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# PERFORMANCE Burner Control Conversion

## Honeywell Control to UT Control

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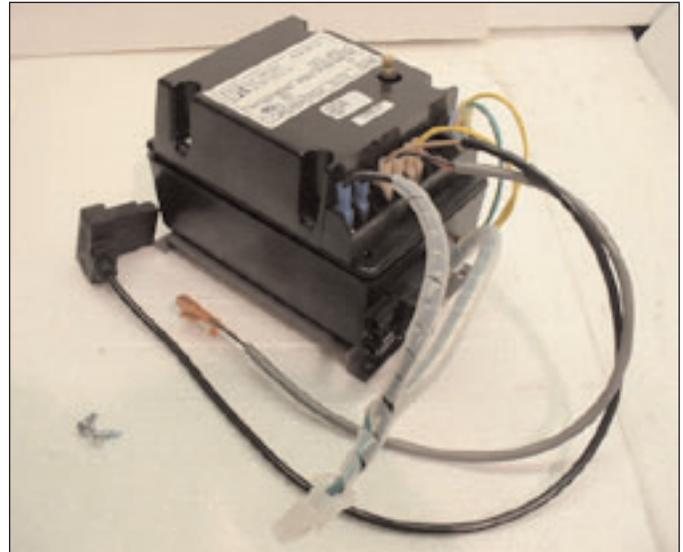
**Kit Part Numbers: PGRKIT24**

### Parts List

- 1 - UT / Transformer Assembly
- 2 - Adjustable Air Shutter (not shown)
- 3 - (3) Self Tapping Screws

### Recommended tools:

- A. Phillips Screwdriver
- B. Drill with 1/8" Bit
- C. Needle Nose Type Pliers
- D. Combustion Analyzer



### WARNING

Indicates a potentially hazardous situation which, if ignored, can result in serious injury or substantial property damage.

### NOTICE

Indicates special instructions on installation, operation or maintenance, which are important to equipment but not related to personal injury hazards.

### WARNING

Failure to follow instructions below can result in severe personal injury or damage if ignored.

- Instructions are for a qualified installer/ service technician.
- Read all instructions before proceeding.
- Follow instructions in proper order.

### WARNING

**For your safety, turn off electrical power supply at service panel before proceeding to avoid possible electrical shock hazard. Failure to do so can cause severe personal injury or death.**

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### Identifying Honeywell Control Series

If the Honeywell burner control is located on the right side of the blower housing below the view port, refer to Series 1 Conversion instructions.



If the Honeywell burner control is located on the left side of the blower behind the venturi, refer to Series 2 Conversion instructions.



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### Series 1 Conversion Instructions

#### Removal of Existing Control

1. Ensure power to the unit has been disconnected prior to removal of the burner control.
2. Disconnect the snap-set plug located on the bottom of the control box. Grip the body of the snap-set to prevent damage to the incoming wire leads. The snap-set should disconnect by pulling the right half of the snap-set to the right.
3. Disconnect the rectifier plug at the gas valve. Use a Phillips screwdriver to remove the mounting screw. Due to low voltage circuit.
4. Disconnect the pressure switch terminal connections. Use pliers to grab the leads at the terminals to prevent damage to the leads.
5. Disconnect the blower Molex plug. Squeeze the plugs tabs to disengage the plug.
6. Dismount the burner control box and mounting bracket from the burner mounting plate by removing the (2) mounting screws.

### Installation of the New Burner Control

1. Mount the UT burner control assembly onto the burner mounting plate using (2) self-tapping screws. Align the mounting bracket onto the existing burner mounting plate holes.
2. Connect the rectifier plug to the gas valve. Ensure the mounting screw is securely tightened.
3. Connect the (2) female terminal connectors to the pressure switch. Orientation of the wire leads is not important.
4. Connect the blower Molex plug into the blower assembly. If Molex plug does not engage, rotate the plug and align with the mating plug.
5. Connect the unit snap-set harness plug to the snap-set located on the UT burner control assembly.

#### Installation of Air Shutter (High Altitude & Propane Applications)

1. Disconnect and remove the air inlet duct system from the air inlet adapter located on the upper left portion of the unit.
2. Remove any existing air orifice device in the air adapter.

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- Place the adjustable air shutter into the air adapter. With the air shutter set at “0” the air shutter should be centered over the existing 2” air inlet. Use the self-tapping screw to secure the air shutter into position.

### WARNING

**Upon completion of the UT burner control conversion and the installation of the adjustable air shutter, the installer should perform a complete combustion test as outline in the Startup & Combustion Adjustment procedures. Failure to perform a complete combustion test may result in incomplete combustion and the production of CO, which can cause severe personal injury, death or substantial property damage.**

### Startup & Combustion Adjustment Procedures

- Preset the air shutter (if applicable) located inside the air inlet adapter per the recommended settings listed in Table 1.
- Ensure the vent system and air inlet duct are fully assembled and installed prior to the start-up of the Performance burner.
- With the unit running and at operating temperature, ensure the following combustion levels are met and the burner is operating at optimum conditions:
  - CO<sub>2</sub> - 9.5% to 10.0% (natural)  
11% to 11.5% (propane)
  - CO - 0 to 50 ppm

### WARNING

**Failure to perform a complete combustion test and setting the burner per the above recommended levels may result in incomplete combustion and the production of CO, which can cause severe personal injury, death or substantial property damage.**

- If applicable remove the air inlet duct and adjust the air shutter to achieve the recommended combustion levels. Rotation of the air shutter clockwise (toward 0) will increase the O<sub>2</sub> level. Rotation of the air shutter counter-clockwise will decrease the O<sub>2</sub> level. The CO<sub>2</sub> level will response opposite of the O<sub>2</sub> level.

### NOTICE

**Ensure the setscrew on the air shutter is tightened fully. Ensure the air inlet duct is fully assemble and connected to the air inlet adapter prior to conducting the combustion test.**

### WARNING

**If the O<sub>2</sub> level is measured below 4.0% with an air shutter setting of 0 or without any air shutter, contact Triangle Tube’s Engineering Department immediately. Do not attempt any further adjustments.**

**Table 1 - Recommended Air Shutter Settings**

HMPG Mode	Natural Gas	Propane Inches	High Altitude Natural 5,000	High Altitude Natural 8,000	High Altitude Propane 5,000	High Altitude Natural 8,000	High Altitude Natural 9,000 +	High Altitude Propane 9,000 +
PG-25	N/R	3.5	N/A	N/A	N/A	N/A	N/A	N/A
PG-30	N/R	3.5	3.5	3.5	2.5	4.0	N/A	N/A
PG-35	N/R	3.5	3.5	3.5	3.5	3.75	N/A	N/A
PG-40	N/R	0.0	2.0	0	0	0	N/A	N/A
PG-45	N/R	0.0	0	0	0	0	0	0

N/R - Not Required

N/A - Not Applicable

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### Series 2 Conversion Instructions

#### Removal of Existing Control

1. Ensure power to the unit has been disconnected prior to removal of the Honeywell burner control.
  2. Disconnect the snap-set plug located on the bottom of the control box. Grip the body of the snap-set to prevent damage to the incoming wire leads. The snap-set should disconnect by pulling the left half of the snap-set to the left.
  3. Disconnect the rectifier plug at the gas valve. Use a Phillips screwdriver to remove the mounting screw.
  4. Disconnect the pressure switch terminal connections. Use pliers to grab the leads at the terminals to prevent damage to the leads.
  5. Disconnect the blower Molex plug. Squeeze the plug tabs to disengage the plug.
  6. Dismount the burner control box and mounting bracket from the burner mounting plate by removing the (2) mounting screws. To provide ease in the removal of the control assembly, the venturi inlet elbow may be removed with a twist motion.
3. Connect the rectifier plug to the gas valve. Ensure the mounting screw is securely tightened.
  4. Connect the (2) female terminal connectors to the pressure switch. Orientation of the wire leads is not important. Due to low voltage circuit.
  5. Connect the blower Molex plug into the blower assembly. If Molex plug does not engage, rotate the plug and align with the mating plug.
  6. Connect the unit snap-set harness plug to the snap-set located on the UT burner control assembly.

#### Installation of Air Shutter (High Altitude & Propane Applications)

1. Disconnect and remove the air inlet duct system from the air inlet adapter located on the upper left portion of the unit.
2. Remove any existing air orifice device in the air adapter.
3. Place the adjustable air shutter into the air adapter. With the air shutter set at "0" the air shutter should be centered over the existing 2" air inlet. Use the self-tapping screw to secure the air shutter into position.

#### Installation of the New Burner Control

1. Align the UT burner control assembly onto the burner mounting plate and pre-drill (2) pilot holes through the mounting holes on the UT burner control assembly bracket using 1/8" drill.
2. Mount the UT burner control assembly onto the right side of the burner mounting plate using (2) self-tapping screws.

#### WARNING

**Upon completion of the UT burner control conversion and the installation of the adjustable air shutter, the installer should perform a complete combustion test as outlined in the Startup & Combustion Adjustment procedures. Failure to perform a complete combustion test may result in incomplete combustion and the production of CO, which can cause severe personal injury, death or substantial property damage.**

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### Startup & Combustion Adjustment Procedures

1. Preset the air shutter (if applicable) located inside the air inlet adapter per the recommended settings listed in Table 1.
2. Ensure the vent system and air inlet duct are fully assembled and installed prior to the start-up of the Performance burner.
3. With the unit running and at operating temperature, ensure the following combustion levels are met and the burner is operating at optimum conditions:
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#### WARNING

**Failure to perform a complete combustion test and setting the burner per the above recommended levels may result in incomplete combustion and the production of CO, which can cause severe personal injury, death or substantial property damage.**

4. If applicable remove the air inlet duct and adjust the air shutter to achieve the recommended combustion levels. Rotation of the air shutter clockwise (toward 0) will increase the O<sub>2</sub> level. Rotation of the air shutter counter-clockwise will decrease the O<sub>2</sub> level. The CO<sub>2</sub> level will response opposite of the O<sub>2</sub> level.

#### NOTICE

**Ensure the setscrew on the air shutter is tightened fully. Ensure the air inlet duct is fully assemble and connected to the air inlet adapter prior to conducting the combustion test.**

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