

HOT SURFACE IGNITER KIT FOR ALUMINUM BLOCK BOILERS

Kit# 43800013 (50/75/100 BTUH)

Kit# 550002068 (125/150/175/200 BTUH)

Read and understand these instructions before starting the installation.

DANGER

Before servicing, turn off electrical power to boiler at service switch. Close manual gas valve to turn gas supply OFF to boiler. Failure to comply will result in death or serious injury.

WARNING

Kit shall be installed by qualified service agency in accordance with manufacturer's instructions and all applicable codes and requirements of authority having jurisdiction. If information in these instructions is not followed exactly, a fire, explosion or production of carbon monoxide could cause death or serious injury. Have only a qualified service agency install this kit.

WARNING

Burn, fire, cut hazard. Use protective glasses and gloves. Have fire extinguisher available. Failure to follow these instructions could result in death or serious injury.

CAUTION

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Kit Contents

Item	Quantity
Hot Surface Igniter	1
Hot Surface Igniter Gasket	1
Installation Instructions	1

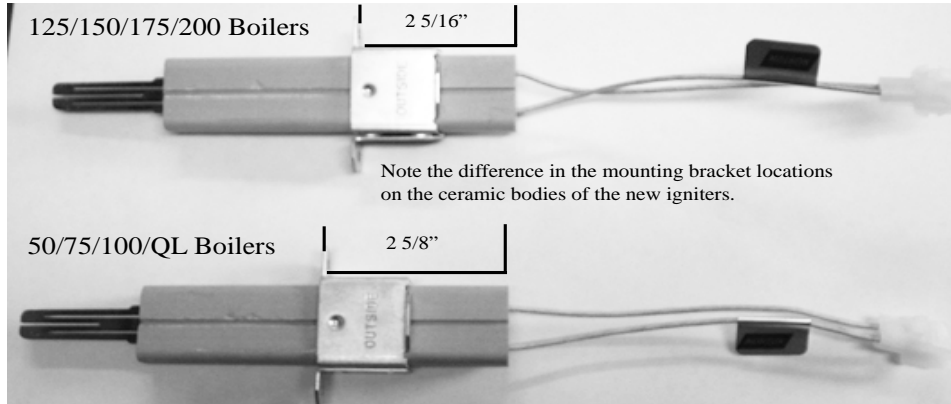
Introduction

Verify use of correct igniter for boiler.

Two different igniters are used in aluminum block condensing boilers. Igniters look similar but have different insertion depths. To determine correct igniter see Figure 1.

- Older igniters (50/75/100 BTUH) may have spiral silicon carbide element.
- Replacement igniter has flat element. See Figure 1. Previous version spiral igniter may be used as long as it is correct insertion depth.

Figure 1 - Comparison of Norton Igniters for 50/75/100 and 125/150/175/200 BTUH Boilers



Hot Surface Igniter Removal

1. Turn off electric supplies to unit and set thermostat to lowest setting or "OFF". More than one disconnect may be required to disconnect power to unit.
2. Turn off gas at external supply shut-off.
50/75/100 BTUH models, turn electric switch or manual shut-off on gas valve to "OFF."
125/150/175/200 BTUH models do not have a switch on gas valve.
3. Remove outer door by lifting upward (50/75/100 BTUH models). Pull door forward on larger models.
4. Disconnect boiler wiring harness from hot surface igniter.
- 5a. 50/75/100 BTUH models. See Figure 2.
 - A. Loosen 5 nuts that attach mixing assembly to boiler casting. Decompresses burner head gasket, allows for ease of igniter removal.
 - B. Remove two 5/16" hex head screws that attach igniter to mixer assembly.
 - C. Slowly pull igniter straight backward until ceramic is clear of mixer assembly.
 - D. Continue to pull igniter backward until igniter element clears mixer assembly.
 - E. Remove old hot surface igniter gasket.
- 5b. 125/150/175/200 BTUH models. See Figure 3.
 - A. Loosen 5 nuts that attach mixing assembly to boiler casting. Decompresses burner head gasket, allows for ease of igniter removal.
 - B. Remove two 5/16" hex head screws that attach igniter to mixer assembly.
 - C. Slowly pull igniter straight backward until ceramic is clear of mixer assembly.
 - D. Continue to pull igniter backward until igniter element clears mixer assembly.
 - E. Remove the old Hot Surface Igniter Gasket.

Figure 2 - 50/75/100 BTUH Model Igniter

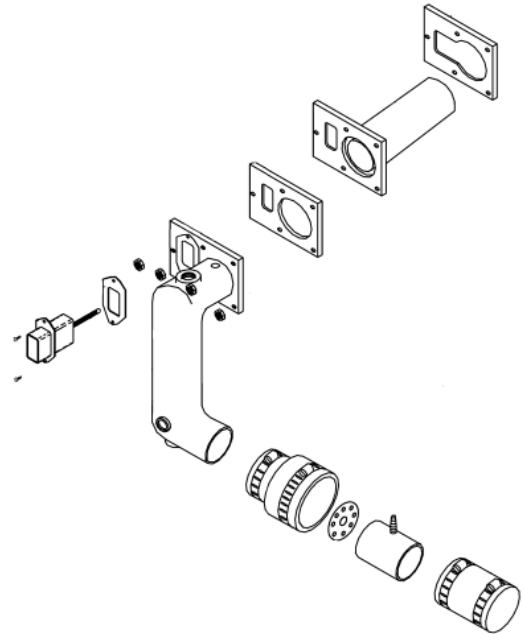
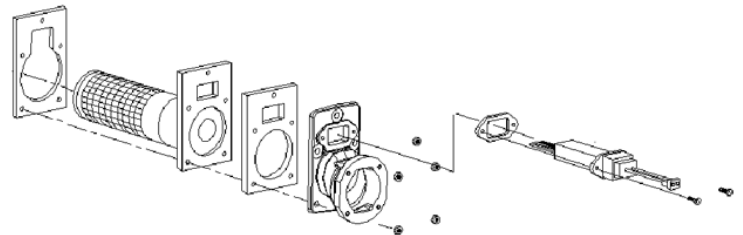


Figure 3 - 125/150/175/200 BTUH Model Igniter



KIT INSTALLATION INSTRUCTIONS

NEW IGNITER INSTALLATION

Failure to properly ground boiler will result in loss of flame sensing signal.

Improper installation of hot surface igniter could cause premature failure. Attention must be paid to correct orientation of hot surface igniter.

1. Install new hot surface igniter gasket (included with kit) on hot surface igniter.
2. Orient igniter to correct position
3. On 50/75/100 BTUH models:
 - Note bent up tab and word "outside" stamped on metal base of igniter.
 - Orient igniter so tab points to left side of boiler as you are facing boiler.
4. 125/150/175/200 BTUH models:
 - Note bent up tab and word "outside" stamped on metal base of igniter.
 - Orient igniter so tab points up as you are facing boiler.
5. Insert hot surface igniter in opening on mixer assembly.
6. Slowly slide hot surface igniter straight forward until metal mounting bracket seats against mixer assembly.

NOTICE

You should be able to read word "**outside**" on hot surface igniter mounting bracket after hot surface igniter is fully seated.

If you cannot read the word "**outside**," igniter is not oriented correctly. Remove and reinstall igniter in correct orientation.

7. Install two 5/16" hex screws that attach hot surface igniter to the mixer assembly.
8. 50/75/100 BTUH models -Tighten 5 nuts that attach mixer assembly to boiler casting .
125/150/175/200 BTUH models - Tighten 5 nuts that attach flue adapter to boiler casting.
9. Connect hot surface igniter to boiler wiring harness. Some older model boilers use push-on terminals for igniter wiring instead of molex plug furnished on replacement igniter. For these models only follow instructions below.
 - A. Cut 2 position molex plug off new igniter leads and discard.
 - B. Cut two push-on terminals off old igniter leads leave 2" wire on each, will be reused.
 - C. Strip insulation back 1/2" on wire from push-on terminal leads and leads to new igniter.
 - D. Wire nut push-on terminal leads to new igniter leads.

10. Turn on line voltage electrical supply.
11. Turn on gas at external supply shut-off. 50/75/100 BTUH models turn electric switch or manual shut-off on gas valve to "ON."

SYSTEM VERIFICATION

1. Set thermostat to call for heat.
2. Observe ignition sequence through boiler sight glass located on boiler casting.
3. Verify burner lights smoothly and has clear blue flame.
4. Check for air leakage around hot surface igniter and either mixer assembly or flue adapter. Remove and re-install these items if necessary to correct any air leak.
5. Check for air leakage around boiler clean-out panel on older (50/75/100 BTUH) models. Whistling noise may indicate air leak around clean out panel.
6. After system check-out is complete, set thermostat below room temperature.
7. Verify burner shuts down.
8. Verify boiler operates properly. Set thermostat to desired room temperature.
9. Reinstall outer door.

Hot Surface Igniter failure may be caused by one or more of the following conditions. Verify following conditions are not affecting boiler operation

- Short cycling defective thermostat: Incorrect thermostat anticipator setting, low water flow or over-sized furnace.
- Under firing/low BTUH input: Set manifold pressure and verify firing rate as shown on rating plate by clocking gas meter.
- High return water temperature: Verify water flow through radiation system is correct for type of radiation components installed.
- Incorrect venting: Verify proper venting per installation instructions. Verify intake and exhaust terminations are installed properly and are not reversed.

For additional information, and complete sequence of boiler operation, refer to Installation, Operation and Maintenance Manual.