

DSI Igniter Replacement Kit Instructions

Q/UB 90-100 Series II & III

Kit # 550002797

Purpose

- Release of enhanced igniter kit for 90-100 Series II& III.
- Intended use is only 90-100 family series II and series III boilers Natural Gas and Propane (50 MBH, 75 MBH and 100 MBH) which utilize **direct spark ignition**.
- Replacement igniter kits are offered for any boiler within serial number range: first four digits between 3312 and 0313. These boilers were manufactured between August 20th, 2012 and January 30th 2013.

Kit installation shall be completed by qualified agency.

WARNING

Fire, explosion, asphyxiation and electrical shock hazard. Improper installation could result in death or serious injury. Read these instructions and understand all requirements, including requirements of authority having jurisdiction, before beginning installation. Installation not complete until appliance operation is verified per Installation, Operation & Maintenance Manual provided with boiler.

A - Igniter Removal

1. Tools required:
 - Flat Screw driver or 5/16 inch nut driver
 - Manometer to check/adjust gas pressure
 - 1/8" NPT Barb
 - 3/16" Allen Wrench
 - Torx T-40 Wrench or flat screw driver
 - Wire Cutters
2. Follow instructions to **TURN OFF GAS TO APPLIANCE** found on Operating Instruction label on boiler or in Installation, Operation & Maintenance Manual. Verify all electrical power to boiler is turned off.

WARNING



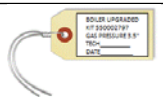
Electrical shock hazard. Turn OFF electrical power supply at service panel.

WARNING

Burn hazard. Verify heat exchanger and igniter have cooled or use appropriate personal protection equipment before removing igniter.

3. Inspect combustion chamber through sight glass. Verify flame is not present.
4. Disconnect ignition cable and ground wire from igniter.
5. Remove two igniter screws (top and bottom).
6. Remove igniter and silicone gasket under igniter flange.

Parts List

Parts	Quantity	Picture
New igniter	1	
Graphite Gasket	1	
Ground Terminal	1	
10-32 x 3/8" Screws	2	
Hang tag	1	
Instructions	1	240010031
Labor Reply Card	1	240010035
Transformer Harness	1	
Zip-Ties	2	

IGNITER REPLACEMENT KIT INSTRUCTIONS

B - Igniter Installation

⚠ WARNING

Electrical shock hazard. Turn OFF electrical power supply at service panel.

1. Install new igniter and graphite gasket. New igniter fits only one way.
2. Separate green quick connect ground wire from wire harness.
3. Install ground terminal under lower igniter screw with tab facing left. See Figure 2.
4. Tighten both screws. Verify igniter is securely in place.
5. Connect ignition cable and green grounding wire to igniter.
6. Replace transformer harness. Follow Harness Replacement Procedure found on Page 3, and Ignition Wire Routing found on Page 4.
7. Turn on electric power to boiler.
8. Close gas shut off valve, set thermostat for call for heat, inspect blower housing and vent pipe connection for secure connections and possible leaks around igniter, blower and flue pipe connections.
9. Resume operation using OPERATING INSTRUCTION found on Operating Instructions label on boiler or in Installation, Operation & Maintenance Manual.
10. Adjust gas manifold pressure to 3.0 - 3.2 inch water. Follow Gas Pressure Adjustment found on Page 3.

⚠ WARNING

Fire, explosion, asphyxiation hazard. Venting **not** installed to specifications as required in boiler's Installation, Operation and Maintenance Manual or for installations above 2000 ft. shall be required to use a combustion analyzer to verify CO and CO₂. Failure to follow these instructions and venting requirements as listed in Installation, Operation and Maintenance Manual could result in death or serious injury.

Typical Boiler Operation Should Be Between

8.5% -10.0% CO₂ on Natural Gas

9.5% -11.0% CO₂ on Propane Gas

Under all conditions CO level should not exceed 100ppm.

11. Fire boiler several times after gas adjustment to verify ignition quality.
12. Sign and date notice tag. Hang on gas valve.

Figure 1 - Remove Ignitor (Procedure A, 2 - 4)

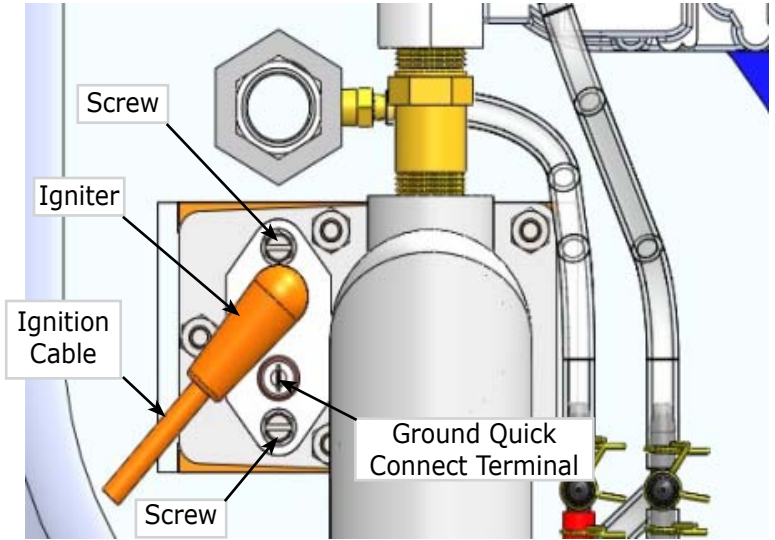
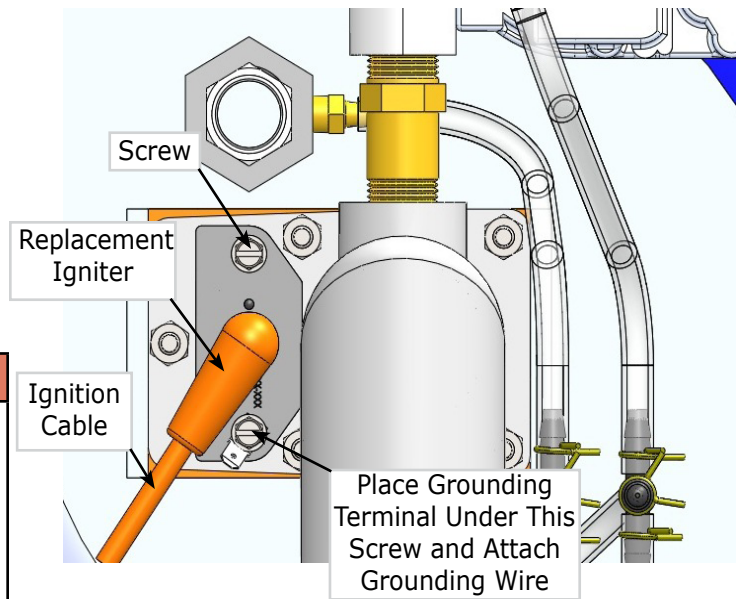


Figure 2 - Replace Ignitor (Procedure B, 5 - 9)

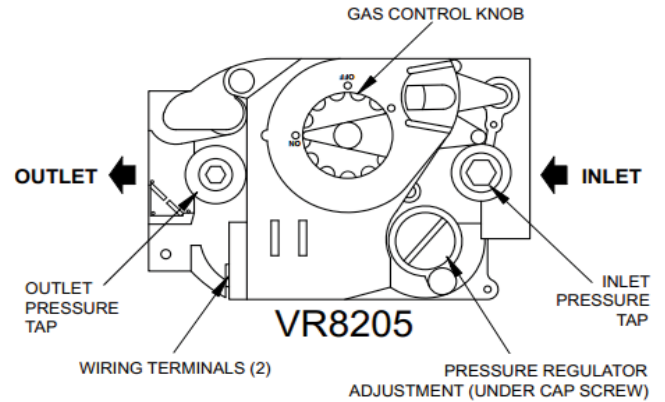


IGNITER REPLACEMENT KIT INSTRUCTIONS

C - Gas Pressure Adjustment

1. Follow instructions to Turn Off Gas to Appliance found on Operating Instructions label on boiler or in Installation, Operation & Maintenance Manual. Verify all electrical power to boiler is turned off.
2. Open outlet pressure tap and pressure regulator adjustment ports on gas valve by removing their cover screws.
3. Thread 1/8" NPT barb into outlet pressure port. Attach manometer.
4. Use screw (T-40 or flat screw driver) located at pressure regulator to adjust manifold pressure to 3.0-3.2 in/w.c.
5. After final adjustment shut boiler off. Remove instrumentation and install port covers.

Figure 3 - Gas Valve



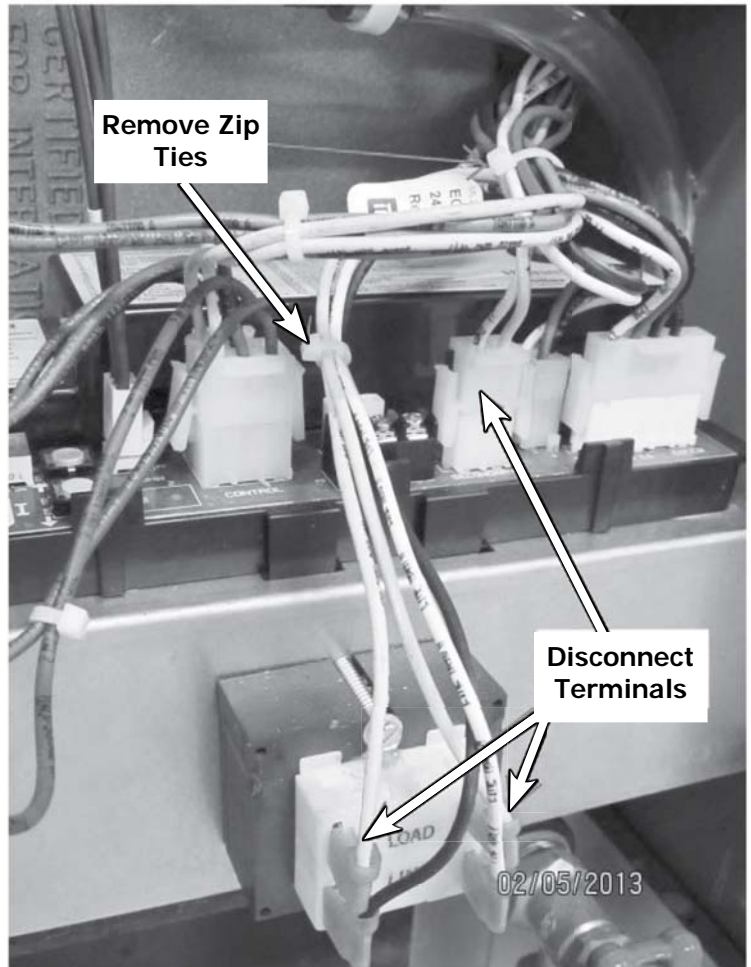
D - Harness Replacement Procedure

⚠ WARNING

Electrical shock hazard. Turn OFF electrical power supply at service panel.

1. Locate boiler 24 VAC transformer. Disconnect yellow wires connected to load side of transformer.
2. Disconnect molex connector attached to control board identified as secondary.
3. Cut two zip-ties to free yellow wire harness.
4. Replace with new harness and attach connections.
5. Attach supplied zip-ties to secure wires.

Figure 4 - 24V Transformer Wire Harness



E - Ignition Wire Routing

Purpose: minimize electrical noise to other components from ignition system.

⚠ WARNING

Electrical shock hazard. Turn OFF electrical power supply at service panel. Failure to follow these instructions could result in death or serious injury.

1. Use the following instructions after replacing the ignition electrode.
2. Disconnect igniter boot and grounding wire. See Figure 5.
3. Route orange ignition cable behind aluminum air intake channel. Keep cable away from bundled wires.
4. Connect igniter boot.
5. Follow ground wire, remove zip ties retaining wire bundle which includes ground wire.
6. Bundle remaining wires, leave ground wire free.
7. Loop ground wire back to ground terminal. Keep ground wire away from wire bundle.
8. Connect ground to terminal post.

Figure 5 - Igniter Boot & Grounding Wire

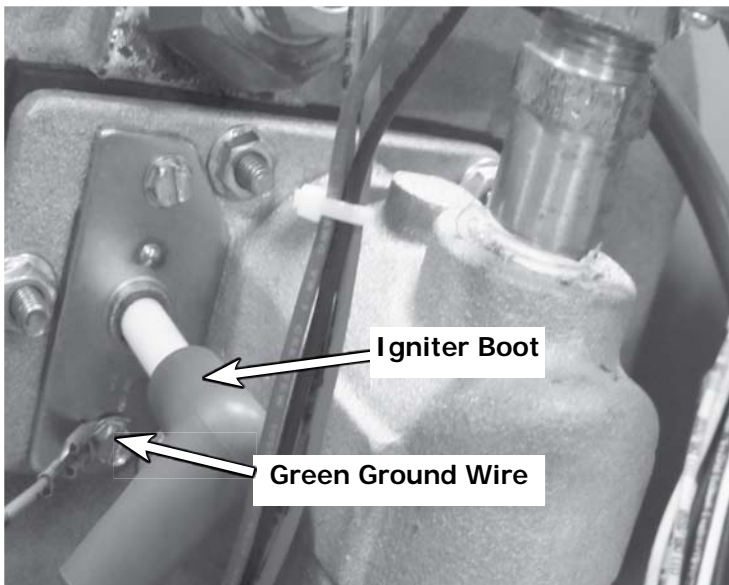


Figure 6 - Wire Bundle including Ground Wire

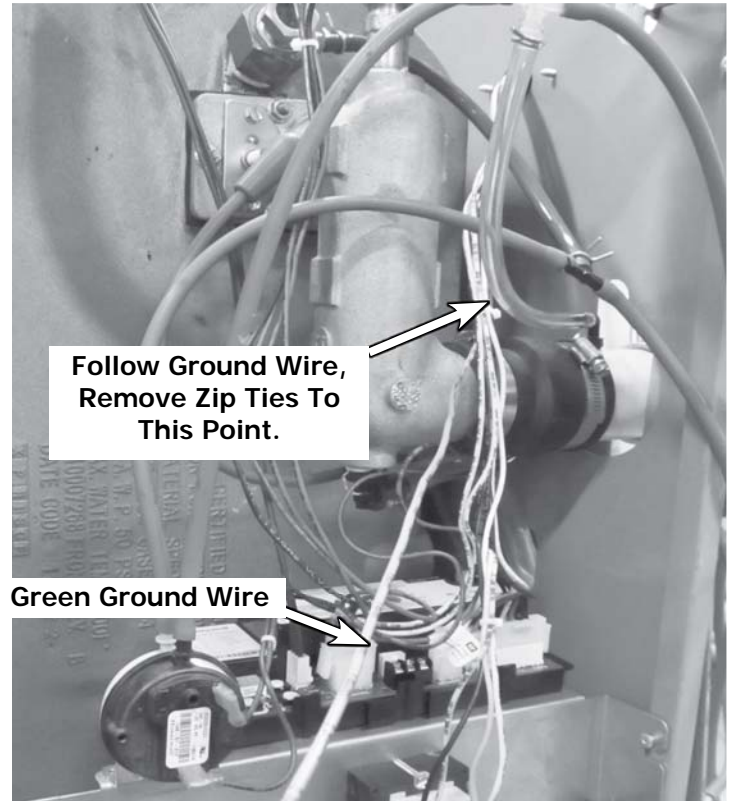
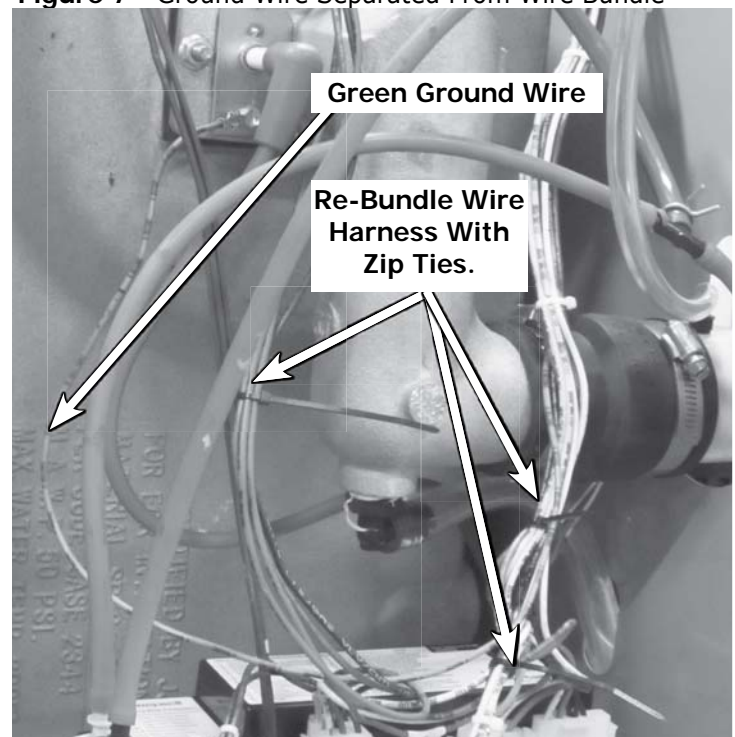


Figure 7 - Ground Wire Separated From Wire Bundle



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