

# PC Board

## INSTALLATION INSTRUCTIONS

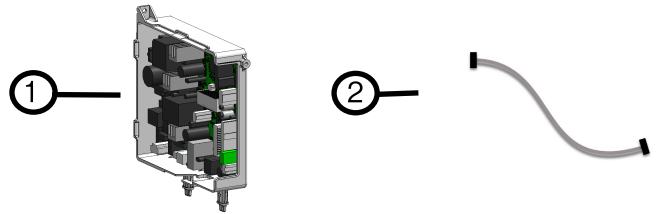
**For Use With Rinnai Tankless Water Heater Models:** RE199i/e, REP199i/e, RE180i/e, RE160i/e, REP160i/e, RE140i/e

**PC Board Part Numbers:** 105000959 (RE199i/e, REP199i/e, and RE180i/e)  
105000960 (RE160i/e and REP160i/e)  
105000961 (RE140i/e)

### Items Inside Product Box

Before installation, please make sure all parts are located inside the product box.

Item #	Item	Qty
①	PC Board	1
②	Data Transfer Cable	1
③	PCB Instructions (these instructions)	1
④	PCB Cover (not pictured)	1



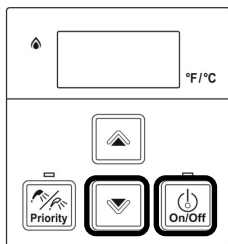
**TOOLS/MATERIALS REQUIRED**  Phillips head screwdriver

### INSTRUCTIONS

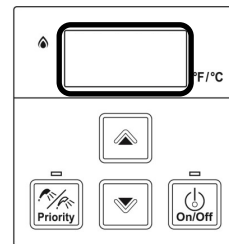
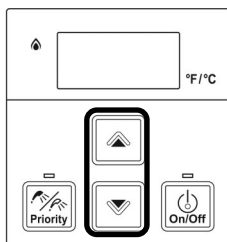
#### Data Collection

Before you begin the data transfer process, follow the procedure below to check each performance data, and the procedure on page 3 to check each parameter setting. Record each value in the parameter settings table on pages 3 and 4. This information will be used to confirm accurate data transfer or to set up manually if the data transfer is unsuccessful.

1. Press and hold the ▼ (Down) button.
2. While holding the ▼ (Down) button for 2 seconds, press and hold the “On/Off” button (hold both buttons simultaneously).
4. To exit performance data, repeat step 2 above.
5. When complete, the set temperature appears in the display.



3. Use the ▲ (Up) and ▼ (Down) buttons to scroll to the desired information described in the Performance Data Table.



#### Performance Data Table

Record Combustion Data Below

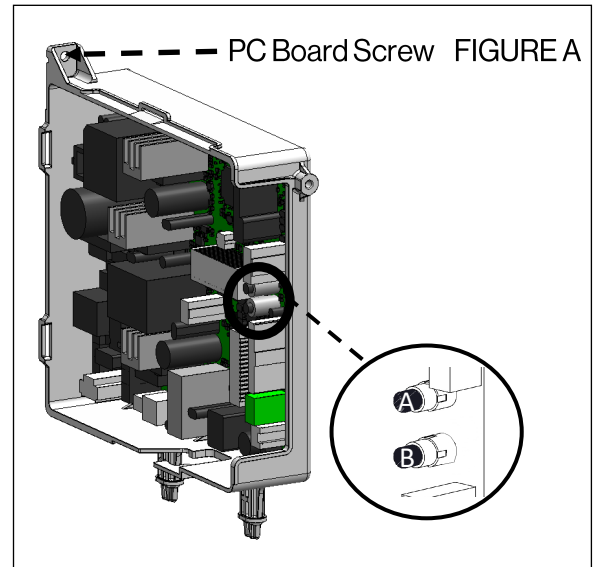
The following can be used to confirm data transfer was successful. If data transfer is not successful, contact Rinnai Customer Care at 1-800-621-9419

#	DATA	COLLECTED
03	Combustion Hours (X100)	
04	Combustion Cycles	

U356-0801(00)

## Data Transfer

1. Disconnect the electrical power.
2. Remove screw at top of PC Board to remove original PC Board from the water heater. (FIGURE A)
3. Disconnect all wire harnesses from the original PC Board. (FIGURE B)
4. Set original PC Board aside for future use.
5. Connect all wire harnesses to the new PC Board. (FIGURE C)
6. Connect Data Transfer Cable (provided) to the green connector at the bottom of both the new PC Board and the original PC Board as illustrated. (FIGURE C)
7. Connect the electrical power.
8. Press the (B) button on the new PC Board for 1 second. (FIGURE A)



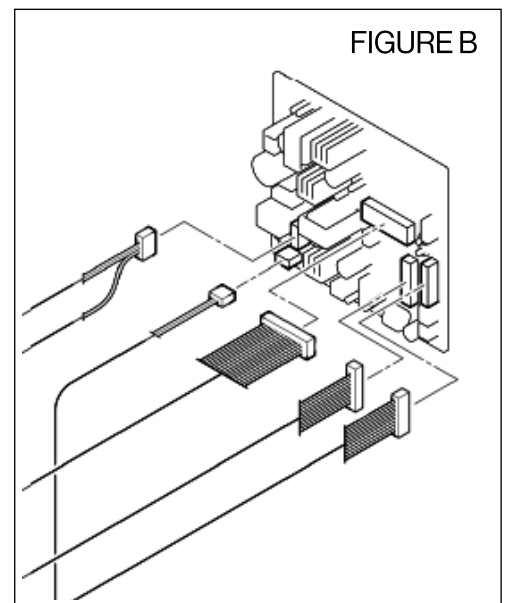
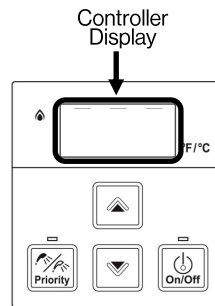
### **CAUTION**

Do not touch any other areas on the PC board besides the (A) and (B) buttons as directed while power is supplied to the appliance. Parts of the PC board are supplied with 120 volts.

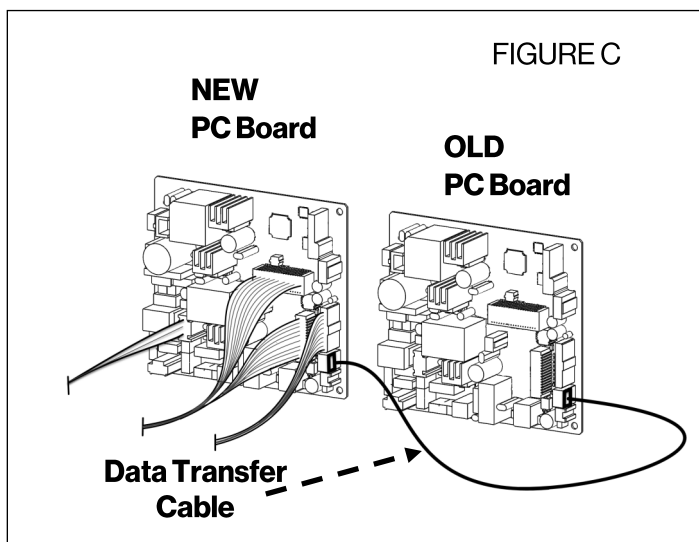
9. Press the "B" button three times until "4t" appears on the controller, and press the (A) button on the new PC Board for five seconds.
10. The controller will display "---" while data is transferring. The controller will display "PAS" when the transfer is successful.

**NOTE:** If controller displays "bRd" or nothing within 10 seconds, disconnect power and data transfer cable and repeat steps 8 to 12.

**If data transfer is repeatedly unsuccessful proceed to the "Set Parameters Manually" section of these instructions after completing step 16.**

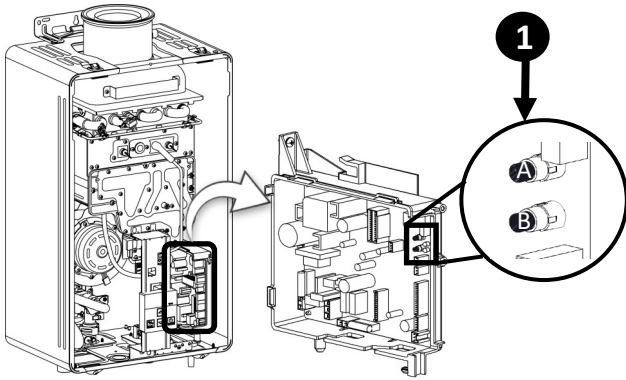


11. Disconnect electrical power.
12. Disconnect the data transfer cable from the new PC Board
13. Reconnect electrical power to the water heater.
14. Reinstall front panel.

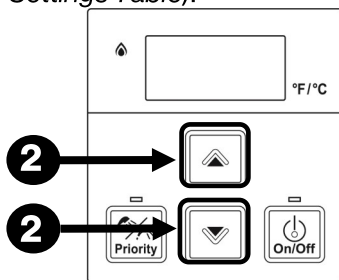


## Set Parameters Manually (If data transfer procedure is unsuccessful)

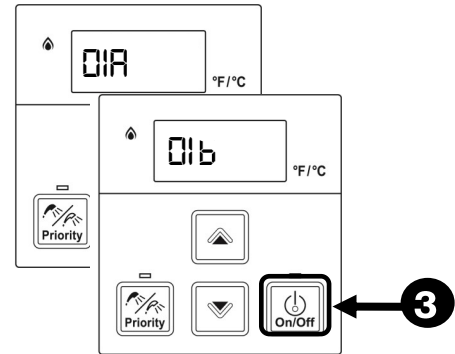
1. Press the “A” button for 1 second.



2. Use the ▲ (Up) and ▼ (Down) button on the controller to select a setting number (See *Parameter Settings Table*).



3. Once the desired setting number is selected, use the “On/Off” button on the controller to change the selection for the setting number.  
Example: Display will change from 01A to 01b for Maximum Temperature setting (as shown below).



4. To exit the parameters, press the “A” button on the PC board for 1 second.

## Parameter Settings Table (For Models **without** Internal Recirculation Pump)

Default is **A** for all settings below except 04, 10, 12, 13, and 14 which are factory set.

SETTING #	SETTING DESCRIPTION	SELECTION			
		A	b	c	d
01	Maximum Set Temperature	120°F	140°F		
02	High Altitude (Installation Location)	0-2,000 ft (0-610m)	2,001-5,400 ft (610-1,646m)	5,401-7,700 ft (1,646-2,347m)	7,701-10,200 ft (2,347-3,109m)
03	Service Soon	Disabled	0.5 Year	1 Year	2 Years
04	Recirculation Settings	No Recirculation	Recirculation (Dedicated)		
05	Recirculation Mode	Economy	Comfort		
06	Control Switch	BMS	Air Handler (AH)		
07	Units in Standby	2	1		
10	Gas Type	LPG	NG		
12	Water Heater Model (Factory set values and not adjustable)	Without Pump	With Pump		
13		199/160	180/140		
14		Indoor	Outdoor		
15	Low Activation Mode	On	Off		
18	Setting Temperature Table	Default	Alternate		
19	Adjust DHW Temperature Setting	0°F (0°C)	1.8°F (1°C)	3.6°F (2°C)	5.4°F (3°C)
99	Vent Length	Long	Short		

RE140 does not have recirculation mode.

## Parameter Settings Table (For Models with Internal Recirculation Pump)

Default is **A** for all settings below except **10**, **12**, **13**, and **14** which are factory set.

SETTING #	SETTING DESCRIPTION	SELECTION			
		<b>A</b>	<b>b</b>	<b>C</b>	<b>d</b>
01	Maximum Set Temperature	120°F	140°F		
02	High Altitude (Installation Location)	0-2,000 ft (0-610m)	2,001-5,400 ft (610-1,646m)	5,401-7,700 ft (1,646-2,347m)	7,701-10,200 ft (2,347-3,109m)
03	Service Soon	Disabled	0.5 Year	1 Year	2 Years
04	Recirculation Settings	No Recirculation	Dedicated Mode	Crossover Mode	
05	Recirculation Mode	Economy	Comfort		
06	Control Switch	BMS	Air Handler (AH)		
07	Units in Standby	2	1		
10	Gas Type (Factory Set)	LPG	NG		
12	Water Heater Model (Factory set values and not adjustable)	Without Pump	With Pump		
13		199/160			
14		Indoor	Outdoor		
15 <sup>1</sup>	Low Activation Mode	On	Off		
16	Pump Speed	Max	High	Medium	Low
17*	First Day Pump Recirculation	Pump Off	Pump On		
18	Setting Temperature Table	Default	Alternate		
19	Adjust DHW Temperature Setting	0°F (0°C)	1.8°F (1°C)	3.6°F (2°C)	5.4°F (3°C)
99	Vent Length	Long	Short		

<sup>1</sup>Low Activation Mode must be in the ON position (15A) if crossover recirculation is selected (Parameter 04C).

\*Smart-Circ™ recirculation will learn hot water usage patterns and operate pump based on the learned patterns. On the first day, when the tankless water heater has no learned patterns, 17A (default) will not activate the pump for the first 24 hours. 17b will activate the pump based on the comfort / economy time interval selected for the first 24 hours.

**WARNING** Failure to correctly follow these instructions may result in electrocution causing serious injury or death.

## If You Need Service

Contact Rinnai Customer Care at 1-800-621-9419.