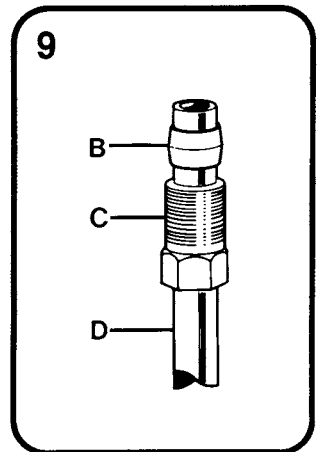
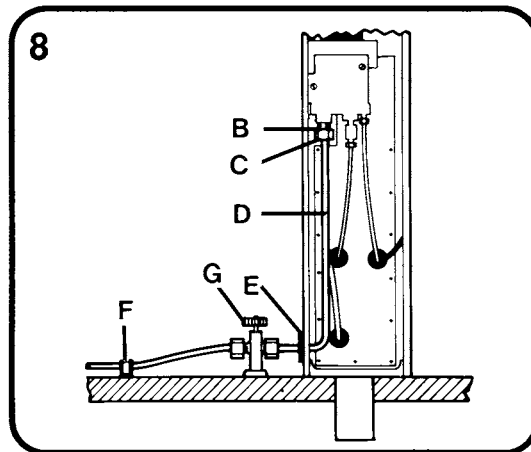
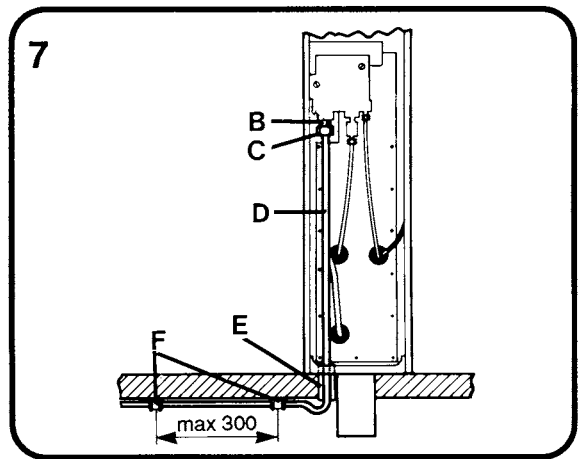
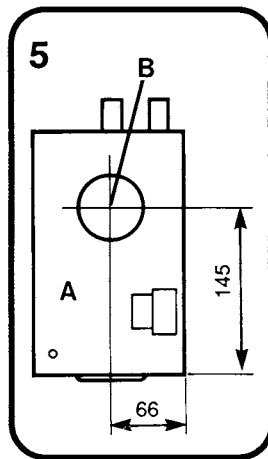
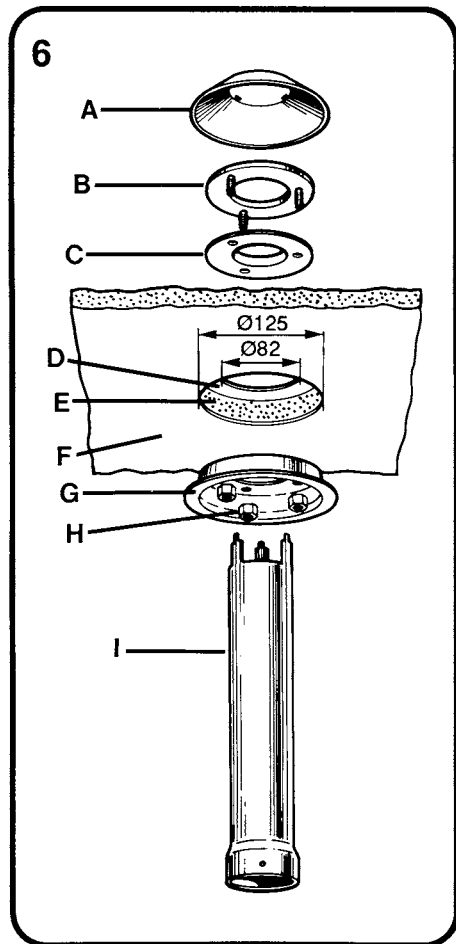
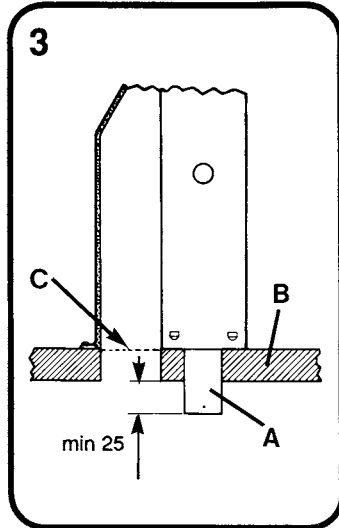
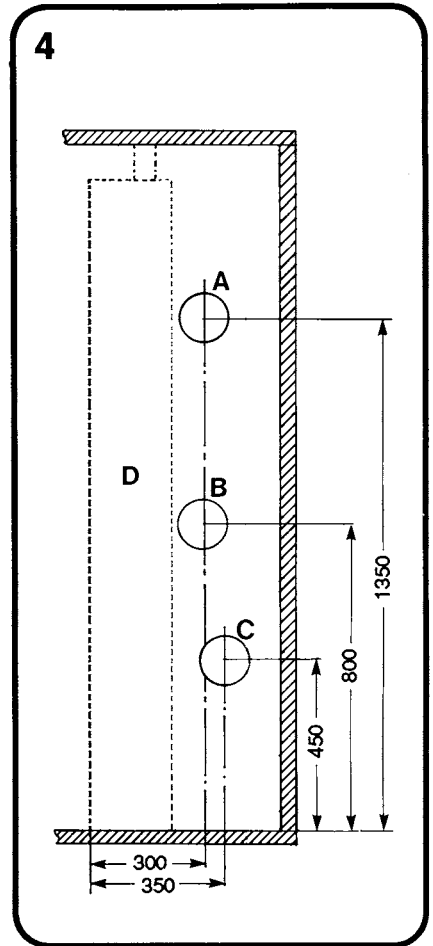
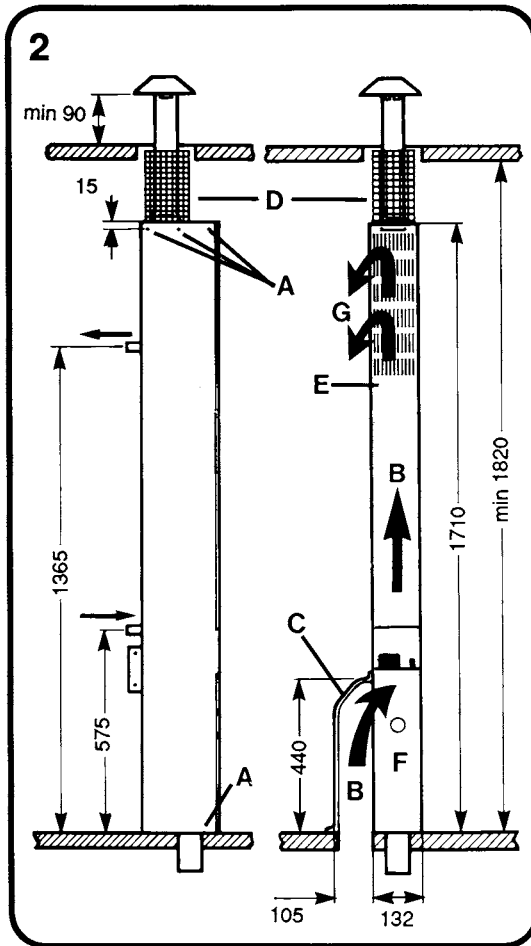
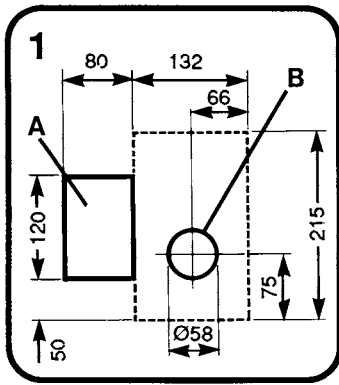


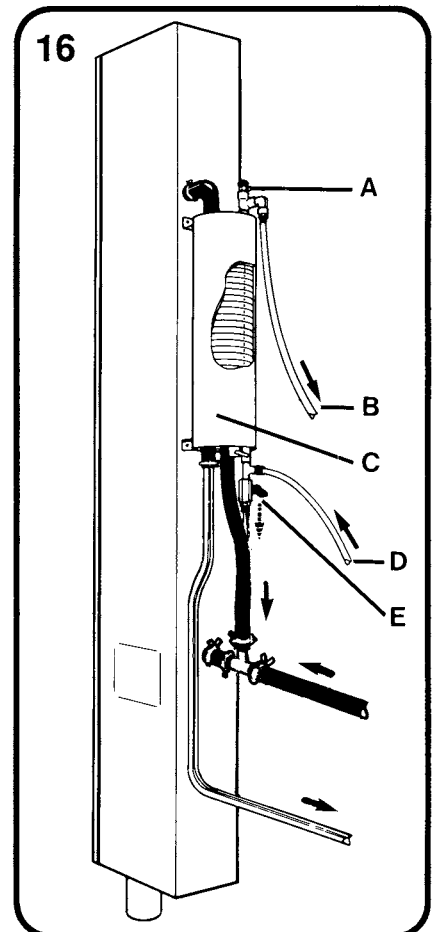
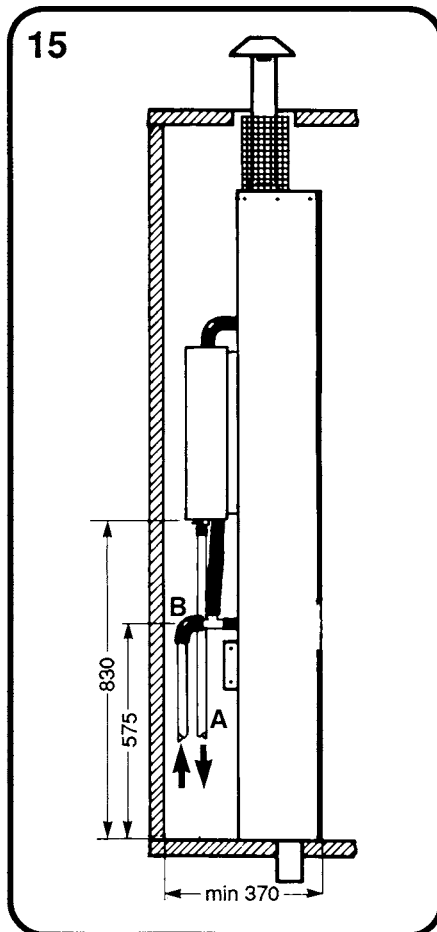
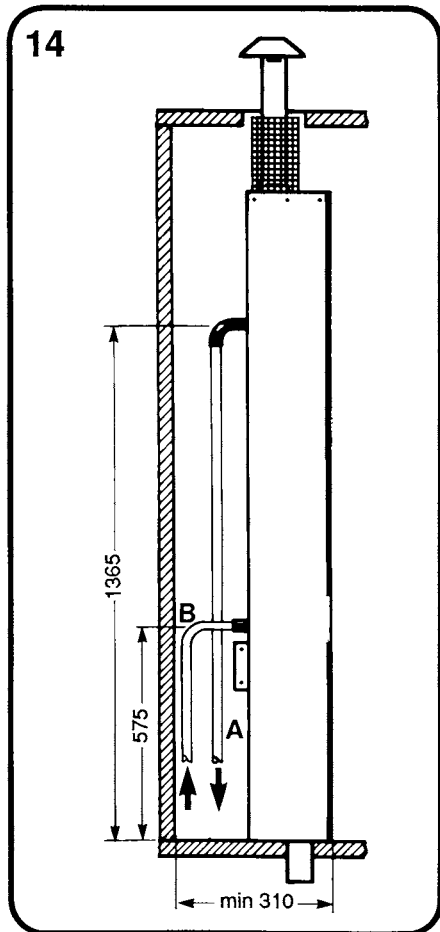
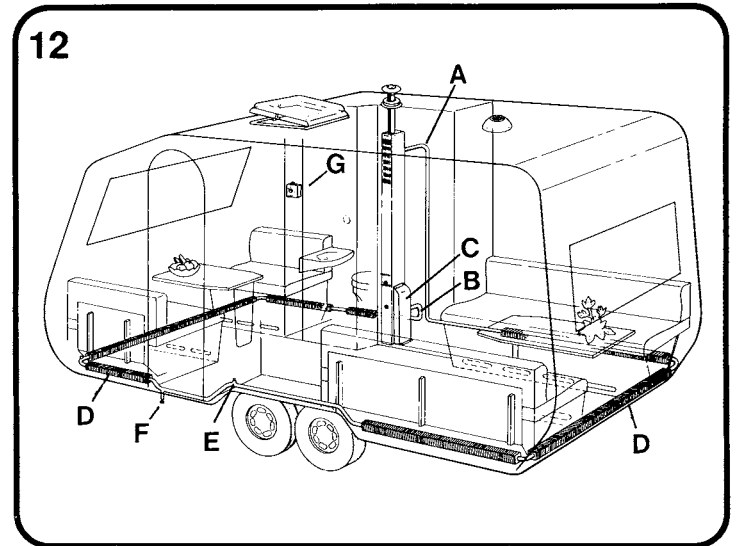
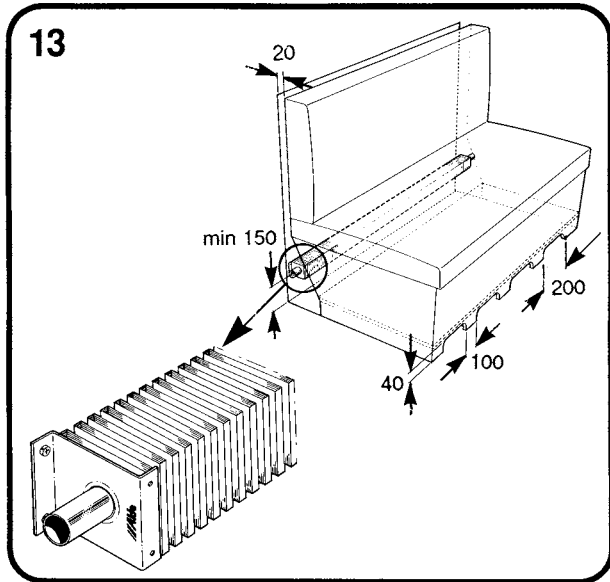
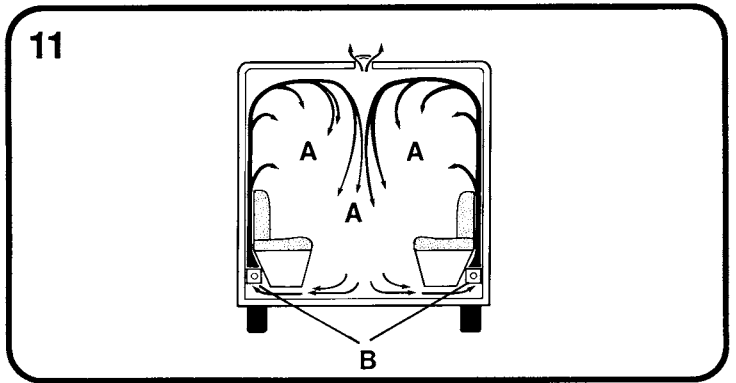
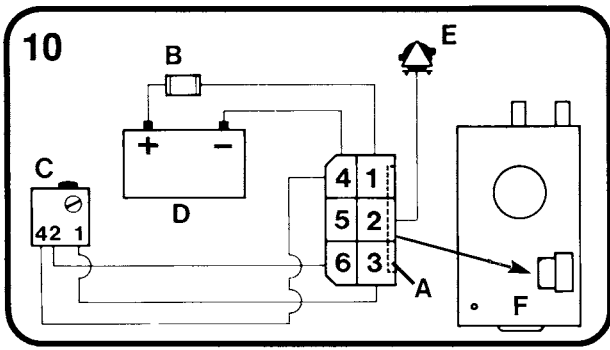
INSTALLATION INSTRUCTION

COMFORT
2920



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Read through these installation instructions carefully before fitting the boiler.

This appliance must be installed by a competent person as stated in the gas safety (Installation and Use) regulations 1984.

IMPORTANT WARNING!

No unit should be installed in any enclosed space unless additional permanent ventilation of 100 cm² is provided. No alteration or adjustment should be made to any gas burner or gas supply by unauthorised or unskilled persons. In the event of a failure or breakdown, turn off the gas supply at the cylinder and contact the authorised dealer or supplier.

The installation must be carried out in accordance with the relevant British Standard of Practice. (Particularly BS5482 Parts 1, 2 and 3).

The Gas Safety Regulations issued by the Dept. of the Environment, the Building Standards (Scotland) (Consolidation) Regulations issued by the Scottish Development Department.

In any communication it is essential to quote the model and serial number shown on the data badge.

1:0 Technical data

Dimensions:	Height	Width	Depth
Boiler dimensions:	1710 mm	132 mm	220 mm
Min. space required:	1820 mm	132 mm	310 mm
With immersion heater:	1820 mm	132 mm	420 mm
With imm. heater and water heater:	1820 mm	132 mm	450 mm
Gas: Butane/Propane			
Power: 6.7 kW			
Gas consumption: Max 465 g/h			
Gas pressure: 28 mbar (butane). 37 mbar (propane).			
Weight of LPG boiler: 18 kg			
Weight of water heater 2957: 4.5 kg			
Liquid volume (glycol, water) in boiler: 2.6 l.			
Liquid volume (glycol, water) in water heater 2957: 3.3 l.			

2:0 Fitting the boiler

Mark out where the boiler is to stand. If the boiler is to be positioned against a wall or bulkhead made of a inflammable material, a 1 mm air gap must be allowed.

Make holes in the floor, one for the ventilation duct and one for the inlet pipe (see fig 1). The ventilation duct can be placed either on the right-hand side or the left-hand

side, depending on space available. Cover the hole for the ventilation duct with fine mesh netting. Put a strip of realant round where the boiler is to stand. Fit the chimney according to chapter 2:1. Position the boiler and screw it in place on the floor and wall at A fig 2.

The inlet pipe should be at least 25 mm under the floor (see fig 3). If not, use an extension pipe. Screw the grey inlet funnel to the inlet pipe under the boiler.

Remove the square panel on the boiler side where the ventilation duct is to be fitted. Screw the ventilation duct in place to the floor and boiler.

Roll out the plastic hose behind the lower front plate. Cut the end of the hose to a taper. Pass the hose through the ventilation duct and the floor.

If the boiler is fitted in a cupboard, for example, a partition should be installed so that inflammable material cannot come into contact with hot parts of the boiler. If there is a water heater and an immersion heater fitted to the boiler, make holes in the partition wall as per fig 4 so that there is access to the water heater's air screw, drain cock and stop cock (2957 only) and the overheat reset button for overheating protection on the immersion heater.

Fig 1

- A. Hole for ventilation duct
- B. Hole for inlet pipe

Fig 2

- A. Hole for attaching boiler
- B. Fresh air
- C. Combustion air
- D. Protection for the exhaust pipe
- E. Upper front plate
- F. Lower front plate
- G. Preheated fresh air

Fig 3

- A. Inlet pipe
- B. Floor
- C. Fine mesh netting

Fig 4

- A. Hole for air screw on water heater type 2957.
- B. Hole for drain cock and stop cock on water heater type 2957.
- C. Hole for reset button for overheating protection on immersion heater.
- D. The boiler from side.

2:1 Fitting the chimney (fig 6).

Mark out the centre where the hole is to be made (see fig 5). Cut a Ø 125 mm hole in the ceiling and the insulating material and a Ø 82 mm hole in the roof. Then assemble the parts B, C and G and fasten the nuts H (see fig 6). Then bring the chimney pipe in from underneath.

Position the boiler (chapter 2:0) and pull the chimney pipe down and attach it to the stult on the boiler using a self-tapping screw.

NB! When the chimney pipe is pulled up or down it should at the same time be twisted (grease it with suds if necessary).

Put on the cap and bend the retaining lugs inwards.

The distance from the roof to the cap should be at least 90 mm (see fig 2). Boiler in position (chapter 2:0).

The exposed section of the chimney pipe inside must be protected with mesh or metalsheet so that inflammable material cannot come into direct contact with the exhaust pipe (see fig 2 D).

Fig 5

- A. The boiler from above
- B. Centre marking for the chimney

Fig 6

- A. Cap
- B. Plate
- C. Gasket
- D. Outer plate at the roof
- E. Insulation
- F. Ceiling
- G. Spacer
- H. Nut
- I. Flue pipe

2:2 LPG installation

The boiler should be attached to an LPG cylinder with a type-approved regulator with a pressure of 28 mbar with butane or 37 mbar with propane. A service tap to cut off the gas supply must be fitted before the boiler. The boiler should be connected with 8 mm copper pipe. The pipe must be secured carefully at 300 mm intervals throughout its length. If the copper pipe passes through walls, floors or similar it should be protected against wear by a grommet or insulation.

If the copper pipe is run under the caravan (fig 7):

In the base plate of the boiler there is a ready-punched hole for the copper pipe to pass through. Drill a hole through the floor where the copper pipe is to enter. Pull the copper pipe up through the floor and the base plate (don't forget to protect the pipe against wear). Use a supporting sleeve, nut and olive (see fig 9) and screw the pipe to the gas connection of the gas valve. Seal the hole in the floor with silicon or similar.

If the copper pipe is run inside the caravan (fig 8):

Remove the disc on the right or left-hand side of the metal case, depending on which side the copper pipe comes from. Cut a hole in the rubber washer and attach it where the disc was. Push the copper pipe through and pull it up in a gentle curve to the gas valve. Use a nut and olive (see fig 9) and screw the pipe to the connection of the gas valve on the burner.

Figs 7-8-9

- B. Olive
- C. Nut
- D. 8 mm copper pipe
- E. Rubber grommet
- F. Pipe clip
- G. Service tap

2:3 Fitting the room thermostat

The room thermostat should be placed at least 1 metre above the floor, but not too close to the ceiling.

It should not be placed on an outer wall, beside the

boiler, cooker, fridge or flue. The room thermostat starts and stops the circulation pump according to the heat requirement.

2:4 Electrical installation 12 volts

The electrical connection is made at the top of the boiler, where a six-pole terminal block is fitted. Use the accompanying terminal plug and the five spade connectors. From the battery, a 1,5 mm² cable should be used and from the room thermostat a 1 mm² cable. The connection should be made to a 12-volt car battery.

If a water heater of type 2957 is fitted on the boiler, connect a cable from the microswitch on the fresh water pump, to the terminal block on the boiler. The circulation pump will then start at the same time as the fresh water pump, which means, the glycol liquid circulates to the water heater which in turn heats up the fresh water.

The connection should be made in accordance with fig 10.

Fig 10.

- A. Terminal block
- B. Cut-out 1 amp fuse
- C. Room thermostat
- D. Battery 12 volts
- E. Fresh water pump
- F. The boiler from above

3:0 Fitting the heating system

In order to obtain the best effect from the heating system, the radiators should be fitted along the outer walls and under the windows. In order to obtain good air circulation (fig 11) and correct heat emission, fresh air should be able to pass between bed bases, floor and back cushions and outer walls (see fig 12). It is therefore extremely important that air gains free access to the radiators, as these are to supply the majority of the heat to be distributed inside the caravan. If no holes are made for air gaps as per fig 13, the radiators will not be able to emit sufficient heat, which will lead to a sharp fall in temperature at windows and outer walls, leading to condensation.

Installation should be carried out using Ø 22 mm pipe and any type of radiator. Radiators constructed of copper piping are most efficient. Every metre of radiator has a heat emission of about 400 watts. Pipes and radiators must not be placed higher than the bottom of the boiler's expansion vessel. If there are upper alcoves in vehicles, The boiler must be raised on a plinth see fig 12.

How many metre's of radiator are required in the caravan?

The most important thing is to have a radiator under each window that is slightly longer than the window. A useful guide is the caravan length x 1.5 = the number of metres of radiators, but the greater the length of radiator, the better and more even the heat distribution. This allows a lower system temperature in the boiler for the same heat emission. This saves gas and provides a more pleasant heat. The pipes should be run horizontally and air screws should be located at suitable places where air cannot escape by itself, e.g. if the pipe is run over the

wheel housing. In vehicles, if there is a sleeping alcove above the driver's cab, it is very important to locate an air screw at the highest point. All curves should be as gentle as possible, otherwise circulation is obstructed.

Make sure that radiators and pipes are properly attached with brackets. As a connection between radiators and pipes, short rubber connections made of special rubber should be used (art. no. 1900 112). The rubber connections should be secured with wire clips (art. no. 1900 120). A sealant between the rubber connections, Permatex Form-a-Gasket no. 3 should be used (art. no. 1900 174). A draining valve should be fitted to the lowest point of the pipe.

NB. Copper and aluminium must not be used in the same system. For example, never use copper radiators together with aluminium pipes as this may lead to severe corrosion damage.

Fig 11

- A. Air flow
- B. Radiators

Fig 12

- A. Circulation flow
- B. Circulation return
- C. Ventilation duct
- D. Radiator
- E. Air nipple
- F. Drain cock
- G. Room thermostat

3:1 Connection to the heating system

The LPG boiler's connections to the heating system are located on the rear of the boiler. Use the same rubber connections, clips and sealant as for the rest of the system.

LPG boiler only should be fitted in accordance with fig 14. LPG boiler with water heater type 2957 should be fitted in accordance with fig 15.

Use fitting kit art. no. 2954 806 in connection with fitting water heater 2957.

Figs 14-15

- A. Flow radiator water
- B. Return radiator water

3:2 Filling the heating system

The system should be filled with a 40% glycol mixture of the same type as used in car engines (not diesel). If the heating plant is to be exposed to temperatures lower than -25° C, the glycol content should be raised, but must not exceed 50%.

For topping up and maintenance of the heating system, see chapter 4:0 in the instruction for use.

4:0 Connection to hot water heater

(fig 16 Applies only if a water heater is fitted)

In order for the water heater to work, it must be connected to the fresh water system. From the heater, the hot water hose should run to the shower, thermostat mixer, sink, etc.

The fresh water connections are located at the bottom

and the top of the heater. Incoming water at the bottom and outgoing water at the top. Connections 1/4"R should be used. P.T.F.E. tape or similar should be used a thread of connections to avoid leakage. Set a flow restrictor part 3563 000 at the top of the heater, and adjust the flow to 2-2.5 l/min.

Fig 16

- A. Air screw
- B. Hot water
- C. Water heater
- D. Cold water
- E. Drain cock

5:0 Installation inspection

Always pressure test the LPG system following installation or service. If there is a leak, find out where the leak is using leak spray or soapy water.

NB. Never use a naked flame for finding leaks.

To increase safety even further, the fitting of a Alde LPG leak tester (art. no. 4071) is recommended. This should be fitted next to the regulator. At the push of a button you can check that there are no leaks in the system.

Check the following:

- that all joints in the system are sealed
- that the chimney and flue are in position
- that air can pass freely through the ventilation duct
- that the regulator is at the right pressure
- that the circulation pump turns in the right direction (anti-clockwise).

Notes: _____



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