



Instructions for Installation of Oil Furnace Circulating Fan Upgrade Kits

For Furnace Models:

CHB68-112

CHC68-96

CLBF68-112

CLBR68-112

WARNING

Failure to follow these instructions exactly may result in a fire or explosion causing property damage, personal injury or loss of life.

DO NOT store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

What to do if you find an oil leak:

- DO NOT try to operate this appliance.
- If possible, close the manual fuel shutoff valve on the oil supply tank.
- Immediately call your oil supplier. Follow the oil supplier's instructions.
- If you cannot reach your oil supplier, call the fire department.

A qualified installer, service agency, or the oil supplier must perform installation and service.

These instructions should be:

- read prior to installation.
- retained for qualified service personnel
- reviewed before performing any service or maintenance.

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XX-XXX
ECNXXXX

Only qualified service personnel shall perform installation and service.

Introduction:

These instructions list the steps required to field install a larger centrifugal blower and ¾ HP motor assembly in any of the Crown oil-fired furnace models previously noted. A blower upgrade kit will produce an increase in high-speed airflow to enable the furnace to support an evaporator coil capable of producing approximately four (4) tons of direct expansion cooling.

NOTICE: The blower upgrade kit is equipped with a ¾ HP, PSC-type, fan motor. Electrical service to the furnace may have to be upgraded, in certain situations, to support the larger motor.

Table 1: Electrical Power Supply Requirements for a Furnace Equipped w/ Standard or Upgrade Motors

	Standard ½ HP Motor	Upgrade ¾ HP Motor
Total Current (A)	10.2	13.6
Minimum Circuit Ampacity (A)	12.1	16.4
Maximum Fuse Size (A)	15	20

Installation:

A. Remove the Standard Blower / Motor Assembly

! WARNING: If the heating system was recently operating, allow the furnace to cool to room temperature before proceeding with disassembly.

! WARNING: BEFORE disconnecting the furnace wiring harness at the blower terminal block, use a voltmeter (or equivalent device) to measure the electrical potential across the red and white wires and the orange and white wires at the terminal block. No (zero) voltage readings confirm power to the blower is off.

! CAUTION: On horizontal / counterflow models, the auxiliary high limit thermostat may interfere with easily removing the blower from the furnace. To avoid damaging the thermostat, temporarily remove the thermostat BEFORE removing the blower. Loosen two (2) sheet metal screws fixing the thermostat to the blower support panel and carefully move the thermostat to the side. Retain these fasteners for later reuse. It should not be necessary to disconnect the electrical wiring from the thermostat.

1. Set the room thermostat operating mode to "OFF" and shutoff electrical power to furnace at the disconnecting switch.
2. Remove the blower access panel.

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- **On highboy models**, this panel will be the **lower** access panel on the front of the furnace.
 - **On lowboy models**, remove the access panel at the **rear** of the furnace to reach the blower.
 - **On horizontal / counterflow models**, this panel will be the **upper** access panel on the **front** of the furnace.
3. Locate the blower terminal block mounted on the scroll of the blower. Disconnect the three (3) lead wires that connect the furnace wiring harness cable to the terminal block. Temporarily tape, or tie back, out of the way the loose end of the wiring harness cable.
4. Remove the fasteners fixing the blower mounting angles or legs in place. Retain the fasteners for later reuse.
- **On highboy models**, remove the burner access panel (located just above the blower access panel). Then, remove two (2) sheet metal screws [located about seven (7) inches back from the front surface of the furnace] driven downward through the blower support panel, and into the support angles, refer to Figure 1.

(Show depiction here of highboy blower compartment, blower assy., retaining screws, and mounting angles and rails. ID components)

Figure 1: Blower Assembly Retaining Screw Locations on the Highboy Oil Furnace

- **On lowboy models**, remove two (2) sheet metal screws (and flat washers) driven downward through legs and into the base panel about three (3) inches back from the rear of the furnace, refer to Figure 2.

(Show depiction here of lowboy blower compartment, blower assy., retaining hardware, blower mounting legs, motor grounding strap. ID components)

Figure 2: Blower Assembly Retaining Screw Locations on the Lowboy Oil Furnace

- **On horizontal / counterflow models**, remove four (4) sheet metal screws [two (2) on either side of the bower scroll] driven downward through support angles and into the blower support panel, refer to Figure 3.

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(Show depiction here of horizontal / counterflow blower compartment, blower assy., retaining screws, mounting angles, and auxiliary high limit thermostat. ID components.)

Figure 3: Blower Assembly Retaining Screw Locations on the Horizontal / Counterflow Oil Furnace

5. Remove the entire blower / motor assembly from the furnace. Set it aside.
 - **On highboy models**, pull forward and slide the blower out of the furnace.
 - **On lowboy models**, lift-up slightly and pull the blower out of the rear of the furnace.
 - **On horizontal / counterflow models**, lift and pull the blower out of the furnace.

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B. Install the Upgrade Blower / Motor Assembly

! CAUTION: On horizontal / counterflow models, if the auxiliary high limit thermostat was removed from the furnace (in Step A5, above), reuse the original fasteners to reattach the thermostat to the blower support panel in the original mounting position AFTER installing the upgrade blower.

1. Move the upgrade blower / motor assembly into position within the furnace blower compartment. Orient the blower / motor assembly such that the terminal blocks are positioned on the surface of the blower scroll toward the installer.
 - **On highboy models**, engage the blower support angles in the slots formed by the blower rails on the underside of the blower support panel. Slide the blower / motor assembly completely rearward into the furnace.
 - **On lowboy models**, set the blower down in the furnace and push the blower through the rear separator panel until about one (1) inch of the snout of the scroll protrudes through the rear separator panel of the furnace.
 - **On horizontal / counterflow models**, set the blower down in the furnace and center it over the blower support panel opening.
2. Reinstall the fasteners fixing the blower mounting angles or legs in place.
 - **On highboy models**, align the holes in the support angles with the holes in the blower support panel. Drive two (2) sheet metal screws downward through the blower support panel holes and into the holes in the support angles to secure the blower assembly. Reinstall the burner access panel.
 - **On lowboy models**, center the blower from side to side within the opening of the rear separator panel. To secure the blower / motor assembly, capture a flat washer under the head of each screw. Trap the ring terminal of the blower motor ground lead between the left-hand (LH) side blower leg and the base panel. Drive a sheet metal screw downward through the center of the rubber grommet in each leg (located about three (3) inches back from the rear of the furnace) and into the base panel. The LH side screw should pass through the ring terminal.
 - **On horizontal / counterflow models**, using the holes in the blower support angles as guides, drive four (4) sheet metal screws [two (2) on either side of the bower scroll] downward through the support angles and into the blower support panel to secure the blower assembly.

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3. Reconnect the three (3) furnace wiring harness leads to the terminal block located on the blower scroll. For all furnace models:
 - Connect the red wire (cooling fan speed) to the terminal block labeled “H”.
 - Temporarily, connect the orange wire (heating fan speed) to the terminal block labeled “L”.
 - Connect the white wire to the terminal block labeled “C”.

Refer to “Supply / Return Airflow and Air Temperature” section of the Crown Oil-Fired Central Furnace Installation, Operation, and Service Manual with Users Information Section for a procedure to select the heating fan speed.

4. Replace the blower access panel.
5. Restore electrical power to the furnace at the disconnecting switch and set the room thermostat operating mode to “ON”.
6. Adjust the room thermostat to cause the furnace to operate through at least one (1) complete heating or cooling cycle to test operation of the blower. Setting the thermostat to the “FAN” or “FAN ON” position should cause the blower to run continuously on high speed.
7. The blower should accelerate from rest to full speed within about ten (10) seconds, or less. Blower operation should be smooth without clattering or rattling noises. If blower operation generates unusual noises, check for loose fasteners and parts in the furnace. Remove, tighten, or secure all loose parts. Blower pulsation (sometimes called “hunting”) usually indicates the duct system is too restrictive. Also, consult the furnace instruction manual for blower troubleshooting steps.
8. Package the standard blower / motor assembly in the shipping carton for the upgrade blower / motor assembly. Contact your dealer or distributor regarding the possibility of returning the standard blower / motor assembly for credit against your account.