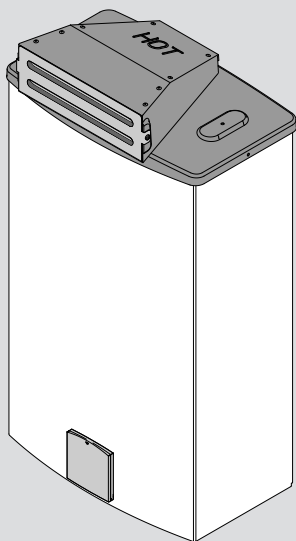


## Installation Instructions

Models: RTG 199HE / RTG 199ME

# Outdoor kit



025811755-06/14

**Warning:** This kit must be installed by a qualified installer in accordance with these instructions and all applicable codes and requirements of the authorities having jurisdiction.

6720 811 755 (2014/05) US



**BRADFORD WHITE**  
WATER HEATERS

## 1 Key to symbols and safety instructions

### 1.1 Key to symbols

#### Warnings



Warnings in this document are identified by a warning triangle printed against a grey background.

Keywords at the start of a warning indicate the type and seriousness of the ensuing risk if measures to prevent the risk are not taken.

The following keywords are defined and can be used in this document:

- **DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- **WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- **CAUTION** indicates a hazardous situation which, if not avoided, could result in minor to moderate injury.
- **NOTICE** is used to address practices not related to personal injury.

#### Important information



This symbol indicates important information where there is no risk to people or property.

#### Additional symbols

Symbol	Explanation
▶	Step in an action sequence
→	Cross-reference to another part of the document
•	List entry
-	List entry (second level)

Table 1

## 2 Outdoor Installation

### 2.1 Warnings



#### **DANGER:**

The top of the outdoor kit will get very hot during operation.

- ▶ Keep away from children. Install heater in a location where the top of the kit cannot be reached by small children.



#### **DANGER:** Flue gas is very hot and contains carbon monoxide.

Flue gas will be released through the outdoor kit.

- ▶ The outdoor kit cannot be installed on a water heater mounted indoors. To prevent risk of fire and carbon monoxide poisoning, maintain all clearances indicated in these instructions.



#### **DANGER:**

- ▶ Do not place or store any combustible material within 5 feet of the appliance. Maintain specified clearance to combustibles on the wall where the appliance is installed and any adjacent walls or overhang. Observe all clearances required in this manual.



#### **DANGER:**

- ▶ Surface temperature of the kit is less than 140 °F, except highest top surface which may reach 300 °F.



#### **DANGER:**

- ▶ Do not mount water heater directly onto vinyl siding, see Fig. 10.



**DANGER:**

The freeze prevention kit on the appliance is designed to provide protection from temperatures down to approximately 5 °F for short term conditions only. It will not protect the appliance in areas where the temperature is routinely expected to be below freezing. The freeze prevention kit will not protect plumbing outside the appliance from freezing. Precautions must be taken:

- ▶ Always drain the water heater if it will be exposed to long term freezing conditions.



**DANGER:**

The water in this appliance is cold and always remains cold except for the times when the burner is on.

- ▶ In the event of power outage in conjunction with freezing temperatures, it is recommended that the heater be drained.



**DANGER:**

- ▶ Damage to the appliance from freezing is not covered under the manufacturer's warranty.

**2.2 This outdoor kit includes:**

- Supports (2) with screws
- Sealing gasket
- Control panel shield
- Outdoor vent cap.

**3 Selecting heater location**

Before proceeding, read the water heater installation manual. If the information in that manual is not followed exactly, a fire, explosion or poisoning by carbon monoxide may result causing property damage, personal injury or death.

- ▶ This appliance is not designed to be installed outdoors in climates that commonly fall below freezing (32 °F).
- ▶ Choose an outside wall for the installation. Installation on a wall protected by an overhang above is recommended.

- ▶ Size the water and gas connections according to the instructions in the water heater installation manual. Use unions when connecting both water lines and gas supply line to the heater.

**3.1 Minimum clearances**

If the appliance is installed under an overhang, there must be a minimum 36" clearance from the top of the appliance and the mounting area must be open in front and on the sides of the appliance.

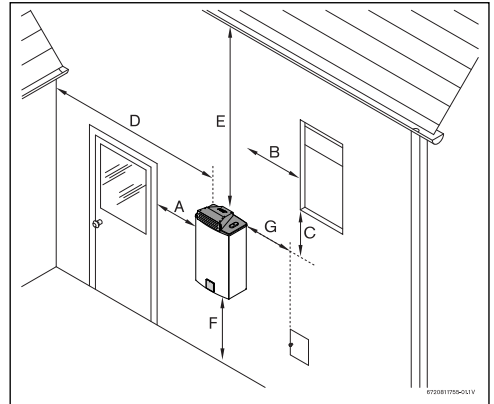


Fig. 1

Ref.	Description	Min. distances
A	Directly below or adjacent to an opening; operable windows, doors and any fresh air openings	≥ 1 ft
B		
C		
D	From any adjacent wall	≥ 1 ft
E	Below a gutter, sanitary pipework, eaves or overhang	≥ 3 ft
F	Above ground	≥ 1 ft
G	From a gas meter or gas regulator	≥ 3 ft

Table 2 Clearances



**Best practice note:** The clearances in Fig. 1 and table 2 are the minimum allowed by the standard.

When possible consider maximizing the clearances A, B, C, D and E to allow for the effects of wind and frequently used door and window openings.

## 4 Installing outdoor kit

### 4.1 Replace the control panel shield

- ▶ Loosen the two Philips head screws located on bottom rear of cover (see Fig. 2).

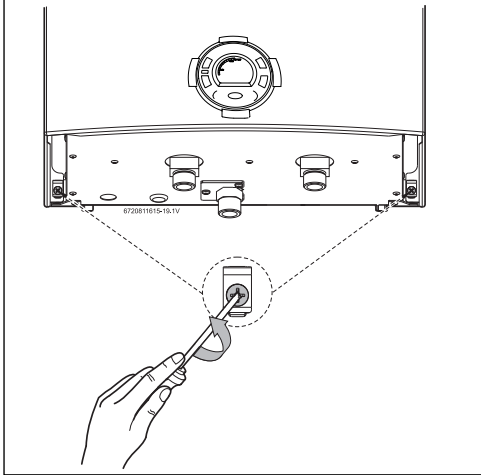


Fig. 2 Loosen the two screws

- ▶ Remove the front cover panel and replace the original control panel shield with shield provided in the kit, see Fig. 3.

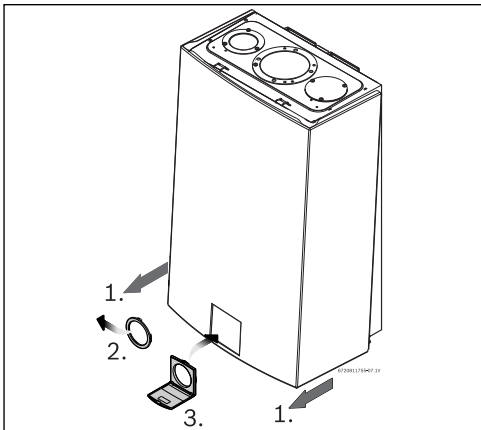


Fig. 3 Replace the control panel shield



#### WARNING:

- ▶ The control panel shield must always remain closed, except when making adjustments, to prevent damage to heater from weather.

- ▶ After replacing the control panel shield re-position the front cover.
- ▶ 1. Remove the cover plate (A) from the top of the appliance, as shown in Fig. 4.

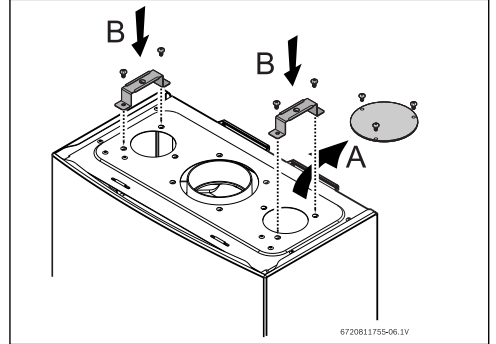


Fig. 4

- ▶ 2. Attach the supports (B) to the appliance with the four provided screws, as shown in Fig. 4.

Before mounting the outdoor kit on the appliance:

#### Remove the exhaust seal from outdoor vent cap: For condensing appliances only:

- ▶ Remove inner seal, see Fig. 5.

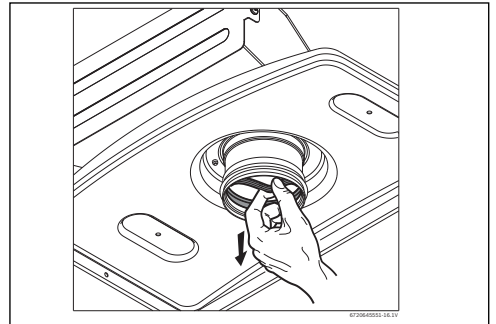


Fig. 5 Condensing appliances only (RTG 199HE)

- ▶ 3. Attach the gasket provided with the kit as shown in Fig. 6.

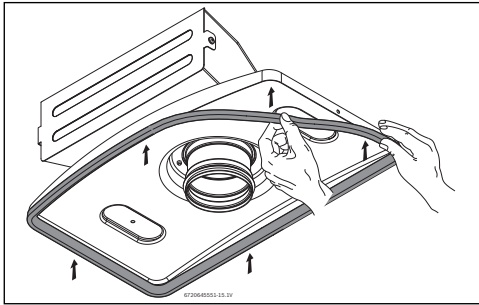


Fig. 6

- ▶ 4. Install supplied Freeze Prevention Kit (separate packaging). Follow separate installation instructions provided with Freeze Prevention.



**Note: Freeze Prevention is not designed to protect the appliance during long durations below freezing or to protect plumbing outside the appliance. Always drain the water heater if it will be exposed to long term freezing conditions.**

- ▶ Position the outdoor vent cap on the top of the appliance, as shown in Fig. 7.

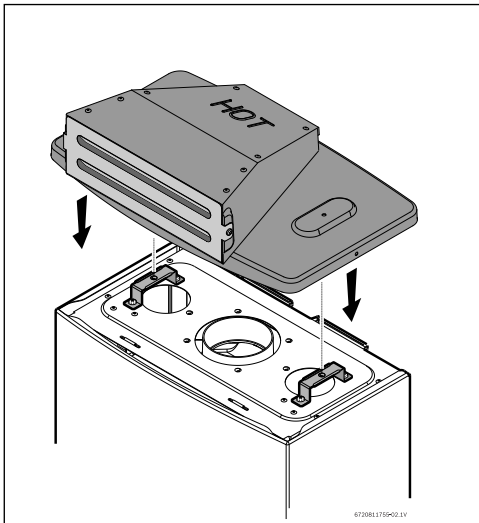


Fig. 7

- ▶ Attach the outdoor vent cap to the appliance by fastening the two provided screws and washers, see Fig. 8.

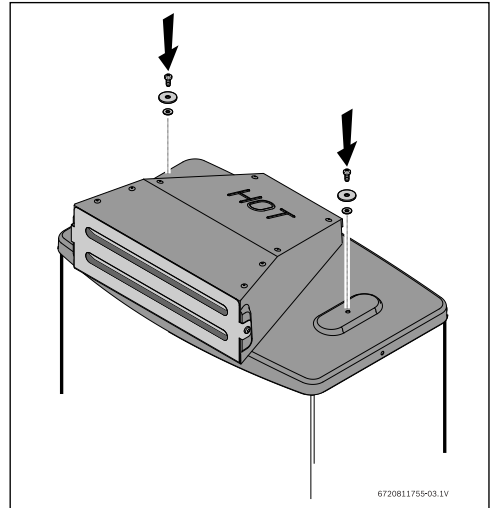


Fig. 8



**NOTE:** Once this kit is installed, the outdoor vent cap will need to be removed, before removing front cover.

## 5 Mounting instructions

- ▶ The water heater is approved for installation directly on an outside wall. Secure the wall mounting bracket provided with the water heater to a wall surface. See Fig. 9.
- ▶ The installation method of the mounting bracket will depend on the type of mounting surface. Due to the varieties of building siding or surfacing, the installer must decide how best to support and level the heater on an outside wall. It is recommended that horizontal or vertical support boards or plywood sheathing (1/2" minimum) first be attached to the wall surface. The heater must also be kept level on the wall surface.

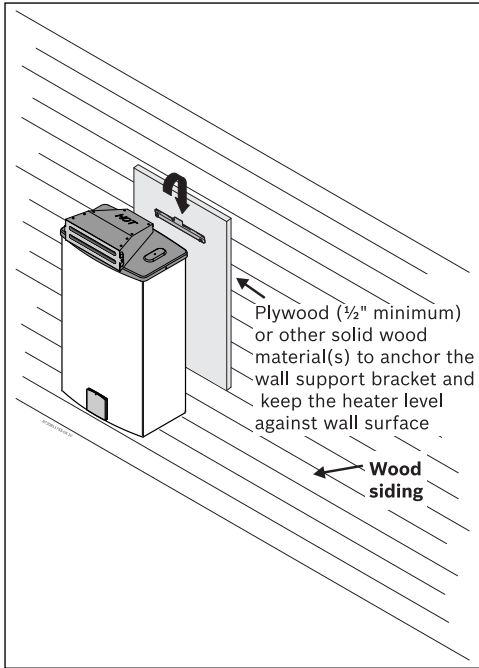


Fig. 9 Installation on wood siding



**WARNING:** Do not mount heater directly to vinyl siding.

- ▶ With vinyl siding, a 3½' x 4' area of the siding must first be removed and then replaced with wood or other non-plastic material. See Fig. 10.

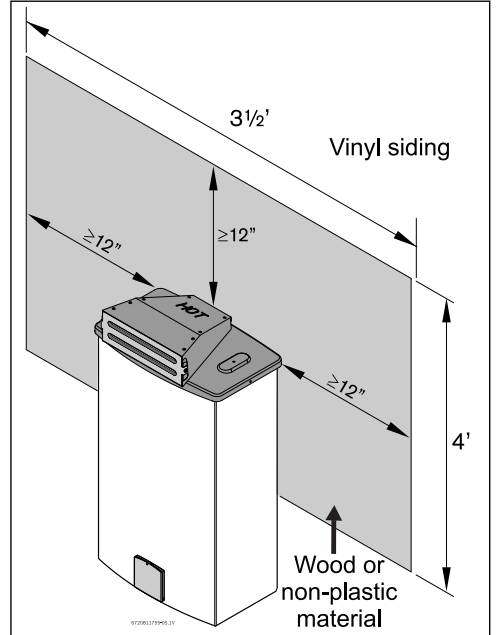


Fig. 10 Installation on vinyl siding

## 6 Recess box - Outdoor installation

### 6.1 Warnings



**DANGER:**

- ▶ The top of the outdoor kit will get very hot during operation. Keep away from children. Install heater in a location where the top of the kit cannot be reached by small children.



**DANGER:**

- ▶ Flue gas will be released through the outdoor kit. Flue gas is very hot and contains carbon monoxide. The outdoor kit cannot be installed on a water heater mounted indoors. To prevent risk of fire and carbon monoxide poisoning, maintain all clearances indicated in these instructions.

**DANGER:**

- ▶ Do not place or store any combustible material within 5 feet of the appliance. Maintain specified clearance to combustibles on the wall where the appliance is installed and any adjacent walls or overhang. Observe all clearances required in this manual.

**DANGER:**

- ▶ Surface temperature of the kit is less than 140 °F, except highest top surface which may reach 300 °F.

**DANGER:**

- ▶ The water in this appliance is cold and always remains cold except for the times when the burner is on. In the event of power outage in conjunction with freezing temperatures, it is recommended that the heater be drained.

**DANGER:**

- ▶ Damage to the appliance from freezing is not covered under the manufacturer's warranty.

## 7 Installations

### 7.1 Installation only with Recess box

This outdoor kit is intended to be installed together with recess box.

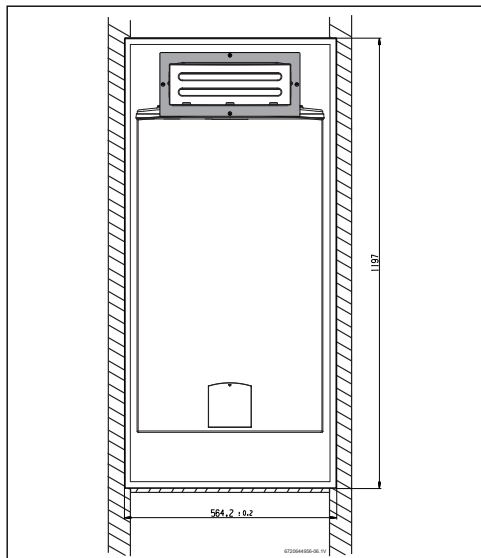


Fig. 11 Mounting the heater inside recess box

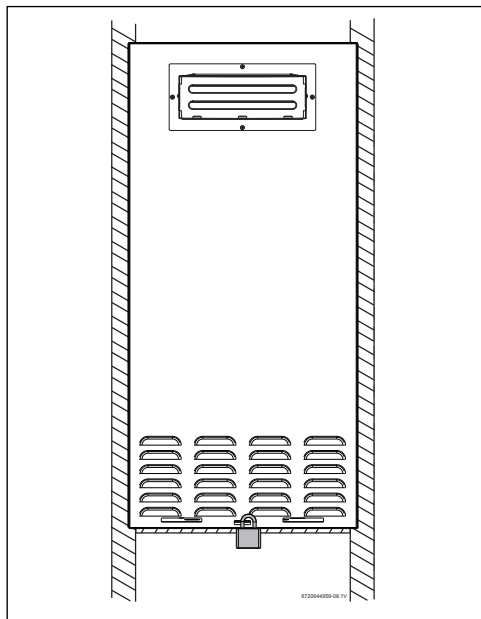


Fig. 12 Close the recess box cover with Padlock

## 7.2 Installing outdoor vent cap on the appliance



**WARNING:**

- ▶ The control panel shield must always remain closed, except when making adjustments, to prevent damage to heater from weather.

- ▶ 1. Attach the supports (A) to the appliance by fastening with the four provided screws, as shown in Fig. 13.

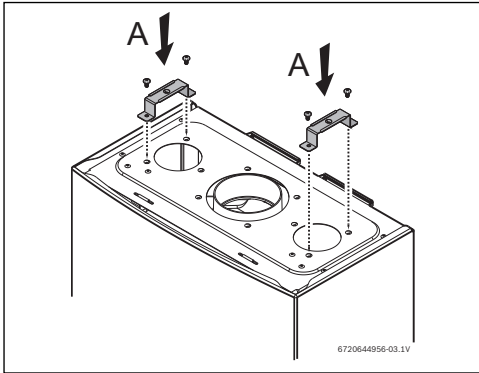


Fig. 13

Before mounting the outdoor kit in the appliance:

- ▶ Position the outdoor vent cap on the top of the appliance, as shown in Fig. 14.

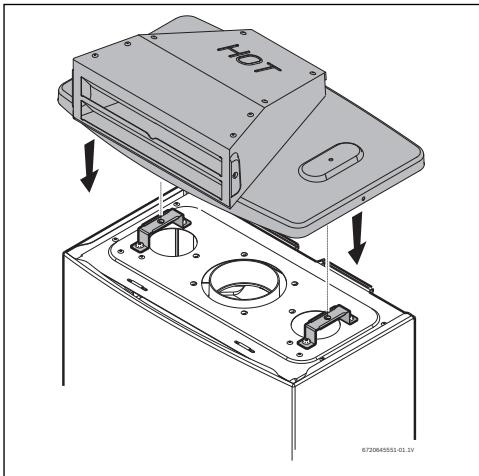


Fig. 14

- ▶ Attach the outdoor vent cap to the appliance by fastening the two provided screws and washers, see Fig. 15.

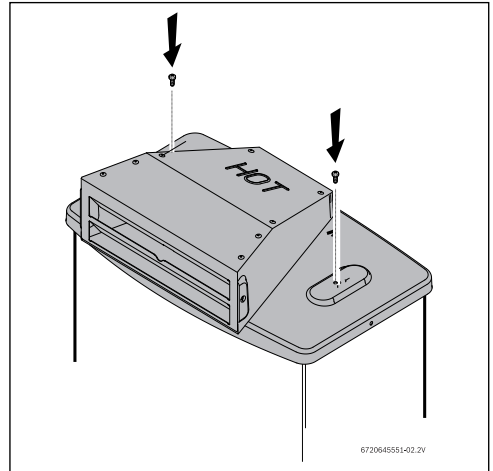


Fig. 15



**NOTE:** Once this kit is installed, the outdoor vent cap will need to be removed before removing the front cover.

### Installation of frame in the heater

To install the protection grill in the heater:

- ▶ Tilt the frame on one direction, as showed in Fig. 16.
- ▶ Push the frame to fit the Outdoor vent cap.

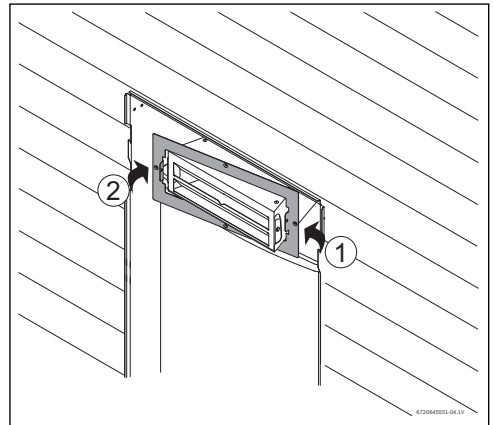


Fig. 16



- ▶ Place the protection grill in the Outdoor vent cap.

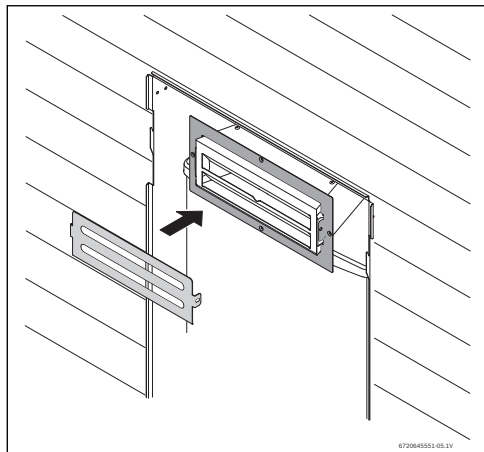


Fig. 17

- ▶ Fix the frame and protection grill with two screws.

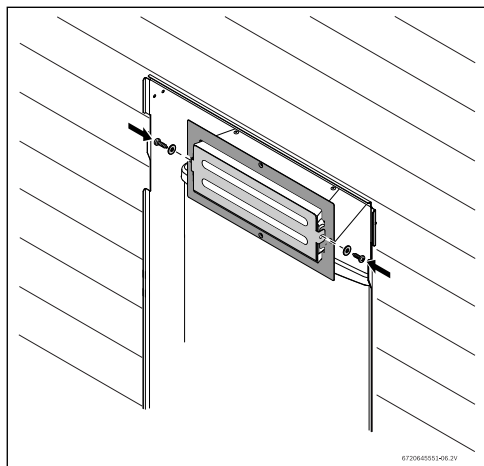


Fig. 18

- ▶ Position the recess box cover as showed in Fig. 19.

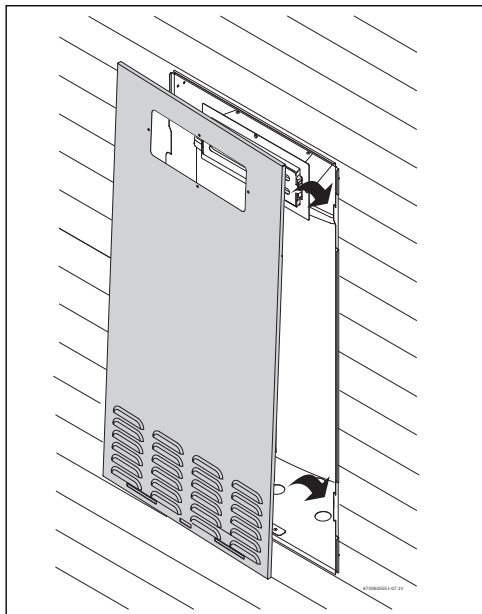


Fig. 19

- ▶ Fix the frame to the recess box cover with 4 screws, 4 metal washers and 4 silicone washers.

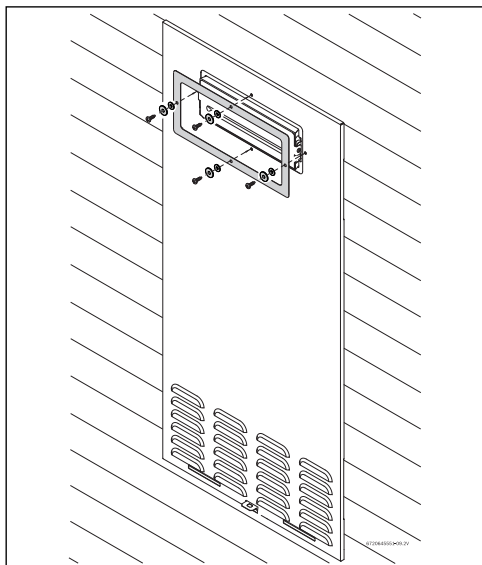


Fig. 20

- ▶ Close the recess box cover with padlock (optional).

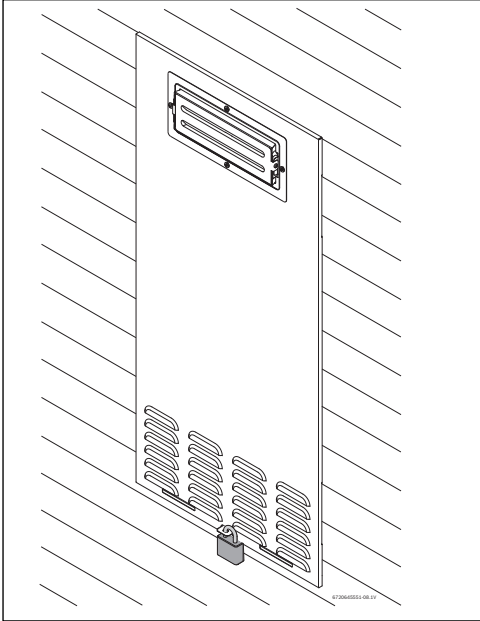


Fig. 21

## 8 Electrical connections

### 8.1 Electrical power supply



**WARNING:**

- ▶ For safety reasons, disconnect the power supply cord to the heater before any service or testing is performed.



**WARNING:**

- ▶ This heater must be electrically grounded in accordance with the most recent edition of the National Electrical Code, NFPA 70. In Canada, all electrical wiring to the heater should be in accordance with local codes and the Canadian Electrical Code, CSA C22.1 Part 1. Do not rely on the gas or water piping to ground the metal parts of the heater

The water heater requires an electrical power supply from a 120VAC / 60Hz circuit (with a dedicated outlet) and must be properly grounded.

The heater is wired as shown in the wiring diagram of the water heater installation manual.

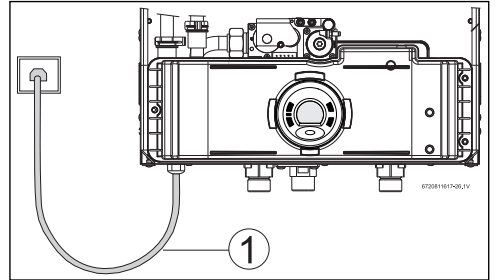


Fig. 22 Connecting power supply cord

- [1] Power cord length: 3ft.

**Note: Outlet appliance is plugged in to should be clear from possible water damage.**



**WARNING:**

- ▶ Confirm that the water heater is appropriately grounded and that the installation meets all applicable electrical codes for outdoor installations.
- ▶ Refer to water installation manual to complete installation of gas and water piping connections.
- ▶ Start and operate the water heater according to the water heater installation manual. NOTE: Open the control panel shield to access the controls of the heater.

## 9 Measuring carbon dioxide (CO<sub>2</sub>)

Note: After installation of the outdoor vent cap, measuring CO<sub>2</sub> for proper levels is recommended before operating the appliance. See water heater installation manual for details.



### WARNING:

Outdoor vent cap will get very hot during operation.

- ▶ Ensure the vent cap is cool before performing the procedure below.

- ▶ To measure CO<sub>2</sub> on this appliance, a test port is available under the louvered grill on the front of the outdoor vent cap.
- ▶ To access test port, remove two screws on either side of the louvered grill.
- ▶ Pull louvered grill free from vent cap.
- ▶ Insert combustion gas analyzer probe approximately 4 inches straight into test port. Do not slope probe up or down.
- ▶ Confirm CO<sub>2</sub> is within proper range specified in the water heater installation manual. Refer to water heater installation manual if any adjustment is necessary.
- ▶ When measuring is complete, replace louvered grill with screws.

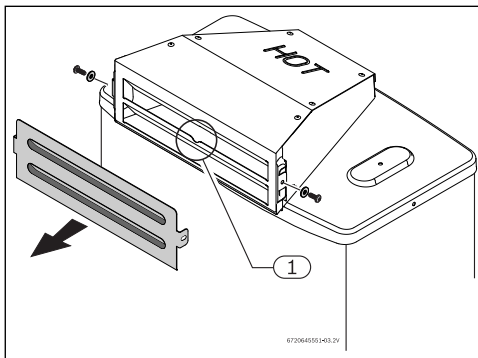


Fig. 23

[1] Test port.



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WATER HEATERS

Ambler, PA

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**International:**

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**BRADFORD WHITE-CANADA<sup>™</sup> INC.**  
A SUBSIDIARY OF BRADFORD WHITE CORPORATION

Mississauga, ON

**Sales/866-690-0961**

**905-238-0100**

**Fax/905-238-0105**

**Technical Support/800-334-3393**

**Email**

**parts@bradfordwhite.com**

**techserv@bradfordwhite.com**

**www.bradfordwhite.com**