

# Ignition/Gas Control Replacement Kit

## P/N 91169, Replacement Kit for Johnson Model G65 and Certain Model G60 Valve and Ignition Control Assemblies

Kit, P/N 91169, includes:

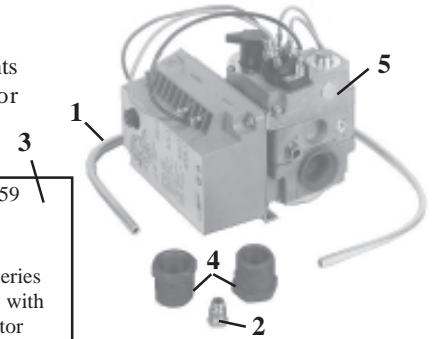
| Item | P/N    | Qty | Description  |
|------|--------|-----|--|
| 1    | 5145   | 1   | Pilot Tubing 1/4" x 22 long  |
| 2    | 9664   | 1   | Compression Nut  |
| 3    | 82524  | 1   | Natural to Propane Regulator Conversion Spring Kit                         |
| 4    | 37385  | 2   | Bushing 1/2" to 3/4"   |
| 5    | 91268  | 1   | Natural Gas Valve and G770 Ignition Controller Assembly. See Note 1 below. |
|      | 96101  | 1   | Lighting Instruction Label   |
|      | 132211 | 1   | Form CP-14A Installation Instructions                                      |

**Note 1 - P/N 91268 Includes:**  
 P/N 97547, G770NGC-4 Ignition Controller and  
 P/N 91193 W.R. 36C68-477 Valve, Natural Gas, 3/4", set @3.5" W.C., Assembled and Wired

**Figure 1 - Kit P/N 91169**

NOTES: Excess components may not be returned for credit.

White-Rodgers 92-0659 Conversion Kit Natural to LP  
 For use on Model 36C Series Combination Gas Valves with field adjustable regulator



**DANGER: This replacement valve/ignition controller assembly is to be installed by a qualified agency in accordance with these instructions and in compliance with all codes and requirements of authorities having jurisdiction. Failure to follow instructions could result in death, serious injury, and or property damage. The qualified agency performing this work assumes responsibility for this installation. Keep this form for future reference.**

### Description/Application

This kit, P/N 91169, is designed to be a universal replacement for all Johnson G65 and certain Model G60 valve and ignition control assemblies used on Reznor heaters as shown in the replacement table below. The ignition controller in the kit is a Model G770NGC-4. This control is a 100% shutoff type with a shutdown timing of 120 seconds in the event of no pilot ignition. **NOTE:** On startup, there is a four-second delay.

### Replacement Table

| Johnson Model | Size | *Reznor P/N | Type of Gas        |
|---------------|------|-------------|--------------------|
| G65BCG-1      | 1/2" | 67983       | Natural            |
| G65BBG-4      | 1/2" | 79887       | Natural            |
| G65BKG-2      | 3/4" | 79888       | Natural            |
| G65BCM-1      | 1/2" | 79808       | Natural            |
| G65BBM-3      | 1/2" | 84570       | Natural            |
| G65BKM-2      | 3/4" | 79900       | Natural            |
| G65DCM-1      | 1/2" | 68055       | Propane            |
| G60QBG-7      | 1/2" | 50448       | Natural or Propane |
| G60CPG-1      | 1/2" | 51329       | Propane            |
| G60QRH-1      | 1/2" | 56826       | Propane            |

\*Obsolete part numbers no longer available.

**WARNING: Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury, or death. Read the installation instructions thoroughly before installing this equipment.**

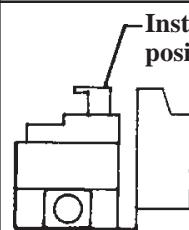
### Installation Instructions

- Determine the valve model that you are replacing and the type of fuel used. **Propane replacements require that the natural gas valve included with this kit be field converted for use with propane (See Step 2).** Replacement of 1/2" valve requires that the 3/4" to 1/2" reducing bushings (Item 4) to be added to the new 3/4" gas valve. **NOTE:** To replace either 1/2" or 3/4" valve, some additional field supplied piping is necessary.
- Propane Unit – Install White-Rodgers Conversion Spring Kit (Item 3) using the instructions included with the kit.** (Item 3 is not used on natural gas installations.)

- Shut-off** the gas supply and electric power to the heater.
- Mark the wires connected to the present valve/ignition control assembly with their respective terminal numbers. Disconnect the wiring.
- Remove pilot supply tubing from unit and discard.
- Remove the valve/ ignition control assembly from the unit.
- Install new ignition controller/gas valve assembly (Item 5). Observe gas flow direction arrow on bottom side of valve. Install with manual valve in the upright position (See figure 2). Size differences of the assemblies are listed in valve size table.

### Valve Size Table (overall length)

|  |
|--|
| Old G65 and G60 listed (1/2" & 3/4") - <b>6-1/2"</b>                                       |
| New G770/Valve Assy - 3/4" - <b>3-15/16"</b><br>1/2" (w/Item 4 bushings) - <b>4-15/16"</b> |



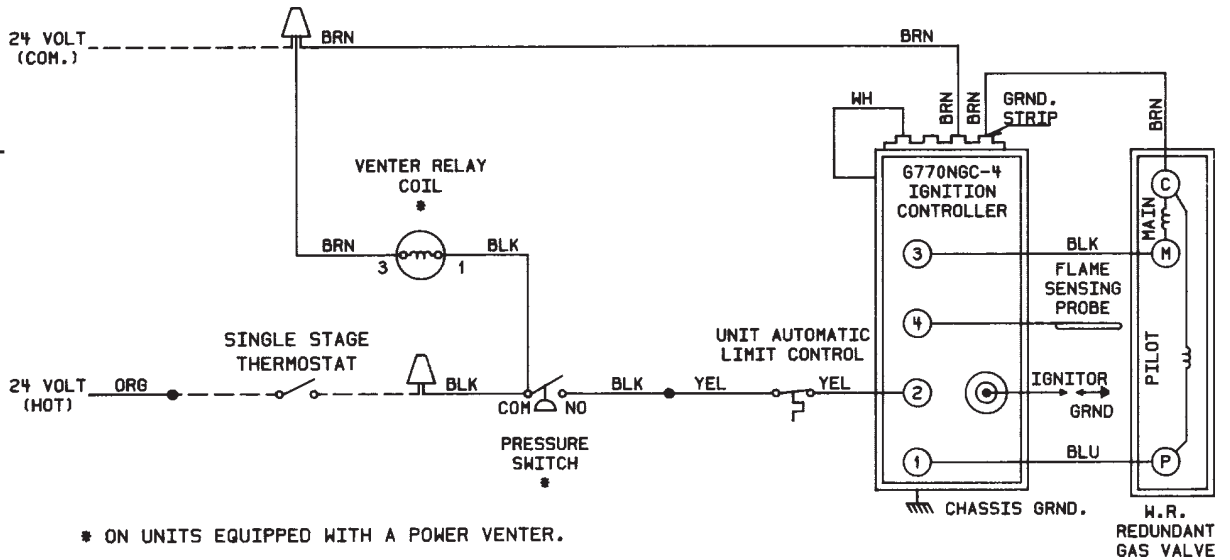
**Install with manual\* valve in upright position as shown.**

\*Models (C)(EE)XLB 30-105 with blower cabinet require that the G770/ gas valve assembly be rotated 90° so that the ignition control is on the bottom.

**Figure 2 - View of G770 Gas Valve Kit from Gas Inlet Side**

- Install new pilot tubing supply line (using Items 1 and 2). Cut tubing to appropriate length for the unit being serviced.
- Connect unit wiring to ignition controller using terminal identifications on G770. Terminal numbers on G770 controller are identical to those on the removed device, except that terminal No. 6 is no longer used. Completely remove the wire that was connected to the No. 6 terminal (orange wire from ignition controller to the secondary voltage side of the transformer). Locate the metal terminal (Rajah connector) on the spark ignitor lead. Close the terminal, cut the ignitor lead to remove the metal terminal. Remove rubber boot and insert wire into the G770 spark wire receptacle.
- Turn on the electric power and the gas supply.
- Check for gas leaks using a leak-detecting solution.

Figure 3 -  
Wiring  
Diagram



**WARNING: All components of gas supply system must be leak tested prior to placing equipment in service. NEVER TEST FOR LEAKS WITH AN OPEN FLAME.**

12. Check manifold gas pressure.

**WARNING: Manifold gas pressure is regulated by the combination valve to 3.5" water column for natural gas and 10" water column for propane gas.**

**For Natural Gas:** Manifold gas pressure is regulated by the combination valve to 3.5" water column. Inlet pressure to the valve must be a minimum of 5" water column or as noted on the rating plate and a maximum of 14" water column.

**For Propane Gas:** Manifold gas pressure is regulated by the combination valve to 10" water column. Inlet pressure to the valve must be a minimum of 11" water column and a maximum of 14" water column.

Before attempting to measure or adjust manifold gas pressure, the inlet (supply) pressure must be within the specified range for the gas being used both when the heater is in operation and on standby. Incorrect inlet pressure could cause excessive manifold gas pressure immediately or at some future time.

**NOTE:** Before beginning this procedure, it is important to have a **reliable** device to measure gas pressure in inches of water column. Liquid filled devices are recommended. Spring type gauges can easily go out of calibration and are not recommended.

- Rotate manual gas valve on combination valve to first stop position and then depress and rotate to **OFF** position.
  - Remove pressure screw adjustment **CAP** from the gas valve. (The large diameter slotted cap next to the terminal block).
  - Using a 3/16" allen wrench, remove the pressure tap fitting from the valve.
  - Install tubing connection from your pressure measuring device into the pressure tap location on the valve.
  - Rotate manual valve on the combination valve to **ON** position and turn on the heater.
  - Adjust gas pressure by rotating adjustment (found beneath cap removed in Step b). Adjust natural gas units to 3.5" W.C. and propane units to 10" W.C. Cycle unit off and on electrically and check pressure. Reset if necessary.
  - Rotate manual valve to **OFF** position. Replace pressure tap fitting and check for leak. Replace adjustment screw cap.
  - Rotate manual valve to **ON** position. Heater is now ready for normal operation.
13. Select a location for the new lighting instruction plate. Do not select a hot surface. Wipe the area with a clean, dry cloth. Peel the adhesive backing and adhere the label.
14. Check complete operation of the unit. **CHECK ALL SAFETY FEATURES FOR PROPER OPERATION.**

## FOR YOUR SAFETY

If you smell gas:

- Open windows.
- Don't touch electrical switches.
- Extinguish any open flame.
- Immediately call your gas supplier.

The use and storage of gasoline or other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.

**DANGER:** The gas burner in Reznor gas-fired equipment is designed and equipped to provide safe and economically controlled **complete combustion**. However, if the **installation** does not permit the burner to receive the proper supply of combustion air, complete combustion may not occur. The result is **incomplete combustion** which produces carbon monoxide, a poisonous gas that can cause death. **Safe operation of indirect-fired gas burning equipment requires a properly operating vent system which vents all flue products to the outside atmosphere. FAILURE TO PROVIDE PROPER VENTING WILL RESULT IN A HEALTH HAZARD WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH.**

Always comply with the combustion air requirements in the installation codes and instructions. Combustion air at the burner should be regulated only by manufacturer-provided equipment. **NEVER RESTRICT OR OTHERWISE ALTER THE SUPPLY OF COMBUSTION AIR TO ANY HEATER.** Indoor units installed in a confined space must be supplied with air for combustion as required by Code and in the heater installation manual. **MAINTAIN THE VENT SYSTEM IN STRUCTURALLY SOUND AND PROPERLY OPERATING CONDITION.**

**Thomas & Betts**