

# Westfalia Sven Hedin

Maintenance and Operation

**WESTFALIA**



Präzision  
auf Rädern



Translated into English by [www.westfaliaLT.info](http://www.westfaliaLT.info) – a useful website for VW Westfalia LT Camper enthusiasts.

[www.westfaliaLT.info](http://www.westfaliaLT.info) - a useful site for enthusiasts and owners of VW Westfalia LT campers

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## **Introduction**

These instructions contain important information about the internal features of your automobile. You should read prior to use, so that you understand the equipment and can use it properly.

Knowledgeable use and care for the upkeep of the van is also usually a pre-requisite for insurance claims. Further information about insurance is available from your dealer.

The V.A.G Partners for VW Automobiles are available for the service of your Westfalia Camper Van. They can provide Westfalia replacement parts and repairs.

Please see your dealer for a detailed service, if required.

V.A.G firms are familiar with the Westfalia insurance terms

Equipment in the Westfalia Camper Van such as heating, fridge, and gas cooker are looked after by authorised service departments of the equipment manufacturers, in terms of repairs.

You can find further service points in your Westfalia pack. Further information eg: about service levels abroad, can be requested from the central customer service department of the Westfalia-Works KG, 4840 Rheda-Wiedenbruck, Telephone 05242 / 152 19

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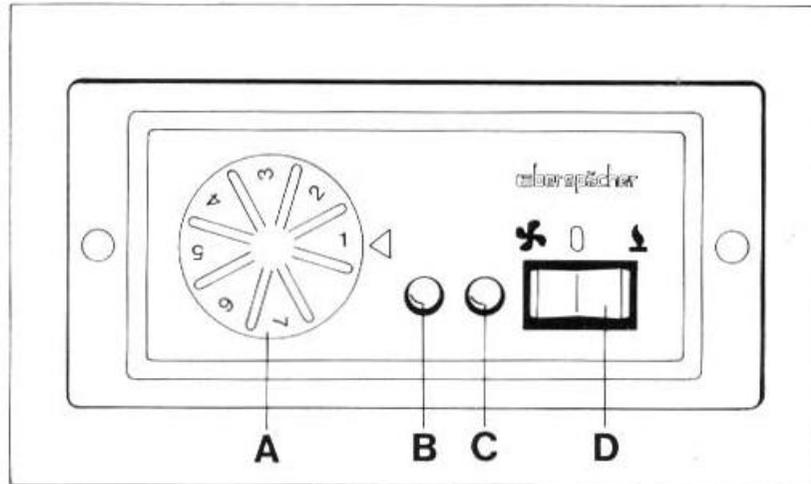
# 1. Operation

## 1.1. Heating / Timer

### Heater

Your vehicle is equipped with a fuel heater, Eberspächer type B2L or D2L. The heater works independently from the engine, but is operated from the fuel tank. The fuel consumption in continuous operation is about 0.3 l / h. In normal operation the fuel consumption is lower. The on, off and temperature switch for the heating are on the control panel.

When the heating is on the inlet and outlet vents must be kept open and clear. The fan can also be used without heating to circulate air throughout the vehicle and draw fresh air in.



- A = Dial (Temperature Control)
- B = Red Control Light (Fault due to overheating)
- C = Green 'On' Light
- D = Switch – Heat / Air Conditioning – On/Off

### Ventilation (with fresh air supply):

#### To Switch On

Press switch (D) to the left. The green light (C) will turn on and the fan will begin to work.

#### To Switch Off:

Turn switch (D) to the middle setting. The green light (C) will turn off.

### Heating (with fresh air supply):

#### To Switch On

- Turn dial (A) to Number 7
- Press Switch (D) to the right
- The green control light (C) will come on and the heating will start

As soon as the temperature reaches the desired level, turn the dial (A) back until the green light (C) goes darker. Doing this will set the desired temperature. The space between each number on the dial (A) corresponds to about 5° Celsius.

#### To Switch Off:

Turn switch (D) to the middle setting. The green light (C) will turn off. The fan will continue running until the heater has cooled down, and will then switch off automatically.

### Normal Operation of the B2L (petrol)

The fuel pump is switched off. The heater operates without heat but at full fan speed for about 3 minutes, then with a reduced fan speed until the fan goes off and a new cycle begins. Once the

room temperature drops below the temperature set at the control panel, the thermostat switches on the fuel supply and the heater is restarted. A built in heating coil switch ensures the coil remains switched off in normal operation if the ignition sparks are sufficient to form a flame.

#### Normal Operation of the D2L (Diesel)

The fuel quantity is reduced to approx 25%. This means that the heating capacity also drops to approx 25% (600 watts). Once the temperature drops below the room temperature set at the thermostat, the thermostat switches the fuel quantity and thus the heat capacity back up to 100%.

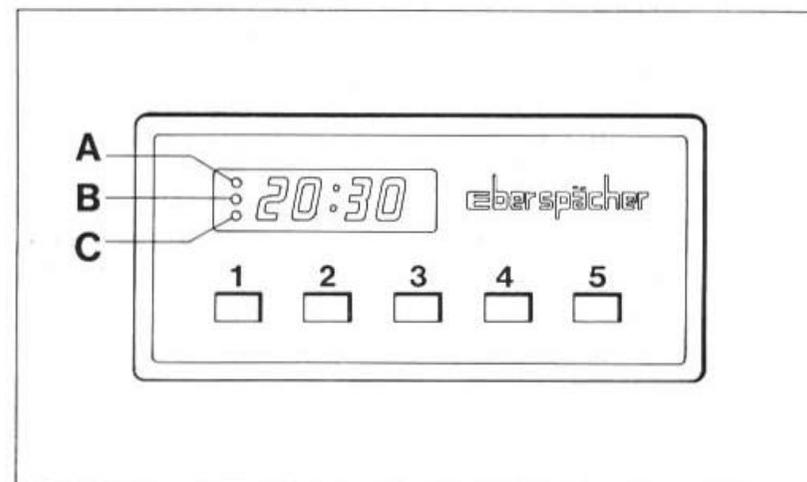
#### Warning !

You can avoid the fumes from the exhaust of the heating entering the vehicle by closing the window on the left side of the vehicle.

Technical Data	Petrol (B2L)	Diesel (D2L)
Rated voltage	12v	12v
Max fuel consumption	Approx. 0.32 l/h	Approx. 0.27 l/h
Power consumption	Approx. 15W	Approx. 15W

#### Clock Timer – Optional Equipment

It is not necessary to switch on the ignition before using the clock. The display constantly shows the time.



#### To Set the Time

- Press button 1 and either button 4 or 5 at the same time

#### To Switch on Heating: (possible to be independent from the previous choice)

- Press button 3, the possible heating time will appear in the display in minutes
- Set the temperature with the thermostat on the control panel.

#### To switch on the heating for long term use:

- Press buttons 1 & 3 at the same time
- The display will show 00

**To Switch off Heating:**

- Press button 3
- The fan will continue to run until the unit has cooled, and then will switch off automatically

The display allows you to choose 3 different times for the heating to come on. After pressing button 2 once, twice or three times, memories A, B, or C will be displayed.

You will reach the neutral position by pressing button 2 again. The time will show and the memory will be saved.

**Setting Pre-Set Times:**

- Press button 2
- Memory lights up (either A, B, or C will light up)
- By pressing button 4 & 5, the desired pre-set time will be saved in the memory of A, B or C.

**To Erase Pre-Set Times:**

(Heating switches on at a pre-set time)

- Press button 2.
- Memory lights up (A, B, or C)
- Pre-Set time appears on the display
- After 20 seconds, the actual time appears on the display.

**1.2 LPG Equipment****LPG Equipment Description**

The gas installation is built according to safety guidelines DVGW G 607. The certificate issued by the factory is located in the vehicle.

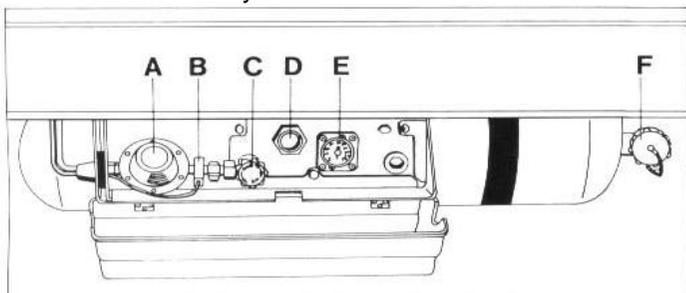
Every two years the gas system must have a repeat of the leak and combustion test in accordance with paragraph 6.1 of the technical rules for "gas appliances and fire places" within vehicles. A leak test is also required in the case of repair of the gas pipeline system. Only DVFG recognized technical experts may carry out this test. There are about 1,000 test centres in the Federal Republic of Germany. You can find test centres in your area by contacting the Association for LPG DVFG - 6242 in Kronberg / Taunus, Minnholz 2, phone 06173/4077. You will also receive relevant information from the company Westfalia Phone (05 242) 15/219. All gas appliances have built-in safety ignition,. That is if the flame goes out the gas supply is cut by the automatic safety mechanism. It is not allowed to make changes to the gas installation and gas appliances.

**Gas Tank with Filling Stop Valve**

The LPG tank can be found on the right side of the vehicle, under the body of the vehicle, and can be identified by its red colour. Only fill the tank with DIN 51621 propane fuel from licensed petrol stations at home and abroad.

Your vehicle documents include a list of filling stations. Please note in the directory are hints for travelling abroad. The necessary adapter (extra piece) for filling the gas tank abroad is available from your dealer as an accessory (Westfalia Order No. 523 266). So you always have an updated list of filling stations in Europe we recommend you request when needed the latest gas filling station directory from ADAC Headquarters, Munich 70, Baumgartner Str 53,

An examination of the gas tank must be conducted every 10 years. The certificate accompanying a vehicle for the initial testing of the gas tank should be kept safe. At eventual resale of the vehicle please hand over the certificate with the operating instructions to the buyer



A = Regulator    C = Main Valve    E = Level Indicator  
 B = Ice - Ex    D = Safety Relief Valve    F = Fill Up Point

**To Fill the Tank**

- Open up the fill up point (F)
- Put in LPG nozzle and fill up tank

There is an automatic filling stop valve that will prevent any more LPG going into the tank, once it is 80 % full.

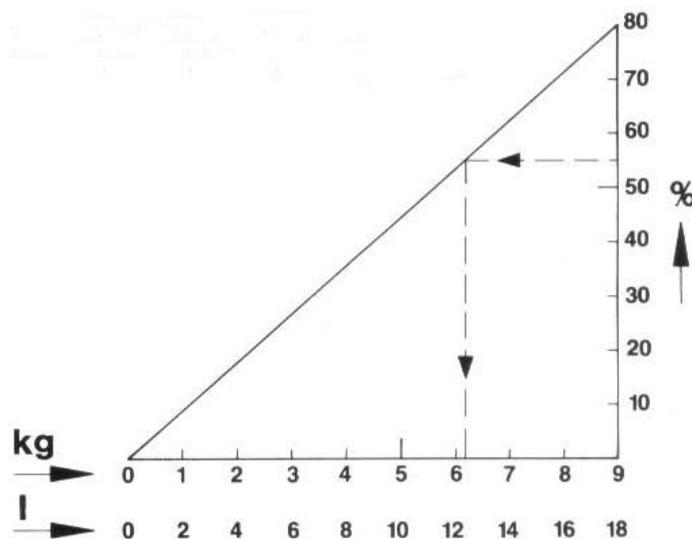
The tank's level indicator display (E), which is behind the lockable cover shows values in percentages.

**Determining the amount of LPG in the tank**

With the diagram below, you can determine the volume of LPG in kilograms and litres from the displayed percentage. The maximum capacity is 9 kg = 18 litres of LPG.

This amount corresponds to 80% on the display.

Determination of how much gas is in the tank  
 Using the figure on the display you can determine how many kg and litres are in the tank.



Example: Volume Displays 55 %  
 Tank Contains 6.2 kg = 12.4 litres

- Gas Consumption
- Refrigerator Gas 5-15g per hour
  - Cooker approximately 150 g / hour
  - Warm Water Boiler during the heating phase 120g / hour

**Regulator with 3 Way Valve**

The pressure regulator reduces the container pressure to 50 Mbar which is the pressure needed for the attached equipment.

A gas bottle or an external gas source can be joined on to the quick release connector (A). Before you do this, you should take off the protective cover (B).

The leak testing of the LPG system can be carried out via the quick release connector (A), but this should be observed using setting 3.

### Settings For The Valves C & D

#### Setting 1:

Delivers LPG from the LPG tank to the equipment which uses LPG in the vehicle.

#### Setting 2:

Delivers LPG from the LPG tank to the equipment which use gas outside of the vehicle - at the same time delivers gas where needed inside the vehicle.

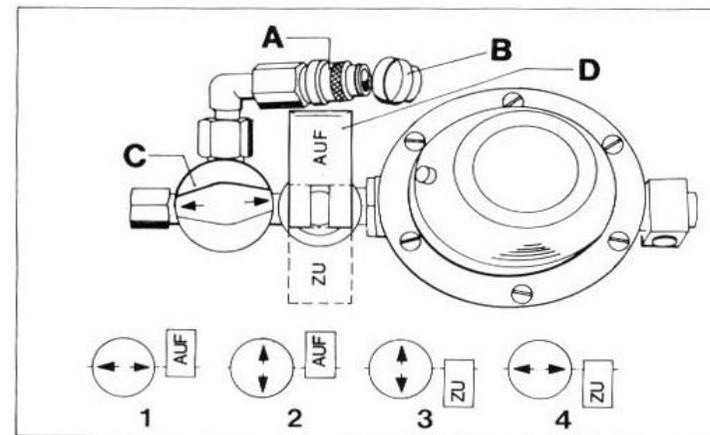
#### Setting 3:

Emergency lead for an external LPG tank / gas bottle.

Test connection for leak testing.

#### Setting 4:

No LPG delivery



### Warning !

- The position of the quick release connector (A) must not be changed
- Note the position of the valves C & D

### Ice-Ex De-Icer

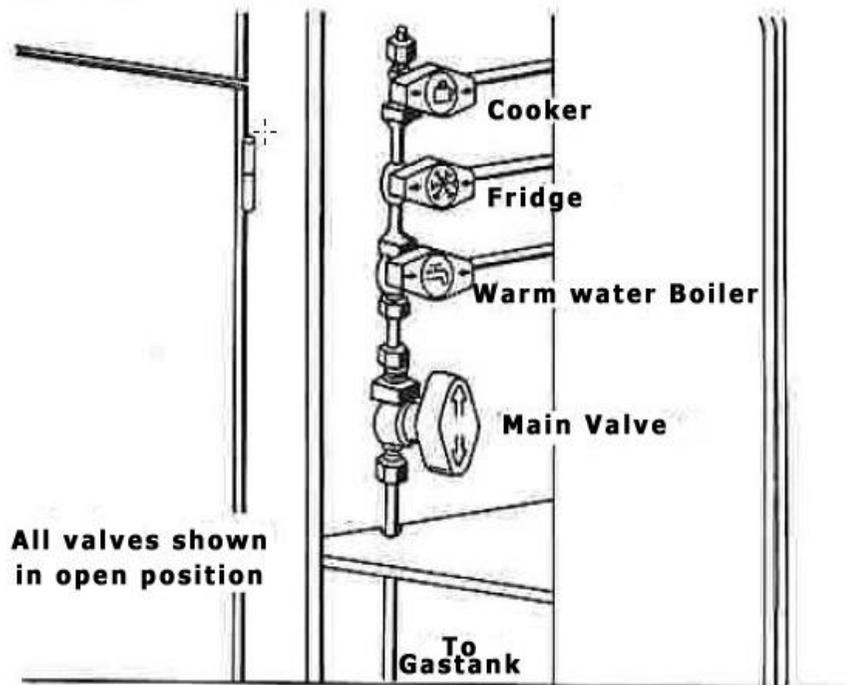
The Ice-ex De-Icer protects the LPG flow pipe from freezing. At external temperatures of +5° Celsius or less, you should switch on the Ice-Ex De-Icer, from the display unit, about 15 minutes before using equipment that uses LPG. The green control light will be illuminated. At temperatures over +5° Celsius switch the Eis-Ex off.

The Eis-Ex has a power consumption of 4 Watts.

### Gas Valves

The equipment that uses LPG is ready for use when the main valve, which is attached to the LPG tank, the main valve in the kitchen cupboard, and the valve which connects to the warm water boiler, fridge or cooker are all open.

Close the main valve (yellow knob in the kitchen cupboard) first if there is a problem with the LPG system. Next, close the main valve (C) adjoining the LPG tank.



### 1.3 Gas Cooker

#### To Switch On:

Open the valves in the cupboard, press the cooker knob in, and turn to the left. Light the gas with a match or lighter, continue to press in the cooker knob for about 10 seconds (to ensure it remains lit). If the flame goes out when you let go of the knob, repeat the process above for lighting, and hold in the knob for a little longer.

#### To Turn Off:

Turn the cooker knob to 0, and close the valve in the kitchen cupboard.

**Warning !** When using the cooker, do not close the air vents (roof vent, windows etc). Do not use open stove burners to provide heat.

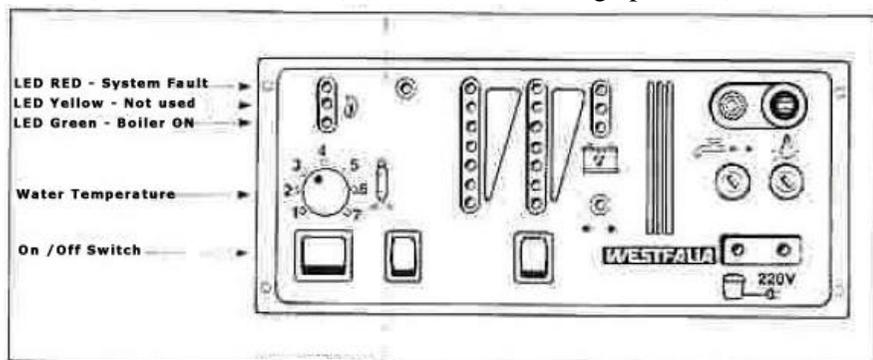
### 1.4 Water Supply Equipment

In the rear seat bank there is a 90 litre (approx) freshwater tank. The filler is located at the rear on the vehicle side and has a lockable filler cap. The drain valve on the freshwater tank should be closed. In the water tank there is an electric pump. By turning on the tap in either the kitchen or shower room the water pump is switched on. The used water is collected in a 70 litre approx. waste water tank mounted under the vehicle. At high temperatures and low water levels residues may form in the fresh water tank and lines. It is therefore advisable to change the water more frequently or to add commercial chemicals for filtration and sterilisation. When vehicle is not being used for longer periods the entire water system should be emptied.

## 1.4.1 Warm Water Boiler

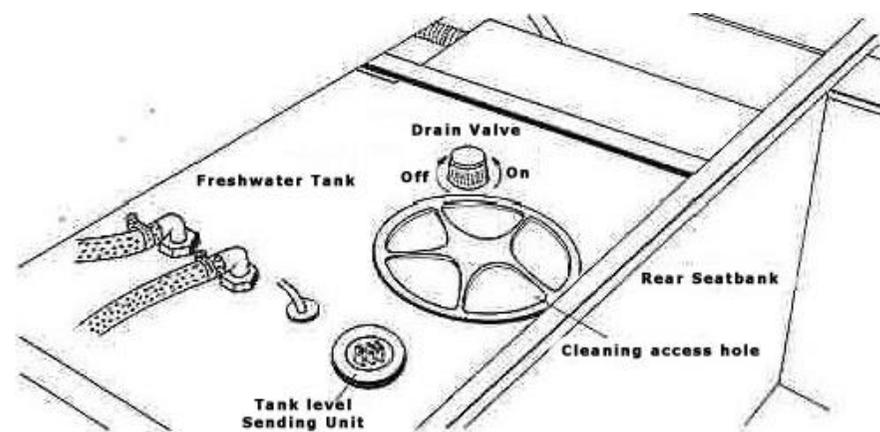
The warm water heater is installed in the roof and is powered by gas (propane / butane). The water temperature is controlled and regulated by an electronic ignition.

To avoid damage to the hot water heater only operate in the filled state. After emptying the hot water system check that the safety valve has been closed (the red lever switch (A) should not be in high position.)



- 1) To fill boiler, turn on a warm water tap. The pump switches on and water comes from the tap. Turn off the warm water tap when there are no more air bubbles in the water.
- 2) Open the valves (valve on gas tank, main valve in gas supply and the quick closing valve for the hot water boiler).
- 3) Switch on via the switch on the display panel and the green LED should come on. The yellow LED is not used and does not light.
- 4) With the rotary knob you can set the water temperature between 30 -75° Celsius. The electronics will switch the burner on and off as required.

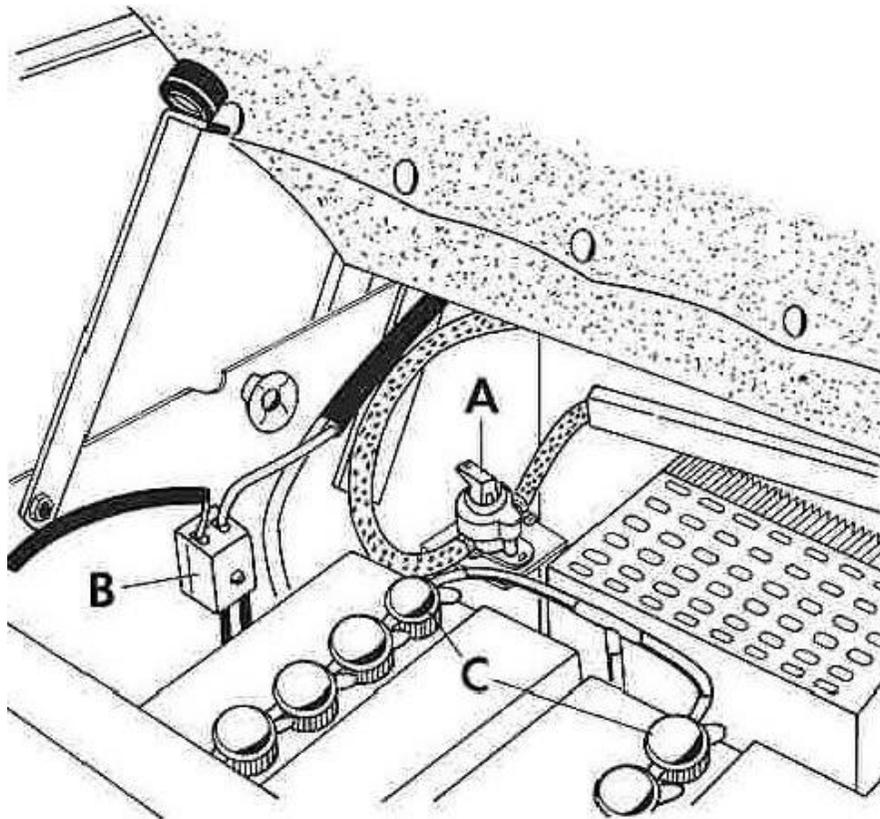
**Attention! The manufacturer is not liable for frost damage. Please note the information for winter use (section 1.11).**



### Warm Water Boiler / Emptying

- 1) Remove the 10 amp fuse (under the tap symbol) from the display panel.
- 2) Turn on the mixer tap and open the drain plug on the sink in the shower room.
- 3) Open the emptying access valves on both fresh and waste water tanks.
- 4) Open the safety valve (A) by raising the red lever that is located inside the rear bench seat. The water drains through the bottom outlet.

When you drain the water system observe any environmental laws. On the campsite observe the rules and regulations.



A = Safety Valve  
 B = Fuse box  
 C = Gas venting stopper

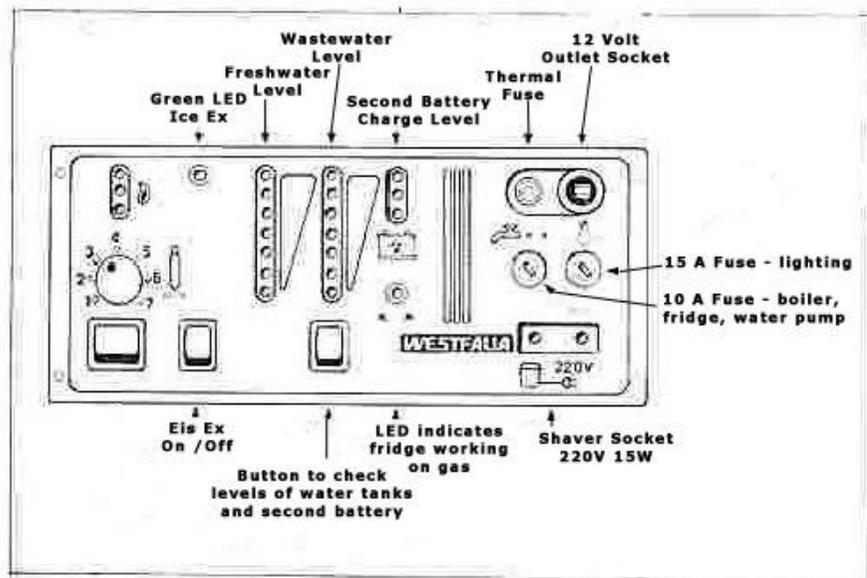
### Technical Specification

Water Capacity:	10 litres
Gas Consumption:	120 g/h
Max Water Temperature	75° C
Heating up time 15- 75° C:	approx 12 minutes
Voltage rating:	12 V
Current consumption:	
(during the heating phase):	90 mA
Current consumption:	
(on standby phase):	36 mA
Safety valve:	2 bar (pressure)

### 1.5 Display Unit

In the kitchen area there is a display indicator and control panel for:

- (a) Warm water boiler.
- (b) Switch and LED (Lights) for the Ex-Ice De-Icer
- (c) Display lights indicating water level in the fresh water tank
- (d) Display lights indicating water level in the waste water tank
- (e) Display lights showing second (leisure) battery charge level
- (f) Display lights indicating when fridge is working from gas
- (g) 12 Volt socket with thermal fuse.
- (h) Fuses for water pump, fridge, boiler and lighting.
- (i) Shaver socket supplied by an inverter 220 Volt max 15 Watt.



The level of the water tanks and charge level of second battery can be seen by pressing the button. The LEDs light for approx 45 secs and then automatically switch off. Using the 7 LEDs on each water tank the water levels can be read. The distance from LED to LED for the waste water tank is 10 litres. If the yellow or red LEDs are lit for the freshwater tank there is between 30 and 10 litres in the tank. The charge level of the second battery can be seen on the 3 LEDs.

Green – Battery voltage over 12.5 Volts  
 Yellow – Battery voltage less than 12.5 Volts  
 Red – Battery voltage less than 11.5 Volts

## 1.6 Fridge

The ventilation openings for the fridge on the kitchen cupboard must be kept clear.

Before using the fridge for the first time, the inside of the fridge should be cleaned with lukewarm water and a mild cleaning fluid. Your refrigerator is equipped with a newly developed absorption cooling unit, which ensures it functions even if the vehicle is driving uphill or downhill (up to 15%)

### Explanation of the controls

A – button to operate the ignition control

B – dial for the combined electric / gas thermostat.

The combined electric / gas thermostat can be used with the LPG or the mains electricity. The thermostat is not set up for use with 12v battery power. If the dial for the thermostat is turned fully to the left – past the point where you can feel some resistance – the mains use is switched off. This same dial position needs to be in the minimum setting for use with LPG (LPG use will only be switched off by switching the LPG connection to the fridge)

C to E – Buttons to switch the voltage on / off

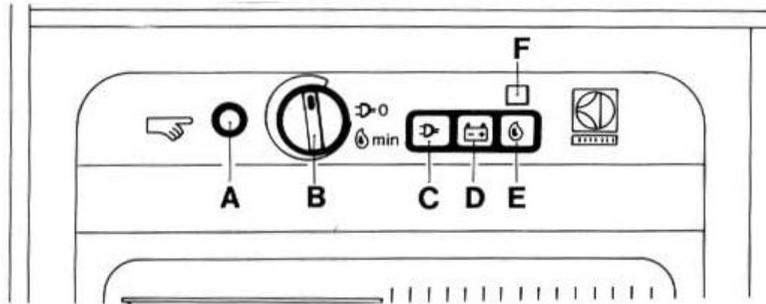
C – Button for mains use

D – Button for 12V use

E – Button for LPG use

F – red signal light

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### Bringing into operation (220v)

Check if the voltage of the house or campsite mains connection is within the required voltage. This can be found inside the fridge at the top left. (The safety circuit breaker must be switched on)

1. Press in Button (C)
2. Turn the combined electric / gas thermostat dial (B) clockwise to the max setting.
3. When not in use, switch off button (C) by using button (D) or (E).

### Bringing into operation (12V)

When using 12V, your fridge is protected by the general electrical circuitry of your vehicle. To prevent your vehicle's battery from draining, a measure has been built into the 12V circuitry to ensure that the fridge can only be used when the vehicle's engine is running.

When the fridge is running on 12V it cannot be controlled by the thermostat.

- 1) Press in button (D) before driving off.
- 2) When not in use, switch off button (D) by using buttons (C) or (E).

### Bringing into operation (LPG)

The fridge is designed for use with Propane or Butane gas only. Natural gas or city gas must not be used.

1. Open the valves (main valve of the gas tank, and quick release valve in the kitchen cupboard)
2. Turn the thermostat knob (B) clockwise to the max setting.
3. Press in button (E). Straight after pressing the button, the electronic gas ignition will switch on, the red signal light (F) will light up.
4. Press button (A) in and keep it pressed in. After 20-30 seconds, the burner will automatically ignite. As soon as the flame lights, the ignition will stop, and the red signal light (F) will go out. Keep the button (A) pressed in for another 15-20 seconds, then the thermo-electric ignition from the LPG tank will stay open.

You can see the progress of the ignition steps by flashing light (F). The use of the burner flame is shown by control light (G) (see below) as long as switch (A) on the cooker display is switched on.

Should there be a cause (other than the LPG tank being empty) for the gas flame to go out, it will ignite again automatically. If it does not ignite due to a defect, the protection mechanisms will activate and will automatically shut off the LPG supply.

5. When not in use or if the fridge has a problem using gas, stop the gas supply to the fridge & switch off button (E) by using button (C) or (D).

## Regulating the temperature of the fridge

You can regulate the temperature of the fridge by using the combined electric / gas thermostat. After sufficient cooling in the max position, you can turn the temperature knob (B) anticlockwise to your desired temperature.

### Important Notice !

Always watch out that the fridge is never connected to 2 power sources (i.e.: gas & electricity) at the same time. It would then not work, and will possibly suffer damage. Such damage would not be covered by the warranty.

The cover for the fridge vent must be in place when using a car wash.

### Technical data

Gas operation:

Power consumption gas: 15 g / hour

Supply pressure: Cat I3 LPG 50 mbar

Electric operation:

220V 50Hz 85 Watt thermostatically controllable

12V 85 Watt not controllable

Contents: 41 litre gross

Refrigerant: NH3 absorber

## 1.7 Electrics

The vehicle is equipped with a combined 12 / 220 Volt power supply.

The 12V appliances (lighting, water pump, heating, control of the water boiler and 12 V operation of fridge) are supplied by the second (leisure) battery.

An external socket when connected supplies 220 volt via the battery charger.

A safety circuit breaker is installed for the 220 Volt supply inside.

Two batteries: 2x12 Volt 80 Amp/Hour are installed inside the rear seat bench.

**Attention! These batteries are not to be used as starter batteries.**

### 1.7.1 Battery Charger

The battery charger operates automatically. As soon as you have attached the 220V current to the vehicles external socket, the charger is ready for use and if required charges the second batteries. The batteries are charged up to the intended battery voltage. Once the batteries have reached this voltage the charger switches off automatically. The two batteries are equipped with encapsulated gas vent stoppers. It is not necessary or recommended to remove the stoppers during charging. During charging the battery charger gets warm. For this reason do not store items near the charger. Whilst driving all batteries are charged by the alternator.

### 1.7.2 Safety Circuit Breaker

The safety circuit breaker acts as a line and personal protection cut out.

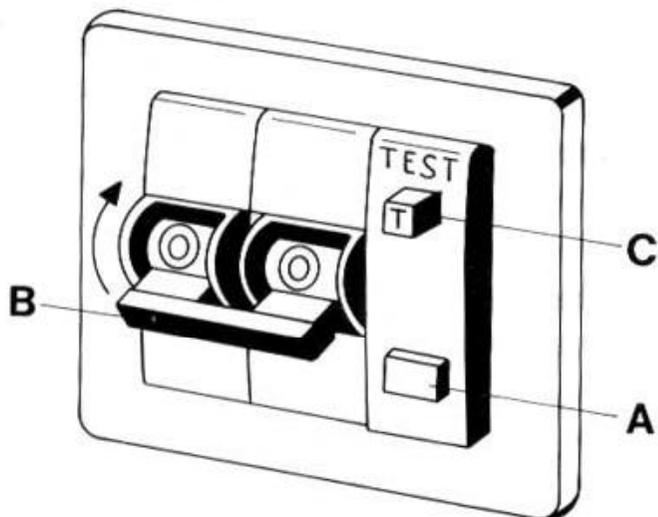
**Automatic safety circuit breaker:**

Line Protection 10 Amp

Operator Protection 6 -10 mA with max 30 ms cut out time

The disconnection takes place two-pole.

Secondary (leisure) battery: 12 V 63 Ah under the driver seat



**To Use:** Press in the blue button (A) until it clicks in, then bring the black switch (B) to the position (1) (i.e.: push up)

**To Test Its Use:** To test its use, 220V mains power must be connected to the vehicle. Press in the white test button (C), the blue button (A) should then pop out and the black switch (B) will go to the 'O' position. The safety circuit breaker is located above the rear door next to the display unit.

**Important Notice !** When the circuit breaker is not switched on, the 220V appliances (i.e. fridge, battery charger, and outlet socket above the kitchen cupboard) will not work.

### **Important Notice !**

**12V Battery Use:** Please note that the battery capacity is limited when left for a while without recharging. For example, at least 12-12.5V is required for using the additional heater. The voltage of a fully charged second battery should be 13.5 – 13.8 Volts.

**Use with 220V:** Attach the vehicle to the mains via the outside plug. The outlet socket above the kitchen cupboard, battery charger and the fridge are fed from the safety circuit breaker.

## **1.8 Opening Window**

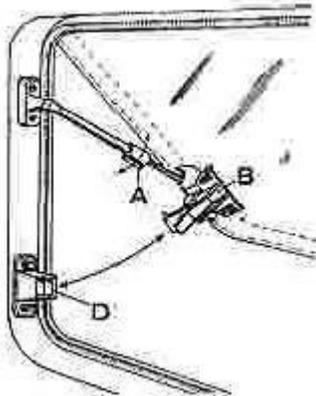
It is possible to open the left hand side window and the rear window.

### **Side Window**

The side window can be opened in several fixed positions. To close the window, open it wide and then close properly.

### **Rear Window**

The rear window can be opened and adjusted in infinitely variable positions.



**To Open**

- Lift the lever (B) and adjust window to desired position.
- Turn the locking mechanism (A) to secure

**To Close**

- Levers (B) of the 2 locks need to be open
- Locking mechanism (A) on the side supports need to be loosened, by turning either to the left or right
- Close the window
- Press the levers (B) in, so the clip (C) lies behind the latch (D)

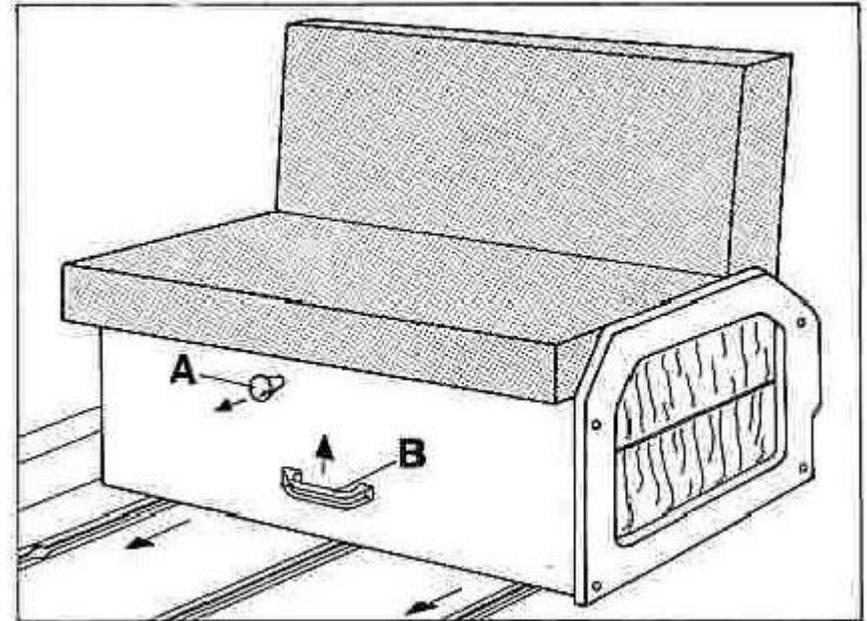
**Warning !** The window should not be open when driving.

**1.9 Seating**

**Warning !** Please do not adjust the seating arrangement (Bed, living or driving position) whilst the roller blinds for the opening window are in the lowered position.

The front seat bank can be used in two positions: Facing the direction of travel (driving position) and against the direction of

travel (living position). When driving the seat bank must be in the driving position.



**Changing from driving position to living position:**

Pull the lever on the seat box front. Lift the seat cushion up and pull forward whilst pushing the seat back cushion down into the opposite position. Use the handle (B) and slide the seat bank forward until it locks into position automatically.

**Changing from living position to driving position:**

Use the handle (B) and pull the seat bench until it locks into the rear latch. Pull handle (A) and lift the seat cushion whilst at the same time pushing the seat back until it swings round into the opposite position.

**Changing the sliding seat bench into a bed:**

With the seat in the living position use the lever to release the seat cushion and pull forward. The seat back now moves automatically to the horizontal position.

**Changing the sliding seat bench from the bed into a seat in the driving position:**

Lift the horizontal cushion until the seat fittings lock in place then press the seat cushion down and seat back will automatically go into the right position.

**Changing the rear seat bench into the bed:**

Unlock the seat cushion, lift it and pull it forward. The seat back goes automatically into the bed position and the seat cushion is lowered.

**Changing back the rear seat bench into the sitting position:**

Lift the seat cushion and swing 90 to the rear until the seat fittings lock in place. Fold down the high cushion and the seat cushion must lock in place on the seat front panel.

**Double bed in the high top**

The front bed part is fixed. To construct the bed, open the flap (right and left) and withdraw the extension evenly. Insert the cushions.

Note: In the absence of child safety net (optional extra), small children should sleep in the lower beds.

**Attention:** Whilst driving no one should be transported in the upper bed.

## 1.10 Furniture Locks

Doors, flaps and drawers are fitted with safety handles so they don't open whilst driving.

To open pull the handle.

## 1.11 Information for the Winter

Before taking a winter vacation some things that you should pay attention to:

During snowfall don't let snow build up around the roof vents.

Vents should not be covered by snow. Above all the flue in the roof area near the hot water boiler and the exhaust pipe of the heater should be kept free of snow. To prevent freezing of waste water in waste water tank then a sufficient quantity of salt should be added (up to -10° C) and ensure timely emptying.

The formation of condensation can largely be avoided by appropriate use of heating and ventilation.

To ensure proper function of gas appliances (fridge, gas cooker, hot water equipment) we recommend that at temperatures of +5° C and below the Eis-ex is switched on.

The vehicle should be parked safely so it doesn't slide in a thaw. The hand brake should not be applied.

When the heater and hot water unit are switched on the vehicle is suitable for use in temperatures of -10° C. Even if there is a short drop in temperature to -15° C (eg: at night) harm to the water supply system should not be feared. The rubber seals for the opening windows and doors should occasionally be rubbed with talcum powder.

**When not used in winter if there is danger of frost then empty the entire water and waste disposal system.**

In order to achieve complete emptying, one should proceed as described and additionally remove the hand shower hose through the opening in the washbasin and lay it on the shower cabinet floor.

## **2.0 Care and Maintenance of Equipment**

### **2.1 Refrigerator**

#### **2.1.1 Defrosting of the appliance**

The ice on the evaporator should be no more than 3 - 4mm thick, so that the cooling capacity is not diminished.

To defrost power is interrupted when operating using gas by shutting off the gas supply or when operating in electric mode by the switch. The defrost water runs into the drip tray, which can be pulled forward and emptied. Do not use a heater to speed up the defrost as this could damage components. The door of your refrigerator has a PVC edging to ensure a proper seal. Clean this PVC edging only with clear water and never with chemical additives.

#### **2.1.2 Measures when fridge is not going to be used for a long period.**

If your fridge is going to be out of service for a long time switch off the power supply and empty contents. After the defrosting of the refrigerator it should be carefully cleaned and dried.

### **2.2 Heating**

The outer casing of the auxiliary heater is factory equipped with surface protection. However, whilst driving damage to the protective layer can not be excluded, it is recommended that the housing is checked at certain intervals (twice per year), and repaired if necessary.

To do this you can use normal corrosion inhibitors.

In summer you should run the heating once a month for about 10 minutes.

The life of the glow plug (D2L) and spark plug (B2L) is limited.

Before camping in winter check the condition of the glow plug (or spark plug).

After 10 years the heat exchanger of the heater must be changed for an original equipment part by either the manufacturer or an authorised repair shop.

### **2.3 Gas Cooker**

To clean the stove top and the gas burner the stove grate needs to be removed. Enamelled surfaces should not be cleaned with abrasives.

When cleaning the gas stove, make sure that the thermocouple that sticks up near the gas burner is not bent. A bent or broken thermocouple prevents any further use of the burner, as the flame goes out, despite prolonged actuation of the safety pilot time and again. The thermocouple needs to be replaced by an expert if this happens.

If the flame pattern overtime becomes uneven, this is a sign of poor combustion. Regular cleaning of the burner cover is advisable. The burner covers are removable by twisting them a quarter turn, so that the slots can be cleaned with ordinary water or a brush.

### **2.4 Windows**

The cleaning of the acrylic double windows should be washed with plenty of water with added soap or detergent. A 10% addition of detergent will prevent the build up of static electricity and hence dust.

You should only use very soft cloth or natural chamois to rub the plastic windows. Light scratches can be polished with brass polish or liquid Stahlfix. A subsequent treatment with silver polish is recommended.

The double glass should not be treated with de-icing spray or ice scraper.

The supports for the opening windows should at regular intervals be cleaned and lightly oiled.

## 2.5 Furniture

All visible parts of furniture are plastic coated. Maintain furniture and fittings with the same furniture preservative products that you use in your home.

## 2.6 Upholstery, Curtains and Carpet

The cushions are composed of polyether foam. The upholstery and curtains should be chemically cleaned, if necessary. The carpet is fully synthetic and should be cleaned using commercially made shampoos.

## 2.7 Shower Room

The shower cell is made from fibreglass with a gel coat finish. The good surface gloss will only last if the surface is properly treated. To clean use only soap or mild detergent solution.

The washbasin and shelves are made from plastic which should not come into contact with solvents such as nail polish remover as the will damage the surface.

## 2.8 Outer Decals

The application is car wash safe and should be treated the same way as the exterior paintwork of the vehicle. The decals must not be cleaned with high pressure jet wash systems.

The decals should not be treated with tar remover, if necessary, use purified gasoline.

## 2.9 Joints and Hinges

The guide rails of the sliding seat should be lightly oiled periodically at the joints or even better, sprayed with a non-greasy spray.

The telescopic strut of the roof vent should also from time to time, be oiled so that it moves easily.

## 2.10 Second Battery (Leisure Battery)

The second batteries are located inside the rear seat bank.

Proper function of the electrical system, especially the additional heating depends very much on the charge level of the second batteries.

If the acid level is too low pull out the plug of the gas venting stopper, disconnect battery, remove cell plug and top up with distilled water to the max level.

How often you should check the battery acid level will depend on the operating conditions of the vehicle and the season.

When detached the second battery terminals should be insulated. They must not come into contact with vehicle earth.

Well before the start of a journey the battery should be sufficiently charged using the built in battery charger.

## 2.11 Gas tank

We recommend to treat the gas tank with under body protection. The red marking strip must however remain recognizable, or it must later be renewed. In addition, clean the valve regularly. The hinges and lock on the gas tank cover must be cleaned and oiled occasionally so that it continues to function properly.

## 3. Troubleshooting

### Tools

The tool kit is placed at the factory in the passenger seat. The jack is inside the rear seat bench above the freshwater tank.

### 3.1 Water pump does not work

- a) Check the second battery is charged by pressing the button on the display unit, where appropriate, recharge battery.
- b) Check 10 amp fuse for the water pump in the display unit.
- c) If temp is below 0°C check if ice has formed in the water supply system.

### **3.2 Battery charger does not work**

- a) Check if 220 v is applied to the vehicle.
- b) Check whether the safety circuit breaker is on (near to the display panel above the rear door).

### **3.3 Hot water heater does not work, the control lights are not lit.**

- a) Check 10 amp fuse for the water supply in the display unit.
- b) Check 16 amp fuse for the central electrics.

#### **3.3.1 Hot water heater does not work, the red control indicates a fault.**

- a) When not working, try 2 or 3 times to start.
- b) Check the tank has gas in it.
- c) Check that the valve on the gas tank, main gas valve in the supply and the quick release valve for the water boiler are all open.
- d) Check that the flue is not being blocked. To avoid this, remove any luggage on the roof rack in the area of the flue.
- e) Check if the Eis-ex is switched on (may be required at temperatures of +5° C and below)

If the function of the hot water heater can not be restored, we recommend you contact the customer service department of the equipment manufacturer. A customer services directory is included with the equipment.

### **3.4 Fridge does not cool**

#### **3.4.1 12 v operation**

- a) check 10 amp fuse for the fridge in the display unit.

#### **3.4.2 220 v operation**

- a) Check the safety circuit breaker is switched on.
- b) Check the 220 volt plug for the fridge (at the rear side) is inserted in the socket.

#### **3.4.3 Gas operation**

- a) Check that valve is open on the gas tank, main valve in the supply and the quick release valve for the fridge.

- b) Check whether ice-ex is switched on (required at temperatures of + 5°C and below).

If the function of the fridge can not be restored, we recommend you contact the customer service department of the equipment manufacturer. A customer services directory is included with the equipment.

### **3.5 Heater**

#### **3.5.1 Heating does not start, no fan noise**

- a) Check that second battery (leisure battery) is fully charged.
- b) Check 25 Amp fuse for the additional heating.
- c) Check motor current fuse in the heating control unit.

WARNING! As a replacement, use only T 1.25 A fuse. The use of other backups in case of failure can cause damage to the control unit.

#### **3.5.2 After it is switched on the fan runs only for around 3 minutes.**

**The heater does not ignite and is automatically switched off.**

- a) Check that second battery (leisure battery) is fully charged (start vehicle engine and with the engine running and start heating).
- b) Turn the heater off and on again (no more than twice). If heater still does not ignite it needs to be repaired in a workshop.

#### **3.5.3 Heating is switched off due to overheating.**

**Red light (B) flashes on the panel.**

- a) Check that the wire mesh in the air intake (behind the drivers seat) is sufficiently clear and provides an unobstructed air intake.

#### **3.5.4 After it is switched on the fan runs only for around 20 seconds and is automatically switched off.**

- a) Check that second battery (leisure battery) is fully charged (start vehicle engine and with the engine running and start heating).

If the function of the heating can not be restored, we recommend you contact the customer service department of the equipment manufacturer. A customer services directory is included with the equipment.

### 3.6 Fuses (see also circuit diagram)

E1 4 Amp fuse in the battery charger. The battery charger is located inside the rear bench seat next to the second batteries.

E2 25 Amp fuse for additional heating is located in the fuse box inside the rear bench seat.

E3 16 Amp fuse for the central electrics is located in the fuse box inside the rear bench seat.

E4 10 Amp fuse for the fridge, water pump and boiler is located in the display unit.

E5 10 Amp fuse for the lighting is located in the display unit.

E6 Over current trip (thermal fuse) is located in the display unit.

E7 Fuse T1 Amp (Boiler) is located on the control panel in the boiler. The motor current protection (fuse T1.25 Amp) of the heater blower is located in the control unit of the heating. The control box is mounted near the starter battery (seat box under the drivers seat).

### 4.0 General Reference

Before starting a journey in the camper, we recommend using the following travel preparation check-list.

#### 4.1 Papers

Identity card or passport	Street maps
Vaccination certificates	Travel Guide
Driver's licence (International?)	Vehicle Registration
Carnet or Triptik	Vehicle Operating Instructions
Insurance Green Card	Service Stations Directory
International Medical Card	List of LPG Filling Stations
Necessary papers for the dog	Camping Guide

#### 4.2 Vehicle Preparation

Carry out inspection	
Tool kit	
Check the second battery charge level	
Check gas level	
Fill up water	Fuel jerry can
First-aid kit	Warning triangle

**Equipment**

Tableware, Cutlery	Bed linen
Cookware	Clothing
Can and bottle openers	Toiletries
Water canister with filler pipe for tank	
220 Volt connection cable	Footwear
12 Volt cable light	Rain gear
Underwear	Flashlight
Possibly Radio + TV	Sports equipment
Reading matter	Matches
Awning	Chemical toilet

### 4.4 Loading and Tyre Pressure

The correct loading of the vehicle with laundry, luggage, food, etc. is important for a good ride. It is preferable to put the main weight in the lower storage areas and lighter items in the upper storage areas.

Ensure that the load on the roof rack does not block the flue of the hot water boiler or it will not function properly.

The maximum load of the roof rack is 50 kg.

#### Tyre pressure

As the campervan has been designed to carry a particular load including camping equipment, you can drive safely using the details supplied by VW. Note the specifications for motorway driving at higher speeds.

#### Roof Structure

If you wish to carry a surfboard or ski holder you should any use brackets that use the roof seams for support.

Note that in order for the vehicle to drive properly any load should be uniformly distributed.

## 4.5 Before a Journey

Make sure windows and roof vents are closed to prevent drafts and damage.

### Approach to filling stations

Take care that gasoline or diesel heater, warm water equipment, and the gas supply to the refrigerator must be turned off.

## 4.6 Travel Tips

Staying with the camper in the city?

Of course you can take a motor home in any camping site, for many, however, this would avoid the charm of this special companion. Some would prefer to stay in the centre, which eg for some countries is permitted.

Here are some tips for those who want to take their camper in the city and possibly even stay there. They will have the ideal starting point to visit museums, to attend theatre events or to allow, for example, a gourmet tour.

Many cities have a fair or festival place where twice a year they have shows. Also, for two weeks one of the clubs or a big top circus tent is set up. The remaining time the ground is free, and often sanitary facilities can also be found.

Another way to stay in cities is at sports stadiums. You will find ample parking and in most cases, park-like facilities.

Drawback: if at the weekend there is a football game then there will be a crowd for a few hours. From experience evenings and at night is quieter.

Even in smaller cities in the last years, spacious indoor swimming pools emerged with appropriate parking areas. The indoor pools usually close about 21.00 hours and in the morning will open at 10:00 hours again. Only in rare cases, does the car park operate in the morning so this is an appropriate parking space for one night, and they are often in places with low traffic noise.

If you would like stay in the city and don't mind some road noise then it would be best to stay at a guarded parking lot. Most places

will be supervised until 21.00 hours or a maximum of 22.00 hours. You have a campsite in a central location with security. When you pay for the last hour, and in the morning from 9.00 to 11.00 hours, you may pay 2:50 to 3:00 DM overnight fee. Maybe you should think of paying a tip for the security.

Guest houses in the suburbs often have large parking lots, especially those with so called beer gardens. Here it is sufficient in many cases to eat in the restaurant or have a drink with the family and you may get permission to stay over night on the parking lot. Advantage: man can jump from his evening drink straight into his motor home bed. Disadvantage: Often the last customer leaves after midnight.

## 4.7 Behaviour in a thunderstorm

The Westfalia camper is as secure in a thunderstorm as a normal car. The sheet metal reinforcements interact with the vehicle body as a lightning conductor (Faraday cage).

### We recommend:

Disconnect 220 V power supply from outside socket  
Retract car radio antenna

## 5.0 Appendix

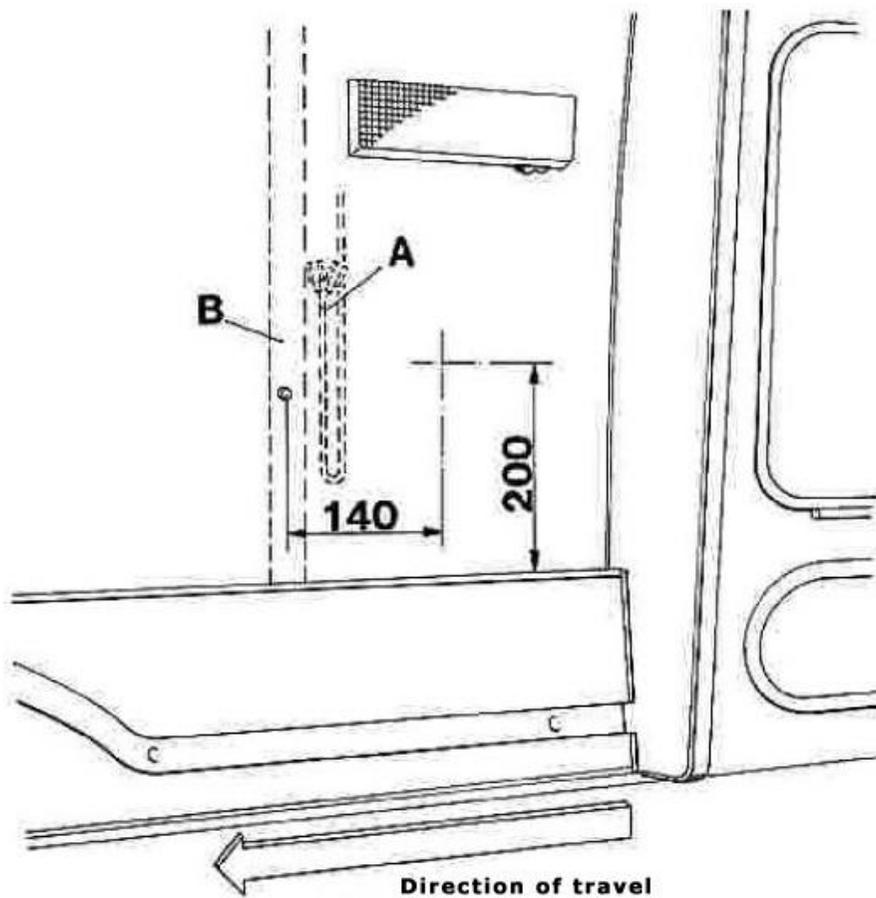
### 5.1 Installation Position of the Speakers

Position of the speaker cable

The speaker cables (A) are always located next to the roof brace (B).

The dimensions (140 and 200) show the centre point of the speaker.

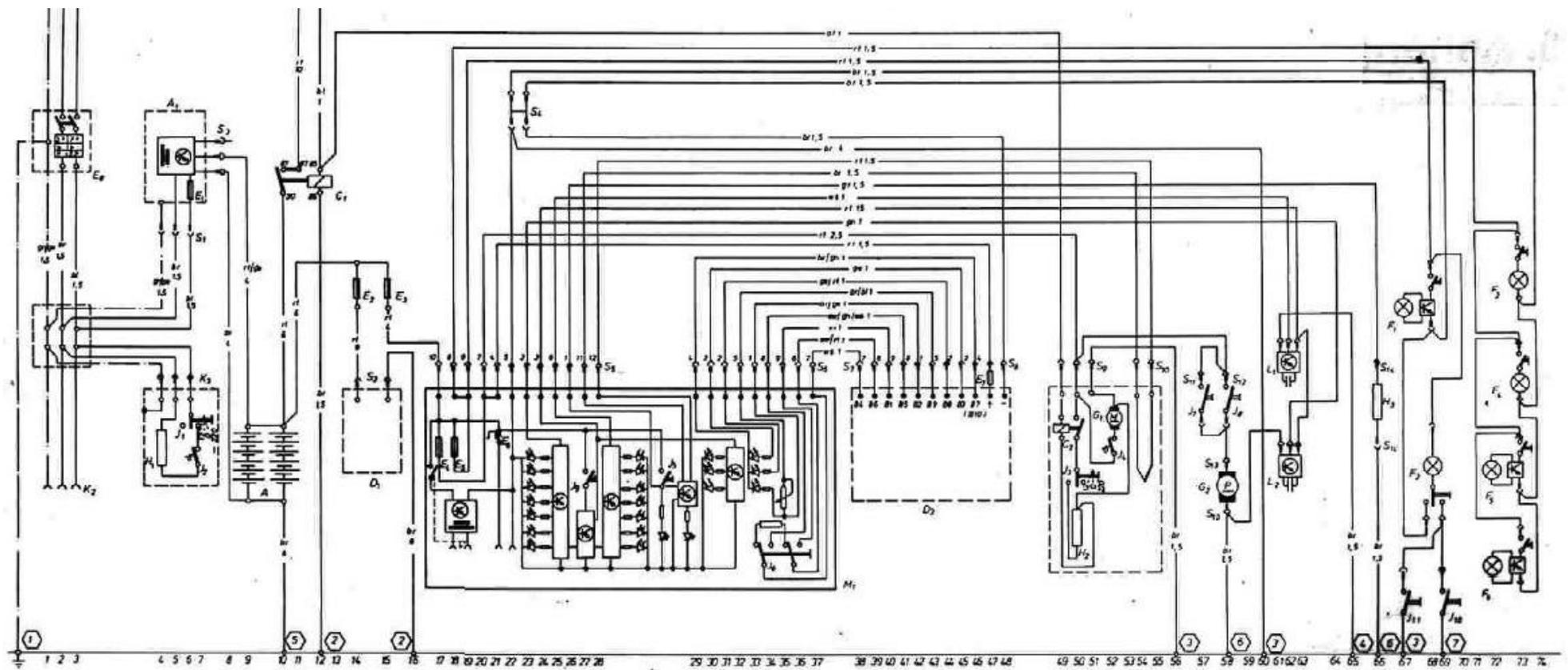
The end of the speaker cables (rolled up together) are right and left under the instrument panel. When using built in speakers note the max mounting depth of 40mm.



The factory is working constantly in the development of all types and models. Please be aware we reserve the right to change our supply range, its equipment and technology. From the information, pictures and descriptions in this manual, therefore no claims can be derived.

Translated into English by [www.westfaliaLT.info](http://www.westfaliaLT.info) – a useful website for VW Westfalia LT Camper enthusiasts.

[www.westfaliaLT.info](http://www.westfaliaLT.info) - a useful site for enthusiasts and owners of VW Westfalia LT campers



Description	Circuit
A Second battery 2 x 12V 80 Ah	9,10
A <sub>1</sub> Battery charger	5,6
B Starter Battery drivers seat box	11
B <sub>1</sub> Connection Kl.61 under instrument panel	12
C <sub>1</sub> Starter battery isolating relay; driver's seat box	10, 11, 12
C <sub>2</sub> Isolating relay; 12V fridge	49, 50
D <sub>1</sub> Auxiliary heating (B2L/D2L)	14, 15
D <sub>2</sub> Warm water boiler	38 - 48
E <sub>1</sub> 4A fuse (battery charger)	6
E <sub>2</sub> 25A fuse (auxiliary heating)	14
E <sub>3</sub> 16A fuse (central electrics)	15
E <sub>4</sub> 10A fuse (fridge, water pump, boiler)	17
E <sub>5</sub> 10A fuse (lighting)	18
E <sub>6</sub> Over current trip (thermal fuse)	21
E <sub>7</sub> 1A fuse (boiler)	47
E <sub>8</sub> Circuit breaker 10mA,L-automat 10A, 2 Pole	1, 2, 3
F <sub>1</sub> Transistor light (kitchen area right)	67, 68
F <sub>2</sub> Inner light (roof top right)	68, 69
F <sub>3</sub> Inner light (shower)	73
F <sub>4</sub> Inner light (roof top left)	73
F <sub>5</sub> Transistor light (seat group)	72, 73

F <sub>6</sub> Transistor light (seat group)	72, 73
G <sub>1</sub> Fridge fan	52
G <sub>2</sub> Water pump	58
H <sub>1</sub> 220V fridge heating element	4
H <sub>2</sub> 12V fridge heating element	50
H <sub>3</sub> Gas regulator heating element (Eis-ex?)	66
J <sub>1</sub> 220V fridge switch	6, 7
J <sub>2</sub> 220V fridge thermostat	7
J <sub>3</sub> 12V fridge switch	50
J <sub>4</sub> Thermo switch	52
J <sub>5</sub> Switch heating element gas regulator	
J <sub>6</sub> Switch warm water boiler	
J <sub>7</sub> Switch water pump (shower)	57
J <sub>8</sub> Switch water pump (kitchen)	58
J <sub>9</sub> Button control display panel	
J <sub>10</sub> Door contact (sliding door)	69
J <sub>11</sub> Door contact (rear door)	67
K <sub>1</sub> 220V external socket	1, 2, 3
K <sub>2</sub> 220V internal socket	1, 2, 3
K <sub>3</sub> 220V internal socket for fridge	4, 5, 6
L <sub>1</sub> Tank water level sensor; waste water tank	61, 62, 63
L <sub>2</sub> Tank water level sensor; fresh water tank	61, 62, 63
M <sub>1</sub> Central electric control display unit	17 - 37

S <sub>1</sub> 3 pin connector; battery charger
S <sub>2</sub> 3 pin connector; battery charger
S <sub>3</sub> 2 pin connector; auxiliary heating
S <sub>4</sub> 4 way connector, central electric
S <sub>5</sub> 12 pin connector, central electric
S <sub>6</sub> 9 pin connector, central electric
S <sub>7</sub> 9 pin connector, boiler
S <sub>8</sub> 2 pin connector, boiler
S <sub>9</sub> 3 pin connector; fridge
S <sub>10</sub> 2 way connector; fridge
S <sub>11</sub> 2 way connector, shower tap
S <sub>12</sub> 2 way connector, kitchen tap
S <sub>13</sub> 2 pin connector, water pump
S <sub>14</sub> 2 pin connector gas regulator (eis-ex?)
① External socket earth point
② Battery box drivers seat earth point
③ Column rear right earth point
④ Longitudinal beam earth point
⑤ Floor rear seat bank earth point
⑥ Wheel arch rear right earth point
⑦ Column -C-, right earth point

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