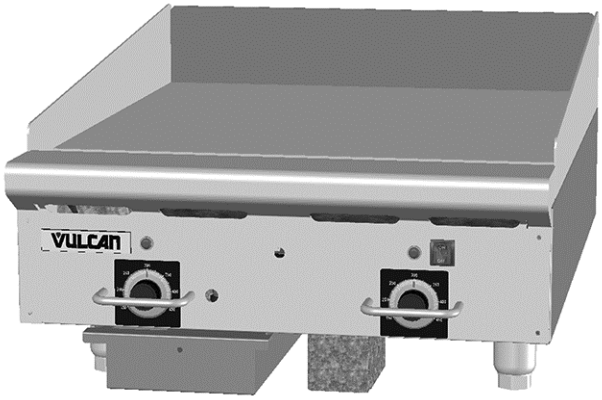
SERVICE MANUAL



24RRG Shown

RRG SERIES HEAVY DUTY GAS GRIDDLE

24RRG	**ML-135339-00024**
36RRG	**ML-135340-00036**
48RRG	**ML-135341-00048**
60RRG	**ML-135342-00060**

- NOTICE -

This Manual is prepared for the use of trained Vulcan Service Technicians and should not be used by those not properly qualified.

This manual is not intended to be all encompassing. If you have not attended a Vulcan Service School for this product, you should read, in its entirety, the repair procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained Vulcan Service Technician.

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GENERAL

INTRODUCTION

This Service Manual covers specific service information related to the models listed on the front cover. Procedures in this manual will apply to all RRG Heavy Duty Gas Griddles unless otherwise specified. Raising of the griddle plate is not required for servicing the griddle components. Griddle components are serviced through the front and rear. Pictures and illustrations can be of any model unless the picture or illustration needs to be model specific.

The RRG, Rapid Recovery Griddle, plate is a composite material which is engineered to provide a high heat transfer rate to the food. The top surface can be scored or dented by careless use of a spatula or scraper. The center of the of the plate is an aluminum core with sheets of stainless steel laminated to the top and bottom exterior surfaces.

INSTALLATION

Generally, installations are made by the dealer or contracted by the dealer or owner. Detailed installation instructions are included in F-36981 Installation & Operation Manual that is sent with each unit.

It should be noted that an improperly installed unit, especially an unlevel unit can lead to premature electrical component failures. A unit that is higher in the front will cause the flue gases to vent improperly and gather in the front near the electrical components.

All RRG models must be installed with an externally mounted regulator.

The models, number of burners and BTU/HR input rating are listed under GENERAL in the Installation & Operation Manual.

OPERATION

Detailed operation instructions are included in the Installation & Operation Manual sent with each unit. The manual is also available online at www.vulcanequipment.com.

The operation of the griddle controls, pilots and burners are outlined under CONTROLS in the Installation & Operation Manual.

SPECIFICATIONS

Electrical

- 120VAC 50/60Hz 1 Amp single phase.

- 6 foot corded plug with ground supplied.

Gas Manifold Pressure:

- Natural Gas 5.0" W.C.

- Propane Gas 10.0" W.C.

- Gas pressure regulator supplied with the unit must be installed.

Incoming Gas Pressure:

- 7" to 9" W.C. Natural Gas

- 11" to 12" W.C. Propane Gas.

- Incoming pressure should not exceed 14.0" W.C. (0.5 PSI) for either gas type.

Burners

- One 27,500 BTU/HR “U” shaped aluminized steel burner for each 12" of griddle width.

Controls

- One Solid State thermostat with embeded thermocouple for each 12" of griddle width.

- Temperature adjustment range 150°F to 450°F.

- Electronic ignition module with pilot safety system.

- There is one pilot for every two burners. A flash tube mounted between two burners is used to light the ignition ports on the burners.

- On 36” and 60” griddles there is an odd number of burners to light. One pilot and one electronic ignition module on these griddles will control a single burner only.

TOOLS

Standard

- Standard set of hand tools.
- VOM and meter leads rated CAT III 600v or higher. Meter must also have a certification.
- Temperature tester (K type thermocouple preferred) with surface probe.
- U-Tube or Digital Manometer.

- Thread sealant suitable for use with natural or propane gas.

Special

- Torque wrench capable of measuring at least 25 in-lbs. for tightening thermocouple probe to griddle plate. Bolt size 5/16"-18.
- Safekote 60 or equivalent Heat Transfer and Anti-Seize Compound rated for 600°F (purchase locally). Apply to thermocouple probe.
- Clear silicone sealant

REMOVAL AND REPLACEMENT OF PARTS

CONTROL PANEL

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

The Control Panel holds the thermostats, indicator lights and power switch.

1. Remove four screws securing the front of control panel to frame.

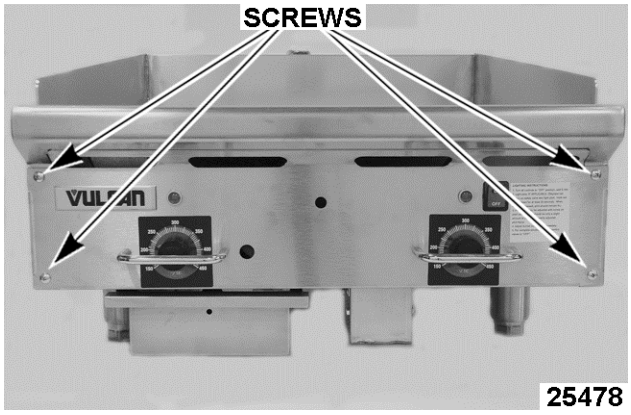


Fig. 1

2. Remove screw(s) that secure the bottom lip of the control panel to the frame. The total number of screws depend on the width of the griddle.
3. Pull control panel forward and lay face down in front of the unit while servicing.
4. Reverse procedure to install.

BACK PANEL

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING Shut off the gas before servicing the unit.

NOTE: Remove the back panel when changing a burner, temperature probe or to remove excessive grease build up from the flue area.

1. Disconnect gas supply at griddle.
2. Remove GAS PRESSURE REGULATOR.
3. Remove all screws from rear of griddle securing the back panel.

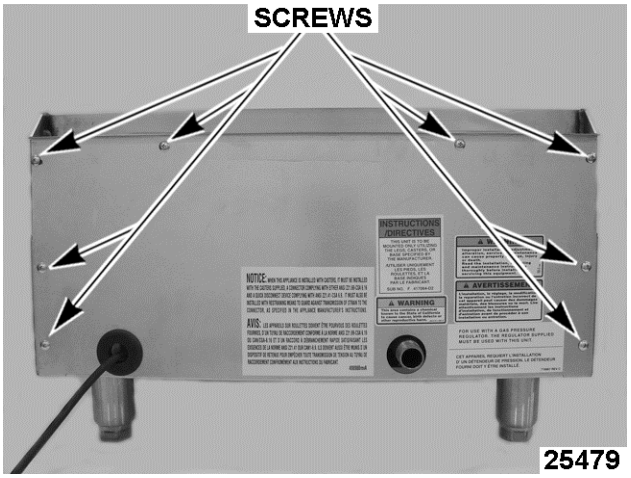


Fig. 2

4. Reverse procedure to install.

BULL NOSE

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove CONTROL PANEL.
2. Remove all screws securing bull nose to griddle. The total number of screws depend on the width of the griddle.

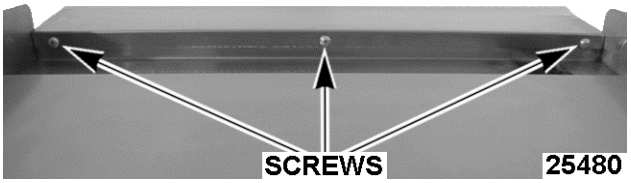


Fig. 3

3. Lift bull nose off griddle.
4. Reverse procedure to install.

THERMOCOUPLE

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING Shut off the gas before servicing the unit.

⚠ WARNING All gas joints disturbed during servicing must be checked for leaks. Check with a soap and water solution (bubbles). Do not use an open flame.

Removal

1. Remove CONTROL PANEL.
2. Note thermocouple connections then disconnect from temperature controller.

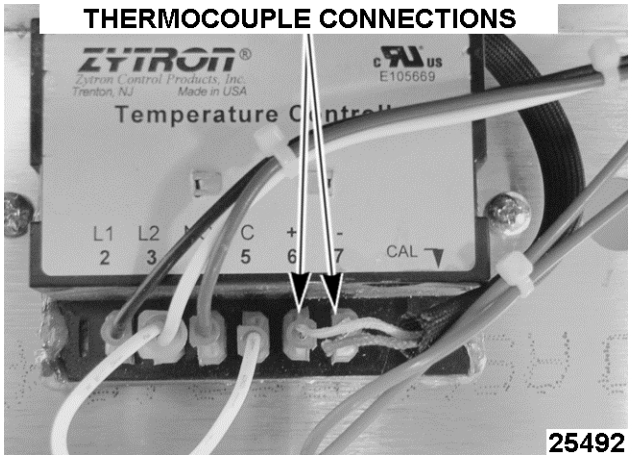


Fig. 4

3. Remove BACK PANEL.
4. From rear of griddle, loosen mounting nut and remove probe from bottom of griddle plate.

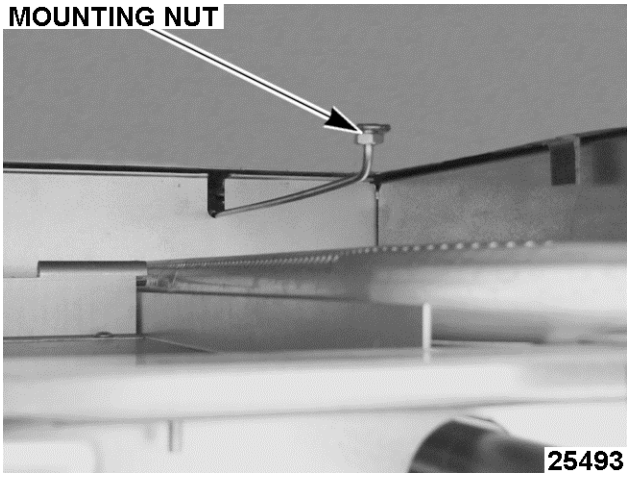


Fig. 5

Installation

1. Apply a thin coating of heat transfer and anti-seize compound to the probe tip and mounting nut threads.
2. From rear of griddle, route thermocouple wires and probe through the opening in heat shield.
3. Thread temperature probe into the mounting hole in griddle plate and stop when probe tip touches the plate. Torque the mounting nut to a maximum of 25 in-lbs.

NOTICE Do not over tighten or damage to the thermocouple probe may occur. Due to the aluminum plate core, It is also possible to create a raised area over the probe if overtightened.

4. Check TEMPERATURE CONTROL CALIBRATION.

TEMPERATURE CONTROLLER

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove CONTROL PANEL.
2. Note wire connections then disconnect them from temperature controller.

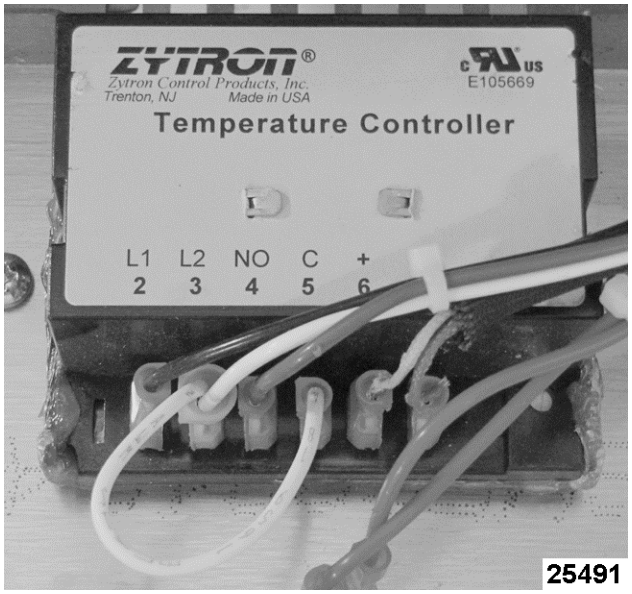


Fig. 6

3. Remove knob from temperature control shaft.
4. Note temperature control orientation as mounted to control panel. Remove mounting nut from temperature control shaft and remove control from panel.

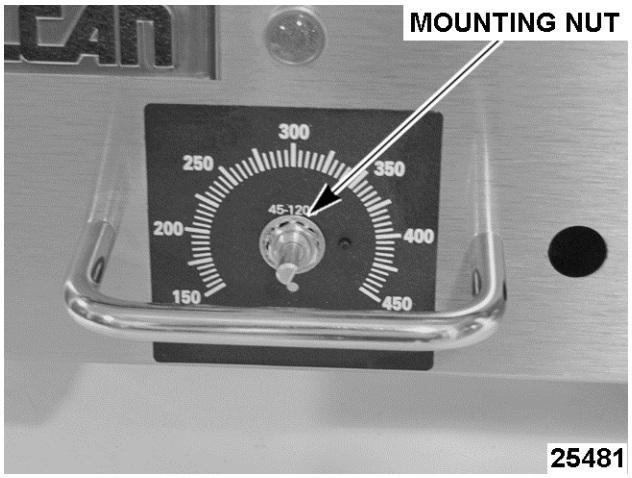


Fig. 7

5. Reverse procedure to install.
6. Check TEMPERATURE CONTROL CALIBRATION.

BURNER

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING Shut off the gas before servicing the unit.

⚠ WARNING All gas joints disturbed during servicing must be checked for leaks. Check with a soap and water solution (bubbles). Do not use an open flame.

1. Remove BACK PANEL.
2. Remove the nut that is securing burner.

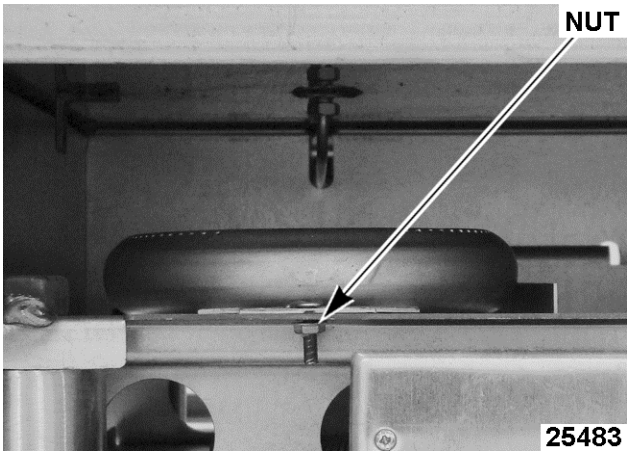


Fig. 8

3. Lift back of burner until locating pin clears hole and pull out burner.
4. Reverse proceedure to install.

PILOT BURNER

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING Shut off the gas before servicing the unit.

⚠ WARNING All gas joints disturbed during servicing must be checked for leaks. Check with a soap and water solution (bubbles). Do not use an open flame.

1. Remove GAS PRESSURE REGULATOR.

2. Access ignition module, and disconnect high voltage spark wire.

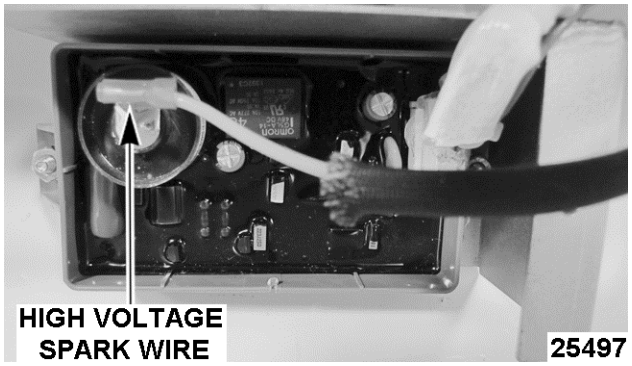


Fig. 9

3. Remove CONTROL PANEL.
4. Lift griddle at the front and support it from underneath for access to the pilot. (Be aware of the main gas line at the rear when tilting)
5. Remove pilot bracket retaining screw.

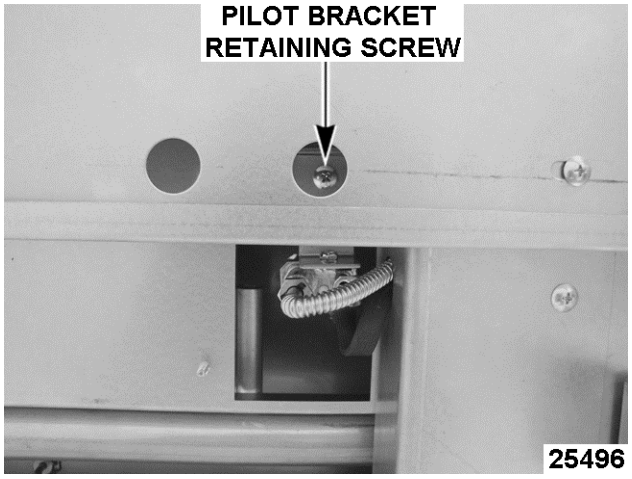


Fig. 10

6. Position pilot assembly to give you the easiest access to the compression fitting on the pilot assembly.

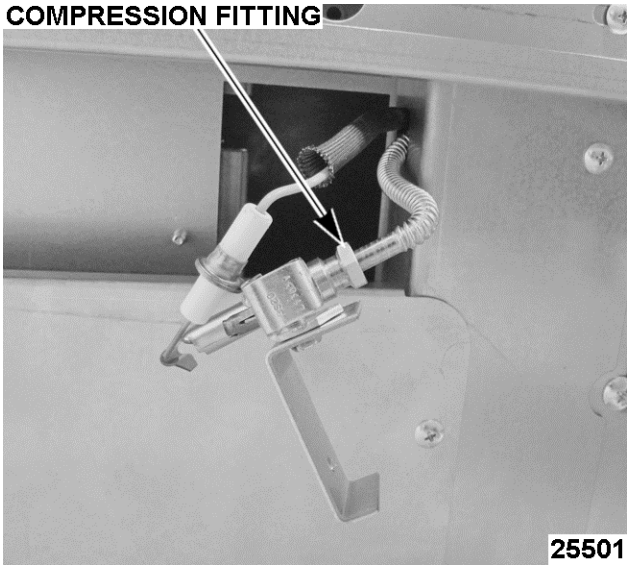


Fig. 11

7. Disconnect flex tubing from pilot burner assembly.
8. Pull high voltage spark wire through bottom of griddle.
9. Reverse procedure to install.

NOTE: When installing, verify spark gap is 1/8".

10. Check for proper operation.

IGNITION MODULE

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove grease tray
2. Remove two screws holding ignition module cover in place and pull it down.

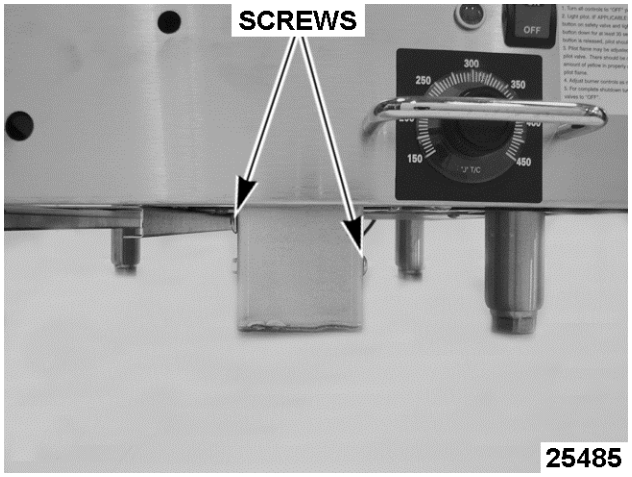


Fig. 12

3. Disconnect high voltage spark wire and control wire harness female connector.
4. Remove two mountingnuts and screws holding the ignigtion module to the cover.

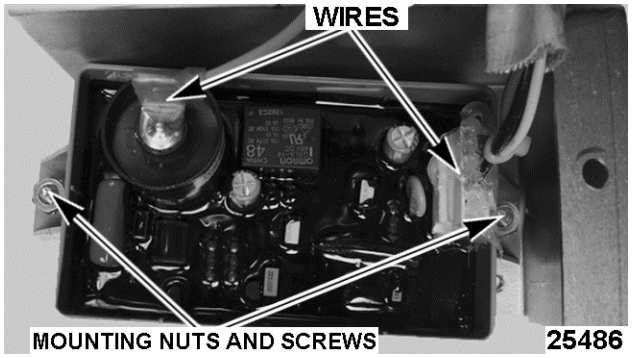


Fig. 13

5. Reverse proceedure for install and verify proper operation.

NOTE: Clear silicone sealant on the control wire harness female connector will need to be cleaned off. Apply clear silicone sealant around the connector to seal it before installation of new ignition module.

DUAL SOLENOID VALVES

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING Shut off the gas before servicing the unit.

⚠ WARNING All gas joints disturbed during servicing must be checked for leaks. Check with a soap and water solution (bubbles). Do not use an open flame.

1. Remove CONTROL PANEL.

NOTE: Plumbing and type of burner solenoid valves may vary slightly between different units.

2. Label and disconnect dual solenoid valve connectors.

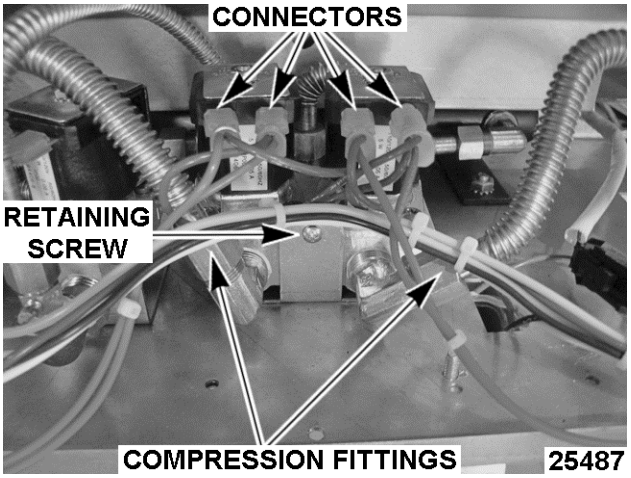


Fig. 14

3. Remove retaining screw that is holding dual solenoid valve body in bracket.
4. Disconnect compression fittings and remove flex tubing from front of dual solenoid valve.
5. Lift dual solenoid valve out of bracket and arrange it to access compression fitting in back.
6. Disconnect compression fitting in back of dual solenoid valve.

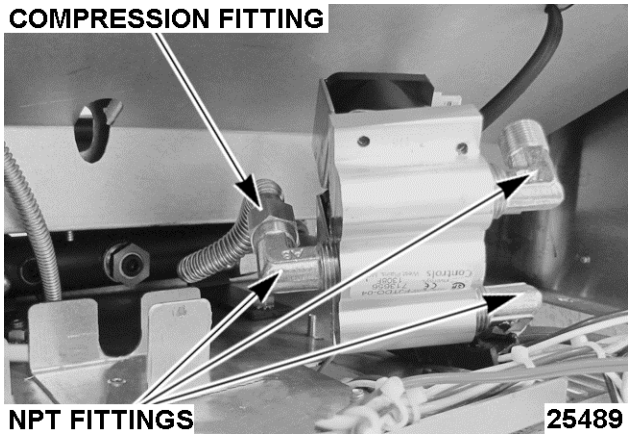


Fig. 15

7. Remove the three NPT elbows. Two on front and one on the back of dual solenoid valve.

NOTE: Be sure to note positioning of NPT elbows on dual solenoid valve.

8. Reverse proceedure for installation.

NOTE: When installing solenoid valves be sure that the coil valve clamp is placed correctly and that the valve clamp hold down nut is securely tightened.

⚠ WARNING Clean pipe threads and apply thread sealant that is suitable for use with propane gases.

9. Check for proper operation.

SINGLE SOLENOID VALVE

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING Shut off the gas before servicing the unit.

⚠ WARNING All gas joints disturbed during servicing must be checked for leaks. Check with a soap and water solution (bubbles). Do not use an open flame.

1. Remove CONTROL PANEL.

NOTE: Plumbing and type of Single Solenoid Valve may vary slightly between different units.

2. Label and disconnect connectors on single solenoid valve.

3. Remove retaining screws that are holding single solenoid valve body in bracket.

4. Disconnect compression fitting and remove flex tubing from front of single solenoid valve.

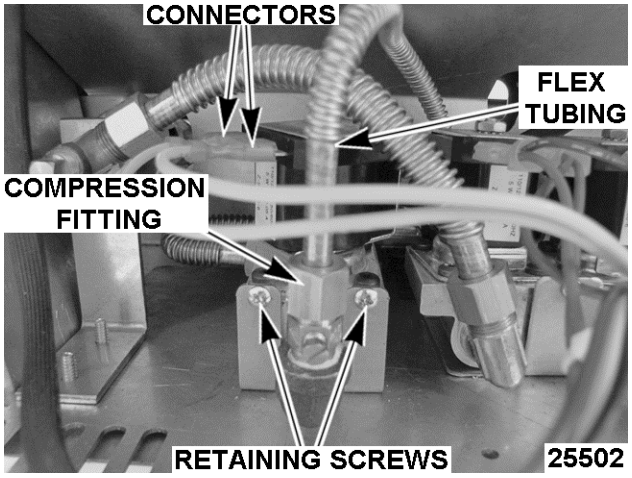


Fig. 16

5. Lift solenoid out of bracket and arrange it to access compression fitting in back of single solenoid valve.

6. Disconnect compression fitting in back of single solenoid valve.

7. Remove street elbow and NPT elbow from single solenoid valve.

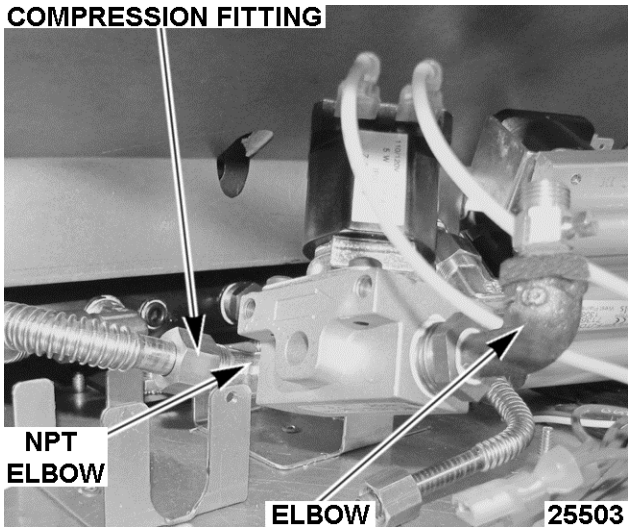


Fig. 17

NOTE: Be sure to note the positioning of the elbow.

8. Reverse proceedure for installation.

⚠ WARNING Clean pipe threads and apply thread sealant that is suitable for use with propane gases.

9. Check for proper operation.

GAS PRESSURE REGULATOR

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING Shut off the gas before servicing the unit.

⚠ WARNING All gas joints disturbed during servicing must be checked for leaks. Check with a soap and water solution (bubbles). Do not use an open flame.

⚠ WARNING Clean pipe threads and apply thread sealant that is suitable for use with propane gases.

Removal

1. Disconnect gas supply line from gas pressure regulator inlet.
2. Disconnect gas pressure regulator from back of griddle.

Installation

1. Thread regulator onto pipe hand tight with arrow pointing in direction of gas flow to the griddle.
2. Tighten regulator securely in horizontal position with the regulator closing nut facing upward.

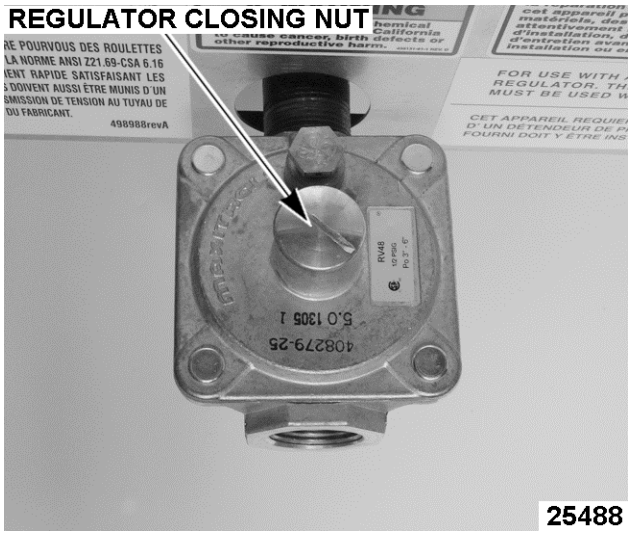


Fig. 18

NOTE: Regulator will not function properly without adjustment screw pointing upward.

3. Connect supply gas line to gas pressure regulator inlet.
4. Adjust regulator as outlined in REGULATOR ADJUSTMENT.

GRIDDLE PLATE ASSEMBLY

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING Shut off the gas before servicing the unit.

⚠ WARNING All gas joints disturbed during servicing must be checked for leaks. Check with a soap and water solution (bubbles). Do not use an open flame.

NOTICE For larger units, removal and replacement of the griddle plate weld assembly should be done by more than one service technician .

1. Remove BACK PANEL.
2. Remove THERMOCOUPLEfrom griddle plate. Leave thermocouple wires connected at temperature controller.
3. Remove CONTROL PANEL.
4. Remove BULL NOSE.
5. Cut a length of 2x4 appropriate for the griddle plate width, leaving additional length to grasp on each side of griddle plate.
6. Lift front of griddle plate and support with 2x4.
7. Lift back of griddle plate and support with 2x4.

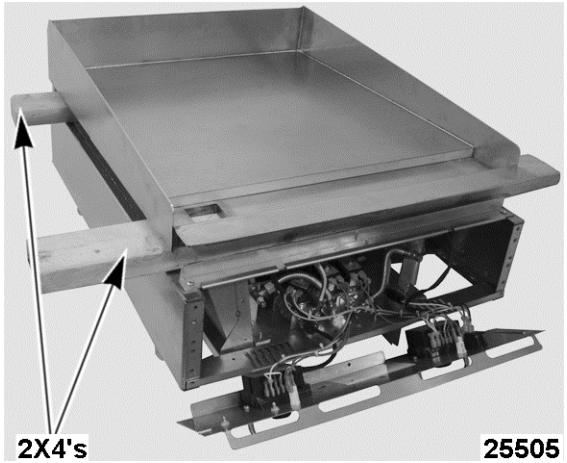


Fig. 19

8. Lift Griddle plate and remove from base of equipment.
9. Reverse procedure for installation.

SERVICE PROCEDURES AND ADJUSTMENTS

TEMPERATURE CONTROL CALIBRATION

NOTE: Ensure the griddle is level before performing calibration as outlined under LEVELING in the Installation & Operation Manual.

NOTE: Do not use an infrared thermometer for measuring griddle surface temperatures. These devices are highly sensitive to surface color (clean or dirty), angle of reading and distance from the surface. Use a temperature meter with surface probe for all griddle surface temperature measurments.

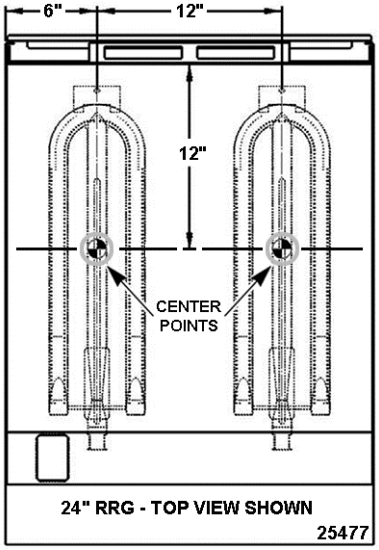


Fig. 20

1. Each temperature controller controls a 12" zone of the griddle. Center point area of cooking zones are located 6" from the side splash (left or right), every 12" across the width of griddle, and 12" back from the front of griddle plate.
2. Clean the center point areas of cooking zones to ensure good contact with surface probe.
3. Set thermostats to 350°F and allow the indicator light to cycle ON and OFF at least three times to stabilize griddle surface temperatures.
4. Monitor indicator light for the temperature controller calibration being checked. When the light cycles OFF, measure temperature for that zone and record.

- If tempereature measurement is 350°F ±5°F the control is propererly calibrated.
- If temperature measurement is outside of tolerance then temperature control **must** be calibrated.

CALIBRATING TEMPERATURE CONTROL

NOTICE Never adjust the screw on the back side of the temperature controller. This will ruin the factory calibration; the temperature controller will no longer operate properly and will need to be replaced.

1. Use the temperature scale on the overlay as a guide. Align the edge on a short piece of tape to the temperature recorded in STEP 4 and apply tape to knob as a reference point.
2. Remove knob from temperature control shaft. Do not rotate the knob during removal.
3. Loosen screws on the back of dial. With knob facing user, a *clockwise* rotation increases temperature and a *counterclockwise* rotation decrease temperature.
4. Hold the knob and rotate dial to the edge of the tape used for reference. This adjustment offsets the indicated temperature on the dial to the actual temperature measured.
5. Hold the dial and knob together to maintain the setting and tighten screws.
6. Install the knob back onto the temperature control shaft.
7. Repeat "TEMPERATURE CHECK." Adjust calibration until temperature is within tolerance.

BURNER AIR SHUTTER ADJUSTMENT

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING Shut off the gas before servicing the unit.

⚠ WARNING Clean pipe threads and apply thread sealant that is suitable for use with propane gases.

⚠ WARNING All gas joints disturbed during servicing must be checked for leaks. Check with a soap and water solution (bubbles). Do not use an open flame.

The efficiency of the burner depends on a delicate balance between the air supply and volume of gas. Whenever this balance is disturbed, poor operating characteristics and excessive gas consumption may occur. An air shutter on the front of the burner controls the gas mixer balance. A yellow streaming flame on the burner is an indication of insufficient primary air. A proper flame should be blue in color, well-defined and seated on the burner port. A white-blue flame is a result of excessive primary air.

1. Remove BURNER.
2. Loosen the shutter screw and rotate the air shutter.

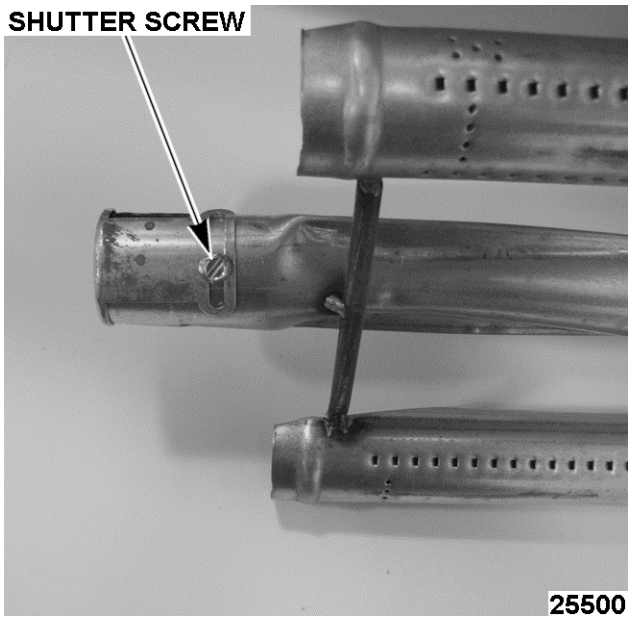


Fig. 21

3. Install burner.
4. Install GAS PRESSURE REGULATOR.
5. Connect power to machine.
6. Turn on power and rotate temperature controller to call for heat.
7. Observe flame from back of machine.
   A. If a proper flame is observed as described in the beginning paragraph, no further adjustment is necessary.
   B. If flame is yellow tipping and lifting from burner, continue with procedure to adjust.
8. Disconnect power.
9. Remove burner, being sure to keep shutter in the current position.
10. Open the shutter slightly and tighten the shutter screw.
11. Install BURNER.
12. Test machine to verify proper operation.

NOTE: The factory default air shutter positions are half open natural; full open propane.

REGULATOR ADJUSTMENT

⚠ WARNING Shut off the gas before servicing the unit.

⚠ WARNING All gas joints disturbed during servicing must be checked for leaks. Check with a soap and water solution (bubbles). Do not use an open flame.

NOTE: Regulators come preset, but should be checked anytime one is installed. Before adjusting regulator, check incoming gas line pressure. Incoming pressure must be 7-14" W.C. for natural gas and 12-14" W.C. for propane gas. If incoming pressure is not correct, have the gas source checked and adjusted as necessary. Make sure the regulator is mounted in the horizontal position with the arrow pointing in the direction of gas flow. See unit data plate, riveted on right side panel towards front of unit, for manifold pressure setting information. Clean vent cap before adjusting.

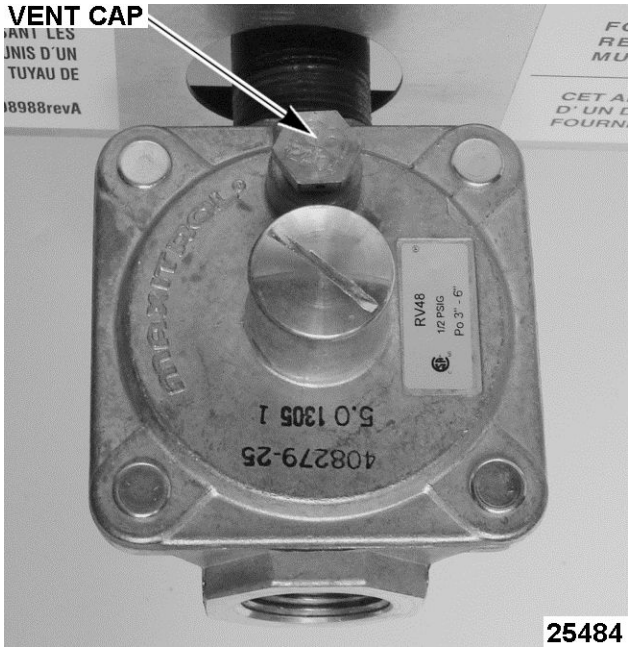


Fig. 22

1. Remove pressure tap plug and connect manometer to the pressure tap located on the far left burner port.

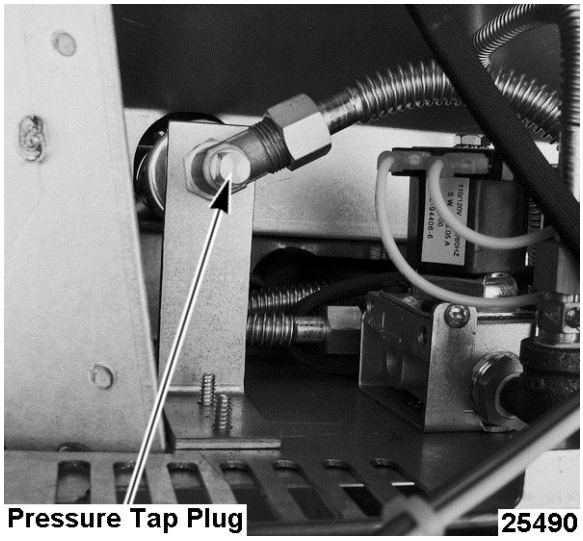


Fig. 23

2. Check manometer reading. The reading should be 5" W.C. for natural gas and 10" W.C. for propane gas. Tolerance is ±0.3" W.C.
3. If manifold pressure is not correct, adjust the regulator. Remove the regulator closing nut.

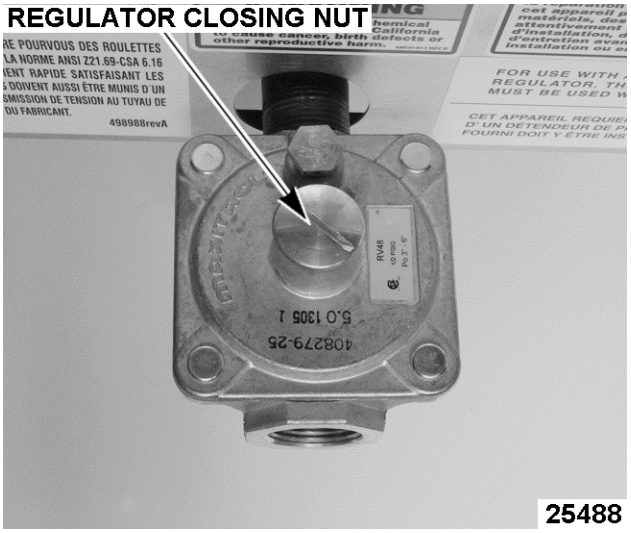


Fig. 24

4. Insert a flat edge screwdriver through the top of the regulator. While watching the manometer, turn the adjusting screw clockwise to increase pressure and counterclockwise to decrease pressure.
5. Install the regulator closing nut.

⚠ WARNING Clean pipe threads and apply thread sealant that is suitable for use with propane gases.

6. Reninstall pressure tap plug.

BURNER NOZZLE CHECK

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING Shut off the gas before servicing the unit.

The burner nozzle is mounted between the griddle gas supply tubing/mounting bracket and the u-burner assembly. If burner operation seems poor and other systems have been checked, access the burner for the griddle section being serviced and remove the burner nozzle.

1. Check for blockage or damage.

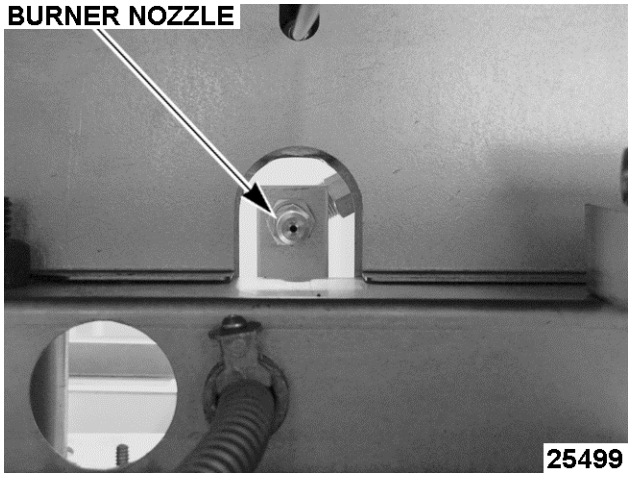


Fig. 25

2. Verify gas orifice hood is correct for the altitude. See Parts Catalog for Orifice Hood Chart.

THERMOCOUPLE TEST

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Access TEMPERATURE CONTROLLER.
2. Remove thermocouple connections from temperature controller.

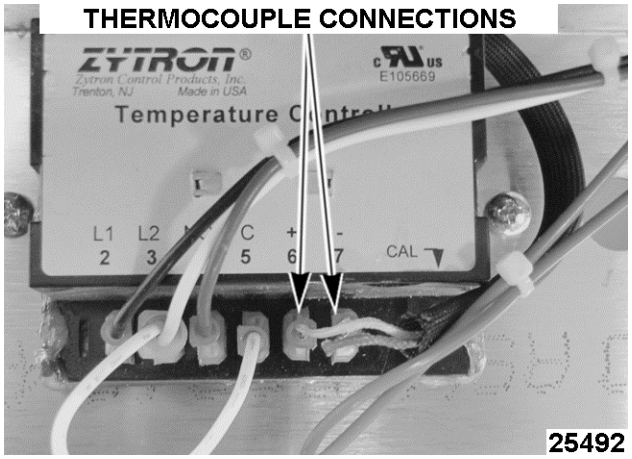


Fig. 26

3. Check the thermocouple for resistance.
   A. If meter reads an overload (OL) condition (open), or zero ohms (short) replace the thermocouple and check temperature controller for proper operation.
4. If resistance is measured, thermocouple is good.

TEMPERATURE CONTROLLER TEST

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Access the TEMPERATURE CONTROLLER.
2. Connect power to the machine.
3. Turn on the power switch.
4. Verify temperature controller is receiving 120VAC at terminals L1 & L2, polarity is correct and machine is properly grounded.

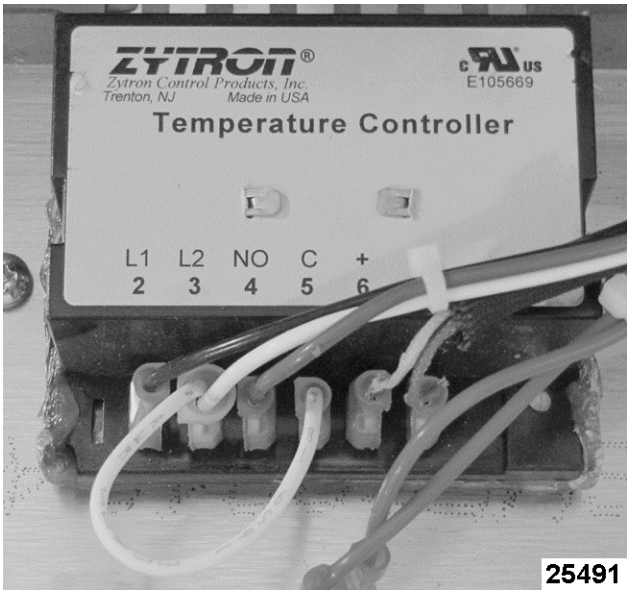


Fig. 27

5. Set temperature dial to 350°F.
6. Verify indicator light comes on and burner lights.
   A. If heat light and main burners come on but turn off within 10 seconds, Perform THERMOCOUPLE TEST .

NOTE: Temperature controller will de-energize internal relay if the circuitry detects an open thermocouple.

   B. If heat light and main burners do **not** come on, verify internal relay contacts are operating properly. Check for 120VAC dual solenoid valve.

IGNITION MODULE TEST

NOTE: Sparking will continue until pilot flame is established, at which point sparking will terminate. If no pilot flame is established the sparking will continue until power is removed from unit.

1. Turn on power switch.
2. Single solenoid valve energizes allowing gas to flow to pilot burner.
3. Ignition module is energized and ignition starts.
4. If there is no spark then check the following.
   A. Check for 120VAC at ignition module.
   B. Verify spark gap is set at 1/8".
   C. Inspect eletrode wire for damage and continuity.
   D. If component passes all above tests and is not sparking, then replace ignition module.

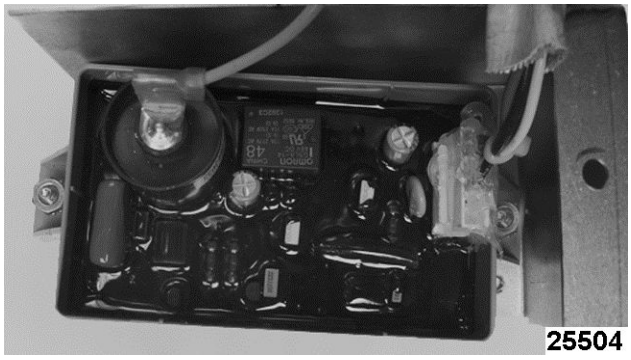


Fig. 28

5. Pilot burner lights and flame is sensed. If electrode continues to spark after pilot is lit then check the following.
   A. Verify the electrode is fully engulfed by pilot flame.
   B. Verify that ground wire from pin 1 is securely grounded to chassis.
6. As long as the ignition control module is sensing flame current, then the pilot will stay lit.

PILOT BURNER FLAME ADJUSTMENT

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

The RRG series griddle utilizes a solenoid valve and straight compression fitting with needle valve adjustment to control gas flow to pilot burners. One to three pilot burners can be fed by one valve. One leg of which may be branched.

1. Remove CONTROL PANEL.
2. Remove dual solenoid valve connectors.

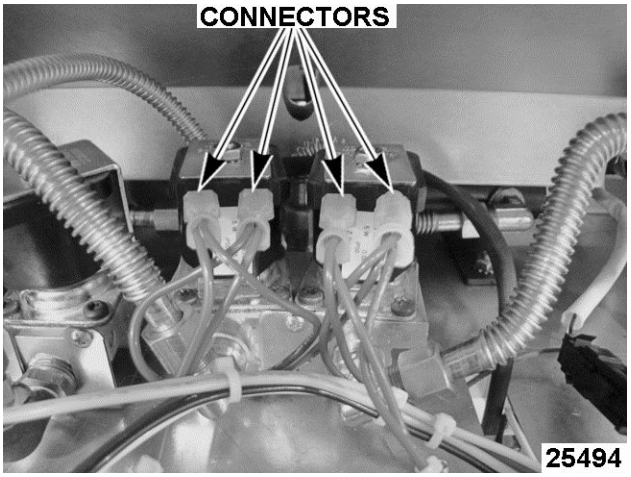


Fig. 29

NOTE: Removing the dual solenoid valve connectors will prevent the main burners from lighting.

3. Connect power to machine.
4. Turn on power switch, and adjust temperature control to call for heat.
   A. If flame envelops 3/8" to 1/2" of the ignitor/ flame sense electrode, pilot burner is adjusted properly.
   B. If flame is outside of specified range, continue with procedure.
5. Locate the proper needle valve and adjust.

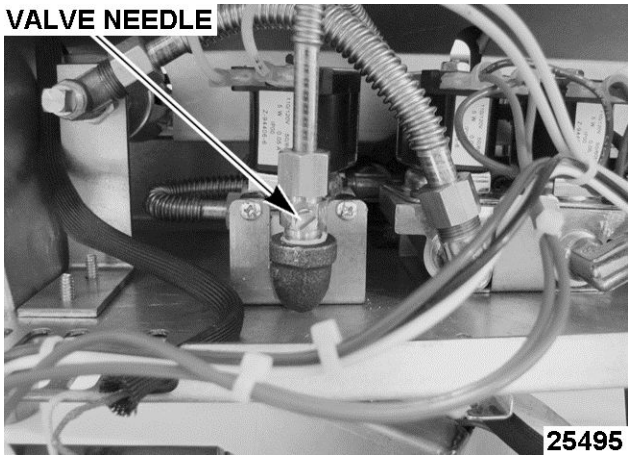


Fig. 30

A. To increase pilot flame turn valve needle *counterclockwise*. To decrease pilot flame, turn valve needle *clockwise*.

6. Once pilot flame is adjusted correctly, turn off power switch.
7. Connect dual solenoid valve connectors.
8. Install CONTROL PANEL.
9. Check for proper operation.

SOLENOID VALVE TESTS

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove CONTROL PANEL.
2. Check for proper gas pressure.
3. Connect power to machine.
4. Turn on power switch and adjust temperature controls to call for heat.
5. Check for 120VAC between both terminals on each solenoid.

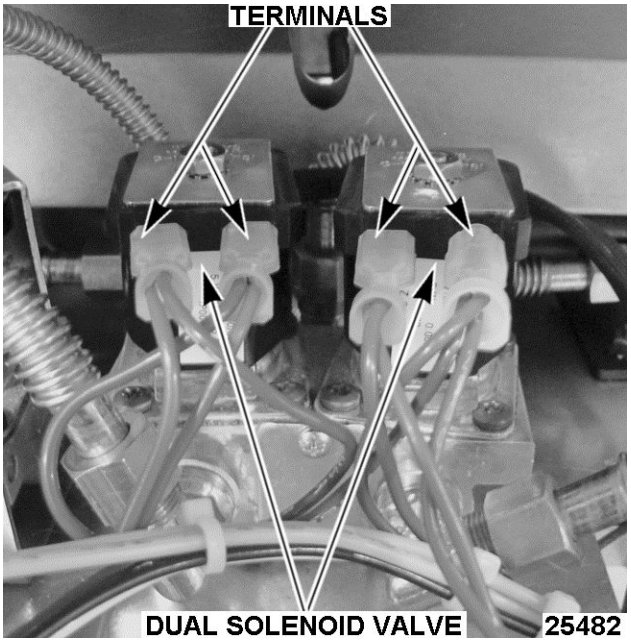


Fig. 31

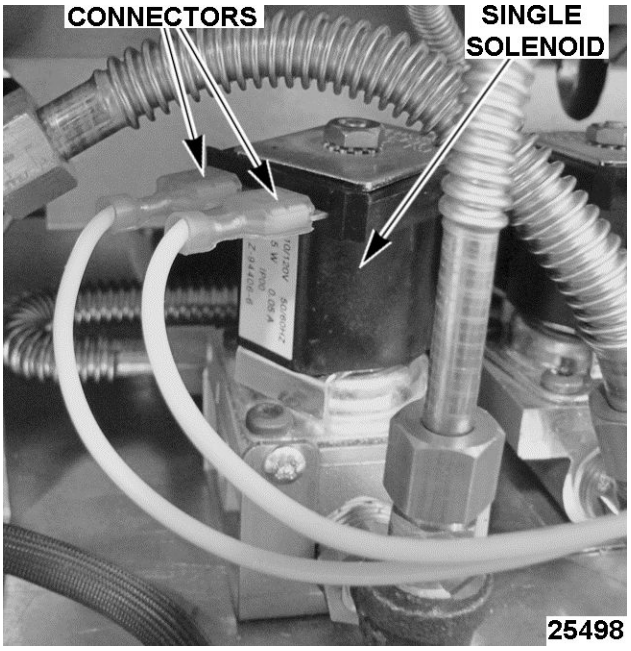


Fig. 32

A. On single solenoid valve, if no voltage - check wiring and on/off power switch.

B. On dual solenoid valve if no voltage - check wiring, IGNITION MODULE, and TEMPERATURE CONTROLLER.

6. If 120VAC is present between two terminals after performing previous steps, either the solenoid coil or valve is malfunctioning.
7. To determine if solenoid coil is malfunctioning, check resistance between both terminals on solenoid. Readings of 100 ohms or less indicate a shorted coil. Solenoid needs replaced.

ELECTRICAL OPERATION

COMPONENT FUNCTION

Temperature Control . . . Controls griddle surface temperature for the individual heat zone by monitoring thermocouple input (K type).

Temperature Probe . . . Senses griddle surface temperature for the heat zone using a K type thermocouple. Provides input to the temperature control.

Power Switch . . . . . Controls power to all electrical components (single solenoid valve, temperature control and ignition module) (SPST switch).

Indicator Light . . . . . When brightly lit, the light indicates temperature control is calling for heat (internal contacts closed) and ignition module output from pin 2 is on. Dual solenoid valve is energized (burner on).

The light will be dimly lit after the pilot burner is on.

The light is off during trial for ignition (pilot lighting) or when the pilot safety circuit is not satisfied (pilot not lit).

Ignition Module . . . . . Controls and monitors gas heating. Generates spark to light gas at the pilot burner, monitors the presence of flame and energizes the dual solenoid valve upon a call for heat from the temperature control (continuous try module).

Ignitor/Flame Sense Electrode . . . . . Ignites pilot burner and senses the presence of a flame. The Ignitor/Flame Sense is a component of the pilot burner.

Single Solenoid Valve . . . Controls gas to pilot burner. Single solenoid valve is energized when power switch is on. Depending on the width of the griddle, there may not be a single solenoid valve. The solenoid valve used to control gas flow to the pilot burner may be one of the dual solenoid valves. Valves that control gas flow to the pilot burner have an adjustment screw for pilot flame height at the output on the valve body.

Dual Solenoid Valve(s) . . Controls gas to burner. Dual solenoid valve is energized by the ignition module after pilot safety circuit is established (pilot lit) and temperature control is calling for heat. Depending on the width of the griddle, the dual solenoid valve can be used to control gas flow one of the main burners along with the pilot pilot burner.

SEQUENCE OF OPERATION

Operation is the same for all griddle models. Each 12" heat zone on the griddle plate has its own temperature controller, indicator light and ignition system components. Refer to the wiring diagram for the model being serviced.

- 24" GRIDDLE - WIRING DIAGRAM
- 36" GRIDDLE - WIRING DIAGRAM
- 48" GRIDDLE - WIRING DIAGRAM
- 60" GRIDDLE - WIRING DIAGRAM

1. Conditions.
   A. 120VAC connected to griddle and is properly grounded.
   B. Incoming neutral line (L2) is connected to power switch terminal 3 (non switching) and jumpered to one side of single solenoid valve; and each temperature controller at terminals - L2 and com; and each ignition module at pin 3.
   C. Incoming hot line (L1) is connected to power switch terminal 2.
   D. Power switch OFF (SPST).
   E. Temperature dials at lowest setting.
   F. Griddle temperature below 150°F.
   G. Gas supply on.
2. Turn power switch ON - 120VAC applied to the following components:

NOTE: Temperature control terminal L1 (hot) and ignition module pin 4 (hot) are "jumpered" between

each of the installed temperature controllers and ignition modules on the griddle.

   A. Single solenoid valve energized and gas flows to pilot burner.

   B. Temperature controllers are powered.

   C. Ignition modules are powered.

3. Ignition modules generate a spark voltage from the high voltage terminal to begin sparking at the ignitor/flame sense electrodes.

   A. Pilot burner lights, flame is sensed and ignitors stops sparking.

   B. Ignition modules output L1 (hot) from pin 2 on the connector to one side of dual solenoid valve and indicator lights.

   C. Indicator lights are dimly lit.

4. Turn temperature dials to 350°F.

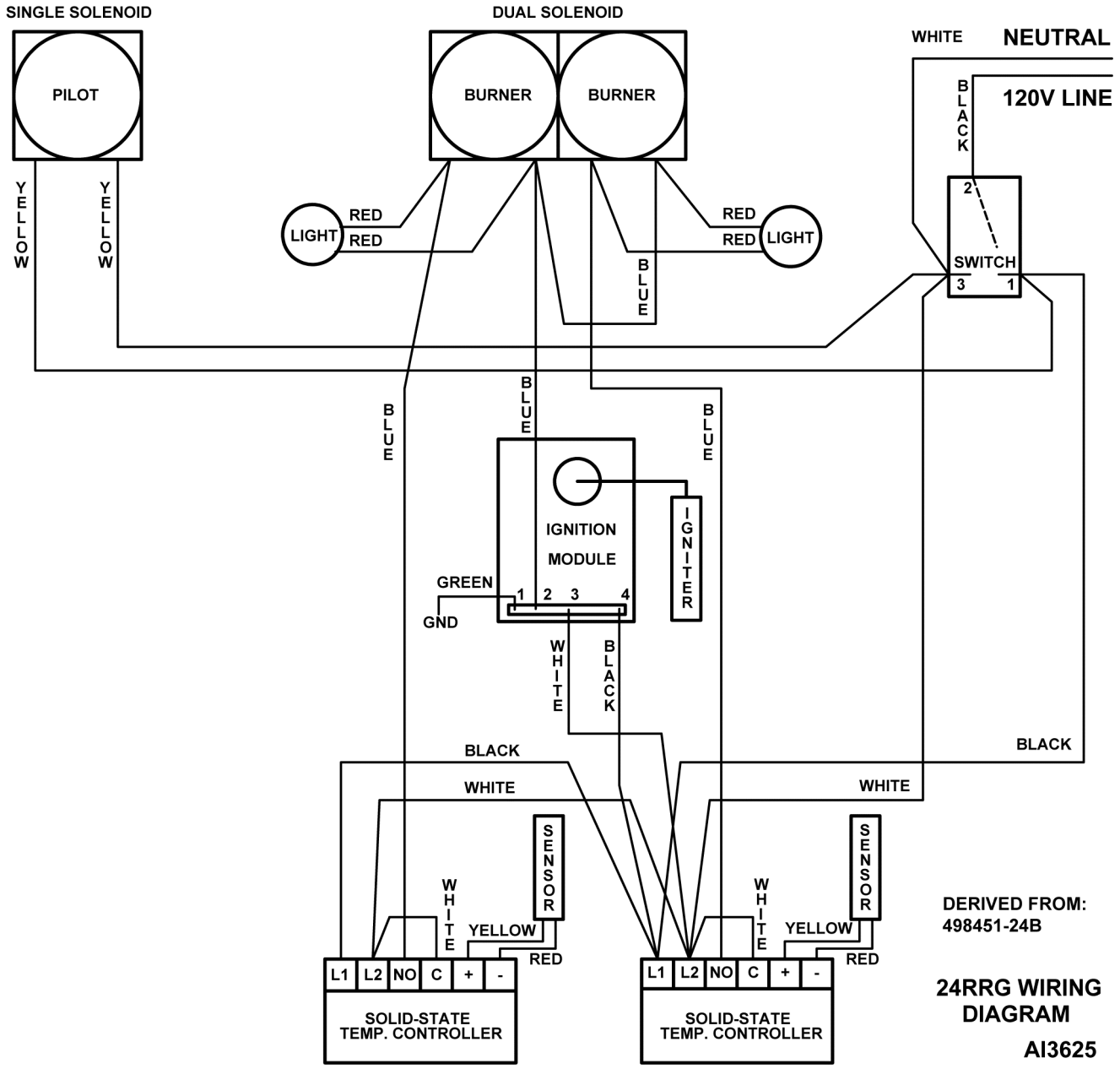
   A. Temperature controller N.O. contacts close and provide L2 (neutral) to the other side of dual solenoid valve.

   B. Dual solenoid valve energized and gas flows to burners. Burners light and begin heating griddle.

   C. Indicator lights are brightly lit.

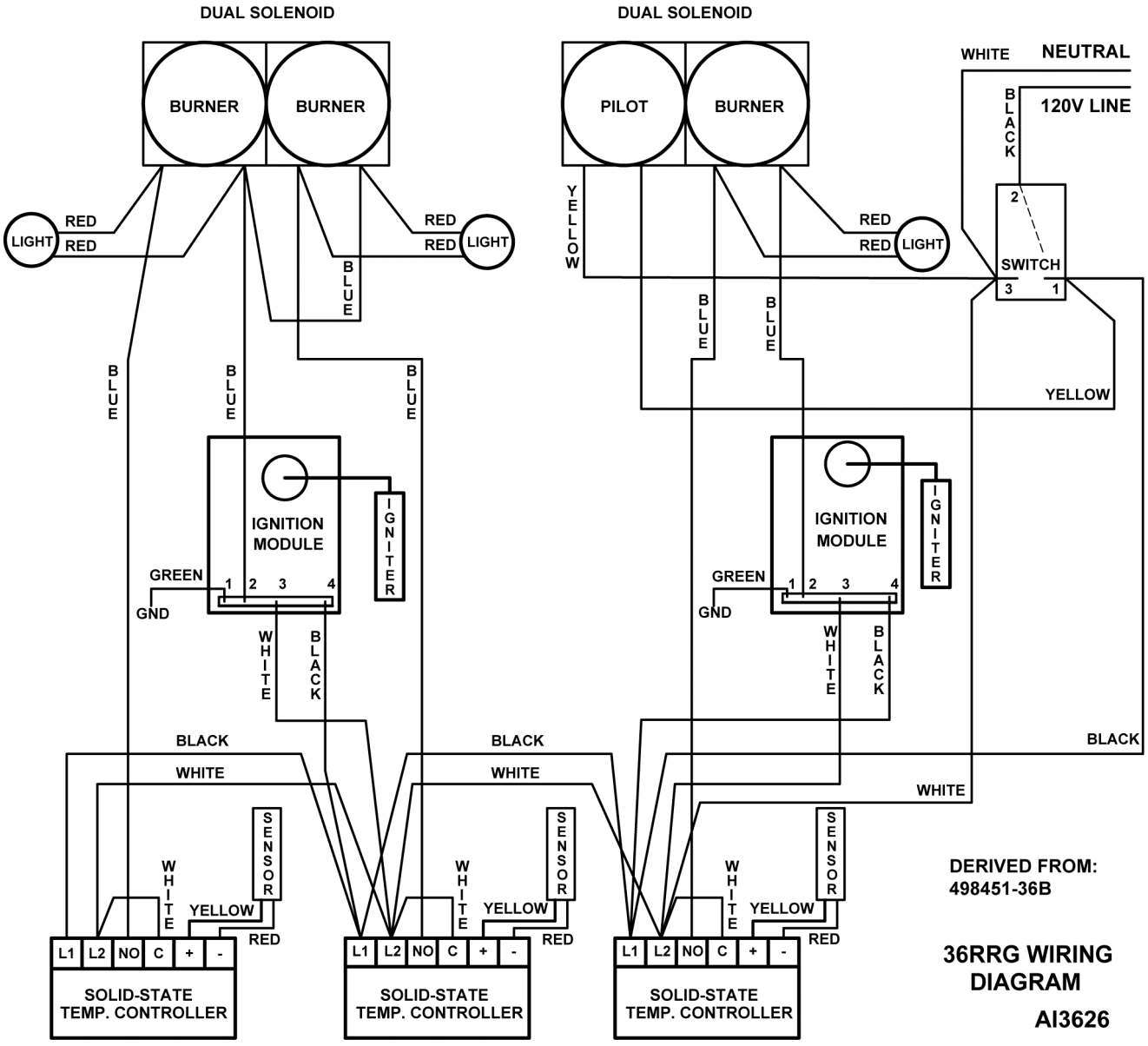
5. Griddle will continue to cycle with the temperature controllers until the temperature dial is turned down or the power switch is turned off.

24" GRIDDLE - WIRING DIAGRAM



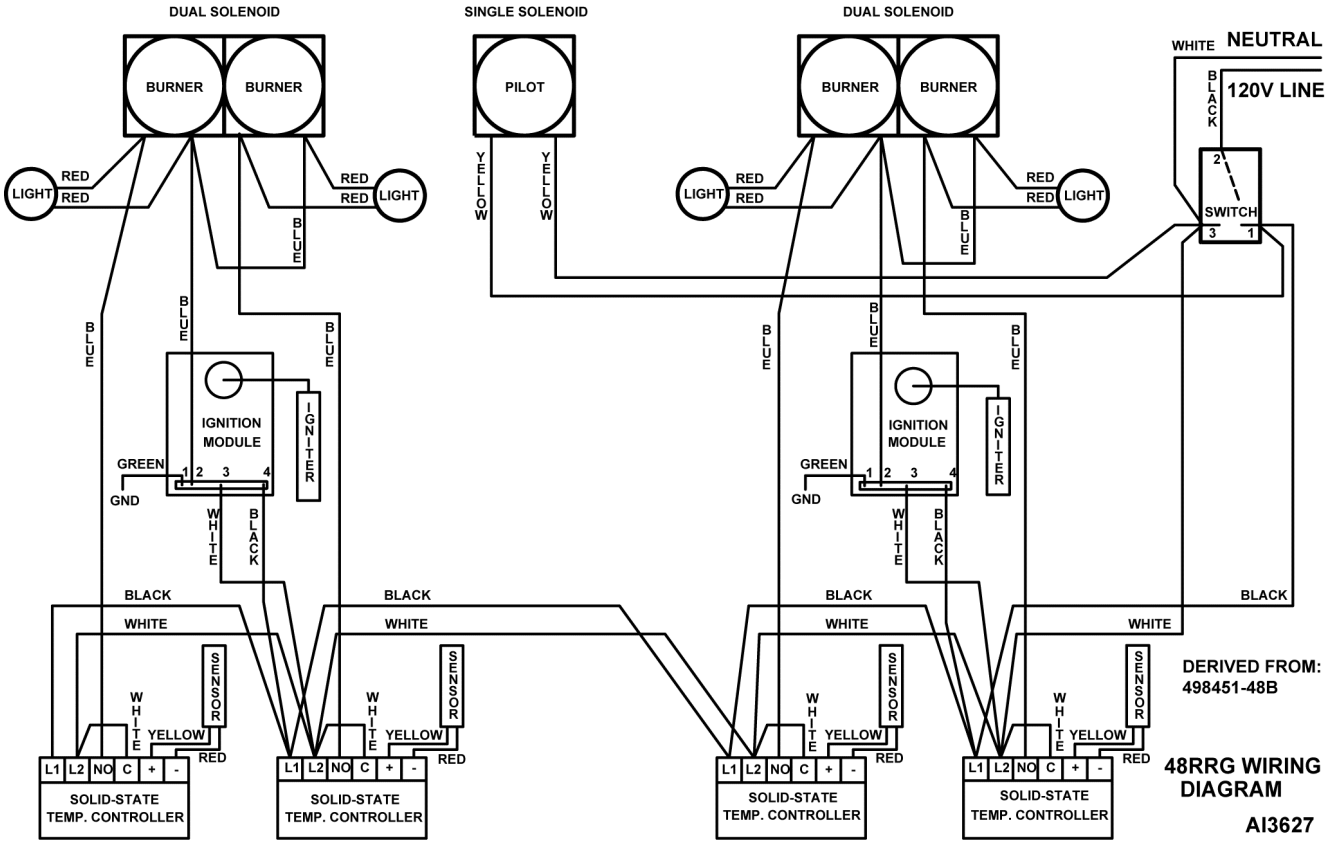
24" GRIDDLE - WIRING DIAGRAM

36" GRIDDLE - WIRING DIAGRAM



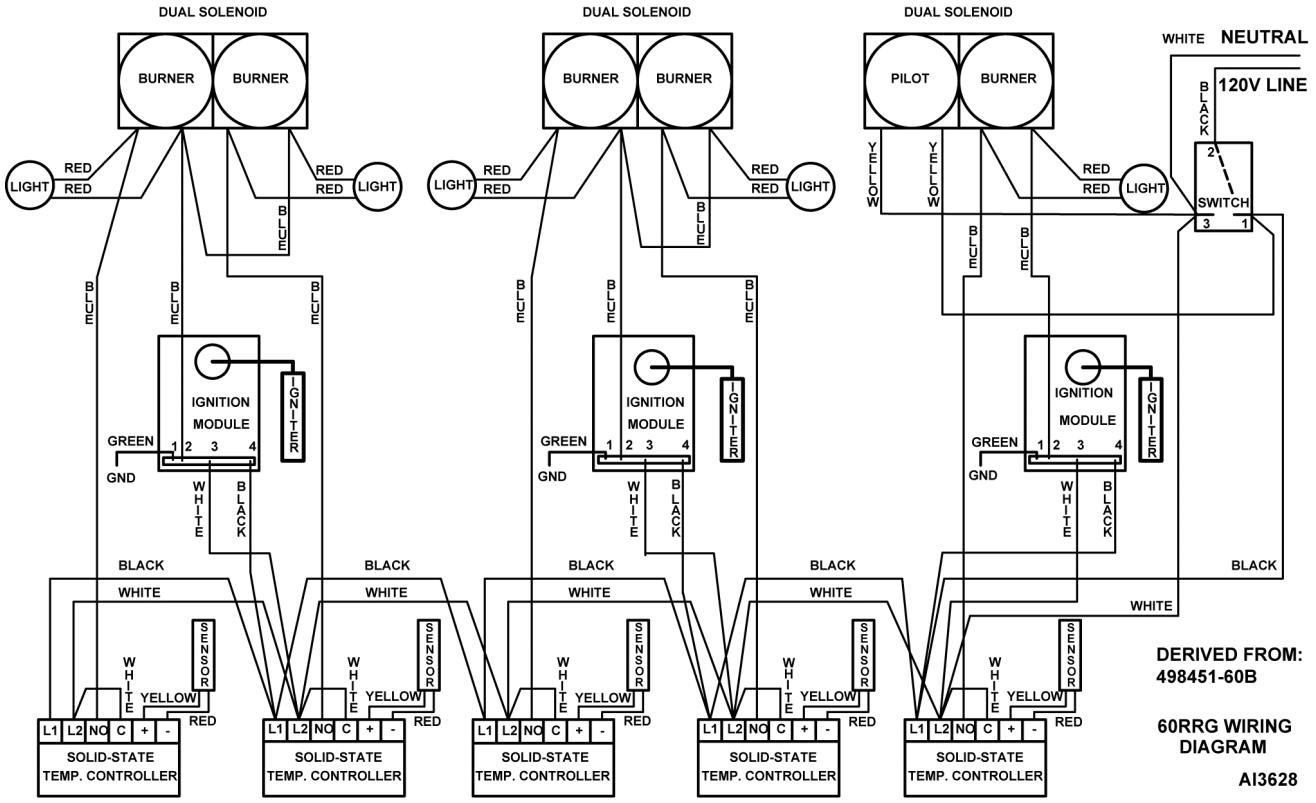
36" GRIDDLE - WIRING DIAGRAM

48" GRIDDLE - WIRING DIAGRAM



48" GRIDDLE - WIRING DIAGRAM

60" GRIDDLE - WIRING DIAGRAM



60" GRIDDLE - WIRING DIAGRAM

TROUBLESHOOTING

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES
No spark to ignite pilot burner.	1. Power switch inoperative. 2. No power to ignition module. 3. Ignition module not properly grounded 4. Ignition module malfunction. 5. Spark gap incorrect. 6. Ignitor/flame sense wire inoperative.
Spark at ignitor but pilot burner does not light.	1. No power to single solenoid valve. 2. Single solenoid valve malfunction. 3. Gas supply off or insufficient.
Pilot burner will not stay lit.	1. Spark/flame sense wire connections incorrect. 2. Improper ground on pilot burner. 3. Ignitor/flame sense malfunction. 4. Gas pressure not within specified range. 5. Pilot flame needs adjusted.
Pilot burner is lit but main burners will not light or maintain flame.	1. Power to temperature controller incorrect. 2. Temperature controller not calibrated correctly. 3. Thermocouple malfunction. 4. Temperature controller malfunction. 5. Gas pressure incorrect. 6. Burner orifice obstructed or malfunction. 7. Power to dual solenoid valve incorrect. 8. Dual solenoid valve malfunction.
High/Low heat.	1. Gas pressure incorrect. 2. Burner orifice malfunction or incorrect. 3. Air shutter not properly adjusted. 4. Thermocouple malfunction. 5. Temperature controller not properly calibrated.