



Preferred Service

Service Manual

This manual is to be used by qualified appliance technicians only. Viking does not assume any responsibility for property damage or personal injury for improper service procedures done by an unqualified person.

D3 Gas Cooktops

This Base Manual covers general and specific information including, but not limited to the following models:

RDGSU2005BSB

RDGSU2065BSB



Table of Contents



Important Information	3
Safety Information	3
Warnings	4
Power Failure	4
General Information	5
Warnings (continued)	5
Electrical Requirements	5
Gas Requirements	5
Gas Connection	5
Gas Requirements (continued)	6
Pressure Regulator:	6
Rigid Connections:	6
Proper Lighting and Shutdown Instructions	6
Model / Serial Tag Location	7
Model Number Breakdown	7
Serial Number Breakdown	7
Operation	8
Burner Operation	8
Burner Automatic Reignition	8
Rear, Center, and Front Burners	8
Typical Burner / Iris Ignition Setup	8
Removal of stainless steel top	9
Disassembly	9
Burner Box Components	10
Burner base removal	11
Igniter removal	13
Orifice spud removal	13
Iris Spark Module removal	14
Gas valve removal	15
Troubleshooting	16
Iris Spark Module	16
Single Spark Module	16
Igniter	17
Dual gas valve switch	17
Schematic	18
Wiring Diagram	19

SAVE THESE INSTRUCTIONS

REVIEW ALL SERVICE INFORMATION IN THE APPROPRIATE SERVICE MANUAL AND TECHNICAL SHEETS BEFORE BEGINNING REPAIRS.

Pride and workmanship go into every product to provide our customers with quality products. It is possible, however, that during its lifetime, a product may require service. Products should be serviced only by a qualified service technician that is familiar with the safety procedures required in the repair and who is equipped with the proper tools, parts, testing instruments, and the appropriate service manual.

Safety Information

We have provided many important safety messages in this manual and on the appliance. Always read and obey all safety messages. This is the safety alert symbol.



This symbol alerts you to hazards that can kill or hurt you and others. All safety messages will be preceded by the safety alert symbol and the word "DANGER", "WARNING", or "CAUTION". These words mean:

DANGER

IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.

WARNING

Hazards or unsafe practices which COULD result in severe personal injury or death.

CAUTION

Hazards or unsafe practices which COULD result in minor personal injury or product or property damage.

All safety messages will identify the hazard, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

WARNING

To avoid risk of serious injury or death, repairs should not be attempted by unauthorized personnel.

CAUTION

VIKING will not be responsible for any injury or property damage from improper service procedures. If performing service on your own product, you must assume responsibility for any personal injury or property damage which may result.

Technical support for authorized servicers:

1-800-914-4799

Address your written correspondence to:

Viking Preferred Service
 1803 HWY 82 West
 Greenwood, MS 38930

Important Information



Warnings

Read and follow all instructions before using this appliance to prevent the potential risk of fire, electric shock, personal injury, or damage to the appliance as a result of improper usage of the appliance. Use appliance only for its intended purpose as described in this manual.

To ensure proper and safe operation: appliance must be properly installed and grounded by a qualified technician. DO NOT attempt to adjust, repair, service, or replace any part of your appliance unless it is specifically recommended in this manual. All other servicing should be referred to a qualified servicer.

Make sure that incoming voltage is the same as unit rating. An electric rating plate specifying voltage, frequency, wattage, amperage, and phase is attached to the product.

Power Failure

If power failure occurs, the electric igniters will not work. No attempt should be made to operate the appliance during a power failure.

Momentary power failure can occur unnoticed. The cooktop is affected only when the power is interrupted. When it comes back on, the cooktop will function properly without any adjustments.



WARNING

This appliance shall not be used for space heating. This information is based on safety considerations.



WARNING

To avoid risk of property damage, personal injury or death; follow information in this guide exactly to prevent a fire or explosion. DO NOT store or use gasoline or other flammable vapors and liquids in the vicinity of this or any appliance.



WARNING

BURN HAZARD

To avoid risk of injury, DO NOT touch the glass. The cooktop will get hot during usage.



WARNING

FOR YOUR SAFETY

If not installed, operated and maintained in accordance with the manufacturer's instructions, this product could expose you to substances in fuel or fuel combustion which can cause death or serious illness and which are known to cause cancer, birth defects or other reproductive harm.

For example, benzene is a chemical which is part of the gas supplied to the cooking product. It is consumed in the flame during combustion. However, exposure to a small amount of benzene is possible if a gas leak occurs. Formaldehyde and soot are by-products of incomplete combustion. Properly adjusted burners with a bluish rather than yellow flame minimize incomplete combustion.



WARNING

ELECTRICAL GROUNDING INSTRUCTIONS

The cooktop must be electrically grounded in accordance with local codes or, in the absence of codes, with the ANSI/NFPA No. 70-latest edition. Installation should be made by a licensed electrician. This appliance is equipped with a three-prong grounding plug for your protection against shock hazard and should be plugged directly into a properly grounded receptacle. DO NOT cut or remove the grounding prong from the plug.

For personal safety, this appliance must be properly grounded. DO NOT under any circumstances cut or remove the third (ground) prong from the power plug.



WARNING

BURN OR ELECTRICAL SHOCK HAZARD

To avoid risk of injury or death, make sure all controls are OFF and COOL before cleaning. Failure to do so can result in burns or electrical shock

Warnings (continued)

 **WARNING****For Your Safety**

If you smell gas:

1. Shut off gas to appliance.
2. Extinguish any open flame.
3. If odor continues, keep away from the appliance, immediately call your gas supplier or your fire department.

 **CAUTION**

Before placing the cooktop into operation, always check for gas leaks with a soapy water solution or other acceptable method. **DO NOT USE AN OPEN FLAME TO CHECK FOR LEAKS.**

Electrical Requirements

There is no connection necessary beyond plugging the unit into a properly polarized, grounded 120 volt, 60Hz, 15 amp circuit. A minimum of 120 VAC is required for proper operation of gas ignition systems. **DO NOT** use a GFI circuit. **This circuit, however, MUST be grounded and properly polarized.** The unit is equipped with 16-3 SPT2 power cord..

- A standard 120V/60 Hz, 15 amp circuit, 3 wire ground, 3 prong plug is equipped.
- A minimum of 120 VAC is required for proper operation of gas ignition systems. The circuit must be, **MUST** be properly grounded and polarized.

IMPORTANT: It is recommended to have the electrical wiring and installation of your cooktop connected by a qualified technician / installer.

NOTE: If electrical power is not supplied or is interrupted, the burners will have to be lit manually with a match.

Gas Requirements

Gas Connection

- The RDGSU cooktops are shipped natural gas, and manufactured for use with natural gas or LP/Propane gas. Check the rating plate located on the bottom of the burner box for type of gas needed, an LP conversion kit is supplied with the unit.
- To convert to natural gas or LP/Propane gas, contact a qualified service technician.
- The installer must use a flexible connector of at least 1/2" I.D. (1.3 cm) NPT and comply with ANSI Z21.41 and Z21.69 standards.

 **CAUTION**

Conversions should only be performed by an authorized service technician.

 **WARNING**

Conversion must be performed by a qualified installer, service agency, or the gas supplier in accordance with the manufacturer's instructions. Failure to follow instructions could result in serious injury or property damage.

IMPORTANT: The gas supply (service) line must be the same size or greater than the inlet line of the cooktop. All cooktops use a 1/2" (1.3cm) NPT (Sch40) inlet.

- Sealant on all pipe joints must be resistive to LP/Propane gas.

Manual shut-off valve:

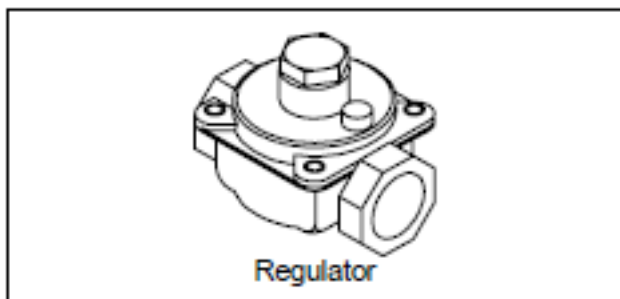
- The supply valve must be installed in the gas service line ahead of the appliance and regulator in the gas stream. It should be positioned where it can be reached quickly in the event of an emergency.
- In **Massachusetts:** A "T" handle type manual gas valve **must be installed** in gas supply line to the appliance.

Gas Requirements (continued)

Pressure Regulator:

- The regulator supplied with the RDGSU cooktops must be installed before any gas connections are made. It is preset for use with natural gas. This must be converted for use with LP/Propane gas.
- Manifold pressure should be checked with a manometer. Natural gas requires 5.0 " WCP (water column pressure) and LP/ Propane requires 10.0" WCP. Incoming line pressure upstream for the regulator must be 1" WCP or higher than the manifold pressure in order to check the regulator.
- The regulator used on this cooktop can withstand a maximum input pressure of 1/2 PSI (14" WCP). If the line pressure is in excess of that amount a step-down regulator will be required.
- The manual shut-off valve and pressure regulator of these cooktops must be disconnected from the gas supply piping system during any pressure testing of that system at pressures in excess of 1/2PSI (3.45kPa).
- The cooktop must be isolated from the gas supply piping system by closing its' individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressure equal to or less than 1/2 PSI (3.45kPa).

IMPORTANT: NEVER reuse old connectors when installing this cooktop.



Rigid Connections:

- Incoming gas is brought from an intake pipe at the rear of the unit to the pressure regulator; then to the manifold pipe for distribution. The intake pipe and shut-off valve are not supplied. The intake pipe and the shut-off valve should be connected to the regulator to complete the connection.

In **Massachusetts**: This appliance must be installed with a 36" (3 foot) long flexible gas line.

- The alignment of the valves should be checked after connecting the cooktop to the gas supply to be sure the manifold pipe has not been moved. A misalignment may cause the valve knob stem to rub on the control panel, resulting in a gas leak at the valve.
- Installer-supplied intake pipes should be checked visually for any foreign matter before installing in a service line.

Proper Lighting and Shutdown Instructions

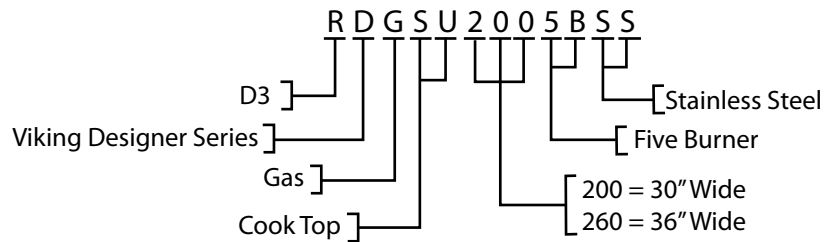
To ignite electric igniters on the surface burners :

1. Turn the knob counterclockwise to any position.
2. Upon ignition of the surface burner, turn the knob to the desired position (HI, MED, or LOW).
3. To shutdown the burner, turn knob clockwise to the OFF position.

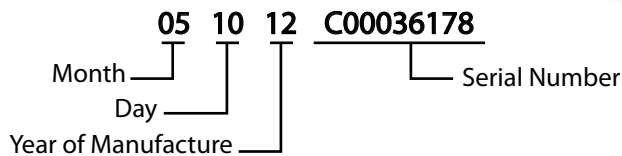
In case of failure, shut the gas OFF using the installer supplied manual shut-off valve.

Model / Serial Tag Location

Model Number Breakdown



Serial Number Breakdown



Model / Serial tag is located underneath cooktop next to gas inlet line.



Burner Operation

All burners are ignited by electronic ignition. There are no open flame, "standing" pilots.

Burner Automatic Reignition

To light the burners, push and turn the appropriate control knob counterclockwise to the desired position. This control is a gas valve with an electronic switch/spark module physically mated to the gas valve. Burners will ignite at any "ON" position with the automatic re-ignition system. If the flame goes out for any reason, the burners will automatically reignite if the gas is still flowing. When gas is permitted to flow to the burner (all positions except "OFF"), the electronic spark module sends signal to igniter, causing it to spark. This sparking should result in a clicking sound until burner lights, if there is no sound and burner does not light, turn off control and try another burner. If no burners light (click), check that the unit is plugged in and that the fuse or circuit breaker is not blown or tripped.

Rear, Center, and Front Burners

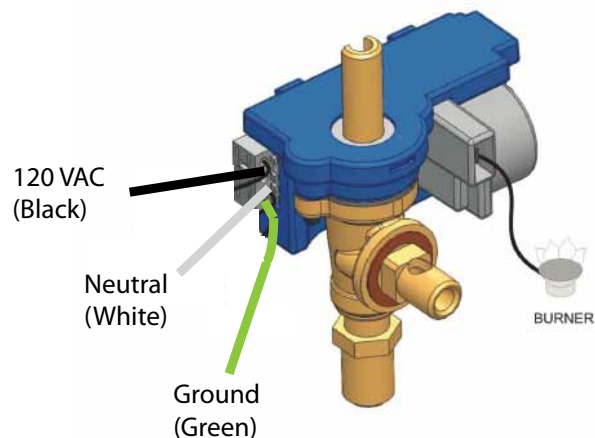
Push in and turn the control knob counterclockwise to the desired setting. The control knobs can be turned to any setting, as there are no "fixed" positions between "HI" and "Simmer".

Within a few moments, enough gas will have travelled to the burner to ignite. When the burner lights, turn the control knob to any position to adjust flame size. Setting the proper flame height for the desired cooking process and selecting the correct cooking vessel will result in superior cooking performance, while also saving time and energy.

NOTE: *The igniter may click a number of times before the burner ignites, this is normal.*

Typical Burner / Iris Ignition Setup

Typical wiring for Iris Single Ignition system is shown below, multiple burner valves are wired together in series on the input side and output goes to the respective igniter for each burner.

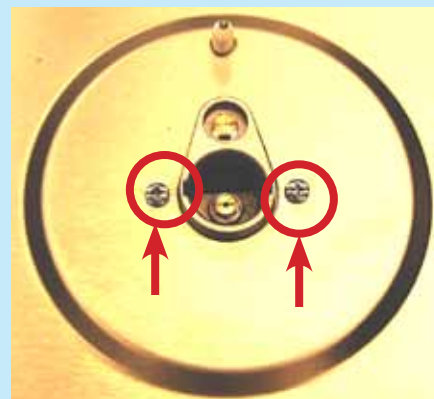
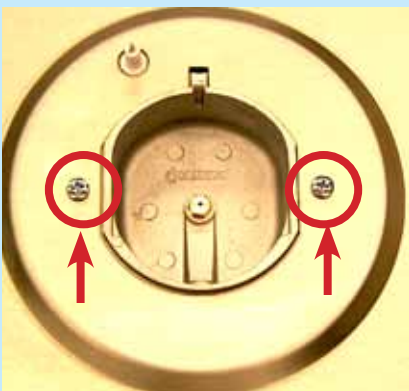
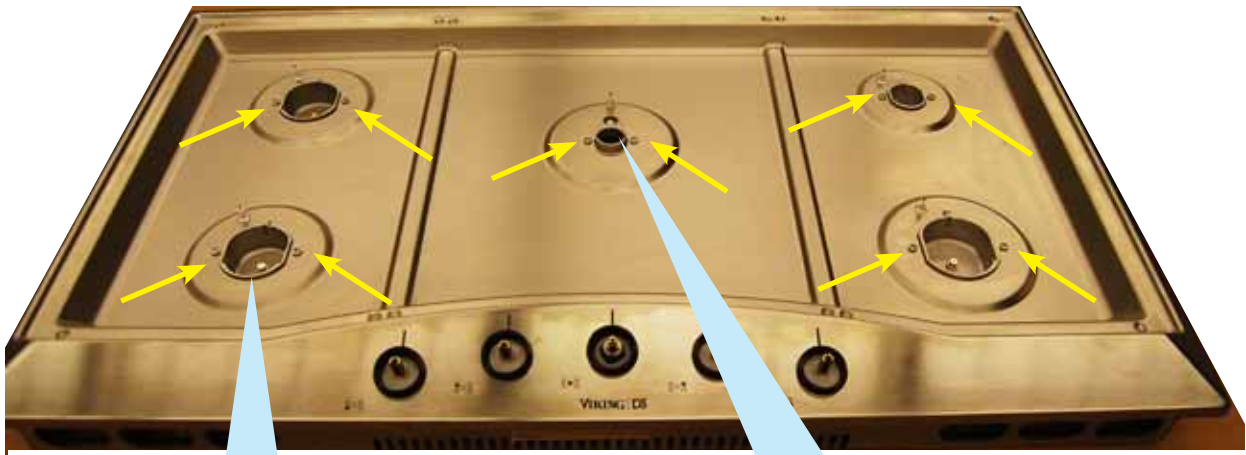


⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Shut-off gas valve supplying gas to cooktop prior to removal and disassembly.

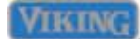
Removal of stainless steel top

1. Disconnect power from unit by unplugging 120 vac power cord.
2. Turn gas shut-off valve to the OFF position to remove supply gas from going to cooktop.
3. Remove grates, burner caps and burner heads from cooktop, placing them in a secure location to prevent damage to parts and customer's home.
4. Remove the two screws from each burner as shown in illustration below.



5. After removing these ten phillips head screws, lift stainless steel top off of cooktop and place in a secure area to prevent damage to top and customer's home.

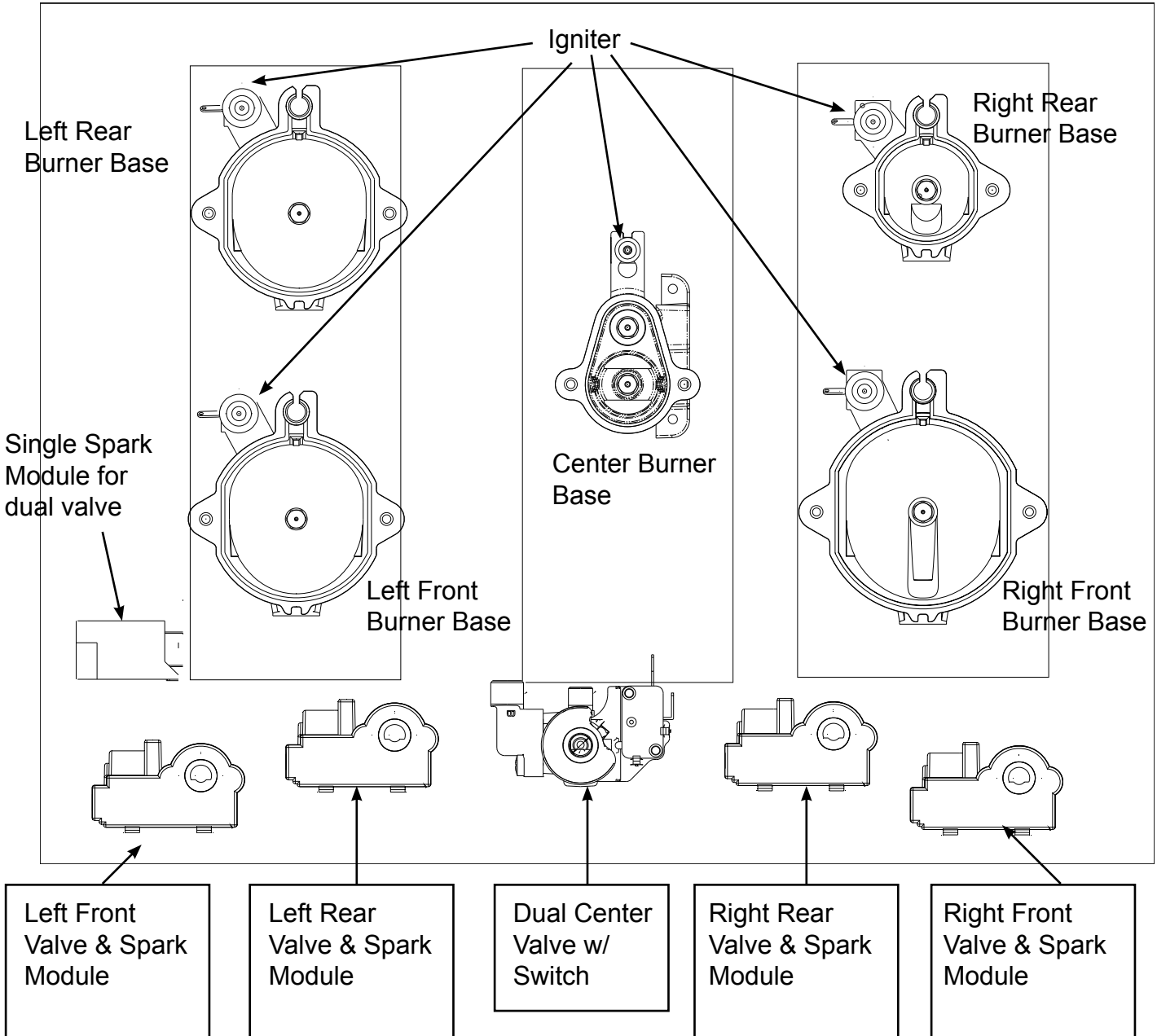
Disassembly



WARNING

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Burner Box Components



WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Shut-off gas valve supplying gas to cooktop prior to removal and disassembly.

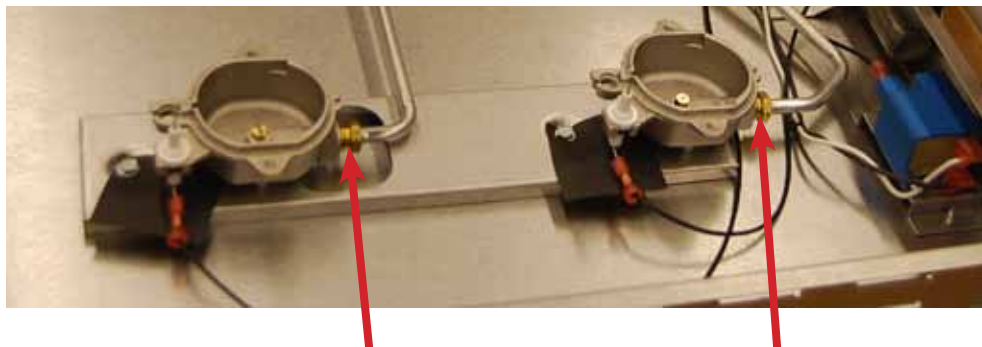
DANGER

Failure to fully engage the gas shut-off prior to the following procedures could result in injury, property damage and possibly death.

Burner base removal

The burner bases are mounted on a support bracket which in turn is mounted to the burner box.

1. Disconnect Power from cooktop.
2. Turn gas supply off going to cooktop, in future steps you will be removing gas lines, it is imperative that gas supply is turned all the way off to prevent gas leaking out.
3. Remove Stainless steel top, see Page 9 for procedure.
4. Remove gas line connection from both burner bases, see photo below.

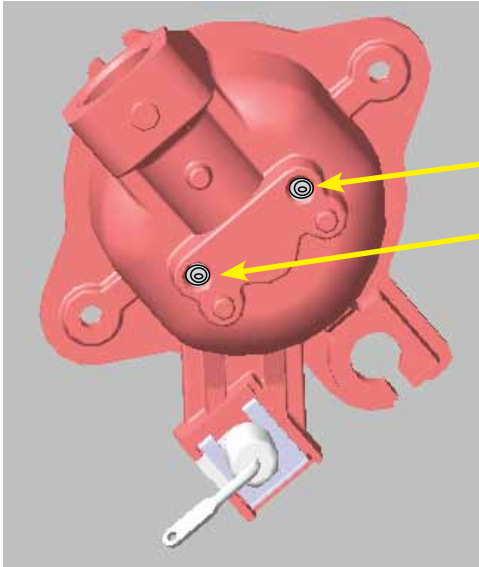


5. With gas lines disconnected, remove bracket bolts from underneath cooktop burner box.

WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Shut-off gas valve supplying gas to cooktop prior to removal and disassembly.

6. Disconnect igniter wires from both burners, you can now remove the burners still mounted to the support bracket.
7. Turn sub-assembly upside down to remove the two bolts holding the burner base to the support bracket.



Threaded bolts go through support bracket into the burner base mounting holes, indicated by arrows.

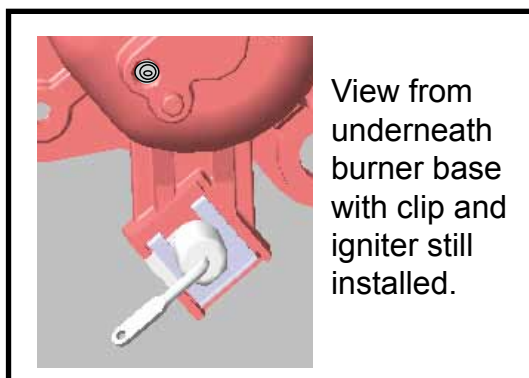
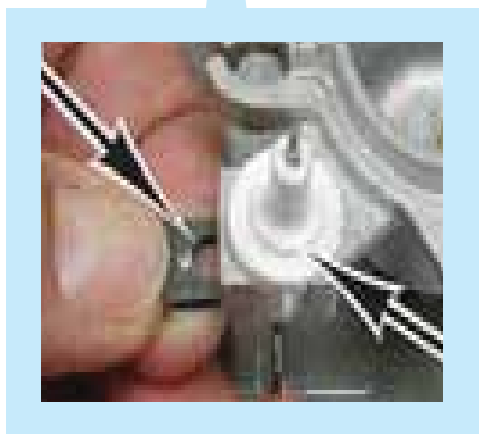
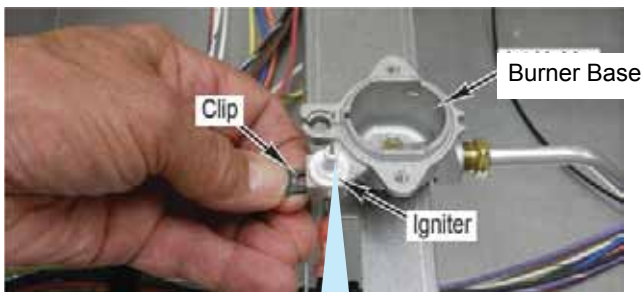
8. If you are replacing the burner base you will have to transfer the orifice spud, igniter and clip to the new base, see appropriate sections to accomplish their removal.

⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Shut-off gas valve supplying gas to cooktop prior to removal and disassembly.

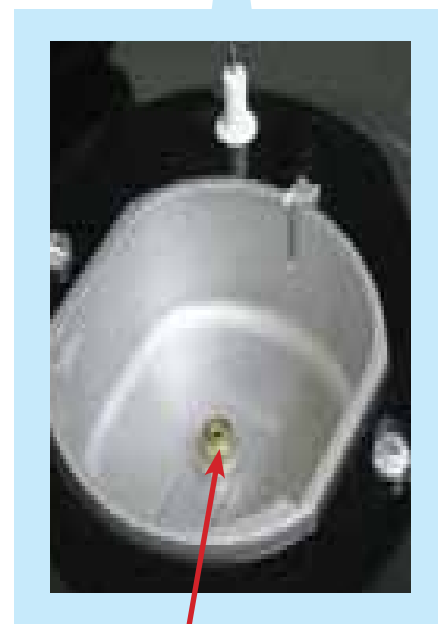
Igniter removal

1. Disconnect electrical power from cooktop
2. Remove Stainless steel top, see Page 9 for procedure.
3. To remove igniter, pull clip outward as shown in photos below.
4. Once clip is removed, igniter will slide out of slot where clip was previously locked into.



Orifice spud removal

1. Remove grates, burner caps and burner heads, place in a secure area to prevent any damage to components and customers home.
2. Remove burner orifice spud with socket and ratchet, see photo below.



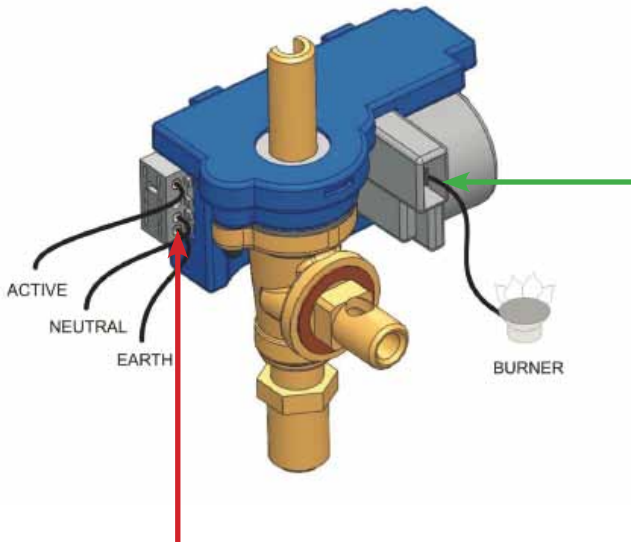
Remove orifice spud with socket and ratchet

WARNING

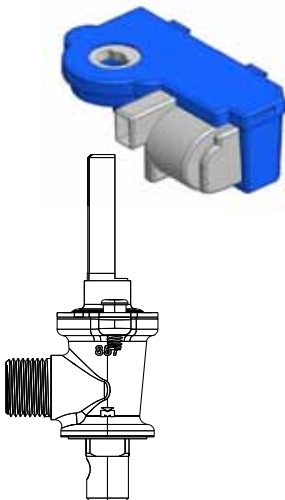
To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Shut-off gas valve supplying gas to cooktop prior to removal and disassembly.

Iris Spark Module removal

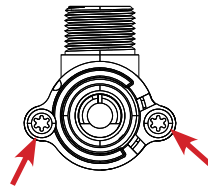
1. Disconnect electrical power from cooktop
2. Remove Stainless steel top, see Page 9 for procedure.
3. Remove input connector and output wire connection from Iris spark module.



4. Lift Iris spark module straight up and off of gas valve



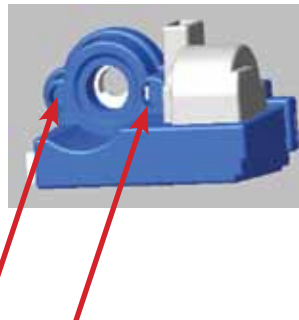
5. The Iris spark module is positioned by fitting over the gas valve shaft and then snaps onto gas valve screw heads, the module will pull right off. When installing back on gas valve the screw heads pop into the plastic mounting holes, all is illustrated below.



Top view of gas valve

Arrows show bolt heads that Iris spark module snaps on to.

Bottom view of Iris spark module



⚠ WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Shut-off gas valve supplying gas to cooktop prior to removal and disassembly.

⚠ DANGER

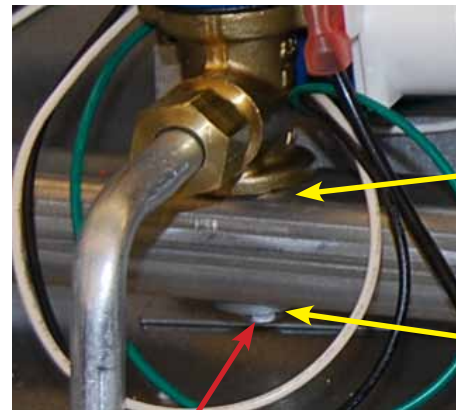
Failure to fully engage the gas shut-off prior to the following procedures could result in injury, property damage and possibly death.

Gas valve removal

1. Disconnect Power from cooktop.
2. Turn gas supply off going to cooktop, in future steps you will be removing gas lines, it is imperative that gas supply is turned all the way off to prevent gas leaking out.
3. Remove Stainless steel top, see Page 9 for procedure.
4. Remove Iris spark module, see Page 14.
5. Disconnect output gas line connection, see photo below.
6. When gas line has been removed, the next step is to remove the bolt underneath the manifold that secures the valve to the manifold.



Disconnect line and pull away from valve being careful not to damage line or valve.



Upper seal between valve and manifold

Lower seal between bolt and manifold

Remove bolt, making sure that rubber seal between bolt head and manifold is retained for re-installation

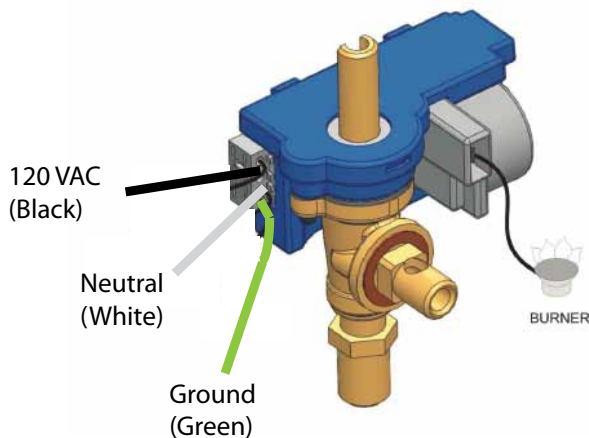
7. At this time pull gas valve straight up and out of manifold, being careful to retain the upper seal that goes between the gas valve body and manifold, if valve is being replaced a new seal will be included with the new valve..

WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

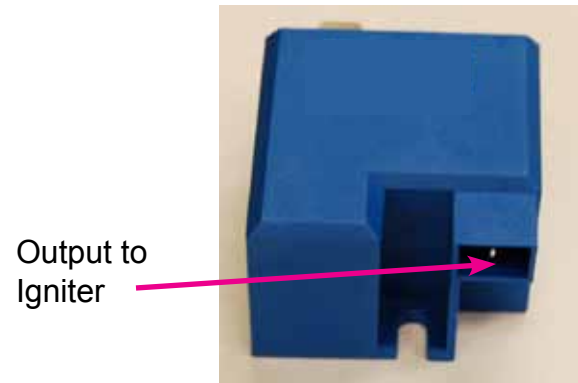
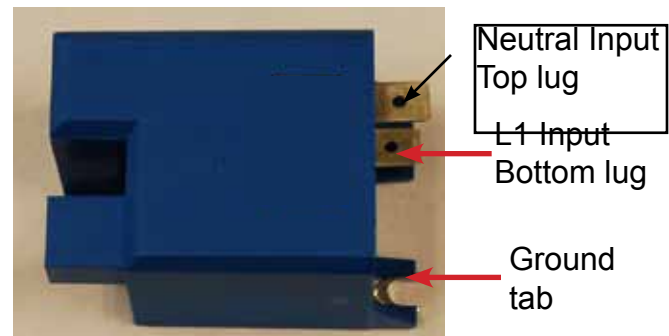
Iris Spark Module

1. Check for presence of 120 VAC between black wire (L1) and white wire (neutral) of spark module, this voltage should be present whenever power is connected to the cooktop.
2. Check that white wire (neutral) has no voltage to green wire (ground). If there is voltage between neutral and ground, unplug cooktop from 120 VAC source and go to step 4 below.
3. If there was no voltage between neutral and ground check that voltage between the black wire (L1) and the green wire (ground) is 120 VAC.
4. If any of the voltages checked above were incorrect, verify that wall socket polarity / ground are incorrect and have consumer correct faulty source wiring by a licensed electrician.
5. If all voltages are good and module fails to spark when power applied, replace module after verifying igniter and wire to igniter are good.



Single Spark Module

1. L1 input power to the Single spark module is supplied through the micro switch on the dual gas valve assembly. This voltage goes to the bottom lug as shown in photos below. Verify voltage when dual gas valve turned to any position other than OFF.
2. Make sure that ground tab, shown below in photos, has a tight screw to chassis, which supplies earth ground to the module.
3. Neutral is supplied to the top lug as shown below and when checking voltage in step 1 above it should be checked between the neutral and L1 lugs as shown.
4. If input voltage is good but module doesn't supply spark, replace module after verifying igniter and wire going to igniter are good.

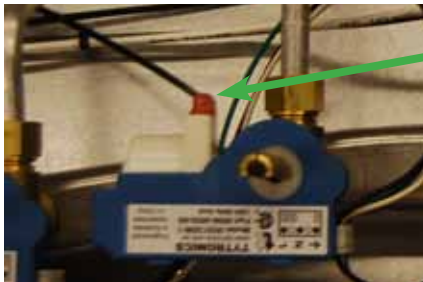


⚠ WARNING

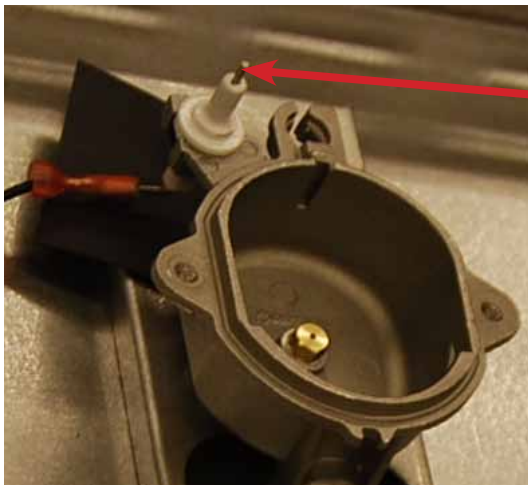
To avoid risk of electrical shock, personal injury, or death, disconnect electrical power source to unit, unless test procedures require power to be connected. Discharge capacitor through a resistor before attempting to service. Ensure all ground wires are connected before certifying unit as repaired and/or operational.

Igniter

1. Remove output wire from Iris Spark module, using an ohmmeter check continuity from the wire just removed to the tip of the igniter, should read 0 ohms.



Remove the output connection from Iris spark module and connect one end of ohmmeter to wire.



The other ohmmeter lead goes to the tip of the igniter.

2. If the ohmmeter reading is incorrect isolate the issue to the wire or the igniter.

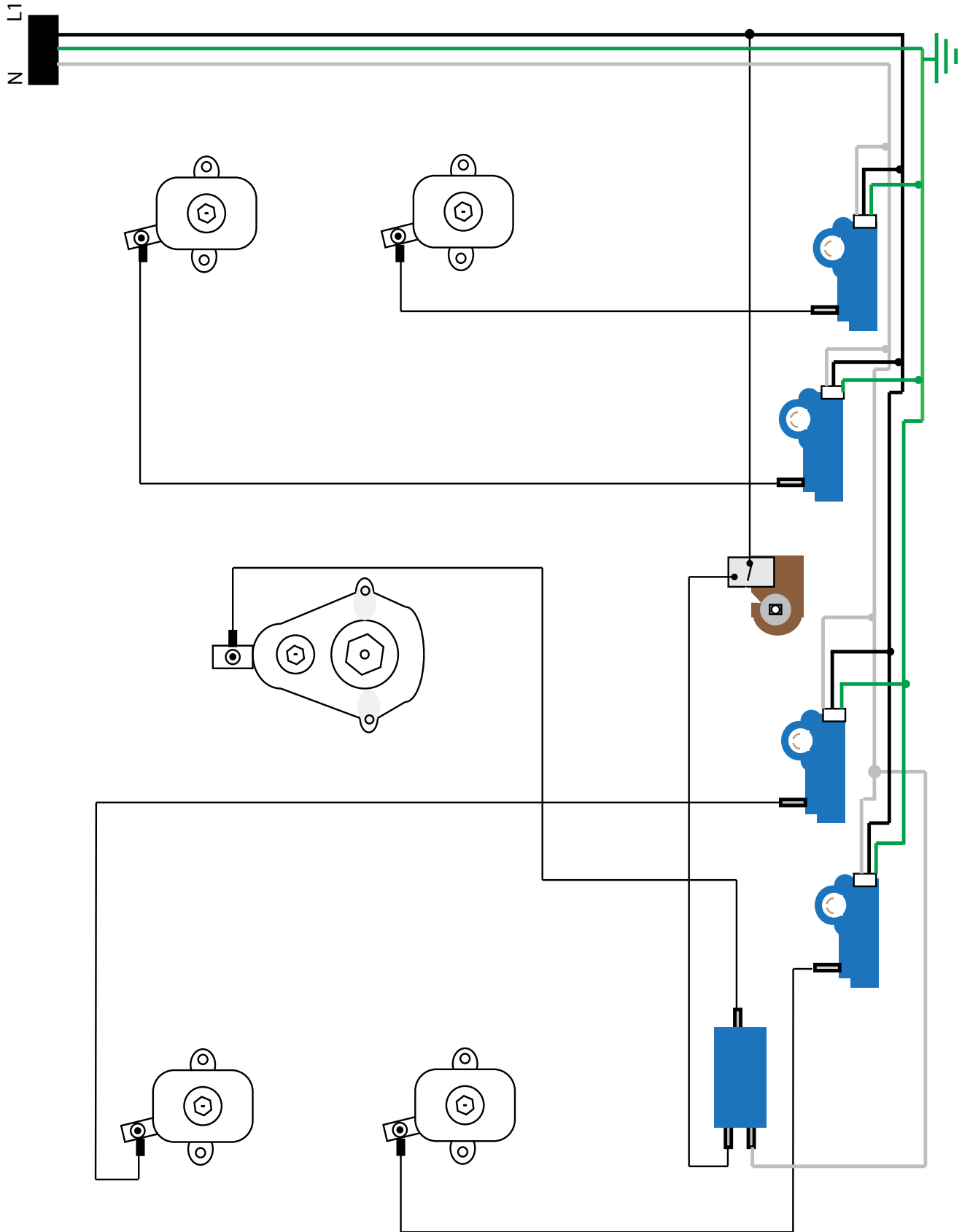
Dual gas valve switch

1. The micro-switch on the dual gas valve is part of the gas valve assembly. whenever you turn gas valve to any position other than OFF, the microswitch N.O. contact and Common contacts will complete the circuit to supply 120 VAC to the Single Spark Module.



2. There should be 120 VAC on the common terminal whenever the power cord is connected to wall socket.

RDGSU2605BSS Schematic



RDGSU 30 & 36 WIRING DIAGRAM GAS COOKTOP D3

