



# Inducer Control Board Kit

Cancels: IIK 398A-40-5

IIK 376B-40-8

7/1/89

## Installation Instructions

### P/N 313680-751

This instruction covers the installation of inducer control board kit P/N 313680-751 in induced combustion furnaces: BDP Condensing Furnace Models 398A and 399A; Carrier Condensing Furnace Models 58SX and 58DX. BDP Noncondensing Furnace Models 375A, 376A, 376B, 395A, and 397H; Carrier Noncondensing Furnace Models 58DH, 58DHB, 58SC, 58SS, and 58SSB.

Furnace operation may be slightly different after installation of this kit. During each heating cycle, the inducer motor will continue to run for approximately 15 seconds after the main burners extinguish.

**NOTE:** Read the entire instruction before starting the installation.

The kit contains the following items:

Inducer control board	(1)
Quick-connect (1/4-inch)	(2)
Quick-connect (3/16-inch)	(2)
Terminal tab (3/16-inch)	(2)
Red wire	(1)
Snap bushing	(1)
Wire tie	(3)
Wiring label	(2)
Installation Instructions	(1)

#### A. Removal of Old Inducer Control Board

1. Turn off gas and electrical supplies to furnace.
2. Remove control access panel.
3. Disconnect wires from pressure switch.
4. Disconnect pressure tubes from pressure switch.
5. Disconnect edge connector and inducer motor edge connector from inducer control board.
6. Remove screws and pressure switch (or pressure switch and bracket assembly) from inducer control box. Save screws.
7. Remove screw securing inducer control board to inducer control box. Save screw.
8. Remove inducer control board and existing snap bushing.

#### B. Wiring Procedures (BDP 398A series B, Carrier 58SX series 110 only.)

**NOTE:** If the unit displays wiring label 308629-401, follow the procedure described below. If another wiring label is displayed, disregard this section.

1. Cut yellow wire on main wiring harness approximately 4-inches from three-circuit pilot wire connector (10B7-1).
2. Remove yellow wire from six-circuit inducer control board connector (10B2-6). Discard yellow wire.
3. Disconnect brown wire from gas valve terminal 4. Cut 3/16-inch quick-connect from end of brown wire.
4. Strip end of brown-and-yellow wires. Twist wire ends together and install 3/16-inch quick-connect provided in kit. Note one quick-connect is extra.
5. Connect brown/yellow quick-connect assembly to terminal 4 on gas valve.
6. Remove and discard 1/4-inch tab from normally open terminal of pressure switch.
7. Install 3/16-inch tab provided in kit on normally open terminal of pressure switch. Note one tab is extra.

#### C. Installation of New Inducer Control Board

1. For noncondensing furnaces, cut 3/16-inch quick-connect from brown wire. Strip brown wire and install 1/4-inch quick-connect provided in kit. (For condensing furnaces, installation of 1/4-inch quick-connect is not necessary--proceed to Step 2.
2. Using screw previously removed, install new inducer control board.
3. Install new snap bushing provided in kit.
4. Install pressure switch and bracket with screws previously used.
5. Connect edge connectors to board.
6. Connect pressure switch wires.
  - a. For condensing furnaces, connect pressure switch as follows: orange wire to normally-closed NC terminal, yellow wire to common C terminal, and brown wire to normally-open NO terminal.

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Replaces: 58SX-24SI

- b. For noncondensing furnaces, connect pressure switch as follows: orange wire to common C terminal, brown wire to normally-open NO terminal, and yellow wire to normally-closed NC terminal.
7. Connect pressure tubing.
  - a. For condensing furnaces, reconnect pressure tubing per Pressure Tubing Connection Label on control access panel.
  - b. For noncondensing furnaces, reconnect pressure tubing from collector box to pressure switch.

#### D. Wire Harness

**NOTE:** If the unit wire harness has a red wire connected from terminal No. 7 of inducer control board edge connector (EC2-7 or 10B2-7) to one terminal of the primary limit switch, disregard this section.

1. Determine which red wire on the primary limit switch connects to terminal No. 1 of the seven-circuit main control board edge connector (EC1-1 or 10B1-1). On some models, this wire may connect to the auxiliary limit switch (LS2) on the blower housing, or one (or more) fusible link(s) (11C) before connecting to EC1-1 or 10B1-1.
2. Disconnect this red wire from primary limit switch and connect piggyback terminal of red

wire provided in kit to this terminal on limit switch.

3. Connect red wire removed from limit switch in step 2 to piggyback terminal now connected to primary limit switch.
4. Route other end of red wire from kit along furnace wire harness to seven-circuit inducer control board edge connector (EC2 or 10B2).
5. Disconnect edge connector from inducer control board, insert pin on red wire into terminal No. 7 of edge connector. Be sure pin locks into place on connector.
6. Reconnect edge connector to inducer control board.
7. Dress new red wire to other furnace wiring using wire ties provided in kit.
8. Affix new wire label provided in kit over old wiring label.
  - a. For condensing furnaces use wire label 311218-401.
  - b. For noncondensing furnaces use wire label 313682-401.

#### E. Check Operation

1. Turn on gas and electrical supplies to unit.
2. Check unit for proper operation through two complete cycles.
3. Reinstall control access panel.