

# Installation Instructions


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

## SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause death, personal injury, or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses, protective clothing, and work gloves. Have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions include in literature and attached to the unit. Consult local building codes, the current editions of the National Fuel Gas Code (NFGC) NFPA 54/ANSI Z223.1 and the National Electrical Code (NEC) NFPA 70.

In Canada, refer to the current editions of the National Standards of Canada CAN/CSA-B149.1 and .2 Natural Gas and Propane Installation Codes, and Canadian Electrical Code CSA C22.1

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words **DANGER**, **WARNING**, and **CAUTION**. These words are used with the safety-alert symbol. **DANGER** identifies the most serious hazards which **will** result in severe personal injury or death. **WARNING** signifies hazards which **could** result in personal injury or death. **CAUTION** is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. **NOTE** is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

## WARNING

### FIRE, EXPLOSION AND ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury, death and/or property damage.

Before installing or servicing system, always turn off main electrical and gas supplies to unit and tag with appropriate lockout. There may be more than one disconnect switch.

## CAUTION

### CUT HAZARD

Failure to follow this caution may result in personal injury.

Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing, safety glasses and gloves when handling parts and servicing furnaces.

## CAUTION

### UNIT DAMAGE HAZARD

Failure to follow this caution may result in improper and dangerous operation.

Label all wires prior to disconnection when servicing controls.

## INTRODUCTION

This instruction covers installation of the Primary Cell Inlet Panel Kit Part No. 320720-751, -753, -754, -755, -756, -757, -758, -760 and -761 in 40-in. (1016 mm) tall, condensing gas furnaces. See Table 1 for kit usage.

**NOTE:** The low adhesion sealant used on the Coupling Box cover is Novaguard RTV 400-900 (P/N PF 680004).

If the high adhesion sealant is used, also use releasing agent such as non-stick cooking spray or equivalent (must not contain corn or canola oil, halogenated hydrocarbons nor aromatic contents to prevent inadequate seal). Novaguard RTV 400-303 (P/N PF680003), G.E. 162, G.E. 6702, or Dow-Corning 738 are approved high adhesion silicone.

Do NOT substitute any other type of low or high adhesion RTV sealant.

## DESCRIPTION AND USAGE

Use this Primary Cell Inlet Panel Kit when replacement of a factory-installed primary cell inlet panel is required.

This Primary Cell Inlet Panel Kit contains the following items:

Primary Cell Inlet Panel	1
Burner Box Gasket	1
Cell Mounting Screw No. 8D X 3/8-in.(10 mm)	25 max
Installation Instructions	1

**Table 1 – Kit Usage**

UNIT												
KIT PART NO.	340AAV 340MAV 350AAV 350MAV 353AAV 490AAV	345MAV	351DAS	352AAV 352MAV 353BAV PG9MXA	355MAV	355AAV 355BAV 355CAV PG9JAA	58MCA 58MCB 58MEB 58MXA 58MXB	58MSA	58MEC 58MTA 58MTB	58MVB 58UVB 58MVC	58MVP	PG9MAA PG9MAB
320720-751	24040 36040	24040 36040	--	--	--	--	040-08 040-12	040-08 040-12	--	--	--	24040 36040
320720-753	24060 36060 48060	24060 36060 48060	--	36060	42060	42060	060-08 060-12 060-16	060-08 060-12 060-16	060-12	060-14	060-14	24060 36060 48060
320720-754 Prior to S/N 3002A14578	36080 48080	36080 48080	36080 48080	36080 48080	--	--	080-12 080-16	080-12 080-16	080-12 080-16	--	--	36080 48080
320720-755	--	--	--	--	42080 (Series A)	--	--	--	--	--	080-14 (Series 100)	--
320720-756	48100 60100	48100 60100	--	48100 60100	60100	60100	100-16 100-20	100-16 100-20	100-16 100-20	100-20	100-20	48100 60100
320720-757	60120 60140	60120	--	60120	60120	60120	120-20 140-20	120-20	120-20	120-20	120-20	60120 60140
320720-758	--	--	--	--	42040	42040	--	--	--	040-14	040-14	--
320720-760	60080	60080	60080	--	42080 (Series B and later) 60080	42080 60080	080-20	080-20	--	080-14 080-20	080-14 (Series 110 and later) 080-20	60080
320720-761 After S/N 3002A14577	36080 48080	36080 48080	36080 48080	36080 48080	--	--	080-12 080-16	080-12 080-16	080-12 080-16	--	--	36080 48080

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## INSTALLATION

### Remove Whole Cell Panel Assembly

See Fig. 1 and Fig. 2 for furnace component locations. See Fig. 3 for expanded view of heating system components.

**NOTE:** Actual component locations may vary depending on model and series.

1. Turn off gas and electrical supplies to furnace.
2. Remove main furnace door.
3. Remove blower access panel.
4. Disconnect field power supply wires from J-box.
5. Remove two screws securing J-box.
6. Remove two screws securing top filler panel and rotate panel upwards to remove or allow the heat exchanger to be removed from front of furnace.
7. Disconnect combustion-air intake pipe from intake housing and move pipe out of furnace casing.
8. Disconnect gas supply pipe from gas valve using backup wrench.
9. Disconnect vent pipe from inducer housing by loosening coupling clamp on inducer outlet. If coupling has 2 clamps, loosen clamp on vent pipe side. Move pipe out of furnace casing.
10. If control center is located in burner compartment of furnace, remove blower motor leads, transformer wires, door switch wires, and auxiliary limit switch wires (if present) from control center and pull wires through blower shelf.
11. If control center is located in blower compartment of furnace, disconnect wires from flame sensor, hot surface igniter, overtemperature switch, gas valve, pressure switch(es), inducer motor, limit switch, and J-box, then pull wires through blower shelf.
12. Remove two screws securing blower to blower shelf (four screws on 120 and 140 sizes).
13. Remove two screws next to blower mounting screws that secure blower shelf to cell panel.
14. Remove three screws from each side of cell panel.
15. If control center is located in burner compartment of furnace, remove control center by removing screw and pressing tabs inward.

16. If control center was removed from furnace casing, secure control center (and J-box) to manifold for removal purposes only.
17. Disconnect field drain connection from condensate trap.
18. Disconnect drain and relief port tube from condensate trap.
19. Remove condensate trap from furnace casing or blower shelf.
20. Remove whole cell panel assembly with heat exchanger, burner box, inducer assembly, J-box (if applicable), and control center (if applicable) attached through front of furnace.

**⚠ CAUTION**

**PERSONAL INJURY HAZARD**

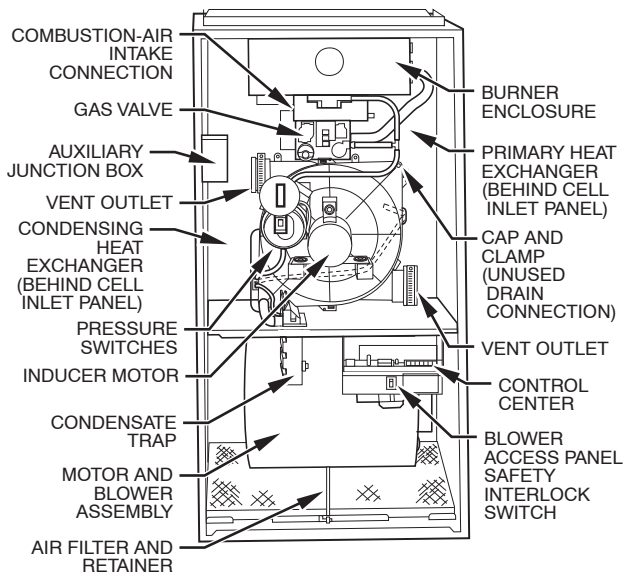
Failure to follow this caution may result in personal injury.

Whole cell panel assembly is heavy. Get help to remove and lift assembly.

### Remove Burner Box Assembly

1. If not previously disconnected, disconnect wires or connectors to overtemperature switch, gas valve, igniter, and flame sensor.
2. Remove pressure switch tube from intake housing.
3. Remove two screws attaching intake housing to burner box, and rotate intake housing away from burner box for removal.
4. Disconnect pressure tubing from gas valve.
5. Remove screws attaching burner box to cell panel.

**NOTE:** Burner box cover, manifold, gas valve, and burner assembly should be removed as one assembly.



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**Fig. 1 - Two-Stage, Two-Speed and Fixed-Capacity Model(s) in Upflow Orientation**

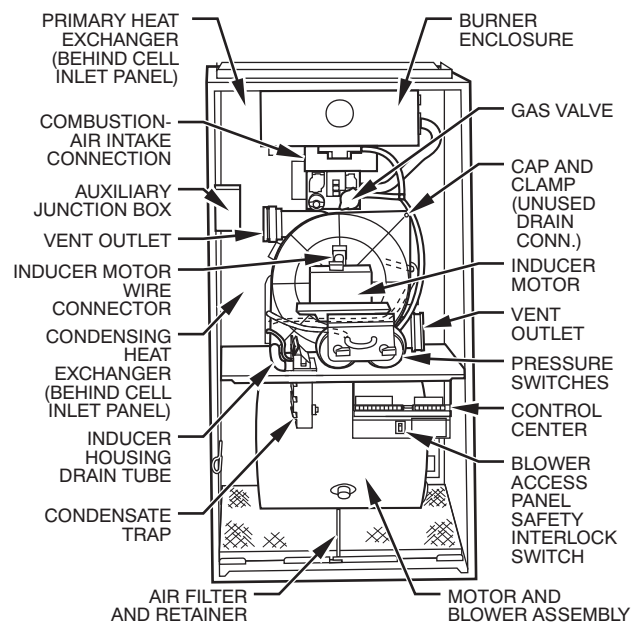
**Remove Inducer Assembly**

1. If not previously disconnected, disconnect inducer motor wire connector at quick-connect.
2. If not previously disconnected, disconnect pressure switch wires.
3. Remove collector box pressure switch tube from pressure switch.
4. Remove four screws attaching inducer housing to cell panel.

**NOTE:** Inducer housing, inducer motor, and pressure switch(es) should be removed as 1 assembly.

**Install Primary Cell Inlet Panel**

1. Remove four screws attaching condensing heat exchanger assembly to primary cell inlet panel.
2. Remove screws attaching primary cells to primary cell inlet panel.
3. Remove main limit and shield from primary cell inlet panel. Note orientation of shield and direction of main limit for reassembly.
4. Remove primary cell inlet panel by lifting panel off condensing heat exchanger collector box.
5. Slide new inlet cell panel over condensing heat exchanger collector box.
6. Attach primary cell inlet panel to primary cells by doing the following:
  - a. Center primary cell inlet panel over primary cell openings.
  - b. Use an awl to align holes and start ALL screws (provided in kit) in primary cells.
  - c. After all screws are started, check position of fiberglass gasket and tighten screws in cells.
7. Install main limit and shield in primary cell inlet panel.



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**Fig. 2 - Variable-Speed Model in Upflow Orientation**

**NOTE:** Visually check location of main limit and shield to ensure shield is not touching primary cells. If shield is touching, short cycling of limit will occur.

8. Reinstall condensing heat exchanger assembly to primary cell inlet panel.

**Reinstall Inducer Assembly**

1. Inspect connector box gasket where inducer housing will mate.

**NOTE:** If collector box seal is damaged in any way, it must be repaired. To repair, apply a bead of low adhesion silicone, Novaguard RTV 400-900 (P/N PF680004) to the inlet opening of the inducer housing or the outlet of the collector box. If Novaguard RTV 400-303 (P/N PF68004), G.E. 162, G.E. 6702 or Dow-Corning 738 (high adhesion) silicone is used, also use releasing agent such as non-stick cooking spray or equivalent (must not contain corn nor canola oil, halogenated hydrocarbons or aromatic content to prevent inadequate sealing) to inducer housing mating surface.

2. Attach inducer assembly to cell panel by aligning four screws through inducer housing spacers. Tighten screws to secure.
3. Attach collector box pressure switch tube to pressure switch. See tubing diagram of furnace for proper location attachment.
4. If control was removed from furnace with whole cell panel assembly, reconnect inducer motor wire connector at quick-connect.
5. If control was removed from furnace with whole cell panel assembly, reconnect pressure switch wires. Refer to wiring diagram on furnace for proper attachment.

**Reinstall Burner Enclosure Assembly**

1. Position burner enclosure gasket between the burner box and inlet cell panel and secure burner box on inlet cell panel using screws removed earlier.
2. Connect pressure tube to gas valve.
3. Inspect gasket, then install intake housing on burner enclosure.

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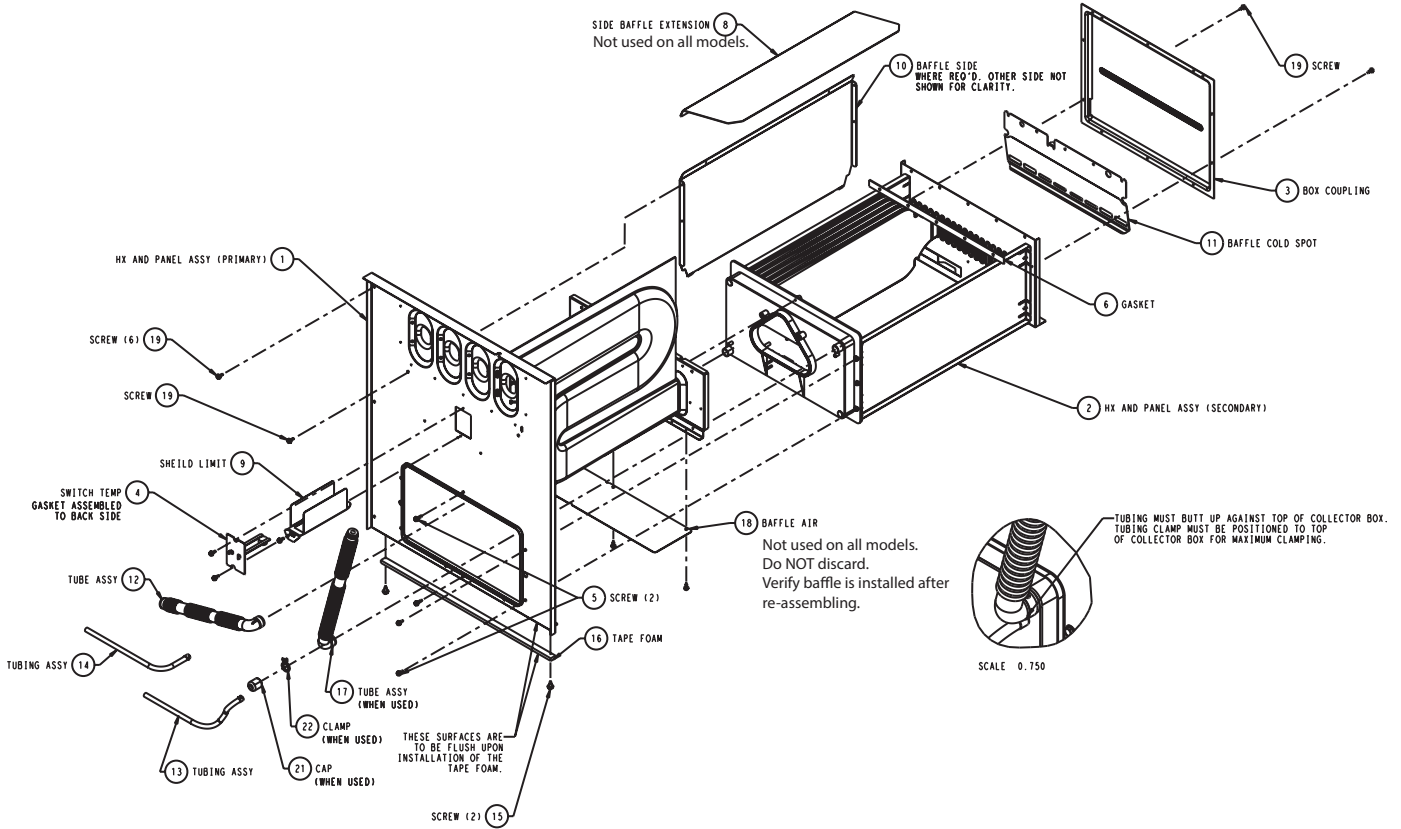


Fig. 3 - Expanded View of Heat System Components in Upflow Orientation

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**NOTE:** If seal is damaged in any way, it must be repaired. To repair, apply a bead of low adhesion silicone, Novaguard RTV 400-900 (P/N PF680004) to gasket area. If high adhesion sealant is used, also use releasing agent such as non-stick cooking spray (must not contain corn or canola oil, halogenated hydrocarbons or aromatic contents to prevent inadequate sealing) to burner mating surface. Approved high adhesion silicones are Novaguard 400-303-RTV (P/N PF680003), G.E. 162, G.E. 6702, or Dow-Corning 738. DO NOT substitute any other type of low or high adhesion RTV sealant.

4. Connect pressure tube to intake housing.

**Reinstall Whole Cell Panel Assembly**

**⚠ CAUTION**

**PERSONAL INJURY HAZARD**

Failure to follow this caution may result in personal injury. Whole cell panel assembly is heavy. Get help to lift and install.

1. Install whole cell panel assembly with heat exchanger, burner box, inducer assembly, J-box (if applicable), and control center (if applicable) through front of furnace.

**⚠ WARNING**

**FIRE AND UNIT OPERATION HAZARD**

Failure to follow this warning could result in personal injury, death and / or property damage. DO NOT cut or tear foil face insulation. If cuts or tears occur, repair insulation with foil tape.

2. Secure whole cell panel assembly to blower shelf by installing two screws through blower housing (four screws on 120 and 140 sizes) and two screws next to blower housing.

**NOTE:** When reinstalling condensing heat exchanger assembly, the lower flange of the condensing heat exchanger cell rear panel must engage on the T-tabs in rear blower shelf. (See Fig. 3.)

3. Install three screws to each side of inlet cell panel and into cell panel supports.
4. If previously removed, reinstall control center in casing flange.
5. If control center is located in burner compartment or furnace, reinstall blower motor leads, transformer wires, door switch wires, and auxiliary limit switch wires (if present) through blower shelf and grommet.
6. If control is located in blower compartment of furnace, pull wires to flame sensor, hot surface igniter, over-temperature switch, gas valve, pressure switch(es), inducer motor, limit switch, and J-box through blower shelf.
7. Install J-box.
8. Reattach wires to control center or components. See wiring diagram on furnace for proper attachment.
9. Reinstall condensate trap where previously installed furnace casing or blower shelf.
10. Reconnect condensate trap drain tubes. See tubing diagram on furnace for proper tube location.
11. Connect field drain to condensate trap.

**NOTE:** Ensure tubes are not kinked or pinched, as this will affect operation.

12. Connect vent pipe by inserting pipe into coupling, elastomeric (rubber) coupling, and then fully into inducer housing outlet.

13. Connect combustion-air intake pipe to intake housing and install screw to secure. Do not use RTV unless previously used.
14. Install top filler panel.
15. Install gas supply pipe to gas valve using backup wrench.

**NOTE:** Use propane gas-resistant pipe dope to prevent gas leaks DO NOT use Teflon tape.

**⚠ WARNING**

**EXPLOSION AND FIRE HAZARD**

Failure to follow this warning could result in personal injury, death and/or property damage.

For upflow or downflow applications, gas valve knob or switch must be facing forward or tipped to the UP position.

16. Connect field power supply to J-box.

17. Install blower access panel.
18. Turn on gas and electrical supplies to furnace.
19. Check for gas leaks.

**⚠ WARNING**

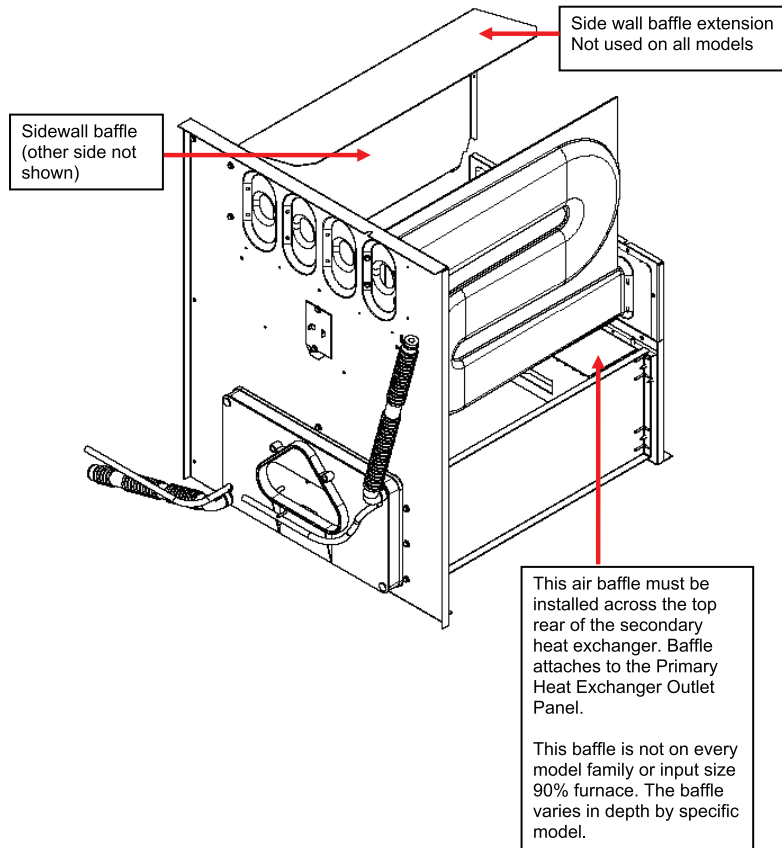
**EXPLOSION AND FIRE HAZARD**

Failure to follow this warning could result in personal injury, death, and/or property damage.

Never test for gas leaks with an open flame. Use a commercially available soap solution made specifically for the detection of leaks to check all connections.

20. Check furnace operation through two cycles.
21. Check for condensate leaks.
22. Replace furnace door.

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**Fig. 4 - Assembled View of Heat System Components in Upflow Orientation**

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