

Safety Alert 013

Produced with Baxi Heating UK Limited



Title: Potterton Powermax HE - Flue/Condensate Connector Erosion

Date issued: 15 November 2013

This Safety Alert provides guidance to Gas Safe registered businesses/engineers about a product safety concern relating to the Potterton Powermax HE range of gas boilers. It has been identified that under fault conditions increased levels of carbon monoxide can be created and escape from the flue/condensate connector component.

Introduction

It has come to the attention of Baxi Heating UK Ltd., that on early manufactured Potterton Powermax HE gas boilers, an unusual combination of factors occurring simultaneously (fault on fault condition) could give rise to a safety risk. It would be unusual for these factors to occur at the same time, hence the probability of this situation occurring is very low. However, a recent risk analysis undertaken by the Baxi Heating has highlighted that under these rare circumstances there is a potential risk of increased levels of carbon monoxide (CO) escaping from the flue/condensate connector.

This notice only relates to Potterton Powermax HE boilers manufactured between 2001 and 2005 (up to and including week number 46 of 2005). No other boilers or models are affected.

Background

The problem identified centres around the aluminium material that was used to form the integral flue/condensate connector on the earlier production models. Through continuous field monitoring, it came to the attention of Baxi Heating Ltd., that this material is subject to erosion and the rate of erosion is dependant on usage patterns and local site installation conditions.

In order to increase product reliability and longevity, Baxi Heating decided to change the material from aluminium to black composite plastic. This change was made from 2005 week number 47 (which can be identified from the data badge – See Figure 1 below) as part of the Company's commitment to product improvement. Risk assessments carried out at this time determined that there was no risk to safety, although there was the possibility of pin holes occurring due to erosion of the aluminium material. Many of the existing aluminium components have already been exchanged during annual servicing and maintenance of these products.

As part of the Baxi Heating's continuous risk monitoring process, a 2013 assessment introduced the possibility of a fault on fault situation where a gas valve was maladjusted resulting in incorrect combustion. The unusual combination of these factors occurring simultaneously has resulted in a reclassification of the risk to 'Serious', in accordance with RAPEX ARTICLE 11 of Directive 2001/95/EC⁽¹⁾.

Whilst the probability of this combination of factors occurring in the field is very low, Baxi Heating Ltd., considers that it is important to share this information in order to ensure optimum safety.

Immediate Action

Baxi Heating Ltd., will arrange for an engineer nominated by Baxi to supply and fit a replacement plastic flue connector completely free of charge to all affected boilers*. If the engineer identifies any significant additional repair requirements to the boiler, the customer will be given the opportunity to agree the cost prior to starting any further remedial work.

When undertaking work on this range of appliances, Gas Safe Registered Engineers are advised to pay particular attention to the following details as this issue may not be immediately apparent.

When attending a Powermax HE boiler first check to see if the serial number is in the identified range as listed in Table 1 (below). The serial number is on the data plate which is located as shown below (Fig 1) and contains two examples showing details of the year and week (YY WW) of production.

Note: Remember boilers produced after 2005 week number 46 are not affected.

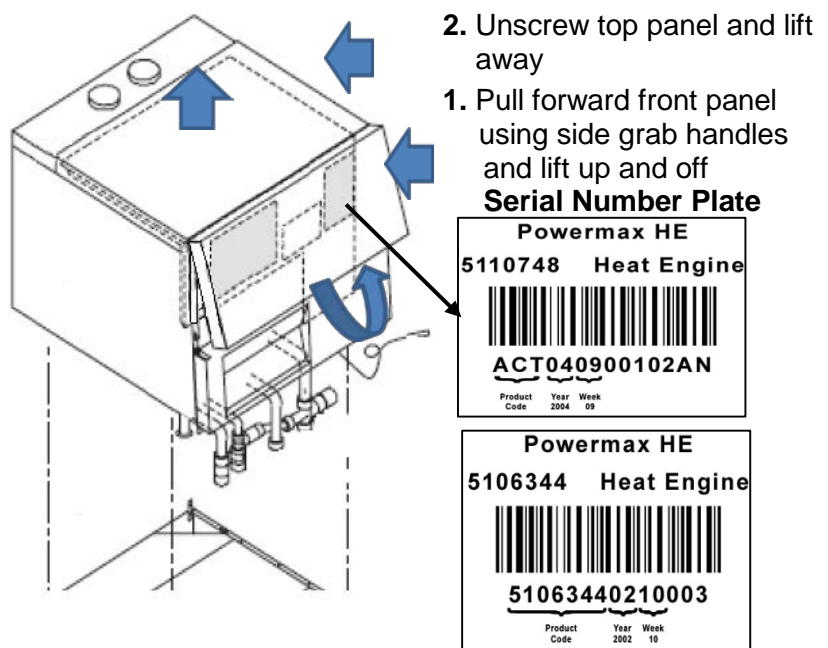
If the boiler is found to have been manufactured within the identified range, check to see if the flue gas/condensate connector material is of aluminium. It is possible that at some stage this component has already been exchanged for the black composite plastic type. If it's of the black composite type, **no further action** is required under this Safety Alert, **however**, all appliance checks in accordance with the Gas Safety (Installation and Use) Regulations (GSIUR) 26(9)⁽²⁾ must be completed and any subsequent actions applied as appropriate.

If the component is the aluminium type, follow the 'Inspection Procedure' and 'Further Actions' as listed below. Please inspect thoroughly even if there is no immediate sign of erosion.

Table 1 Powermax HE Affected Batch

MODEL	HE 85	HE 115	HE 150	
GC Number	4138915	4138916	4138917	Production Date
Product Codes	5106344	5106348	5106352	All 2001 & 2002
	5106346	5106350	5106354	
	MCD	MCF	MCH	All 2003 to 2004
	MCE	MCG	MCJ	
	MEL			
	5110748	5110748	5110748	All 2004 to and inclusive of wk 46 2005
	5110749	5110749	5110749	
	ACT	ACT	ACT	
ADA	ADA	ADA		

Figure 1. General Access



Inspection Procedure

- 1) The flue/condensate connector is located behind the heat engine at the rear of the appliance. Refer to Figure 1 for access.
- 2) The top of the flue/condensate connector can be viewed from the front of the boiler with the front and top panels removed as shown in Figures 2 & 3. If the boiler has already been fitted with a new flue gas/condensate connector this will be black composite plastic (Figure 4) rather than aluminium (Figure 2).

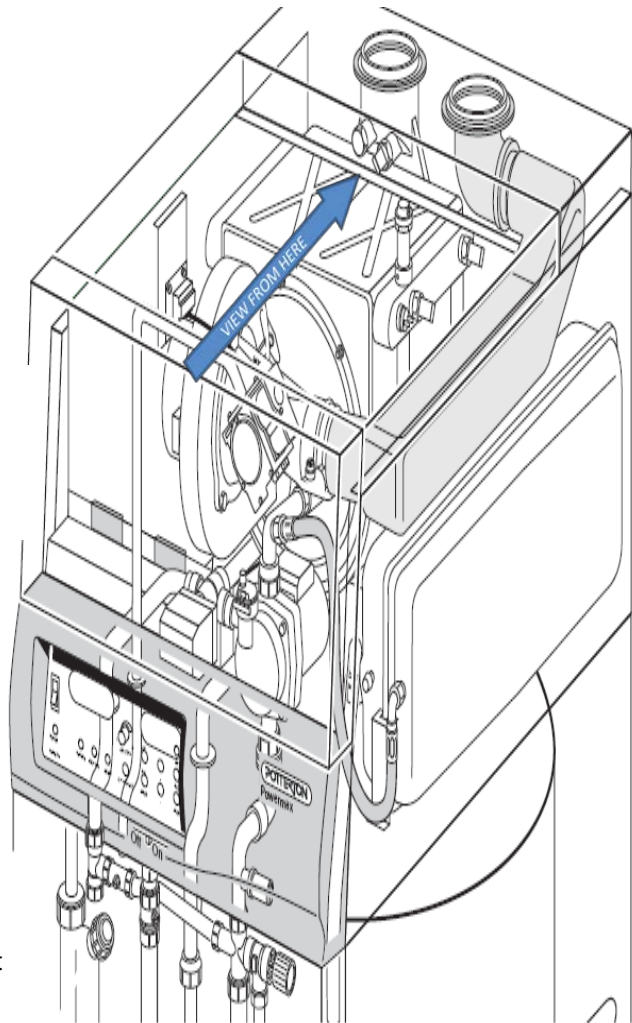


Figure 2
Aluminium flue/condensate connector attached to the rear of the heat exchanger (Photograph shows the view from the rear of the boiler)



Figure 4
Black composite plastic flue/condensate connector attached to the rear of the heat exchanger (Photograph shows the view from the rear of the boiler)

Figure 3
Location of condensate connector



- 3) If the component is the black composite plastic type **no further action** is required under this Safety Alert, **however** all appliance checks in accordance with GSIUR 26(9)⁽²⁾ must be completed and any subsequent actions applied as appropriate.
- 4) **If the component is aluminium** carry out a combustion analysis check by referring to the Installation & Service instructions for guidance. If the customer does not have the instruction booklet to hand, it can be found at: <http://www.partsarena.com/baxi>. A combustion test point is provided on the flue/condensate connector. Typical values to be expected are: **At maximum input:** CO < 80ppm & CO₂ < 9.5%. **At minimum input:** CO < 20ppm & CO₂ < 8.9%
- 5) If the levels measured are above these, the cause should be investigated and may indicate a defective component, lack of maintenance, maladjusted gas valve or flue issue. The appliance should be classified as 'Immediately Dangerous' until the cause of the incorrect combustion can be identified and corrected, in accordance with the Gas Industry Unsafe Situation Procedure GSIUR(3).(See Gas Safe Register **Technical Bulletin (TB) 001**).

Note: Erosion of the flue/condensate connector alone will not lead to adverse combustion performance/readings.

- 6) If the combustion performance is within satisfactory levels and a visual inspection reveals no evidence of damage to the appliance due to condensate leakage from the aluminium flue/condensate connector, the appliance can be left in operation. In these circumstances notice should be given to the customer that the appliance is within the

identified range, as covered by this Safety Alert, and **will require further action** as described below.

If there is evidence of condensate leakage and potential further damage to the appliance it should be classified as 'At Risk' until the corrective actions are undertaken, in accordance with GSIUR⁽³⁾.

For further technical assistance, please call the free Baxi Heating Ltd., dedicated Helpline on **0800 0288 299**.

Further Actions

Baxi Heating Ltd., **recommends** that all the aluminium components of this type are exchanged irrespective of their current condition.

Baxi Heating Ltd., requests that any Gas Safe registered engineer identifying an aluminium flue/condensate connector fitted on this range of boilers advises the customer to make arrangements for an engineer nominated by Baxi to supply and fit a replacement plastic flue/condensate connector free of charge*.

To arrange an engineer visit for the supply and fitting of the replacement component, they should visit www.potterton.co.uk/powermax or contact the Powermax HE free Helpline on 0800 0288 299.

In order to complete the free of charge upgrade*, the customer will be required to provide the following information (please assist where required, e.g. make a note of the serial number for them):

Product Information:

Boiler Serial number
Boiler Model

CONTACT DETAILS

Powermax HE free Helpline:
0800 0288 299 (Mon-Fri, 8am-5pm)

Installation Address Details:

Customer Name
Full Address
Contact Telephone Number
Boiler Model

Website:

www.potterton.co.uk/powermax

Baxi Heating Ltd., appreciates your anticipated assistance in this matter and wishes to thank you for participating.

***Only the component upgrade will be on a free of charge basis. In the event that installation, system or flue issues which require rectification are identified during the upgrade process, the required corrective actions will be notified to the customer, but the work will need to be agreed and done at the customer's cost.**

Bibliography

- (1) *RAPEX – An European Union (EU) rapid alert system that facilitates the Rapid Exchange of Information between Member and the Commission on measures taken to prevent or restrict the marketing or use of products posing a serious risk the health and safety of consumers.*
- (2) *The Gas Safety (Installation and Use) Regulations 1998*
- (3) *TB 001 - Gas Industry Unsafe Situation Procedure*

Note: Gas Safe Register Technical Bulletins and the Legislative, Normative & Informative Document List can be viewed at: <https://www.gassaferegister.co.uk/sign-in/> - login and visit the Technical Information area

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