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## IGNITION CONTROL REPLACEMENT KIT

### INSTALLATION INSTRUCTIONS FOR IGNITION CONTROL REPLACEMENT KIT 30W33 (LB-90701C), USED TO REPLACE A ROBERTSHAW 735L (18G91) OR 745 (97H04) IGNITION CONTROL, OR A JOHNSON G776 (63K2401, 41K8701 or 69J3601) IGNITION CONTROL

#### Shipping & Packing List

##### Package 1 of 1 contains:

- 1 - Replacement ignition control (Honeywell)
- 2 - Wire nuts
- 4 - #8- 16 x 1/2" screws
- 4 - Wires
- 1 - Flame sensor
- 1 - Insulated 1/4 inch quick connect
- 1 - Control bracket
- 1 - Wiring diagram
- 1 - Diagnostic code label

#### Shipping Damage

Check equipment for shipping damage. If you find any damage, immediately contact the last carrier.

#### Application

Use ignition control replacement kit 30W33 (LB-90701C) with G20, G20R, G23, and G26 units that have a Robertshaw 735L (18G91) or 745 (97H04) ignition control or a Johnson G776 ignition control (63K2401, 41K8701 or 69J3601). This replacement kit includes a Honeywell IPI ignition control.

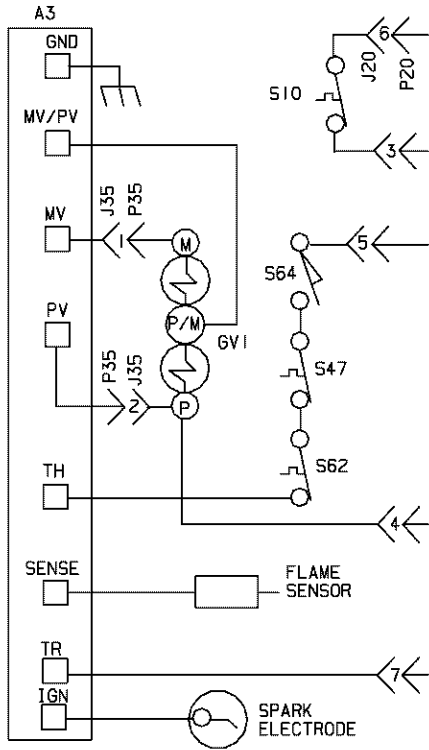
#### Installation

##### Replacing a Robertshaw Ignition Control (G20/G20R)

- 1 - Disconnect electrical power and gas supply to the unit.
- 2 - Remove the unit access panel.
- 3 - Mark and disconnect the wires from the existing ignition control.
- 4 - Remove the ignition control from the metal stand-off bracket. Discard the ignition control; but, keep the stand-off bracket.
- 5 - Use two provided #8 - 16 X 1/2" screws to secure the provided control bracket to the existing stand-off bracket. Position the replacement ignition control on the right side of the vestibule panel with the terminal pointing toward the left, so that the wiring connections can be made. Use two #8 - 16 X 1/2" screws (provided) to secure the ignition control to the control bracket. See figure 4 for the correct mounting holes to use.
- 6 - Install the provided flame sensor on the existing pilot assembly.
- 7 - Route the white sensor wire (provided) from the flame sensor to the ignition control. Keep this wire away from other wire routing.
- 8 - See figure 1 for the replacement ignition control wiring.
  - a - Connect the white sensor wire to ignition control terminal 8-SENSE.
  - b - Reconnect the wire from the blocked vent switch to ignition control terminal 6-24V.
  - c - Reconnect the yellow wire from pin position 7 on jack/plug J20/P20 to ignition control terminal 5-24V (GND).  
*NOTE - J20/P20 not used on G20R units.*
  - d - Reconnect the gas valve P/M terminal blue wire to ignition control terminal 2-MV/PV.
  - e - Reconnect the gas valve terminal M red wire to the ignition control terminal 1-MV.
  - f - Reconnect the gas valve terminal P orange wire to the ignition control terminal 3-PV.
  - g - Reconnect the 1/4 inch quick-connect orange ignition cable to the ignition terminal 9-SPARK.
  - h - Connect the provided green ground wire to the ignition control terminal 4-GND (Burner). Connect the opposite end of the green ground wire to the unit ground screw.
  - i - Route wires to the right side of the manifold and use wire tie to bundle them.
- 9 - Affix the provided wiring diagram sticker adjacent to the existing unit wiring diagram. Affix the diagnostic code label so that it will be easily seen.
- 10 - Replace the access panel, and follow the start-up and adjustment section.

# TYPICAL DIAGRAM G20/G20R UNITS WITH EXISTING ROBERTSHAW CONTROL

## Robertshaw Ignition Control Wiring



## Honeywell Ignition Control Wiring

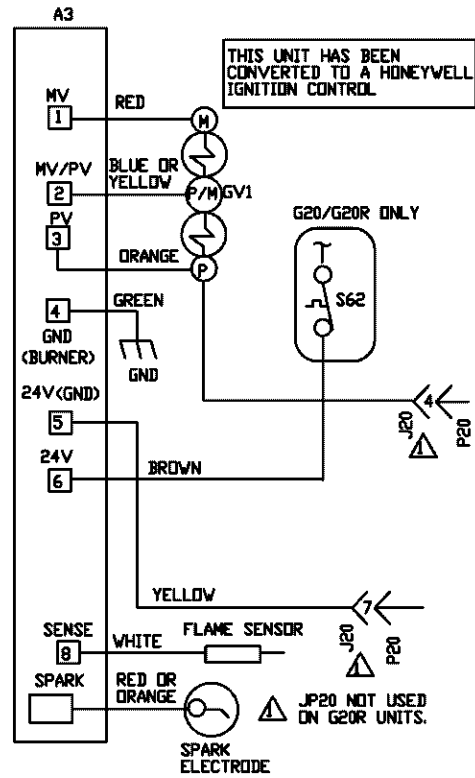
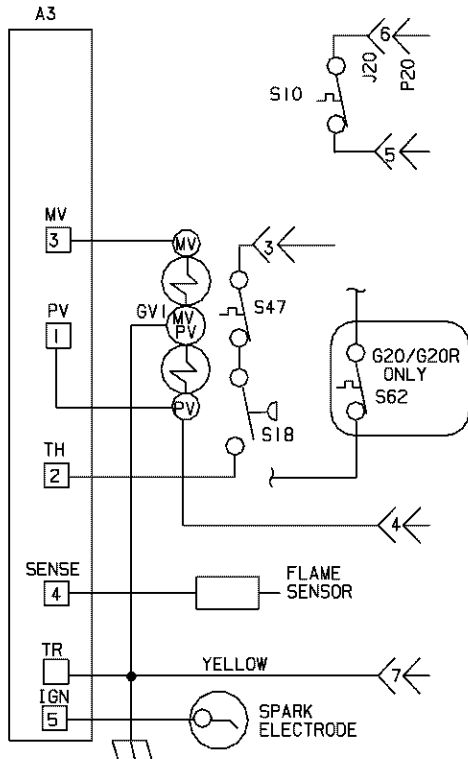


FIGURE 1

# TYPICAL DIAGRAM G20/G20R/G23/G26 UNITS WITH EXISTING JOHNSON CONTROL

## Johnson Ignition Control Wiring



## Honeywell Ignition Control Wiring

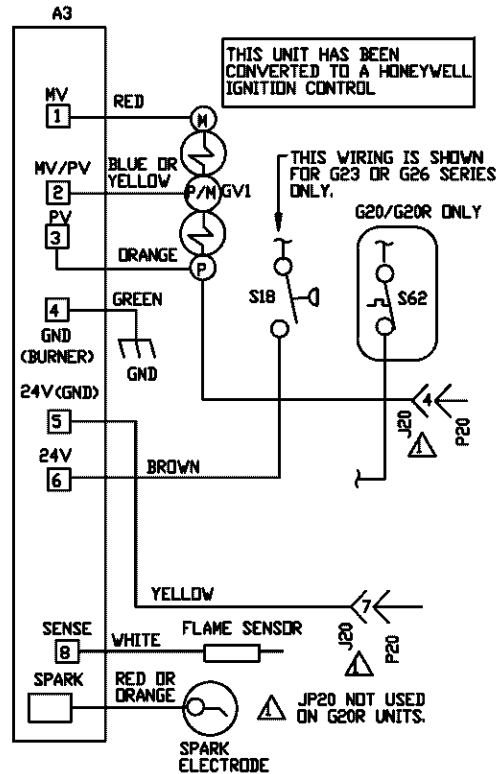


FIGURE 2

## Replacing a Johnson Ignition Control (G20/G20R/G23/G26)

- 1 - Disconnect electrical power and gas supply to the unit.
- 2 - Remove the unit access panel.
- 3 - Mark and disconnect the wires from the existing ignition control.
- 4 - Use a 1/4" nut driver to remove the two #8-32 screws that secure the existing ignition control to the unit. Use two of the provided #8 - 16 X 1/2" screws to install the provided control bracket in the unit. See figure 4 for the correct mounting holes to use.
- 5 - Position the replacement ignition control and bracket so that the control terminals point toward the **left** for G20 and G23 units. Position the control and bracket so that the terminals point toward the **bottom** for G26 units. Secure the mounting bracket and Honeywell control to the unit.
- 6 - Reconnect the marked wires to the new control as shown in figure 3 and as outlined below:

**NOTE - On Johnson ignition controls 41K8701 and 63K2401**, the MV and PV terminals will be 3/16" quick connects. Use the provided 1/4" quick connect pigtail wires to wire the Honeywell control terminals MV and PV.

- a - On the replacement control, locate the terminals labeled 1-MV and 3-PV. The quick-connect terminals on the new board are 1/4". Use the two provided wires to connect to these terminals.
  - b - Cut the spade connector off of the existing wire from terminal MV. Strip the wire back 5/8" and use a wire nut to connect this wire to the wire provided in the replacement kit. Connect the spade end of the provided wire to the 1-MV terminal on the replacement control.
  - c - Cut the spade connector off of the existing wire from terminal PV. Strip the wire back 5/8" and use a wire nut to connect this wire to the wire provided in the replacement kit. Connect the spade end of the provided wire to the 3-PV terminal on the control.
- 7- If the Johnson control is #69J3601 (G776 RDG-2) or #74H2601 (G776 RDG-1), the MV and PV terminals are 1/4" and they will connect directly to the 1/4" Honeywell terminals.
  - 8- Install the provided flame sensor on the existing pilot assembly.
  - 9- Route the white sensor wire (provided) from the flame sensor to the ignition control. Keep this wire away from other wire routing.
  - 10- See figure 2 for the replacement of the ignition control wiring.
    - a - Connect the white sensor wire to ignition control terminal 8-SENSE.
    - b - G23 and G26 units only – Reconnect the combustion air pressure switch brown wire to ignition control terminal 6-24V.

- c - G20 and G20R units only – Reconnect the wire from the blocked vent switch to ignition control terminal 6-24V.
- d - G20, G23 and G26 units only – Reconnect the yellow wire from pin position 7 on jack/plug J20/P20 to ignition control terminal 5-24V (GND).
- e - Reconnect the gas valve P/M terminal blue or yellow wire to ignition control terminal 2-MV/PV.
- f - Reconnect the gas valve terminal M red wire to the ignition control terminal 1-MV.
- g - Reconnect the gas valve terminal P orange wire to the ignition control terminal 3-PV.
- h - Attach the provided insulated 1/4" quick connect to the Johnson pilot red spark wire and connect it to the ignition control terminal 9-SPARK.
- i - Connect the provided green ground wire to the ignition control terminal 4-GND (Burner). Connect the opposite end of the green ground wire to the unit ground screw.

11-Affix the provided wiring diagram sticker adjacent to the existing unit wiring diagram. Affix the diagnostic code label so that it will be easily seen.

12-Replace the access panel.

13-Restore the electrical power and gas supply to the unit. Refer to the start-up and adjustment procedures.

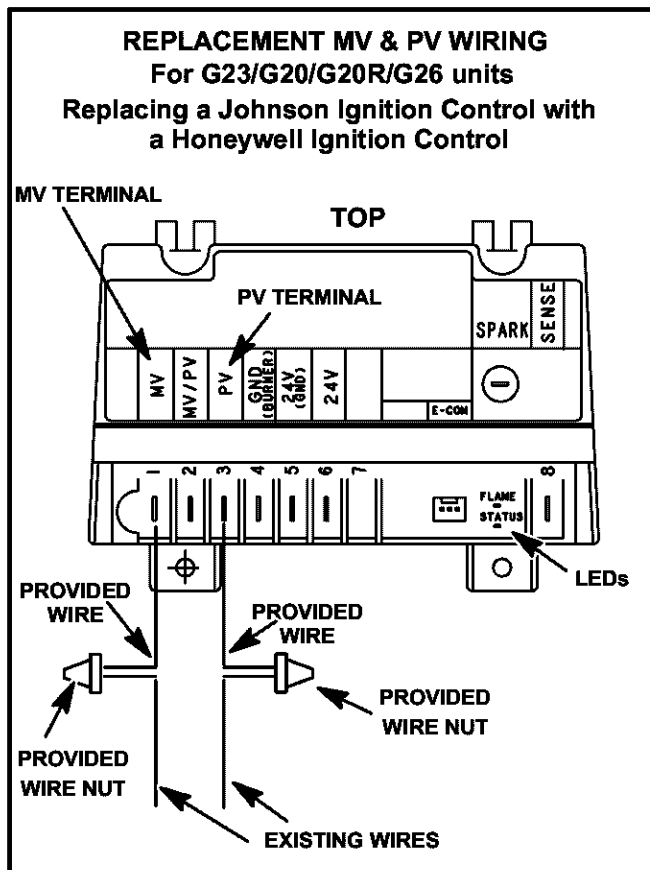


FIGURE 3

## Kit Mounting Bracket

### Mounting the Kit Bracket

#### C-C<sub>1</sub> G23 & G26-75

Remove the existing mounting bracket and install the kit bracket with two of the provided #8 16 X 1/2" screws. Mount the Honeywell control to D-D<sub>1</sub> with two of the provided #8 16 X 1/2" screws.

#### B-B<sub>1</sub> G20

Attach the kit bracket to the existing unit bracket with two of the provided #8 16 X 1/2" screws. Mount the Honeywell control to D-D<sub>1</sub> with two of the provided #8 16 X 1/2" screws.

#### A-A<sub>1</sub> G26 (except G26-75)

Attach the kit bracket to the existing unit bracket with two of the provided #8-16 X 1/2" screws. Mount the Honeywell control to E-E<sub>1</sub> with two of the provided #8 16 X 1/2" screws.

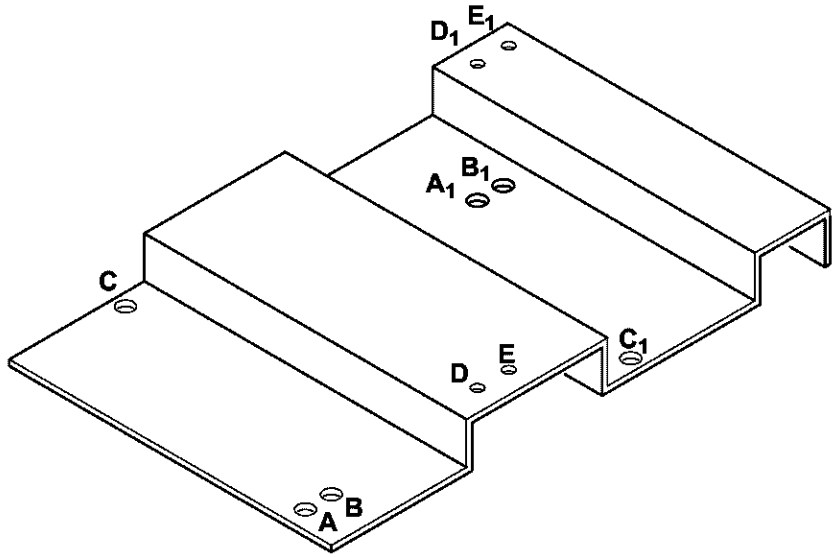


FIGURE 4

### Start-Up & Adjustment

*BEFORE LIGHTING, smell all around the appliance for gas. Be sure to smell next to the floor because some types of gas are heavier than air and will settle on the floor.*

*Use only your hand to move the gas control knob. Never use tools. If the knob will not move by hand, do not try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.*

#### Placing the unit in operation

- 1 - Make sure the thermostat is set below room temperature, and that the power is turned off to unit.
- 2 - The G20, G20R, G23, and G26 units are equipped with an ignition device which automatically lights the pilot burner. **DO NOT** try to light the pilot burner by hand.
- 3 - Turn the gas valve knob to **OFF**. Do not force the knob.
- 4 - Wait 5 minutes to clear out any gas. If you then smell gas, immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions. If you do not smell gas, go on to the next step.
- 5 - Turn the gas valve knob to **ON**.
- 6 - Turn on electrical power to the unit.
- 7 - Set the thermostat above the room temperature.  
*NOTE - When the unit is initially started, steps 1 through 7 may need to be repeated to purge air from pilot line.*
- 8 - Check the gas line supply pressure while the unit is operating. The minimum pressure as shown on the unit name plate must be available. Then check and adjust manifold pressure to the value indicated on the unit name plate.
- 9 - See the thermostat instructions for heat anticipator settings for electronic thermostats. See the gas valve for heat anticipator settings for electro-mechanical thermostats.
- 10 - Run the unit through at least three cycles to check that it is operating normally.  
*NOTE - The ignition control includes a green status LED and a yellow flame LED. Ignition control diagnostic codes are given on the label provided with the kit.*
- 11 - Set thermostat to desired setting.
- 12 - Replace the access panel.