A-CLASS

GulfStream

HIGH EFFICIENCY HEATING/HOT WATER APPLIANCE

USER INSTRUCTIONS

Model Ref	Sedbuk Band	Maximum Space Heating Load (kW)	Heating System Type
GS$^{A\text{-}CLASS}$ 12/OV	A	10.0	Open vented heating system
GS$^{A\text{-}CLASS}$ 12/SS	A	10.0	Sealed heating system
GS$^{A\text{-}CLASS}$ 20/OV	A	18.0	Open vented heating system
GS$^{A\text{-}CLASS}$ 20/SS	A	18.0	Sealed heating system
GS$^{A\text{-}CLASS}$ 30/OV	B	26.0	Open vented heating system
GS$^{A\text{-}CLASS}$ 30/SS	B	26.0	Sealed heating system
All models are WRAS approved and listed.			

ENERGY EFFICIENCY™
RECOMMENDED

CE

benchmark™

The code of practice for the installation, commissioning & servicing of central heating systems

THE GAS SAFETY (INSTALLATION AND USE) REGULATIONS
''In your own interest, and that of safety, it is law that all gas appliances are installed by competent persons, in accordance with the above regulations. Failure to install appliances correctly could lead to prosecution.''

In the interest of continuously improving the GulfStream A-Class range. Gledhill Water Storage Ltd reserve the right to modify the product without notice and in these circumstances this booklet which is accurate at the time of printing should be disregarded.

WARNING

- The appliance should be inspected and serviced regularly in general once a year. It is the law that any service work must be carried out by a competent person such as British Gas or other CORGI registered personnel.
- The Condensate outlet at the base of the appliance must not be blocked or modified.
- There are no user adjustable parts inside the appliance. Tampering with sealed components will invalidate warranty and could also damage the appliance and make it unsafe to use.
- If it is known or suspected that a fault condition exists on the appliance it must be corrected by a competent person.

USER INSTRUCTIONS

Issue 3 : 06-07

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INTRODUCTION

Congratulations ....

The house you have chosen is fitted with a Gledhill GulfStream A-Class. We are sure that it will give you many years of pleasure and comfort. We recommend that you read these operating instructions carefully, as they contain a lot of important information. Put away the operating instructions carefully, next to the appliance for example, so that they are always within reach.

Should you have any questions after reading these OPERATING INSTRUCTIONS, please consult the CUSTOMER CARE officer of your chosen developer.

Product description

The Gledhill GulfStream A-Class is a continuously modulating condensing (High Efficiency) central heating water heater with a 100 litre hot water storage tank. You have made an excellent choice as this will heat your home comfortably and economically without harming the environment and provide you with ample hot water for use in your kitchen, shower or bath.

The appliance is very economical in energy consumption and heats your home with a usable output of well over 90% i.e **for every £100 spent on gas an older boiler might convert £70 into heat, whereas the condensing GulfStream A-Class can convert £90 into heat.** The GulfStream burns natural gas in an environmentally friendly manner so that the discharge of harmful substances is kept to a minimum. To you as a consumer this implies a cleaner environment in addition to lower gas bills.

Warning!

- **You are not permitted to apply changes to the unit and discharge system. Neither must the condensation discharge be changed or drained.**

- **If the appliance air intake is in the loft space then:**
- The loft must not be used as living area.
- The space around the air inlet terminal must be kept clear of any obstruction and loft ventilation must not be blocked.
- If it is known or suspected that a fault condition exists on the appliance, it must be corrected by a competent person.

1. HOW THE GULFSTREAM A-CLASS WORKS

Central to the appliance is an aluminium condensing heat exchanger. The heat exchanger is matched to the 100 litre copper hot water thermal store. This construction makes the central heating and hot water function into one very compact appliance.

*** Central heating**

The central heating water is pumped straight from the boiler around the heating system/radiators in the normal way when there is a demand for heating from the programmable room thermostat. The central heating pump runs automatically when heat is demanded.

The electronic controller runs the central heating pump for a very short time at intervals through the summer months to prevent it seizing up.

*** Hot water**

When a hot water tap is opened, the primary water from the thermal store is pumped through a PLATE HEAT EXCHANGER to instantaneously heat the mains water flowing through the same plate heat exchanger.

This domestic water is of high quality. It has not been stored and is therefore of the same standard as that supplied from the mains to your cold drinking tap. This water is delivered at approximately 55°C to comply with the European safety regulations.

The hot water in the thermal store will normally be sufficient to supply the hot water requirements. However, if a large volume of water has been used and the temperature of the water starts to fall this can easily be increased by turning down the flow of water at the tap.

*** The 'Continuous Comfort' option**

When a demand is made for hot water and central heating at the same time, the appliance will generally deal with both. In this situation approximately 8-29kW will be available for heating the home, depending on the hot water demand. The unique Gledhill microprocessor monitors the demand and balances the demand whilst giving priority to hot water.

*** The High Efficiency operation**

A fan blows the combustion gases in the heat exchanger from the top to the bottom through the fins of the heat exchanger. They are then cooled down in such a way that some of the water vapour present in these gases condenses in the lowest part of the heat exchanger. This releases an extra quantity of latent heat, which takes the efficiency well over 90%. The condensation water formed is discharged to drain via the trap provided in the appliance.

*** Room sealed**

The GulfStream A-Class is of the 'room sealed' type. This implies that a fan takes the air for the combustion process from outside and that the combustion gases are then blown back outside the dwelling through the terminal. The room sealed design and the special construction of both the heat exchanger and the burner necessitate the application of a fan and hence it is an essential part of the appliance.

*** Cleaner combustion**

A specially designed pre-mix burner is fitted into the top of the heat exchanger. The gas-air mixture is completely mixed before arriving at the burner. The result of this is a very clean combustion and NOx emissions are only 30mg/kwh which is well within the EC requirements of 70mg/kwh for Class 5 appliances.

*** The regulating system**

The appliance is controlled by an electronic regulating unit with a display which shows operating and fault conditions.

The appliance also has a continuously modulating burner regulating system and the regulating unit changes the fan speed to match the load on the appliance. This change in fan speed is automatically sensed by the gas/air ratio controller to maintain clean combustion. This provides perfect output control for both the central heating part and the hot water.

*** Most Efficient Start**

The boiler always starts at pre-set low firing rate and then modulates to match the total heat demand. Therefore the boiler always operates efficiently without unnecessary cycling.

*** The 'Switch'**

Your GulfStream High Efficiency Appliance is fitted with a **TOTALLY UNIQUE ELECTRIC EMERGENCY BACK-UP SYSTEM FOR BOTH HEATING AND HOT WATER.**

If you lose heating and/or hot water at any time simply select the switch backup on the front panel. **IN ALL CASES YOU MUST THEN CALL YOUR SERVICE ENGINEER AND THE UNIT MUST BE RESTORED TO THE ''NORMAL OPERATION" AS QUICKLY AS POSSIBLE.**

CARE SHOULD BE TAKEN WHEN YOUR GULFSTREAM IS OPERATING UNDER SWITCH CONDITIONS AS THE HOT WATER TEMPERATURE WILL BE HIGHER THAN ITS NORMAL OPERATING CONDITION.

2. OPERATING THE GULFSTREAM

Your GulfStream A-Class has been designed to operate at its most efficient when left ON DEMAND at all times which will allow you to have hot water 24 hours a day. The programmer and room thermostat, as in a traditional system, controls the central heating and hot water. With the two channel clock you can programme up to three on/off times per day for the heating and hot water and the two systems can be operated independently.

*** The programmer and room thermostat**

The temperature of the central heating is also controlled by the programmer and room thermostat*. You can set this to provide the temperature you require. The room thermostat switches on the GulfStream, which in turn automatically starts the electronic regulating unit. The appliance will then use the radiators to heat the home until the desired temperature is reached.

The room thermostat then switches the appliance off. The room thermostat will then periodically turn the appliance on and off so that the home remains constantly at the desired temperature.

*** other arrangements such as thermostatic radiator valves are also used. In many cases these are used jointly to provide the most flexible and efficient way for you to operate your central heating system.**

*** Lighting Instructions**

1. Turn on the gas and electrical supplies to the appliance
2. Ensure the appliance is switched ON.
3. Ensure all external controls are set to the ON position.

*** Lighting Sequence**

1. The appliance fan will start.
2. After a short period the ignition sparking will commence.
3. The main burner will light.
4. Indication of the appliance status is shown on the front panel.

*** Heating/Hot water failure**

If the boiler does not fire and the heating and/or hot water is lost first check:

1. That the room thermostat is set high enough.
2. That the programmer and room thermostat is in an ON timed period.
3. That power is being provided (indicated by 'ON' light) and that the gas supply is available.
4. That the water pressure is between 1 and 2 bars (on the gauge on the front of the appliance) if the appliance is used in conjunction with a sealed heating system.
5. That the automatic air vent on the top of the appliance is not trapping air. Check by loosening cap to release any air.
6. That the ignition reset button (ignition lockout indicator light on) and does not require resetting (flashing red neon).

IF THE APPLIANCE DOES NOT UNLOCK WAIT 15 SECONDS AND TRY AGAIN. IN CERTAIN CIRCUMSTANCES LOCK OUTS MAY OCCUR, IT IS ONLY NECESSARY TO CALL AN ENGINEER IF THIS HAPPENS ON A REGULAR BASIS.

* **Shutting down the central heating circuit**

1. Leave the appliance switched on.
2. Switch the heating off or reduce the temperature at the programmable room thermostat to a minimum.

The tap water will automatically be kept at the right temperature provided that the appliance is left switched on.

RECOMMENDATION

We recommend not setting the room thermostat lower than 15°C during the winter months with all radiator valves fully or partially open.

* **Emergency Shutdown**

1. Turn off the electrical supply to the appliance at the fused isolator switch.
2. Turn off the gas to the appliance at the gas meter.

3. FILLING, DE-AERATING AND COMMISSIONING

The GulfStream models have two possible methods of ensuring that the heating system remains full and under pressure.

* **Sealed central heating system**

Your GulfStream appliance is provided with a device which will automatically top up the pressure in the sealed heating system. For this reason any leaks which become apparent should be attended to as soon as possible.

* **Open vented central heating system**

The feed and expansion cistern automatically keeps the heating circuit full of water.

NOTE: DURING THE FIRST FEW WEEKS AIR WILL BE RELEASED FROM THE FRESH WATER USED TO FILL THE SYSTEM. CHECK THAT THE AUTOMATIC AIR VENT ON THE TOP PANEL OF THE UNIT IS WORKING CORRECTLY BUT NOT LEAKING WATER. CHECK ALL RADIATOR VENTS ON THE SYSTEM AND RELEASE AIR IF NECESSARY.

4. FROST PROTECTION

1. The GulfStream A Class is provided with inbuilt frost protection and is therefore suitable for fitting in an unheated space (e.g. a garage). However if parts of the system run in unheated spaces then a frost thermostat must be fitted to protect this part of the system as per installation instructions.

2. To protect the system from frost damage in winter periods it is recommended that if the dwelling is left unoccupied then:

- All thermostatic radiator valves must be set at least to frost setting (marked ✸ or 5°C.)
- The room thermostat is set between 10-15°C.
- The heating is set to 'continuous' on the programmable room thermostat.

5. INSPECTION AND REGULAR SERVICING

To ensure continued efficient operation of the appliance it is recommended that it is checked and serviced as necessary at regular intervals.
The frequency of service will depend upon each particular installation conditions and usage but in general once a year should be adequate.

It is the law that any service work must be carried out by a competent person such as British Gas or other CORGI registered personnel.

The manufacturer offers an Annual Service Contract - please see the separate Service Agreement form which must be completed and returned if you wish to take advantage of this service.

The casing can be cleaned with a non-abrasive cleaning agent.

6. WHAT TO DO IF A MALFUNCTION OCCURS

If the boiler does not fire and heating and/or hot water is lost, first check and carry out the recommended action listed on page 3 - Heating/Hot water failure.

In certain circumstances, (after commissioning or after a drain down for example) lock-outs do occur. It is only necessary to call a service engineer if this happens on a regular basis.

If the appliance still does not fire, turn to EMERGENCY ELECTRIC HEATING/HOT WATER AND CALL FOR A SERVICE ENGINEER - See Section 1 - 'Switch'.

NOTE: IN A LARGE HOUSE IN COLD WEATHER IT WILL BE NECESSARY WHEN OPERATING IN THE EMERGENCY SWITCH MODE TO ISOLATE RADIATORS IN NON ESSENTIAL ROOMS BECAUSE THE ELECTRICAL CAPABILITY IS LESS THAN THE GAS. THE EMERGENCY SUPPLY SHOULD HOWEVER GIVE BACKGROUND HEATING IN ESSENTIAL AREAS AND HOT WATER UNTIL REPAIRS ARE MADE.

- *If the store overheat thermostat has tripped then this is indicated on the front panel (page 6). The store overheat is non user resettable and a service engineer should be called.*

In the case of the GulfStream range of products Gledhill guarantees the heat exchanger and the thermal store for material and construction faults and all other parts for two years. This period is calculated from the date of purchase.

This guarantee implies that the buyer of this appliance is entitled to free delivery of the part to be replaced. Your installer may charge for the costs of dismantling and fitting the defective part.

Repairing or replacing parts during the guarantee period does not extend the length of the guarantee. Gledhill gives a three-month guarantee on replacement parts. Parts or appliances sent to the factory for repair or replacement must always be sent postage paid.

Defects caused by corrosion - both internally and externally - of any nature whatsoever, whatever their cause, and defects resulting from scale deposits are not covered by the guarantee.

Secondary damage, including water damage resulting from the appliance leaking, loss of earnings resulting from the failure of the appliance to perform correctly, fire, legal liability of the user to third parties and so on, do not come under the guarantee.

The right to assess guarantee claims is reserved to Gledhill, who must always be given the opportunity of inspecting the appliance/damage on site.

The provision of service and the execution of this guarantee is the responsibility of the installer.

The user must operate the appliance in accordance with these USER INSTRUCTIONS. The guarantee becomes null and void if the appliance is used incorrectly or in the event of proven negligence or incorrectly implemented repairs or failure to carry out the recommended inspection/maintenance.
The guarantee also becomes null and void if changes are made to the appliance without our knowledge. The same applies if the manufacture number on the appliance is removed, crossed out or made illegible.

Proof of adequate commissioning/maintenance must be entered by a competent person in the 'Benchmark' log book provided with the unit.

Repairs should be carried out by a recognised installer. Exclusively Gledhill parts must be used.

The annual inspection and maintenance must be carried out by a recognised installer in accordance with the maintenance advice provided by Gledhill.

If a defect occurs the appliance will be assessed as it was originally set up and connected.

7. TECHNICAL DATA

All models are supplied with a 9kW electric boiler for emergency backup heat source. Fused internally at 5 amp (gas circuit) and 2 x 25 amp (electric boiler circuit). A 230V~ 50 Hz electrical supply is required fused at 45 amp direct from a consumer unit.

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The unique SWITCH Emergency back-up system

This unit has an emergency electric back-up system, for heating and hot water in the heating season or hot water only in the summer.

If the boiler develops a fault proceed as follows:

1. If the red light is flashing
   a) Press button 1 to reset and return to gas boiler operation.
   b) If red light switches off - the fault has been cleared.
   c) If red light flashes again after 2 minutes - the fault has not been cleared. Go to 2 below.
2. If the red light is still flashing
   a) Press button 2.
   b) If red light switches on permanent - the 'Switch' electric backup has been selected.
   c) If red light continues flashing - 'Switch' electric backup cannot be used.

* Call service engineer if the boiler has not reset to gas boiler operation after 2 attempts.

In all Gledhill products there is no release of ozone depleting substances or harmful emissions.

ON: Control circuit power on

OFF: Gas boiler burner off
FLASHING: Gas boiler in ignition phase
ON: Gas boiler burner on

OFF: Gas boiler in standby mode
FLASHING: Gas boiler fault (see opposite)
ON: 'Switch' electric backup boiler selected (see opposite)

BUTTON 1: Used to reset Gas Boiler and clear faults

BUTTON 2: Used to select 'Switch' electric backup

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BREAKDOWN / SERVICE

On expiry of your initial warranty period, Gledhill Response Limited would be pleased to provide further customer support with a range of services including:

- **annual servicing and safety checks**
- **expert response to 'out of warranty' breakdowns at fixed charges**
- **low cost annual repair and maintenance contracts from as little as £75 per year**

Please ring 08445 679898 or see www.gledhill.net for further details.

Gledhill Response
Service, Care and Maintenance