Operating Instructions

Low Emissions and High Efficiency Condensing Oil Boiler

6 720 615 062-00.1RS

DANGER!
If these instructions are not followed exactly, a fire or explosion may be caused with serious property damage or loss of life and serious injury.
Do not store or use gasoline or any other flammable liquids or vapors in the vicinity of this system or any other heating system.

The heating system must only be installed and serviced by a trained and certified technician.

Logano GB125 BE US/CA

For the owner and operator

Please read carefully prior to operating the boiler.

6 720 615 060 - 10/2007 US

Buderus

Contents

1 General safety instructions and explanation of symbols

1.1 Safety instructions

If you smell flue gases

- Switch off the boiler (→ page 9).
- Open windows and doors.
- Inform a trained and certified heating contractor.

Installation

- Correct and proper installation and adjustment of the burner and the controls are the fundamental requirements for safe and economical operation of the boiler.
- The boiler may only be installed by trained and certified heating contractor.
- Do not modify any parts that carry flue gases.
- **Never close off safety valves!**
  Water may escape from the safety relief valve when is being heated.

Maintenance and servicing

Heating systems should be regularly maintained for the following reasons:

– to achieve a high level of efficiency and to operate the system economically (low fuel consumption),
– to achieve a high level of operational reliability and a long service life,
– to maintain the cleanest possible combustion.

- **Recommendation for users:** sign a maintenance and servicing contract with a trained and certified heating contractor covering annual servicing and condition-based maintenance.
- Servicing and repairs may only be carried out by a trained and certified heating contractor.
- Have any faults immediately rectified in order to prevent damage to the system.
- The operator is responsible for the general and environmental safety of the heating system.
- Use only genuine spare parts. Damage caused by the use of parts not supplied by Buderus is not covered by the Buderus warranty.

Danger of failure to consider your own safety in an emergency such as a fire

- Never put yourself at risk of fatal injury. Your own safety must always take the highest priority.

Dangers posed by explosive and combustible materials

- Any work on components that carry oil may only be carried out by a trained and certified heating contractor.
- Do not use or store combustible material (paper, thinners, paints, etc.) in the boiler room.
- Maintain a clearance of 16 inches from the boiler.

Risk of flue gas poisoning. Insufficient ventilation may cause dangerous flue gas leaks.

- Never close off or reduce the size of air inlet or outlet vents.
- The boiler must not be operated until the obstruction has been removed.

Risk of water damage

- Do not use the appliance if any part of it has been under water.
- Call in a trained and certified heating contractor immediately to check the appliance and replace any electrical or fuel carrying components that have been under water.

Combustion air

- Keep the combustion air free of corrosive substances (e.g. halogenated hydrocarbons that contain chlorine or fluorine compounds)to prevent corrosion.

Instructing the customer

- The operator must read the information on how to operate the boiler and have the heating contractor explain details.

Other important information

- The flue system must be inspected once a year. Have all parts replaced that show any signs of damage from corrosion or other causes.
- The boiler must be serviced by a trained and certified heating contractor once a year. Servicing must include the burner, the entire venting and air supply system and any air inlet/outlet vents. All parts that show any signs of damage from corrosion or other causes must be replaced.

1.2 Explanation of symbols

Warnings are indicated by a warning triangle and a grey background.

Signal words are used to indicate the seriousness of the ensuing risk if measures for minimising damage are not taken.

- **Caution** indicates that minor damage to property may occur.
- **Warning** indicates that minor personal injury or severe damage to property may occur.
- **Danger** means that severe personal injury may occur. Very serious cases may result in death.

Notes are identified in the text by this symbol. They are bounded by horizontal lines above and below the text.

Notes contain important information in cases where there is no risk to the user or the appliance.

2 Product description

To ensure safe, economical and environmentally friendly use of the heating system, we recommend that you carefully read the safety instructions and operating instructions.

These instructions provide the operator of the heating system with an overview of the use and operation of the boiler.

2.1 Intended use

The boiler is designed for central heating and indirect heating of domestic hot water (e.g. with use of a hot water tank), for instance in single family homes or multi family buildings. Any other purpose is considered improper use.

2.2 Certification and testing mark

This appliance has been tested and certified for the US and Canadian markets.

2.3 Disposal

- Dispose of boiler packaging in an environmentally responsible manner.
- All heating system components that have to be replaced should be disposed of in environmentally responsible manner at an authorized disposal site.

2.4 Product description

This unit is a condensing boiler equipped with an oil power burner and modulating control of the boiler water temperature.

The boiler consists of:
- Logamatic controls
- Boiler jacket
- Boiler vessel with insulation
- Burner
- Secondary (condensing) heat exchanger system

The controls monitors and controls all electrical boiler components.

The boiler jacket prevents heat loss and acts as a noise insulator.

The boiler heat exchanger transfers the heat generated by the burner to the boiler water. The insulation prevents energy loss.

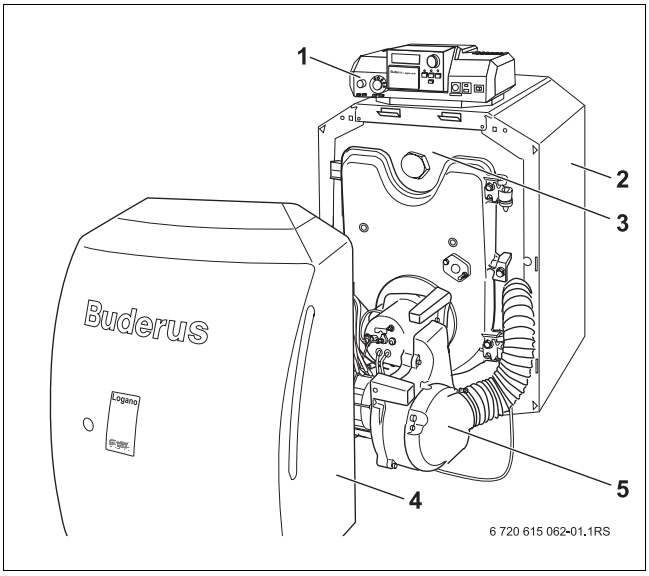

Fig. 1 Boiler with burner

1 Logamatic controls
2 Boiler jacket
3 Boiler vessel with insulation
4 Burner hood
5 Burner

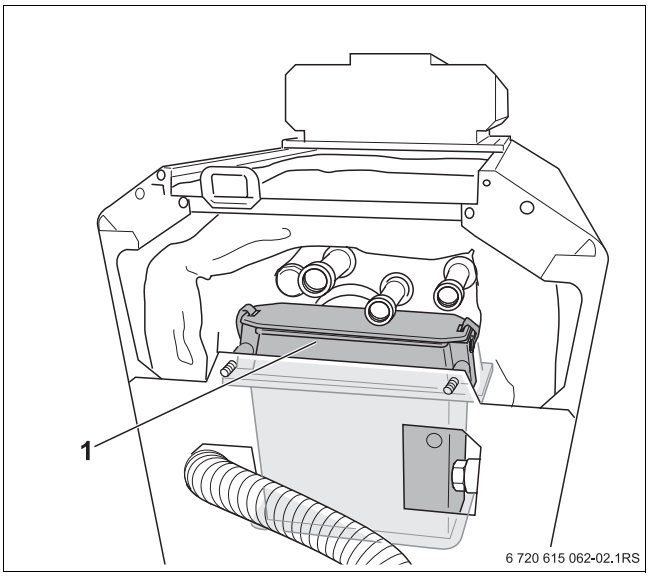

Fig. 2 Rear view with secondary (condensing) heat exchanger (thermal insulation not shown)

1 Secondary (condensing) heat exchanger system

3 Commissioning the heating system

3.1 Starting up the heating system

Before switching on the power ensure that

– the operating boiler water pressure is sufficient,
– the fuel supply has been turned on at the main shut-off valve, and
– the heating system emergency shutoff switch is in the ON position.

3.2 Checking the operating pressure, topping off the boiler water and bleeding the system

The boiler water may loose a substantial amount of volume in the first few days due to the release of gas content. This causes air pockets to form and make noise.

- With new heating systems, check the operating pressure daily at first, topping off the boiler water and bleeding the system as needed.
- Later on, check the operating pressure monthly, topping off boiler water and bleed as needed.

3.2.1 Checking the operating pressure

Your heating contractor will have set the system to the required operating pressure of at least 15 psi (1 bar) and entered the setting in tab. 1, page 8.

- Read the current operating pressure and temperature from the temperature/pressure gauge.
- If the temperature/pressure gauge needle drops below the minimum pressure of 15 psi, the operating pressure is too low. Add water to the system.

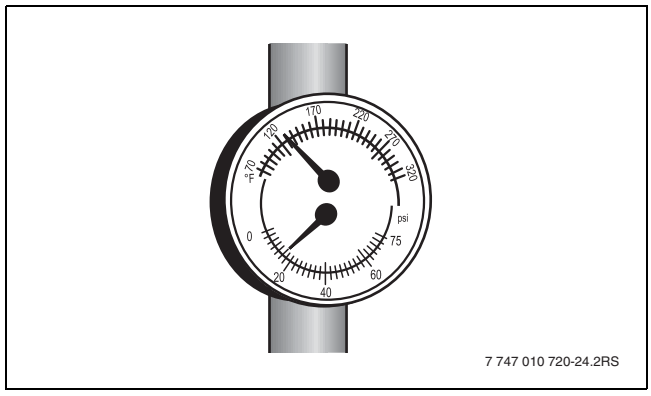

Fig. 3 Pressure/temperature gauge

3.2.2 Topping off the boiler water and bleeding the system

Ask your heating contractor to show you where the boiler fill & drain valve for topping off the heating system is located in your heating system.

Warning: Health risk from contaminated domestic water.

- It is imperative that you observe all applicable regulations and standards regarding prevention of domestic water contamination.

Caution: Risk of damage to system due to temperature stress.

If you fill the heating system when it is hot, the resulting temperature stress can cause stress cracks. The boiler will then leak.

- Only fill the heating system when cold (the boiler temperature should be no more than 100 °F (38 °C)).

- Slowly fill the heating system. Observe the pressure gauge (pressure/temperature gauge) while doing so.
- Close the boiler fill valve once the required operating pressure has been reached.
- Bleed heat exchanger using the bleed valve [1].
- Bleed the system via the radiator bleed valves (if applicable).
- Top off with water if the pressure drops as a result of bleeding the system.

Caution: Risk of system damage from frequent introduction of fresh water.

If you have to top off the boiler water frequently, the heating system may suffer damage from corrosion or scale buildup, depending on the water quality.

- Ask your heating contractor if the local water can be used untreated or whether it needs to be treated.
- Notify your heating contractor if you find you need to top up your heating system frequently.

Operating pressure	
Design operating pressure (optimum setting)	_____ psi
Maximum operating pressure (standard = 30 psi)	_____ psi

Tab. 1 Operating pressure (entered by system installer)

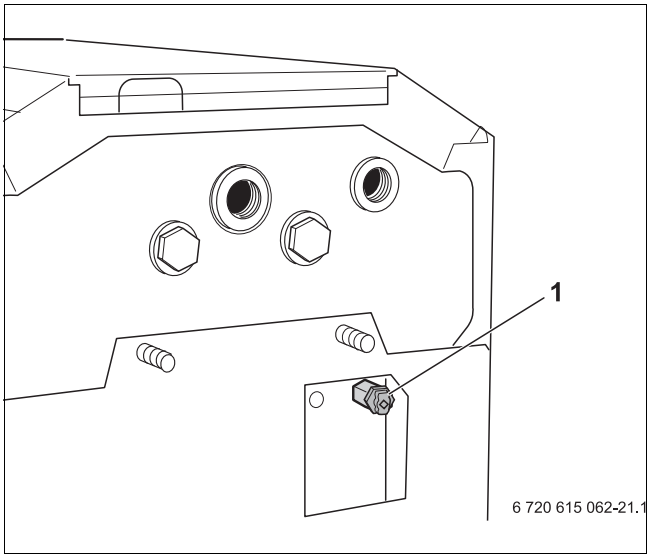

Fig. 4 Bleeding the secondary (condensing) heat exchanger

1 Bleed valve on heat exchanger

3.3 Starting the boiler system using the Logamatic 2107 Controls

Turning the Logamatic 2107 controls on automatically places the burner on standby. The burner will then be fired upon a heat demand. For more information, consult the instruction manual for the Logamatic 2107.

- Set the boiler temperature control [1] to "AUT" (Automatic mode). In that setting, the controls manages all functions of the boiler.
- Set the ON/OFF switch [2] to position "I" (ON).

Information on operating the system, e.g. setting the temperatures, can be found in the documentation of the Logamatic 2107.

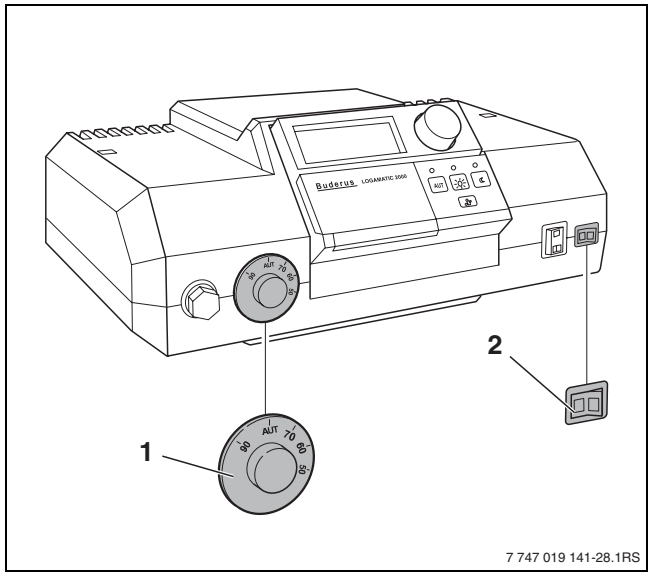

Fig. 5 Switching on the Logamatic 2107 controls

1 Boiler manual thermostat
2 ON/OFF switch

3.4 Shutting down the heating system

- Turn off the ON/OFF switch on the controls (position "0"). This switches off the boiler and all its components (such as the burner).
- Shut off fuel supply by closing main valve.

Caution: Risk of system damage from freezing.
If the heating system has been switched off, it may freeze in cold weather conditions.

- Leave the heating system running as much as possible.
- Protect the heating system from freezing by draining the heating system and hot water pipes at the lowest point.

3.5 Action in an emergency

In the event of an emergency, e.g. a fire, proceed as follows:

- Never put yourself at risk of fatal injury. Your own safety must always take the highest priority.
- Shut off fuel supply by closing main valve.
- Isolate the heating system from the mains power supply by disengaging the heating system circuit breaker or emergency shutoff switch.

3.6 Operating tips

The right fuel

To ensure it operates properly, the heating system requires fuel of the correct type and grade.

Caution: Risk of system damage from use of incorrect fuel.

- Only use the fuel specified. The correct fuel is entered in tab. 2 by the heating contractor.

Only use this fuel type **#2 Fuel oil ASTM D396-05 Type 2** **Approved for B5 fuel oil** _____
  _____ Stamp/Date/Signature

Tab. 2 Fuel to be used (entered by heating system installer)

Never use gasoline, kerosine, crank case, or other fuels!

Information on the boiler room

Caution: Risk of boiler damage from contaminated combustion air.

- Keep the supply of air for combustion free of corrosive substances (e.g. halogenated hydrocarbons that contain chlorine or fluorine compounds). In that way you will prevent corrosion.
- Prevent heavy accumulations of dust.

Caution: Risk of system damage from flooding.

- In the event of risk of flooding, disconnect the boiler from its power supply and shut off the fuel supply before water enters the boiler room.
- After the flood has subsided, ask your installer to check the heating system before starting it up again.
- All parts that have been in contact with water must be replaced by a trained and certified heating contractor.

3.7 Why is regular servicing important?

Heating systems should be regularly maintained for the following reasons:

– to achieve a high level of efficiency,
– to operate the system economically (low fuel consumption),
– to maintain the cleanest possible combustion
– to ensure reliable operation and a long service life.

Caution: Risk of damage to system due to lack of or inadequate cleaning and maintenance.

- Have your heating system inspected, cleaned and maintained by a trained and certified heating contractor once a year.
- We recommend you sign a contract covering an annual inspection and condition based maintenance.

4 Troubleshooting

There are two types of fault:
– Burner faults and
– Control and heating system faults.

If there is a burner fault, the fault indicator lamp on the burner will light (→ burner documentation). Such faults can generally be reset by pressing the reset button on the burner. Controls and heating system faults are indicated on the display of the controls. More detailed information can be found in the documentation of the Logamatic 2107 controls.

Correcting burner faults

Caution: Risk of burner damage from frequent pressing of the reset button.
If the reset button is pressed more than 3 times in quick succession the ignition transformer can be damaged.

- Do not press the reset button more than three times in a row.
- If the fault does not reset after the third attempt, try to localize and rectify the fault with the help of the burner documentation.
- Notify a a trained and certified heating contractor.

- Press reset button on burner.

Caution: Risk of system damage from freezing.
The heating system can freeze up in cold weather if it has been disabled due to a fault shutdown.

- Rectify the fault immediately and restart the heating system.
- If this is not possible, protect your heating system from freezing by draining the heating system and hot water pipes at the lowest point.

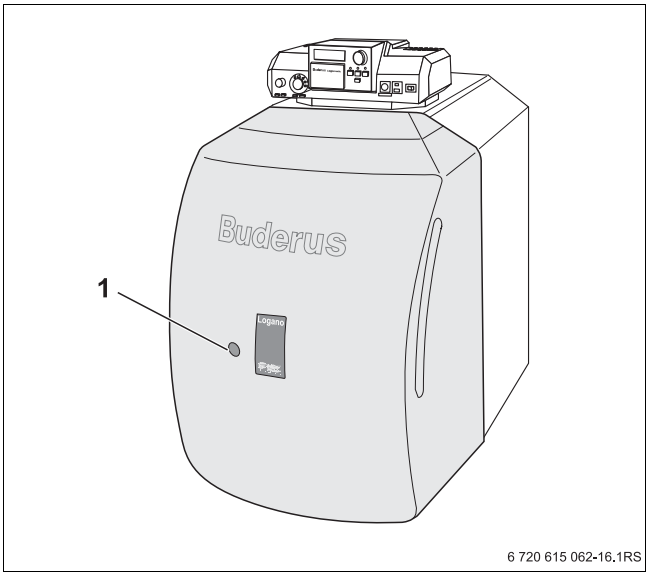

Fig. 6 Resetting the burner

1 Reset button

Bosch Thermotechnology Corp.
50 Wentworth Avenue
Londonderry, NH 03053
Tel. 603-552-1100
Fax 603-584-1681
www.buderus.net

Products manufactured by
Bosch Thermotechnik GmbH
Sophienstrasse 30-32
D-35573 Wetzlar
www.buderus.de

Buderus