

Item #1021037R-120 Blower 2002/2003/Quantum 120V REPL
Item #1021037R-240 Blower 2000/Quantum/3100/4100 240V REPL

**THIS PROCEDURE MUST BE PERFORMED BY A
QUALIFIED TECHNICIAN**

WHAT'S INCLUDED:

- Blower
- 1100 Ohm 50 Watt Resistor
- 250 Ohm 50 Watt Resistor

2000 AND QUANTUM SERIES BLOWER REPLACEMENT

NOTE: *When replacing a blower in a 2000 Series heater, it is important to make sure the blower resistor is correct for the application. Read and follow instructions carefully to ensure proper installation and operation.*

1. Disconnect power to all branch circuits of the heater.
2. Remove painted front panel by removing the screws located on the bottom edge of the painted front panel.
3. Remove the control circuit board mounting plate (Figure 1) by sliding it off its mounting screws. Hook it on these same screws using the eyelet's provided on the front of the mounting plate for ease of service and access to the electrical compartment.
4. Release the spring (Figure 2) that is holding the blower in place.
5. Disconnect ground wire and line voltage wiring to the blower at the quick disconnects.
6. Remove the old blower and install new blower.

NOTE: *Use care to not damage element ends and other connections. Removing the blower can be difficult due to the wiring. To make this process easier, clip tie wraps as necessary.*

7. Connect ground wire and line voltage wires, making sure to tap the motor for the appropriate voltage for the application. Reference the wiring schematic on the blower motor.
8. Reconnect the spring (Figure 2) to hold the blower in place and avoid vibration noises.

Figure 3



WARNING



Hazardous Voltage:
Risk of electric shock.
Can cause injury or death.
Heating system may be connected to more than one branch circuit.
Disconnect power to all circuits before servicing.



HIGH TEMPERATURE:
Risk of personal injury.
Internal components and surfaces can be hot.
Use caution when servicing the heating system.

Figure 1



Figure 2



Core Blower Replacement Procedure (continued) . . .

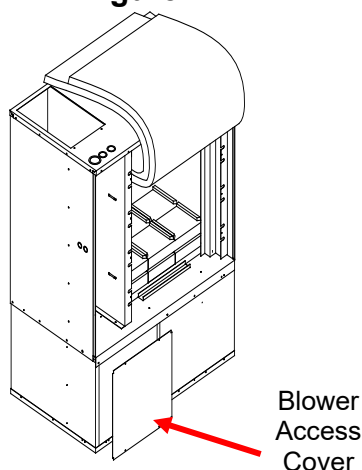
9. Check the ohm value of the blower resistor in the heater. Blowers manufactured by different companies require different resistors. See resistor table for information required for the application:
10. If necessary, replace the blower resistor (Figure 3).
11. Place control panel back to operating position. See Figure 1.
12. Restore power to the heater.
13. **Quantum Only:** Change the value in Locations according to the table.
14. Verify blower operation.
15. Re-install the painted front panel.

Heater Series	Blower Mfg	Input Voltage	Blower Speed Resistor Required
2000 and Quantum	Jakel or P-Tech	120	250 Ohm 50W
2000	Jakel or P-Tech	240/208	1100 Ohm 50W
Quantum	Jakel or P-Tech	240/208	1500 / 1100 Ohm 50W

Quantum Only						
Location	2002 120V	2002	2003	2004	2005	2006
L028	1	240V = 1		208V = 10		
L094	240					
L095	100					

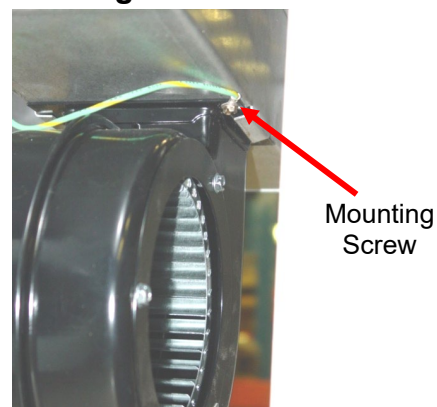
3100 SERIES CORE BLOWER REPLACEMENT

Figure 4



1. De-energize the system and remove the blower access cover (Figure 4).
2. Disconnect the black core blower wire from the black/yellow wire.
3. Disconnect the blue/black wire from the base temperature limit switch.
4. Remove the core blower mounting screw and slide the core blower out (Figure 5).
5. Disconnect the white wire from the base temperature limit switch.
6. Remove the base temperature limit switch mounting bracket from the core blower.

Figure 5



7. Attach the mounting bracket to the new core blower.

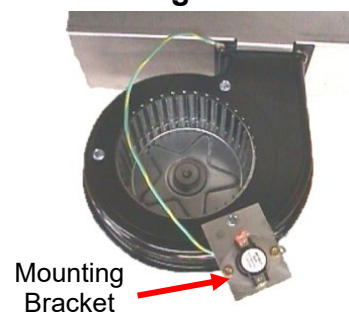
NOTE: The mounting bracket MUST be mounted to the bottom portion of the core blower so the base temperature limit switch faces the front of the heating system (Figure 6).

8. Connect the white core blower wire to the base temperature limit switch.
9. Slide the new core blower into place. Secure blower and ground wire with the mounting screw (Figure 5).

NOTE: To ensure proper operation and prevent blower vibration, the core blower MUST be mounted securely.

10. Connect the black core blower wire to the black/yellow wire and connect the blue/black wire to the base temperature limit switch.
11. Verify Location 94 (L094) is set to a value of 195. If 208V application Location 28 (L028) must be set to 10. For information on how to access location values, refer to Page 3 of these instructions.
12. Install the blower access cover, energize the system, and ensure proper operation.

Figure 6



4100 SERIES CORE BLOWER REPLACEMENT

NOTE: Both core blowers **MUST** be replaced with same manufacturer for proper operation.

1. Disconnect power to all branch circuits of the heating system and remove the electrical panel cover.
2. Remove the screws holding the transformer (Figure 7) in place and move the transformer to the side.
3. Remove the control panel (Figure 7) from its mounting position and disconnect interface cable from the control board.
4. Remove the screws around the perimeter of the center plate (Figure 7) of the electrical panel. Move the center plate, with circuit boards attached, to the right of the electrical compartment.

NOTE: Use caution to not damage wiring when moving the plates.

5. Remove the screws around the perimeter of the left plate (Figure 7) of the electrical panel and set it aside to gain access to the core blowers.

6. Unhook the springs (Figure 8) holding the core blowers in place and remove the core blowers.
7. Disconnect the wires to the core blowers and remove blowers for the heater. Mark wires for proper installation of new core blowers.

8. Connect wires to the new core blowers and place in the base of the heater. Motor faces out to the electrical panel.
9. Slide blower housing into the sheet metal lip and line up between the divots. Reference Figure 9.
10. Secure the core blowers with the springs (Figure 8).
11. Re-install the left and center plates of the electrical panel.

NOTE: Use caution to not damage wiring when moving the plates.

12. Secure the interface cable to the control board.
13. Secure the control panel to the electrical panel.
14. Re-install the transformer, securing the yellow wire with the ring terminal to the left screw.
15. Secure the electrical panel cover and energize the heater.
16. Verify Location 94 (L094) is set to the value of 195. If 208V application, Location 28 (L028) must be set to a value of 10. For information on how to access locations values, refer to Page 4 of these instructions.
17. Complete the system check out and verify core blower operation.

Figure 7

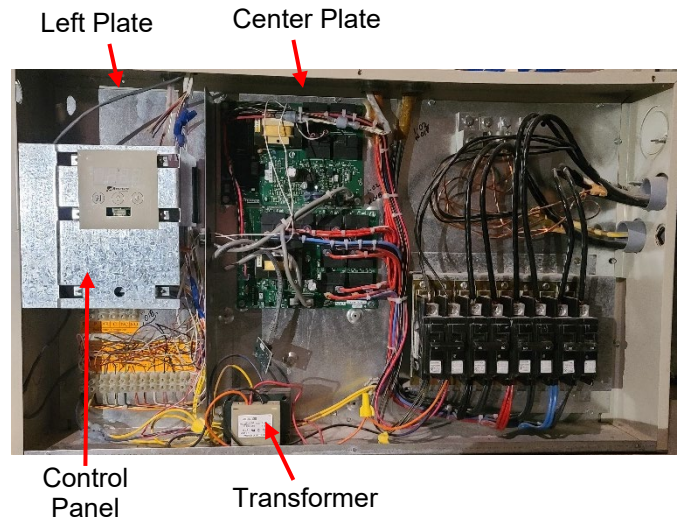


Figure 8

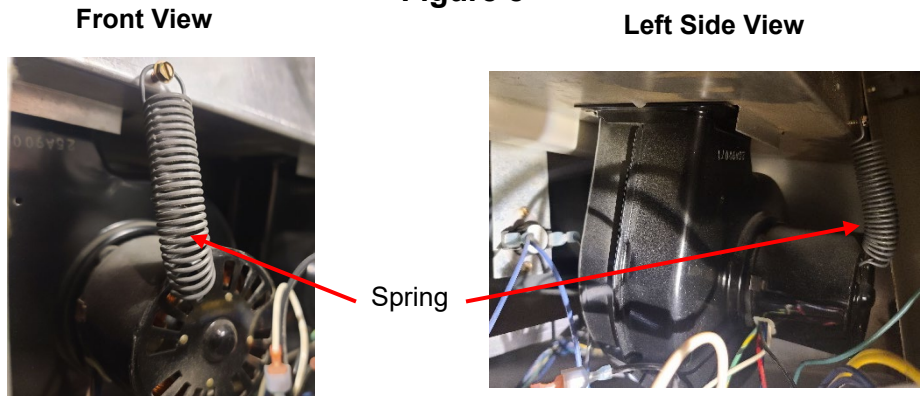
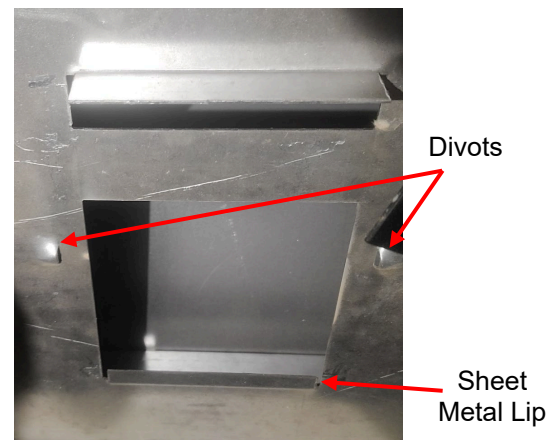
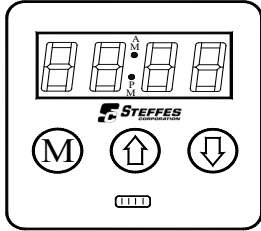


Figure 9



ACCESSING LOCATION VALUES



NOTE: Upon power up of the equipment, entry into all program locations is provided for the first two minutes of operation. After this time, the security lockout prevents changes from being made in any locations above 15 (L015). To release the security lockout, de-energize the system and then energize again to reset the security free function.

TO EDIT OR VIEW LOCATION SETTINGS:

STEP 1 Press and hold the **M** button. "EdIt" should be displayed on the faceplate.

STEP 2 While holding the **M** button and with "EdIt" displayed on the faceplate, press and hold the up arrow button. Continue to hold both buttons for about 10 seconds until "L000" appears on the faceplate.

NOTE: If the **M** button is released before the "L000" is displayed, start over from Step 1.

STEP 3 Release the buttons. The display will flash between "L000" and the value in this location. The "L" indicates "location" and the last three numbers indicate the specific location number.

STEP 4 Press the up arrow button until the location to be edited is reached. (i.e., Location 16 reads "L016".)

STEP 5 After reaching the location to be edited, press and hold the **M** button. Use the up or the down arrow button to change the value to the desired setting.

STEP 5 Once all changes have been made, release the **M** button. Press the down arrow button until "L000" is displayed. Then, press the down arrow button one more time and the normal display mode will be shown. Any changes made to the location settings will automatically be saved.

NOTE: If no buttons on the control panel are pressed, after a brief amount of time, the faceplate will automatically return to its normal operating mode and any changes made to the location settings will automatically be saved.