

P-111B Ignitor Replacement Kit Instructions

SL G3 series (except SL 10-85 G3)*, SL 20-115, SL 20-115 G2, SL 80-399, SL 28-160, and Removable-lid VFCs

*** Note**
This kit is **NOT** compatible with SL-85 . Purchase the [P-437](#) instead.

Warning
This replacement kit shall be installed by a qualified service agent in accordance with these instructions and all applicable codes and requirements of the authority having jurisdiction. If the information in these instructions is not followed exactly a fire, an explosion or production of carbon monoxide may result causing property damage, personal injury or loss of life.

The qualified service agency is responsible for the proper installation of this kit. The installation is not proper and complete until the operation is checked as specified in these instructions.

Ignitor Kit - SL G3 series*, other SL models (SL 20-115, SL 20-115 G2, SL 80-399, SL 28-160), removable-lid VFC series			
	Part #	Description	Quantity
	240-002	Ignitor - (offset, double prong)	1
	250-050	Ignitor gasket	1
	150-260	Screws, M4-0.7x10mm / 6 T/ Pan SS	2

When to Install the P-111B Ignitor Replacement Kit

Install the P-111B kit when failure to ignite after 3 tries occurs, flame current is poor (see [Checking the Flame Current on page 3](#)) or as preventative maintenance.

Note
A ladder or step may be required to have a clear vertical view of the work area.

Do not attempt to remove the assemblies without a clear view, as damage to the connectors, screws or refractory may occur.

Removal of Ignitor

Preparing the boiler

1. Remove call(s) for heat.
2. Remove power to the boiler at a wall switch or a breaker.
3. Shut off gas supply to the boiler.

Do not drain the boiler unless freezing conditions are expected during this procedure.

4. Allow the boiler to cool down.
5. Remove the front cover.
6. Remove the top service panel.

Removing the ignitor

1. Unplug the electrical connectors from the ignitor.
2. Remove and retain the two screws securing the ignitor to the lid, and carefully remove the ignitor by sliding it straight up. Retain the screws; discard the ignitor.
3. Remove the ignitor gasket and discard.

Reassembly and Start-up

Installing the new ignitor and observing the spark gap

1. Install the new ignitor and gasket by hand-tightening only.

Note

If the new screws do not fit easily, use the old screws.

Do not use a powered driver.

2. If the ignitor is not sparking correctly, check the ignitor cable connections, the controller status and the ignition module.

Start-up

1. Turn on gas and power to the boiler.
2. Check connections for leaks during operation.
3. Checking the flame current should be done either on the controller or by using a multimeter if applicable.

Note

For the G3 series, if poor flame current is observed, it is recommended to verify a gap measuring 10-11 mm between the ignitor and burner

Hold the ignitor with two pliers, one on each side of the bend, and gently increase the rod angle.

It may be necessary to make several attempts to achieve a suitable gap.

Ensure that the gap size between the ignitor leads is $\frac{1}{8}$ th - $\frac{3}{16}$ th of an inch (3.2 - 4.8 mm).

4. Reinstall the top service panel to the boiler cabinet.
5. Perform a combustion analysis, and test for proper operation.
6. Reinstall the front cover.

Checking the Flame Current

1. On a G3 boiler, the flame current can be read off the controller screen in Diagnostics / Display Parameters for controllers running software v. 1x (blue background UI) , or Status>Boiler Status for v.2x (black background UI).

Note

If using a SIM on a pre-G3 boiler, you will not be able to measure the flame current

2. On a boiler using a Fenwall ignition module, set the multimeter to DC microamps (μA) and measure the amperage at the module test ports labeled FC+ / FC- during a call for ignition.
 - » A strong Fenwal signal is between 2-4 μA
 - » If the flame signal drops below 0.7 μA (Fenwal), the module turns off the gas valve
 - » Check your model's values against the table below:

Model	Series	Minimum Flame Current μA
SIM+	SL 14-115 G3	2.00
SIM+	SL 20-160 G3	2.41
SIM+	SL 30-199 G3	2.00
SIM	SL 26-260 G3	2.00
SIM	SL 40-399 G3	3.50
FENWAL	All SL prior to G3 and VFC	1.41