BLOWER REPLACEMENT KIT INSTRUCTIONS
KIT 550003245 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.

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. Turn power and gas off to appliance. 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 downward position. See Figure 2.

5. Disconnect nut securing gas pipe to Air/Gas Venturi. Do not discard nut. See Figure 3.

Figure 1 - 240 Heat Exchanger - Front of Boiler

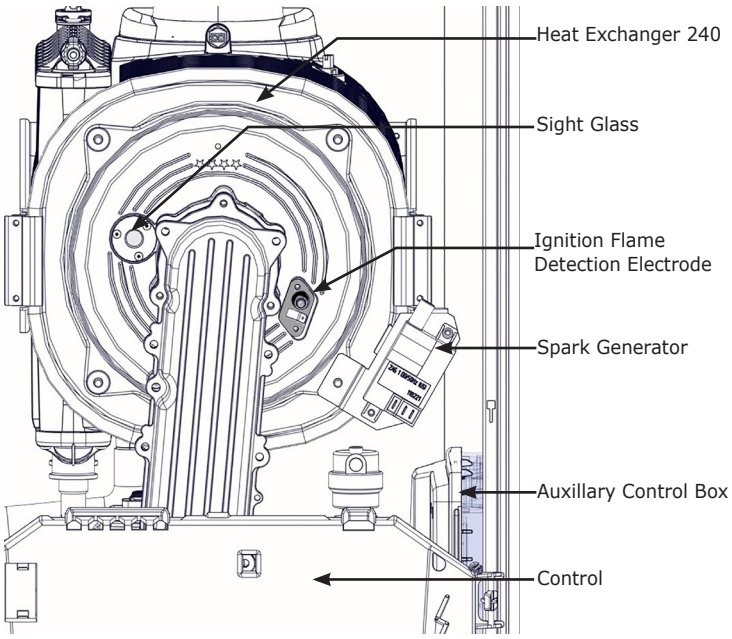
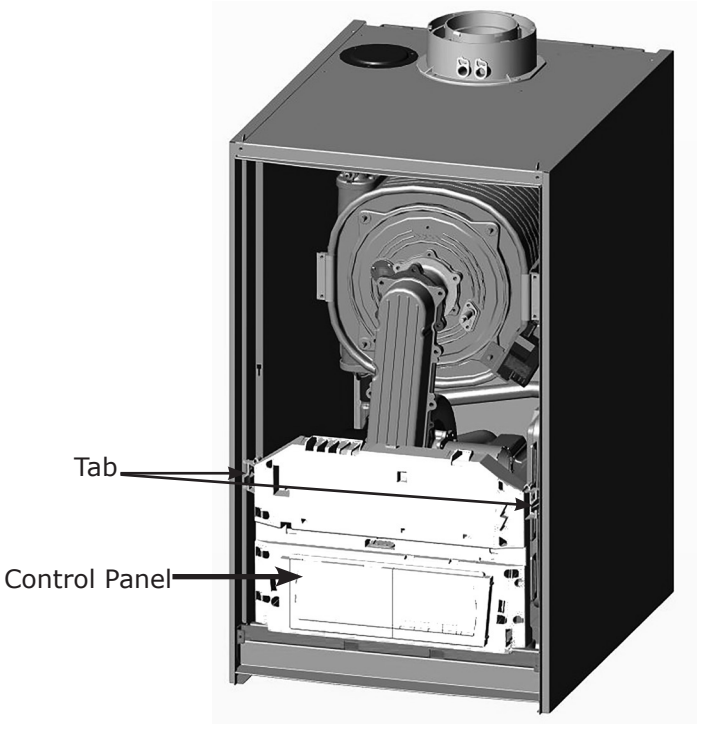


Figure 2 - Control Panel and Tab



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

6. Remove electrical connectors from Blower.
7. Remove three (3) screws connecting Air/Gas Mixer to heat exchanger opening. Support Blower and Air/Gas Mixer before removing brass colored screw from standoff connected to chamber cover.
8. Remove blower/mixer assembly from unit. Remove two (2) screws securing Blower to Mixer. Loosen remaining screws to remove blower from Mixer.
9. Remove three (3) screws securing Air/Gas Venturi to blower.

Note Note the position of the Air/Gas Mixer to Blower. Gas connection shall be perpendicular to outlet of blower pointing toward floor.

10. Verify O-ring is in place on new blower. Attach mixer and secure with three (3) screws.
11. Reattach air gas collector with new venturi gasket to blower by sliding blower under two (2) screws attached to collector and reinstalling 2 screws that were removed. Ensure all 4 screws are tight securing blower to collector.
12. Reinstall Blower/Mixer assembly to heat exchanger opening. Ensure burner gasket is in place and reattach Blower/Mixer assembly with the brass colored screw to stand off and three screws to Heat Exchaner Opening.
13. Reconnect 5 wire and 3 wire harness to blower motor.
14. Reconnect gas supply to Air Gas Venturi making sure washer is installed at connection. See Figure 4.
15. Turn power and gas on.
16. Check for leaks.
17. Raise control panel and snap into place.
18. Adjust **Parameters 17-19** as indicated below A-D:
19. Replace front panel. Secure with screws.
20. Follow instructions in boiler's Installation, Operation &

Figure 3 - Blower/Fan

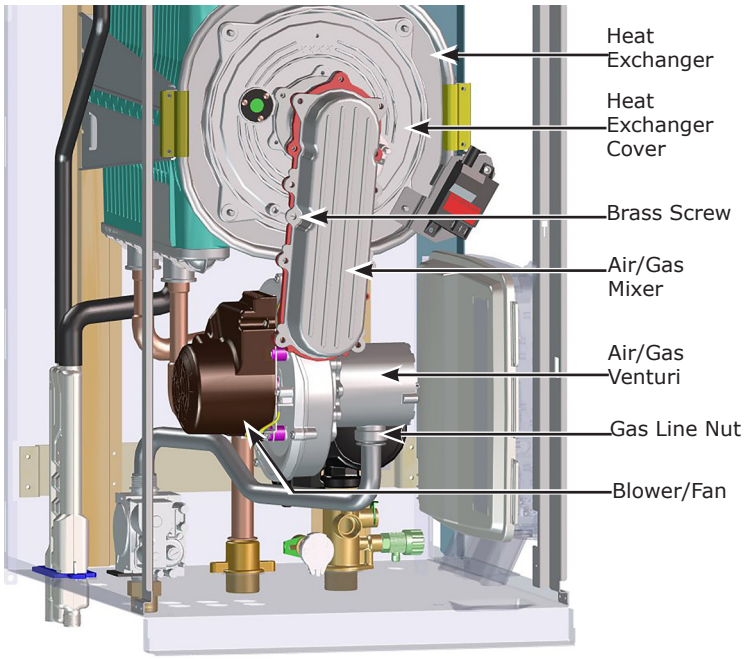
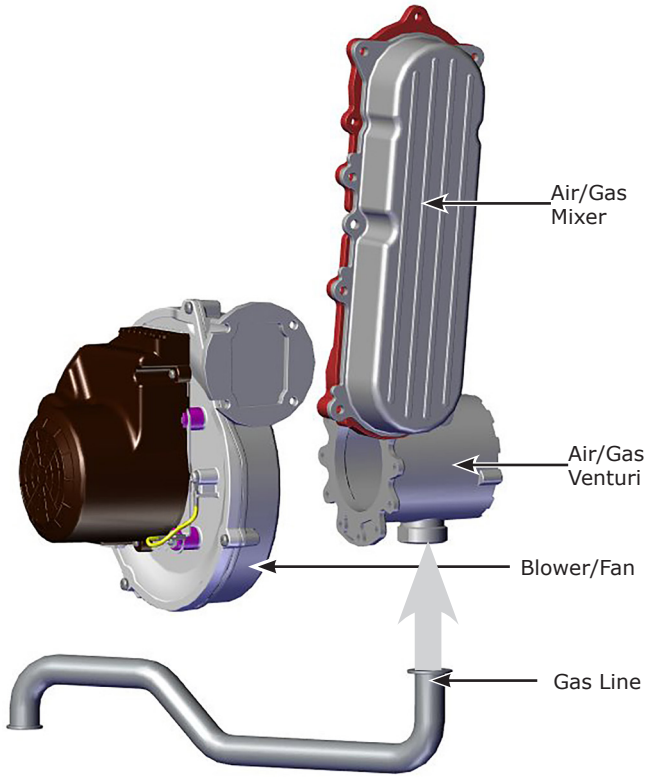


Figure 4 - Blower/Fan, Air/Gas Mixer, Air Gas Venturi



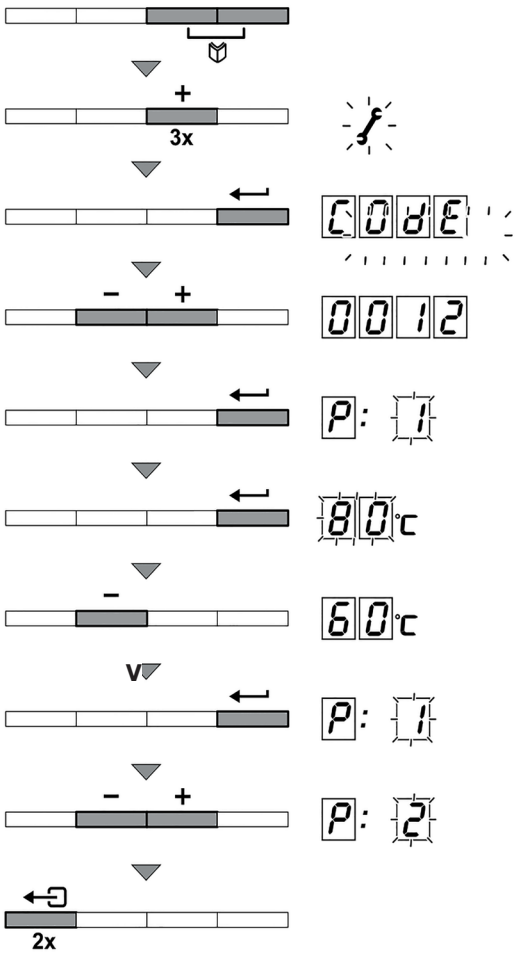
A - Installer Level Parameters

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.

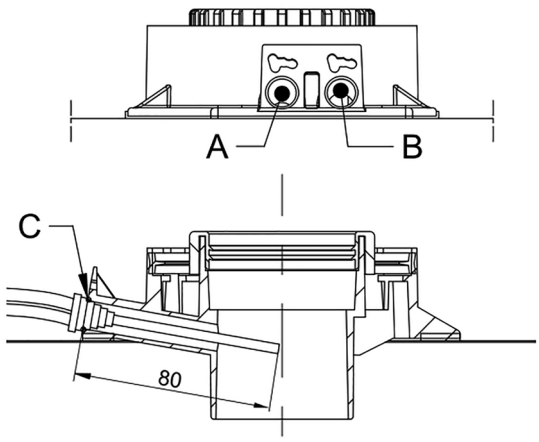
- Press the two Menu buttons simultaneously and then (+) button until the symbol flashes on the menu bar.
- Select the INSTALLER menu using the ⟵ button. "**CODE**" appears on the display.
- Use (-) or (+) button to input the installer code "**0012**".
- Confirm using ⟵ button, "**P1**" is displayed 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 5 - Installer Level Parameters



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

FIGURE 6 - Combustion Air Sample Ports



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.

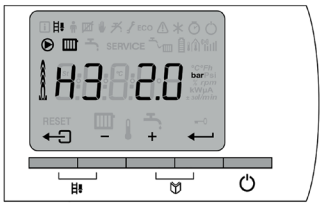
The following can be measured at exhaust flue test port:

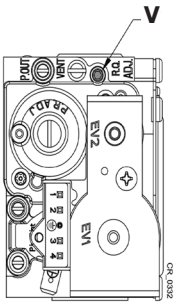
- temperature of combustion products
- oxygen (O_2) or carbon dioxide (CO_2) concentration;
- carbon monoxide (CO) concentration.

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**).

C - Combustion Setup (High-Fire)

- Unscrew exhaust port plug at exhaust flue test port. See Figure 6.
- 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.



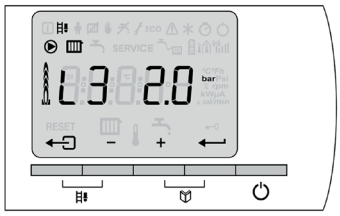


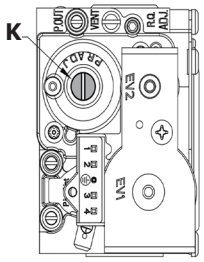
O_2/CO_2 Values at High Fire Natural Gas			
Nominal value		**Permitted value**	
O_2 %	CO_2%	O_2 %	CO_2%
4.3	9.3	3.9 - 4.7	9.1 - 9.5

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

Maintenance Manual for proper startup and verification procedures.

21. Verify proper operation.

KIT 550003245 - BLOWER REPLACEMENT		
Description	**PART #**	**Qty**
FAN 250W 120V 60HZ	-	1
VENTURI GASKET	-	1
O-RING 70x3		1
BLOWER REPLACEMENT KIT INSTRUCTIONS	240011699	1