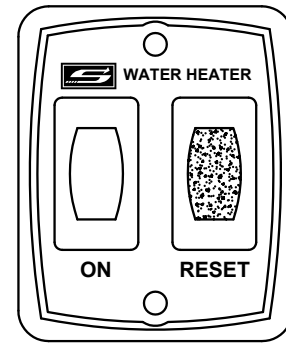
### To replenish this air pocket:

1. Turn off water heater.
2. Turn off cold water supply line.
3. Open a faucet in the RV.
4. Pull out on the handle of the Pressure Relief (P & T) Valve and allow water to flow from the valve until it stops.
5. Release handle on P & T Valve - it should snap closed.
6. Close faucet and turn on cold water supply; as the tank fills, the air pocket will develop.

Repeat this procedure as often as needed to reduce the frequency of the weeping of the P & T Valve. If the weeping persists after following this procedure, you may elect to install an expansion or accumulator tank in the cold water line between the tank and check valve to relieve the pressure caused by thermal expansion. Contact your local dealer for assistance.

## ON/OFF SWITCH ASSEMBLY

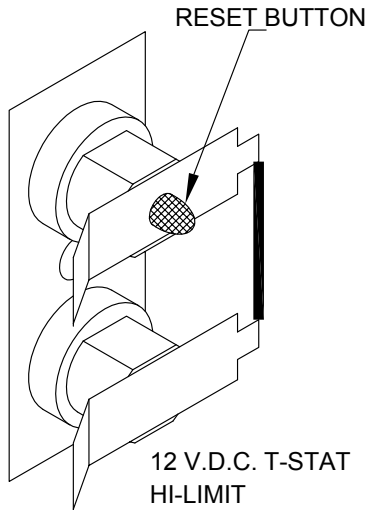
1. Switch that supplies 12 VDC to water heater.
2. Illuminating light to show no ignition.



## THERMOSTAT AND ECO SWITCH

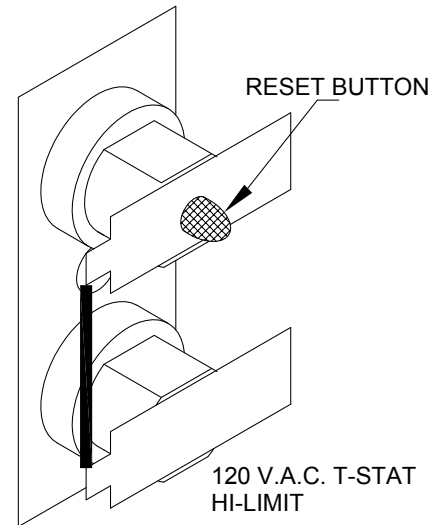
1. A surface mount device that regulates water temperature at a preset temperature.
2. High temperature limit (E.C.O.) used as a re-settable cut-off device.
3. Controls voltage to module board

### THERMOSTAT AND LIMIT SWITCH MODELS: SW6D, SW6DE, SW6DEM, SW10D, SW10DE, SW10DEM, SW12DEM



- 120 Degree (ID# 3213) Not Available  
 130 Degree (ID# 2116) Standard (ID# 31254)  
 140 Degree (ID# 2476) Optional (ID# 312527)

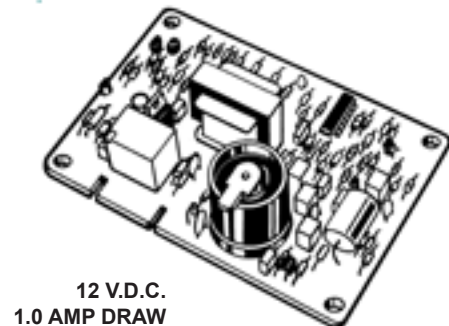
### THERMOSTAT AND LIMIT SWITCH MODELS: SW6PE, SW6PER, SW6DE, SW10PE, SW10PER, SW10DE, SW12DE



- 120 Degree (ID# 3212) Not Available  
 130 Degree (ID# 2306) Standard (ID# 312155)  
 140 Degree (ID# 2475) Optional (ID# 312153)

## DIRECT SPARK IGNITION MODULE BOARD

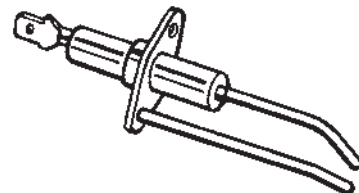
1. An electronic panel that produces high voltage spark ignition source.
2. Produces current to open gas valve coils.
3. Recognizes flame sense current.
4. Three trials for ignition.



## ELECTRODE ASSEMBLY

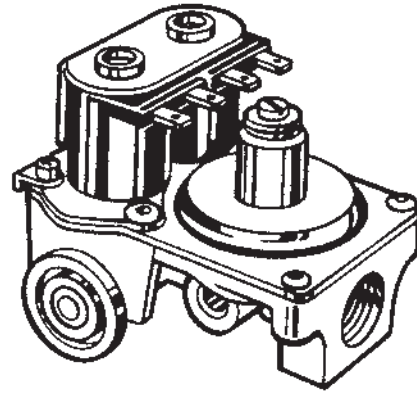
1. A device that conducts high voltage to produce spark.
2. Achieves micro amp signal to create flame sense current.

Micro Amp Value: 3.0 or higher



## DIRECT SPARK MODEL GAS SOLENOID VALVE

1. A 12 VDC device that regulates flow of gas.
2. Redundant valve.  
OHMS Value: 30 - 50  
.5 Amps



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## BURNER

1. A gas and air mixing tube that regulates flow of gas from gas valve through orifice to produce flame.
2. Orifice incorporated into burner to regulate the BTU's of combustion.



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## THERMOSTAT GAS CONTROL

1. A device used to control temperature and gas flow to main burner and pilot assembly.

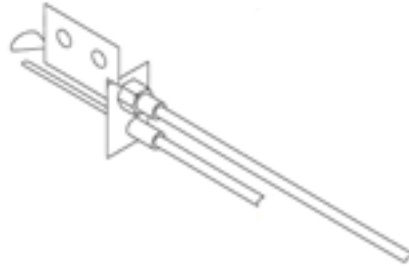


3/8" NPT INLET  
1/4" LOXIT OUTLET

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## PILOT BURNER ASSEMBLY

1. Pilot line and orifice meters gas through to pilot.
2. Thermocouple is a device that when heated will generate millivolts of electricity to hold magnet open in valve.



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## DEL RELAY

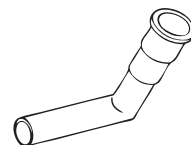
1. 12 VOLT DC controled 120 VOLT AC relay.
2. Normaly open 120 V.A.C. which closes when 12 V.D.C. is applied.

**IMAGE NOT AVAILBLE**

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## DIFFUSER TUBE

1. Directional flow device.
2. Cold difuser forces cold water supply to bottom of tank.
3. Hot difuser allows water to be pulled from highest point inside tank.
4. Shorter top tube allows for air pocket



# GENERAL WATER HEATER INFORMATION

## DRAINING AND STORAGE INSTRUCTIONS

If RV is to be stored during winter months, the water heater must be drained to prevent damage from freezing.

1. Turn off electrical power to water heater either at the switch from the electrical element or a breaker.
2. Shut off gas supply to water heater.
3. Turn off pressure pump on water system.
4. Open both hot and cold water faucets.
5. Remove anode rod from tank.
6. Follow RV manufacturer's instructions for draining entire water system.

**NOTE:** Be certain to refill water heater with water and remove all air from tank and lines before re-lighting or before turning on electrical power.

## WINTERIZING

If your water heater plumbing system is equipped with a bypass kit, use it to close off the water heater, drain the water heater completely and leave the water heater closed off (out of the system) in the bypass position *particularly* if you are introducing antifreeze into the plumbing system. Antifreeze can be very corrosive to the anode rod creating premature failure and heavy sediment in the tank. If the plumbing system is not equipped with a bypass kit, and you intend to winterize by adding antifreeze to the system, remove the anode rod (storing it for the winter) and replace it with a 3/4" drain plug.

## ODOR FROM HOT WATER SYSTEM

Odor from the hot water system is not a service problem and many water supplies contain sufficient amounts of sulphur to produce an odor. The odor is similar to rotten eggs and is often referred to as "sulphur water". It is not harmful - only unpleasant to smell. Sulphur water can be caused by a chemical action or by bacteria. The solution to eliminate is chlorination of the water system. Add about six (6) ounces of chlorinated common household liquid bleach to each 10 gallons in the water tank. Then run the chlorinated water throughout the system, opening each faucet one at a time until you smell the chlorine. Let the RV sit for a few days and the chlorine should take care of the problem. Then you will need to take care of the chlorine. Remove the chlorine by flushing the system with fresh water. This may take several attempts. You may consider adding a filtering system that removes chlorine and prevents sulphur water. If the sulphur or rotten egg smell continues, flush the system once again as described above and replace anode rod as necessary.



# TWO YEAR LIMITED WARRANTY

## SUBURBAN RECREATIONAL VEHICLE WATER HEATER

### TWO YEAR LIMITED WARRANTY

This Suburban product is warranted to the original purchaser to be free from defects in material and workmanship under normal use and maintenance for a period of two years from date of purchase whether or not actual use begins on that date. It is the responsibility of the consumer/owner to establish the warranty period. Suburban does not use warranty registration cards for its standard warranty. You are required to furnish proof of purchase date through a Bill of Sale or other payment records.

Suburban will replace any parts that are found defective within the first two years and will pay a warranty service allowance directly to the recommended Suburban Service Center at rates mutually agreed upon between Suburban and its recommended service centers. Replacement parts will be shipped FOB the shipping point within the Continental United States, Alaska and Canada to the recommended service center performing such repairs. All freight, shipping and delivery costs shall be the responsibility of the owner. The exchanged part or unit will be warranted for only the unexpired portion of the original warranty. Before having warranty repairs made, confirm that the service agency is a recommended service center for Suburban. DO NOT PAY THE SERVICE AGENCY FOR WARRANTY REPAIRS; SUCH PAYMENTS WILL NOT BE REIMBURSED.

Suburban reserves the right to examine the alleged defect in the water heater or component parts, and it is the owner's obligation to return the water heater and/or component parts to Suburban or its representative. When returning a water heater, it must include all component parts and the serial number plate. Returned component parts must be individually tagged and identified with the water heater's model number, serial number and date of installation. For warranty service, the owner/user should contact the nearest recommended Suburban Service Center, advising them of the model and serial numbers (located on the water heater) and the nature of the defect. Transportation of the RV to and from the Service Center and/or travel expenses of the Service Center to your location is the responsibility of the owner/user. A current listing of recommended service center may be obtained from Suburban's website: [www.rvcomfot.com](http://www.rvcomfot.com). If you cannot locate a recommended service center locally, the service agency chosen to perform warranty repairs must contact our Service Department at 423-775-2131 for authorization before making repairs. Unauthorized repairs made will not be paid by Suburban.

### THREE YEAR LIMITED WARRANTY ON TANK

The inner tank is further warranted to be free from defects in material and workmanship during the third year after the date of original purchase. A replacement water heater will be provided under the same conditions as stated in the two year warranty EXCEPT no labor reimbursement will be provided.

### LIMITATION OF WARRANTIES

ALL IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY) ARE HEREBY LIMITED IN DURATION TO THE PERIOD FOR WHICH EACH LIMITED WARRANTY IS GIVEN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. THE EXPRESSED WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER OR OTHER PERSON WHOMSOEVER.

### SUBURBAN WILL NOT BE RESPONSIBLE FOR:

1. Normal maintenance as outlined in the installation, operating and service instructions owner's manual including cleaning of component parts and cleaning or replacement of the burner orifice. Any water damage arising, directly or indirectly, from any defect in the water heater or component parts or from its use.
2. Initial checkouts and subsequent checkouts which indicate the water heater is operating properly, or diagnosis without repair.
3. Damage or repairs required as a consequence of faulty or incorrect installation or application not in conformance with Suburban instructions.
4. Failure to start and/or operate due to loose or disconnected wires; water or dirt in controls, fuel lines and gas tanks; improper gas pressure; low voltage.
5. Cleaning or adjustment of components; electrode, burner tube, pilot and thermocouple.
6. Costs incurred in gaining access to the water heater.
7. Parts or accessories not supplied by Suburban.
8. Freight charges incurred from parts replacements.
9. Damage or repairs needed as a consequence of any misapplication, abuse, unreasonable use, unauthorized alteration, improper service, improper operation or failure to provide reasonable and necessary maintenance.
10. Suburban products whose serial number has been altered, defaced or removed.
11. Suburban products installed or warranty claims originating outside the Continental U.S.A., Alaska, Hawaii and Canada.
12. Damage as a result of floods, winds, lightning, accidents, corrosive atmosphere or other conditions beyond the control of Suburban.
13. ANY SPECIAL, INDIRECT OR CONSEQUENTIAL PROPERTY, ECONOMIC OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER. Some states do not allow the exclusion of incidental or consequential damages, so the above limitation may not apply to you.

NO REPRESENTATIVE, DEALER, RECOMMENDED SERVICE CENTERS OR OTHER PERSON IS AUTHORIZED TO ASSUME FOR SUBURBAN MANUFACTURING COMPANY ANY ADDITIONAL, DIFFERENT OR OTHER LIABILITY IN CONNECTION WITH THE SALE OF THIS SUBURBAN PRODUCT.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

### IF YOU HAVE A PRODUCT PROBLEM

**FIRST:** If your RV has its original water heater and is still under the RV manufacturer's warranty, follow the steps suggested by your dealer or manufacturer of the RV.

**SECOND:** Contact a conveniently located recommended Suburban Service Center. Describe to them the nature of your problem, make an appointment, if necessary, and provide for delivery of your RV to the selected service center.

**THIRD:** For the location of the nearest Service Center, refer to the listing provided or contact:

Suburban Manufacturing Company  
Customer Service Department  
676 Broadway Street  
Dayton, Tennessee 37321  
(423) 775-2131, Ext. 7101  
[www.RVComfort.com](http://www.RVComfort.com)

For future reference, you should record the following information
MODEL NUMBER _____
SERIAL NUMBER _____
STOCK NUMBER _____
DATE OF PURCHASE _____



# WARRANTY POLICIES

1. **APPLIANCE LIMITED WARRANTY** - Furnaces, water heaters and cooking appliances have a two year limited warranty on parts and labor to the original owner. Furnace heat exchangers have continued coverage during the third through the fifth years, without a labor allowance. Water heater tanks have continued coverage through the third year without a labor allowance.

*Please refer to the limited warranty provided with the appliance for other warranty coverages and limitations.*

2. **OPTIONAL APPLIANCE LIMITED WARRANTY PLANS** - The customer may elect to purchase the extended heat exchanger coverage offered for all furnaces or the optional park model furnace travel mileage reimbursement coverage. These plans must be purchased by the customer within 90 days of the coach or appliance purchase.
3. **REPLACEMENT PART LIMITED WARRANTY** - All replacement service parts are covered by a 90 day limited warranty. All module boards have a one year limited warranty. Labor allowances are not included in the replacement part limited warranty.

## FILING APPLIANCE WARRANTY CLAIMS

1. Submit an original labor bill. The claim should include an invoice number or reference number.
2. The claim must include the customer's name, address, telephone number and signature.
3. All claims must include model and serial number of the appliance along with the purchase date and the service date of the appliance
4. If a new coach is serviced, list the brand name and the vehicle identification number.
5. List the description of complaint and service performed including the replaced part number and name.
6. Follow the flat rate schedule to determine labor time. All labor is paid at the registered shop rate.
7. Return all motors, module boards, gas valves, electric elements and combustion chambers properly tagged with your claim form. All other appliance parts not listed may be field scrapped within 60 days of the service date. All claims whose parts have been field scrapped must contain the notation "**Field Scrapped**" on the warranty claim form.
8. An authorization number is needed to return a complete appliance. To obtain authorization please contact Suburban's Service Department at 423-775-2131, extension 7102.
9. To expedite your claim, return the defective parts required to be inspected (see line 7) properly tagged along with the labor claim form. Claims should be received within 60 days of the service date.
10. **USE ONLY GENUINE SUBURBAN REPLACEMENT PARTS.** Suburban will not be responsible for parts or accessories not approved to be installed on Suburban appliances. Claims will not be processed if a "universal" or generic replacement part is used.

**If the information listed above is not provided, the repair bill/claim will not be processed and will be returned to the service agency.** Claims determined not to be the responsibility of Suburban Manufacturing Co., will also be returned.

All warranty returns must be shipped freight prepaid to:

SUBURBAN MANUFACTURING COMPANY  
676 Broadway Street  
Dayton, Tennessee 37321

Suburban strives to process and reimburse all service agencies as soon as possible. Please be sure to follow the warranty claim process listed above to insure your claim is processed quickly.

# FILING A 90 DAY REPLACEMENT PART WARRANTY (EXCEPTION - DSI MODULE BOARDS ONE YEAR)

The procedures for submitting a 90 day replacement part warranty claim are listed below:

1. Complete a parts tag and attach to all parts (motors, gas valves, electric elements, module boards and combustion chambers) that are required to be returned.
2. For field scrapped parts complete a parts tag and note "Field Scrapped" on the tag.
3. Please hold all field scrapped parts for 60 days for possible inspection.
4. Freight charges must be prepaid on all returns.

To obtain parts tags - contact Suburban Manufacturing Company at 423-775-2131 or via e-mail at info1@suburbanmfg.com.

## FLAT RATE SCHEDULE

All flat rates include diagnostic/set-up time and gas leak test. If more than one part is defective, use the total of both replacement times but only one set-up time. Claims for repairs which exceed the flat rate will be adjusted. Time allowance schedule is in hours.

For repairs **NOT LISTED** or assistance with troubleshooting, please contact our factory service department at 423-775-2131, Ext. 7102. Claims should be received within 90 days of the service date.

### RECREATIONAL VEHICLE WATER HEATERS (ALL MODELS)

*Replace Gas Control Valve (Pilot Models) .....	1.00
*Replace Gas Control Valve (Electronic Models) .....	.50
Replace Thermocouple - Pilot Assembly .....	.50
Replace Main Burner Tube .....	.50
*Replace Module Board.....	.50
Replace Reignitor .....	.20
Replace Door Assembly .....	.30
*Replace Electric Element.....	.50
Replace 120 V.A.C. T-Stat and ECO .....	.40
Replace 12 V.D.C. T-Stat and ECO .....	.40
Replace On/Off Light Switch.....	.40
Replace Electrode .....	.50
Replace Relay (DEL Models only).....	.50
Replace Electric Element Switch .....	.50

*\*Parts required to be returned for warranty.*

## RECREATIONAL VEHICLE FORCED AIR FURNACES (ALL MODELS)

<u>DESCRIPTION OF REPLACEMENT PART</u>	<u>SET-UP TIME</u>	<u>REPLACEMENT TIME</u>
*Replace Gas Valve.....	.50	.50
Replace Main Burner .....	.50	.50
Replace Microswitch.....	.50	.25
*Replace Motor.....	.25	1.00
Replace Blower Wheel .....	.50	.40
*Replace Combustion Chamber (Two Years Only).....	.50	1.50
Replace Thermostat.....	.25	.20
Replace Transformer .....	.50	.50
Replace Electrode .....	.25	.25
Replace Electrode - "SF" Models.....	.50	.50
Replace Electrode Wire .....	.50	.20
*Replace Module Board.....	.50	.25
Replace Limit Switch .....	.50	.20
Replace On/Off Switch.....	.50	.20
Replace Blower Housing (Plastic) Room Air Rear Half .....	.25	.45
Replace Combustion Air Housing (Plastic) Rear Half .....	.25	.45
Replace Combustion Air Housing (Plastic) Front Half .....	.25	.45

*\*Parts required to be returned for warranty.*

## RECREATIONAL VEHICLE COOKING APPLIANCES (ALL MODELS)

### SUBURBAN RANGES

*Oven Control (T-stat).....	1.00
Pilot Thermocouple .....	.50
Burner, Oven .....	.50
Manifold Assembly .....	.50
*Valve, Burner.....	.60
Control Panel .....	.25
Hinge, Door.....	.50
Regulator.....	.50
Burner, Top.....	.25

*\*Parts required to be returned for warranty.*

### SUBURBAN SLIDE-IN COOKTOPS

Manifold Assembly .....	.50
*Valve, Burner.....	.60
Control Panel .....	.25
*Regulator.....	.50
Burner, Top.....	.25

*\*Parts required to be returned for warranty.*

### SUBURBAN DROP-IN COOKTOPS

Manifold Assembly .....	.50
*Valve, Burner.....	.60
*Regulator.....	.50
Burner, Top.....	.25

*\*Parts required to be returned for warranty.*

# APPLICATION NOTE

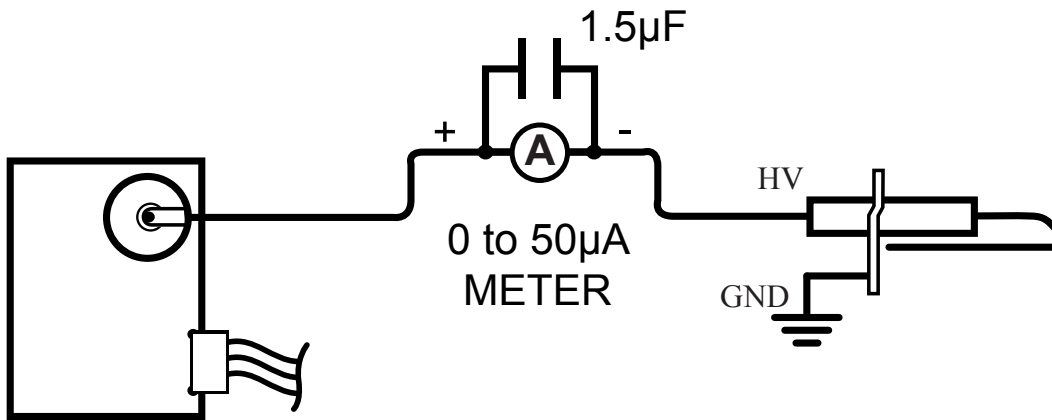
## FLAME CURRENT MEASUREMENT

### LOCAL FLAME SENSING (Single Spark and Sense)

With power off, connect a DC micro ammeter (D'Arsonval movement type) as shown in the diagram below. (The meter should be protected from high voltage surges which could damage the meter movement. A  $1.5\mu\text{F}$  200 volt film capacitor across the meter terminals or lead wires will provide adequate protection). The lead wires and terminals must be isolated from other surfaces to prevent the H.V. signal from arcing to ground during the trial-for-ignition period.

Apply power. Once the flame is established and the sparks shut off, a flame sense current of  $1.5\mu\text{A}$  DC minimum is required for proper operation.

CAUTION: Due to possible conditions, do not touch the micro ammeter or lead wires during the flame sense test. Always remove power before any adjustments.

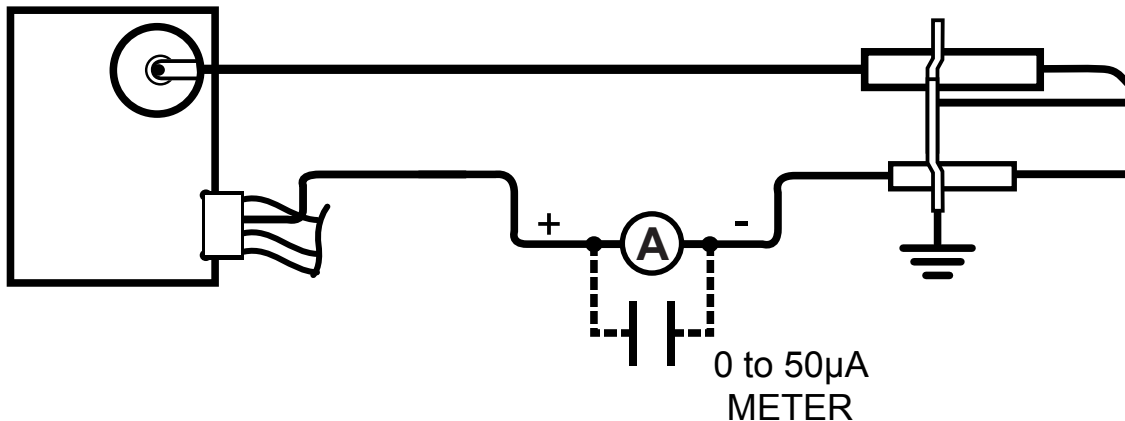


### REMOTE FLAME SENSING (Single Spark and Sense)

With power off, remove the sense wire from the electrode terminal and install a DC micro ammeter in series with electrode terminal and sense wire, as shown in the diagram below.

Apply power. Once flame is established, a flame sense current of  $1.5\mu\text{A}$  DC minimum is required for proper operation.

When Remote Flame Sensing is used, it is not necessary to employ the  $1.5\mu\text{F}$  protection capacitor across the meter. However, since it does not affect the performance of the micro ammeter, it may remain in place at all times.



# PARTS ILLUSTRATION AND REPLACEMENT PARTS LIST FOR MODEL SW4P

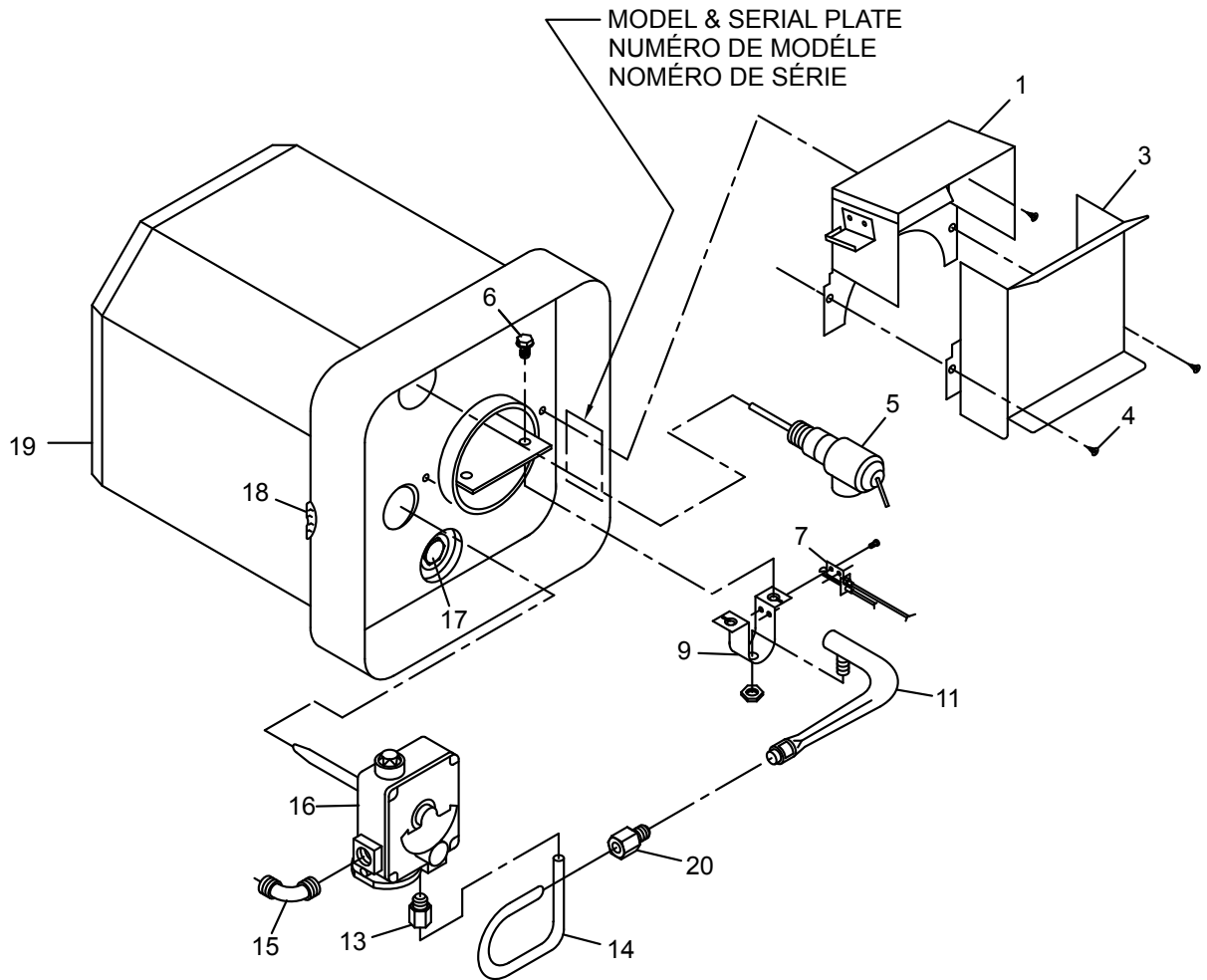
Only factory authorized parts are to be used. Do not attempt to repair defective parts.

When ordering repair parts from your dealer or a distributor, always give the following information:

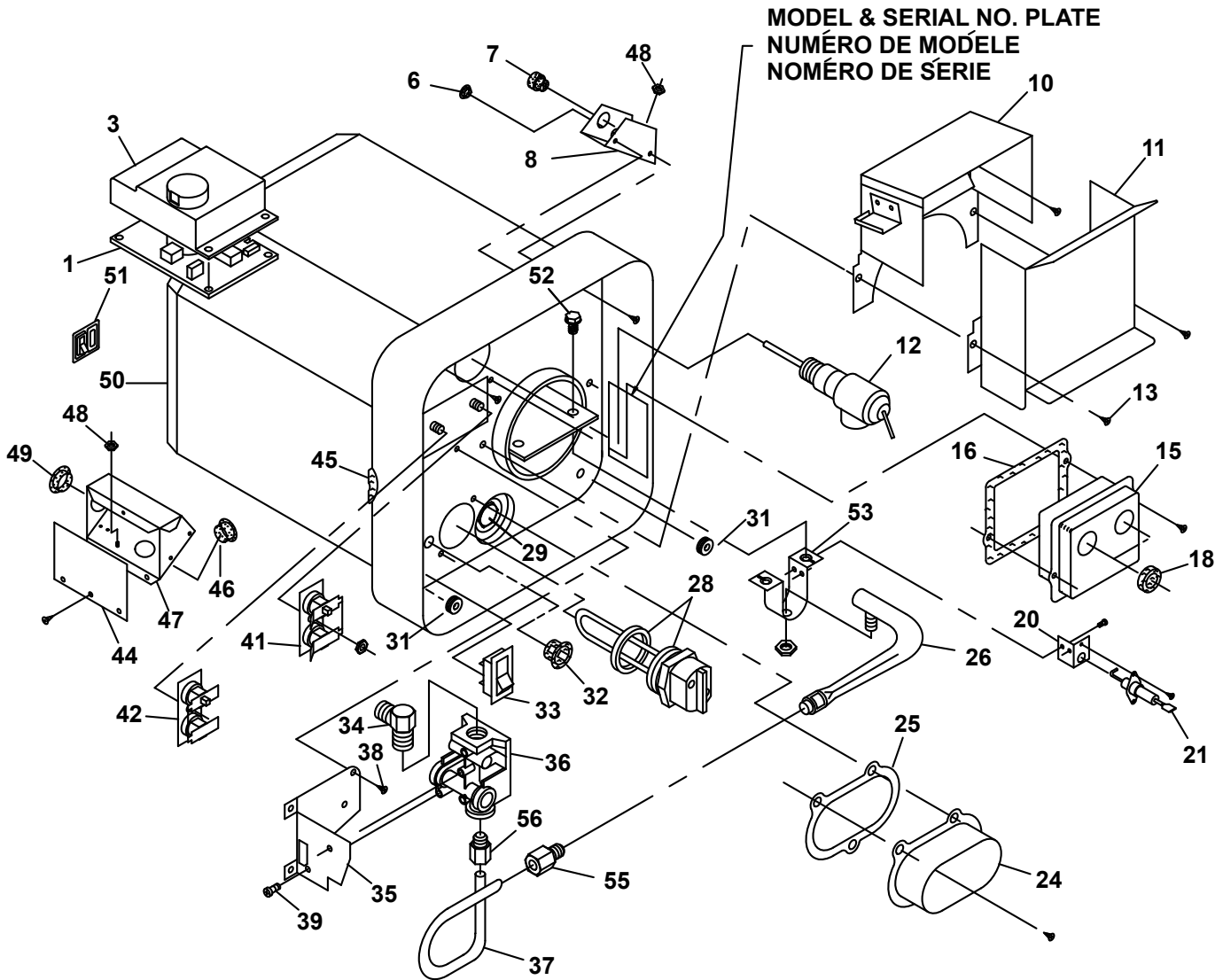
1. Part Number (Not Item No.)
2. Part Description
3. Model No. and Serial No. of your Heater
4. Number of Parts Required

**NOTE:** Part numbers are common to all models unless noted.

Item No.	Description	Part Number
1	Back Assembly Flue Collector.....	101682
3	Front, Flue Collector.....	101683
4	Screw 10 x 1/4 .....	121577
5	Valve, Pressure Relief.....	161157
6	Screw 8mm - 4.0 x 1/2 Hex Washer Head (2 Required)).....	121943
7	Pilot Burner/Thermocouple .....	161156
9	Burner Bracket .....	063444
11	Burner with Orifice.....	010844
13	1/4 Loxit Nut (Manifold to Valve) .....	171463
14	Manifold Outlet.....	171421
15	Elbow .....	171394
16	Thermostat/Valve (SIT) .....	161111
17	Anode.....	232767
18	Grommet, Gas Inlet.....	070989
19	Foam Jacket Assembly Complete.....	520867
20	1/4 Loxit Nut (Manifold to Burner).....	171463



# PARTS ILLUSTRATION FOR MODELS SW4D, SW6D, SW6DE



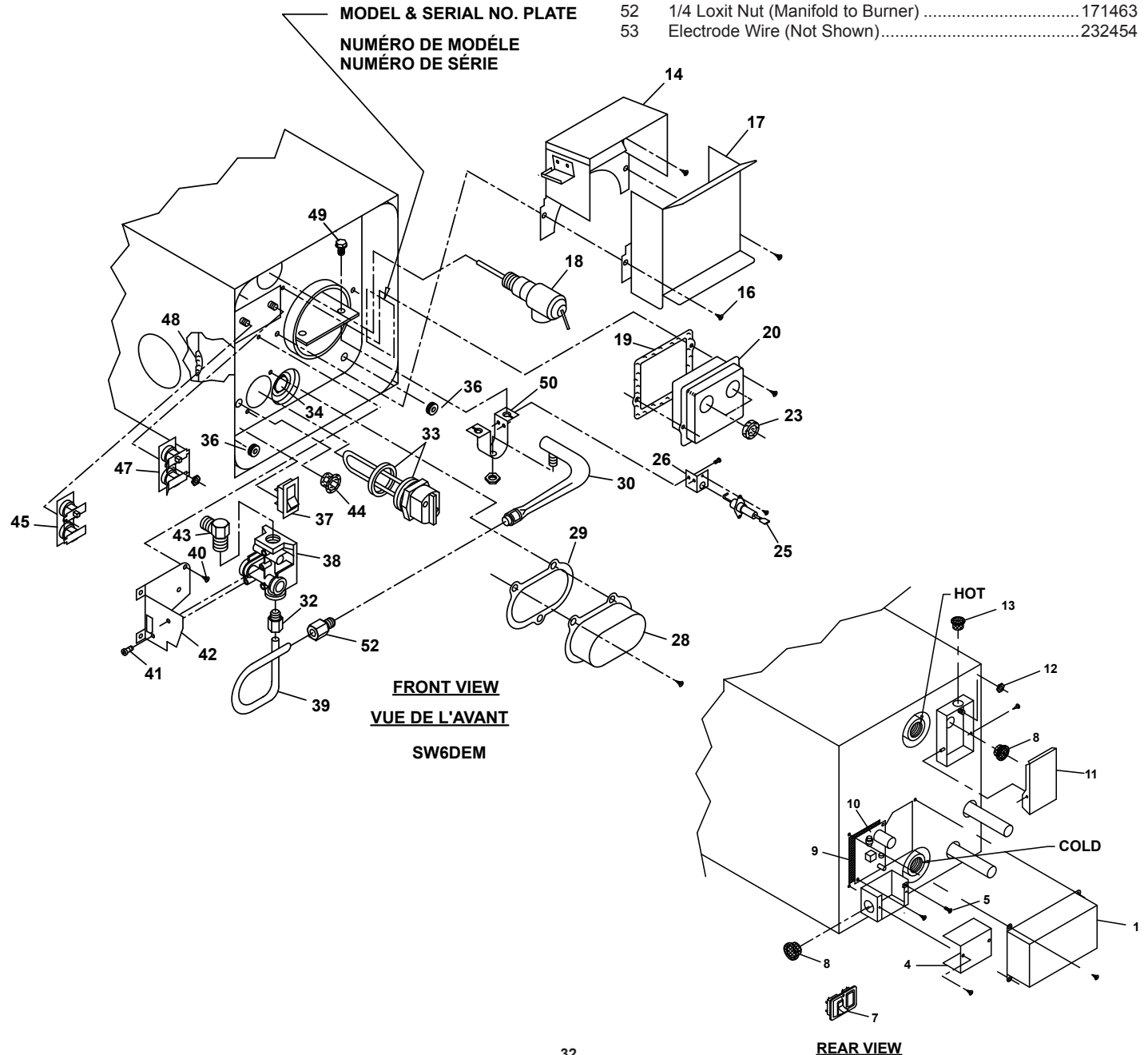
# REPLACEMENT PARTS LIST FOR MODELS SW4D, SW6D, SW6DE

Item No.	Description	PART NUMBER		
		SW4D	SW6D	SW6DE
1	Module Board.....	520814	520814	520814
3	Cover, Module Board.....	090487	090487	090487
6	Bushing, Snap 1/2".....	-----	070270	070270
7	Bushing, Strain Relief 5/8".....	230216	230216	230216
8	D.C. Junction Box Assembly.....	090517	090517	090517
10	Back Assembly, Flue Collector.....	101682	101682	101682
11	Front, Flue Collector.....	101776	101776	101776
12	Valve, Pressure Relief.....	161157	161157	161157
13	Screw #10 x 1/4.....	121577	121577	121577
15	Cover, Thermostat/Hi-Limit.....	090562	090562	090562
16	Gasket, Thermostat Cover.....	070987	070987	070987
18	Grommet.....	070874	070874	070874
20	Bracket, Electrode Mounting.....	063187	063187	063187
21	Electrode.....	232258	232258	232258
24	Cover, Element.....	-----	-----	090445
25	Gasket, Element Cover.....	-----	-----	070988
26	Burner Assembly with orifice.....	010844	010843	010843
28	Electric Element with Gasket.....	-----	-----	520789
29	Anode.....	232767	232767	232767
31	Grommet.....	071246	071246	071246
32	Bushing, Snap 1/2".....	-----	-----	070270
33	Switch, Electric Element.....	-----	-----	232362
34	Gas Fitting.....	170374	170374	170374
35	Bracket, Valve Mounting.....	063243	063243	063243
36	Valve, Gas (LP).....	161109	161109	161109
37	Manifold, Outlet.....	171420	171420	171420
38	#10 x 1/4 (4 Required).....	121577	121577	121577
39	Screw #8-32 x 3/8 Hex HD. (2 Required).....	121958	121958	121958
41	Switch Assembly, 12 V.D.C. T-Stat/Hi-Limit.....	232282	232282	232282
42	Switch Assembly, 120 V.A.C. T-Stat/Hi Limit.....	-----	-----	232306
44	Cover, Junction Box.....	-----	-----	090576
45	Grommet, Gas Inlet.....	-----	070989	070989
46	Bushing, Snap 7/8".....	-----	-----	230218
47	A.C. Junction Box Assembly.....	-----	-----	090575
48	Nut, 10-24 Keps (Green).....	121576	121576	121576
49	Bushing, Snap 7/8".....	-----	-----	230218
50	Foam Jacket Assembly Complete.....	520867	520868	520868
51	Switch, Lamp and Plate Assembly.....	232589	232589	232589
52	Screw 8mm - 4.0 x 1/2 Hex Washer Head (2 Required).....	121943	121943	121943
53	Burner Bracket.....	063444	063444	063444
55	1/4 Loxit Nut (Manifold to Burner).....	171463	171463	171463
56	1/4 Loxit Nut (Manifold to Valve).....	171463	171463	171463
57	Electrode Wire (Not Shown).....	232456	232456	232456

# PARTS ILLUSTRATION AND REAMPLACEMENT PARTS LIST FOR MODEL SW6DEM

Item No.	Description	Part Number SW6DEM
1	Cover, Module Board	090340
4	Cover, Junction Box (12 V.D.C.)	090344
5	Screw 10-32 x 3/8 (Green)	121702
7	Switch, Lamp and Plate Assembly	232589
8	Bushing, Snap	230218
9	Insulator, Module Board	070807
10	Module Board	520814
11	Cover, Junction Box	090464
12	Nut 10-24 Keps (Green)	121576
13	Bushing	070486
14	Back, Flue Collector	101682
16	Screw #10 x 1/4	121577
17	Front, Flue Collector	101776
18	Valve, Pressure Relief	161157
19	Gasket, Thermostat Cover	070987
20	Cover, Thermostat/Hi-Limit	090562
23	Grommet (2 Required)	070874
25	Electrode	232258
26	Bracket, Electrode Mounting	063187

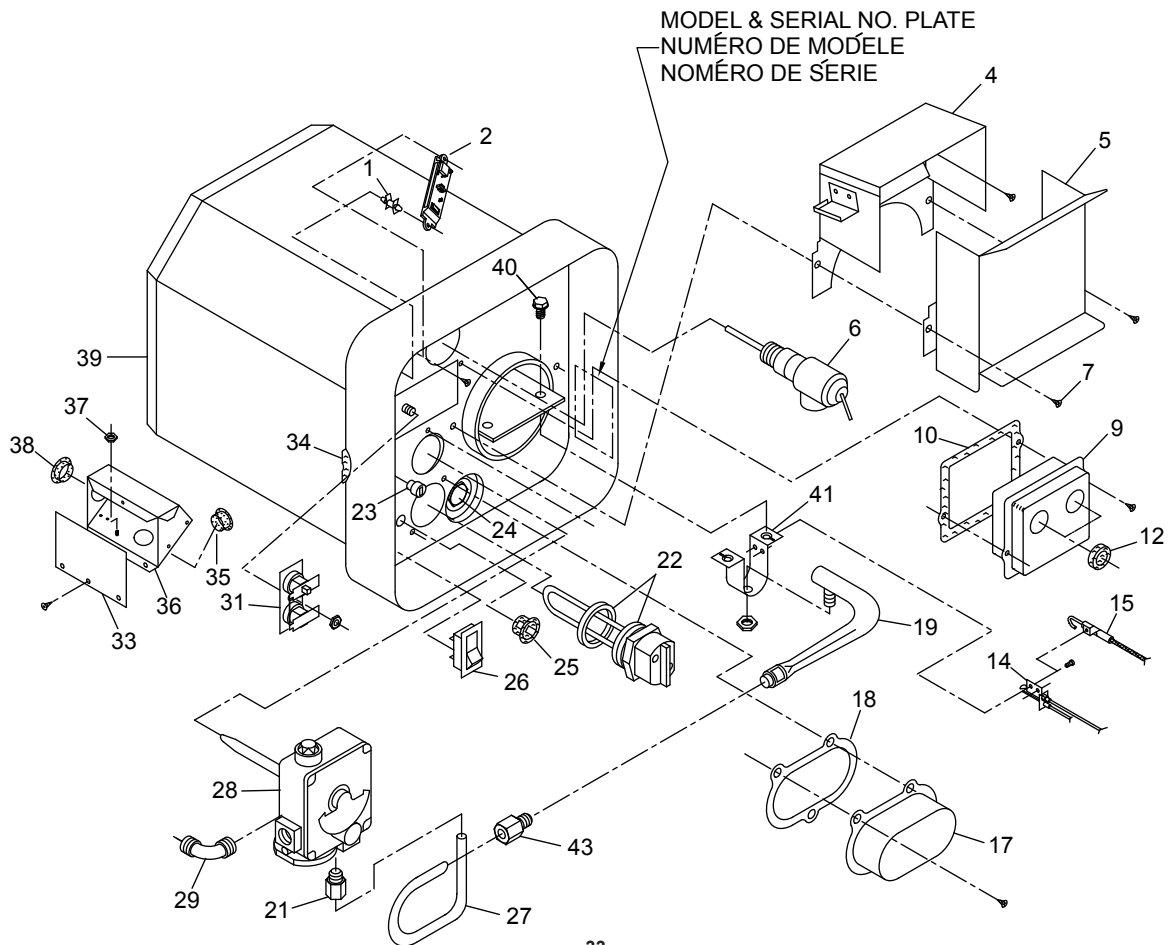
Item No.	Description	Part Number SW6DEM
28	Cover, Element	090445
29	Gasket, Element Cover	070988
30	Burner Assembly with orifice	010843
32	1/4 Loxit Nut (Manifold to Valve)	171463
33	Electric Element with Gasket	520789
34	Anode	232767
36	Grommet	071246
37	Switch, Electric Element	232362
38	Valve, Gas (LP)	161109
39	Manifold, Outlet	171420
40	Screw 10 x 1/4 (4 Required)	121577
41	Screw #8-32 x 3/8 Hex HD	121958
	Bracket, Valve Mounting	063243
43	Gas Fitting	170374
44	Bushing, Snap 1/2"	070270
45	Switch Assembly, 120 V.A.C. T-Stat/Hi-Limit	232306
47	Switch Assembly, 12 V.D.C. T-Stat/Hi-Limit	232282
48	Grommet, Gas Inlet	070989
49	Screw 8mm - 4.0 x 1/2 Hex Washer Head (2 Required)	121943
50	Burner Bracket	063444
52	1/4 Loxit Nut (Manifold to Burner)	171463
53	Electrode Wire (Not Shown)	232454





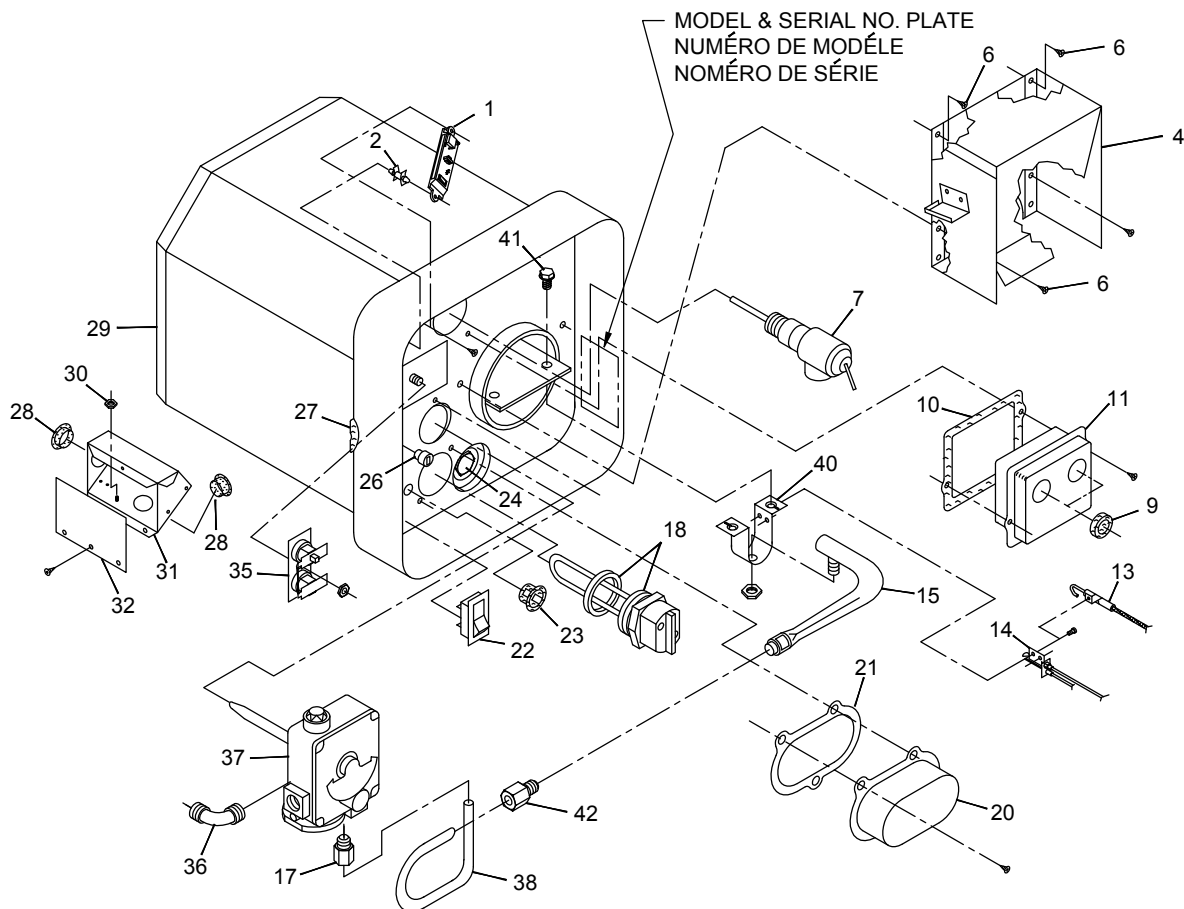
# PARTS ILLUSTRATION AND REPLACEMENT PARTS LIST FOR MODELS SW6P, SW6PR, SW6PE, SW6PER

Item No.	Description	Part Number			
		SW6P	SW6PR	SW6PE	SW6PER
1	Reignitor Support (2 Required)	-----	121864	-----	121864
2	Reignitor	-----	232720	-----	232720
4	Back Assembly, Flue Collector	101682	101682	101682	101682
5	Front, Flue Collector	101683	101684	101683	101684
6	Valve, Pressure Relief	161157	161157	161157	161157
7	Screw #10 x 1/4	121577	121577	121577	121577
9	Cover, Thermostat/Hi-Limit	-----	-----	090562	090562
10	Gasket, Thermostat Cover	-----	-----	070987	070987
12	Grommet	-----	-----	070874	070874
14	Pilot Burner/thermocouple Assembly	161156	161156	161156	161156
15	Electrode, Reignitor	-----	232602	-----	232602
17	Cover, Element	-----	-----	090445	090445
18	Gasket, Element Cover	-----	-----	070988	070988
19	Burner Assembly with orifice	010843	010843	010843	010843
21	1/4 Loxit Nut (Manifold to Valve)	171463	171463	171463	171463
22	Electric Element with Gasket	-----	-----	520789	520789
23	Bushing, Strain Relief	-----	070841	-----	070841
24	Anode	232767	232767	232767	232767
25	Bushing, Snap 1/2"	-----	-----	070270	070270
26	Switch, Electric Element	-----	-----	232362	232362
27	Manifold, Outlet	171421	171421	171421	171421
28	Thermostat/Valve (SIT)	161111	161111	161111	161111
29	Elbow	171394	171394	171394	171394
31	Switch Assembly, 120 V.A.C. T-Stat/Hi Limit	-----	-----	232306	232306
33	Cover, Junction Box	-----	-----	090576	090576
34	Grommet, Gas Inlet	070989	070989	070989	070989
35	Bushing, Snap 7/8"	-----	-----	230218	230218
36	A.C. Junction Box Assembly	-----	-----	090575	090575
37	Nut, 10-24 Keps (Green)	-----	-----	121576	121576
38	Bushing, Snap 7/8"	-----	-----	230218	230218
39	Foam Jacket Assembly Complete	520868	520868	520868	520868
40	Screw 8mm - 4.0 x 1/2 Hex Washer Head (2 Required)	121943	121943	121943	121943
41	Burner Bracket	063444	063444	063444	063444
43	1/4 Loxit Nut (Manifold to Burner)	171463	171463	171463	171463



# PARTS ILLUSTRATION AND REPLACEMENT PARTS LIST FOR MODELS SW10P, SW10PR, SW10PE, SW10PER

Item No.	Description	Part Number			
		SW10P	SW10PR	SW10PE	SW10PER
1	Reignitor .....	-----	232720	-----	232720
2	Reignitor Support (2 Required) .....	-----	121864	-----	121864
4	Flue Collector Back Assembly Complete .....	101675	101676	101675	101676
6	Screw 10 x 1/4 (3 Required) .....	121577	121577	121577	121577
7	Valve, Pressure Relief .....	161157	161157	161157	161157
9	Grommet .....	-----	-----	070874	070874
10	Gasket, Thermostat Cover .....	-----	-----	070987	070987
11	Cover, Thermostat .....	-----	-----	090562	090562
13	Electrode, Reignitor .....	-----	232602	-----	232602
14	Pilot Burner/Thermocouple Assembly .....	161156	161156	161156	161156
15	Burner Assembly with Orifice .....	010843	010843	010843	010843
17	1/4 Loxit Nut (Manifold to Valve) .....	171463	171463	171463	171463
18	Electric Element with Gasket .....	-----	-----	520789	520789
20	Cover, Element .....	-----	-----	090445	090445
21	Gasket, Element Cover .....	-----	-----	070988	070988
22	Switch, Electric Element .....	-----	-----	232362	232362
23	Bushing, Snap 1/2" .....	-----	-----	070270	070270
24	Anode .....	232767	232767	232767	232767
26	Bushing, Strain Relief .....	-----	070841	-----	070841
27	Grommet, Gas Inlet .....	070989	070989	070989	070989
28	Bushing, Snap 7/8" .....	-----	-----	230218	230218
29	Foam Jacket Assembly Complete .....	520869	520869	520869	520869
30	Nut 10-24 Keps (Green) .....	-----	-----	121576	121576
31	Junction Box Assembly (120 V.A.C.) .....	-----	-----	090575	090575
32	Cover, Junction Box .....	-----	-----	090576	090576
35	Switch Assembly 120 V.A.C. T-Stat/Hi-Limit .....	-----	-----	232306	232306
36	Elbow 45° .....	171393	171393	171393	171393
37	Thermostat/Gas Control (SIT) .....	161111	161111	161111	161111
38	Manifold Outlet .....	171422	171422	171422	171422
40	Burner Bracket .....	063444	063444	063444	063444
41	Screw 8mm - 4.0 x 1/2 Hex Washer Head (2 Required) .....	121943	121943	121943	121943
42	1/4 Loxit Nut (Manifold to Burner) .....	171463	171463	171463	171463

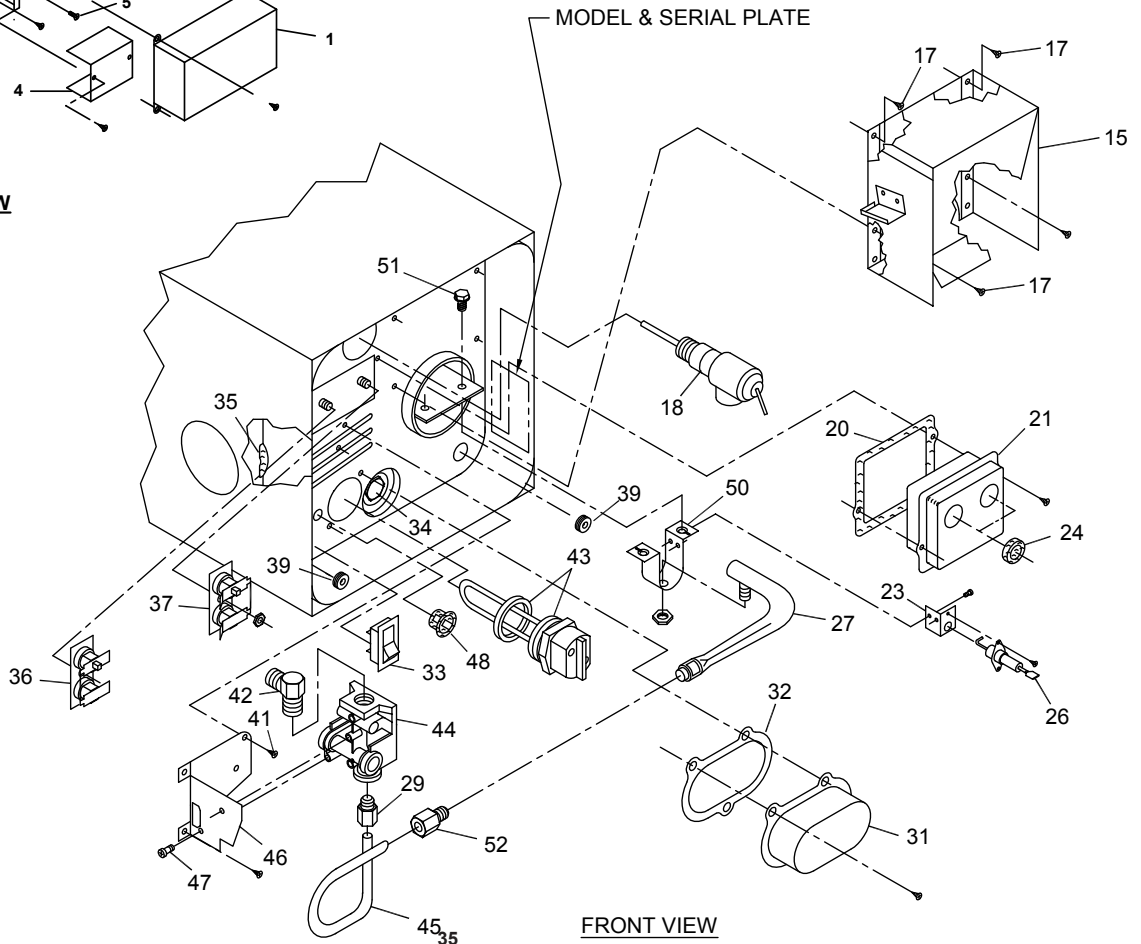
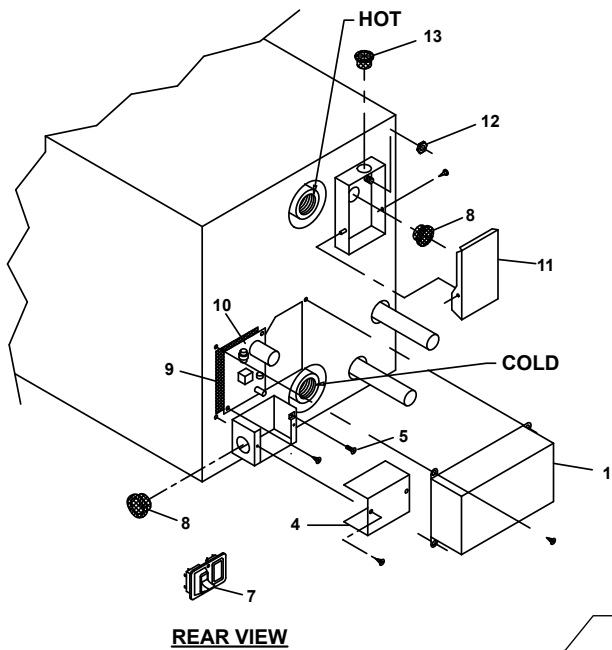


# PARTS ILLUSTRATION AND REPLACEMENT PARTS LIST FOR MODELS SW10DEM, SW12DEM AND SW16DEM

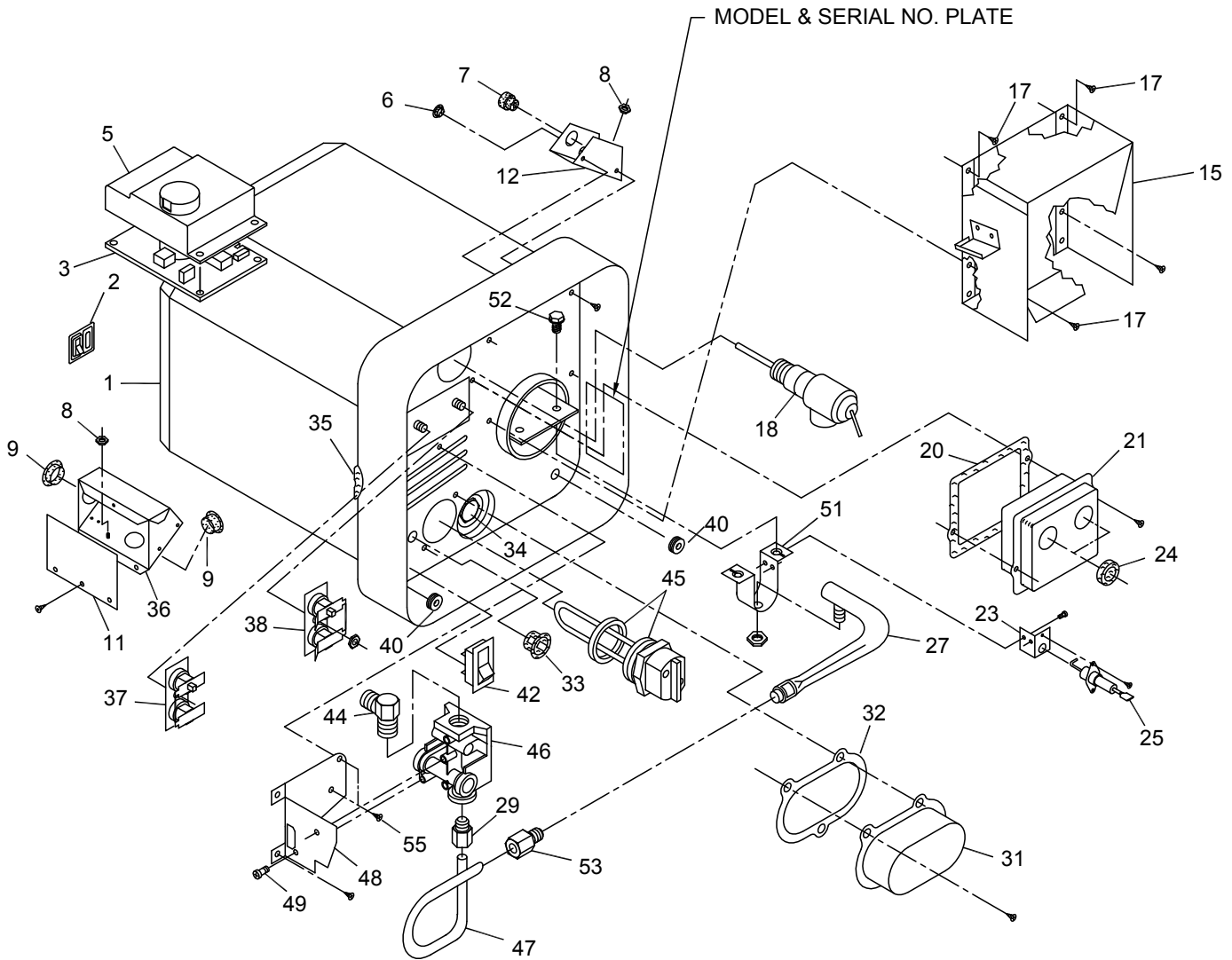
Item No.	Description	Part Number SW10DEM SW12DEM SW16DEM	Item No.	Description	Part Number SW10DEM SW12DEM SW16DEM
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1	Cover Module Board .....	090340
4	Cover, Junction Box (12 V.D.C.).....	090344
5	Screw 10-32 x 3/8 (Green).....	121702
7	Switch, Lamp and Plate Assembly .....	232589
8	Bushing, Snap 7/8".....	230218
9	Insulator, Module Board .....	070807
10	Module Board .....	520814
11	Cover, Junction Box (120 V.A.C.).....	090464
12	Nut 10-24 Keps (Green).....	121576
13	Bushing .....	070486
15	Flue Collector Back Assembly Complete .....	101777
17	Screw 10 x 1/4 (3 Required).....	121577
18	Valve, Pressure Relief.....	161157

20	Gasket, Thermostat Cover .....	070987
21	Cover, Thermostat/Hi Limit.....	090562
23	Bracket, Electrode Mounting .....	063187
24	Grommet (2 Required) .....	070874
26	Electrode .....	232258
27	Burner Assembly with orifice .....	010843
29	1/4 Loxit Nut (Manifold to Valve) .....	171463
31	Cover, Element .....	090445
32	Gasket, Element Cover .....	070988
33	Switch, Electric Element.....	232362
34	Anode .....	232767
35	Grommet, Gas Inlet.....	070989
36	Switch Assembly, 120 V.A.C. T-Stat/Hi-Limit.....	232306
37	Switch Assembly, 12 V.D.C. T-Stat/Hi-Limit.....	232282
39	Grommet .....	071246
41	Screw 10 x 1/4 (2 Required).....	121577
42	Gas Fitting .....	170374
43	Electric Element with Gasket (SW10DEM) .....	520789
	Electric Element with Gasket (SW12DEM, SW16DEM).....	520900
44	Valve, Gas (LP) .....	161109
45	Manifold, Outlet .....	171420
46	Valve Mounting Bracket .....	063243
47	Screw 8-32 x 3/8 Hex HD (2 Required).....	121958
48	Bushing, Snap 1/2".....	070270
50	Burner Bracket .....	063444
51	Screw 8mm - 4.0 x 1/2 Hex Washer Head (2 Required) .....	121943
52	1/4 Loxit Nut (Manifold to Burner) .....	171463
53	Electrode Wire(Not Shown) (SW10DEM).....	232454
	Electrode Wire(Not Shown) (SW12DEM, SW16DEM).....	232791



# PARTS ILLUSTRATION FOR MODELS SW10D, SW10DE, SW12D, SW12DE, SW16D, SW16DE

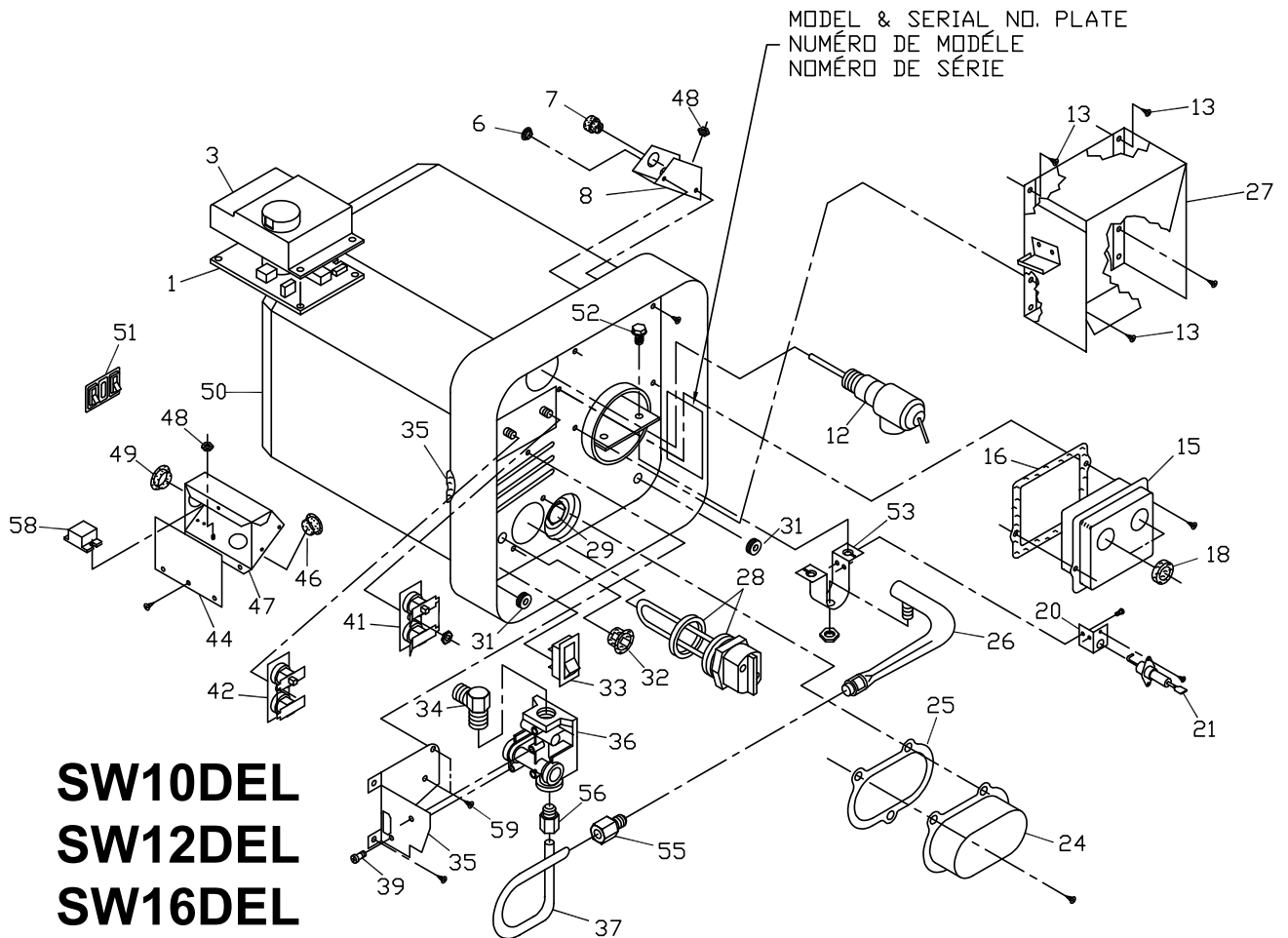
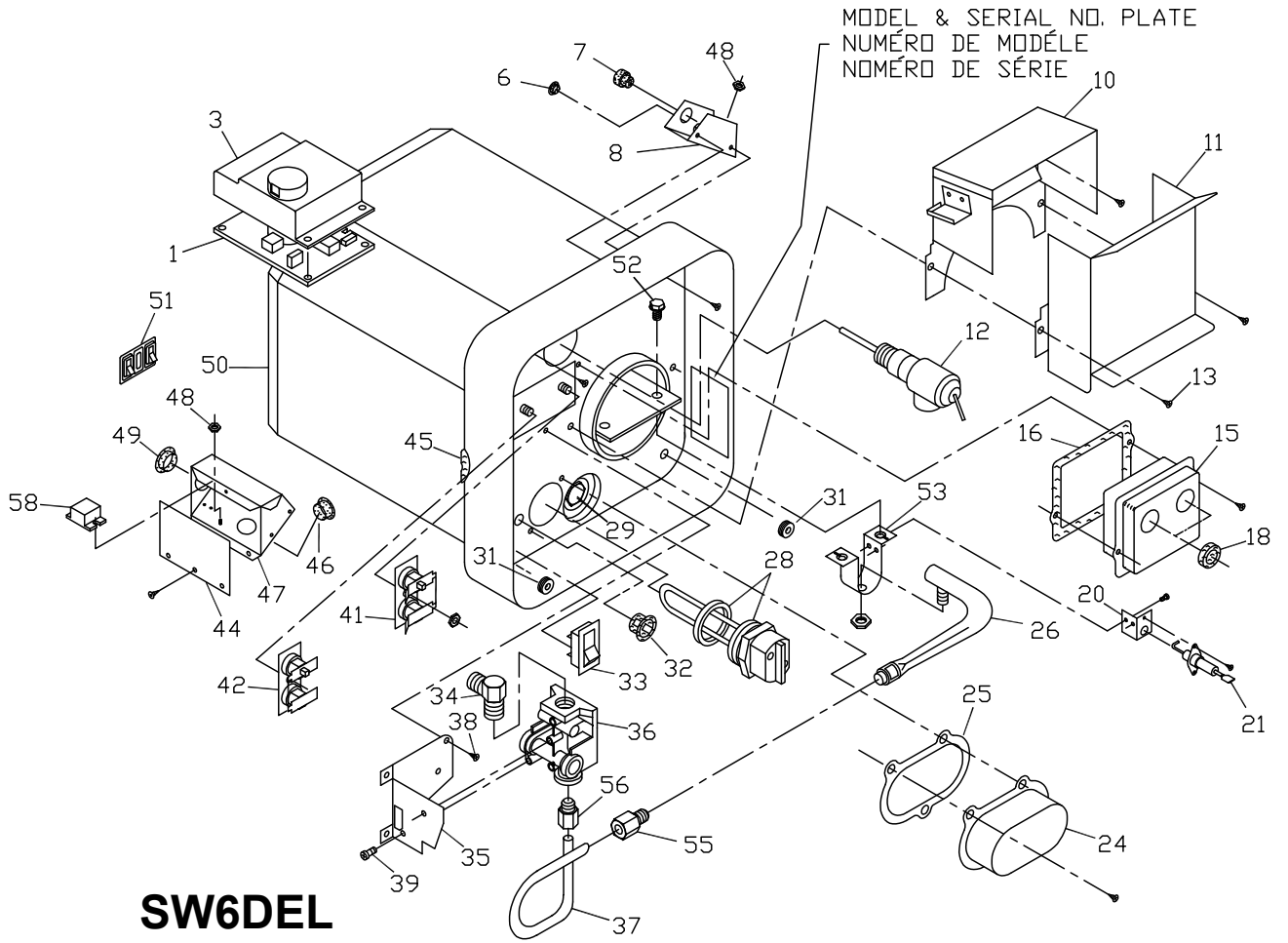


# REPLACEMENT PARTS LIST FOR MODELS SW10D, SW10DE, SW12D, SW12DE, SW16D, SW16DE

Item No.	Description	Part Number		
		SW10D	SW10DE	
		SW12D	SW12DE	
		SW16D	SW16DE	
1	Foam Jacket Assembly Complete (SW10D, SW10DE) .....	520869	520869	
	Foam Jacket Assembly Complete (SW12D, SW12DE) .....	520960	520960	
	Foam Jacket Assembly Complete (SW16D, SW16DE) .....	520961	520961	
2	Switch, Lamp and Plate Assembly .....	232589	232589	
3	Module Board .....	520814	520814	
5	Cover Module Board .....	090487	090487	
6	Bushing, Snap 1/2" .....	070270	070270	
7	Bushing, Strain Relief 5/8" .....	230216	230216	
8	Nut 10-24 Keps (Green) .....	121576	121576	
9	Bushing, Snap 7/8" .....	-----	230218	
11	Cover, Junction Box .....	-----	090576	
12	D.C. Junction Box Assembly .....	090517	090517	
15	Flue Collector Back Assembly Complete .....	101777	101777	
17	Screw 10 x 1/4 (3 Required) .....	121577	121577	
18	Valve, Pressure Relief .....	161157	161157	
20	Gasket, Thermostat Cover .....	070987	070987	
21	Cover, Thermostat/Hi-Limit .....	090562	090562	
23	Bracket, Electrode Mounting .....	063187	063187	
24	Grommet .....	070874	070874	
25	Electrode .....	232258	232258	
27	Burner Assembly with orifice .....	010843	010843	
29	1/4 Loxit Nut (Manifold to Valve) .....	171463	171463	
31	Cover, Element .....	-----	090445	
32	Gasket Element Cover .....	-----	070988	
33	Bushing, Snap 1/2" .....	-----	070270	
34	Anode .....	232767	232767	
35	Grommet, Gas Inlet .....	070989	070989	
36	A.C. Junction Box Assembly .....	-----	090575	
37	Switch Assembly 120 V.A.C. T-Stat/Hi-Limit .....	-----	232306	
38	Switch Assembly 12 V.D.C. T-Stat/Hi-Limit .....	232282	232282	
40	Grommet .....	071246	071246	
42	Switch, Electric Element .....	-----	232362	
44	Gas Fitting .....	170374	170374	
45	Electric Element with Gasket .....	-----	520789	
46	Valve, Gas (LP) .....	161109	161109	
47	Manifold Outlet .....	171420	171420	
48	Valve Mounting Bracket .....	063243	063243	
49	Screw 8-32 x 3/8 Hex HD (2 Required) .....	121958	121958	
51	Burner Bracket .....	063444	063444	
52	Screw 8mm - 4.0 x 1/2 Hex Washer Head (2 Required) .....	121943	121943	
53	1/4 Loxit Nut (Manifold to Burner) .....	171463	171463	
54	Electrode Wire (Not Shown) SW10D, SW10DE, SW12D, and SW12DE .....	232456	232456	
	Electrode Wire (Not Shown) SW16D and SW16DE .....	232459	232459	
55	Screw 10 x 1/4 (No Substitute) (2 Required) .....	121577	121577	

# PARTS ILLUSTRATION AND REPLACEMENT PARTS LISTS FOR MODELS SW6DEL, SW10DEL, SW12DEL, SW16DEL

Item No.	Description	Part Number	Item No.	Description	Part Number
1	Module Board .....	520814	38	Screw #10 x 1/4 (4 Required) SW6DEL .....	121577
3	Cover, Module Board .....	090487	39	Screw #8-32 x 3/8 Hex HD. (2 Required) .....	121958
6	Bushing, Snap 1/2" .....	070270	41	Switch Assembly, 12 V.D.C. T-Stat/Hi-Limit .....	232282
7	Bushing, Strain Relief 5/8" .....	230216	42	Switch Assembly, 120 V.A.C. T-Stat/Hi Limit .....	232306
8	D.C. Junction Box Assembly .....	090517	44	Cover, Junction Box .....	090576
10	Back Assembly, Flue Collector .....	101682	45	Grommet, Gas Inlet .....	070989
11	Front, Flue Collector .....	101776	46	Bushing, Snap 7/8" .....	230218
12	Valve, Pressure Relief .....	161157	47	A.C. Junction Box Assembly .....	090577
13	Screw #10 x 1/4 .....	121577	48	Nut, 10-24 Keps (Green) .....	121576
15	Cover, Thermostat/Hi-Limit .....	090562	49	Bushing, Snap 7/8" .....	230218
16	Gasket, Thermostat Cover .....	070987	50	Foam Jacket Assembly Complete SW6DEL .....	520868
18	Grommet .....	070874		Foam Jacket Assembly Complete SW10DEL .....	520869
20	Bracket, Electrode Mounting .....	063187		Foam Jacket Assembly Complete SW12DEL .....	520960
21	Electrode .....	232258		Foam Jacket Assembly Complete SW16DEL .....	520961
24	Cover, Element .....	090445		(With any order for Foam Jacket, also order Banding Kit 520772)	
25	Gasket, Element Cover .....	070988	51	Switch, Lamp and Plate Assembly .....	232881
26	Burner Assembly with orifice .....	010843	52	Screw 8mm - 4.0 x 1/2 Hex Washer Head (2 Required) .....	121943
27	Flue Collector Back Assembly Complete .....	101777	53	Burner Bracket .....	063444
28	Electric Element with Gasket SW6DEL, SW10DEL .....	520789	55	1/4 Loxit Nut (Manifold to Burner) .....	171463
	Electric Element with Gasket SW12DEL, SW16DEL .....	520900	56	1/4 Loxit Nut (Manifold to Valve) .....	171463
29	Anode .....	232767	57	Electrode Wire (Not Shown) SW6DEL, SW10DEL, and SW12DEL .....	232456
31	Grommet .....	071246		Electrode Wire (Not Shown) SW16DEL .....	232459
32	Bushing, Snap 1/2" .....	070270	58	Relay .....	232948
33	Switch, Electric Element .....	232362	59	Screw # 10 X 1/4 (2 Required) SW10DEL/SW12DEL, SW16DEL .....	121577
34	Gas Fitting .....	170374			
35	Bracket, Valve Mounting .....	063243			
36	Valve, Gas (LP) .....	161109			
37	Manifold, Outlet .....	171420			













SUBURBAN MANUFACTURING COMPANY  
 676 Broadway Street  
 Dayton, Tennessee 37321  
 423-775-2131  
 www.RVComfort.com

## WARRANTY SERVICE CLAIM FORM

**ALL SHADED AREAS MUST BE FILLED IN WITH THE CORRECT INFORMATION!**

SERVICE COMPANY	TELEPHONE NO.
ADDRESS	
CITY AND STATE	ZIP CODE

SERVICE COMPANY WORK ORDER NUMBER	
SUBURBAN MFG. CO. CLAIM NUMBER	

CUSTOMER NAME	TELEPHONE NO.
ADDRESS	
CITY AND STATE	ZIP CODE

APPLIANCE MODEL NUMBER:	
SERIAL NUMBER:	
PURCHASE DATE:	
VEHICLE MANUFACTURER:	VEHICLE MODEL:
VEHICLE ID NUMBER:	

**CHECK ONE**

- APPLIANCE WAS INSTALLED BY AN RV MFG (OEM)
- APPLIANCE PURCHASED FROM AFTERMARKET

DATE SERVICE REQUESTED:	WARRANTY AUTHORIZATION NUMBER:	DATE SERVICE COMPLETED:
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### DIAGNOSIS AND SERVICE PERFORMED

<b>COMPLAINT:</b>
<b>SERVICE PERFORMED:</b>

### PARTS USED FOR REPAIR

PART NUMBER	DESCRIPTION

**FLAT RATE TIME:** \_\_\_\_\_

**LABOR AMOUNT:** \$ \_\_\_\_\_

**TOTAL:** \$ \_\_\_\_\_

#### INSTRUCTIONS FOR DEFECTIVE PARTS RETURNS:

All water heaters, module boards, motors, valves, electric elements, and combustion chambers must be **properly tagged** and returned for factory inspection within 60 days. The labor claim should be returned with these parts.

All other parts may be field scrapped - please mark on the claim form that the part was "Field Scrapped". Field scrapped parts should be held until the claim is approved by the factory.

**DO NOT SUBMIT INVOICE UNTIL SERVICE IS COMPLETE.**

TECHNICIAN SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

CUSTOMER SIGNATURE/COMPANY NAME \_\_\_\_\_ DATE \_\_\_\_\_  
 IF NOT ORIGINAL APPLIANCE OWNER

**Please retain a copy of this form.**



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Dayton, Tennessee 37321  
423-775-2131 • Fax: 423-775-7015  
[www.RVComfort.com](http://www.RVComfort.com)  
Email: [SMCSales@SuburbanMfg.com](mailto:SMCSales@SuburbanMfg.com)