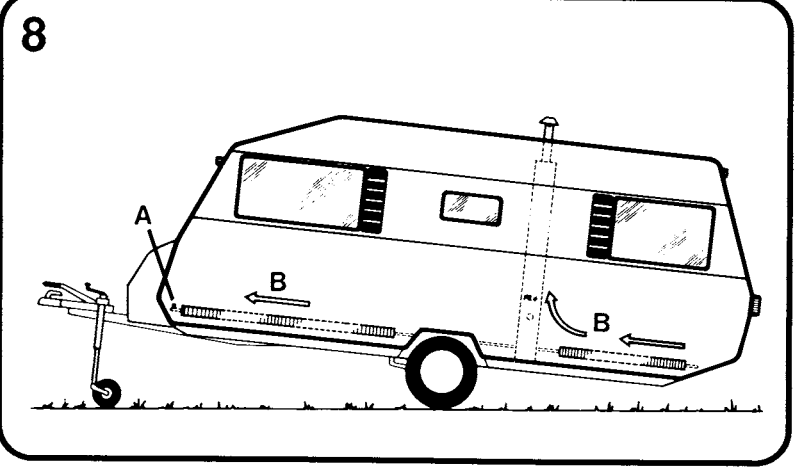
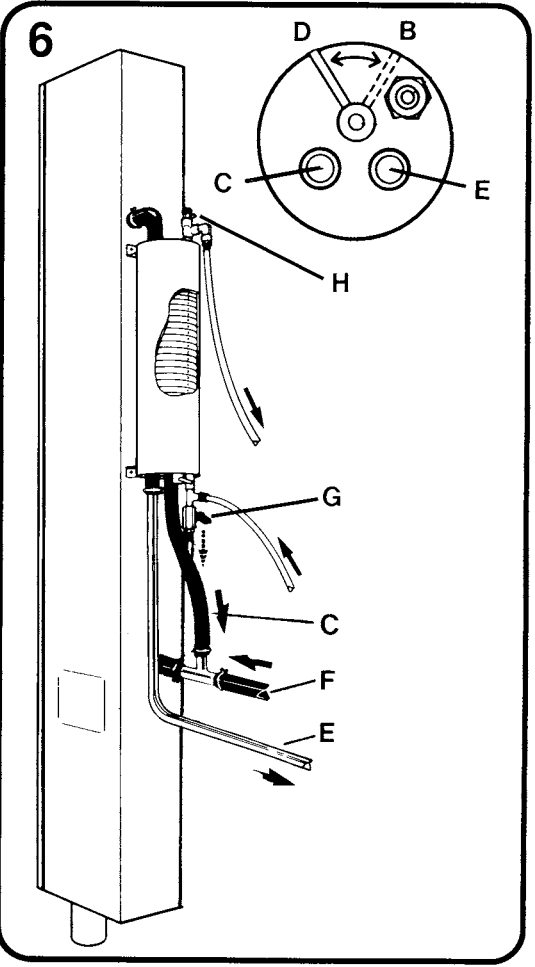
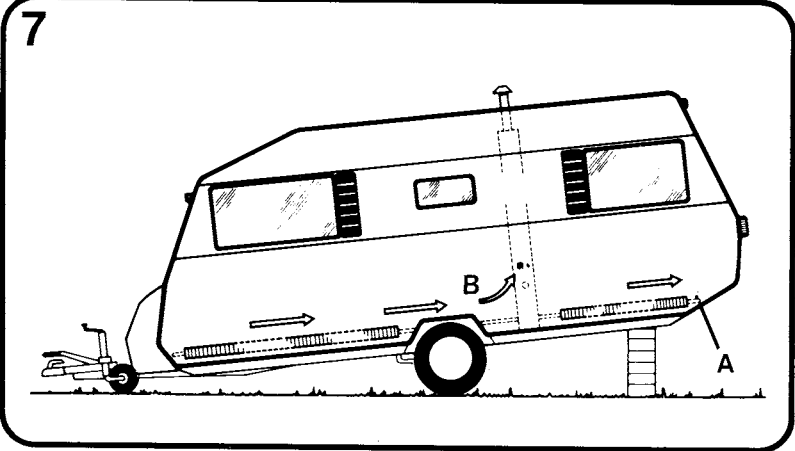
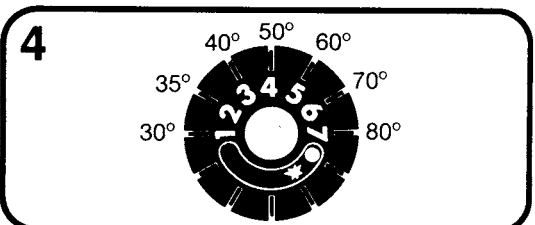
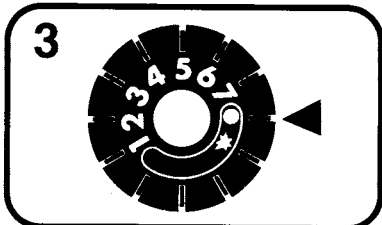
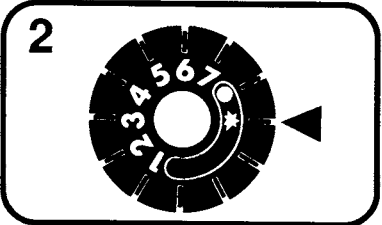
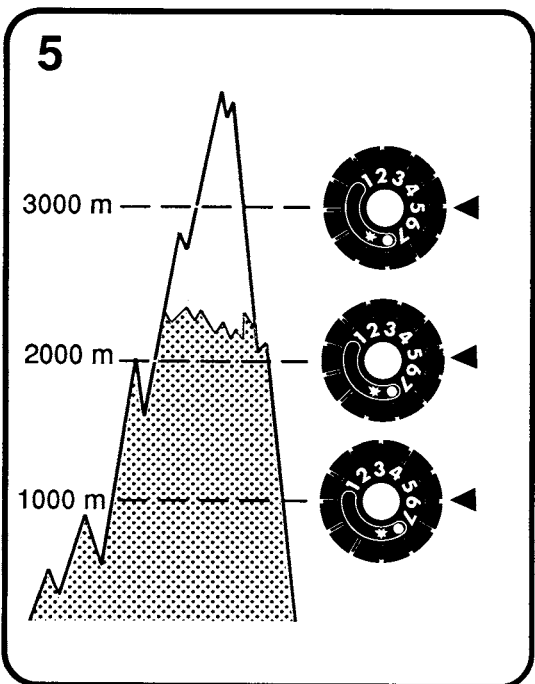
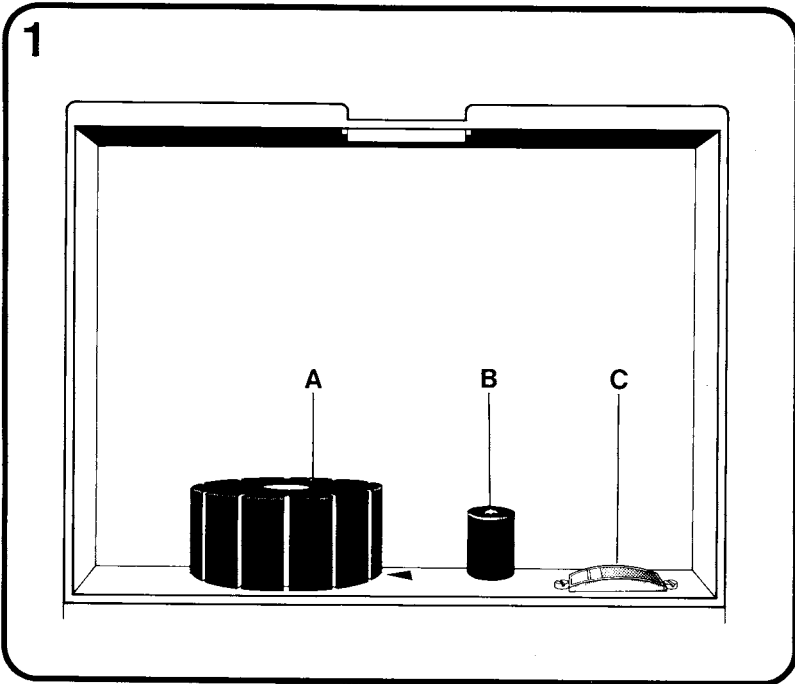


INSTRUCTIONS FOR USE

COMFORT
2920



//Alde
INTERNATIONAL AB



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Data plate and production number are located inside the metal shell beside the expansion vessel.

1:0 How the boiler is constructed

The boiler operates with what is known as constant temperature, i.e. there is always heated liquid in the boiler to circulate in the system when the room thermostat calls for heat. In other words there is no time lag when heat is most needed.

There is an inlet pipe in the bottom of the boiler which leads air to the combustion chamber. The gas valve and the burner assembly are attached to an easily removable plate screwed to the combustion chamber at the bottom of the boiler. The water jacket, which consists of an inner and an outer pipe, is located above the combustion chamber. The space between these pipes constitutes the reservoir. Inside the inner pipe there is a flame damper which consists of a folded sheet of metal. Its task is to convey the hot exhaust gases from the burner out towards the water jacket so that the water is heated. From the top of the water jacket, a pipe goes up to the expansion vessel. In the expansion vessel there is a 12-volt pump which circulates the heated liquid in the system. On the front of the boiler is the control panel with thermostat knob, piezo button and pilot light indicator gauge. At the top of the boiler there is a terminal block for making the electrical connection to the boiler. Beside the boiler, a ventilation duct is attached that takes in fresh air from outside and conveys it into the boiler but outside the combustion part itself. The fresh air is heated by the body of the boiler and convected through the ventilation grille in the front panel out into the room.

1:2 Technical data

Gas: Butane/Propane

Power: 6.7 kW

Gas consumption: Max 465 g/h

Gas pressure: 28 mbar (butane) or 37 mbar (propane).

Liquid volume (glycol water) in boiler: 2.6 litres

Liquid volume (glycol water) in immersion heater: 1.0 litre

Liquid volume (glycol water) in water heater 2957: 3.3 litre

System temperature in the boiler: 30-80° C

2:0 How the boiler works

When the room thermostat calls for heat, the circulation pump starts. The liquid in the system starts circulating, and cold water comes into the boiler. The sensor on the water jacket senses that the water is colder than the temperature set on the boiler thermostat. The main burner ignites and heats up the water that circulates round the system. When the heat inside the caravan has reached the temperature set on the room thermostat, the circulation pump stops. The sensor on the boiler senses that the water has reached the temperature set on the boiler thermostat. It shuts off the main burner and goes down to a pilot flame. When the water temperature has fallen a few degrees in the boiler, the main flame is lit again. In this way there is always heated water when the room thermostat calls for heat.

2:1 Starting the LPG boiler

1. Open the regulator and service tap for the LPG.
 2. Turn the thermostat knob (A fig 1) to ignition position (see fig 2).
 3. Press the thermostat knob down as far as it will go.
 4. Continue holding the thermostat knob down, at the same time press the piezo ignitor button (B fig 1) at 2 second intervals until the pilot indicator gauge (C fig 1) moves into green sector. Wait a further 10 seconds and release the thermostat knob.
 5. Turn the boiler thermostat anti-clockwise and set the desired temperature (see chpt 2:3).
 6. You can also check through the window in the lower front plate whether the boiler is lit.
 7. Switch on the room thermostat by moving the slider switch on the top to the right and turn the knob to the required setting.
- Should the boiler go out, turn the thermostat knob to stop position (see fig 3). Wait 3 minutes and repeat the starting procedure.

2:2 Shutting down the LPG boiler

1. Turn the thermostat knob clockwise to stop position (see fig 3). After about 20 seconds, a click should be heard from the gas valve, which means that the safety cut-out has closed.
2. Stop the circulation pump by moving the slider on the room thermostat to the left.
3. Close the service tap for the LPG.

NB. When the boiler has gone out, it must not be reignited until 3 minutes have elapsed.

2:3 Setting for maximum comfort

For maximum comfort and economy, it is important to set the right water temperature in the system. At low outside temperatures, a higher water temperature is required than at more normal temperatures. The ideal setting on the thermostat knob is when the circulation pump runs about 75% of the time.

When heating a very cold boiler, the thermostat knob should not be set to maximum temperature immediately, but at an intermediate position for the first 10 minutes.

The various figures on the thermostat knob represent

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The various figures on the thermostat knob represent

the number of degrees of the water temperature in the boiler as per fig 4.

When it is extremely cold, the gas boiler and the immersion heater can be run at the same time. This means that maximum power is obtained from the heating system.

When the heating system is used at a high altitude, the boiling point of the liquid mixture changes. In this case the system temperature should be lowered as per fig 5.

In order to utilize the principle of water-borne heat in the best possible way, it is important that air can pass freely under beds and behind back cushions. If the caravan has a fitted carpet, for example, ensure that the carpet does not cover the intake hole for the convectors. It is equally important that the cushions and blankets do not prevent air circulation behind the back cushions.

2:4 Setting the room temperature

The temperature required inside the caravan should be set on the knob of the room thermostat, which is graduated between 5 and 30°C. To turn the room thermostat "ON" and "OFF", switch the slider on the top.

2:5 Circulation pump

In order to make the heated glycol water circulate, some form of pump is required. In the expansion vessel of the LPG boiler a 12-volt circulation pump is fitted as standard. To start the circulation pump, move the slider on the top of the room thermostat.

3:0 Hot water heater

Hot water heater 2957 consists of a steel cylinder with a copper coil inside. Fresh water flows through the coil and is therefore heated as it is used.

In the bottom of the heater there is a selector lever for summer and winter use. With the lever in summer position (fig 6 b), the circulation to the heating system is shut off. The glycol water (fig 6 c) circulates through the boiler and water heater only. This position is used mainly during the summer when no space heating is required from the system.

In winter position (fig 6 d), the water circulates first through the boiler and the water heater and then out into the radiator system (fig 6 e) and back into the boiler (fig 6 f). This position is used when heat and hot fresh water are required in the caravan. Note that the positions of lever can be the other way around depending on method of installation.

When the water heater is to be used, the LPG boiler should be started about 20 minutes in advance, and run at maximum boiler temperature to obtain the maximum amount of hot water. If an immersion heater is used instead of gas, the heating period is longer.

Always flush out the water heater before it is used, particularly when it has not been used for a some time.

NB. Although the water heater is protected against frost, fresh water in the heater must always be drained out when there is risk of frost and the caravan is not in use.

Drain the heater like this:

Empty the fresh water tank. Open the drain cock on the water pipe (fig 6 g), and the air screw (fig 6 h) on the heater and empty out the water in the heater. If there is no drain cock, release the hose from the nipple on the heater instead. Allow it to stand like this until you use the vehicle again.

If the caravan is equipped with a pressure-controlled pump, it must be switched on. Empty out the water by opening the water taps and empty the fresh water system. Do this several times. Switch off the pump. Open the drain cock on the water pipe (fig 6 g), and the air screw (fig 6 h) on the heater and leave taps open. Allow it to stand like this until the caravan is to be used again.

4:0 Maintenance of the heating system

Check regularly the level of liquid for the heating system in the boiler's expansion vessel. The level should be about 1 cm above the min. line when the boiler is cold.

The system should be filled with a 40% glycol mixture of the same type as used in car engines (not diesel). If the heating system is exposed to temperatures lower than -25°C, the glycol content should be raised, but must not exceed 50%. The percentage glycol content should be checked before more liquid is added. This is to prevent an excessive concentration of glycol in the mixture.

The glycol mixture should be replaced every other year, as its properties, such as corrosion protection, deteriorate.

Never let the heating system stand without the glycol, water liquid.

If the liquid level in the expansion vessel falls for reasons other than pure evaporation, check that all joints, the drain cock and air screws are tight. If glycol water has leaked out, rinse with water and mop up.

Don't forget to check the gas system regularly to ensure that connections and hoses are not leaking.

LPG hoses should be replaced every other year as they dry out and crack, which may give rise to leakage.

Topping up with liquid:

Make sure that the caravan is parked horizontally before topping up, so that no air pockets can be formed. Check that air screws and the drain cock are closed. Remove the upper front cover. Release the nut on the expansion vessel and lift up the pump. If a hot water heater type 2957 is fitted, set the lever for summer and winter position in the middle. Pour in the glycol mixture slowly.

NB. Alcohol must not be used as anti-freeze. Radiator cement must not be mixed in the system.

4:1 Bleeding the heating system

When filling the system, air pockets may form, depending on how the system was installed. A sign that there is air in the system is when the heat will only travel a few metres along the radiator system from the boiler, even though the circulation pump is running.

Bleed the system like this:

The boiler should be running and the circulation pump

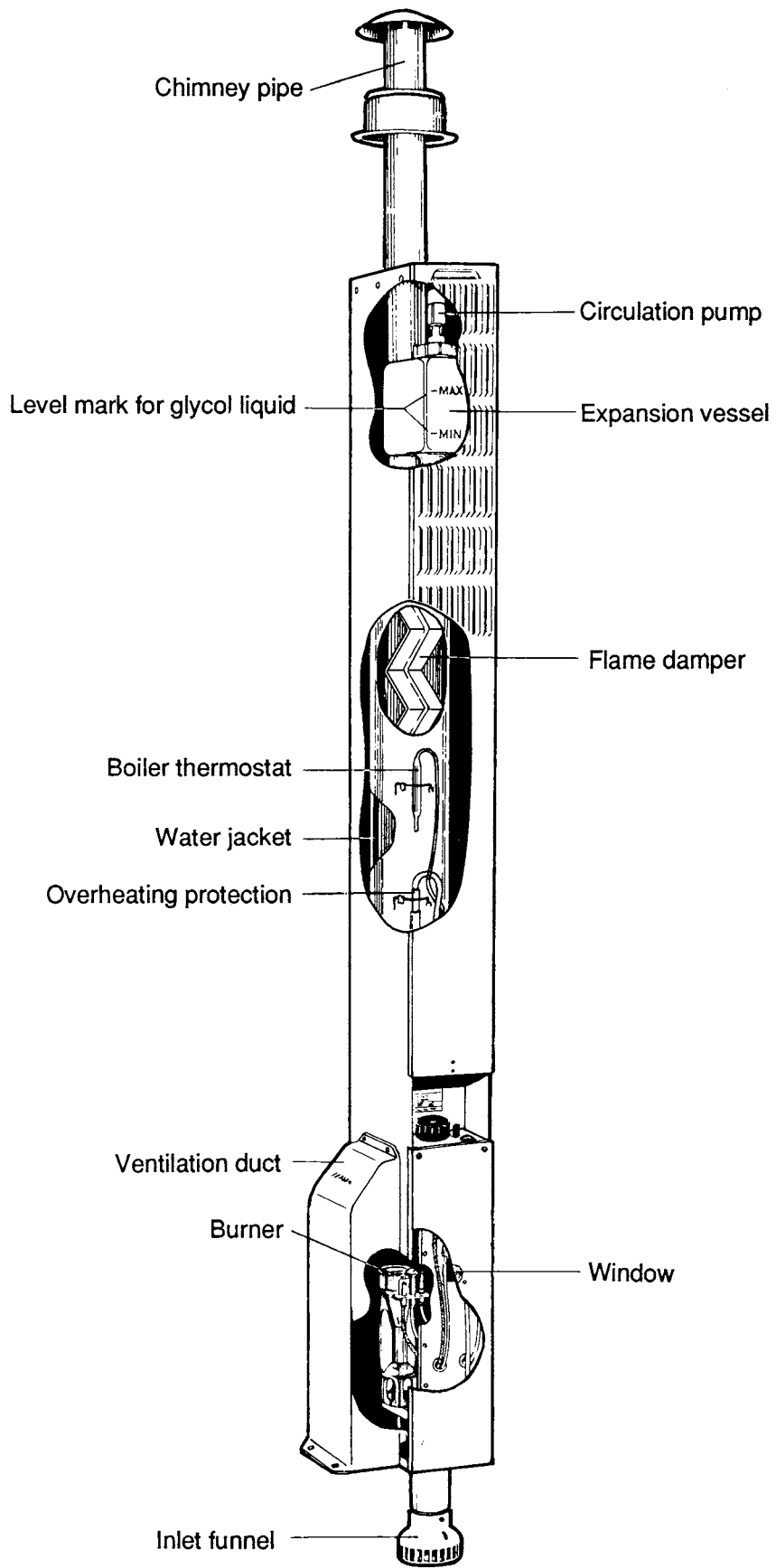
Insufficient hot water

1. Check that boiler thermostat is set on maximum position.
2. Check that circulationspump on boiler is working when freshwaterpump is running.
3. Check that flow rate of water through heater is not more than 2,5 l/min.

7:0 Guarantee

Alde International's guarantee applies for one year from date of delivery and covers material defects and manufacturing defects only, on condition that above instructions have been adhered to.

Notes:



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