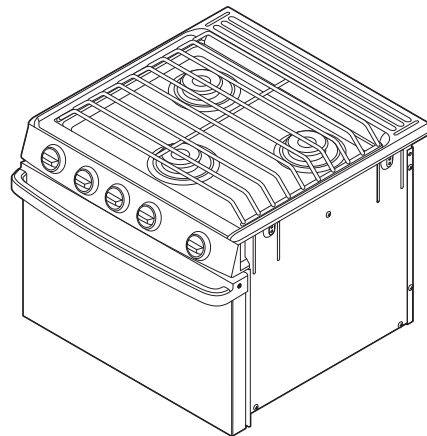
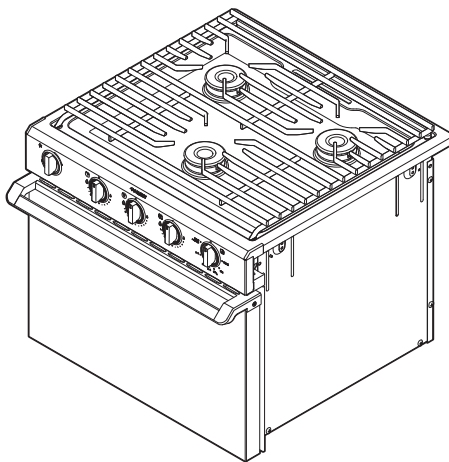




HOT PRODUCTS RANGE



D21, DV20, DV30, R31, RA/RV 34, RA/RV 35, S31

EN

Range

Service Manual. 2

WARNING: If the information in this manual is not followed exactly, a fire or explosion may result, causing property damage, personal injury, or death.

– Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

– WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch.
- Do not use any phone in your recreational vehicle.
- Clear the recreational vehicle of all occupants.
- Turn off the gas supply tank valve(s) or main gas supply.
- Immediately call your gas supplier for instructions.
- If you cannot reach your gas supplier, call the fire department.

– Have the gas system checked and leakage source corrected by a qualified installer, service agency, manufacturer or dealer, or the gas supplier.

Service Center & Dealer Locations

Visit: www.dometic.com

Read these instructions carefully.

Contents

1 Explanation of Symbols and Safety

Instructions 3

- 1.1 Recognize Safety Information 3
- 1.2 Understand Signal Words 3
- 1.3 Supplemental Directives 3
- 1.4 General Safety Messages 3

2 Intended Use 4

3 Troubleshooting 4

4 General Information 7

- 4.1 Tools and Materials 7
- 4.2 Model Identification 7
- 4.3 Component Locations 8
- 4.4 Wiring 10
- 4.5 General Range Terminology 10

5 Diagnostic Procedures 11

6 Installation Issues 18

- 6.1 Gas Pressure Issue 18
- 6.2 Negative Air Draft Issue 18
- 6.3 Structure Issue 18
- 6.4 Power Issue 18

7 Service Procedures 19

- 7.1 Accessing the Range Components 19
- 7.2 Accessing the Range Components for
RA/RV Models 19
- 7.3 Performing a Leak Test 20

- 7.4 Checking the Gas Pressure 20
- 7.5 Straightening the Flex Line 21
- 7.6 Adjusting the Air/Gas Mixture 21
- 7.7 Testing the 12 VDC Ignition Module 22
- 7.8 Cleaning and Clearing the Orifice 22
- 7.9 Clearing the Oven Flue (Vent) 23
- 7.10 Repositioning the Thermal Bulb 24
- 7.11 Aligning the Thermocouple 24
- 7.12 Replacing the Oven Bulb 25
- 7.13 Replacing the Oven Light Switch
and Wires 25

8 Maintenance 26

- 8.1 Changing the Battery in the Battery Ignition
Module 26
- 8.2 Testing the Control knobs 26
- 8.3 Cleaning 27

9 Disposal 27

10 Replacement Parts 27

1 Explanation of Symbols and Safety Instructions

This manual has safety information and instructions to help you eliminate or reduce the risk of accidents and injuries.

1.1 Recognize Safety Information

 **This is the safety alert symbol.** It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

1.2 Understand Signal Words

A signal word will identify safety messages and property damage messages, and also will indicate the degree or level of hazard seriousness.

DANGER!

Indicates a hazardous situation that, if **not** avoided, will result in death or serious injury.

WARNING

Indicates a hazardous situation that, if **not** avoided, could result in death or serious injury.

CAUTION

Indicates a hazardous situation that, if **not** avoided, could result in minor or moderate injury.

NOTICE: Used to address practices **not** related to physical injury.

 Indicates additional information that is **not** related to physical injury.

1.3 Supplemental Directives

To reduce the risk of accidents and injuries, please observe the following directives before proceeding to service or maintain this appliance:

- Read and follow all safety information and instructions.
- Read and understand these instructions before service or maintenance of this product. For replacement service, refer to the appropriate installation manual.

- When servicing the range, replacement parts and installations must comply with all applicable local or national codes, including the latest edition of the following standards:

U.S.A.

- ANSI/NFPA70, National Electrical Code (NEC)
- ANSI/NFPA 1192, Recreational Vehicles Code
- ANSI Z21.57, Recreational Vehicles Code

Canada

- CSA C22.1, Parts I & II, Canadian Electrical Code
- CSA Z240 RV Series, Recreational Vehicles

1.4 General Safety Messages

 **WARNING: ELECTRICAL SHOCK, FIRE, EXPLOSION, AND/OR CARBON MONOXIDE HAZARD. Failure to obey the following warnings could result in death or serious injury:**

- Use only Dometic replacement parts and components, which are specifically approved for use with the appliance.
- Disconnect electricity to the appliance before service or maintenance.
- Do not cause a short in the control terminals of the appliance.
- Avoid improper installation, adjustment, alterations, service, or maintenance of the appliance. Service and maintenance must be done by a qualified service person only.
- Do not modify this product in any way. Modification can be extremely hazardous.
- The range or slide-in must be completely separated and/or sealed from other air moving or air-consuming devices, such as, but not limited to, furnaces, microwave ovens, clothes dryers, cooling fans, and doors or drawers in common cabinets.

⚠ WARNING: BURN, FIRE, EXPLOSION, AND/OR CARBON MONOXIDE HAZARD. Failure to obey the following warnings could result in death or serious injury:

- Shut off and disconnect all gas sources before performing service or maintenance on this appliance.
- Dometic gas-operated cooking units are for use with liquid propane (LP) gas only in recreational vehicles only, such as travel trailers, motor homes, and tent campers.
- Never use the range or slide-in as a space heater to heat or warm the room or as a storage space.
- Do **not** store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Shut off all gas appliances and pilot lights when refueling gasoline or LP tanks, or when the vehicle is in motion.
- Verify that there is a sufficient gas supply before attempting to light any burner. Air in the line will significantly delay the burner ignition and a burner may light unexpectedly as the air in the line clears out and is replaced by LP gas.

⚠ WARNING: CARBON MONOXIDE HAZARD.

This product can produce carbon monoxide, which has no odor and can be life-threatening. Gas flames consume oxygen, which must be replaced to assure proper combustion. Provide fresh air during testing, service, and maintenance of this appliance. Failure to obey this warning could result in death or serious injury.

⚠ WARNING: HIGH TEMPERATURE HAZARD. Failure to obey the following warnings could result in death or serious injury:

- Do not touch burners, burner grates, or areas near burners during and/or immediately after use as they will be hot. Do not let clothing or other flammable materials contact burners or areas near burners until these areas have had sufficient time to cool.
- Supervise young children in the same room as the range.

2 Intended Use

This service manual is intended for use by OEM Service Center and dealer technicians. It is not intended for use by RV owners, or those unfamiliar with the workings of ranges used in the RV industry.

Readers of this manual are assumed to have a basic understanding of RV range best practices and experience in the proper use of the tools and materials related to the installation, operation, maintenance, and servicing of the gas range equipment used in the RV industry.

The Range Service Manual is a resource created to help service technicians identify the range product by serial number, diagnose an operational issue, and efficiently and effectively process warranty claims.

For applicable installation instructions and authorized service center information, visit www.dometic.com.

For applicable exploded parts views, service kits, and warranty information, visit www.eDometic.com.

3 Troubleshooting

This section has tables showing the main causes for range issues.

Review the Troubleshooting Table (on page 5) to help you identify the suspected operational issue, the potential causes, and the diagnostic procedure associated with those issues.

Refer to the Diagnostics Table (on page 6) for links to specific range components that show diagnostic tasks to help you confirm the suspected operational issue and potential cause.

Remember to check the basics before replacing any parts, such as contributing issues. Refer to the Maintenance (on page 26) and Installation Issues (on page 18) sections for more detail.

Troubleshooting Table

Operational Issue	Potential Reason	Page
The pilot will not light or stay lit.	The gas pressure is too low.	20
	The burner supply valve is closed.	12
	The orifice is blocked.	14
	The pilot assembly is blocked.	16
	There is a blockage or kink in the pilot line.	16
	The pilot flame is not engulfing the thermocouple.	24
	There is an installation issue.	18
	The gas system is leaky, damaged, or non-functioning.	13
	The pilot is too close to the burner.	24
	The burner is blocked.	12
	The knob is not fully engaging the coil to set the magnet.	15
	There is a problem with the oven thermostat.	15
	The oven vent is blocked.	15
	The air/gas mixture is incorrect.	14
The burner(s) will not light or stay lit.	The burner is blocked.	12
	The gas pressure is too low.	20
	The air/gas mixture is incorrect.	14
	The orifice is blocked.	14
	There is a burner meltdown.	12
	There is an installation issue.	18
	The gas system is leaky, damaged, or non-functioning.	13
The burner(s) light, but the flame is too low.	There is an installation issue.	18
	The gas pressure is too high or too low.	20
	The air/gas mixture is incorrect.	14
	There is a problem with the burner supply valve.	12
	The orifice is blocked.	14
The burner flame lifts off of the burner head.	The gas pressure is too high.	20
The oven bulb is not functioning properly.	The bulb is defective.	25
	The oven light switch is defective.	25
	The connectors are improperly connected.	10
	The wires are damaged.	25
The oven burner lights, but the flame remains very low and the oven heats very slowly.	The burner is blocked.	12
	The gas pressure is too high or too low.	20
	The orifice is blocked.	14
The oven cycles frequently.	There is a problem with the oven thermostat.	15
	There is a problem with the thermal bulb.	17
	The door is not sealing properly.	15

Operational Issue	Potential Reason	Page
The oven burner flame lifts off of the burner.	The burner is blocked.	12
	The gas pressure is too high.	20
The oven cooks food unevenly, and/or food burns on the bottom.	There is poor oven ventilation.	15
	There is a problem with the oven thermostat.	15
	The thermal bulb is out of position.	17
	The oven door seal is not sealing properly.	15
The flames are under the top of the main oven burner.	The oven burner is loose.	14
	The burner tube is not lined up with the burner.	14
The oven does not cook to temperature.	There is a problem with the oven thermostat.	15
	The thermocouple is not functioning.	17
	There is an installation issue.	18
	The gas system is leaky, damaged, or non-functioning.	13
The flames have yellow tips.	The burner is blocked.	12
	The air/gas mixture is incorrect.	14
	The gas pressure is too low.	20
	The orifice to burner alignment is off.	14
The ignition system fails to function.	The Piezo or ignitor is defective.	16
	There is a faulty wire (D21 only).	10
	The burner is blocked.	12
	The gas pressure is too low.	20
The cooktop is warped or blistered.	The cooktop is damaged.	12
There is a constant gas smell present.	There is an installation issue.	18
	The flex line is leaky or damaged (R31/S31 models only).	13
	There is a leak in the manifold system.	13
The range rattles.	The burner box is loose.	11
	Grommets are missing from the range top.	12
	The manifold brackets are loose (R31/S31 models only).	13

Diagnostics Table

Component	Page
12 VDC Ignition Module (D21 only)	11
Burner Box	11
Burner Head	12
Burner Supply Valve	12
Cooktop	12
Flex Line (R31/S31 models only)	13
Gas Regulator	13
Manifold	13
Orifice	14
Oven Bulb	14

Component	Page
Oven Burner	14
Oven Door Seal	15
Oven Flue (Vent)	15
Oven Thermostat	15
Piezo Ignitor	16
Pilot Assembly (Range Pilot)	16
Thermocouple	17

4 General Information

This section provides reference information on the tooling, model identification, components, and terminology associated with the different range models.

i The images used in this document are for reference purposes only. Components and component locations may vary according to specific product models. Measurements may vary ± 0.38 in. (10 mm).

4.1 Tools and Materials

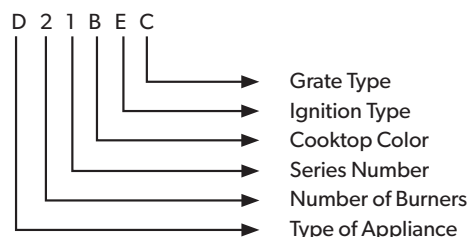
Dometic recommends that the following tools and materials be used while servicing the ranges:

Recommended Tools	
Manometer	Pressure Gauge
Screwdriver	Volt Meter
Zip Ties	

4.2 Model Identification

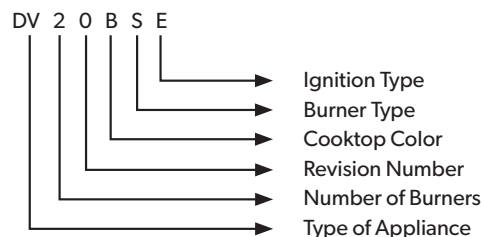
This section explains the breakdown of the model identification numbers.

D21 Models



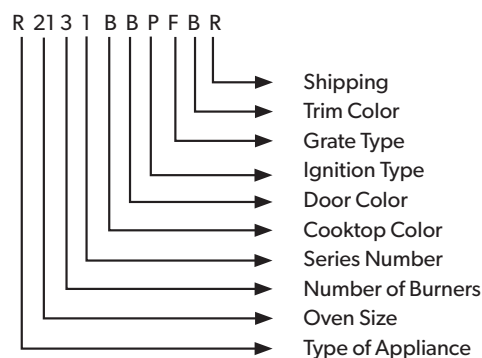
Type of Appliance	D = drop-in
Number of Burners	2
Series Number	1
Cooktop Color	- B = black - S = stainless steel
Ignition Type	- M = match light - P = Piezo - B = battery - E = 12 VDC
Grate Type	- W = wire - C = cast

DV20 and DV30 Models

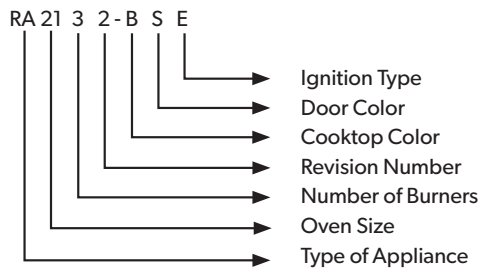


Type of Appliance	DV = drop-in, Vision
Number of Burners	2 3
Revision Number	0 1 2
Cooktop Color	- B = black - W = white - S = stainless steel - C = chrome
Burner Type	- S = sealed burner - P = porcelain
Ignition Type	E = electronic

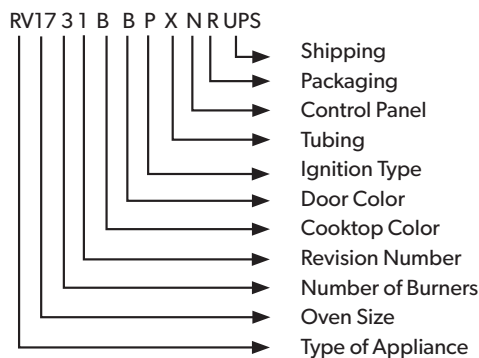
R31 Models



Type of Appliance	R = range
Oven Size	17 = 17 in. (432 mm) 21 = 21 in. (534 mm)
Number of Burners	3
Series Number	1
Cooktop Color	- B = black - S = stainless steel
Door Color	- B = black - S = stainless steel
Ignition Type	- M = match light - P = Piezo
Grate Type	- F = flat wire - C = cast
Trim Color	- B = black - M = silver (metalized)
Shipping	- O = OEM single pack - R = returnable

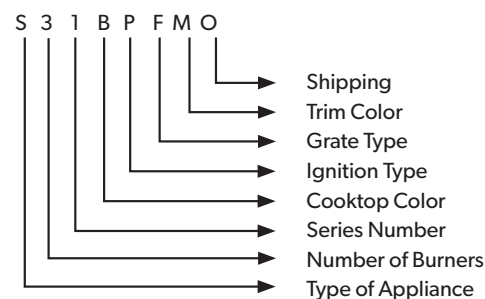
RA34/RA35 Models

Type of Appliance	RA = range, Atwood
Oven Size	17 = 17 in. (432 mm) 21 = 21 in. (534 mm)
Number of Burners	3 (sealed)
Revision Number	0 1 2 3
Cooktop Color	- B = black - W = white
Door Color	- B = black - S = stainless steel 2 = white glass
Ignition Type	- P = Piezo - E = electronic

RV34/RV35 Models

Type of Appliance	RV = range, Vision
Oven Size	17 = 17 in. (432 mm) 21 = 21 in. (534 mm)
Number of Burners	3 (open-well)
Revision Number	1 = original version 2 = effective 8/1/01 3 = white panel/white handle
Cooktop Color	- B = black - W = white - Q = bisque - S = stainless steel

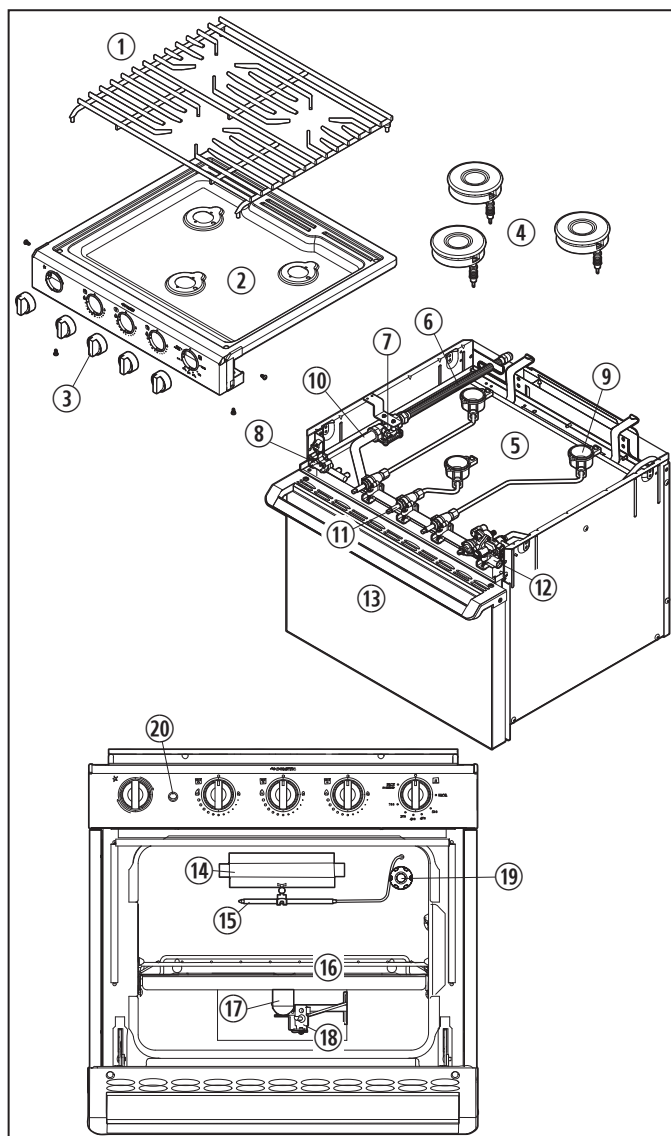
Door Color	- B = black - G = black glass - S = stainless steel 1 = white 2 = white glass 3 = white panel/handle 4 = stainless panel/white handle
Ignition Type	- P = Piezo - E = electronic
Tubing	X = extended gas tube
Control Panel	N = flush control panel
Packaging	R = returnable package
Shipping	UPS = shippable by UPS

S31 Models

Type of Appliance	S = slide-in
Number of Burners	3
Series Number	1
Cooktop Color	- B = black - S = stainless steel
Ignition Type	- M = match light - P = Piezo
Grate Type	- F = flat wire - C = cast
Trim Color	- B = black - M = silver (metalized)
Shipping	- O = OEM single pack - U = shippable by UPS

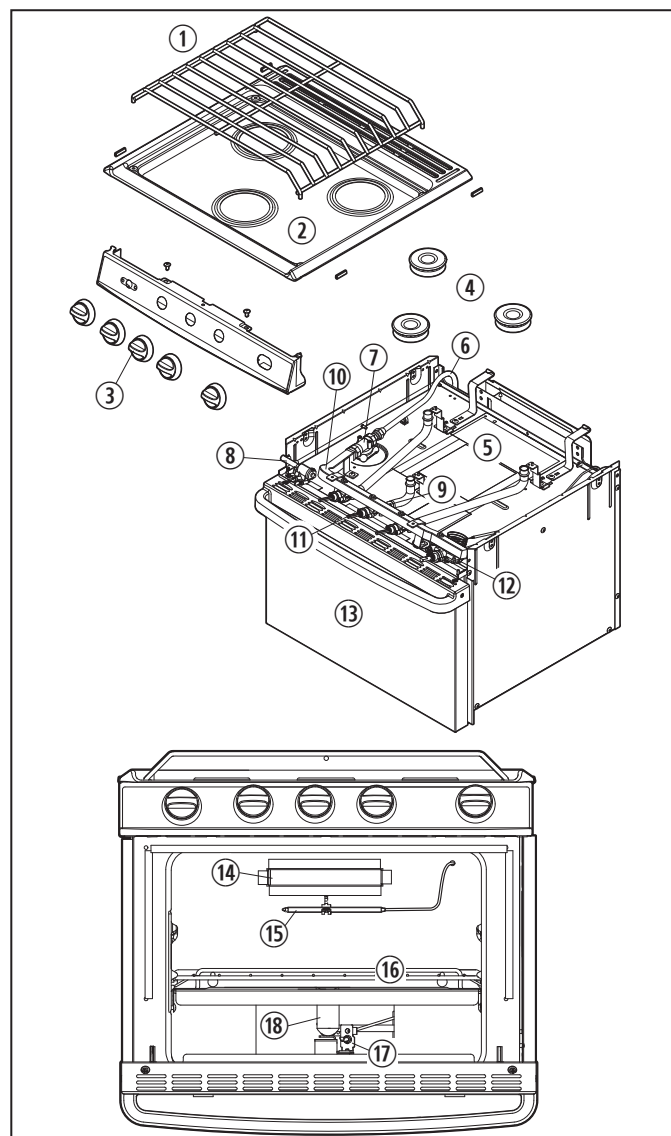
4.3 Component Locations

Figure 1 and shows the general component locations for the ranges. Actual model component locations may vary.



1 General Component Locations (models may vary)

- | | |
|-----------------------------|-----------------------------------|
| ① Grate | ⑪ Burner Supply Valve |
| ② Cooktop | ⑫ Oven Thermostat |
| ③ Control Knob | ⑬ Oven Door |
| ④ Burner Head (Burner) | ⑭ Oven Flue (Vent) |
| ⑤ Burner Box | ⑮ Thermal Bulb |
| ⑥ Flex Line | ⑯ Oven Rack & Shelf |
| ⑦ Gas Regulator | ⑰ Oven Burner |
| ⑧ Ignition
(Piezo shown) | ⑱ Pilot Assembly
(Range Pilot) |
| ⑨ Orifice | ⑲ Oven Bulb |
| ⑩ Manifold | ⑳ Oven Light Switch |

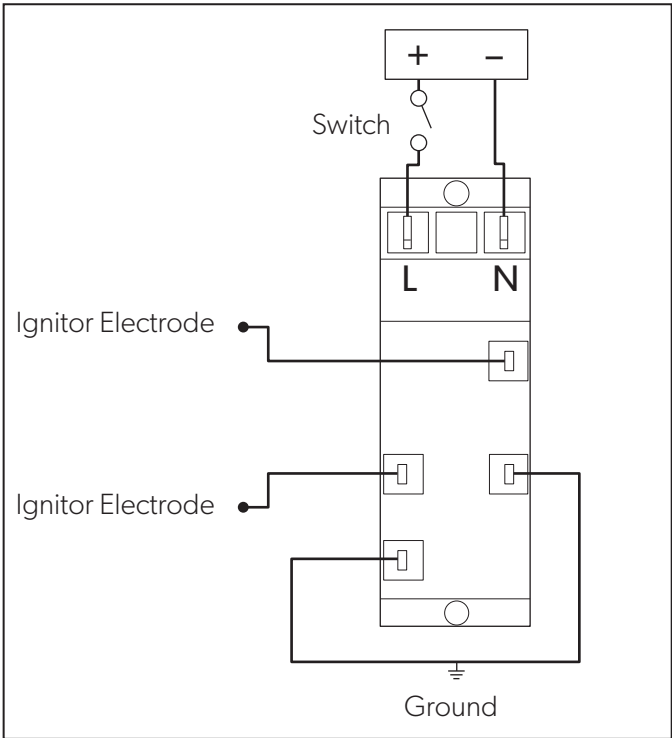


2 RA/RV General Component Locations (models may vary)

- | | |
|-----------------------------|-----------------------------------|
| ① Grate | ⑩ Manifold |
| ② Cooktop | ⑪ Burner Supply Valve |
| ③ Control Knob | ⑫ Oven Thermostat |
| ④ Burner Head (Burner) | ⑬ Oven Door |
| ⑤ Burner Box | ⑭ Oven Flue (Vent) |
| ⑥ Supply Line | ⑮ Thermal Bulb |
| ⑦ Gas Regulator | ⑯ Oven Rack & Shelf |
| ⑧ Ignition
(Piezo shown) | ⑰ Pilot Assembly
(Range Pilot) |
| ⑨ Orifice | ⑱ Oven Burner |

4.4 Wiring

Figure 3 shows the wiring for the D21 electronic ignition.



3 D21 Model Electronic Ignition Wiring Diagram

4.5 General Range Terminology

The following table defines common terms that are typically used when dealing with ranges.

Term	Definition
Burner Box	The component found in the appliance that holds the burner.
Burner Electrode	The spark source used to light the top burners with Piezo/12 VDC electronic ignition.
Burner Flame Lift Off	An event that occurs when flames lift off of the burner.
Burner Head (Burner)	The component in the appliance where combustion occurs, creating the main source of heat.
Burner Supply Valve	A mechanical device used to start or stop the flow of gas.
Calibration	The process used to set the oven thermostat so it registers temperatures properly.
Control Knobs	The devices on the top or front of a cooktop that signal a burner to turn on and off. They control the heat from the burner.

Term	Definition
Cooktop	The component of an appliance that provides a surface for cooking. Can be stand-alone or part of a range.
Cycling	The term describes the on/off operation of an appliance.
Flex Line	A corrugated, stainless steel tube that conducts gas to the appliance.
Gas Pressure	The term that describes the amount of gas being supplied to the appliance, measured in inches of water column (W.C.).
Gas Regulator	A device that reduces the high pressure from the LP bottles to a lower pressure. It receives up to 13-in. W.C. gas pressure and reduces the pressure to 10-in. W.C. to the manifold.
Manifold	The constantly pressurized tube or pipe that supplies gas to the burner valves.
Manifold Bracket	The component that holds the manifold in place.
Manometer	The tool used to measure gas pressure in inches of W.C.
Orifice	A precision-drilled, thimble-shaped component that meters gas flow to the main burner.
Orifice Holder	The component that holds the orifice.
Oven Bulb	The light bulb located in the oven that turns on and off based on the position of the oven light switch.
Oven Burner	The component in the appliance where combustion occurs, creating the main source of heat for the oven.
Oven Door Seal	A gasket mounted on the oven door to seal the space between the door and the oven and prevent heat from escaping.
Oven Flue (Vent)	An opening in the oven that allows exhaust to circulate out of the oven.
Oven Thermostat	This component regulates the temperature of the oven at the desired cooking temperature and supplies gas to the pilot assembly and main burner.
Piezo Ignitor	An electro-mechanical device that can be used to ignite a top burner.
Pilot Assembly (Range Pilot)	The assembly consists of a thermocouple and a pilot hood. It is where gas passing through the orifice is directed to the oven burner pilot holes.
Pilot Gas Line	This line conducts the gas flow to the pilot.
Thermal Bulb	The bulb located in the oven and connected to the oven thermostat that contains thermal fluid and causes the oven thermostat to close and open based on the set cooking temperature.

Term	Definition
Thermocouple	This component senses the pilot flame for the oven and controls the safety valve and oven thermostat.
Volt Meter	A meter used for reading voltage and Ohm resistance.
Yellow Tipping	Term used to describe a burner flame with excessive yellow tipping. The yellow tipping can be caused by an improper gas/air mixture due to improper burner alignment or restriction of the orifice.

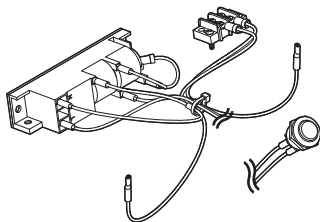
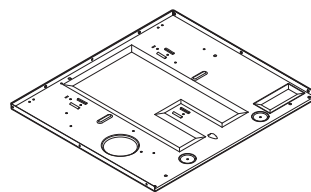
5 Diagnostic Procedures

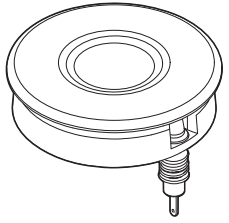
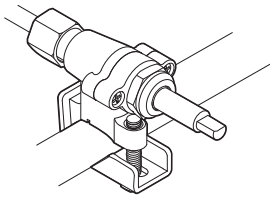
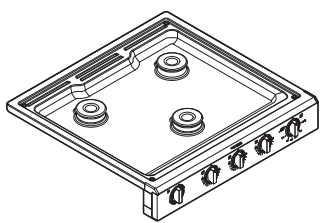
⚠ WARNING: ELECTRICAL SHOCK, FIRE, EXPLOSION, AND/OR CARBON MONOXIDE HAZARD. Failure to obey the following warnings could result in death or serious injury.

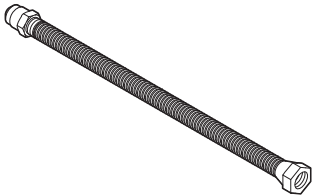
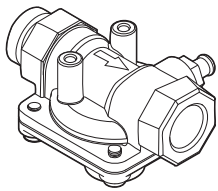
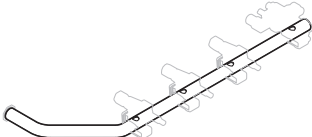
- Use only Dometic replacement parts and components, which are specifically approved for use with the appliance.
- Do not use matches, candles, or other sources of ignition to test fittings and gas lines for leaks.

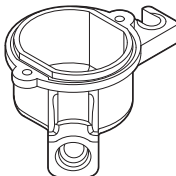
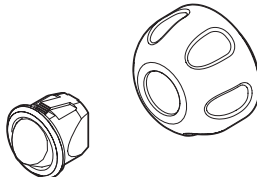
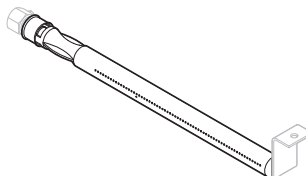
This section has information to help you identify various range operational issues by diagnosing individual component parts.

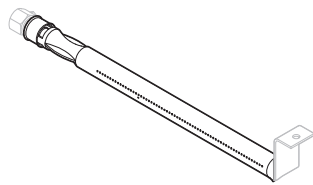
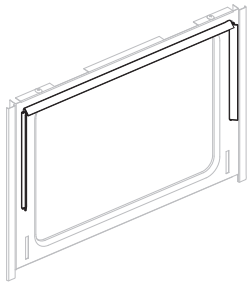
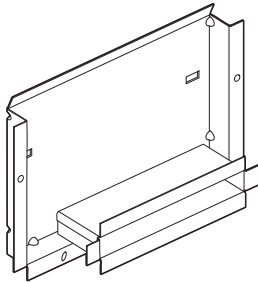
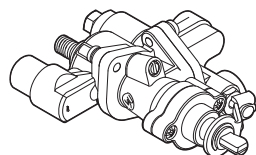
Remember to check the basics before replacing any parts, such as loose wiring and overall Installation issues. Refer to the Maintenance (on page 26) and Installation Issues (on page 18) sections for more detail.

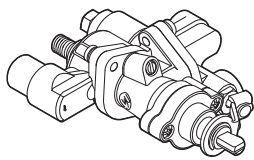
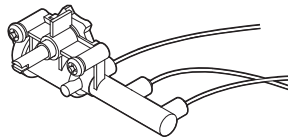
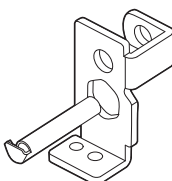
Component	Diagnostic Question	Action Based On Status	Page
12 VDC Ignition Module (D21 Model Only)			
	Does the burner fail to ignite when the control knob is turned?	• Test the ignition at the burner: 1. Turn one control knob. 2. Watch for a spark at the burner. 3. Repeat for each control knob. • Test the module using a volt meter. • Clean the burner. • Check the gas pressure.	 22 27 20
	Inspect the ignition module. Is there visible damage?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
Burner Box			
	Does the range make a rattling sound during operation?	Confirm the mounting screws are in place. If the screws are loose, tighten until secure.	

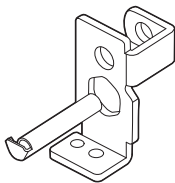
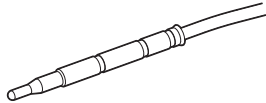
Component	Diagnostic Question	Action Based On Status	Page
Burner Head			
	Is the burner flame lifting off of the burner head?	Check the gas pressure.	20
	Does the burner fail to light or stay lit?	• Check the gas pressure.	20
	Do the burners light, but the flame is low?	• Check for obstructions in the orifice.	22
	Do the burner flames have yellow tips?	• Check the air/gas mixture.	21
		• Confirm the burner supply valve is functioning.	12
		• Check for an installation issue.	18
		• Clean the burner.	27
		• For RA ranges and cooktops only: Check the orifice-to-burner alignment.	
	Is there evidence of a burner meltdown?	Check for a negative air draft installation issue.	18
	Inspect the burner head. Is there visible damage (meltdown)?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
Burner Supply Valve			
	Do the burner or pilots fail to light or stay lit?	• Perform a spray leak test.	22
		• Check the gas pressure.	20
		• Check the supply valve and turn the valve to the open position.	
	Inspect the burner supply valve.	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
	• Is the valve visibly damaged?		
	• Is the valve closed?	Turn the valve to the open position.	
Cooktop			
	Visually inspect for chips or damage. Is the cooktop warped or cracked?	Excessive heat build-up could result from pans that exceed 10 in. (254 mm) in size or that are not large enough to cover the burner area and/or contain the cooked food. This heat build-up can result in damage to the range and warping or blistering of the cooktop.	
		If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details)	
	Is the cooktop rattling during operation?	Check to see if there are grommets missing from the range top. If so, replace the grommets (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	

Component	Diagnostic Question	Action Based On Status	Page
Flex Line (R31/S31 models only)			
	Visually inspect the flex line. Are there any kinks?	Straighten the line.	21
	Are there any blockages in the line or visible damage to the line?	Replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
	Is there a constant gas smell present?	Perform a spray leak test.	22
Gas Regulator			
	Do the burner or pilots fail to light or stay lit?	- Test the gas flow: 1. Confirm there is gas in the tanks. 2. Confirm the gas is turned on from the tank. 3. Hold the oven knob in the pilot position or the burner knob in the light position for up to 10 seconds. 4. Check for a gas smell. - Yes - wait for the gas to clear, then check for a spark at the burner or pilot. If there is a spark but the burner or pilot does not light, check the ignition system. - No - continue with the diagnosis. - Check the gas pressure.	
	Do the burners light, but the flames are low?		
	Is the oven not reaching the set cooking temperature?		
	Is there a constant gas smell present?		
	Inspect the regulator. Is there visible damage?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
Manifold			
	Is there a constant gas smell present?	- Perform a spray leak test. - Check the gas pressure.	22 20
	Is the range rattling during operation?	Visually check to make sure the mounting brackets are in place. Tighten the brackets if they are loose.	
	Inspect the manifold. Is there visible damage?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	

Component	Diagnostic Question	Action Based On Status	Page
Orifice			
	Has the gas flow halted at each burner or at the oven burner?	- Test the gas flow: - Confirm there is gas in the tanks. - Confirm the gas is turned on from the tank. - Hold the oven knob in the pilot position or the burner knob in the light position for up to 10 seconds. - Check for a gas smell. - Yes - wait for the gas to clear, then check for a spark at the burner or pilot. If there is a spark but the burner or pilot does not light, check the ignition system. - No - continue with the diagnosis. - Check the orifice for blockages.	22
	For RA/RV and R31 ranges: Inspect the orifice. Is the orifice correctly aligned?	- For RA/RV ranges: check that the orifice is in line with the burner supply tube. - For R31 ranges: check that the burner is in line with the orifice holder.	
	Inspect the orifice. Is there visible damage?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
Oven Bulb			
	Is the oven bulb not working?	Ensure that the bulb is in working condition. If not, replace the bulb.	25
		Ensure that the oven light switch is working. If not, replace the switch.	25
		Check that the connectors are connected properly.	10
		Ensure there is no wire damage. If damage is present, replace the wires.	25
		If any of the parts are damaged, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
Oven Burner			
	Does the oven burner light, but the flame remains very low and the oven heats very slowly?	Visually check to make sure the oven burner is in place.	
		Adjust the air/gas mixture.	21
		Check for a blockage in the burner.	22
		Check the gas pressure.	20
		Clean the orifice.	27
	Does the pilot extinguish or not stay lit?	Check for a blockage in the burner.	22
		Check to see if the pilot is too close to the thermocouple. If the pilot is too close, the burner extinguishes the flame when cycling.	24
	Does the oven burner flame lift off of the burner?	Check for a blockage in the burner.	22
	Does the oven cycle frequently?	Gas pressure too high. Check the gas pressure.	20

Component	Diagnostic Question	Action Based On Status	Page
Oven Burner Continued			
	Are the flames appearing under the top of the main oven burner?	- Oven burner is loose. - Line up the burner tube with the burner located on the bottom of the cooktop.	11
	Inspect the oven burner. Is there visible damage?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
Oven Door Seal			
	Is excessive heat coming out from around the oven door?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
	Is the oven cycling frequently?		
	Inspect the oven door seal. Is there visible damage?		
Oven Flue (Vent)			
	Is the oven cooking foods unevenly and/or burning the bottom portion of the food?	- Verify that the pan size being used does not restrict air flow. - Confirm that there is no aluminum foil over the oven rack. - Confirm with the owner that the oven has not been too full for proper circulation. There must be 1 in. (26 mm) of clearance between the food and the oven sides in all directions. - Confirm that the ventilation holes in the oven bottom (shelf above burner) are not covered.	
	Does the pilot extinguish or not stay lit?	- Check the oven thermostat. - Clear the oven vent.	15 23
	Inspect the oven flue (vent). Is there visible damage?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
Oven Thermostat			
	Is the oven cooking foods unevenly and/or burning the bottom portion of the food?	- Calibrate the oven thermostat. - Test the accuracy of the oven thermostat. It should be ±25 degrees of the set point.	
	Is the oven cycling frequently?	i Visit eDometic.com for calibration and testing information for the oven thermostat.	

Component	Diagnostic Question	Action Based On Status	Page
Oven Thermostat Continued			
	Does the pilot extinguish or not stay lit?	- Check the air/gas mixture. 21 - Confirm the control knob is fully engaging with the coil to set the magnet in the oven thermostat: - Push the control knob in at the "pilot /push/hold" setting. - Continue holding the control knob in and manually light the pilot. - After approximately five seconds, the thermocouple input should hold the magnet in the open position. - Release the control knob and attempt to adjust the knob to a desired temperature. The pilot gas line will remain open as long as the pilot is lighted and the thermocouple senses flame. If the pilot goes out, the magnet will drop out and shut off gas flow to the pilot.	
	Inspect the thermostat. Is there visible damage?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
Piezo Ignitor			
	Does the burner fail to ignite when the control knob is turned?	- Test the ignition at the burner: - Turn one control knob. - Watch for a spark at the burner. - Repeat for each control knob. - Clean the burner. 27 - Check the gas pressure. 20	
	Inspect the ignition module. Is there visible damage?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
Pilot Assembly (Range Pilot)			
	Do the burner or pilot fail to light or stay lit?	- Check the gas pressure. 20 - Confirm the supply valve is closed. 12 - Check for a kink in the pilot line. - Test the regulator. 13 - Check for obstructions in the following components: 8 - orifice - pilot assembly - pilot burner - pilot line - Test the pilot flame: - Light the pilot. - Confirm the pilot stays lit. - Look for a blue flame. - Confirm the blue flame is engulfing the thermocouple.	

Component	Diagnostic Question	Action Based On Status	Page
Pilot Assembly (Range Pilot) Continued			
	Do the burner or pilot fail to light or stay lit? (Continued from previous page)	- Check to see if the pilot is too close to the thermocouple. If the pilot is too close, the burner extinguishes the flame when cycling. - Confirm the control knob is fully engaging with the coil to set the magnet in the thermostat: - Push the control knob in at the "pilot /push/ hold" setting. - Continue holding the control knob in and manually light the pilot. - After approximately 5 seconds, the thermocouple input should hold the magnet in the open position. - Release the control knob and attempt to adjust the knob to a desired temperature. The pilot gas line will remain open as long as the pilot is lighted and the thermocouple senses flame. If the pilot goes out, the magnet will drop out and shut off gas flow to the pilot.	24
	Inspect the pilot assembly. Is there visible damage?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
	Thermal bulb		
	Is the oven cooking foods unevenly and/or burning the bottom portion of the food?	Realign the thermal bulb.	24
	Is the oven cycling frequently?	- Check the oven flue (vent). - Check the oven thermostat.	15
	Inspect the thermal bulb. Is there visible damage?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	
Thermocouple			
	Is the oven not cooking to temperature?	- Confirm that the thermal bulb is responding to the thermostat. - Make sure the thermostat knob is not bottoming out on the manifold cover. - Perform a millivolt test using a volt meter to verify the voltage is between 16–21 mV.	
	Inspect the thermocouple. Is there visible damage?	If damage is observed, replace the component (visit www.eDometic.com for service kit information and www.dometic.com for installation details).	

6 Installation Issues

⚠ WARNING: ELECTRICAL SHOCK, FIRE, EXPLOSION, AND/OR CARBON MONOXIDE HAZARD. Failure to obey the following warnings could result in death or serious injury.

- Use only Dometic replacement parts and components, which are specifically approved for use with the appliance.
- Do not use matches, candles, or other sources of ignition to test fittings and gas lines for leaks.

A majority of range problems are caused by issues outside the product itself. When diagnosing a range problem, always check the issues described in this section before replacing components.

Operational Issue	Potential Issue	Page
• The pilot will not light or stay lit. • The burner(s) will not light or stay lit. • The burner(s) light but the flame is too low. • There is a constant gas smell present.	Gas pressure issue	18
• Burner(s) will not light or stay lit • Oven does not cook to temperature • Cooktop is warped or blistered • Burner melt down	Negative air draft issue	18
Oven does not cook to temperature	Structure issue	18
Ignition system fails to function	Power issue	18

6.1 Gas Pressure Issue

Check that the gas pressure is set at a minimum of 11-in. W.C. (at the range), with a minimum of 50% (ideally 100%) of other gas-fired appliances operating while the range is in operation. The pressure should be tested using a U-tube manometer. If using a digital-type manometer, calibrate it often with a U-tube manometer.

Check the outside air temperature. As the air gets colder, it reduces the capacity of liquid propane (LP) and the gas pressure is affected by a combination of the fill level of the LP tanks and the ambient temperature outside.

To raise the tank temperature and increase the capacity of the tank:

1. Place an insulated, fire-resistant blanket over the tanks.
2. Place an illuminated 75 W light bulb under the blanket.

The temperature of the bottle should rise 10–20 °F [(-12)–(-7) °C] over a brief period of time, which increases tank capacity.

6.2 Negative Air Draft Issue

Negative draft is caused by air moving across the range that blows out the burner flame or moves the flame into the range, resulting in damage.

Operating the range in excessively windy conditions may blow out the top burner flame during use and cause a negative draft.

The range must be completely separated and/or sealed from other air moving or air-consuming devices such as, but not limited to, furnaces, microwave ovens, clothes dryers, cooling fans, and doors or drawers in common cabinets.

6.3 Structure Issue

Specific cabinet dimensions and clearances are required during the installation of the range. If the requirements are not met, the range may not operate properly. Check the installation manual for the appliance to find the proper dimensions.

6.4 Power Issue

If the range is experiencing a source issue from the power supply of the coach, the fix is not related to the range and could be the result of a converter issue.

Use a digital or analog volt meter to take voltage readings. Confirm the voltage to the range is between 10.5 and 13.5 VDC during operation, testing with the interior lights both ON and OFF.

This check should be made using the battery, converter, or generator, where applicable. Do not use a test light, as it does not provide enough useful information for a proper diagnosis.

7 Service Procedures

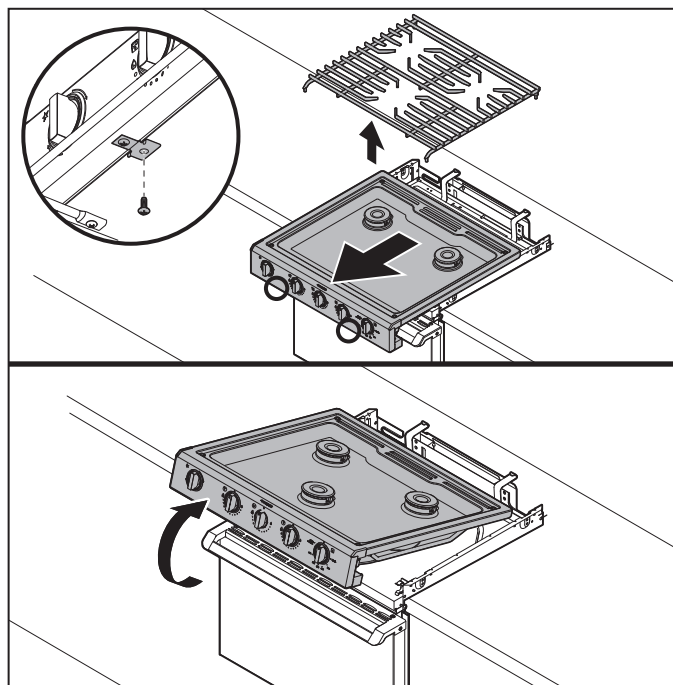
⚠ WARNING: ELECTRICAL SHOCK, FIRE, EXPLOSION, AND/OR CARBON MONOXIDE HAZARD. Failure to obey the following warnings could result in death or serious injury.

- Use only Dometic replacement parts and components, which are specifically approved for use with the appliance.
- Do not use matches, candles, or other sources of ignition to test fittings and gas lines for leaks.

This section has information to help you access the components for diagnosis and service.

Remember to check the basics before replacing any parts, such as loose wiring and overall Installation issues. Refer to the Maintenance (on page 26) and Installation Issues (on page 18) sections for more detail.

7.1 Accessing the Range Components

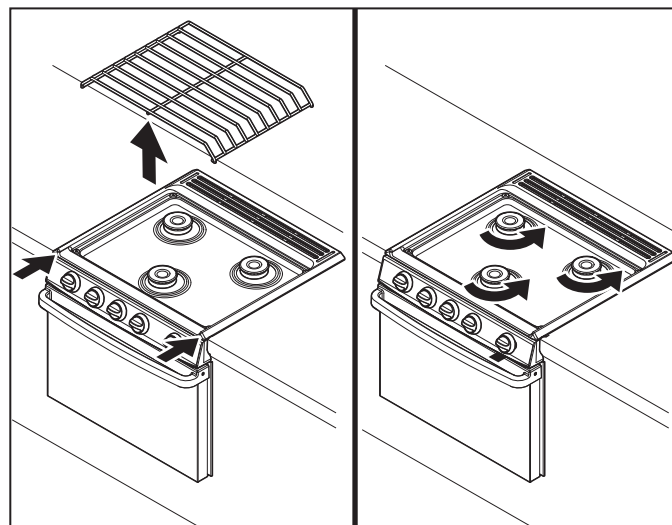


4 Accessing the Range Components

1. Turn off the gas at the source.
2. Remove the cooktop grate and place it in a secure area.
3. Detach the front brackets from the burner box.

4. Keeping the cooktop level, carefully pull the cooktop to the front of the counter until the panel is free.
5. Gently lift the cooktop to expose the components.
6. Reverse the steps for re-installation.

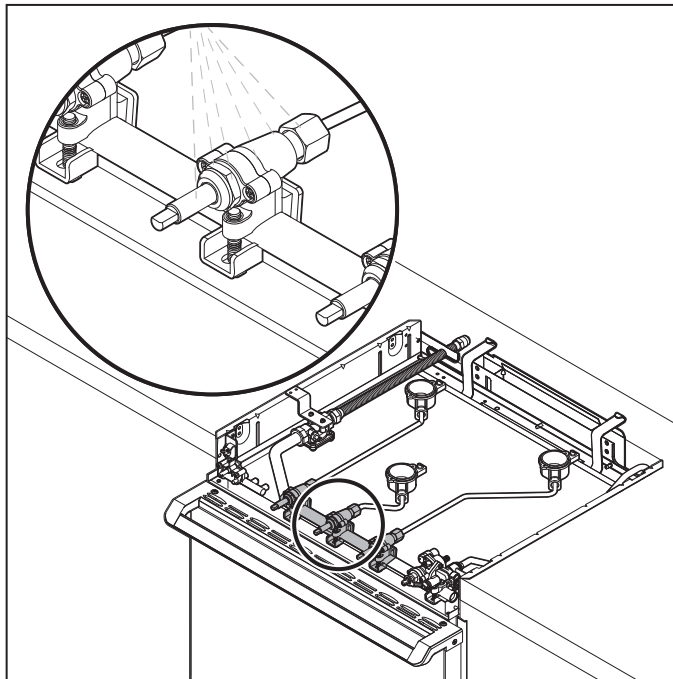
7.2 Accessing the Range Components for RA/RV Models



5 Accessing the Range Components

1. Turn off the gas at the source.
2. Lift to remove the grate and place it in a secure area.
3. Push the cooktop back until the front tabs disengage.
 - i** If the range is a sealed burner model:
 - a. Twist the burner 1/4 of a turn to disengage the burner from the cooktop.
 - b. Unplug the Piezo wire.
4. Gently lift the cooktop to expose the components.
5. Reverse the steps for re-installation.

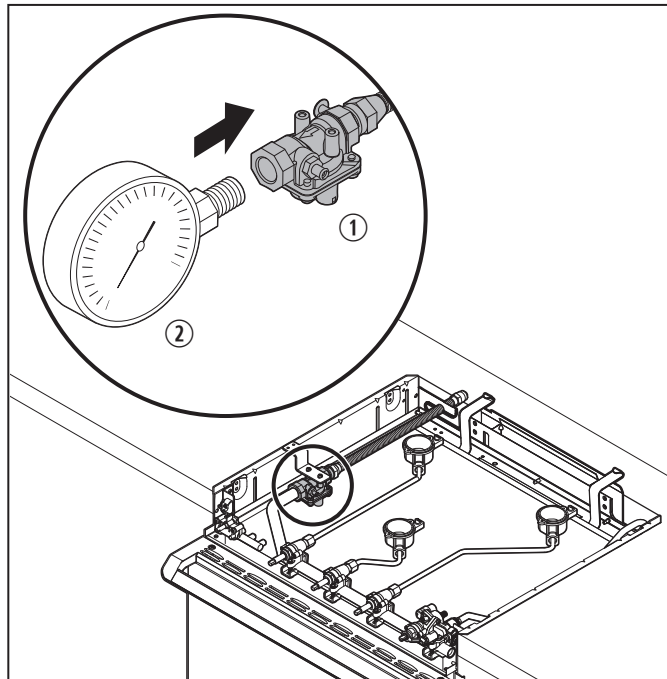
7.3 Performing a Leak Test



6 Spray Leak Test

- i** The example figure for the spray leak test uses a burner supply valve for illustration purposes. The actual component and/or location for testing may vary.
1. As applicable, perform the steps in Accessing the Range Components (on page 19) before proceeding with service.
 2. Locate the component for testing. See Component Locations (on page 8) for more detail.
 3. Place a non-corrosive leak detection fluid into a spray bottle.
 4. Lightly spray the component with the fluid.
 5. Look for any bubbles forming on the component. The appearance of bubbles indicates there is a leak in the component.

7.4 Checking the Gas Pressure



7 Performing an LP Pressure Drop Leak Test

① Regulator

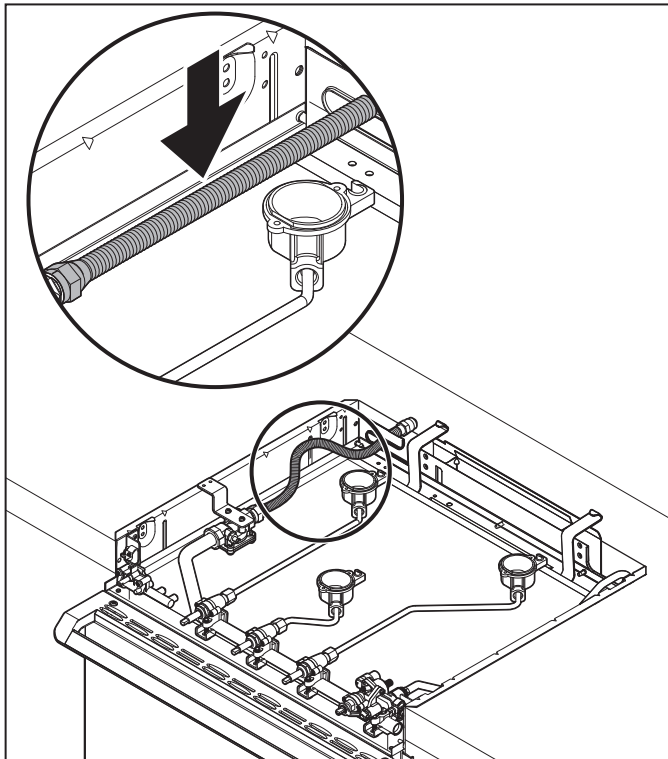
② Pressure Gauge

1. Perform the steps in Accessing the Range Components (on page 19) before proceeding with service.
2. Locate the regulator. See Component Locations (on page 8) for more detail.
3. Attach the pressure gauge to the piping system.
 - To attach the pressure gauge to the regulator, disconnect the manifold from the regulator, then screw on the pressure gauge.
 - For RA/RV 35 models: To attach the pressure gauge onto a burner valve, remove the top burner first by removing the screw attaching the burner to the burner box .
 - For R31 models only: Do not attach the pressure gauge to the system. Remove the pressure tap screw. Replace the screw when the test is complete.
4. Confirm the temperature of the RV piping system is the same as the ambient air to avoid invalid results due to expansion and/or contraction.
5. Pressurize the RV LP piping system to 10–14-in. W.C.

- i** A system pressure of 13-in. W.C. reaches the gauge under a no-flow condition. Under flow conditions, the pressure should read 10-in. W.C.
- 6. Turn off the pressure source and reduce the system pressure to 8-in. W.C. by opening a valve adjacent to the regulator.
- 7. Wait three minutes and check the pressure. The pressure should not fall below 8-in. W.C. during the three minute period.
- 8. For R31 models only: Reinstall the pressure tap screw.
- 9. Reverse the steps for re-installation.
- i** This test is only valid when using the entire RV LP piping system. Only qualified service technicians may conduct leak testing.

7.5 Straightening the Flex Line

- i** This section applies to R31/S31 models only.

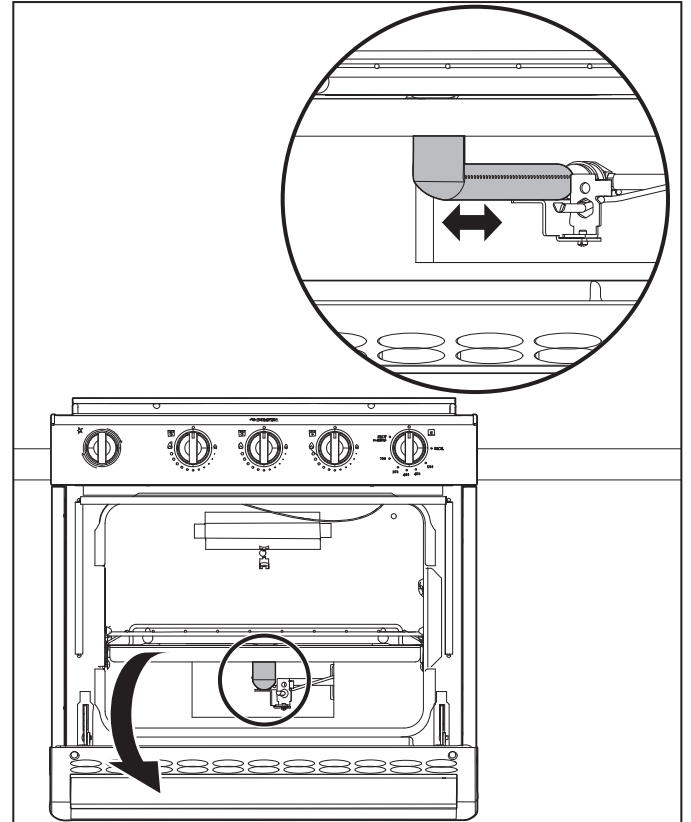


8 Straightening the Flex Line

1. Perform the steps in Accessing the Range Components (on page 19) before proceeding with service.

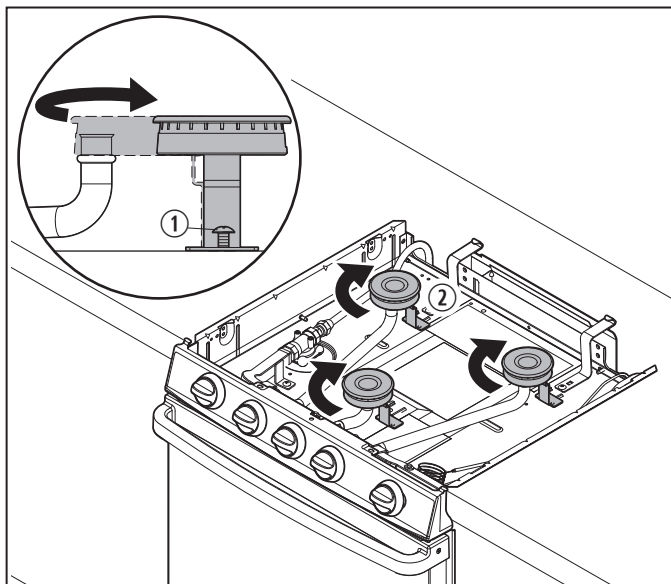
2. Locate the flex line. See Component Locations (on page 8) for more detail.
3. Gently manipulate the line until straightened.

7.6 Adjusting the Air/Gas Mixture



9 Adjusting the Air/Gas Mixture

1. Open the oven door.
2. Locate the oven burner. See Component Locations (on page 8) for more detail.
3. In small increments, gently push the oven burner toward the rear of the range or pull the oven burner forward until the correct mixture is achieved.

RA/RV models only**12** Clearing and Cleaning the Orifice

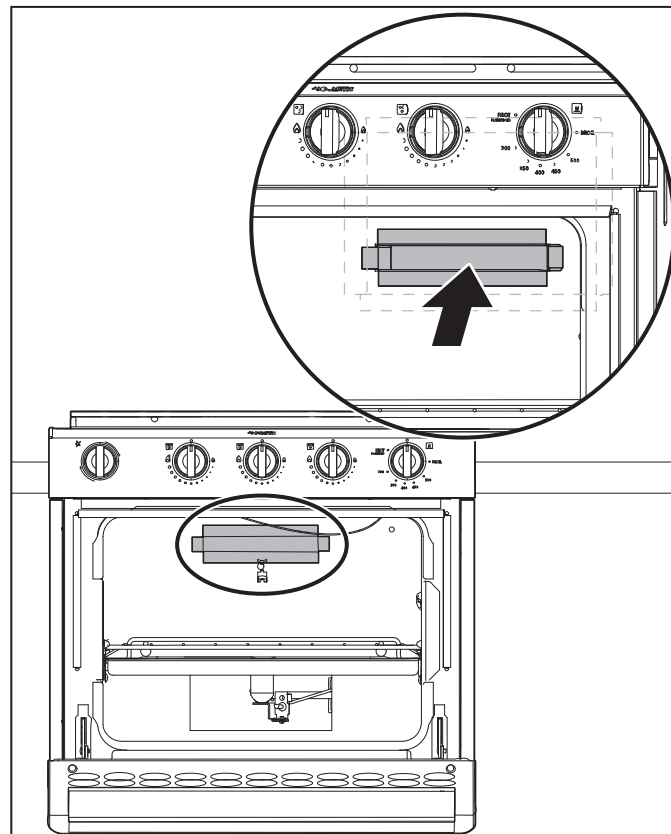
① Screw

② Burner Assembly

1. Perform the steps in Accessing the Range Components for RA/RV Models (on page 19) before proceeding with service.

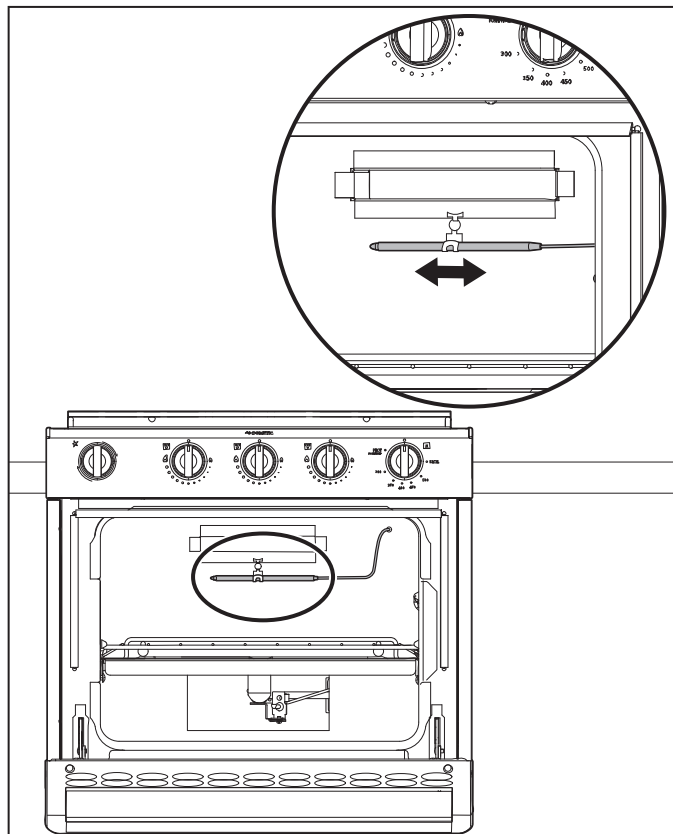
i For RA Models, the burner will twist off when you remove the cooktop.

2. Loosen the screw holding the burner assembly to the burner box.
3. Gently pull the burner assembly back.
4. Remove any blockages using a toothpick.
5. Wipe the orifice with alcohol using a cotton swab.
6. Test the burner operation after the alcohol has dried and any fumes have dissipated.

7.9 Clearing the Oven Flue (Vent)**13** Clearing the Oven Flue (Vent)

1. Open the oven door.
2. Locate the oven flue (vent). See Component Locations (on page 8) for more detail.
3. Carefully remove the obstruction using fingers or pliers.

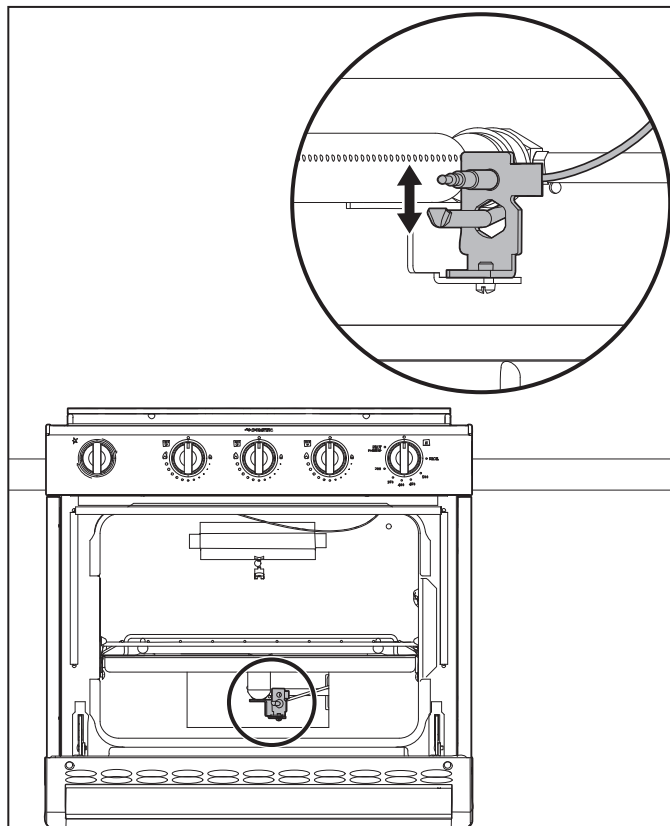
7.10 Repositioning the Thermal Bulb



14 Repositioning the Thermal Bulb

1. Open the oven door.
2. Locate the thermal bulb. See Component Locations (on page 8) for more detail.
3. Gently move the thermal bulb using your hand until the bulb is horizontal and centered in the clip on the back of the oven.

7.11 Aligning the Thermocouple

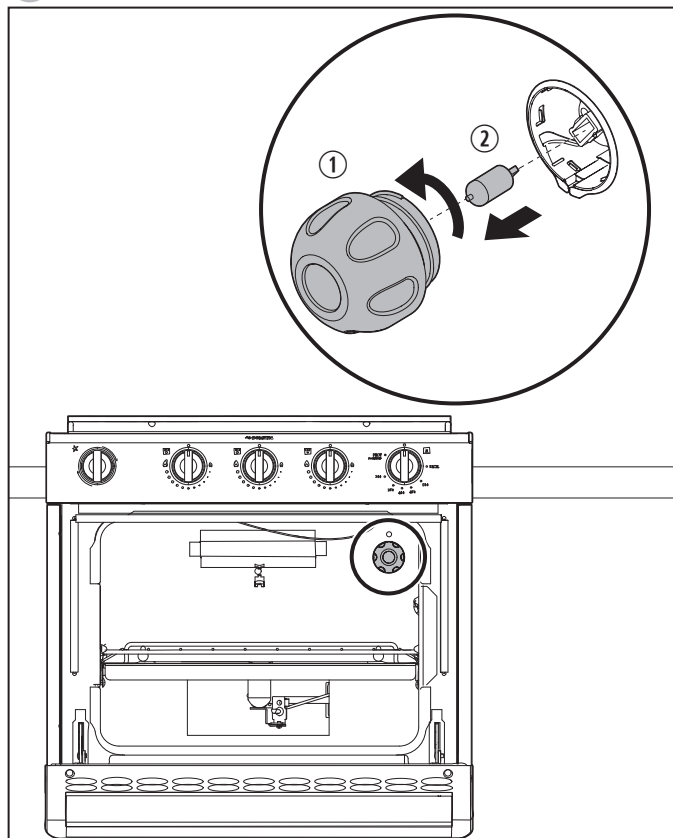


15 Aligning the Pilot and Thermocouple

1. Open the oven door.
2. Locate the pilot assembly. See Component Locations (on page 8) for more detail.
3. Gently bend the thermocouple using your hand until it is aligned with the pilot. The pilot flame should engulf the thermocouple when lit.

7.12 Replacing the Oven Bulb

i This section applies to R31 models only.



16 Removing the Oven Bulb

- ① Glass Lens ② Oven Bulb

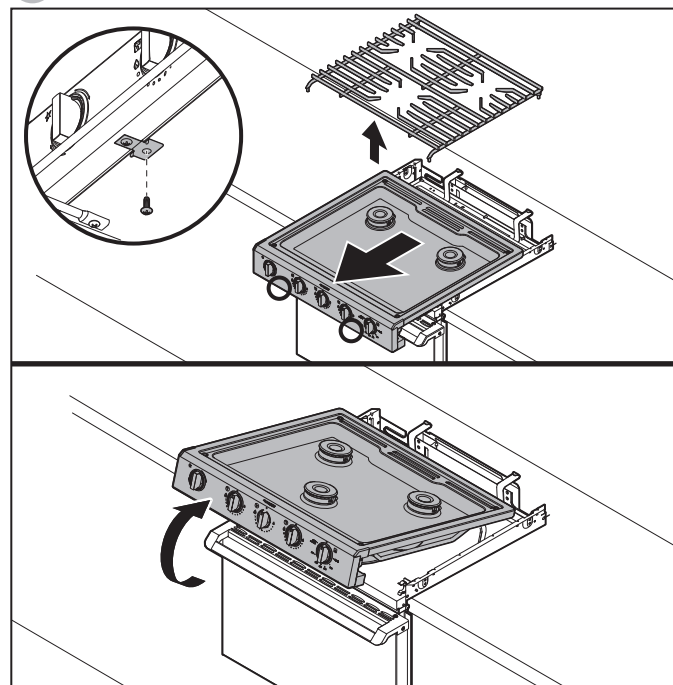
1. Open the oven door.
2. Locate the oven bulb. See Component Locations (on page 8) for more detail.
3. Unscrew the glass lens and pull the lens away from the oven to expose the oven bulb.
4. Carefully pull out the bulb and replace it with a new 12 V/10 W Halogenlamp G4 bulb (not included).

i To avoid surface contamination of the halogen bulb, avoid touching the glass part of the bulb with bare hands. Skin oils can cause a hot spot on the glass that leads to premature bulb failure.

5. Place the glass lens over the bulb and rotate the lens until it sits tightly in place.

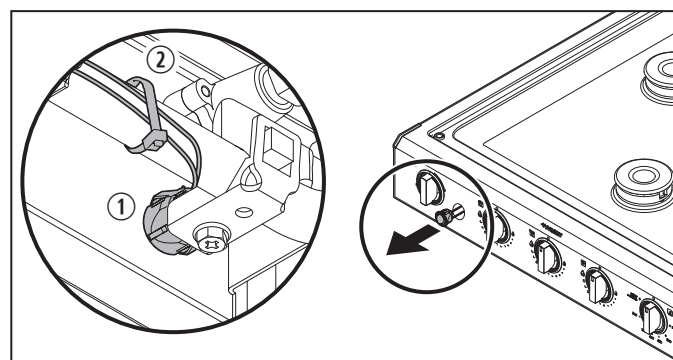
7.13 Replacing the Oven Light Switch and Wires

i This section applies to R31 models only.



17 Removing the Oven Light Switch and Wires

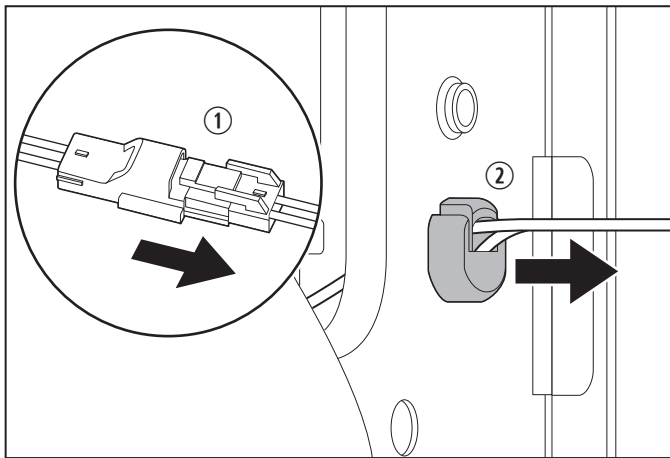
1. Perform the steps in Accessing the Range Components (on page 19) before proceeding with service.
2. Disconnect the wires from the power supply.
3. Gently lift the cooktop to expose the components.



18 Removing the Switch and Zip Ties

- ① Snap Lock ② Zip Tie

4. Remove the switch by pressing the snap lock.
5. Clip the zip ties before removing the wires.



20 Disconnecting the Oven Light Wiring

- ① Wire Connectors ② Strain Relief

6. Unhook the oven light wire connectors.
7. Push the strain relief attached to the black panel outwards.
8. Remove the wiring assembly and replace.
9. Reverse the steps for re-installation

8 Maintenance

⚠ WARNING: ELECTRICAL SHOCK, FIRE, EXPLOSION, AND/OR CARBON MONOXIDE HAZARD. Failure to obey the following warnings could result in death or serious injury.

- Use only Dometic replacement parts and components, which are specifically approved for use with the appliance.
- Do not use matches, candles, or other sources of ignition to test fittings and gas lines for leaks.
- Avoid improper installation, adjustment, alterations, service, or maintenance of the appliance. Service and maintenance must be done by a qualified service person only.

The following preventive maintenance and safety checks should be performed once a year, or as needed, depending on the use of the appliance. Failure to properly maintain the appliance may void the warranty and could result in unsafe operation. Preventive maintenance is not covered under the warranty.

8.1 Changing the Battery in the Battery Ignition Module

1. Perform the steps in Accessing the Range Components (on page 19) before proceeding with service.
2. Unscrew the ignition switch cover.
3. Remove and replace the AAA battery.

8.2 Testing the Control knobs

Use the testing method applicable to the appliance.

8.2.1 Manual Lighting

1. Light the burners, one at a time.
2. To light the burner with a match, turn the knob approximately 90° until it points to the large flame decal.
3. Hold a lit match (long match or long lighter) near the burner to ignite the flame.
4. Confirm that the burner flame is present and adjusts when the control knob is turned.

8.2.2 Testing the Piezo Ignitor

1. Turn the knob approximately 90° until it points to the large flame decal.
2. Turn the spark ignitor knob clockwise until it clicks.
3. Continue turning the knob until the burner ignites.
4. Confirm that the burner flame is present and adjusts when the control knob is turned.

8.2.3 Testing the Electronic Ignition

1. Light the burners, one at a time.
2. Turn the knob counterclockwise.
3. Press and hold the electronic ignition button until the burner lights.
4. Confirm that the burner flame is present and adjusts when the control knob is turned.

8.2.4 Testing the Range Pilot

1. Push in and rotate the oven control knob until it points to pilot - push/hold.
2. Push in and hold the knob while holding a lit match under the pilot.
3. Release the knob.
4. Confirm the pilot flame is present.
5. Repeat the process if the pilot does not stay lit.
6. To extinguish the pilot, push in the oven control knob and rotate clockwise to off.

8.3 Cleaning

Use the cleaning method applicable to the appliance.

8.3.1 Cleaning the Burners

See the section Testing the 12 VDC Ignition Module (on page 22).

8.3.2 Cleaning the Cooktop

1. Remove the grate.
2. Clean with warm, soapy water.
3. Rinse with clean water.
4. Dry with a soft cloth.

 Heavy burned-on soil may require repeated cleaning steps until the soil is completely removed.

8.3.3 Cleaning the Control Knobs

1. Pull the knobs straight off of the stems.
2. Clean using a mild liquid cleaner or glass cleaner.

8.3.4 Cleaning the Control Panel

1. Apply a spray glass cleaner to a cloth or towel. Do not spray glass cleaner directly on the panel or use an oven cleaner.
2. Gently wipe the control panel using the cloth or towel.

8.3.5 Cleaning the Grates

1. Clean dirty areas with a cloth or towel.
2. Use a non-abrasive, plastic scrubbing pad, as necessary.

8.3.6 Cleaning the Oven

1. Clean using warm, soapy water.
2. Use a non-abrasive, plastic scrubbing pad, as necessary.

 For heavy soil, use an oven-cleaning spray and follow the manufacturer directions on the label.

9 Disposal



Place the packaging material in the appropriate recycling waste bins, whenever possible. Consult a local recycling center or specialist dealer for details about how to dispose of the product in accordance with all applicable national and local regulations.

10 Replacement Parts

For the most current parts information, visit www.dometic.com.

Mobile living made easy.



dometic.com

**YOUR LOCAL
DEALER**

dometic.com/dealer

**YOUR LOCAL
SUPPORT**

dometic.com/contact

**YOUR LOCAL
SALES OFFICE**

dometic.com/sales-offices
