

**INSTALLATION INSTRUCTIONS FOR SMOKE DETECTOR KITS  
USED WITH KC/KG/KH024-090 & LCH/LGH036-072 UNITS**

**Shipping and Packing List**

**53W78 single-sensor kit contains the following:**

- 1 - Smoke detector sensor
- 1 - Smoke detector power board
- 1 - Supply bracket
- 1 - Supply brace
- 1 - Return bracket (used on KC, KG & KH units only)
- 1 - Return brace (used on KC, KG & KH units only)
- 1 - Power harness (used on KC, KG & KH units only)
- 1 - Sensor harness (used on KC, KG & KH units only)
- 1 - Jumper harness (used on LCH & LGH units only)
- 1 - Metal sampling tube
- 1 - Plastic exhaust tube
- 1 - Magnet
- 1 - Sensor manufacturer's instructions
  - #10 - 16 X 3/4" sheet metal screws
  - #8 - 32 X 1" thread-forming screws

**53W79 dual-sensor kit contains the following:**

- 2 - Smoke detector sensors
- 1 - Smoke detector power board
- 1 - Supply bracket
- 1 - Supply brace
- 1 - Return bracket (used on KC, KG & KH units only)
- 1 - Return brace (used on KC, KG & KH units only)
- 1 - Power harness (used on KC, KG & KH units only)
- 1 - Sensor harness (used on KC, KG & KH units only)
- 2 - Metal sampling tubes
- 2 - Plastic exhaust tubes
- 2 - Magnets
- 1 - Sensor manufacturer's instructions
  - #10 - 16 X 3/4" sheet metal screws
  - #8 - 32 X 1" thread-forming screws

**Application**

**LCH and LGH Units** -- Smoke detector will send a 24Vac signal to the unit A55 IMC when smoke is sensed. IMC default mode will de-energize unit.

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**KC, KG and KH Units** -- Smoke detector will interrupt the 24Vac signal to the unit control circuit when smoke is sensed. Unit will be de-energized.

**Installation**

**⚠ WARNING**

**Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional installer, service agency or the gas supplier.**

**⚠ CAUTION**

**Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch.**

**⚠ CAUTION**

**Danger of sharp metallic edges. Can cause injury. Take care when servicing unit to avoid accidental contact with sharp edges.**

**Smoke detector sensor and power board installation**

Use manufacturer's instructions provided with smoke detector to install sensor(s) and power board. Refer to figure 1 for location of power board, supply air sensor and return air sensor on units with an economizer. For location of return air sensor on units without an economizer, refer to figure 2 for KC, KG and KH units, and figure 3 for LCH and LGH units.

**Sampling tube installation**

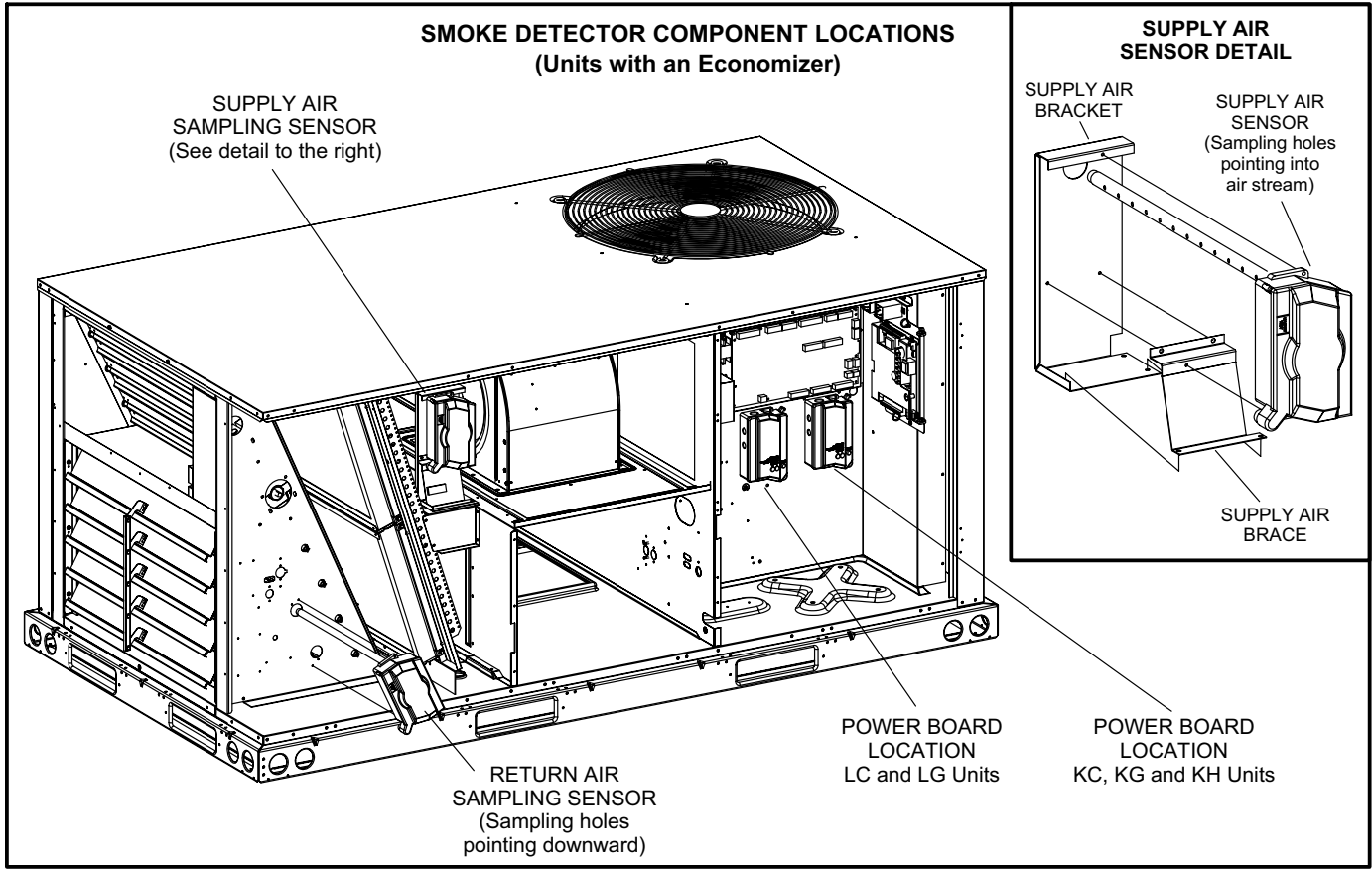
- 1 - Slide metal sampling tube onto the back side of the sensor as shown in figure 4. When sensor is installed in return air applications, slide plastic exhaust tube onto back side of the sensor as shown in figure 4.

**NOTE - Plastic exhaust tube is NOT used in supply air applications and should be discarded.**

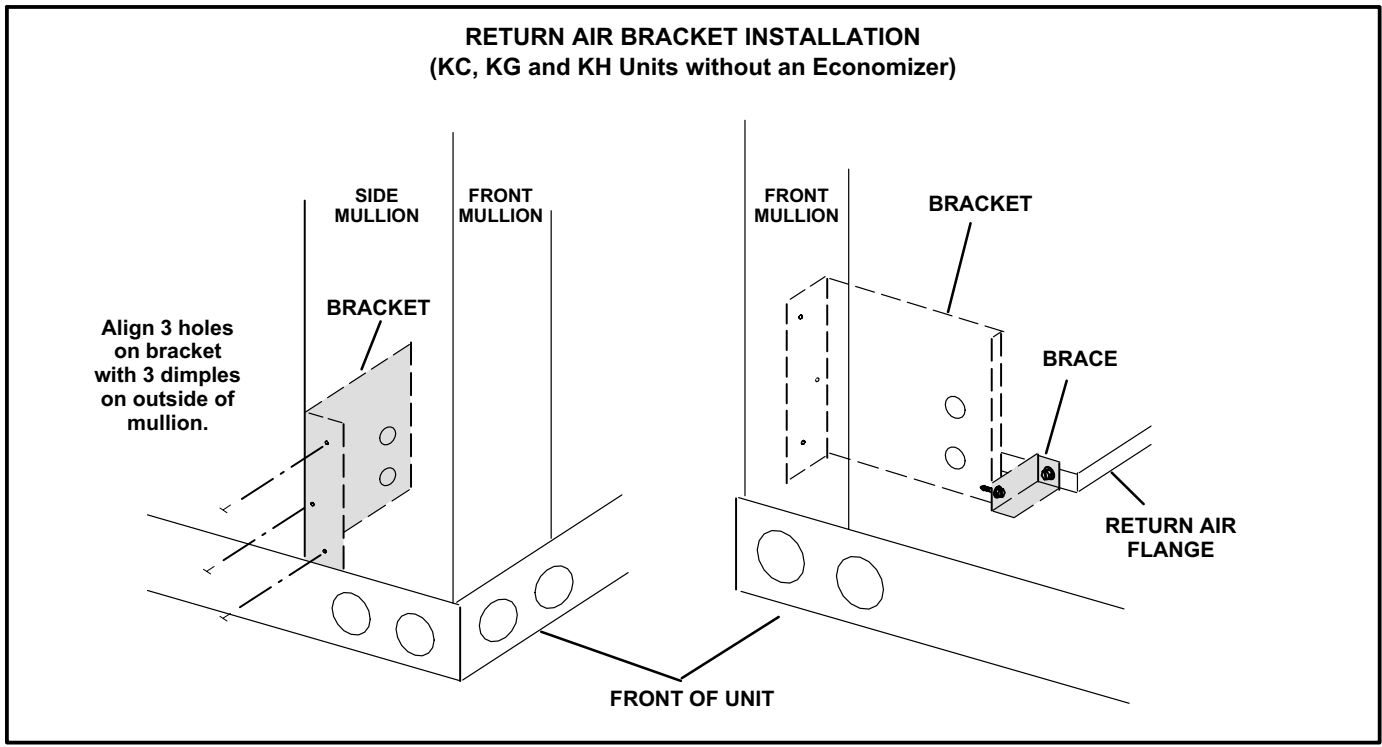
- 2 - Orient sampling tube so that holes point toward the air stream.

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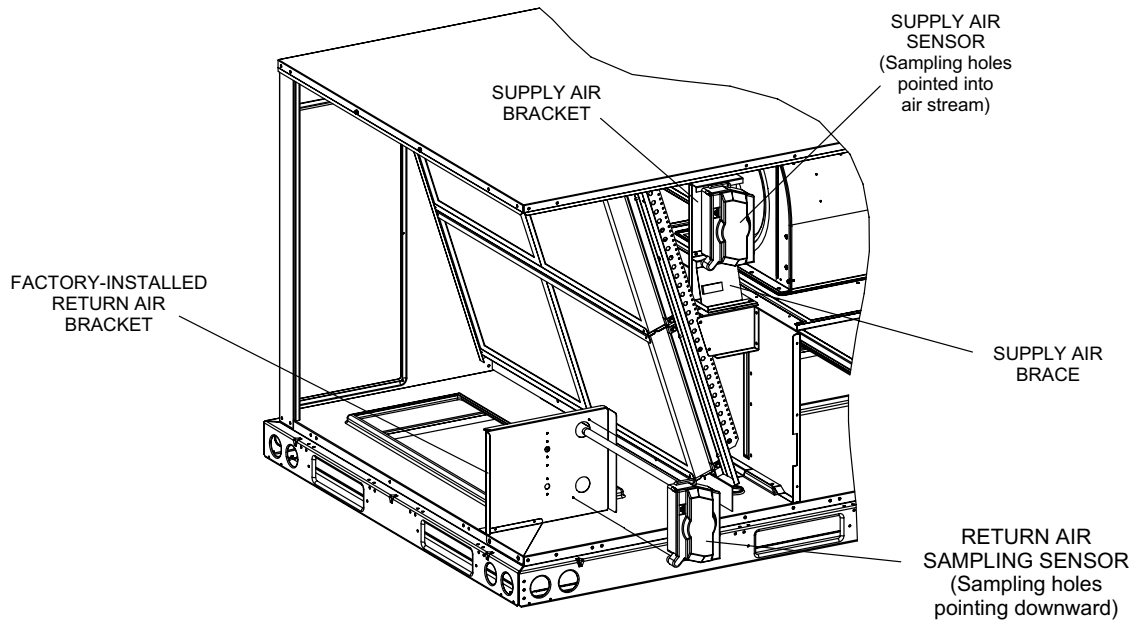


**FIGURE 1**



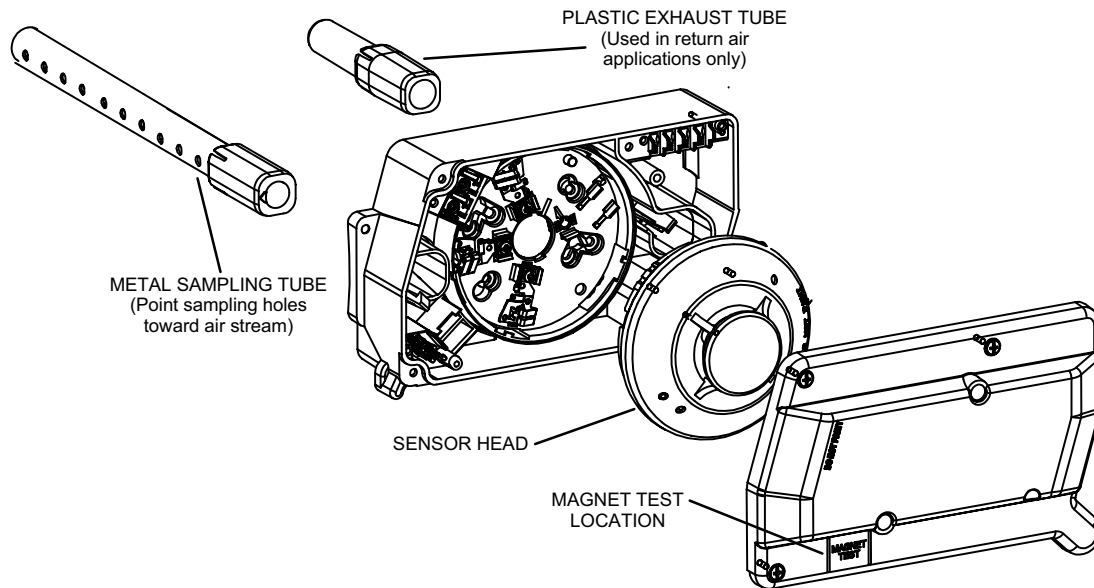
**FIGURE 2**

**SMOKE DETECTOR COMPONENT LOCATIONS  
(LCH and LGH Units without an Economizer)**



**FIGURE 3**

**SMOKE DETECTOR SENSOR WITH  
SAMPLING TUBE AND EXHAUST TUBE**



**FIGURE 4**

## Wiring

### KC, KG and KH Units

- 1 - Make jack/plug connections as shown in figure 7 when installing return air smoke detector only, figure 8 when installing supply air smoke detector only, and figure 9 when installing both supply and return air smoke detectors.
- 2 - Route harness wires to the top of the unit. Secure to existing bundle of wires and route to control area above compressor. See figure 5. Make sure wires are secured away from other components.

*NOTE - In single-sensor applications, the wiring harness is sized for return air applications. There will be excess wiring in supply air applications. Gather excess wire and secure away from other components.*

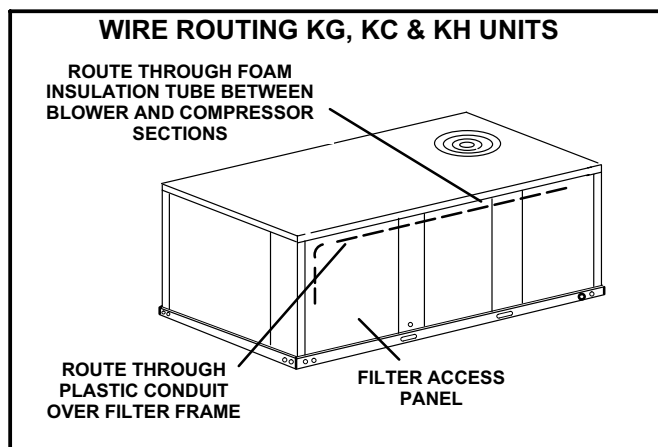


FIGURE 5

- 3 - Locate and disconnect wires labeled 95 and 96 in control area above compressor. See figure 6.
- 4 - Connect wires labeled 95, 96 and TB1C from the kit harness to wires labeled 95, 96 and TB1C in unit.

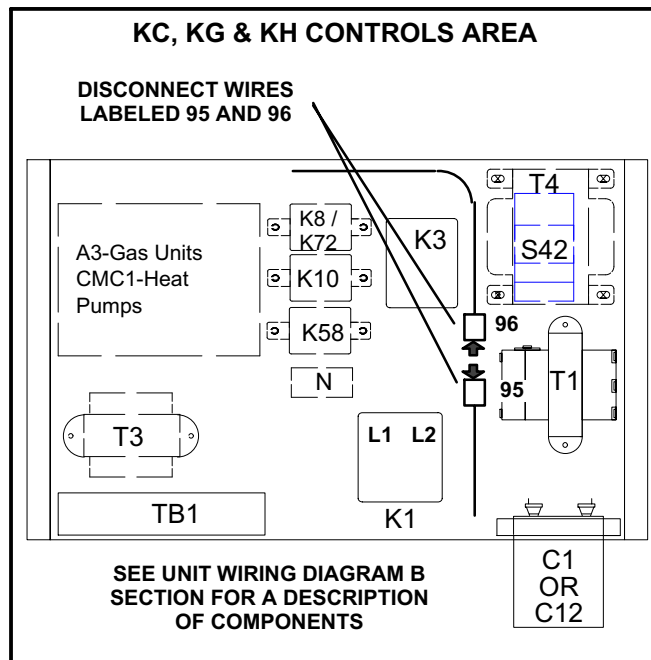


FIGURE 6

### LCH and LGH Units

Make jack/plug connections as shown in figure 10 when installing return air smoke detector only, figure 11 when installing supply air smoke detector only, and figure 12 when installing both supply and return air smoke detectors. Plugs are located in the unit near the location of the sensor(s) and power board.

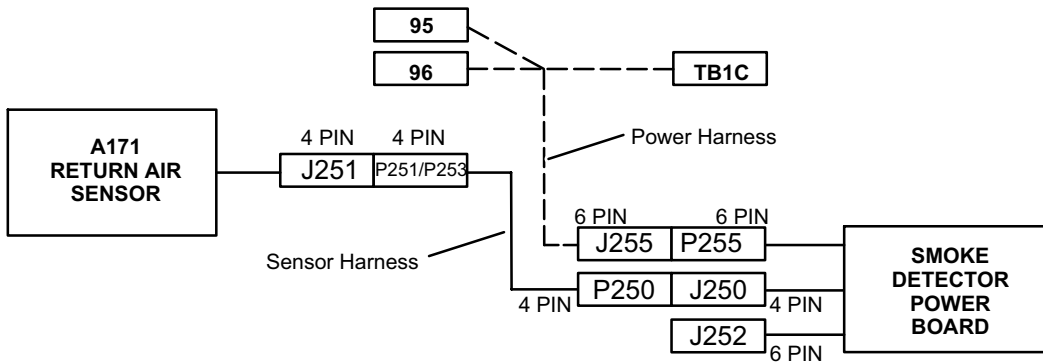
### Test Magnet(s)

A test magnet is provided in a bag assembly with each sensor. Remove the magnet from the bag assembly and place it on a metal surface near the sensor. The magnet is used during test procedures.

### Maintenance and Test Procedure Instructions

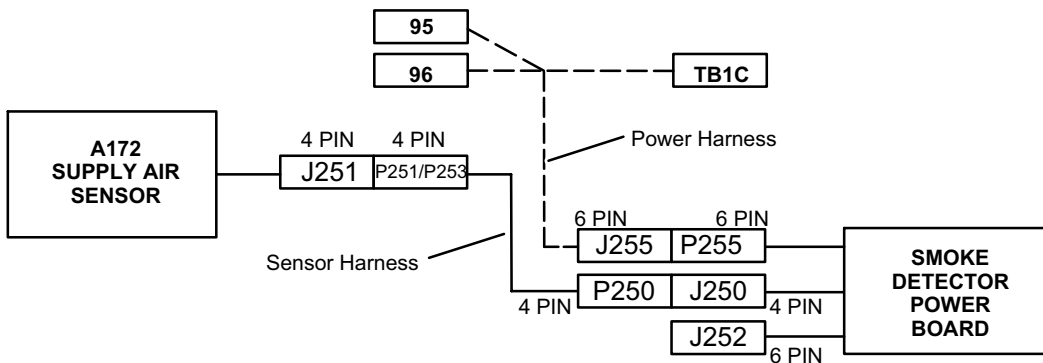
The sensor manufacturer's instructions, which are provided with each sensor, outline information on maintenance and test procedures. Place these instructions in the literature pouch for future reference.

**KC, KG or KH Unit Application with Single Return Air Smoke Detector**  
 (Note: Verify that power board DIP switch is set to 1)



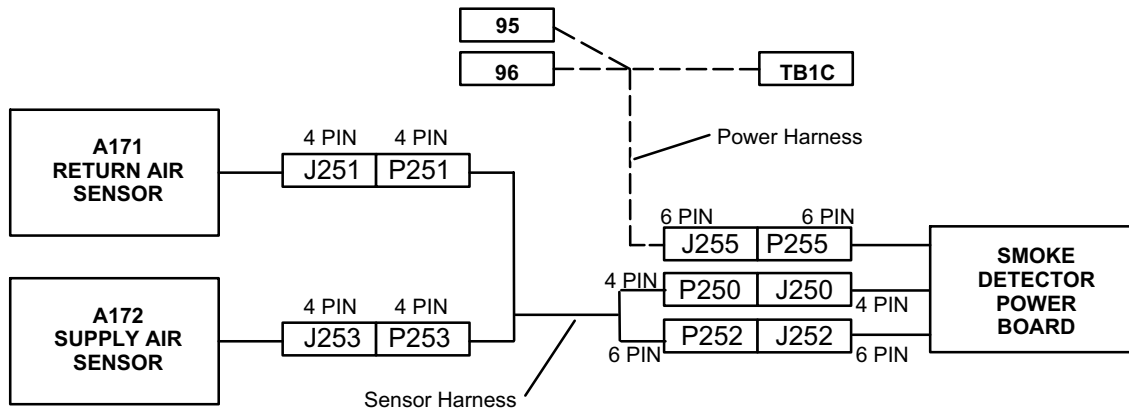
**FIGURE 7**

**KC, KG or KH Unit Application with Single Supply Air Smoke Detector**  
 (Note: Verify that power board DIP switch is set to 1)



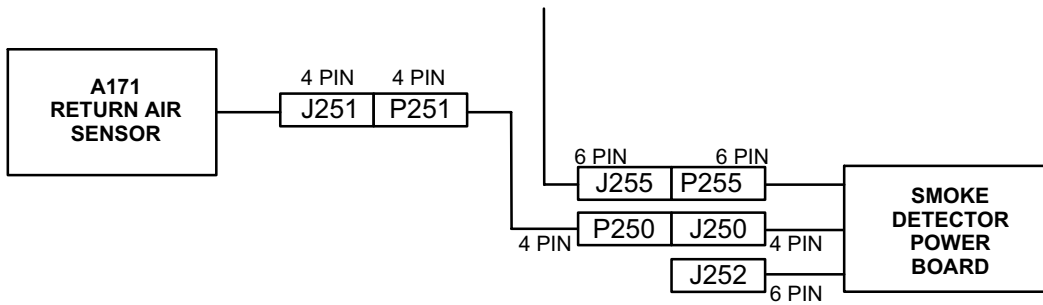
**FIGURE 8**

**KC, KG or KH Unit Application with Return Air and Supply Air Smoke Detectors**  
 (Note: Change power board DIP switch setting to 2)



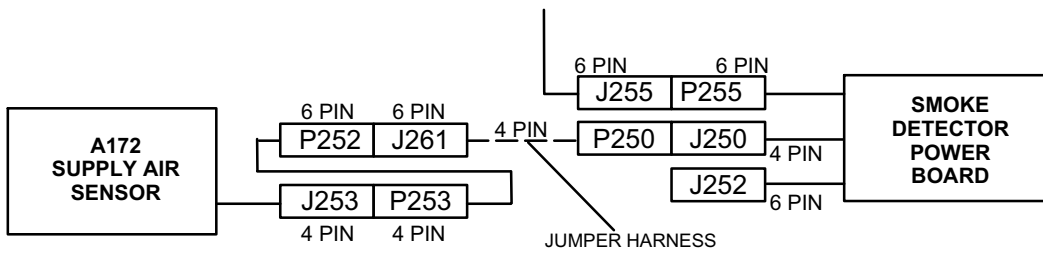
**FIGURE 9**

**LCH or LGH Unit Application with Single Return Air Smoke Detector**  
 (Note: Verify that power board DIP switch is set to 1)



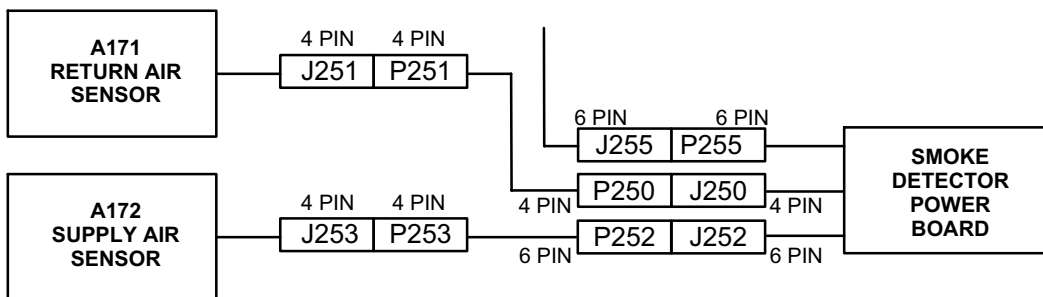
**FIGURE 10**

**LCH or LGH Unit Application with Single Supply Air Smoke Detector**  
 (Note: Verify that power board DIP switch is set to 1)



**FIGURE 11**

**LCH or LGH Unit Application with Return Air and Supply Air Smoke Detectors**  
 (Note: Change power board DIP switch setting to 2)



**FIGURE 12**