

Owner's Manual



KAMPER/KARISMA/KAMEO OWNERS MANUAL

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Specifications

KAMPER MARK III, KARISMA II and KAMEO II

Based on the Volkswagen Transporter Panel Van.

<u>EXTERNAL DIMENSIONS</u>	<u>KAMPER</u>	<u>KARISMA, KAMEO</u>
Overall Length	4570mm (15' 0")	4570mm (15' 0")
Overall Width	1850mm (6' 0 3/4")	1850mm (6' 0 3/4")
Overhall Height	2293mm (7' 6 1/4")	2464mm (8' 1")

INTERNAL DIMENSIONS:

Height over usable floor area	2261mm (7' 5") (Roof Raised)	1878mm (6' 2")
Height over upper bed area	750MM (2' 5 1/2")	N/A

WEIGHTS

Gross Vehicle Weight	2390kg (2.35 tons)	2390kgs (2.35 tons)
Unladen Weight*	1809kg (1.78 tons)	1792kgs (1.76 tons)
Load Capacity	581kg (0.57 tons)	598kgs (0.59 tons)

BED SIZES:

Lower Bed	1854mm x 1219mm 6' 1" x 4' 0"	1854mm x 1219mm 6' 1" x 4' 0"
Upper Bed	1829mm x 1219mm 6' 0" x 4' 0"	N/A

WATER SYSTEM:

KAMPER, KAMEO

54.5 litres (12 gallon) fresh water storage. Electrical pump with foot operated isolating switch.

KARISMA

64.5 litres (14.2 gallons) fresh water storage. 54.5 litres (12 gallon) waste tank. Electrical pump with isolating switch and warning light pressurised system.

GAS SYSTEM:

Cupboard storage for two Camping Gas
907 cylinders - metric copper compression
fittings and isolating taps for hotplate,
refrigerator and water heater (Karisma
only). Appliances take low pressure
280 (11") Butane, 356mm (14") Propane

- * Unladen weight includes full petrol and fresh water tanks, two gas bottles, tools and spare wheel.

OPTIONS

- Kamper
1. "Blown Air" heating system including second battery and control panel incorporating battery charger, fuses and battery condition indicator.
 2. Porta Pottit 235 flushing toilet.
 3. Front seat covers to match rear seat upholstery.
 4. Childs cab bunk
- Karisma
1. "Blown Air" heating system,
 2. Childs cab bunk.

SPECIFICATION OF MATERIAL TYPE AND COLOUR - KAMPER AND KARISMA

This section will assist in the correct identification of material when spares or replacement furnishing materials may become necessary.

- Upholstery - Crystal copper 950 with crystal beige plain.
- Mattress - Concord Mushroom
- Curtains - ATP 2614 colour 32.
- Carpet - Symposium
- Wall Fabric - Medium flax FMC 223
- Furniture Board - Alkor PVC 643/09 Light Oak.
- Worktops - Tatami Ecrú - Preformed
- Roof Lining - Calico P2945 - Kamper
Panason - Karisma

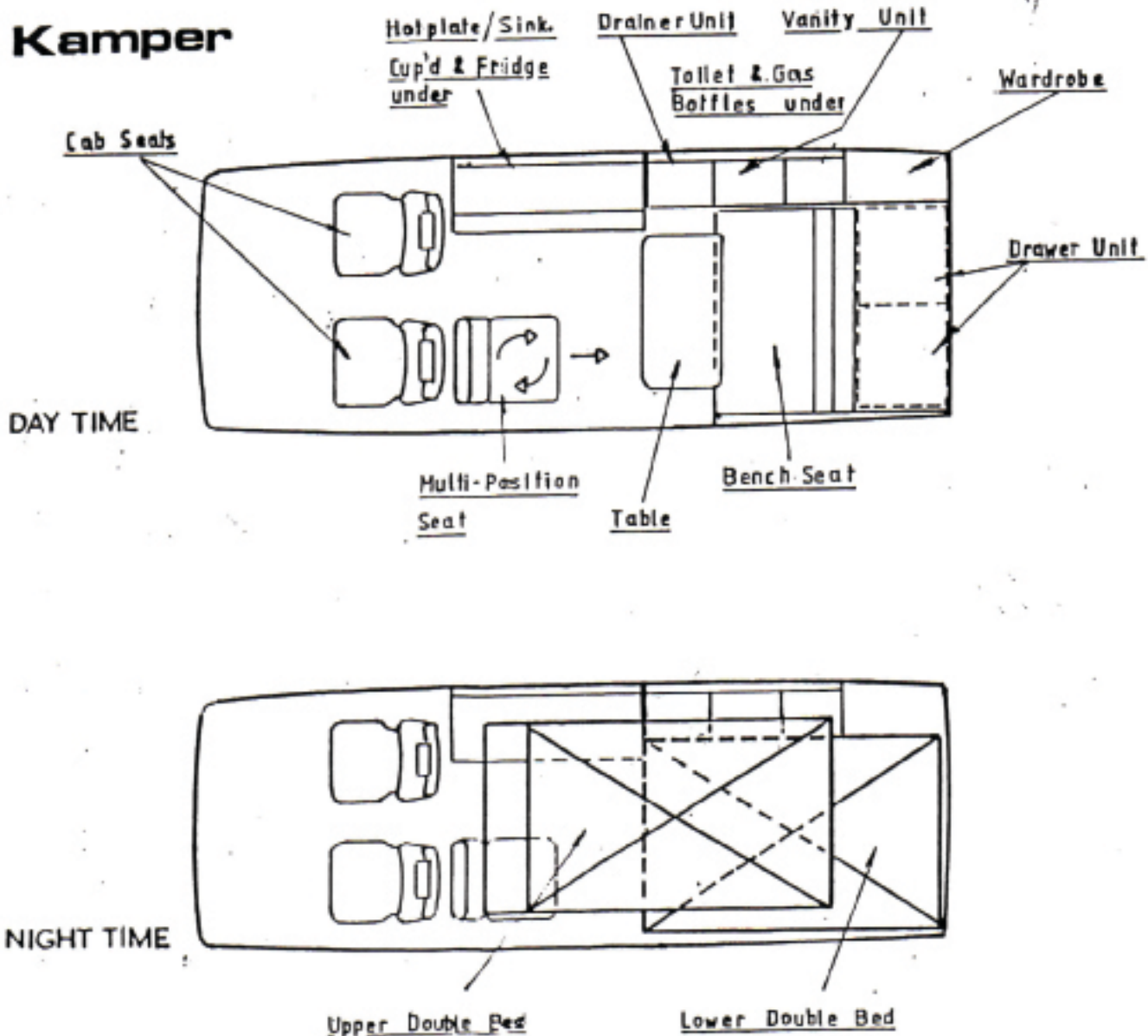
The policy of Autohomes (UK) Ltd is one of continuous improvement. We reserve the right to change prices, specification or equipment at any time without notice. All measurements and weights are approximate only.

Congratulations on choosing our Autohomes VW Conversion.

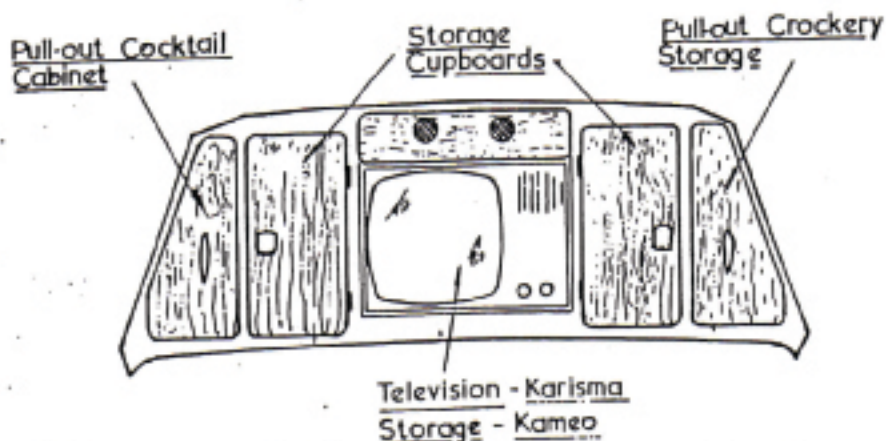
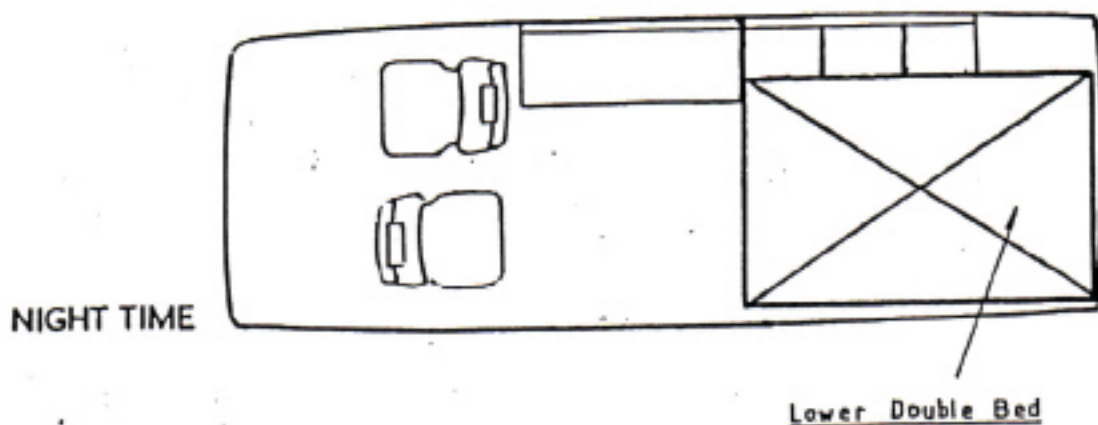
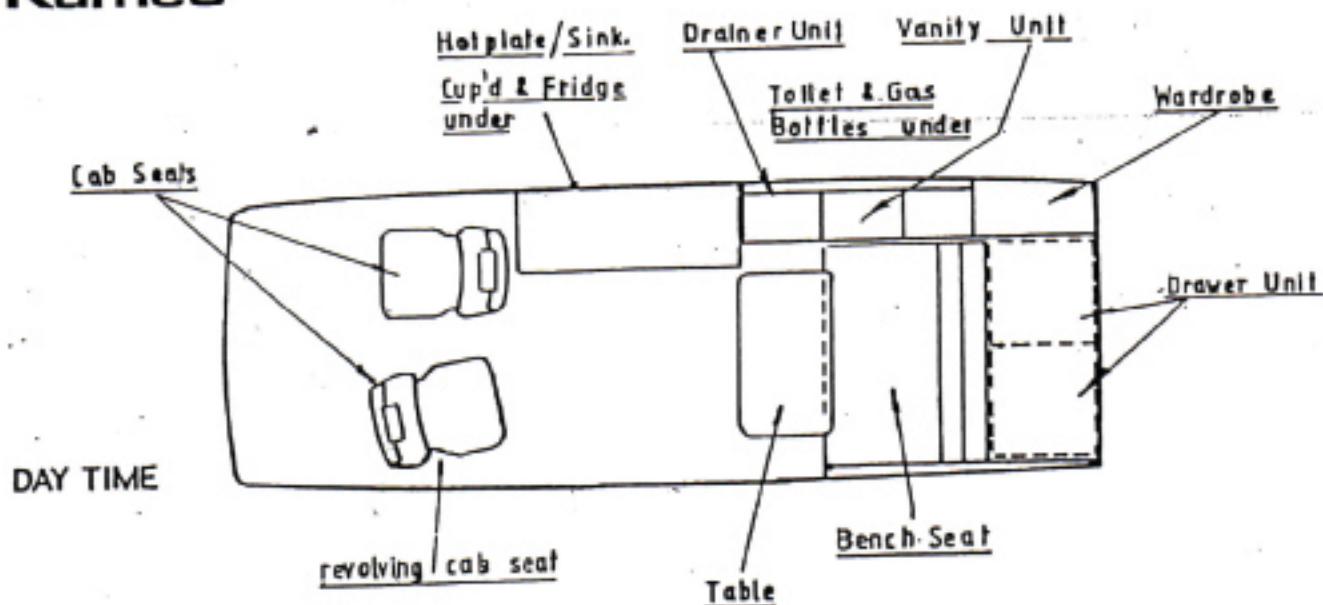
This Owner's Manual and Operating Guide gives all the necessary information to ensure that you get the most out of your conversion. Further information can be obtained from any Autohomes (UK) Limited dealer who can also provide information on Autohomes' aftersales service.

Please consult your Volkswagen manual for information on the Volkswagen Transporter Kombi on which the conversions are based.

Kamper



Karisma Kameo



2.1 Kemper Elevating Roof

Once the vehicle is stationary the elevating roof can be raised. This will give a headroom of over 7ft over the usable floor area and 2' 5 1/2" over the bed area.

To raise the elevating roof it is just necessary to release the front catch. The release knob is located at the front on the left hand side.

To reduce the spring tension on the catch we suggest that you pull down on the forward handle of the roof at the same time as the release knob is pulled.

Having released the catch push the front of the roof up, the gas filled struts will take over and raise the roof to its fully elevated position.

The rear lock will automatically disengage as the front rises.

The side flaps can now be positioned. Stand on the stool/storage unit provided, release the shoot bolts and lower the top flaps, now raise the lower flaps ensuring the shoot bolts have been drawn back to release the side flap locking mechanism. Before pushing the lower flap fully home raise the arm of the locking mechanism to the fully up position, push the lower flap fully home and lock in position by lowering the arm of the locking mechanism to the stowed position and retain in place with the shoot bolt.

Should it be desired one or both of the top flaps may be left in the stowed position thereby greatly increasing the ventilation. The lower flaps can still be locked into the upright position as described above.

Lowering the roof is the reverse of raising, unlock and lower the bottom flaps, raise the top flaps and lock in the stowed position. Bring the roof cap down by pulling firmly on the handles provided, the front will come down first, followed by the rear. Should the roof not lock down first time, raise the front of the roof about 6 inches and lower smartly, the lock should then engage. Both the front and rear locks will engage automatically.

WARNING

Do check that the roof is locked down at both the front and back before driving. This can be checked by trying to push the roof up.

NEVER DRIVE WITH THE ROOF RAISED AS THIS COULD RESULT IN DAMAGE AND WOULD INVALIDATE THE WARRANTY

2.2 Seating Arrangement

The Kamper can carry up to six people utilising the forward facing bench seat, the versatile multi-position sliding, revolving and reclining seat and the two cab seats.

The Karisma/Kameo will carry up to five when travelling, when parked the swivelling passenger seat can be turned round so that the cab becomes part of the lounging area.

2.3 Table (All Models)

The table is located in position by a simple pillar leg located in the floor recess with the table fitted on top. The table may be pivoted to assist access to the bench seat. Storage is behind the bench seat on the rear cushion.

2.4 Dinette

The dinette will seat two people in the Karisma/Kameo using the bench seat and four in the Kamper with the additional swivel seat.

The table is positioned in front of the bench seat and the swivel seat slides fully aft on the fore and aft slide, pivot the seat so it is facing the nearside and then lower the seat back to the horizontal position. It is important to position the stool/storage unit under the seat back to support the weight of the person sitting on it. (Kamper only).

2.5 Stool/Storage Unit - Kamper only

As described previously the stool/storage unit fulfills many roles. It is a stool when raising and lowering the roof, and a support for extending the dinette seating.

It has a hinged top so it can be used as a storage unit and when travelling it can be positioned between the cab seats to provide more room for all those items required near at hand.

It will also provide an extra small seat either inside or outside the vehicle.

2.6 Sleeping Layout

The Kamper has both a lower double bed and an upper double bed.

The Karisma/Kameo has just the lower double bed.

2.6.1 Lower Double Bed

The lower bed is made by converting the bench seat. If carrying out the conversion for the first time, it would be advantageous to locate the position of items which will be referred to in the conversion instructions.

The support leg is located under the seat base immediately behind the front stiffening rail. It is retained in either the 'stowed' or 'in use' position by a overcentre spring and is operated by a simple pivoting action from one position to the other.

The handle loops are located on the top and bottom of the seat back, the one on the top of the cushion is visible but the bottom one is hidden by the seat base. The loops provide an easy method of moving the seat back.

Both the seat base and back are moved by means of pivot arms attached to the underside of the seat base and the back of the seat back.

To convert to the double bed first raise the front of the seat base and pivot the leg into the down position. Pull the seat forward so that it swings on its pivot arms up and over into the bed position. By leaning over or kneeling on the seat base release the seat back from its retaining catches by operating the central lever either to the left or right at the same time pull the seat back forward clear of the locks. Locate the bottom hand loop of the seat back and pull forward, the back on its pivot arms will swing into position between the front and rear cushions and locate on top of the support cleat protruding from the rear of the seat base. Tuck the hand loops between the cushions and the bed is ready for use.

To revert back to a bench seat reverse the above procedure. Locate the hand loop at the top (rear) of the seat back cushion lift and swing the seat back into its seat position. The two spring loaded locks will engage automatically. Swing the seat base back into almost its final position but before lowering the front down re-stow the support leg.

2.6.2 Upper Double Bed (Kamper only)

The upper double bed large mattress is already in position. To complete the bed, release the shoot bolt retaining the two extension panels stored over the cab, pull out the panels and position adjacent to the fixed part of the bed. Lock the panels in position with the shoot bolt on the forward face of the front panel.

To assist in gaining access to the upper bed we recommend the following procedure is adopted.

The two additional small mattresses and sleeping bags are placed on the main part of the bed. The two bed extension panels are pulled out only far enough to separate the two panels. This is achieved by lifting the front of the rear panel slightly to disengage the catches. Slide the rear panel up the main section of the bed and place one of the small mattresses on top. The front extension panel should be left protruding from its storage space.

By using the stool/storage unit and the top of the kitchen unit gain access to the bed. When in the upper bed the front panel is pulled across and rejoined to the rear panel and the second small mattress placed in position. The upper bed is now complete.

Should the front extension inadvertently be pushed back into its storage space it can be retrieved by pushing the rear panel back into the storage area, the two catches will automatically engage and both panels pulled out again.

2.7 Kitchen Unit

The kitchen unit consists of a separate enamelled hob and grill unit complete with a glass cover fitted with spring loaded hinges and an enamelled sink unit with a separate hinged worktop cover retained in the open position by a turn button on the end of the eye level locker.

The lower part of the kitchen unit houses the 2 cu ft three way refrigerator, cutlery drawer, access flaps one for the grill and one for the gas taps, and a cupboard, part of which houses the water heater (Karisma only).

2.8 Storage Unit

~~To the right of the kitchen unit is the storage unit, the top of which provides additional heat resistant worktop space.~~

The three separate tops conceal a drainer tray, this is used in the same way as a draining board. It has its own waste outlet which carries the waste water to the outside of the vehicle, or to the waste water tank in the case of the Karisma. Next is a vanity unit with mirror and finally a storage area with a plastic coated wire storage basket with space below for a spare camping Gaz Bottle.

Behind the sliding doors is more storage and at ground level is space for the optional Porta Potti 235 and for the 'in use' gas bottle.

Wardrobe

To the rear of the Storage Unit is the wardrobe with access via the door or the vehicle tailgate.

Drawer Storage

Behind the bench seat underneath the rear cushions are two drawers with access again via the tailgate. An alternative method of reaching the drawers contents is by removing the rear cushion and lifting the ply panels covering the drawers.

Further storage is provided by the overhead locker with drop down doors, one at the rear one on the offside.

The Kamper also has additional storage in the base of the swivel seat and the stool storage unit, whilst the Karisma has the large roof storage area to the rear and the sliding storage racks, for bottles etc on the nearside and crockery in the offside with further storage cupboards each side of the television set. To remove the sliding storage racks, remove all the contents to reduce weight, pull the rack out as far as the stop. The stop consists of a shoot bolt located inside the rack at the rear, lift the shoot bolt and the rack can then be completely withdrawn.

2.9 Ventilation

Ventilation is provided for by the sliding window and the wind-up rooflight with built-in flyscreen in the elevating roof.

Additional ventilation on the Kamper can be achieved by leaving one or both of the top side panels in the stowed position as described in 2.1. The cab door windows can also be utilised to increase the ventilation on both conversions.

2.10 Insulation

The insulation gives protection from extremes of hot and cold and minimises condensation. The body sides have insulating glass fibre fitted where access is available. Both the Kamper roof cap and side panels and the Karisma roof dome are of double skinned construction with insulating material between.

2.11 Engine Access

To gain access to the main engine cover at the rear of the vehicle, first remove the rear cushion, remove the top boards of the drawer unit to give access to the retaining wing nuts and bolts. Remove wing nuts and slide drawer assembly out complete.

Operating Instructions

The appliances in your VW Conversion are supplied by Europe's foremost manufacturers. Before using them you should study the information contained in this section, and any other accompanying operating instructions. All warranty certificates should be completed and returned (if required) to the relevant manufacturers.

3.1 Electrical Systems

3.1.1 Kemper/Kameo System 12 Volt

The electrical supply for the internal lighting, water pump, and the 12 volt circuit of the refrigerator is taken from the vehicle battery with the refrigerator wired separately and controlled by the ignition switch.

3.1.2 Karisma System 12 Volt

The internal supply for the internal lighting water pump, water heater and television is taken from the secondary battery via the Zig panel. The 12 volt circuit for the refrigerator is taken from the vehicle battery via the ignition switch.

3.1.3 Electrical System 240 Volt (All models)

240 volt mains is available via an external socket to supply power to the refrigerator, an internal outlet socket and in the Karisma provide battery charging via the Zig panel.

3.1.4 Electrical Components

(a) Batteries

Located in seat boxes behind the cab seats. The vehicle battery being behind the driver's seat.

(b) Zig Panel (Karisma only)

The Zig panel consists of a control unit which allows central control of the 12 volt system except for the refrigerator and the ability to charge the secondary battery from an outside 240 volt supply.

Electrical Components (Continued)....

(b) When Travelling

Whilst travelling the control unit charging switch should be in the touring position. Both batteries will then be charged by the vehicle alternator.

The refrigerator will also be supplied with 12 volt via the ignition switch. It is therefore necessary for the refrigerator control to be set to 12 volt.

When Static

When 'On Site' the control unit charging switch should be switched to 'On Site'. This will ensure that any 12 volt current will only be drawn from the secondary battery. If for any reason the secondary battery will not operate the 12 volt equipment then it is possible to run the equipment from the vehicle battery by switching the charging unit to touring. Use of the vehicle battery in this condition should be restricted to avoid flattening the battery below the level for starting the engine.

If the vehicle is connected to a 220/240 volt supply via the control unit the switches should be positioned as follows - Mains switch 'ON', charging switch to 'MAINS'. In this condition the secondary battery will automatically be charged as required. It is not possible to charge the vehicle battery through the control panel.

The refrigerator should also be switched to LP Gas. It should never be left on 12 volt supply when static as this will very quickly drain the battery.

Using the 12 Volt Equipment

Turn on the 12 volt switch on the control unit. The battery condition indicator light will light either red or green depending on the state of the battery (see below) and the 12 volt equipment will be operative.

The Battery Condition Monitor

The purpose of this device is to warn that the caravan battery is becoming discharged. The red light will glow when the battery voltage is below 11 volts, above this voltage the green light will glow. No harm will come to the system or the battery if the accessories are used when the red light is on, and it will be found that possibly another few days reserve of current is available after the red light first appears.

Electrical Components (Continued)....

(b) The Battery Condition Monitor (Continued)....

A true reading will only be given when all the 12 volt equipment is switched off and when neither charging system is in operation. The red light may come on when an appliance is switched on, this is normal - current surges cause momentary voltage drop. It is important to remember that the battery monitor is not a charging indicator. The fact that the green light is on does not mean that the battery is fully charged. Even with a flat battery the green light will glow if either charging system is operating due to the high terminal voltage present at the battery.

NB: When using current from the vehicle when the charging switch is in the touring position, the red light may glow. This is due to voltage drop between the batteries.

The Fuses

There are four fuses fitted to the control unit. The mains fuse is fitted in the smaller of four fuse holders on the front panel and is rated at 1 amp; it is a standard 20mm x 5mm glass quick blow fuse. This fuse holder can only be removed with a screwdriver (this is to comply with electrical safety regulations).

The three 10 amp fuses mounted on the right of the panel protect the various accessories connected to the control unit and are standard 1 1/4" glass quick blow fuses. Access to the fuses is by turning the hold 1/4 of a turn in the direction of the arrow.

All fuses are available world wide from electrical and radio dealers. Under no circumstances should a fuse of a different type of value be fitted.

Additional fuses to the above are fitted as follows -

2 x 35 amp fuses adjacent to the batteries to protect against incorrect polarity.

1 x 25 amp fuse in the battery box behind the drivers seat (Note - some of the early Mark 11 Kampers had this fuse fitted behind the Zig panel) to protect the refrigerator circuit.

Electrical Components (Continued)....

The Fuses (continued)....

WARNING: In the event of a fuse blowing there exists a fault in the circuit protected by that fuse, and the cause should be ascertained before replacing the fuse. It is important to remember that a fuse is fitted for the protection of the circuit and is a safeguard against fire and injury. Never remove the front panel with mains or batteries connected. There are no user serviceable parts inside.

(c) Internal Lighting

This consists of a twin tube fluorescent light over the kitchen unit and a spot light on the forward face of the wardrobe.

An additional fluorescent light is provided for the upper bed in the Kampers.

To change a tube in the twin tube type remove the two retaining screws and separate the plastic cover from the base. For the Kamper type unscrew the nut from the switch, remove the end cap and slide off the cover.

The spot light uses car type bulbs 12 volt 10 watt. Additional lighting is also available from the vehicle courtesy light which can be operated independently of the sliding door. To change the bulb in the courtesy light refer to the VW handbook.

(d) Water Pump

Submersible type located in the fresh water tank. To gain access to the pump for servicing etc., hinge the bench seat forward clear of the tank, disconnect the electrical wires at the connect and earthing lug, remove the screw cap from the tank, feed the electrical wires through the cap and remove the pump.

When replacing the pump ensure the electrical wires are resealed in the cap.

(e) Television (Karisma Only)

For operating and adjusting the set refer to the makers operating instructions.

Before viewing can commence it will be necessary to assemble and position outside the vehicle the aerial supplied.

Assembly instructions are included with the aerial.

When the television was fitted to your Karisma the built-in loop aerial was unplugged and replaced with an aerial extension lead which terminates externally with an enclosed aerial socket, this is located on the vehicle nearside adjacent to the front of the roof rack. Lift the spring loaded hinged flap and plug in the aerial socket. With the set switched on and tuned to the appropriate station position the aerial to give the strongest reception. The aerial can be attached to any smooth, flat part of the vehicle by means of the three suction pads.

Should it be required to remove the set from it's built in location, for viewing at a lower level or away from the vehicle, proceed as follows. Lift up the hinged top flap above the set, behind the flap is the television retaining plate held in position by a shoot bolt at each end, release the shoot bolts and remove the retaining plate. The set can now be removed by means of the hand hold at the top of the set. Disconnect the aerial extension lead at the back of the set and plug in the set's own loop aerial lead. If it is still required to use the set in the vehicle leave the 12 volt lead connected.

When replacing the television in the aperture it is important that the shoot bolts on the retaining plate are pushed fully home and the bolts turned through 90° to lock them.

3.2 Water System

All the models are fitted with a 54.5 litre (12 gallon) fresh water tank located under the bench seat with an external filler located on the offside of the vehicle. The water system will have been operated and checked before leaving the factory so there may be water in the system.

The large access cap on top of the tank provides access to the pump and the inside of the tank for cleaning.

3.2.1 Water Level Indicator

Located in the forward end of the offside roof locker. To obtain a reading of the water tank contents depress the small plunger, the gauge will illuminate and indicate the water level. Due to the wedge shaped section of the tank the levels shown must be considered as only approximations.

3.2.2 Kamper/Kameo

Water is fed to the sink faucet by the submersible electric pump operated by depressing the foot switch located on the floor in front of the kitchen unit. The waste water from the sink is conducted to the outside of the vehicle via a plastic hose.

3.2.3 Karisma

The Karisma has a pressurised hot and cold water system. The pump is switched on by the rocker switch located on the offside roof locker and a warning light will light when it is on. The water flow is controlled by the mixer taps in the normal way. It is advisable to switch the pump off at night when travelling or when the vehicle is left unattended.

(a) Waste Tank

The Karisma is also fitted with a waste water tank located underneath the vehicle floor adjacent to the sliding door. The tank is fitted with a drain top and large access cap as fitted to the fresh water tank. To gain access to the cap it is necessary to remove the tank from its cradle. First remove the waste pipe from the tank, support the weight of the tank and undo the four nuts and bolts on each end of the two support straps.

(b) Water Heater

The heater, located in the upper part of the sink unit cupboard is a storage type with a capacity of 10 litres (2.2 gallons). It is controlled electronically and the control box is located on the front face right hand side of the sink unit and is equipped with an on/off switch, thermostatic control (30° - 70° C) and three illuminating indicator lights, green - switched on, green and yellow - boiler is heating, red - fail condition.

The heater also has a built in combined safety valve and drain tap located at floor level beneath the heater shelf. To operate lift the handle to the vertical position.

The unit is flued externally through the side wall cowl which also provides for the intake of combustion air for the burner, this makes for a very safe heater which can be left switched on at night if required.

To operate the water heater, turn on the gas at the bottle, open the appropriate gas tap, select caravan battery and switch on the water pump at the switch panel and switch on the water heater at the control box.

Should you be operating the water heater for the first time or after draining it is necessary to first fill the heater with water. First check that the safety/drain valve is closed (ie. handle horizontal), select caravan battery and water pump switch on on the switch panel and open the hot (red) control on the mixer faucet, while the heater is filling with water, air will escape from the faucet and when water flows the heater is full.

3.3 Gas System

There is provision for the storage of two Camping Gas 907 bottles. The one in use is located in the cupboard under the storage unit, with the spare bottle alongside if no toilet is fitted, but in the rear end of the storage unit adjacent to the wardrobe if the toilet is fitted.

The gas taps controlling the hotplate, refrigerator and water heater are located in the sink unit behind the right hand drop down flap.

3.3. Gas System (Continued)....

Gas containers and regulators are not supplied with the vehicle but we recommend the use of Camping Gas No. 907 containers, and a Camping Gaz horizontal regulator tap part no. 080794.

To connect a cylinder to the vehicle gas line, a length of Neoprene hose 5/16" bore and 1/8" wall (British Standard 3212 Part 1) will be required.

GAS BOTTLES SHOULD BE TURNED OFF WHILST THE VEHICLE IS IN MOTION OR UNATTENDED. COOKING APPLIANCES SHOULD ONLY BE USED WHEN ADEQUATE VENTILATION IS PROVIDED AND NEVER FOR HEATING THE VEHICLE

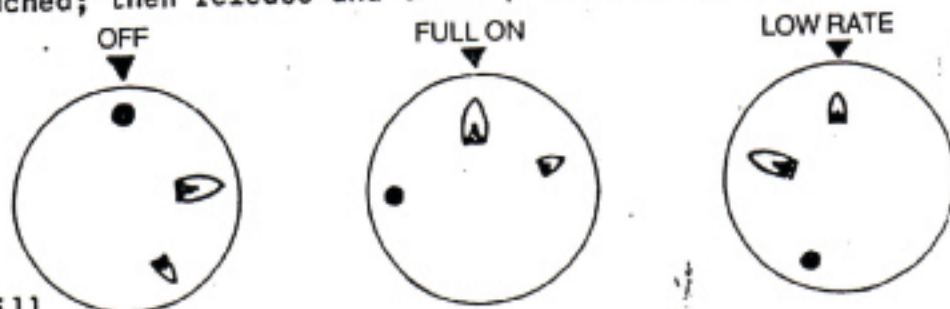
3.3.1 Gas Appliances

(a) Hotplate Taps/Burner Lighting

The taps are self-locking in the OFF position.

When lighting a burner always make sure you apply a lighted match or taper before turning on the gas. With lighted match in position push in the tap and keeping it depressed, turn it in an anti-clockwise direction to the FULL ON position.

When turning a tap from the FULL ON position to LOW RATE, turn anti-clockwise until tap will not turn any further. This indicates the bottom of the simmer range. By turning clockwise a larger flame can be obtained when required. To turn off, turn clockwise to OFF position, when a stop will be reached; then release and the tap will spring out.



(b) Grill

The operation of turning on the gas is the same as for the Boiling Burners (see above).

Whilst the grill is heating up, place the empty grill pan under the lighted burner to protect the lining. When the grill has heated up, remove the grill pan, load the pan and place in cooking position.

(c) Cleaning

To keep this appliance in good condition it should be cleaned as soon as possible after use.

The enamelled units and burner heads should be cleaned with warm water and detergent using a soft cloth, or a NON-abrasive liquid cleaner. Stubborn stains can be removed by 'Duraglit' or similar products.

DO NOT use harsh abrasive cleaners, steel wool or cleaning powders.

(d) General Notes

- (i) When the grill is in use always ensure that the front of the grill compartment is not covered up, the hinged flap must always be in the down position.
- (ii) When the appliance is in use it is recommended that a window or rooflight is opened for ventilation purposes.

3.4. Refrigerator with Electronic Ignition

3.4.1 Introduction

The refrigerator can be operated by any one of three power sources -

- (i) 12 volt electrical. Available only when the ignition is switched on, and is used when driving.
- (ii) 220/240 volt electrical. Used on site when available.
- (iii) LP bottled gas. Used on site or when the vehicle is to be at rest for more than half an hour. It must be levelled in both directions, so that the ice tray shelf inside the frozen food storage compartment is level. (This can be checked with a small spirit level placed on the ice tray shelf). If it is not convenient to level the vehicle and it is to stand out of level for more than half an hour, the refrigerator should be temporarily turned off.

3.4.2 The Electronic Ignition

When the switch is switched on the electronic circuit is activated producing a series of sparks between the electrode and the burner head. The neon light in the switch will flash on and off as sparking takes place. As soon as the burner lights the flame is detected by electrode, sparking ceases and the neon light will go out.

After the burner has lit, the switch should be left in the 'ON' position so that in the event of the burner going out (due to a gust of wind for instance) the ignitor will automatically start sparking again and relight the burner, provided of course that gas is present. If the burner does not re-ignite within 30 to 60 seconds the flame failure valve will close and automatically shut off the flow of gas to the burner. If this happens sparking will continue to take place and the neon light in the switch will flash continuously to alert the user that something is wrong, or that the gas bottle is empty and needs replacing.

3.4.3 Lighting the Burner (LPG Operation)

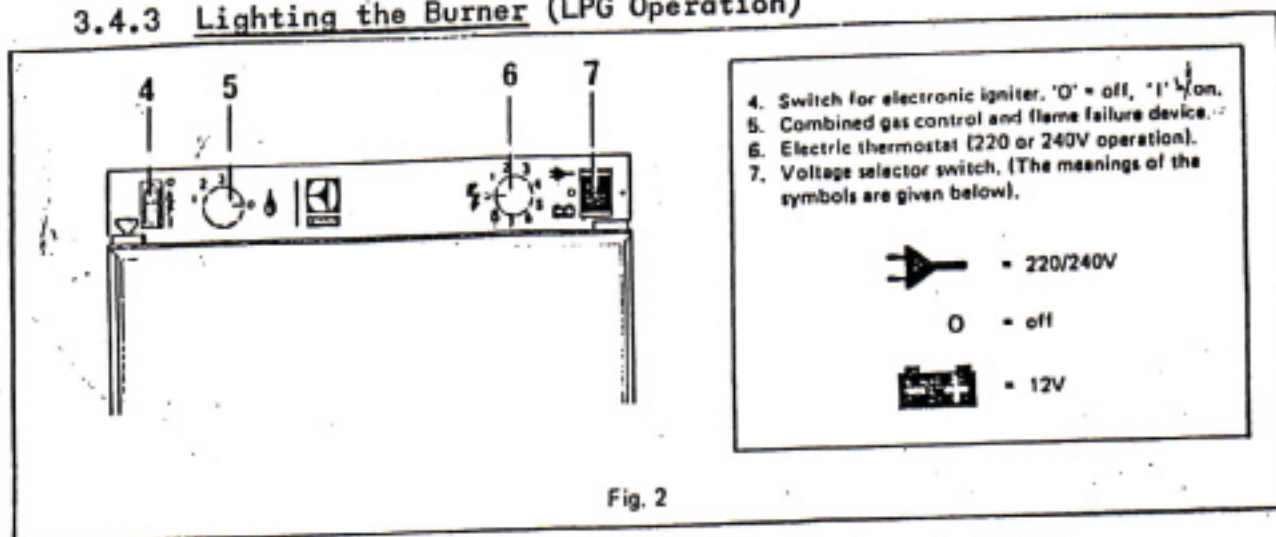


Fig. 2

1. See that the voltage selector switch (7) is set at 'O' ie. is at its central (off) position.
2. Turn on the valve of the gas bottle and open the tap in the gas supply to the refrigerator.
3. Turn the knob (5) of the gas control valve so that the indicator mark is opposite setting number 3.

4. Switch on the ignition switch (4) by pushing in the bottom of the switch against the symbol '1'. The neon light in the switch should start flashing.
5. Push in fully the knob (5) of the gas control valve and keep it held in. When the burner lights the neon flashing light will go out. When this happens keep the knob (5) held in for a further 15 seconds or so for the thermocouple over the burner to heat up, then release the knob. If the neon starts flashing again it indicates that the flame has gone out in which case repeat operation number 5.
6. After lighting the burner leave the switch (4) in the on position.

3.4.4 Electrical Operation

The dual voltage electric equipment is for operation from the 12 volt battery in the vehicle or from mains electricity with a 220-240 volt supply, when satisfactory earthing is available on a site. Before using the refrigerator on electricity, make sure that the voltage of the supply is suitable for that of the refrigerator.

It is important to understand that 12 volt operation is only intended to be used while the engine is running and charging the battery. The current drain at 12 volt is 8 amps.

Before connecting to a mains voltage supply, it is most important to make certain that the circuit to the vehicle is properly and effectively earthed. When operating on mains voltage, the temperature in the refrigerator is thermostatically controlled and can be adjusted by means of the knob of the thermostat. The 12 volt circuit is not thermostatically controlled and the cooling unit will operate all the time the refrigerator is connected to 12 volt and switched on. (As 12 volt operation is for use only when driving the vehicle, it is unlikely to result in over-freezing because of the comparatively short period of travel, the refrigerator can be manually switched off and on periodically as experience proves necessary).

3.4.5 Temperature Regulation

After starting up the refrigerator, it will take about an hour before ~~there are~~ signs of cooling.

When operating on mains voltage electricity the refrigerator is thermostatically controlled and the thermostat knob should be set to No. 3 or 4. This will maintain a suitable temperature in the refrigerator and frozen food storage compartment for general use, but in hot weather, or if more cooling is required, the knob should be turned to a higher number. If less cooling is required, the knob should be turned to a lower number.

For operation on gas the refrigerator should be started off with the gas control set at MAX. This will provide suitable temperature in the refrigerator in warm weather, but if the fresh food compartment becomes too cold, especially in cooler weather, turn the gas control knob to MID or MIN. Remember to return it to a higher setting when necessary - if the weather becomes warm again for instance.

3.4.6 Defrosting

Frost will gradually form on and in the frozen food storage compartment and on the fins at the side of the compartment. It is a mistake to assume that an accumulation of frost gives a colder cabinet therefore the refrigerator should be defrosted regularly - about once a week or ten days depending on the condition of use.

To defrost turn the gas control knob to OFF, or the voltage selector switch to '0' depending on which operation is being used. Remove the ice-tray, food, etc., wrap frozen foods in several layers of clean newspaper and place the package in a cool place.

To defrost as quickly as possible a small dish of hot water (not boiling) may be placed in the ice-tray shelf and a bowl of hot water on a cabinet shelf, changing the hot water as necessary until all frost has melted.

Do not place dishes of hot water on the bottom of the frozen food storage compartment, and do not attempt to defrost more quickly with an electric fire or other form of heat as this may damage the plastic surfaces.

Defrost water will run via a tube at the back into a drip collector fixed to the rear of the refrigerator, where it will evaporate into the circulating air.

When all frost has melted wipe dry the frozen food storage compartment and cabinet interior, then re-start the refrigerator setting the gas control knob or voltage selector switch and thermostat knob to their respective positions.

Replace the fresh and frozen food but wait until the cabinet has cooled down again before making ice.

Remember that if the temperature of frozen food is allowed to rise unduly during defrosting, its storage life may be shortened.

3.4.7 When Not in Use

Whenever your refrigerator is to be out of use for a period turn off the gas. Empty the cabinet and defrost as described earlier. Clean and thoroughly dry the interior and accessories and leave the door slightly open by engaging the alternative position of the travel catch. If this is not done, the air inside may go stale giving rise to an unpleasant odour which could be difficult to remove at a later date. Empty and dry the ice-tray.

3.4.8 Maintenance

For maintenance instructions see the manufacturers operating instructions.

4.1 Kamper/Kameo Options4.1.1 Heater Pack

Comprising a safe blown air heater, secondary battery and an electrical panel incorporating a charger unit.

(a) Blown Air Heater

The heater unit is fitted outside of the living area beneath the vehicle floor on the offside. The heater unit is ducted into the vehicle interior via ducting through the floor of the sink unit, with the outlet in the plinth under the cupboard door.

The air for both heating and combustion is taken from outside with the combustion exhaust discharging through the special outlet just forward of the offside rear wheel.

The heater gas control tap is located in the kitchen unit cupboard and the electrical on/off switch and indicator light to the right of the Zig control panel.

To start the heater turn on the gas supply, and put the electrical switch to 'ON', the indicator light will come on. The starting cycle is then completely automatic.

The heater unit and its air intake and exhaust are fitted outside the living area of the vehicle for safety and therefore fresh air ventilation is only necessary for personal comfort and to reduce condensation.

IMPORTANT - THIS HEATER MUST NEVER BE OPERATED WHEN THE VEHICLE IS IN MOTION

(b) Second Battery

Located in the recess behind the passenger seat. To gain access slide the passenger seat forward and raise the hinged metal lid.

The second battery is used to operate the body electrics

(c) Control Unit

See Para 3.1.4 (b) Page

4.1.2 Porta Potti

Located in the cupboard under the storage unit aft of the sink unit.

For correct operation see the makers instruction leaflet.

4.1.3 Front Seat Covers

May be removed if required. They are retained in position by strips of velcro.

4.1.4 Childs Cab Bunk

The bunk consists of two spring loaded stick poles and a canvas bunk.

Holes are provided in the front and rear cab door pillars at a suitable height to position the bunk above the steering wheel.

Put the two poles into the loops down each side of the canvas, position one end of a pole into one of the forward holes compress the pole and line up the other end with its hole and allow pole to enter the hole. Repeat with rear pole.

4.2 Karisma Options

4.2.1 Blown Air Heater

The description for this option is the same as 4.1.1 (a) with the exception of the position of the electrical on/off switch and indicator light which is adjacent to the Zig panel on the offside locker.

4.2.2 Childs Cab Bunk

As 4.1.4

General

The working surfaces of the furniture should be cleaned with a damp cloth. The woodgrain surface should be cared for in the same way as household furniture and treated with furniture polish. Curtains should be dry cleaned rather than washed to minimise shrinkage.

Periodically check all hinges, catches and slide bolts for slack screws, tightening as required. A drop of oil on hinges and metal catches will help to keep your vehicle rattle free and in good working condition.

The exterior paintwork should be protected with normal quality car polish. It will retain its lustre providing dirt is removed by adequate washing followed by leathering before polish is applied.

If the vehicle is stored unused in a hot climate the curtains should be drawn to protect the interior from excessive heat.

We strongly advise owners to study the chassis manufacturers' handbook to carry out service and maintenance procedures according to the instructions.