Technical service bulletin
High Temperature Limit Validation Procedure

Buderus

Subject:

Model GB142/GB162 Series Boilers - CSD-1 field test procedure for high temperature limit validation to meet jurisdictional requirements.

Introduction

The GB142/GB162 boiler is protected against temperature issues through the UBA (in combination with the supply, return, and high temperature limit sensors that are part of the boiler). The UBA monitors a number of situations that are relevant to safe operation of the boiler including:

- Absolute sensor temperatures
- Maximum temperature difference between sensors
- Maximum temperature increases
- Minimum temperature decreases

The UBA also monitors the function of the sensors. For example, the UBA will respond when a sensor has broken down or when there is a short circuit situation. Generally a 4C (for UBA connection issue), 4Y, CY, 4U, CU, 4P, 4L (for supply, return, or high limit sensors) error code will display on the BC10 control. Refer to the Service Manual furnished with the GB142/GB162 boiler for details.

The method of operating the boiler using the boiler control logic (UBA) and internal temperature sensor for supply, return, and high limit have been tested and certified by CSA International.

Figure 1

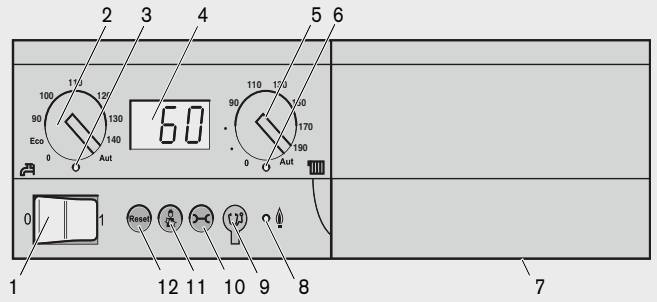


Fig. 1 Legend Logamatic BC10 Controller:

***1**: Main switch*

***2**: DHW temperature knob*

***3**: LED "DHW status"*

***4**: Display*

***5**: Space heating water temperature knob*

***6**: LED "Heating system status"*

***7**: Under the cover a RC system controller can be installed.*

***8**: LED "Burner Operation"*

***9**: Service Tool connector*

***10**: "Service" button*

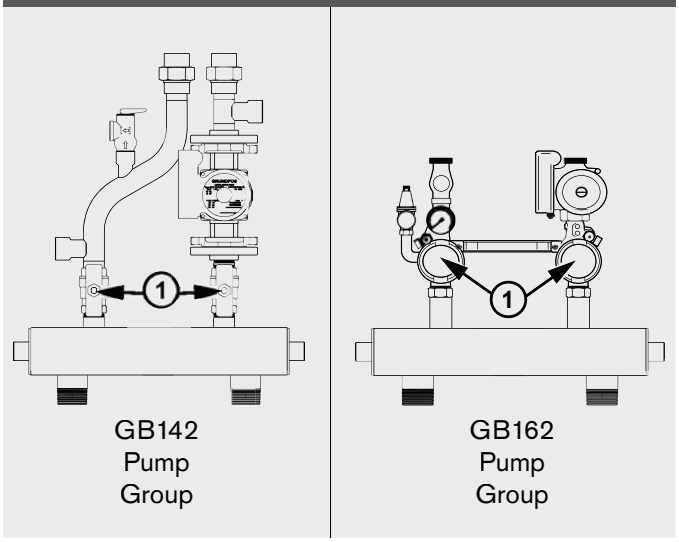
***11**: "Chimney sweep" button*

***12**: "Reset" button*

Instructions for High Limit Test

1. Run boiler at full load using the chimney sweep test mode ( ). Press and hold chimney sweep button until a decimal point appears in the lower right corner of the screen.
2. When the supply temperature has reached 176° F (80° C), close down the isolating valves in the pump manifold assembly under the boiler (Fig.2, pos.1).

Figure 2



3. After 3 to 5 seconds open them again, but only partially.
4. The boiler will then lockout-shutdown and show a 4A-218 or 4L-220 error code because of 'excessive supply temperature'. A 2P error code 'temperature increase of safety sensor too high' is also possible. Also when the boiler senses too high a temperature difference between the supply and return sensors that is will provide an error code.
5. When test is complete, press and hold chimney sweep button ( ) until the decimal point disappears in the lower right corner of the screen. Fully open the isolating valves in the pump manifold assembly and put the boiler put back into normal operation.

Buderus

Bosch Thermotechnology Corp.
50 Wentworth Ave
Londonderry, NH 03053
Tel: (800) 283-3787
Fax: (603) 965-7568
www.buderus.us