

# Outdoor Kit Installation Instructions for Tankless Water Heaters

For RT Models - Part # 7850P-107

**STOP! Follow these instructions or warranty will be void!**

## WARNING

These instructions include information specific to outdoor water heater installations. This information is meant to replace the venting section included in the tankless water heater installation manual. The tankless water heater installation manual includes instructions that will be necessary for the proper installation of all other functions, such as water and gas piping, wall mounting, control programming, etc. Failure to follow these instructions could result in substantial property damage, severe personal injury, or death.

This installation shall be done by a qualified service agency in accordance with these instructions, all applicable codes, and requirements of the authority having jurisdiction. Failure to follow these instructions could result in substantial property damage, severe personal injury, or death.

### For the Installer

This water heater must be installed by qualified and licensed personnel. The installer should be guided by the instructions furnished with the water heater, and by local codes and utility company requirements.

### Installation Must Comply With

1. National Electrical Code
2. National Fuel Gas Code
3. In Canada, CSA C22.1 Canadian Electrical Code Part 1, and CGA No. B149 (latest version)
4. Local, state, provincial, and national codes, laws, regulations, and ordinances.
5. In the State of California: The water heater must be braced, anchored, or strapped to avoid moving during an earthquake. Contact local utilities for code requirements in your area or call 1-866-000-0000 and request instructions.
6. In the Commonwealth of Massachusetts:
  - a. Outdoor units may be used for summer use only.
  - b. The water heater may be used for hot water heating only and may not be used in a combination of domestic and space heating.

### Foreword

This manual is intended to be used in conjunction with other literature provided with the water heater. This includes all related control information. It is important that this manual, all other documents included in this system, and additional publications including the *Code for the Installation of Heat Producing Appliances* (latest version), be reviewed in their entirety before beginning any work.

Installation should be made in accordance with the regulations of the Authority Having Jurisdiction, local code authorities, and utility companies which pertain to this type of water heating equipment.

Authority Having Jurisdiction (AHJ) – The AHJ may be a federal, state, local government, or individual such as a fire chief, fire marshal, chief of a fire prevention bureau, labor department or health department, building official or electrical inspector, or others having statutory authority.

In some circumstances, the property owner or his/her agent assumes the role, and at government installations, the commanding officer or departmental official may be the AHJ.



Figure 1 - Completed Outdoor Kit Installation

### Included with Kit:

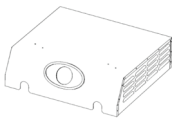




Item	Description	Quantity
Outdoor Enclosure (7850P-257)		1
Front Cover (7855P-255)		
Exhaust Pipe (7850P-258)		1
Exhaust Screen (7850P-088)		1
Exhaust Adapter (7850P-259)		1
Installation Manual		1

Table 1 - Parts Included with Kit

### Tools Required (Not Included):

Phillips and Flat Head Screwdrivers

## NOTICE

**UNCRATING THE OUTDOOR ENCLOSURE** - Any claims for damage or shortage in shipment must be filed immediately against the transportation company by the consignee.

## NOTICE

The manufacturer reserves the right to make changes or updates without notice and will not be held liable for errors in literature.

**NOTE TO CONSUMER: PLEASE KEEP ALL INSTRUCTIONS FOR FUTURE REFERENCE.**

## NOTICE

**COLD WEATHER HANDLING** - If the kit has been stored in a very cold location (BELOW 0°F) before installation, handle with care until the components come to room temperature. Failure to do so could result in damage to components.

### Finished Tankless Water Heater with Outdoor Kit Specifications and Dimensions

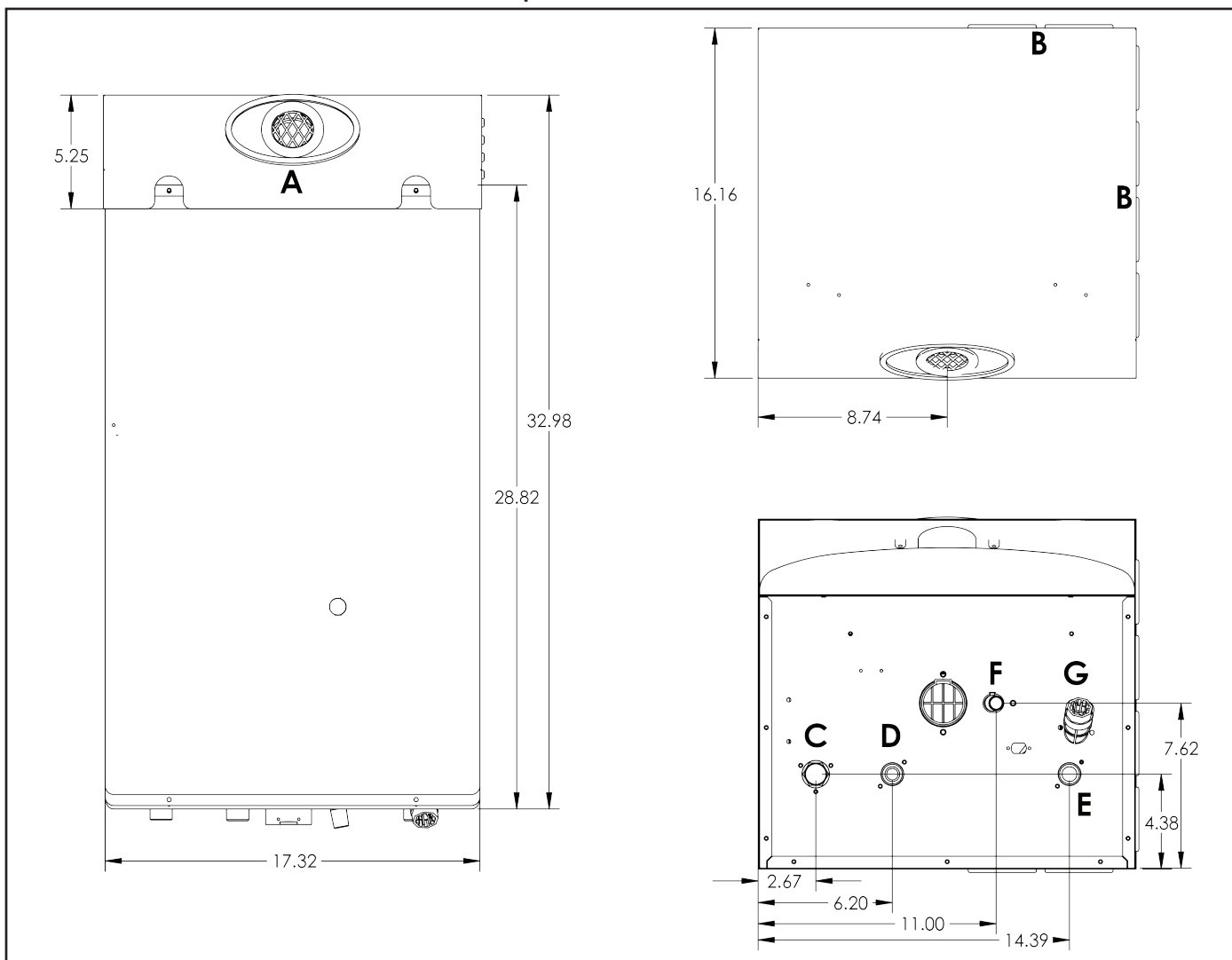


Figure 2 - Tankless Water Heater with Outdoor Kit Dimensions

	Description	Diameter
<b>A</b>	Exhaust Vent	-
<b>B</b>	Air Intake	-
<b>C</b>	Gas Inlet	3/4"
<b>D</b>	DHW Outlet Adapter	3/4"
<b>E</b>	DHW Inlet Adapter	3/4"
<b>F</b>	Condensate Adapter	1/2"
<b>G</b>	DHW Inlet Filter	N/A

Table 2 - Parts Included with Kit

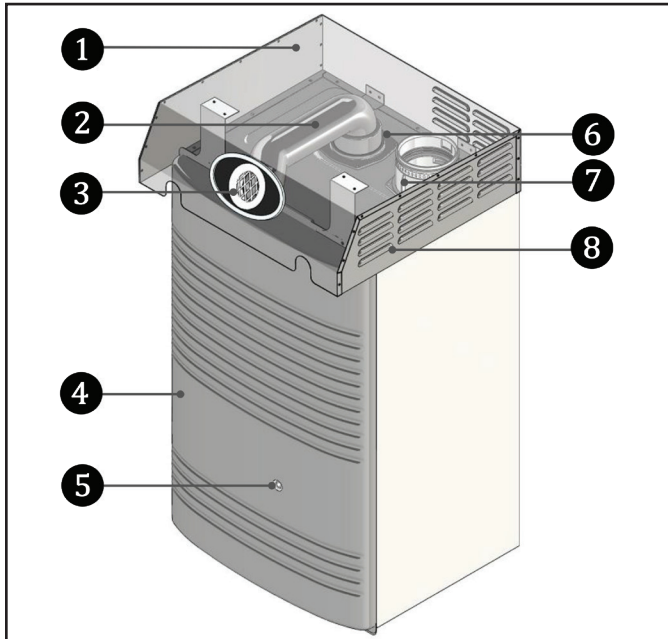


Figure 3 - Tankless Water Heater with Outdoor Kit Components

#	Description	#	Description
1	Outdoor Enclosure	5	Flame Sight Glass
2	Exhaust Pipe	6	Exhaust Adapter
3	Exhaust Screen	7	Air Intake
4	Front Cover	8	Air Intake Louver

Table 3 - Installed Components

#### Choosing an Outdoor Installation Location

##### **WARNING**

Carefully consider installation when determining water heater location. Please read the entire installation manual and these instructions before attempting installation. Failure to properly take factors such as piping, condensate removal, venting, and wiring into account before installation could result in wasted time, money, and possible property damage, personal injury, or death. The outdoor kit is meant for use in outdoor installations ONLY. DO NOT install the water heater indoors. Installing the water heater indoors will result in improper water heater operation and property damage, and could result in serious personal injury or death.

##### 1. Outdoor Installation Area Operating Conditions

- Ensure ambient temperatures are higher than 5°F / -15°C and lower than 104°F/40°C.
- Prevent the air from becoming contaminated by the products, places, and conditions listed in the water heater installation manual.
- Avoid continuously high levels of humidity

##### **WARNING**

Incorrect ambient conditions can lead to damage to the heating system and put safe operation at risk. Ensure that the installation location adheres to the information included in this manual. Failure to do so could result in property damage, serious personal injury, or death. Failure of heater or components due to incorrect operating conditions IS NOT covered by product warranty.

##### **WARNING**

The water heater must be installed as described in these instructions: Upright, with the supplied outdoor enclosure in the vertical position. DO NOT attempt to install the water heater in any other orientation. Failure to follow these instructions will result in improper water heater operation and property damage, and could result in serious personal injury or death.

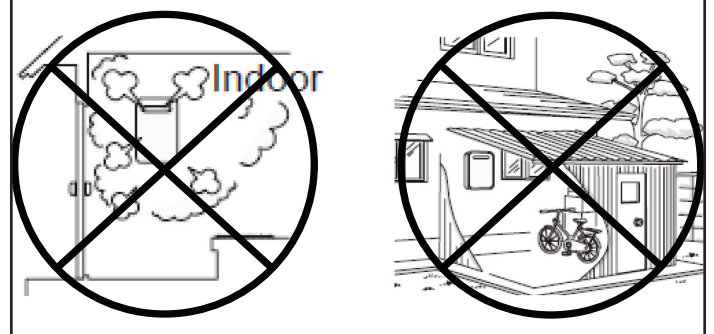


Figure 4 - DO NOT INSTALL WATER HEATER INDOORS

##### 2. Check for nearby connections to:

- System water piping
- Venting connections
- Gas supply piping
- Electrical power
- Condensate drain

##### **NOTICE**

To conserve water and energy insulate all water piping, especially the hot and recirculation water lines.

##### **CAUTION**

Locate the water heater where any leakage from the relief valve, related piping, tank, or connections will not result in damage to surrounding areas, lower floors of the building, or pool on the ground and freeze. The water heater should be located near a drain or piped to a drain. Leakage damages ARE NOT covered by warranty.

##### 3. Check area around heater. Remove any combustible materials, gasoline, and other flammable liquids.

##### **WARNING**

Failure to keep the water heater area clear and free of combustible materials, liquids, and vapors can result in substantial property damage, severe personal injury, or death.

##### 4. If the heater is to replace an existing heater, check for and correct any existing system problems, such as:

- System leaks
- Location that could cause the system and heater to freeze and leak
- Incorrectly sized expansion tank

##### 5. Clean and flush system when reinstalling a heater.

##### **CAUTION**

Do not connect the water heater to any heating systems or components that have been previously used for non-potable applications.

Do not introduce toxic chemicals, such as antifreeze or water heater treatments, into the water heater or any piping meant for potable purposes.

## CAUTION

Ensure that all piping and components connected to the water heater are suitable for potable water applications.  
Do not use this water heater for space heating applications.  
Circulators suitable for DHW applications must be used.

**NOTE:** When installing in a minimum clearance location, it may not be possible to read or view some product labeling. It is recommended to make note of the heater model and serial number.

### Leveling

## CAUTION

The water heater must be installed level in order for the condensate to properly flow out of the collection system.

### Clearances for Service Access

See the table below for recommended service clearances.

	Installation Clearances from Non-Combustibles / Combustibles	Recommended Service and Proper Operation Clearances
Top	36 in. (900 mm)	
Back	5/8 in. (15.9 mm)	
Front	6 in. (152.4 mm)	24 in. (609.6 mm) or more (A combustible door or removable panel is acceptable front clearance.)
Right Side	6 in. (150 mm)	
Left Side		
Bottom	12 in. (304.8 mm)	

**Table 4 - Minimum Installation and Service Clearances**

**NOTE:** The outdoor enclosure for this appliance is approved for zero clearance to combustible construction.

**NOTE:** If the water heater is installed in a narrow space or corner, ensure that there is sufficient space for service. A combustible door or removable panel is acceptable front clearance.

**NOTE:** In multiple water heater installations, ensure a minimum clearance of 36" from the top of one water heater to the bottom of the next water heater, and a minimum clearance of 10" from the side of water heater to the next water heater.

## WARNING

Do not locate the water heater where exposed to prevailing winds.

Moisture will be produced by the exhaust vent. Take precautions when determining water heater location. Moisture may fall from the vent termination to the ground and turn to ice in freezing conditions. Moisture or ice can produce a hazardous condition.

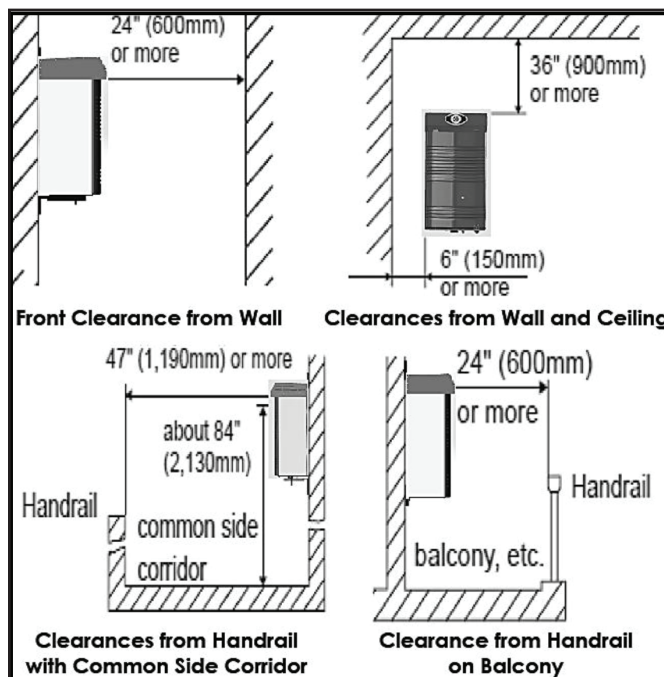
Exhaust condensate is acidic and could deteriorate the surface below the exhaust vent termination. Ensure this surface is in good repair (sealed, painted, etc.) to prevent deterioration.

Failure to follow these instructions could result in substantial property damage, serious personal injury, or death.

### Prevent Combustion Air Contamination

Do not install the outdoor water heater in locations that can allow contamination of fresh intake air.

**NOTE:** See the table below to prevent combustion air contamination.



**Figure 5 - Additional Clearances**

## WARNING

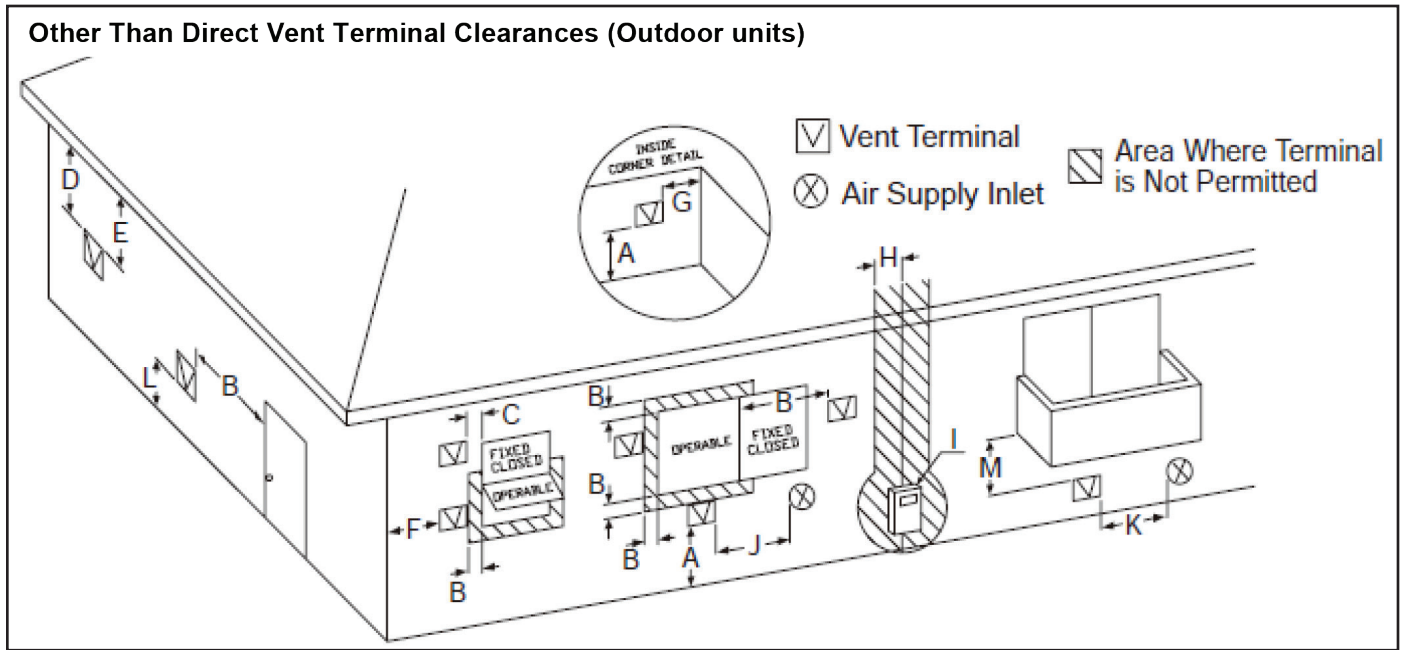
Ensure that the intake air will not contain any of the contaminants in Table 2. Contaminated air will damage the heater, resulting in possible substantial property damage, severe personal injury, or death. For example, do not pipe intake air near a swimming pool or laundry facilities. These areas always contain contaminants.

Products to Avoid	Areas Likely to Have Contaminants
Spray cans containing fluorocarbons	Dry cleaning / laundry areas and establishments
Permanent wave solutions	Swimming pools
Chlorinated waxes / cleaners	Metal fabrication plants
Chlorine-based swimming pool chemicals	Beauty shops
Calcium chloride used for thawing	Refrigeration repair shops
Sodium chloride used for water softening	Photo processing plants
Refrigerant leaks	Auto body shops
Paint or varnish removers	Plastic manufacturing plants
Hydrochloric or Muriatic acid	Furniture refinishing areas and establishments
Cements and glues	New building construction
Antistatic fabric softeners used in clothes dryers	Remodeling areas
Chlorine-type bleaches, laundry detergents, and cleaning solvents	Garages and workshops
Adhesives used to fasten building products	

**Table 5 - Products and Areas Likely to Have Contaminants**

**NOTE: DAMAGE TO THE HEATER CAUSED BY EXPOSURE TO CORROSIVE VAPORS IS NOT COVERED BY WARRANTY.** (Refer to the limited warranty for complete terms and conditions.)





**Figure 6 - Vent Termination Clearances**

	Description	US (ANSI Z223.1/NFPA 54)	CANADA (CSA B149.1)
<b>A</b>	Clearance above grade, veranda, porch, deck, or balcony	12 in.	
<b>B</b>	Clearance to window or door that may be opened	4 ft. below or to side of opening; 1 ft. above opening	3 ft.
<b>C</b>	Clearance to permanently closed window	*	
<b>D</b>	Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2 feet from the center line of the terminal	*	
<b>E</b>	Clearance to unventilated soffit	*	
<b>F</b>	Clearance to outside corner	*	
<b>G</b>	Clearance to inside corner	*	
<b>H</b>	Clearance to each side of center line extended above meter / regulator assembly	*	3 ft. with a height 15 ft. above meter / regulator assembly
<b>I</b>	Clearance to service regulator vent outlet	*	3 ft.
<b>J</b>	Clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance	4 ft. below or to side of opening; 1 ft. above opening	3 ft.
<b>K</b>	Clearance to a mechanical air supply inlet	3 ft. above if within 10 ft. horizontally	6 ft.
<b>L</b>	Clearance above paved sidewalk or driveway	*	7 ft. <sup>1</sup>
<b>M</b>	Clearance under veranda, porch, deck, or balcony	*	1 ft. <sup>2</sup>

**Table 6 - Vent Termination Clearances**

**NOTE:** For clearances not specified in ANSI Z223.1/NFPA 54 or CAN/CSA B149.1, use clearances in accordance with local installation codes and the requirements of the gas supplier.

\*Clearance to opposite wall is 24 in.

<sup>1</sup>A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings that serves both dwellings.

<sup>2</sup>Permitted only if veranda, porch, deck, or balcony is fully open on a minimum of two sides beneath floor.

## Freeze Protection

### CAUTION

This water heater is designed to automatically prevent freezing to temperatures of 5°F (-15°C). This freeze protection is not effective if the power fails. In order for freeze protection to operate, the water heater must be powered at 120 VAC. Additional freeze protection must be used if the water heater is installed where temperatures can reach freezing conditions of 5°F (-15°C) or below.

In addition, the water heater's freeze prevention devices will not prevent the external plumbing from freezing. Protect external plumbing with insulation, heat tape, heaters, solenoids, or pipe covers. Failure to follow these instructions could result in water heater failure and substantial property damage.

**NOTE:** Damages resulting from incorrect installation or from use of products not approved by the manufacturer ARE NOT covered by warranty.

### Installing the Outdoor Enclosure

**NOTE:** DO NOT install the outdoor enclosure if the water heater is mounted. The outdoor enclosure cannot be installed on the water heater if it is mounted to a wall.

1. Use a Phillips Head screwdriver to remove the water heater front cover.
2. Use a Phillips Head screwdriver to install the exhaust vent adapter into the top of the water heater. See Figure 7.

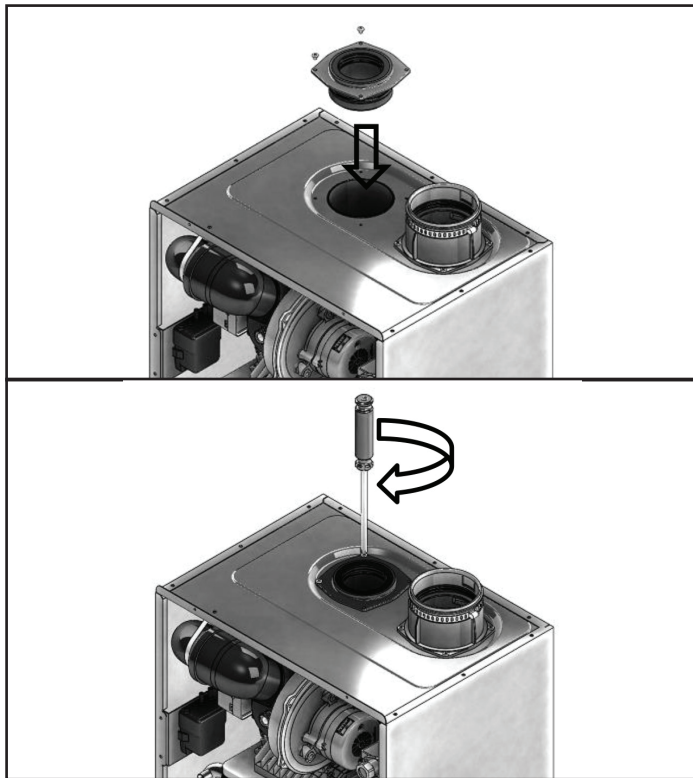


Figure 7 - Installing the Exhaust Vent Adapter

3. Install the exhaust vent pipe into the exhaust vent adapter. Ensure the pipe is positioned as shown in Figure 8.

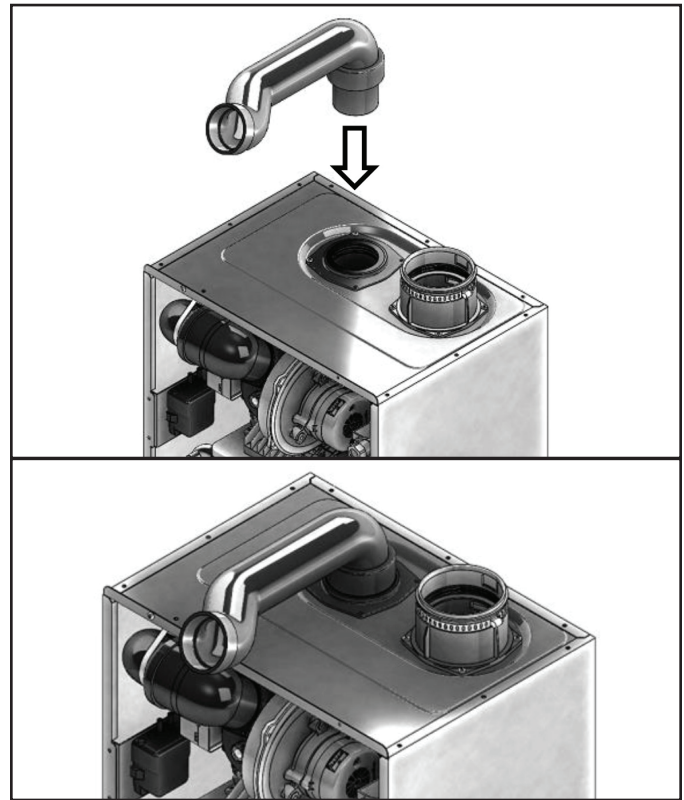


Figure 8 - Installing the Exhaust Vent Pipe

4. Use a Phillips Head screwdriver to install the outdoor enclosure top cover on the top of the water heater. See Figure 9.

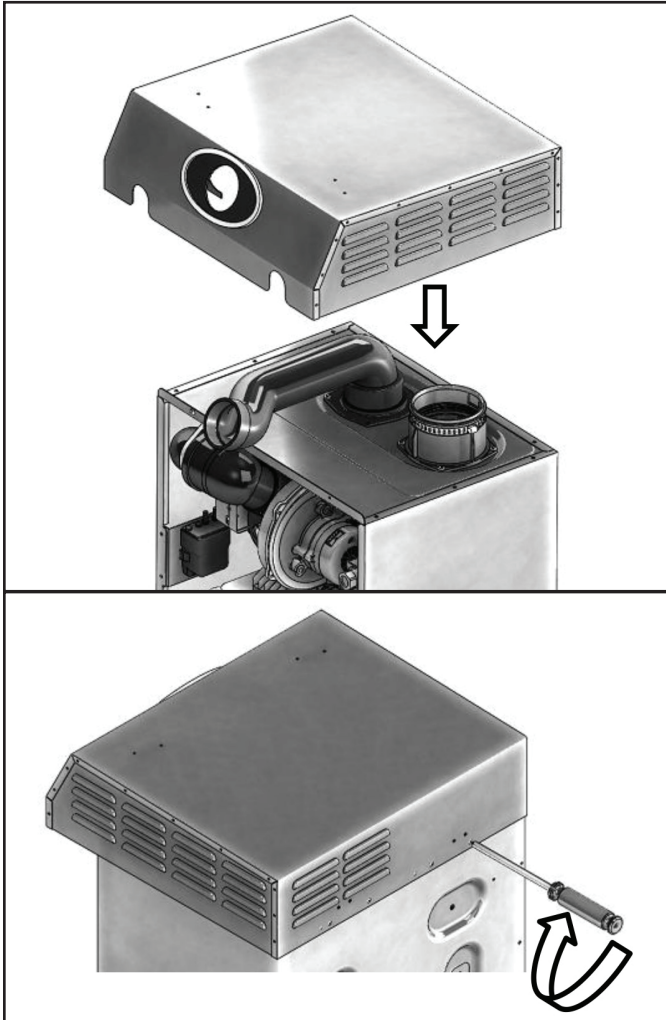


Figure 9 - Installing the Top Cover

5. Use a Phillips Head screwdriver to install the water heater front cover. See Figure 10.

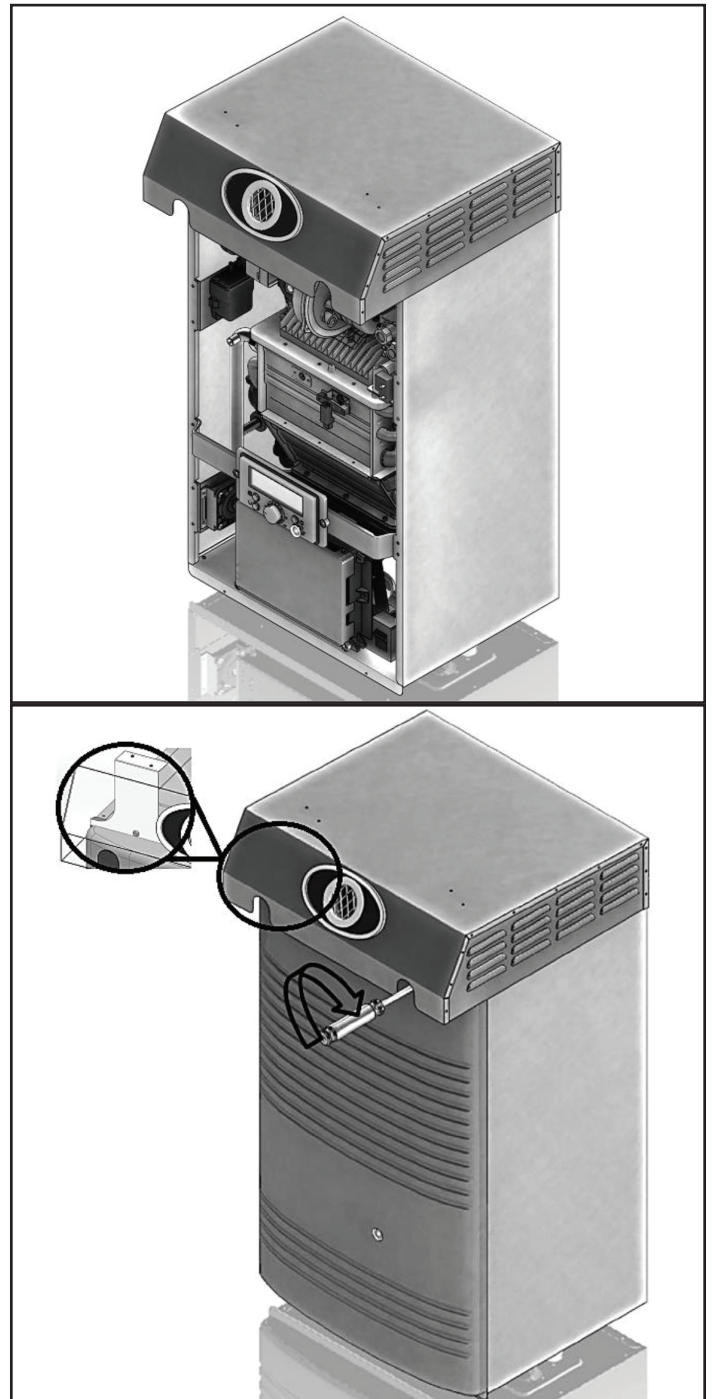


Figure 10 - Installing the Front Cover

### **WARNING**

The outdoor enclosure is not designed to carry heavy weight. Do not stack anything on the water heater. Doing so could result in substantial property damage, personal injury, or death.

Replacement Parts

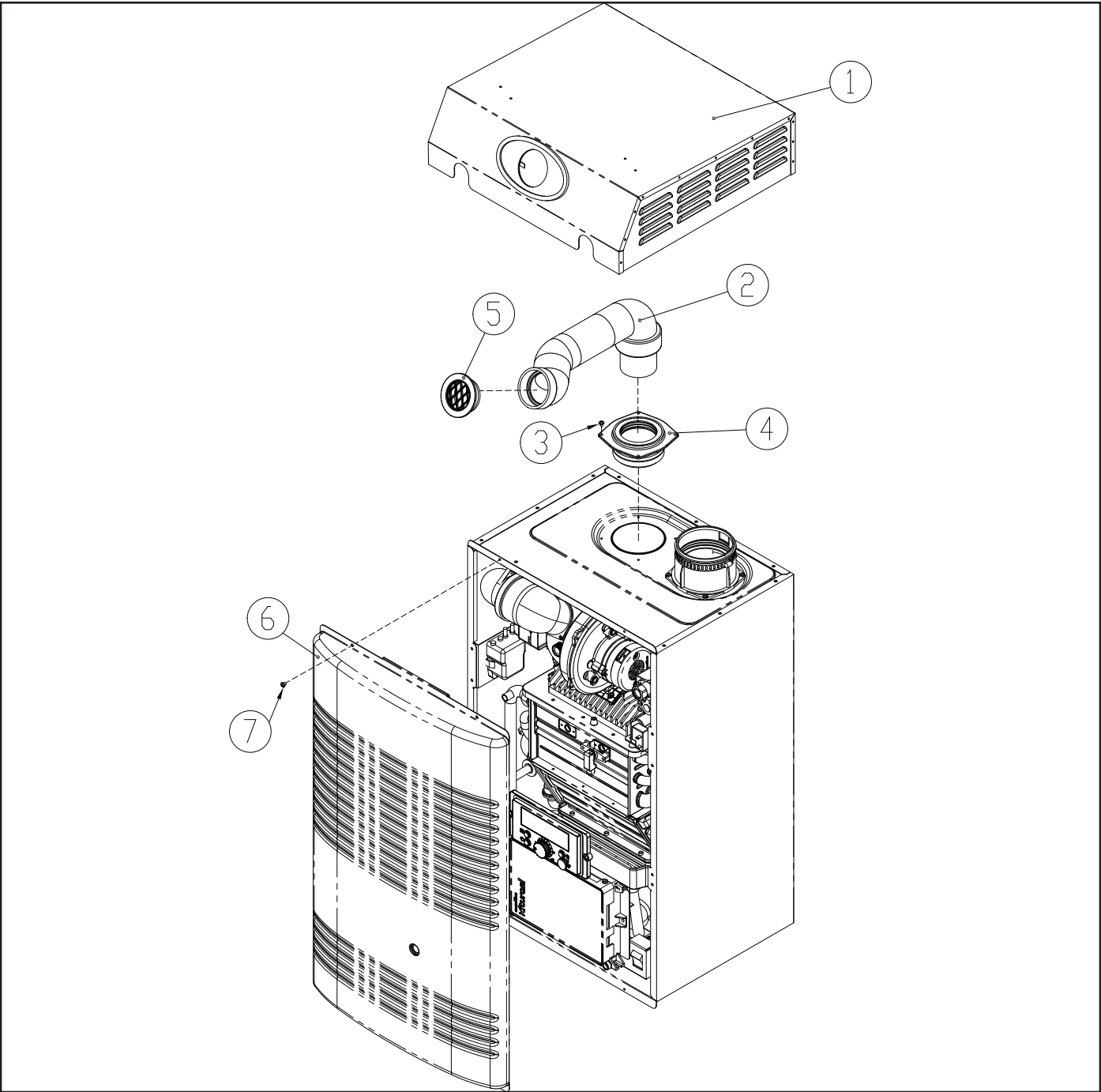


Figure 11 - Replacement Parts

Number	Description	Part Number	Number	Description	Part Number
1	Outdoor Enclosure	7850P-257	5	Exhaust Screen	7850P-088
2	Exhaust Pipe	7855P-258	6	Front Cover	7855P-255
3	M4 X 10 TH + Self Tapping Screws	7855P-389	7	M4 X 10 TH + Self Tapping Screws	7855P-389
4	Exhaust Adapter	7850P-259			

Table 7 - Replacement Parts