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# SUPPLEMENTAL INSTRUCTIONS

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## CMH-36 Outdoor Thermostat Kit

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The CMH-36 is a field-installable outdoor thermostat to be used with a Bard wall-mounted heat pump.

The CMH-36 kit consists of:

- 7960-862B Supplemental Instructions
- 910-2012 Relay and Outdoor Thermostat Assembly
- 8408-048 Freeze Protect Thermostat
- 3/8" Vinyl-Covered Clamp
- 3/4" Open Bushing
- 1012-065 Torx Head Screw (4)
- 1012-153 Smooth Hex Head Screw
- 7950-009 Cable Tie (4)
- 7961-312-0519 CMH-36 Unit I.D. Label

The CMH-36 kit is for use with Bard models C36HY, C42HY, C48HY, C60HY, W42H, W48H and W60H wall-mount heat pumps.

Field-supplied tools needed:

- Appropriate personal protection equipment, including gloves and safety glasses
- 5/16" nut driver
- T20 Torx screwdriver

### Outdoor Thermostat Operation

Heat pump compressor operation at outdoor temperatures below 0° is neither desirable nor advantageous in terms of efficiency. An outdoor thermostat can be applied to take the mechanical heating (compressor) offline, and send the (compressor) signal to energize electric heat in its place (to make electric heat first stage heating). This can also be applied to limit the quantity of available electric heat.

**Example:** Heat pump with 10KW second stage heat. Once the outdoor thermostat has switched, 15KW without compressor.

### WARNING

**Electrical shock hazard.**

**Disconnect the remote electric power supply or supplies before servicing.**

**Failure to do so can result in serious injury or death.**

### WARNING

**Exposed moving parts.**

**Disconnect all electrical power before servicing.**

**Failure to do so can result in severe injury or amputation.**

### CAUTION

**Sharp metallic edges.**

**Take care and wear appropriate protective devices to avoid accidental contact with sharp edges.**

**Failure to do so can result in personal injury.**



**Climate Control Solutions**

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Manual: 7960-862B  
Supersedes: 7960-862A  
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## Installation

1. Disconnect all power to wall-mount unit.
2. Remove outer and inner control panel covers.
3. Remove right side condenser inlet grille, front condenser grill and upper front panel.
4. Mount 910-2112 relay and outdoor thermostat assembly into unit control panel as shown in Figure 1 on page 3. Use Torx head screws included with kit to attach relay to control panel.
5. Blow Thru Units: Carefully route outdoor thermostat bulb down through the control panel and condenser partition with the compressor and other wires that are currently there. Referring to Figure 2 on page 4, attach the outdoor thermostat bulb to the fan shroud using the 3/8" vinyl-covered clamp and hex head screw included with the kit. Be sure to dress the capillary tube so as to not have any tube or other rubs. Use the cable ties included with kit to secure the capillary tube out of the way as needed.

Draw Thru Units: Carefully route outdoor thermostat bulb down through the control panel and condenser partition to the front of the condenser coil. Use the 3/4" bushing (included) in the condenser partition. Reference Figure 3 on page 5.

6. Install freeze protect thermostat onto the evaporator coil as shown in Figure 4 on page 6. Route the wires down through the bushings in the blower partition and filter partition beside the filters and into the control panel.
7. Remove cover from vertical gray cable duct on control panel to allow wire harness from installed relay to route into it (see Figure 1).

**NOTE:** *The unit wiring diagram (included with unit literature assembly and also located on inner control panel cover) can be used to wire this kit. However, the following instructions listed here provide the necessary connections point-by-point.*

8. Locate the wire that is on the Y terminal of the defrost logic control board. This wire will either be yellow/white or yellow/black depending on the unit model. Remove from its original position and connect to the freeze protect thermostat. Also connect the other end of freeze protect thermostat to the yellow/white wire from the 910-2112 relay.
9. Locate the orange/black wire from the 910-2112 relay and connect it to the Y terminal on the defrost logic board.
10. Locate black/white wire from relay assembly and route through cable duct to defrost control logic

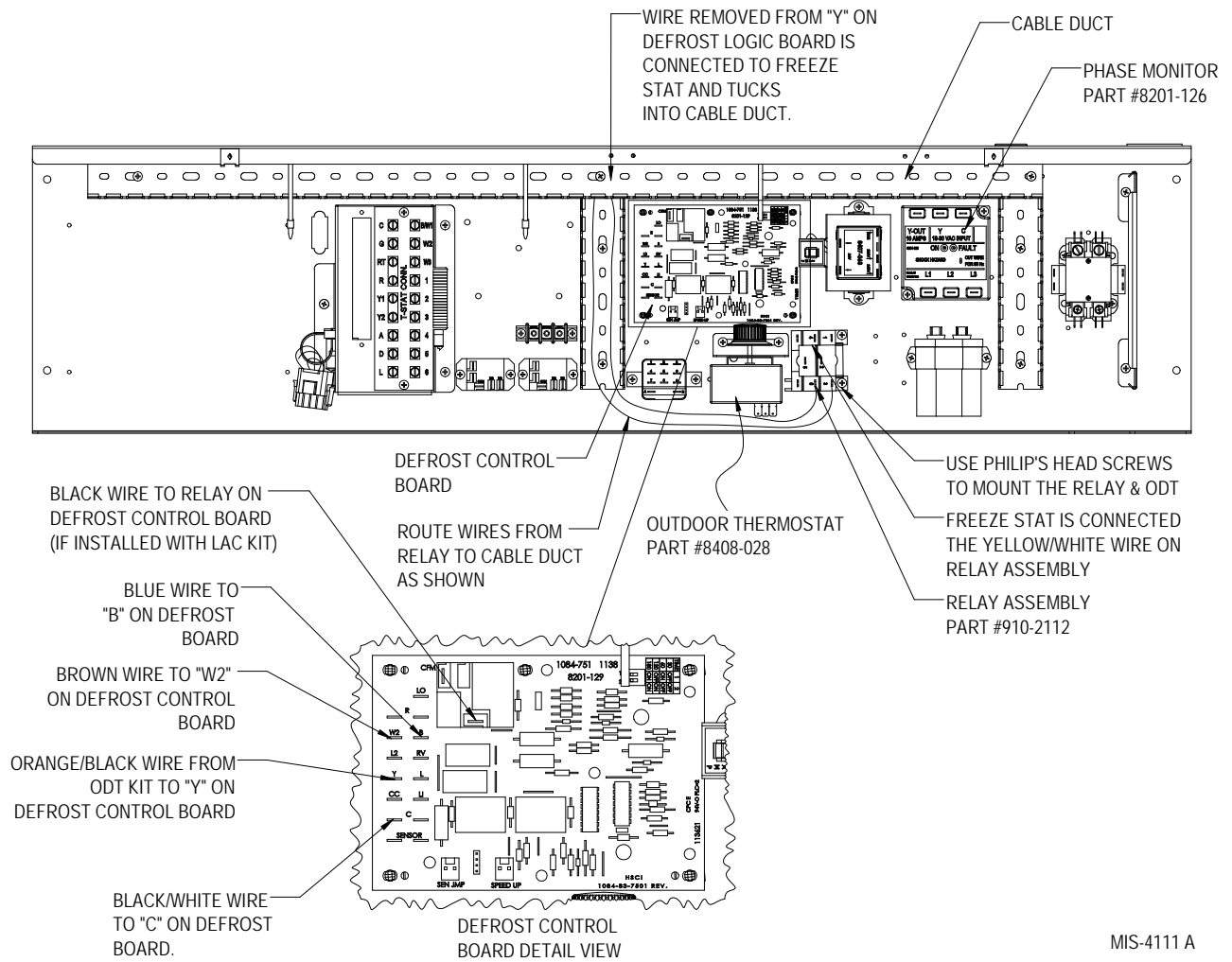
board. Connect the wire to the C terminal. If the heat pump is a dehum unit, remove the black/white wire already connected to C terminal and stack it back onto the black/white wire from the relay assembly.

11. Locate blue wire from relay assembly and route through cable duct to defrost control logic board. Connect to B terminal. Remove blue wire already connected to B terminal and stack it back onto the blue wire from the relay assembly.
12. Locate brown wire from relay assembly and route through cable duct to defrost control logic board. Connect to W2 terminal. Remove brown wire already connected to W2 terminal and stack it back onto the brown wire from the relay assembly.

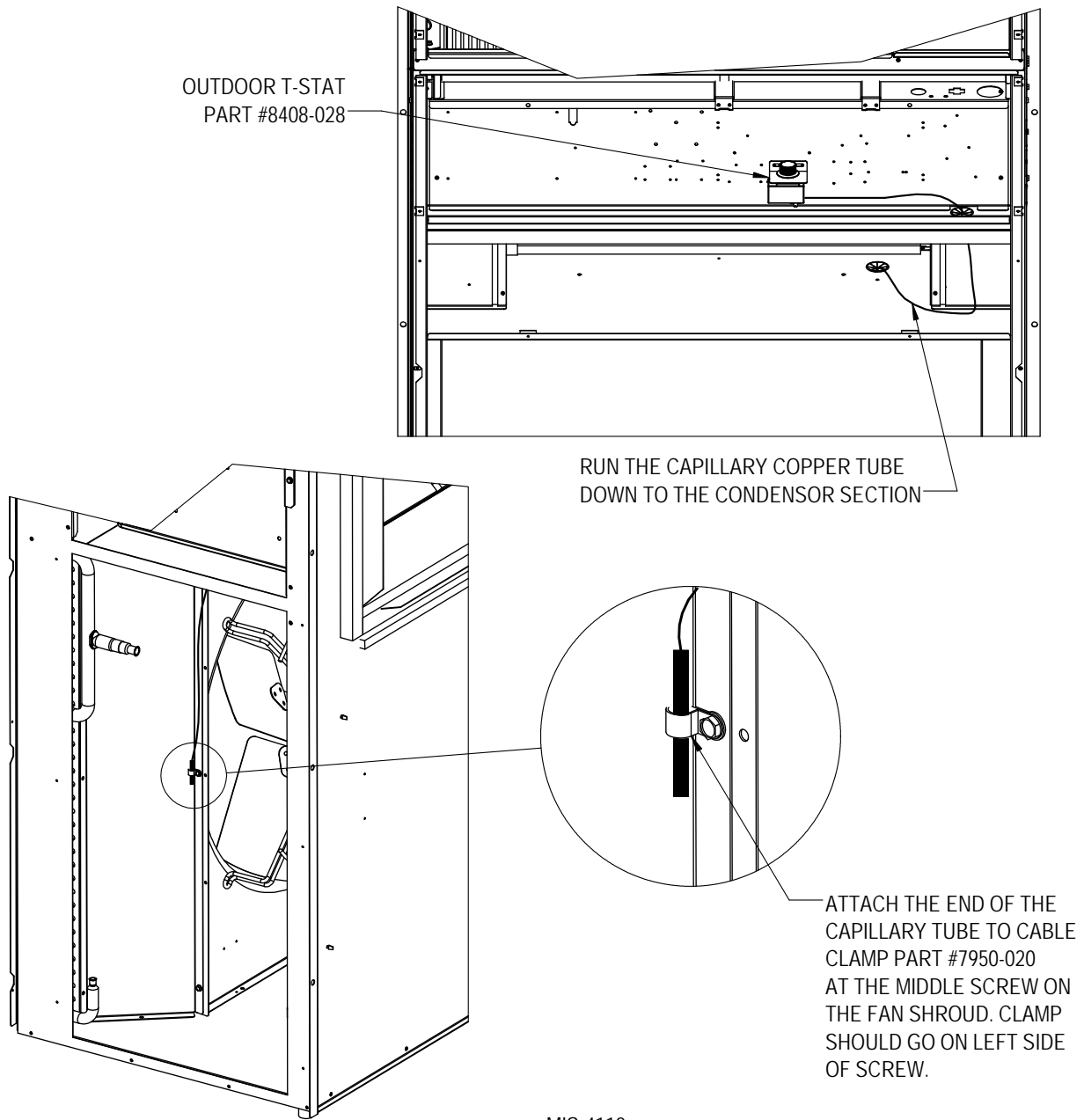
**NOTE:** *The solid black wire that is connected to Terminal 1 on the relay is not used unless this is installed with the low ambient control (LAC) kit. When not in use, tuck wire in cable duct.*

13. Verify outdoor thermostat setpoint. Factory default is 10°F.
14. Recheck wiring by referring to unit wiring diagram.
15. Apply "This unit is equipped with CMH-36 control module" label to the inside of the inner control panel cover above the unit wiring diagram.
16. Re-install all panels and covers. This completes the installation.
17. Restore unit power.

**FIGURE 1**  
**Unit Control Panel**

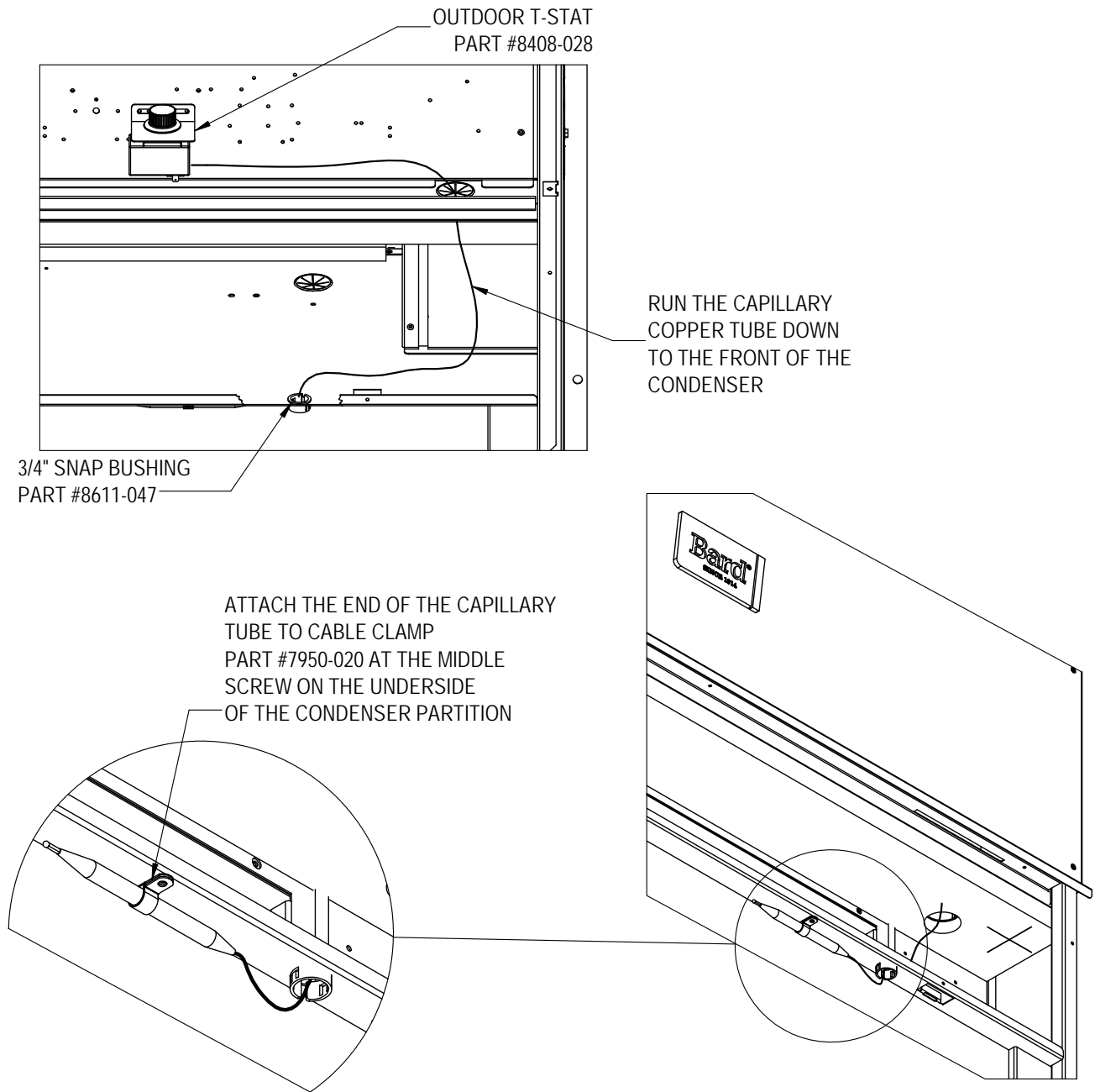


**FIGURE 2**  
**Blow Thru Unit Sensing Bulb Routing and Location**

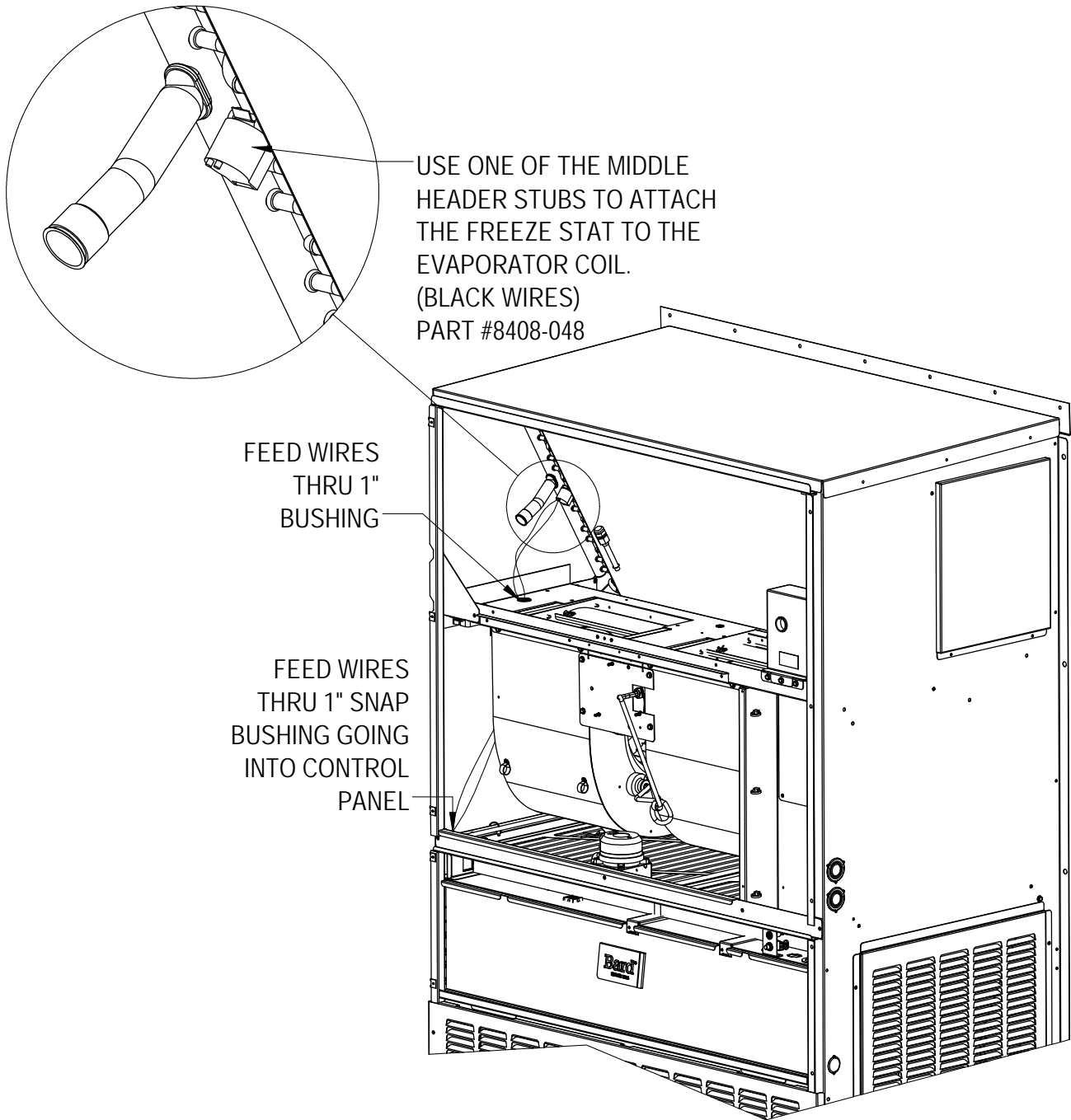


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**FIGURE 3**  
**Draw Thru Unit Sensing Bulb Routing and Location**



**FIGURE 4**  
**Freeze Protect Thermostat Location and Wire Routing**



MIS-4058