CADET

NLW Heater
Owner's Guide

http://cadetheat.com/products/wall-heaters/NLW

Benefits You Can Depend On

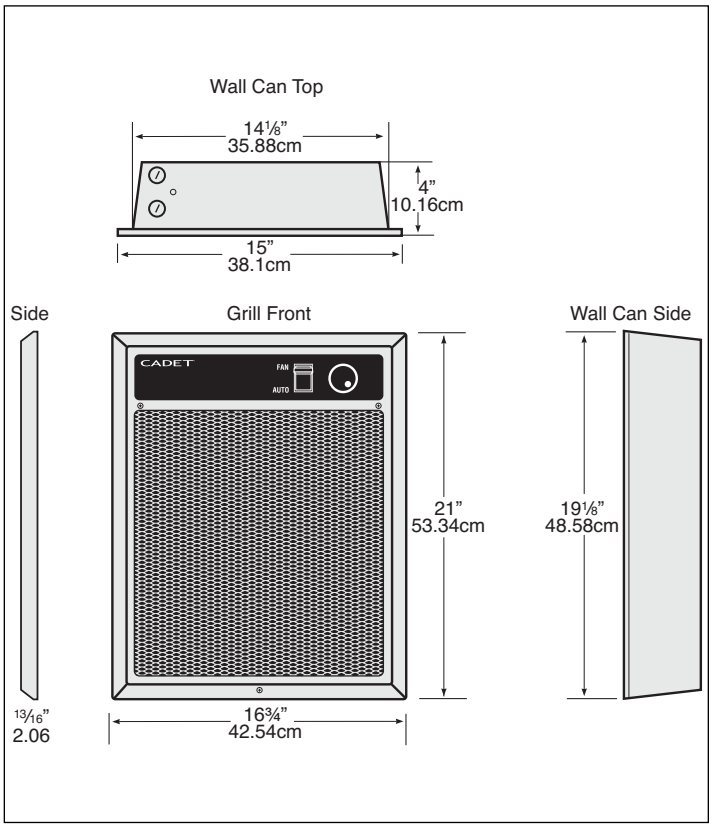
- Quiet, comfortable warmth delivered with a large fan that gently circulates air
- Safe for you and your family
  Peace of mind with automatic high temperature shutoff feature
- Improve air circulation and add comfort to your home in off-season with a fan only switch
- Common sense components designed with you in mind
  1. NO sharp edges
  2. Corrosion resistant
  3. Easy to install

- Your Cadet heater has been thoroughly tested and is guaranteed with a **2 year extended warranty**

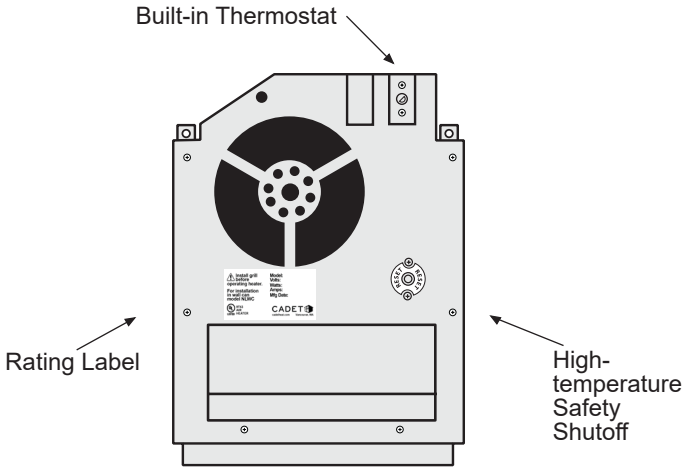
NLW Models			
Line Voltage	**Model w/ Thermostat and Fan Switch (1)**	**Watts**	**Amps**
208	NLW208T	2000	9.6
	NLW308T	3000	14.4
	NLW408T	4000	19.2
240 (2)	NLW202T	2000/1500	8.3/7.2
	NLW302T	3000/2250	12.5/10.8
	NLW402T	4000/3000	16.7/14.4
	NLW452T	4500/3375	18.8/16.2

(1) Standard built-in thermostat is double pole and provides "OFF" position.
(2) 240 volt models can be used at 208 volts. Wattage equals 75% of 240v rated wattage.

New installation requires wall can (sold separately): Model Numbers NLWC Recess Mount or NLWCS Surface Mount.



NLW with Thermostat
Wall Thermostat Not Required



LISTED

TOOLS REQUIRED:
- Phillips Screwdriver
- Straight Screwdriver
- Wire Strippers
- Utility Knife
- (4) 1 1/2" Wood Screws
- Insulated Wire Connectors
- (1) Strain Relief Connector

SAVE THESE INSTRUCTIONS

IMPORTANT INSTRUCTIONS

⚠When using electrical appliances, basic precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

1. Read all instructions before installing or using this heater.

2. This heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, etc. and curtains at least 3 feet (0.9 meters) from the front of the heater and keep them away from the sides.

3. Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.

4. Do not operate any heater after it malfunctions. Disconnect power at service panel and have heater inspected by a reputable electrician before reusing.

5. Do not use outdoors.

6. To disconnect heater, turn control(s) to off, and turn off power to heater circuit at main disconnect panel.

7. Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock or fire, or damage the heater.

8. To prevent a possible fire, do not block air intakes or exhaust in any manner.

9. A heater has hot and arcing or sparking parts inside. Do not use it in areas where gasoline, paint, or flammable vapors or liquids are used or stored.

10. Use this heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.

11. This heater must be installed in a fixed, permanent location.

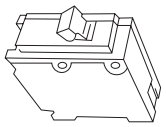
12. Save these instructions.

⚠ KNOW YOUR VOLTAGE! ⚠

- CHECK YOUR BREAKER! If you're replacing an existing heater, check the labels of the old heater and use the same voltage.

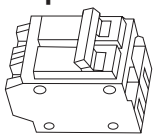
single-pole breaker

120 volt



double-pole breaker

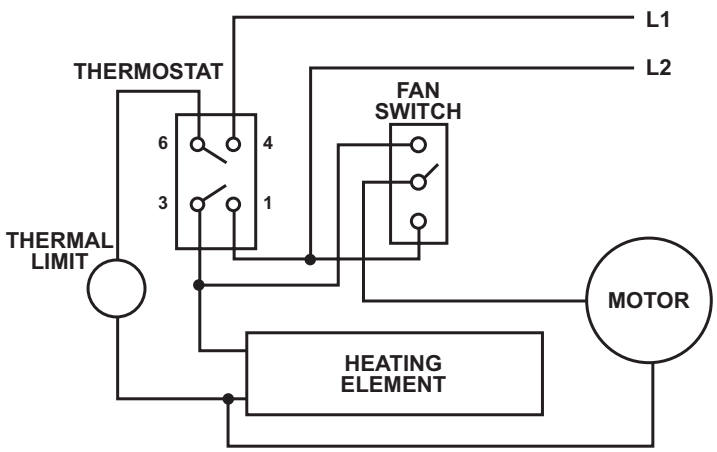
240 volt



WARNING: Connecting a heater to a voltage higher than what's listed on its rating label will destroy the heater and could start a fire. A heater will not heat properly when connected to a voltage lower than what's listed on its rating label.

If you are uncomfortable working with electricity, running electrical supply wire or installing a circuit breaker, please consult a licensed electrician. Make sure power to the heater is turned off at the main disconnect panel whenever doing any work on a heater. Serious injury or electrocution can result from electric shock.

Wiring Diagram



INSTALLATION INSTRUCTIONS

1. All electrical work and materials must comply with the National Electric Code (NEC), the Occupational Safety and Health Act (OSHA), and all state and local codes.
2. Use copper conductors only.
3. DO NOT install the heater directly above bathtub or sink. DO NOT install in shower stall area. Cadet recommends installing your heater at least 2 feet (61 cm) away to prevent contact with water.
4. Heater must be connected to a GFCI protected branch circuit when installed in a bathroom.
5. Heater must be installed in a wall can:

   Model NLW - wall can models NLWC or NLWC-S
6. DO NOT install the heater in a floor, below a towel bar, behind a door, or anywhere the air discharge may be blocked in any manner.
7. To reduce the risk of fire, do not store or use gasoline or other flammable vapors and liquids in the vicinity of the heater.
8. Connect grounding lead to grounding screw provided. Keep all foreign objects out of heater.
9. Electric heaters must be installed on a circuit dedicated to electric heaters, they cannot share a circuit with outlets, lights, or other appliances.

Part One

PLACEMENT: For best results install the NLW heater on an inside wall. Headers and bracing are not necessary.
NOTE: The wall can must be installed in the TOP UP (vertical) position only. Heater is not approved for ceiling mount.
THERMOSTAT: A built-in double pole thermostat is included.

How do I install for new construction?

STEP 1 Mount The Wall Can

REQUIRED MINIMUM distance of 6 inches from adjacent surfaces and 6 inches from the floor (See Figure 3). However, Cadet RECOMMENDS 12 inches from adjacent surfaces and floor for longer and cleaner performance. The maximum distance from the floor to the bottom of the heater is 24 inches. Heaters must be spaced at least 3 feet apart.

Secure the wall can to the studs with screws through the larger (3/16 inch) holes. (See Figures 1 and 2).

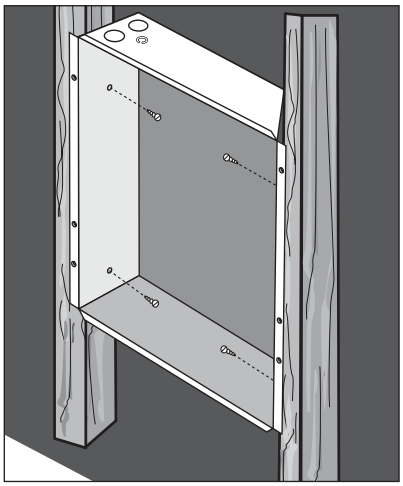


Figure 1

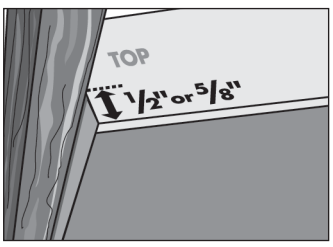


Figure 2

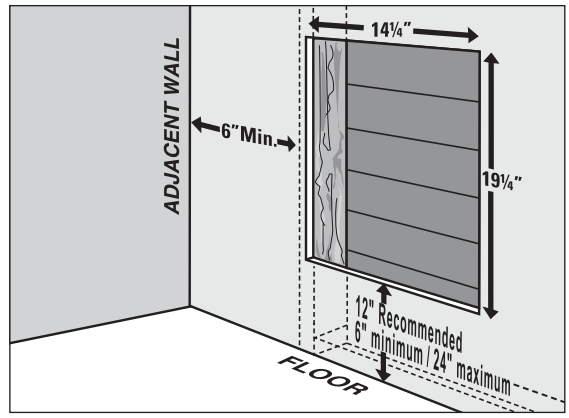
Face of wall can must extend 1/2 inch or 5/8 inch from face of stud to allow for thickness of sheetrock. Mount wall can flush with finished surface.

How do I install in an existing wall?

STEP 1 Cut A Hole In The Wall

Cut a hole 14 1/4 inches wide by 19 1/4 inches high next to a wall stud. REQUIRED MINIMUM distance of 6 inches from adjacent surfaces and 6 inches from the floor (See Figure 3). However, Cadet RECOMMENDS 12 inches from adjacent surfaces and floor for longer and cleaner performance. The maximum distance from the floor to the bottom of the heater is 24 inches. Heaters must be spaced at least 3 feet apart.

Figure 3



STEP 2 Route Supply Wires

Route supply wire from circuit breaker to top of wall can. Remove knockout and attach the supply wire with a strain relief connector, leaving 6 inches of wire lead for later use. Connect supply ground wire to grounding screw in wall can (See Figure 4).

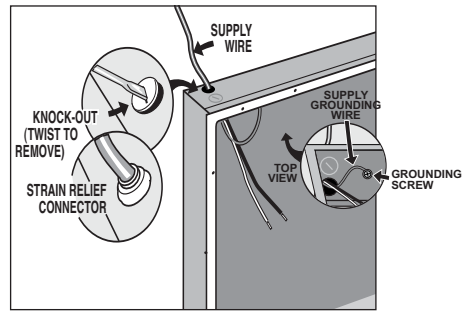


Figure 4

INSTALLATION INSTRUCTIONS (continued)

Part One

How do I install for new construction?

STEP 2 Route Supply Wires

Route supply wire from circuit breaker to top of wall can. Remove knockout and attach the supply wire with a strain relief connector, leaving 6 inches of wire lead for later use. Connect supply ground wire to grounding screw in wall can (See Figure 3).

Proceed to PART TWO.

How do I install in an existing wall?

STEP 3 Mount Wall Can

Insert wall can into opening. Keeping front of wall can flush with wall, secure to wall stud with screws through the four larger (3/16 inch) holes. Connect supply ground wire to grounding screw in wall can (See Figure 3).

Proceed to PART TWO.

Part Two

After you have followed all instructions in PART ONE, for either new construction or an existing wall, you are ready to install the heater assembly.

How do I insert the heater assembly into the wall can?

STEP 1 Install Heater Assembly

Place heater assembly inside wall can and secure with two screws (provided).

STEP 2 Wire Connections

Connect the 2 heater wires to the 2 supply wires using electrical insulated wire connectors (see Figure 5). Push wires into wiring junction box.

STEP 3 Install Grill

Secure grill with the screws provided. Slide thermostat knob onto shaft. Turn power on at the electrical panel board.

Important: Before turning on power, be sure the thermostat knob is turned counter clockwise to the lowest setting, and the switch is in the “FAN” or “AUTO” position.

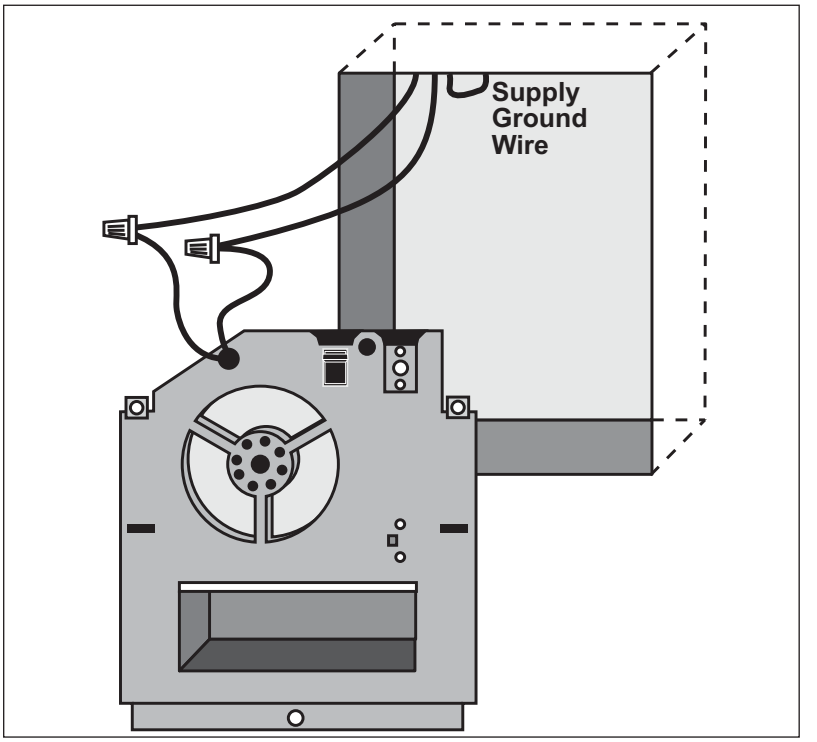


Figure 5

OPERATING INSTRUCTIONS

1. Make sure all wires are properly connected and installation is complete before you turn on the heater.

2. Do not operate without grill.

3. Do not tamper with the high-temperature safety shutoff.

Complete installation

After installation, turn your heater to the highest setting and let it run for 30 minutes. Some smoking may occur as the element initially burns off residue from manufacturing.

If your heater shows signs of overheating, such as glowing red or repeatedly getting unusually hot and shutting off, immediately turn off the circuit breaker and review the “KNOW YOUR VOLTAGE” section or call us.

If the high-temperature safety shutoff trips more than once a day, replace the heater.

How to Operate Your Heater

Fan cycling with heat

The room temperature is controlled by a line voltage thermostat built-in to the heater.
1. Turn fan switch to the “AUTO” position and turn the thermostat knob fully clockwise.

2. When the room reaches your comfort level, turn the thermostat knob counterclockwise until the heater turns off. The heat and the fan will automatically cycle around this preset temperature.

3. To reduce the room temperature, turn the knob counterclockwise. To increase the room temperature, turn the knob clockwise.

Fan running continuously with intermittent heat

Determined by the thermostat setting
1. Turn the fan switch to the “FAN” position and turn the thermostat knob fully clockwise.

2. When the room reaches your comfort level, turn the thermostat knob counterclockwise until the heater turns off. The heater will automatically cycle around this preset temperature, however the fan will run constantly.

3. To reduce the room temperature, turn the knob counterclockwise. To increase the room temperature, turn the knob clockwise.

Fan running continuously with no heat

1. Turn the fan switch to the “FAN” position.

2. Turn the thermostat knob just above the “OFF” position.

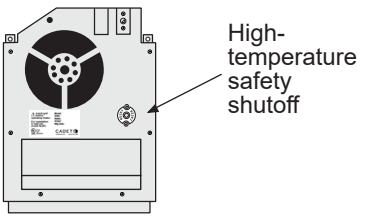
About the high-temperature safety shutoff

The heater is protected by a temperature-limiting control. The high-temperature safety shutoff is designed to open the heater circuit when excessive operating temperatures are detected. The problem must be assessed and the high-temperature safety shutoff must be reset to resume operation.

Resetting the high-temperature safety shutoff

Resetting the high-temperature safety shutoff

If the high-temperature safety shutoff has opened the heater circuit due to excessive operating temperatures, the heater will not work until the high-temperature safety shutoff is pressed. Turn the electrical power off at the electrical panel board (circuit breaker or fuse box). After allowing the unit to cool for at least 10 minutes, and resolving the problem causing the limit to trip (typically the heater is blocked or needs cleaning-see Maintenance Instructions); use a narrow, pointed object to access the high-temperature safety shutoff button through the right center section of the heater grill. Press FIRMLY, and be sure to listen and feel for a click, indicating it has been reset.



Warranty

For more effective and safer operation and to prolong the life of the heater, read the Owner’s Guide and follow the instructions. Failure to properly maintain the heater will void any warranty and may cause the heater to function improperly.

LIMITED TWO YEAR WARRANTY: Cadet will repair or replace any Cadet NLW heater found to be defective within two years after the date of purchase.

These warranties do not apply:

1. Damage occurs to the product through improper installation or incorrect supply voltage;

2. Damage occurs to the product through improper maintenance, misuse, abuse, accident, or alteration;

3. The use of unauthorized accessories or unauthorized components constitutes an alteration and voids all warranties. Refer to Cadet website or call customer service at 855.223.3887 or 360.693.2505 for list of authorized accessories and components.

4. Cadet’s warranty is limited to repair or replacement.

5. In the event Cadet elects to replace any part of your Cadet product, the replacement parts are subject to the same warranties as the product. The installation of replacement parts does not modify or extend the underlying warranties. Replacement or repair of any Cadet product or part does not create any new warranties.

If you believe your Cadet product is defective, please contact Cadet during the warranty period, for instructions on how to have the repair or replacement processed.

Parts and Service

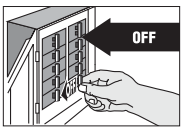
Visit cadetheat.com/parts-service for information on where to obtain parts and service.

Reduce-Reuse-Recycle

This product is made primarily of recyclable materials. You can reduce your carbon footprint by recycling this product at the end of its useful life. Contact your local recycling support center for further recycling instructions.

MAINTAINING YOUR HEATER

Maintenance As Needed, or every six months minimum.



⚠**WARNING!** Before removing grill, turn the electrical power off at the electrical panel board (circuit breaker or fuse box). Lock or tag the panel board door to prevent someone from accidentally turning the power on while you are working on the heater. Failure to do so could result in serious electrical shock, burns, or possible death.

⚠ **WARNING: Any service other than cleaning should be performed by an authorized service representative.**

1. It is important that you verify power has been turned off and no power is going to the heater before proceeding. Circuit breakers are often not marked correctly and turning the wrong breaker off could mean electricity is flowing to the heater, even if the heater does not appear to be working. If you are uncomfortable working with electrical appliances, unable to follow these guidelines, or do not have the necessary equipment, consult a qualified electrician.

2. Once you verify the power has been turned off correctly, proceed to the next step.

3. Remove screws, thermostat knob, and take off grill.

4. Wash grill with hot soapy water and dry immediately.

5. While holding blower wheel (to avoid damage or bending), use a hair dryer or vacuum on blow cycle to blow debris through the element (do not touch element).

6. Vacuum blower area without touching the element.

7. Do not lubricate motor.

8. Replace grill and secure with screws. Replace thermostat knob.

9. Turn thermostat to desired setting.

10. Turn power back on at the electrical panel board.

Troubleshooting Chart

***CONSULT LOCAL ELECTRICAL CODES TO DETERMINE WHAT WORK MUST BE PERFORMED BY QUALIFIED ELECTRICAL SERVICE PERSONNEL**

Symptom	Problem	Solution
Breaker trips immediately upon energizing heater.	1. Incorrect supply voltage.* 2. Overloaded circuit.* 3. A short circuit exists in the supply or heater wiring.* 4. Defective circuit breaker.*	1. Verify that supply voltage matches the heater rating. 2. The total amperage of all heaters on a branch circuit must not be more than 80% of the amperage rating of the circuit breaker and supply wire ratings. Use a lower wattage heater, or reduce the number of heaters on the circuit. 3. Shorted supply or heater wires may be accompanied by severe sparking. Inspect all supply and heater wiring insulation for damage. Do not reset the circuit breaker until all electrical shorts have been repaired. 4. Replace the circuit breaker.
Heater fan operates, but does not discharge warm air.	1. Insufficient element temperature. 2. Incorrect supply voltage.* 3. Element has failed.* 4. Thermostat knob is not turned clockwise far enough to activate heater.	1. Allow a few moments for element to reach operating temperature. 2. Verify that supply voltage matches the heater rating. 3. Replace element. 4. Turn up thermostat.
Heater will not shut off.	1. Heat loss from room is greater than heater capacity.* 2. Defective thermostat.	1. Close doors and windows. Provide additional insulation or install a higher-wattage heater or multiple heaters if necessary (if your circuit is rated for more capacity). 2. Adjust thermostat to its lowest setting. If heater continues to run (allow two minutes for the thermostat to respond), and room temperature is greater than 50 degrees; replace thermostat.
Heater discharges smoke or emits a burnt odor.	1. Dust, lint or other matter has accumulated inside heater. 2. Poor or loose electrical connections.	1. Clean heater (see “Maintenance” section above for instructions). 2. Turn off power at circuit breaker. Inspect all supply and heater wire connections to make sure nothing is loose or poorly connected. Secure or reconnect all loose connections. Do not reset circuit breaker until all connections have been checked and repaired.
Element heats for a moment without the fan turning, then immediately stops heating.	1. Defective motor or internal connection.* 2. Fan or motor jammed.	1. Heater or fan motor requires replacement. 2. Remove obstruction, and press heater high-temperature safety shutoff (see “Operating” section for instructions).
Heater does not run.	1. Thermostat set too low. 2. Heater has tripped the high-temperature safety shutoff. 3. Power not on at the circuit breaker. 4. Broken or poorly connected wire(s) to heater. 5. Defective thermostat.	1. Adjust thermostat to a higher temperature until heater operates (see Problem #5 if the problem persists). 2. Press the high-temperature safety shutoff (see “Operating” section for instructions). 3. Turn on the correct circuit breaker in the main panel. 4. Turn off power at circuit breaker. Check supply wire continuity and proper connection to heater wires. 5. The entire heater, or any of its components may be checked for continuity to determine the cause of any problem. Repair or replace the heater or thermostat.
Heater continually trips the high-temperature safety shutoff.	1. Dust, lint or other matter has accumulated inside heater. 2. Airflow is blocked. 3. Fan or motor is jammed. 4. None of the above.	1. Clean heater (see “Maintenance” section for instructions.) 2. Remove obstruction. Maintain a minimum distance of 6 inches from adjacent surfaces, and 3 feet for furniture or other objects placed directly in front of the heater. 3. Remove obstruction, and press heater high-temperature safety shutoff (see “Operating” section for instructions). 4. Replace heater assembly.