



# Q90 Series Pilot Burner Assembly Kit

## Application

The Q90 pilot burner assembly kits are specifically designed to replace certain ignition pilots on various appliances. Refer to Table 1 for the proper pilot burner assembly kit selection. Refer to Figure 1 through Figure 5 for Q90 drawings.

Table 1: Q90 Pilot Burner Assembly Kit Information

Kit Part Number	Pilot Burner Part Number	Sensor Probe Part Number	Sensor Cable Part Number	Appliance Manufacturer	Type of Application
Q90AA-1	J989EKW-7721	Y75AA-8	N/A	Lennox	Residential Furnace
Q90BB-1	J996DKW-7723	Y75AA-3	Y57JH-27	Carrier-BDP	Residential Furnace
Q90CC-1	J986HXW-7221*	Integral Part of Pilot	N/A	Reznor	Unit Heater
Q90DD-1	J993HHW-6221	Integral Part of Pilot	Y57HH-36	Reznor	Rooftop
Q90EA-1	J995DHW-6718	Y75AA-8	N/A	Friedrich	Residential Furnace

\* J986HXW-7221 also replaces J992HXW-7221. (J986 has a Rajah terminal and boot, J992 does not.)

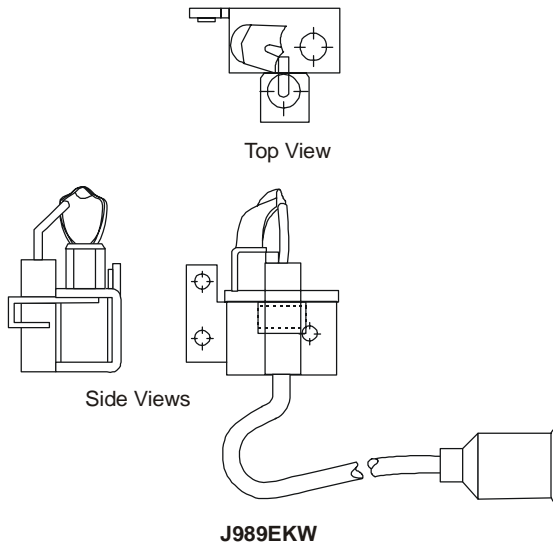


Figure 1: Q90AA-1 (J989EKW) Pilot Burner

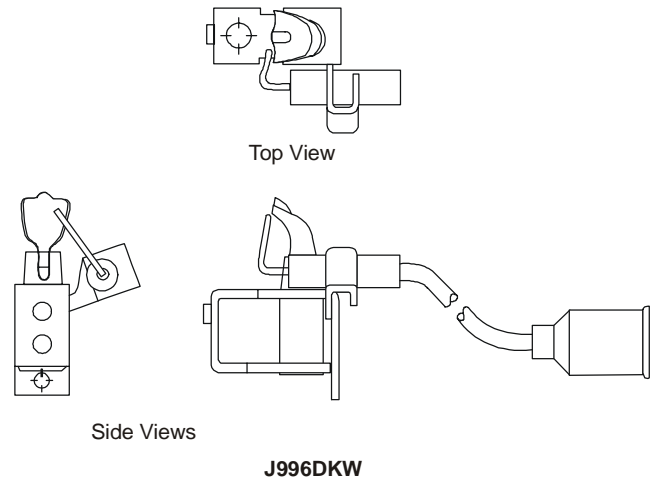


Figure 2: Q90BB-1 (J996DKW) Pilot Burner

Preliminary—This information may change.

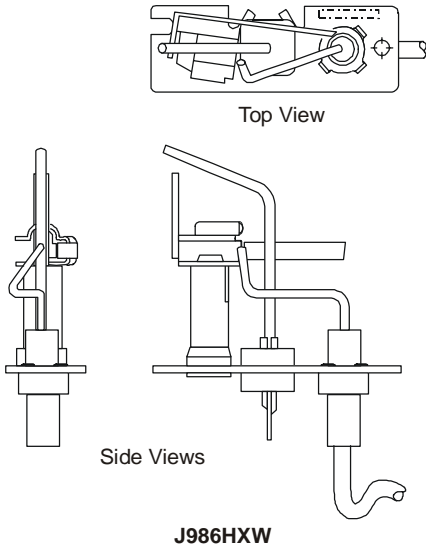


Figure 3: Q90CC-1 (J986HXW) Pilot Burner

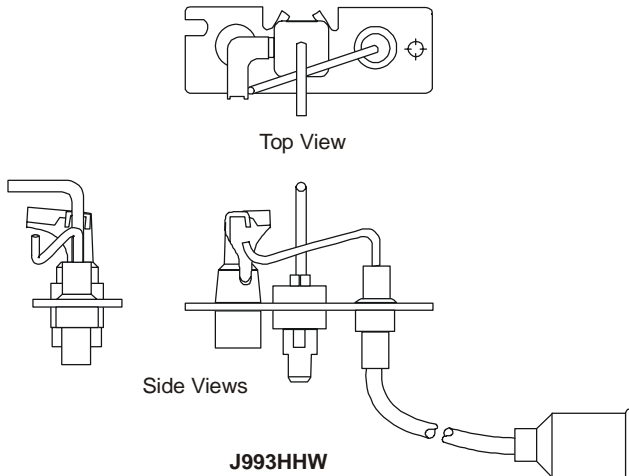


Figure 4: Q90DD-1 (J993HHW) Pilot Burner

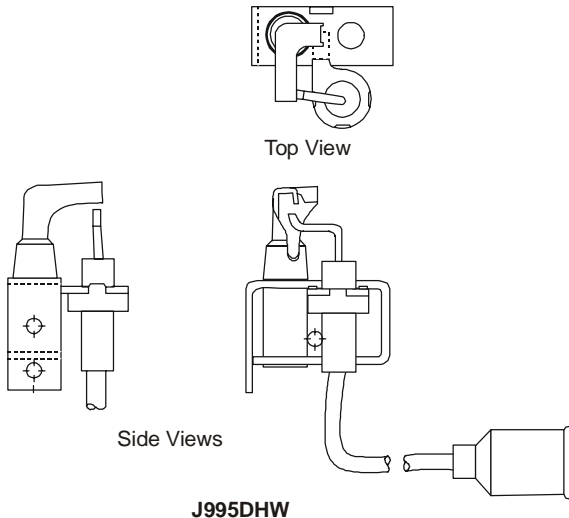


Figure 5: Q90EA-1 (J995DHW) Pilot Burner

## Installation

**IMPORTANT:** Only qualified personnel should install or service Johnson Controls products. These instructions are a guide for such personnel. Carefully follow all instructions in this document and all instructions for the appliance.

**IMPORTANT:** Make all gas installations in accordance with applicable local, national, and regional regulations.

**CAUTION: Risk of Electrical Shock.**  
Disconnect power supply before making electrical connections to avoid electrical shock.

**WARNING: Risk of Explosion or Fire.**  
Shut off the gas supply at the main manual shutoff valve before installing or servicing the control. Failure to shut off the gas supply can result in the release of gas during installation or servicing, which can lead to an explosion or fire, and may result in severe personal injury or death.

To install the Q90 pilot burner assembly:

1. Shut off power to the appliance.
2. Turn off the gas at the main manual shutoff valve adjacent to the appliance.
3. Disconnect the pilot tubing from the existing pilot burner assembly.
4. Disconnect the high voltage cable (from the spark transformer) and sensor cable (from Terminal 4) on the ignition control.
5. Remove the pilot burner assembly mounting screws.
6. Remove the existing pilot burner assembly and discard.
7. Install the Q90 pilot burner assembly using the screws that were removed in Step 3. Ensure the screws are tight and secure.
8. Reconnect the pilot tubing to the Q90 pilot burner assembly.

9. Connect the sensor cable to the male spade connector on the pilot burner sensing probe and Terminal 4 on the ignition control.
10. Connect the high voltage on the pilot burner assembly to the spark transformer on the ignition control.



**WARNING: Risk of Explosion or Fire.**

Verify that there are no gas leaks by testing with appropriate equipment. Never use a match or lighter to test for the presence of gas. Failure to test properly can lead to an explosion or fire and may result in severe personal injury or death.

11. Check for leakage.
  - a. Shut off the gas at the main manual shutoff valve and open the pressure connection between the manual shutoff valve and the gas valve.
  - b. Connect air tubing with a maximum pressure of 1 1/2 times the valve's maximum operating pressure (as indicated on the valve) to the opened pressure connection.
  - c. Paint all valve body and pilot tubing connections with a rich soap and water solution.

If bubbles occur, this indicates a leak. To stop a leak, tighten joints and connections. Replace the part if the leak cannot be stopped.

If bubbles do not occur, remove the air tubing and close the pressure connection.
12. Perform the *Checkout* section before leaving the installation.

## Setup and Adjustments

### Checkout



**WARNING: Risk of Explosion or Fire.**

Follow this or an equivalent checkout procedure after installation. Before leaving the installation, verify that the gas valve functions properly and that the system has no gas leaks. Gas leaks can lead to an explosion or fire, and may result in severe personal injury or death.

Make sure all components are functioning properly by performing the following test.

1. Test all joints and connections for leaks with a soap solution.
2. Close the main upstream shutoff valve and wait at least 5 minutes for unburned gas to escape from the appliance, and then reopen the shutoff valve.
3. Turn on the main electrical power switch and close the thermostat contacts. The appliance should operate in accordance with the manufacturer's specified sequence of operation.
4. Turn the thermostat to a low setting to open the contacts. All burner flames should extinguish.
5. Observe at least three complete operating cycles to make sure that all components are functioning properly.
6. Return the thermostat to a normal temperature setting before leaving the installation.

### Repairs and Replacement

Field repairs **must not** be made to the Q90 pilot assembly kit. Any attempt to repair this assembly voids the manufacturer's warranty. For a replacement pilot assembly kit or accessories, contact the original equipment manufacturer or the nearest Johnson Controls distributor.

Preliminary—This information may change.

## Technical Specifications

<b>Product</b>	Q90 Series Pilot Burner Assembly Kit		
<b>Material</b>	Spark Electrode Rod	446 Stainless	
	Mounting Bracket	Plated Steel	
	Flame Sensor	Kanthal D or Hoskins 815	
	Pilot Tip	430 Stainless	
	Pilot Body	Plated Steel	
	Inlet Tip	Aluminum	
	Inlet Body	Brass	
	Ceramic	Steatite	
	Ignition Cable	18 AWG, UL Wire Style 3257	
<b>Maximum Temperature Ratings</b>	Spark Electrode Rod	1600°F (872°C)	
	Mounting Bracket	825°F (440°C)	
	Sensor	1800°F (982°C)	
	Pilot Tip	1500°F (815°C)	
	Pilot Body	825°F (440°C)	
	Inlet Tip	635°F (335°C)	
	Inlet Body	750°F (399°C)	
	Ceramic	1000°F (538°C)	
	Ignition Cable	482°F (250°C)	
<b>Flame Sensor Lead</b>		<b>Standard</b>	<b>High Temperature</b>
	Gauge	18 AWG	18 AWG
	Maximum Temperature Rating	302°F (150°C)	482°F (250°C)
	UL Wire Style	Style 3212	Style 3252
<b>Agency Listings</b>	Pilot Burner CSA Certificate Number 229521-1656071		
<b>Specifications Standards</b>	ANSI Z21.20		
	CAN1-6.4		
	CAN/CSA-C22.2 No. 199-M89		

Performance specifications are nominal and conform to acceptable industry standards. All agency certification of BASO products is performed under dry and controlled indoor environmental conditions. Use of BASO products beyond these conditions is not recommended and may void the warranty. Product must be protected if exposed to water (dripping, spraying, rain, etc.) or other harsh environments. The original equipment manufacturer or end user is responsible for the correct application of BASO products. Consult BASO Gas Products LLC for questionable applications. BASO Gas Products LLC shall not be liable for damages or product malfunctions resulting from misapplication or misuse of its products.

Refer to the J Series Pilot burners/Y90 Series Inlet Fitting Product Bulletin (LIT-4350500) for necessary information on operating and performance specifications for this product.



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