

Wall Thermostat Interface Retrofit Kit Accessory For Packaged Terminal Air Conditioner or Heat Pump

Cancels: IIK 84-07-7

IIK 84-07-13
9/1/04

Installation Instructions

SAFETY CONSIDERATIONS

Only trained, qualified personnel and service mechanics should install electrical accessories on packaged terminal air conditioners or heat pumps.

PACKAGE CONTENTS

ITEM	QUANTITY
Wall Thermostat Interface Assembly (Including Control Board, Control Box Door and Knob)	1
Indoor Coil Freeze Thermostat Clip	1
Control Panel Label	1
Wire Ties	2

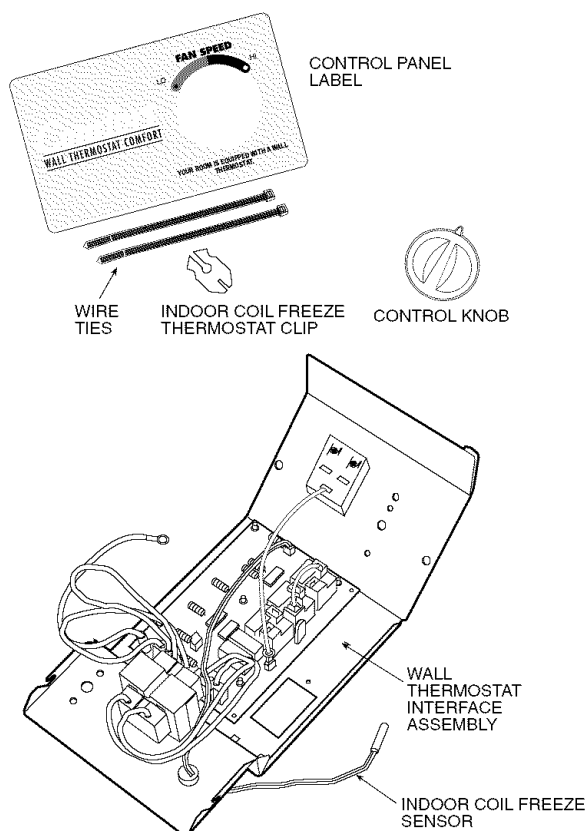


Fig. 1 — Wall Thermostat Interface Retrofit Kit Package Contents

INTRODUCTION

These instructions cover the installation of the Wall Thermostat Interface Retrofit Kit accessory with Indoor Coil Freeze Thermostat (IFT) to be installed on packaged terminal air conditioner (PTAC) products. See Fig. 1. Indoor coil freeze thermostat protection prevents the indoor coil from freezing.

The Wall Thermostat Interface Retrofit Kit allows PTAC units to be controlled from a remote thermostat (purchased separately).

INSTALLATION

⚠ WARNING

Disconnect all power to unit to avoid possible electrical shock during installation.

Prepare Unit

1. Check to be sure unit is off and power to unit is disconnected.
2. Remove front panel from the unit by grasping the panel firmly near the bottom of both sides, then pulling panel forward and upward to release magnetic latches and partition hooks.

Remove Existing Control Box

1. Remove power cord access cover and save screw. See Fig. 2.
2. Remove control knobs and save one for installation later.
3. Open control box by removing the 2 control box cover screws shown in Fig. 2 and swing the cover down to open. Save the screws.
4. Disconnect the power cord by removing the ribbed/white wire at the capacitor (C) terminal, the plain/black wire from the rotary switch at terminal L1, and both power cord and chassis ground wires from ground screw. See Fig. 3 and 4.
5. Remove wire ties, making sure not to damage the wires, and discard. Remove the power cord and save.

NOTE: Wiring schematic for the Wall Thermostat Interface Retrofit Kit is located in plastic bag on front of control box door.

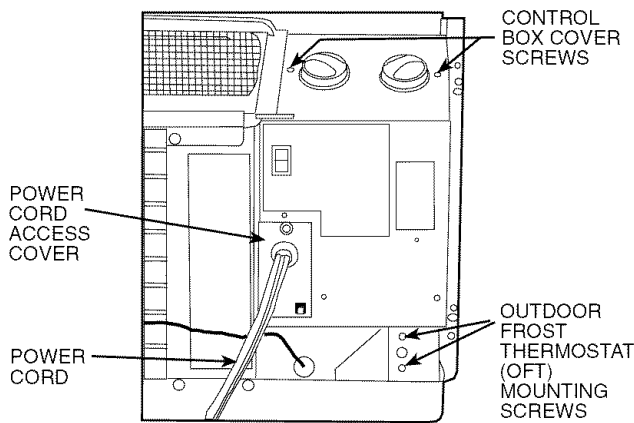


Fig. 2 — Control Box Component Location

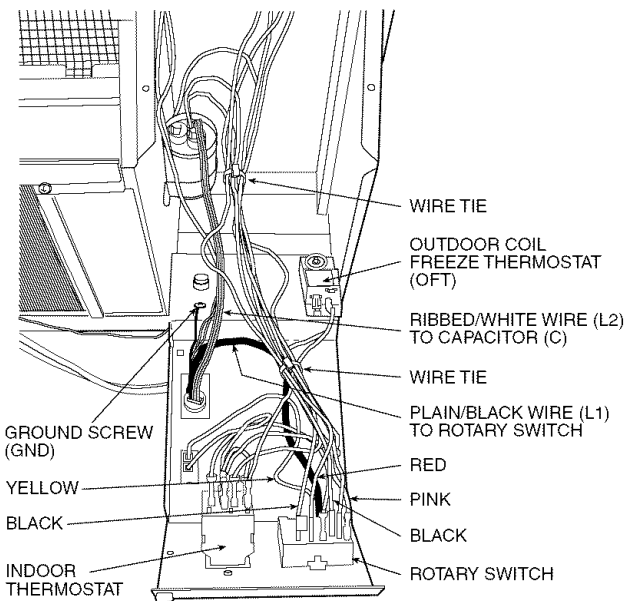


Fig. 3 — Typical Control Wiring — Standard Units (Heat Pump Unit Shown)

Select Unit — Refer to the installation instructions for the unit being retrofit. For Cooling with Electric Heat units see below. For Heat Pump units see page 3. For Cooling Only units see page 5.

COOLING WITH ELECTRIC HEAT UNITS

1. Remove the following wires from the rotary switch:
 - a. Yellow wire from COMP.
 - b. Red fan motor wire from LO, and the black fan motor wire from HI.
 - c. Pink wire from L2.
 - d. Red wire from LS.
 - e. Violet heater wire from HT.
2. Remove the control box door and thermostat bulb from front of coil and discard.
3. Reinstall the previously saved power cord access cover to the new control box door supplied with kit.
4. Attach the new control box door by sliding it onto the control box hinge pins. See Fig. 5.
5. Secure power cord, control board and chassis ground wires to control box door.
6. Attach ribbed/white wire (L2) from power cord to terminal C on capacitor. See Fig. 4.
7. Reconnect the following wires on control board (see Fig. 6):
 - a. Plain/black wire (L1) from power cord to L1 (brass post terminal) on relay K2.
 - b. Pink wire to L2 on relay K2A1.
 - c. Violet heater wire to Heat2 on relay K2A1.

NOTE: The male piggy back terminal is not used. This terminal may either be removed or pinched back to fit the connector onto Heat2 relay terminal.

 - d. Red heater wire to Heat1 on relay K2.
 - e. Yellow compressor wire to COMP on relay K1.
8. Attach the Red fan motor wire to terminal 1 on fan speed selector switch (FSS) and the Black fan motor wire to terminal 3 on FSS. See Fig. 6.
9. Dress wires using wire ties provided. See Fig. 7.
10. Close the control box door and secure by re-attaching screws saved earlier.
11. Attach control knob that was removed earlier, to fan speed selector switch.
12. Install Indoor Coil Freeze Thermostat (IFT) into coil.
 - a. Use a pen to make an opening in the fins to install freeze sensor (Fig. 8).
 - For 7000 Btuh and 9000 Btuh units, make an opening 4-in. from the right side of the coil between the third and fourth row from the top.
 - For 12,000 Btuh and 15,000 Btuh units, make an opening 4-in. from the right side of the coil between the second and third row from the top.
 - b. Route Indoor Coil Freeze Sensor:
 - Remove discharge deck. See Fig. 8.
 - Route freeze sensor from PC board through plastic bushing in side panel with electric heater wires. See Fig. 7.
 - Push sensor through hole in front flange above the rating plate. See Fig. 9.
 - Re-install discharge deck.
 - c. Push freeze sensor into opening made in Step 12a.
 - d. Bend clip on scored line and install in fins (the curved notches will lock clips in place) next to sensor to hold sensor in place in the coil. See Fig. 10.
13. Replace front panel.
14. Install control panel label on front of control panel, under door, to cover hole left by removal of control knob.
15. Restore power to unit.

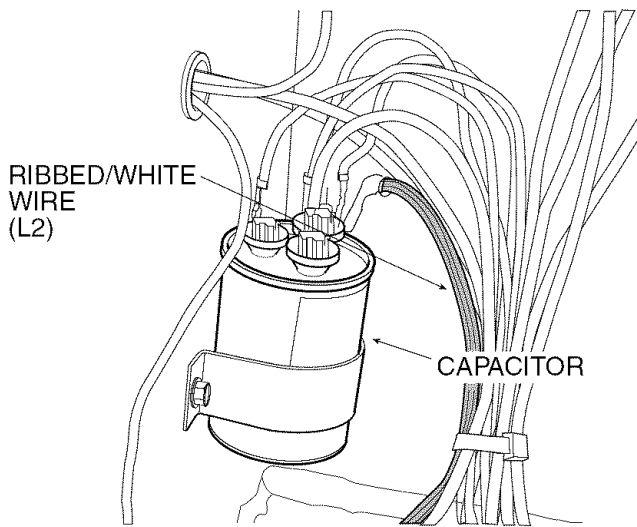


Fig. 4 — Capacitor Wiring

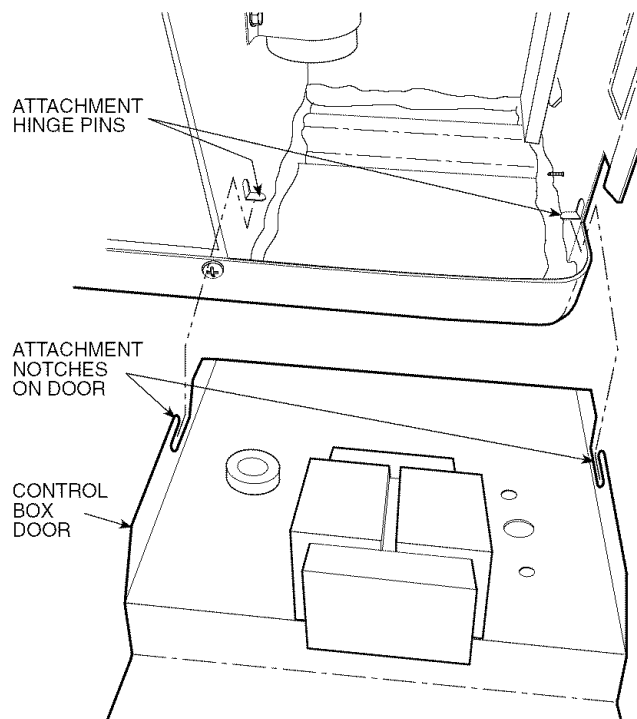


Fig. 5 — Attaching Control Door to PTAC Unit

HEAT PUMP UNITS

1. Remove the two mounting screws on the Outdoor Coil Freeze Thermostat (OFT) and save. See Fig. 3.
2. Remove the blue wire from terminal 1 of the OFT. Be sure to re-attach the red wire (that was piggy backed to the blue wire) back on to terminal 1 of the OFT.
3. Remove the black wire from terminal 2 on the OFT.
NOTE: The OFT will remain attached to the unit by a capillary tube along with red and yellow wires. The OFT will be reinstalled on the retrofit control box door later.
4. Carefully move the OFT off to the side, taking care not to damage the capillary tube or wires.
5. Remove the following wires from the rotary switch:
 - a. Red fan motor wire from LO, and the black fan motor wire from HI.
 - b. Pink wire from L2.
 - c. Violet heater wire and black reversing valve wire from HT terminal on rotary switch and separate.
 - d. Remove other black reversing valve wire from indoor thermostat terminal 1 (IT1).
6. Remove the control box door and thermostat bulb from front of coil and discard.
7. Reinstall the previously saved power cord access cover to the new control box door supplied with kit.
8. Attach the new control box door by sliding it onto the control box hinge pins. See Fig. 5.
9. Secure power cord, control board and chassis ground wires to control box door.
10. Attach ribbed/white wire (L2) from power cord to terminal C on capacitor. See Fig. 4.
11. Reconnect the following wires on control board (see Fig. 6):
 - a. Plain/black wire (L1) from power cord to L1 (brass post terminal) on relay K2.
 - b. Pink wire to L2 (brass post terminal) on relay K2A1.
 - c. Violet heater wire to Heat2 on relay K2A1.
NOTE: The male piggyback terminal is not used. Either remove or pinch it back in order to fit connector onto Heat2 on relay K2A1.
 - d. One of the 2 black reversing valve wires to RVS (no polarity).
 - e. Remaining black reversing valve wire to L2 (brass post terminal) on relay K2A1.
NOTE: Black reversing valve wires are molded together in a 2-wire bundle.
12. Attach red fan motor wire to terminal 1 on Fan Speed Selector switch (FSS) and the black fan motor wire to terminal 3 on FSS. (See Fig. 6.)
13. Attach red wire from Heat1 on relay K2 to terminal 2 of OFT. See Fig. 11.
14. Attach yellow wire from COMP of relay K1 (with piggy back male terminal) to yellow wire already attached to terminal 3 of OFT. Attach both wires back on terminal 3 of OFT. See Fig. 11.
15. Remount the OFT to the new door with the original screws and in same position and orientation.
16. Dress wires using wire ties provided. See Fig. 7.
17. Close the control box door and secure by re-attaching screws saved earlier.
18. Attach control knob that was removed earlier, to fan speed selector switch.

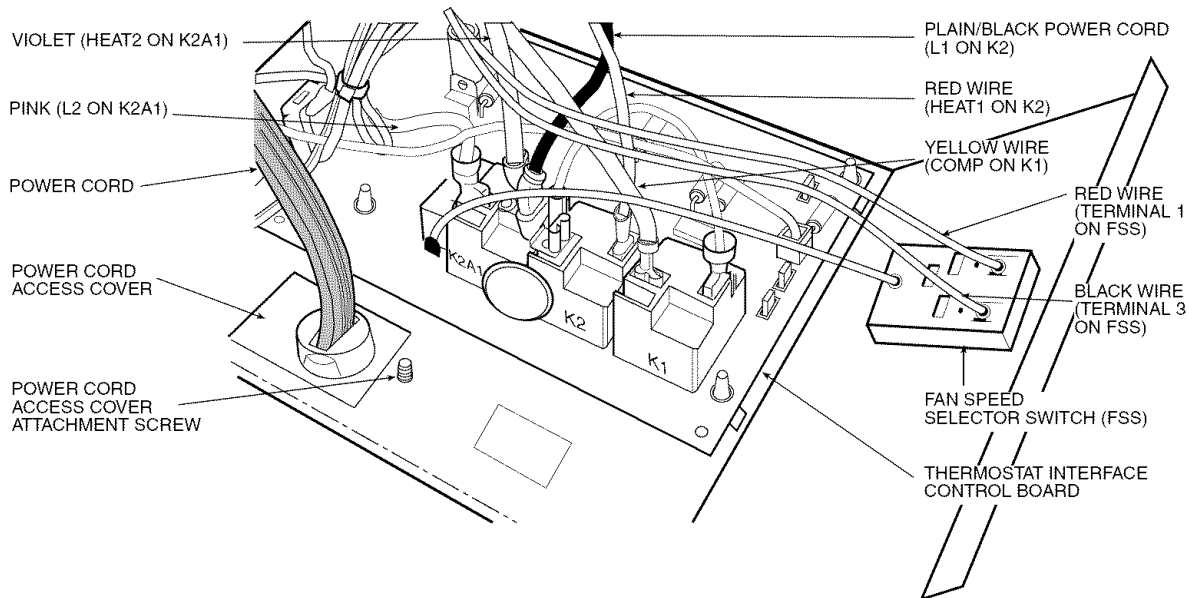


Fig. 6 — Typical Wall Thermostat Interface Board Terminal Connections (Heat/Cool Control Board Shown)

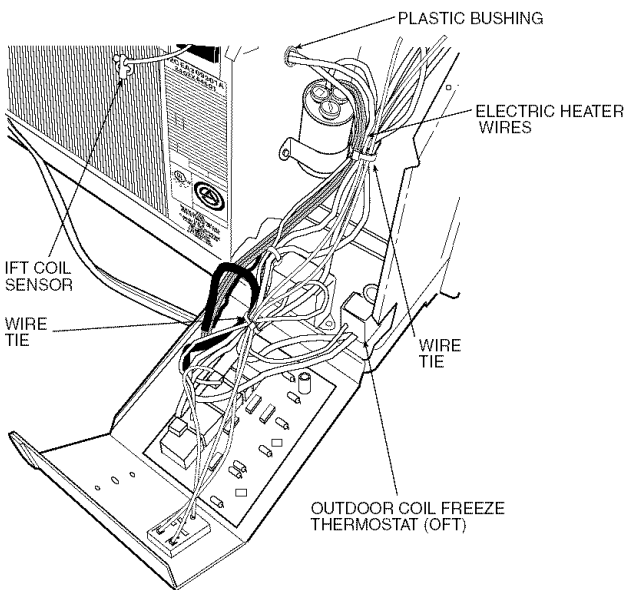


Fig. 7 — Completed Assembly (Heat Pump Unit Shown)

19. Install Indoor Coil Freeze Thermostat (IFT) into coil.
 - a. Use a pen to make an opening in the fins to install freeze sensor (Fig. 8).
 - For 7000 Btuh and 9000 Btuh units, make an opening 4-in. from the right side of the coil between the third and fourth row from the top.
 - For 12,000 Btuh and 15,000 Btuh units, make an opening 4-in. from the right side of the coil between the second and third row from the top.
 - b. Route Indoor Coil Freeze Sensor:
 - Remove discharge deck. See Fig. 8.
 - Route freeze sensor from PC board through plastic bushing in side panel with electric heater wires. See Fig. 7.
 - Push sensor through hole in front flange above the rating plate. See Fig. 9.
 - Re-install discharge deck.
 - c. Push freeze sensor into opening made in Step 12a.
 - d. Bend clip on scored line and install in fins (the curved notches will lock clips in place) next to sensor to hold sensor in place in the coil. See Fig. 10.
20. Replace front panel.
21. Install control panel label on front of control panel, under door, to cover hole left by removal of control knob.
22. Restore power to unit.

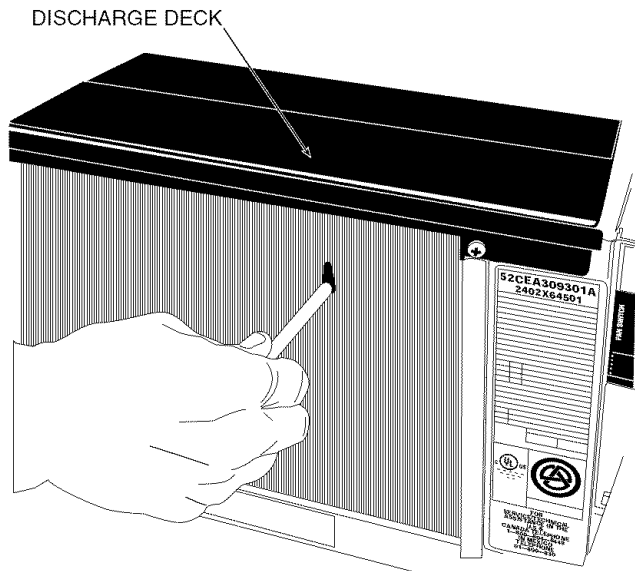


Fig. 8 — Location of Indoor Coil Freeze Thermostat (IFT) on Typical Unit

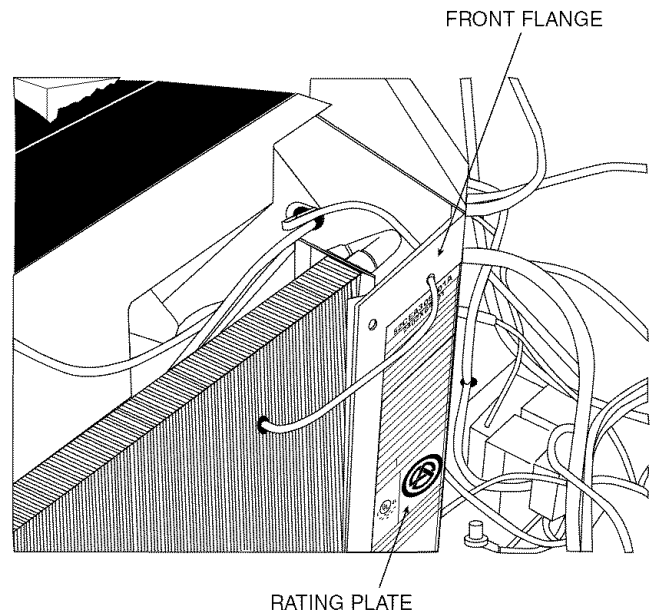


Fig. 9 — Location of Indoor Coil Freeze Thermostat (IFT) with Discharge Deck Removed

COOLING ONLY UNITS

1. Remove the yellow wire from terminal 1 on indoor thermostat (IT).
2. Remove the red fan motor wire from LO, and the black fan motor wire from HI on rotary switch.
3. Remove the control box door and discard.
4. Reinstall the previously saved power cord access cover to the new control box door supplied with kit.
5. Attach the new control box door by sliding it onto the control box hinge pins. See Fig. 5.
6. Secure power cord, control board and chassis ground wires to control box door.
7. Attach ribbed/white wire (L2) from power cord to terminal C on capacitor. See Fig. 4.
8. Connect one end of Pink wire (included in plastic bag labeled "For cooling only installations") to the C terminal on the capacitor. Connect the other end to L2 on relay K2A1.
9. Reconnect the following wires on control board (see Fig. 6).
 - a. Plain/black wire (L1) from power cord to terminal L1 (brass post terminal) on relay K2.
 - b. Yellow compressor wire to COMP on relay K1.
10. Attach red fan motor wire to terminal 1 on Fan Speed Selector switch (FSS) and the black fan motor wire to terminal 3 on FSS. See Fig. 6.
11. Dress wires using wire ties provided. See Fig. 7.

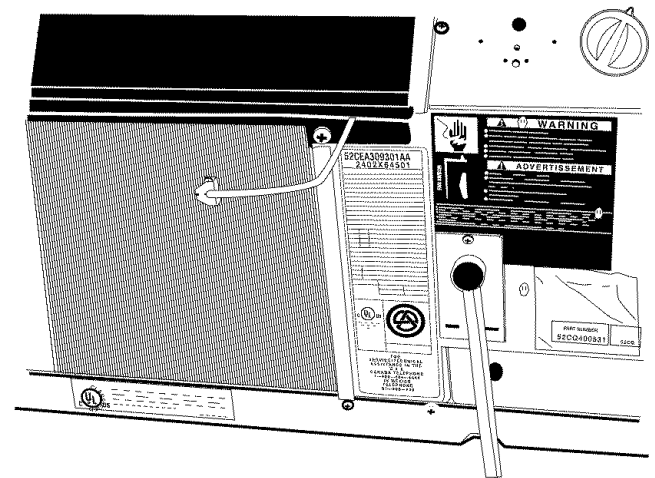


Fig. 10 — Sensor Clip for Indoor Coil Freeze Thermostat (IFT) on Typical Unit

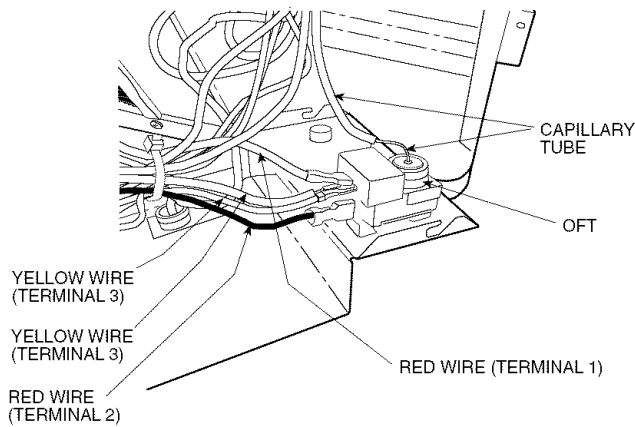


Fig. 11 — Outdoor Coil Freeze Thermostat (OFT) on PTAC Heat Pump Units

12. Close the control box door and secure by re-attaching screws saved earlier.
13. Attach control knob that was removed earlier, to fan speed selector switch.
14. Install Indoor Coil Freeze Thermostat (IFT) into coil.
 - a. Use a pen to make an opening in the fins to install freeze sensor (Fig. 8).
 - For 7000 Btuh and 9000 Btuh units, make an opening 4-in. from the right side of the coil between the third and fourth row from the top.
 - For 12,000 Btuh and 15,000 Btuh units, make an opening 4-in. from the right side of the coil between the second and third row from the top.
 - b. Route Indoor Coil Freeze Sensor:
 - Remove discharge deck. See Fig. 8.
 - Route freeze sensor from PC board through plastic bushing in side panel with electric heater wires. See Fig. 7.
 - Push sensor through hole in front flange above the rating plate. See Fig. 9.
 - Re-install discharge deck.
 - c. Push freeze sensor into opening made in Step 12a.
 - d. Bend clip on scored line and install in fins (the curved notches will lock clips in place) next to sensor to hold sensor in place in the coil. See Fig. 10.
15. Replace front panel.
16. Install control panel label on front of control panel, under door, to cover hole left by removal of control knob.
17. Restore power to unit.

