GAS VALVE REPLACEMENT KIT INSTRUCTIONS
KIT 550003244 INSTRUCTIONS
FOR UCS & DMG 240 BOILER

Kit installation shall be completed by qualified agency.

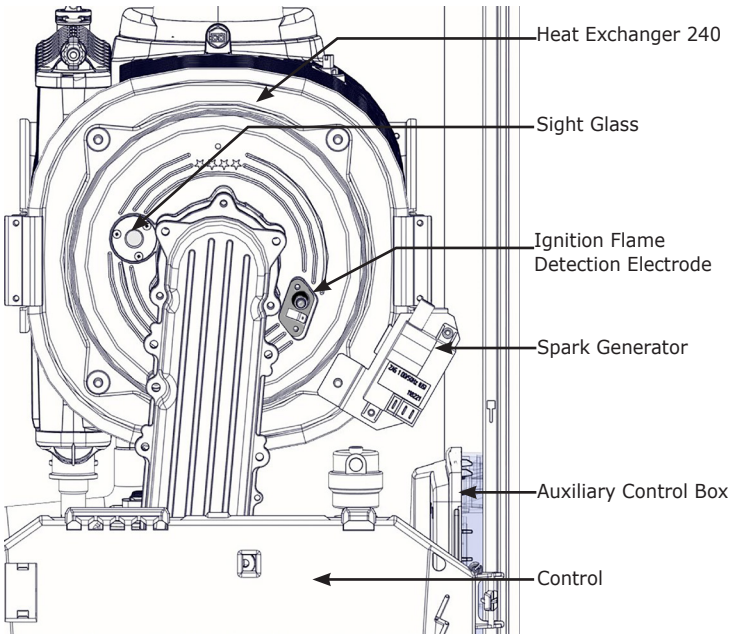
⚠ WARNING

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

⚠ CAUTION

Laceration, burn hazard. Metal edges and parts may have sharp edges and/or may be hot. Use appropriate personal protection equipment to include safety glasses and gloves when installing or servicing this appliance. Failure to follow these instructions could result in minor or moderate injury.

Figure 1 - 240 Heat Exchanger - Front of Boiler



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.

⚠ WARNING

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

2. Remove two (2) screws from jacket cover. Lift jacket off.

⚠ WARNING

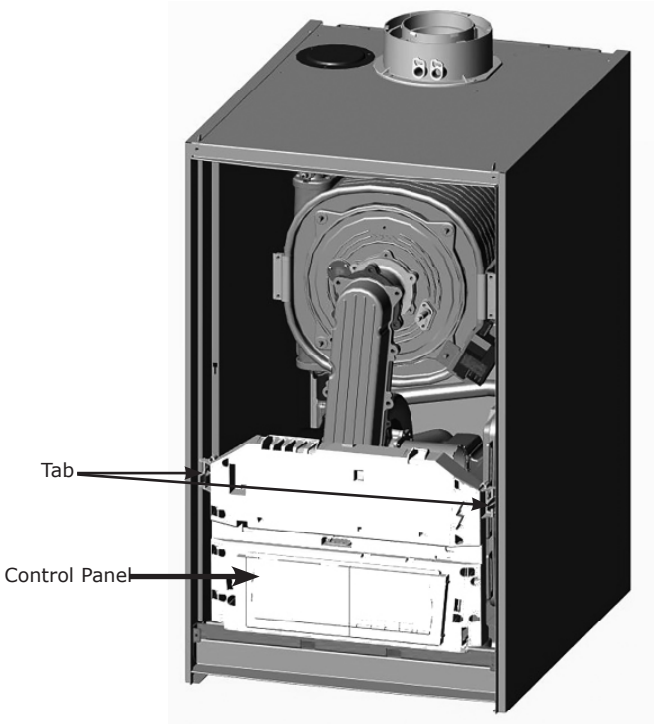
Burn hazard. Verify unit has cooled before servicing. Use appropriate personal protection equipment.

3. Inspect combustion chamber through sight glass. Verify flame is not present. See Figure 1.

4. Press tabs and fold control panel in down position. See Figure 2.

5. Remove left jacket panel by removing screws from top, bottom and rear left of panel.

Figure 2 - Control Panel and Tab



Illustrations are a depiction of boiler for general location of parts and are subject to change without notice.

6. Unplug harness from Gas Valve.

7. Disconnect pipe from top of gas valve, remove washer.

8. Disconnect gas piping from connection on bottom of boiler. Remove washer from brass fitting.

9. Remove two (2) screws securing gas valve to bottom of unit. Remove gas valve.

10. Install new gas valve with arrow pointing up. Arrow is located on rear plate of gas valve. Install new gasket. Secure gas valve with two (2) screws at bottom of unit.

11. Seat new washer to brass fitting at bottom of unit. Re-connect piping at bottom of unit to gas valve.

12. Seat new washer and re-connect gas line to top of gas valve.

13. Turn on Gas. Check for gas leaks.

14. Re-connect harness to gas valve.

15. Install left side panel. Engage left panel tabs with rear panel slots. Secure with three (3) screws.

16. Turn Electric to boiler on.

17. Position control assembly in upward position.

18. Adjust **Parameters 17-19** as indicated **A-D**:

Figure 3 - Gas Valve Location

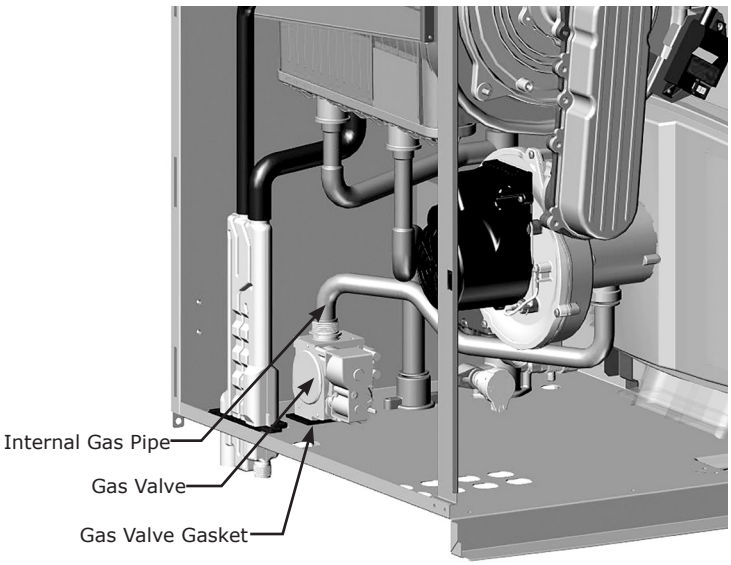
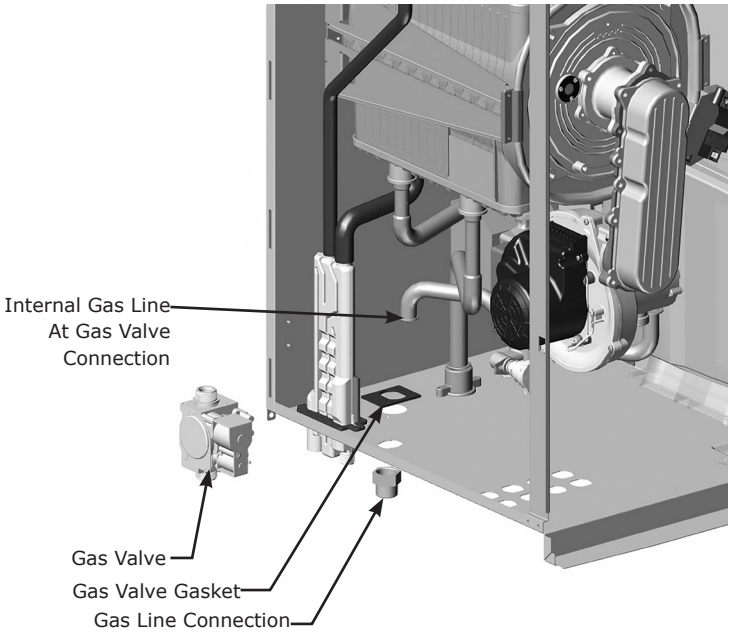


Figure 4 - Gas Valve, Gasket and Brass Fitting



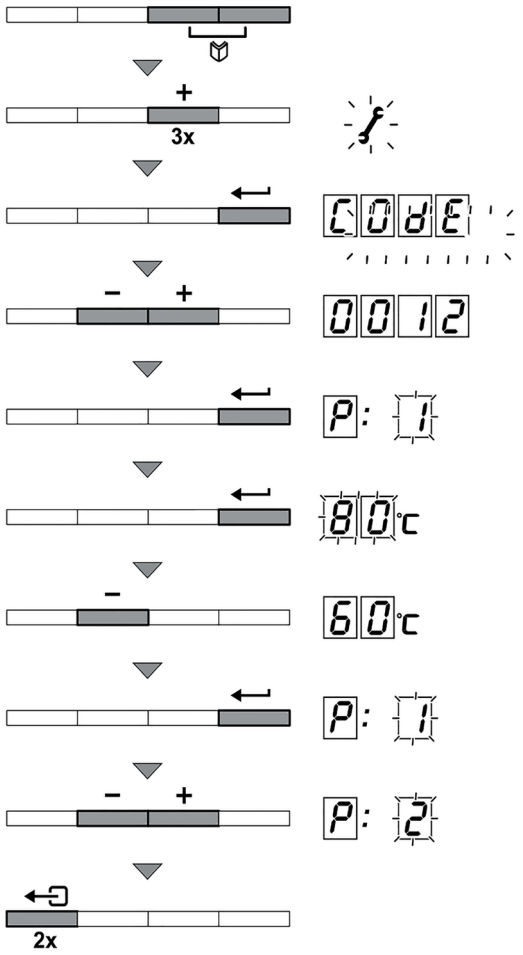
A - Installer Level Parameters

Parameters **P17** to **dF** (error code history) must only be modified by a qualified installer.

To prevent unwanted settings, some parameter settings can only be changed after special access code **0012** is entered.

- Press the two Menu buttons simultaneously and then (+) button until the symbol flashes on the menu bar.
- Select the INSTALLER menu using the button. "**CODE**" appears on the display.
- Use (-) or (+) button to input the installer code "**0012**".
- Confirm using button, "**P1**" is displayed with "**1**" flashing.
- Press button a second time, the value will appear and flashes, for example [80°C (176°F)].
- Change the value by pressing the [**-**] or [**+**] button. [In this example using [**-**] button to change the value to 60 ºC (140 °F).]
- Confirm the value with the button, "**P1**" is displayed with 1 flashing. Button, "P1" is displayed with 1 flashing. If necessary, set other parameters by selecting them using the (**-**) or (**+**) button.
- Press button 2 times to return to current operating mode.

FIGURE 3 - Installer Level Parameters



Natural Gas				Propane			
Air/Gas Mixture		Nozzle		Air/Gas Mixture		Nozzle	
in	mm	in	mm	in	mm	in	mm
1 3/16	30	7/32	5.3	1.18	30	5/32	4

B - Boiler has two dedicated built in test ports. See Figure 6.

One connection port is connected to exhaust flue (**A**), and allows monitoring of the quality of combustion products and combustion efficiency.

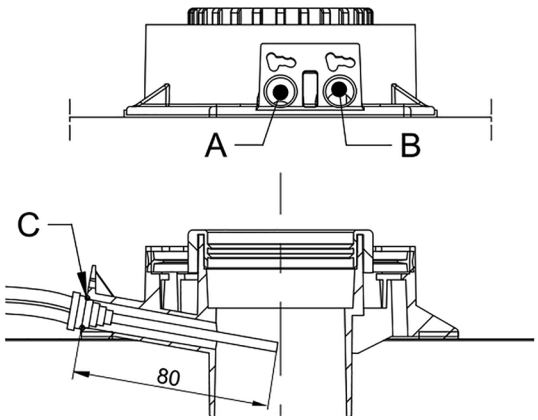
Other is connected to combustion air intake (**B**), used to check for recycling products for combustion.

The following can be measured at exhaust flue test port:

- temperature of combustion products
- oxygen (O_2) or carbon dioxide (CO_2) concentration;
- carbon monoxide (CO) concentration.

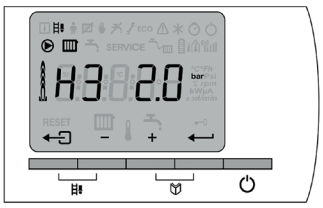
Temperature of combustion air must be measured on air intake test port (**B**) by inserting measurement sensor approximately 3-3/16" (80.00 mm) (**C**).

FIGURE 4 - Combustion Air Temperature Ports



C - Combustion Setup (High-Fire)

- Unscrew exhaust port plug at exhaust flue test port. See Figure 4.
- Insert combustion analyzer into exhaust flue test port. Verify opening around combustion analyzer probe is completely sealed when taking measurements.
- Set boiler to high-fire by pressing two buttons simultaneously. Display will show **H3** and the symbol will appear.
- Measure percentage of O_2 or CO_2 in flue gases.
- Compare the measured values with values in table below. Remove front panel when comparing values.
- Adjust gas/air ratio using high-fire adjustment screw (**V**) if needed. Turn screw clockwise to reduce CO_2 level and counterclockwise to increase it.

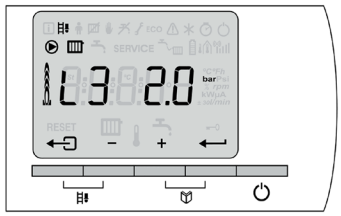


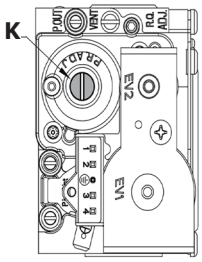
O_2/CO_2 Values at High Fire Natural Gas			
Nominal value		**Permitted value**	
O_2 %	CO_2%	O_2 %	CO_2%
4.3	9.3	3.9 - 4.7	9.1 - 9.5

O_2/CO_2 Values at High-Fire Propane Gas			
Nominal value		**Permitted value**	
0_2 %	CO_2%	0_2 %	CO_2%
5.7	10.0	5.4 - 6.0	9.8 - 10.2

D - Combustion Setup (Low-Fire)

- Unscrew exhaust port plug at exhaust flue test port.
- Insert combustion analyzer into exhaust flue test port. Verify the opening around combustion analyzer probe is completely sealed when taking measurements.
- Set boiler to low-fire by pressing two buttons simultaneously. If the boiler is already in combustion setup mode for high fire, press the (-) button several time until **L3** is displayed on the screen.
- Measure percentage of O_2 or CO_2 in flue gases.
- Compare the measured values with values in table below. Remove front panel when comparing values.
- Adjust gas/air ratio using low-fire adjustment screw (**K**) if needed. Turn screw clockwise to increase CO_2 level and counterclockwise to decrease it.





K - Screw cover shown. Adjustment screw is located under cover.

O_2/CO_2 Values at Low-Fire Natural Gas			
Nominal value		**Permitted value**	
O_2 %	CO_2%	O_2 %	CO_2%
5.7	8.5	5.4 - 6.1	8.3 - 8.7

O_2/CO_2 Values at Low-Fire Propane Gas			
Nominal value		**Permitted value**	
0_2 %	CO_2%	0_2 %	CO_2%
6.4	9.6	6.1 - 6.70	9.4 - 9.8

19. Replace front panel. Secure with screws.

20. Follow instructions in boiler's Installation, Operation & Maintenance Manual for proper startup and verification procedures.

21. Verify proper operation.

KIT 550003244 -GAS VALVE REPLACEMENT		
Description	**PART #**	**Qty**
SEALING WASHER 6-3/4	-	2
GAS VALVE	-	1
GAS VALVE GASKET	-	1
KIT INSTRUCTIONS	240011698	1