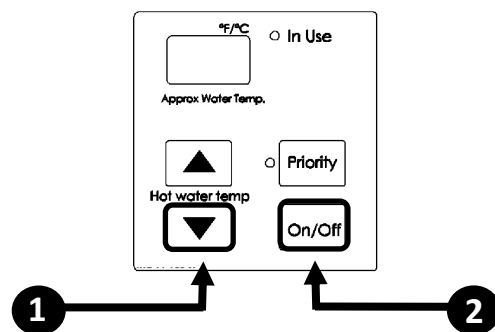


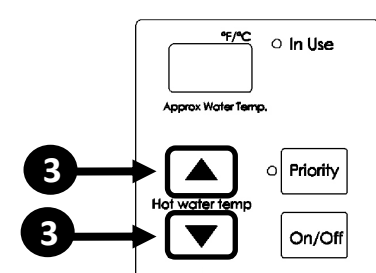
PERFORMANCE DATA

To Obtain Performance Data:

- Press and hold the ▼ (Down) button.
- While holding the ▼ (Down) button for 2 seconds, press and hold the "On/Off" button (hold both buttons simultaneously).



- Use the ▲ (Up) and ▼ (Down) buttons to scroll to the desired performance information described below.



Performance Data Table

#	DATA	UNIT
01	Water Flow Rate	x0.1 gal/min
02	Outgoing Temperature	°F
03	Combustion Hours	x100 Hours
04	Combustion Cycles	See following information
05	Fan Frequency	Hz
06	Additional Controllers Connected	See following information
07	Water Flow Control Position	0=Mid, 1=Open, 2=Closed
08	Inlet Temperature	°F
09	Fan Current	x10 mA
10	Total Bath Fill Amount	gallons
11	HEX Outlet Temperature	°F
12	By-Pass Flow Control Position	Degrees of opening
15	Freeze Protection Temperature (Indoor Unit Only)	°F
17	Freeze Protection Temperature (Outdoor Unit Only)	°F
19	Pump Hours	x100 Hours
20	Pump Cycles	See following information
21	Exhaust Temperature	°F

DISPLAY	CYCLE COUNT
000 to 999	x100 (0 to 99,900)
10- to 99-	x10,000 (100,000 to 990,000)
1-- to 9--	x1,000,000 (1,000,000 to 9,000,000)

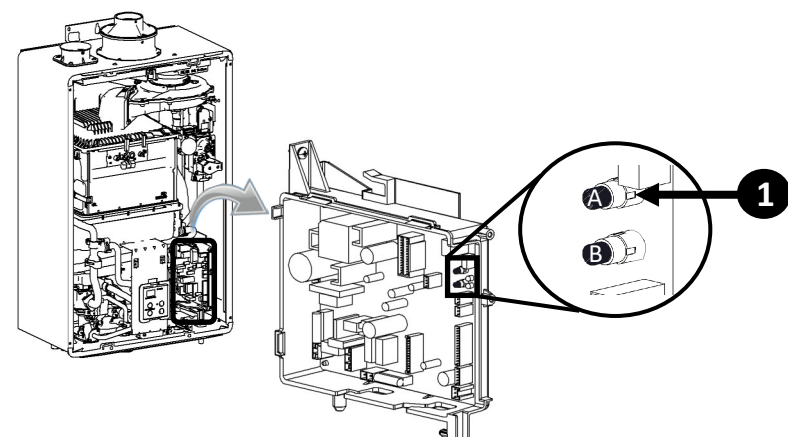
CONTROLLER MODEL	CONNECTED	NOT CONNECTED
MC	--1	--0
BC	--1-	--0-
BSC & BSC2	1-- , 2-- (QTY2)	0--

Default display is 100.
- depends on connection status of another controller.

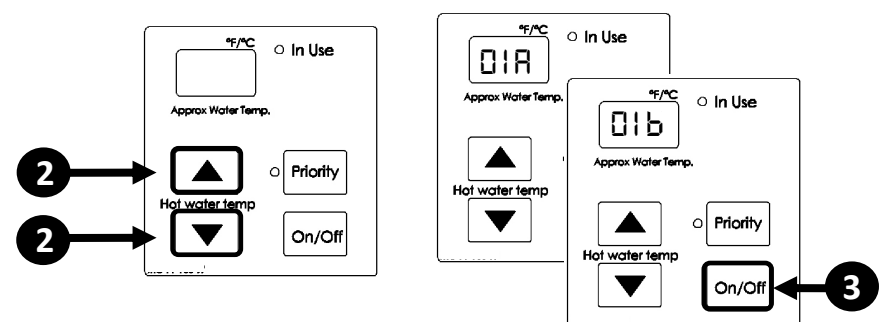
PARAMETER SETTINGS

To Adjust the Parameters:

- Press the "A" button for 1 second.



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



- 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).
- To exit the parameters, press the "A" button on the PC board for 1 second.

Parameter Settings Table

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

SETTING #	SETTING DESCRIPTION	SELECTION			
		A	b	C	d
01	Maximum Set Temperature	Residential: 120°F	Residential: 140°F		
02	High Altitude (Installation Location)	0 - 2,000 ft (0 - 610 m)	2,001 - 5,400 ft (610 - 1,646 m)	5,401 - 7,700 ft (1,646 - 2,347 m)	7,701 - 10,200 ft (2,347 - 3,109 m)
03	Service Soon ¹	Disabled	0.5 Year	1 Year	2 Years
04	Recirculation Settings	No Recirculation	Recirculation (Dedicated)	Recirculation (Crossover)	
05	Recirculation Mode ²	Economy	Comfort	Commercial ³	
07	Units in Standby (EZConnect™)	2	1		
10	Gas Type (Factory Set)	NG	LPG		
11	Maximum Flow Rate ⁴	Standard	High		
12	Water Heater Model (Factory set values and not adjustable)	Without Pump	With Pump (RUR)	With Pump (RSC)	
13		199 (3237)		160 (2530)	
14		Internal (Indoor)	External (Outdoor)		
15	Low Activation Mode	On	Off		
16	Pump Speed	Max	Low		
17*	First Day Pump Operation	Pump Off	Pump On		

¹ Refer to the Installation and Operation Manual for more information on this setting.

² Setting 05 is available only if setting 04b, 04c, or 04d is selected.

- Economy mode** cycles the pump less often, using less energy to maintain the circulation loop temperature.
- Comfort mode** cycles the pump more frequently, ensuring the loop temperature remains higher (but also uses more energy).

³ BMS = Building Management System

⁴ Selecting "High" will increase the water flow rate to the maximum capacity.

⁵ Commercial mode should not be used for residential applications. Application of commercial mode may result in excessive machine wear and energy consumption.

⁶ Low Activation Mode must be in the ON position (15R) if crossover recirculation is selected.

*For the first 24-hours of operation, Smart-Circ 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, the unit can be set to no pump operation (Pump Off/No Recirc) for the first 24 hours or to the pump operating (Pump On/Recirc) every 15 to 30 minutes for the first 24 hours.

ELECTRICAL DIAGNOSTICS

NOTE: Wiring diagram is available in manual and on the inside front cover.

Important Safety Notes

There are a number of (live) tests required when performing electrical diagnostics on this product. Proceed with caution at all times to avoid contact with energized components inside the water heater. Only trained and qualified service technicians should attempt to repair this product. Before checking for resistance readings, disconnect the power source to the unit and isolate the item from the circuit (unplug it).

Freeze Protection

This unit has freeze protection heaters mounted at different points to protect the water heater from freezing. All of them should display a positive resistance reading.

Flame Rod

Place one lead of your meter to the flame rod and the other to ground. With the unit running you should read between 5 - 150 VAC. Set your meter to the micro (μ) amp scale and arrange meter leads in line with the flame rod. You should read 1 μ amp or greater for proper flame circuit. In the event of low flame circuit, remove the flame rod and check for carbon or damage. The flame rod gasket must be replaced after it is removed.

Amp Fuses

This unit has two glass fuses located on the PC Board, one inline (10) amp and one (4) amp glass fuse. Remove the fuses and check continuity through it. If you have continuity through each fuse then it is functioning. Otherwise the fuse is blown and must be replaced.

Thermistors

Check all thermistors by inserting meter leads into each end of the thermistor plug. Set your meter to the 20 K scale and read resistance. Applying heat to the thermistor bulb should decrease the resistance. Applying ice to the thermistor bulb should increase the resistance.

Below are examples of typical temperatures and resistance readings.

Temperature	Resistance Readings
59°F	11.4 - 14KΩ
86°F	6.4 - 7.8KΩ
113°F	3.6 - 4.5KΩ
140°F	2.2 - 2.7KΩ
221°F	0.6 - 0.8KΩ

Electrical Circuit Table

COMPONENT	WIRE COLOR	VOLTAGE	RESISTANCE	PCB		
				CONNECTOR	CONNECTOR	PIN
Spark Electrode	Red-Black	11~13VDC*	34 K ~ 40 K ohms	D2	D	12-21
Combustion Fan	Red-Black	7~48VDC*	N/A	D3	D	4-6
	White-Black	10~12VDC*	N/A	D3	D	10-6
	Yellow-Black	11~13VDC*	N/A	D3	D	8-6
Water Flow Control Device	Red-Pink	N/A	44~52 ohms	D4	D	18-20
	White-Blue	N/A	44~52 ohms	D4	D	16-14
	Grey-Orange	12~14VDC	N/A	D4	D	30-12
Venturi Control Device	Blue-White	N/A	35~41 ohms	D5	D	5-7
	Yellow-Red	N/A	35~41 ohms	D5	D	11-9
	Black-Red	12~14 VDC	N/A	D5	D	30-12
	Black-Brown	less than 1VDC*	N/A	D5	D	30-25
By-Pass Flow Control Device	Red-Pink	N/A	44~52 ohms	D6	D	15-13
	White-Blue	N/A	44~52 ohms	D6	D	17-19
Gas Solenoid Valve	Yellow-Black	11~13VDC*	18~22 ohms	D7	D	29-27
Outgoing Thermistor	White-White			H1	H	3-2
Inlet Thermistor	Blue-Blue			H1	H	8-11
	White-White			H2	H	4-2
Exhaust Thermistor	White-White	N/A	See Example	H3	H	2-5
Heat Exchanger Thermistor	White-White			H4	H	2-6
Freeze Protection Thermistor	Yellow-Black			H5	H	2-7
Overheat Switch	Black-Black	11~13 VDC	less than 1 ohm	H6	H	28-14
Water Flow Sensor	Black-Red	11~13 VDC	N/A	H7	H	30-12
	Yellow-Black	4~7 VDC*	N/A	H7	H	12-30
Integrated Pump (Integrated pump only)	White-Black	AC108~132 VAC	N/A	B1	B	1-2
	White-Red	11~14VDC*	N/A	G4	G	1-6
Additional Controller(s)	White-White	10~13 VDC	N/A	K	-	-

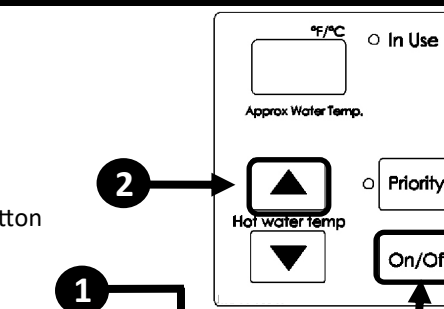
(* Value to be measured while unit is in operation)

DIAGNOSTIC CODES

Visit www.rinnai-lms.com for additional troubleshooting resources

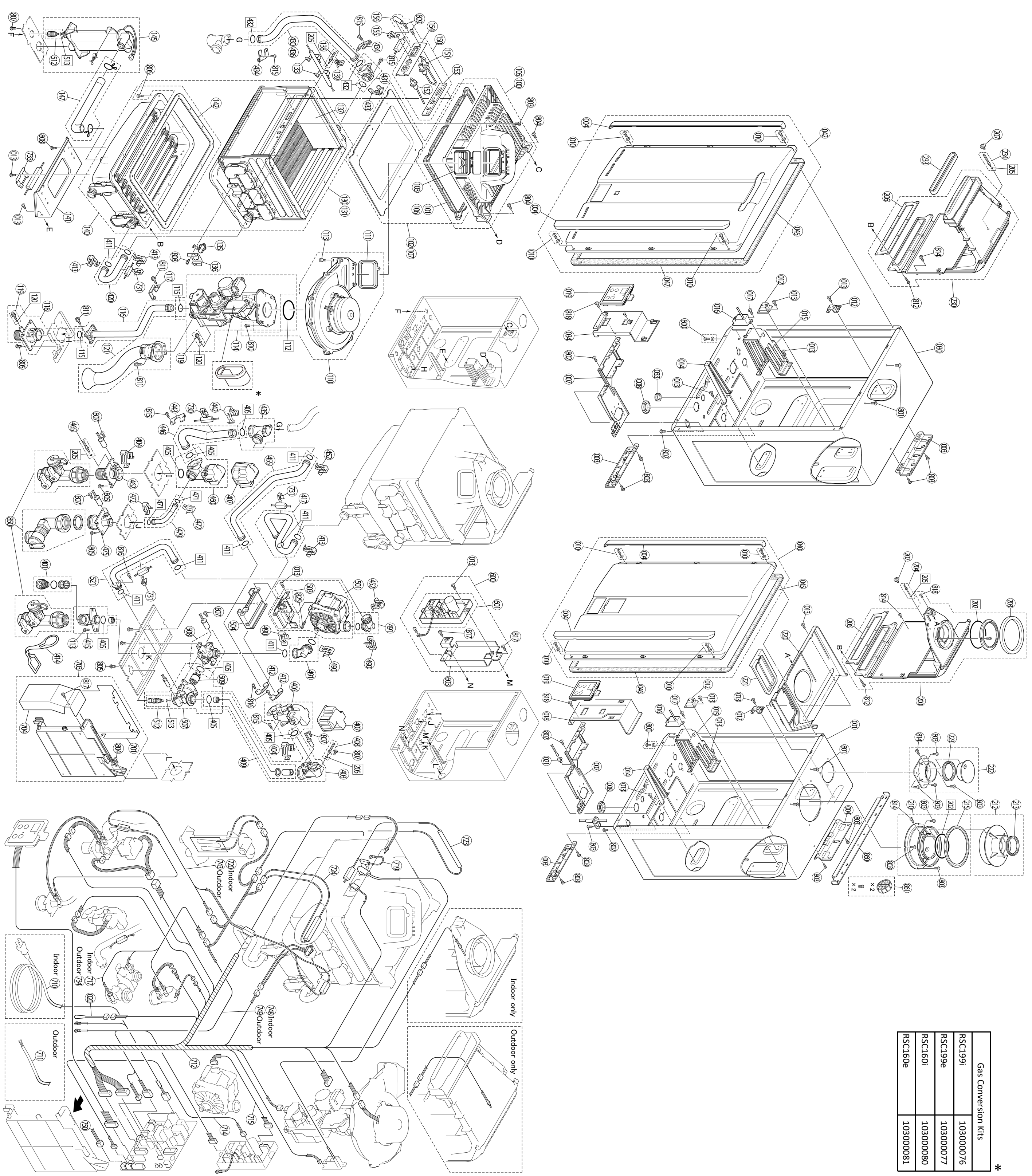
To Display Diagnostic Codes:

- Turn off the water heater by pressing the "On/Off" button.
- Press and hold the "On/Off" for 2 seconds and then the ▲ (Up) button simultaneously.
- The last 9 maintenance codes display and flash one after the other.
- To exit diagnostic codes and return the water heater to normal operation, press and hold the "On/Off" button for 2 seconds and then the ▲ (Up) button simultaneously.
- Turn on the water heater by pressing the "On/Off" button.



03	Power Interruption During Bath Fill (Water will not flow when power returns) • Turn off all hot water taps. Press ON/OFF twice.	51	Inlet Thermistor • Check sensor wiring for damage. • Measure resistance or voltage of sensor. (See Electrical Diagnostics) • Clean sensor of scale build-up. • Replace sensor.
05	By-Pass Flow Control • Measure resistance or voltage values of the by-pass flow control (See Electrical Diagnostics). • Replace By-Pass flow control device.	52	Gas Valve • Check flame rod and wire for damage. • Check gas solenoid valve for open or short circuit. (See Electrical Diagnostics) • Replace gas valve assembly. • Please call Rinnai technical department.
10	Air Supply or Exhaust Blockage/Condensate Trap is Full • Ensure condensate line is not blocked. • Ensure internal air filter is clean with no obstructions. (Indoor Only) • Ensure High Altitude setting. (See Parameter Settings) • Ensure Combustion air and Exhaust vents are not blocked and approved venting materials are being used. (Indoor Only) • Ensure vent length is within limits. (Indoor Only) • Check fan for debris and ensure wheel turns freely. • Verify check valve is not stuck between fan casing and burner body.	54	High Exhaust Gas Temperature • Ensure condensate line is not blocked • Ensure Heat Exchanger fins are clean and not blocked. • Confirm inlet water temperature is not too high. • Clear diagnostic code by resetting the main power supply to the water heater.
11	No Ignition (Heater Not Turning On) • Check that the gas is turned on at the water heater, meter, or cylinder. • If the system is propane, make sure that gas is in the tank. • Ensure gas type and inlet gas pressure are correct. • Bleed all air from gas lines. • Check the ground wire for the PC Board. • Ensure flame rod wire is connected. • Ensure igniter is operational. (See Electrical Diagnostics) • Check gas solenoid valves for open or short circuits. (See Electrical Diagnostics) • Verify gas orifice is correct. • Ensure condensate line is not blocked	61	Combustion Fan • Check the motor wire harness for loose or damaged connections. • Measure resistance or voltage of motor wire harness. (See Electrical Diagnostics) • Ensure the combustion fan spins freely.
12	No Flame • Check that the gas is turned on at the water heater, gas meter, or cylinder. • If the system is propane, make sure that gas is in the tank. • Ensure gas type and inlet gas pressure is correct. • Bleed all air from gas lines.	63	Recirculation Low Flow • Ensure the inlet water filter is clean and free of debris. • Ensure parameter settings are correctly set for recirculation mode. • Ensure pump supply voltage. • Ensure air is removed from the recirculation line.
14	Heat Exchanger Overheat • Measure resistance or voltage of Overheat Switch. (See Electrical Diagnostics) • Check heat exchanger surface for hot spots which indicate blockage due to scale build-up. • Refer to instructions in manual for flushing heat exchanger. Hard water must be treated to prevent scale build-up or damage to the heat exchanger. • Ensure it is not forced Hi setting.	65	Water Flow Control • Measure resistance or voltage values of the water flow control (See Electrical Diagnostics) • The water flow control valve has failed to close during the bath fill function. Immediately turn off the water and discontinue the bath fill function. Contact a licensed professional to service the appliance.
15	Venturi Control • Ensure the Venturi motor is operating correctly. (See Electrical Diagnostics) • Replace gas valve assembly. • Clear diagnostic code by resetting the main power supply to the water heater.	70	PC Board • Replace PC Board
16	High Outgoing Temperature (safety shutdown because water heater is too hot) • Confirm fan motor is functioning correctly. • Replace the gas valve assembly.	71	Solenoid Valve Circuit • Ensure dip switch on PC board is in the OFF position. • Ensure gas control wire is not loose or damaged. • Ensure heater circuit is not grounded. • Replace PC Board.
17	Venturi Blockage • Ensure Venturi isn't blocked. • Please call Rinnai technical department.	72	Flame Rod • Check flame rod and wire for damage. • Verify HEX is not leaking.
19	Electrical Grounding • Check all components for electrical short.	55	(SS) Service Soon (Flush Heat Exchanger) • 55 is a time-based service indicator set during installation. Refer to the Installation and Operation Manual for additional details on setting and changing the 55 indicator. • 55 indicates that it is time for service. The heat exchanger should be flushed to prevent damage. Refer to the Installation and Operation Manual for more information. Hard water must be treated to prevent scale build-up or damage to the heat exchanger. • To reset the 55 code, push the On/Off button on the temperature controller 5 times in 5 seconds.
21	Data Transfer Error • If the PCB has been replaced, ensure the data transfer process has been completed.	NO CODE - Nothing happens when water flow is activated • Verify you have at least the minimum flow rate required to fire unit. • Measure the resistance or voltage of the water flow control sensor. (See Electrical Diagnostics) • Clean inlet water supply filter. • On new installations ensure hot and cold water lines are not reversed.	
25	Condensate Pump (Accessory) • Confirm wire connections and harness are good. • Ensure condensate reservoir is empty and condensate pump is operating.	5E Cascade Diagnostic Display (Commercial units only) • With cascade connections, display will flash between "5E" and the selected set temperature when an error code is displayed on any secondary unit.	
32	Outgoing Thermistor • Check sensor wiring for damage. • Measure resistance or voltage of sensor. (See Electrical Diagnostics) • Clean sensor of scale build-up. • Replace sensor.	FF Maintenance Indicator • Placeholder in Diagnostic code history indicating that a service provider performed maintenance or service. • Enter this code after performing service by pressing ▲ (Up), ▼ (Down) and "On/Off" simultaneously. • FF is visible on the monitor.	
33	Heat Exchanger Thermistor • Check sensor wiring for damage. • Measure resistance or voltage of sensor. (See Electrical Diagnostics) • Clean sensor of scale build-up. • Replace sensor.		
38	Exhaust Thermistor • Check sensor wiring for damage. • Measure resistance or voltage of sensor. (See Electrical Diagnostics) • Replace sensor.	<p>If recirculation water temperature is not adequate, confirm pump speed is set to Max (Parameter 16a). Recirculation flow rate must be greater than 0.4 GPM (1.5 L/min).</p>	

Gas Conversion Kits	
RSC191	103000076
RSC199e	103000077
RSC160i	103000080
RSC160e	103000081



ITEM	DESCRIPTION	PART NUMBER	RSC191	RSC199e	RSC160i	RSC160e	ITEM	DESCRIPTION	PART NUMBER	RSC191	RSC199e	RSC160i	RSC160e	ITEM	DESCRIPTION	PART NUMBER	RSC191	RSC199e	RSC160i	RSC160e
003	Lower Wall Mount Bracket	109000281	1	2	138	Thermistor	105000262	1	1	1	1	1	431	Heat Exchanger Pipe Connection	107000274	1	1	1	1	1
004	Upper Wall Mount Bracket	109000594	1	1	139	Clip	105000090	1	1	1	1	1	432	O-Ring	107000325	3	3	3	3	3
007	Connection Reinforcement Plate	109000595	1	1	140	Secondary Heat Exchanger	107000266	1	1	1	1	1	433	Pipe Bracket	109000637	1	1	1	1	1
008	Rubber Bushing	109000634	1	1	141	Secondary Heat Exchanger Bracket	109000615	1	1	1	1	1	434	Retention Clip	109000496	2	2	2	2	2
010	Residential Screw and Washer	106000645	4	4	142	Secondary Heat Exchanger Gasket	109000616	1	1	1	1	1	435	Hot Water Connection Fitting	107000275	1	1	1	1	1
011	Commercial Screw and Washer-Black	109000596	8	8	8	Condensate Trap	107000267	1	1	1	1	1	436	Connection Pipe Assembly-Small	107000276	1	1	1	1	1
012	Combustion Chamber Support Plate	109000597	2	2	147	Condensate Drain tube	107000268	1	1	1	1	1	442	Clip	109000638	1	1	1	1	1
013	Truss Screw	109000598	19	19	150	Electrode/Flame Rod Assembly	105000232	1	1	1	1	1	443	Retention Clip	U211-322X01	1	1	1	1	1
014	Pump Circuit Bracket	109000200	1	1	151	Electrode	105000233	1	1	1	1	1	446	Hot Water Supply Connection Pipe	107000201	1	1	1	1	1
015	Igniter Bracket	109000599	1	1	153	Flame Rod	105000234	1	1	1	1	1	452	Clip	109000639	1	1	1	1	1
016	Igniter Assembly	105000230	1	1	154	Electrode Packing	109000617	1	1	1	1	1	455	Bypass Tube (set) - P	107000297	1	1	1	1	1
017	Grounding Screw	107000200	1	1	154	Electrode Plate	109000618	1	1	1	1	1	460	Hot Water Servo Valve Assembly	107000279	1	1	1	1	1
046	Front Panel Packing-Top	109000608	2	2	155	Electrode Heater Bracket	109000619	1	1	1	1	1	462	Hot Water Supply Connection	107000202	1	1	1	1	1
047	Front Panel Packing-Side FF	109000608	2	2	156	Electrode Sleeve	109000620	1	1	1	1	1	465	Thermistor	107000320	1	1	1	1	1
018	Controller Bracket FF	109000660	1	1	156	Electrode Heater Bracket	109000619	1	1	1	1	1	471	O-Ring	107000326	4	4	4	4	4
019	Controller	105000260	1	1	156	Electrode Sleeve	109000620	1	1	1	1	1	472	Clip	109000278	2	2	2	2	2
020	Thermistor Sensor	105000261	1	1	154	Electrode Plate	109000618	1	1	1	1	1	475	Pressure Relief Valve Connection	107000282	1	1	1	1	1
021	Thermistor	109000490	1	1	202	O-Ring	108000082	1	1	1	1	1	479	Relief Pipe Assembly	107002003	1	1	1	1	1
022	Thermistor	109000490	1	1	202	O-Ring	108000082	1	1	1	1	1	491	Pump Connection	107000204	2	2	2	2	2
033	Rubber Bush	109000082	1	1	203	Exhaust Duct Packing	108000081	2	2	2	2	2	492	Clip	109000201	3	3	3	3	3
034	Controller Bracket W/	109000603	1	1	204	Thermistor	105000235	1	1	1	1	1	493	Circulation Pump Assembly	107000203	1	1	1	1	1
040	Front Cover Panel Assembly FF	109000604	1	1	205	O-Ring	107000323	4	4	4	4	4	494	Pump Circuit	109000201	1	1	1	1	1
041	Front Cover Panel Assembly W	109000604	1	1	205	O-Ring	107000323	4	4	4	4	4	503	Ante-vibration Stand	109000203	1	1	1	1	1
044	Screw Cover	109000230	2	2	206	Exhaust Packing	109000622	1	1	1	1	1	504	Pump Firing Stand	109000204	1	1	1	1	1
045	Front Panel Packing-Top	109000120	2	2	207	Thermistor Screw	109000622	1	1	1	1	1	505	Water Supply Connection w/Check Valve	107000205	1	1	1	1	1
046	Front Panel Packing-Side FF	109000608	2	2	210	Fuel Connection Assembly	108000083	1	1	1	1	1	507	Water Supply Connection w/Check Valve	107000305	1	1	1	1	1
047	Front Panel Packing-Side W	109000121	2	2	212	Exhaust Pipe Connection Port - 2"	108000084	1	1	1	1	1	508	Circular Joint Connection w/Check Valve	107000206	1	1	1	1	1
100	Burner Assembly-Large	106000113	1	1	213	Exhaust Gasket - 2 inch	109000623	1	1	1	1	1	509	Check Valve	107000134	3	3	3	3	3
101	Burner Gasket-Large	106000121	1	1	215	Air supply pipe seal ring	108000017	1	1	1	1	1	512	Drain plug	107000533	3	3	3	3	3
101	Burner Gasket-Small	106000113	1	1	220	Air supply box	108000085	1	1	1	1	1	513	O-Ring	109000182	3	3	3	3	3
102	Burner Plate Assembly-Large	107000262	1	1	221	Air supply filter	108000086	1	1	1	1	1	521	Pump Outlet Connection Pipe Assembly	107000207	1	1	1	1	1
103	Combustion Check Valve Assembly	106000114	1	1	221	Air supply filter	108000086	1	1	1	1	1	521	Pump Outlet Connection Pipe Assembly	107000207	1	1	1	1	1
105	Burner Assembly-Small	106000115	1	1	222	Air supply connection	108000087	1	1	1	1	1	521	Pump Outlet Connection Pipe Assembly	107000207	1	1	1	1	1
106	Burner Gasket-Small	106000116	1	1	223	Air supply connection	108000087	1	1	1	1	1	521	Pump Outlet Connection Pipe Assembly	107000207	1	1	1	1	1
107	Burner Plate Assembly-Small	106000116	1	1	223	Air supply connection	108000087	1	1	1	1	1	521	Pump Outlet Connection Pipe Assembly	107000207	1	1	1	1	1
110	Combustion Fan Assembly	108000081	1	1	234	Thermistor	105000263	1	1	1	1	1	521	Pump Outlet Connection Pipe Assembly	107000207	1	1	1	1	1
111	Fan Mounting Packing	109000611	1	1	234	Thermistor	105000263	1	1	1	1	1	521	Pump Outlet Connection Pipe Assembly	107000207	1	1	1	1	1
112	O-Ring	109000612	1	1	401	Water Supply Filter Plug Assembly	107000317	1	1	1	1	1	701	PCB Electrical Cover	109000626	1	1	1	1	1
113	Hexagon Head Screw	109000603	5	5	403	Water Flow Sensor Assembly	107000269	1	1	1	1	1	703	PC Board Assembly	105002002	1	1	1	1	1
114	Gas Valve Assembly With Orifice	106000117	1	1	404	Clip	109000636	3	3	3	3	704	PCB EC Cover	109002006	1	1	1	1	1	
115	O-Ring	109000252	2	2	405	O-Ring	107000324	9	9	9	9	710	Power Cord Assembly FF	105000238	1	1	1	1	1	
116	Gas Connection Pipe	106000118	1	1	406	Bypass Servo Assembly	107000270	1	1	1	1	711	Power Cord Assembly W	105000239	1	1	1	1	1	
117	Gas Tube Bracket	109000635	1	1	407	Cover	107000093	2	2	2	2	712	Sensor Harness	105000240	1	1	1	1	1	
118	Inlet Gas Supply Connection	106000119	1	1	408	Inlet Water Thermistor	107000318	1	1	1	1	714	Pump Sensor Harness	105002003	1	1	1	1	1	
119	Inlet Gas Test Port Screw	106000138	2	2	409	Flow Turbine Assembly	107000319	1	1	1	1	715	Pump Harness-2	105002004	1	1	1	1	1	
120	O-Ring	M10B-13-4	2	2	411	O-Ring	M10B-2-14	8	8	8	8	717	Ceramic Valve Heater FF	109000654	1	1	1	1	1	
121	Noise Filter	106000120	1	1	412	Retention Clip	AH69-310	3	3	3	3	719	Igniter Ground Harness	105000243	1	1	1	1	1	
130	Heat Exchanger Assembly-Large	107000263	1	1	413	Clip	109000244	3	3	3	3	720	Freeze Protection Heater	105002005	1	1	1	1	1	
131	Heat Exchanger Assembly-Small	107000264	1	1	414	Plug Band	109000018	1	1	1	1	723	HEX Freeze Protection Heater Assembly	105000246	1	1	1	1	1	
133	Heater Bracket	109000613	2	2	415	3/4 Water Supply Connection Port B	107000400	1	1	1	1	724	Sec. HEX Freeze Protection Heater Assy	105000247	1	1	1	1	1	
135	Over Heat Sensor (OHS)	105000231	1	1	417	Water Supply Connection Pipe (pair)	107002000	1	1	1	1	730	Heater Clip A	AU124-618X01	1	1	1	1	1	
136	OHS Bracket	109000614	1	1	420	Secondary Connecting Pipe Assembly	107000272	1	1	1	1	731	Heater Clip C	U250-625	3	4	3	4		
137	Heat Exchanger Insulator	107000265	1	1	430	Connection Pipe Assembly-Large	107000273	1	1	1	1									