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VAN CONVERSION

OWNER'S HANDBOOK

PERFECT FOR RECHARGING YOUR BATTERIES

Why wait to discover, explore and relax your way to a different place? Whether you are craving adventure or just in need of some quality time together; we'll guide you through our huge variety of sites to help you find your perfect place to unwind. Because to us it's not just a hobby - it's a way of life. We are camping.

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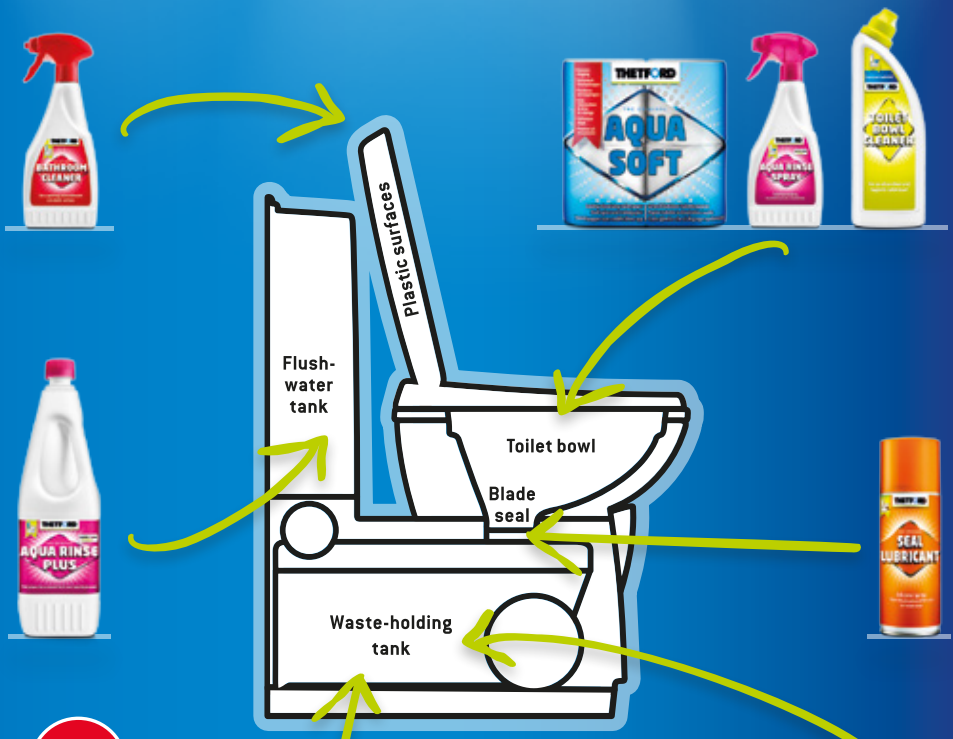

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ALCOA

STEP INTO CONNECT DIRECT

WHAT IS CONNECT DIRECT?

Connect Direct is an online system which personalises each customers experience of owning their caravan. The system is now available accross the entire range.

HOW DOES IT WORK?

Once you have logged on and created your profile, you will be able to access a whole host of information, specific to your caravan. In addition you will be able to have a direct line into the retail team, with the launch of a live chat facility.

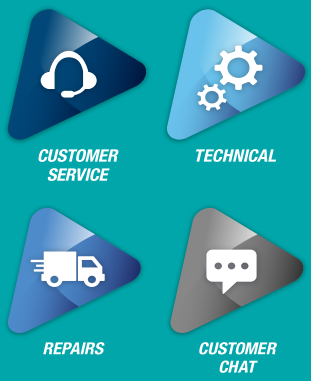
Should a problem occur, you will be able to report a fault to us directly, enabling us to react quickly and work together with your dealer to take the problem away from you the owner and resolve the issue as quickly as possible.

Product upgrades and notifications will be sent via Connect Direct keeping you up to date over the coming years. This online system provides a direct route for you into the Swift Group, and enables us to provide you with proactive Customer Service support, enhancing your experience.

Connect Direct is in addition to the traditional methods of contacting us.

The key benefits of Connect Direct are:

- Access to information 24/7
- Ability to report faults directly to us
- Product upgrades and notifications
- Live chat direct into our experienced retail team
- Upload service history records
- Service history reminders



STEP INTO MORE CONTROL

At the Swift Group we're continually looking for ways to enhance your enjoyment of the outdoors. Swift Command is a real innovation designed to make your touring experience even more carefree.

Swift Command technology includes a smart LCD control panel that has enhanced control panel functions. There is also an exciting, free downloadable 'app' that links to the Swift Command unit, so you can be in control from the comfort and convenience of your mobile device.

Swift Command is now available across the entire range.

Download on the App Store

ANDROID APP ON Google play

Head to the Apple or Android store and search for **'Swift Command'.**

LOCATION AND REMOTE FEATURES
Connect to your leisure vehicle from any where to view its systems information and location.
Conveniently control and monitor your onboard services when away from your vehicle.

LIGHTING
Create just the right ambience onboard with easily adjustable lighting settings.

WATER
Keep an eye on your precious water levels so you know in good time when to top-up.

POWER
Track your energy use and mange your batteries for efficient use of your all important power services.

HEATING
Activate whilst out exploring and enjoy the warmth when you get back.

Dear owner

Thank you for deciding to buy one of our new motorhomes. We are sure you will enjoy many happy hours in it and we hope the information and hints in this handbook will heighten your enjoyment.

The handbook has been designed to give you a general guide to the care, use and maintenance of your motorhome.

Whether you are a new or an experienced motorhome user the hints will help to protect your investment.

The information contained will answer most of your queries, but if there are any aspects which are not covered please consult your appointed dealer.

Important - please quote the base VIN (vehicle identification number) in all correspondence with your dealer or Swift Group Limited (Swift), this can be found on the lower corner of the front windscreen or on the Fiat plate positioned on the front cross member within the engine compartment.

All the illustrations and descriptive matter in this handbook are intended to give a general idea of the motorhome. Changing market and supply situations may prevent us from maintaining the exact specification details in this handbook. We therefore reserve the right to alter specifications as materials and conditions demand.

Dealers are not agents of Swift Group Limited and have absolutely no authority to bind Swift Group Limited by any express or implied undertaking or representation.

On-Line Handbooks

Throughout the season, specifications and equipment details contained within this handbook may change. Please refer to our online handbooks (www.swiftgroup.co.uk) for the most up-to-date version of your handbook.

Handbook Definitions

Customers should note that this handbook contains general information for the use and care of your product and the Technical Handbook, which contains technical information, weights and dimensions of your product.

Happy touring!

Dealer Name:

.....

Telephone Number:

.....

E-mail:

.....

VIN:

.....

Sales Tel:

.....

Service Centre Tel:

.....

Parts Tel:

.....

First Service Due:

.....

Swift Talk

Swift Talk is the central forum for the Swift community online. A place for all those united in their love of caravanning, motorhomes, holiday homes and touring in general, to share their experiences, meet new friends and find out a world of information on how to enjoy their touring lifestyle.

The site is packed full of features that actively encourage members, not only to liaise with the Swift Group via the forums, but also interact with each other through publishing their own content, uploading and sharing photos and video, and even posting their own blogs for the community to follow.

Swift Talk is the first place to learn about new product launches, events and Swift Group news, it's also the first place customers can go to as a quick reference to frequently asked questions or to actively take part in the forums; providing valuable feedback on Swift Group products and customer service.

The online community can even be used to create your own groups, perfect for Owners' Clubs, dealers and exhibitors to attract new members, publicise and build awareness for upcoming events, rallies and shows.

Anyone who owns, uses, or is thinking of buying a Swift Group caravan, motorhome or holiday home, or would just like to be part of the growing Swift community is actively encouraged to sign up, create their own content, and start talking!

Just visit www.swift-talk.co.uk and become part of a unique online experience.

CONTENTS

Panel Van Conversion Motorhome Warranty

All the illustrations and descriptive matter in this handbook are intended to give a general idea of the motorhome. Changing market and supply situations and our policy of continuous product development may prevent us from maintaining the exact specifications detailed in this handbook. We therefore reserve the right to alter specifications as materials and conditions demand.

Dealers are not agents of Swift Group Limited ("**Swift**") and have absolutely no authority to bind the manufacturer by any express or implied undertaking or representation.

Your panel van conversion motorhome has three warranties:

Base Vehicle Warranty – provided by Fiat

Your vehicle is a panel van conversion motorhome which utilises a Fiat base vehicle. For a panel van conversion motorhome, Swift takes a panel van as supplied by Fiat and fits out the interior of the van for habitation. Fiat provides a manufacturer's warranty for the base vehicle as supplied to Swift by them. For any issues with the base vehicle warranty please contact your local Fiat dealer. This Motorhome Warranty does not cover any parts of your motorhome that are covered by the Fiat manufacturer's warranty. Your base vehicle warranty is subject to the terms and conditions contained in the Fiat handbook supplied with the base vehicle and the vehicle must be serviced in accordance with Fiat requirements.

SuperSure Warranty – provided by Swift

For all parts or fittings of your panel van conversion motorhome other than the Fiat base vehicle, Swift will repair (or at its option, replace) any defective parts or fittings for 3 years from the date of purchase (or hire purchase) subject to conditions, terms and exclusions below.

Panel Van Conversion Body Shell Warranty ("Body Shell Warranty") – provided by Swift

Swift will repair (or at its option, replace) any defects with the panel van conversion to the body shell for 3 years from the date of purchase (or hire purchase), subject to the conditions, terms and exclusions below. This Motorhome Warranty does not cover any parts of your motorhome that are covered by the Fiat manufacturer's warranty.

Conditions for the SuperSure and Body Shell Warranties

1. You must ensure that the habitation part of your motorhome has an Annual Service (see clause 2 below) within 90 days before or 60 days after each anniversary of the original date of purchase. In order to preserve your SuperSure and Body Shell Warranties the third Annual Service must, however, be carried out before the expiry of the 36 month period from the original date of purchase. If you have not performed an Annual Service then Swift will not be obliged to perform any work under the applicable warranty . Original VAT invoices must be retained as proof that Annual Service have been carried out.
2. The Annual Service on the body shell and habitation area must be carried out in accordance with the requirements in this handbook. You will be responsible for any charges made for an Annual Service. If the Annual Service is performed by an authorised Swift Group Service Centre then Swift warrants that the Annual Service has been performed correctly. If the Annual Service is performed by an unauthorised repairer or service centre then if the Annual Service has not been performed in accordance with the requirements in this handbook and/or work has been performed on your motorhome that is defective or faulty, then Swift will not be obliged to perform any work under this Warranty (insofar as it relates to defective or faulty work or defective Annual Service).

3. All new motorhomes must be registered with Swift within 6 weeks of purchase as new.
4. The benefit of the SuperSure and Body Shell Warranties may be transferred to a new owner if the motorhome is re-sold, provided that the motorhome has been serviced in accordance with the requirements of this handbook, and details of the change of ownership have been supplied to Swift using the change of ownership form set out in this handbook as soon as reasonably practicable after the change.
5. If any repairs are identified as being necessary to the body shell or habitation areas during an Annual Service or otherwise, Swift will only pay for Warranty work performed by an authorised Swift Group Service Centre. The motorhome must be made available to an authorised Swift Group Service Centre within 6 weeks of the date the repair need was identified for the work to be carried out. The cost of transporting, towing or moving the motorhome by any means to or from the place of repair is the responsibility of the owner.
6. **The SuperSure and Body Shell Warranties only apply to motorhomes purchased and used primarily within the UK, which means that the motorhome is not used for continuous journeys outside of the UK of longer than 90 days per journey. Please refer to the Fiat handbook for use of the base vehicle outside the UK.**

Terms

7. The Body Shell Warranty covers any defect with the joints and seals of the panel van conversion. This includes body leaks, delamination of floors, and water ingress through any permanently sealed seam joints which relate to the conversion of the panel van. This Motorhome Warranty does not cover any parts of your motorhome that are covered by the Fiat manufacturer's warranty.
8. In the first 12 months the SuperSure Warranty will cover any defect other than those specified in the Exclusions below.
9. In the years 2 and 3 the SuperSure Warranty will only cover any defect with the following components:
   - **Electrical System:** PSU, battery charger, Smart Command and interior lighting units (excluding bulbs).
   - **Water system:** water heater, fresh water tank, water pump, water gauges, taps and shower head.
   - **Cooker:** the cooker unit including grill, oven, burners, igniter, and flame failure device.
   - **Refrigerator:** gas igniter, flame failure device, door seal condenser, gas control valve, 12v and 230v heater elements, gas thermostat, 230v thermostat and 230v temperature control switch.
   - **Cassette Toilet:** the cassette toilet (excluding seals, valves and glands).
   - **Heating system:** thermostat, motor, switches, control unit, gas heater, flame failure device and igniter (exluding ducting and fittings).
   - **Windows:** the functionality of the opening and closing system (stays, handles and catches) and a warranty against the cracking of the acrylic, Excludes fading.
   - **Upholstery:** zips, seams and colour fastness.

In years 2 and 3, any defect specified in the Exclusions will not be covered.

Exclusions

10. Swift shall not be liable under the SuperSure and Body Shell Warranties for any defect related to or arising from the following:
    1. The failure of a component for reasons of fair wear and tear;
    2. Damage resulting from freezing, fire, over-heating or accidents (whether caused by the user or a third party);
    3. Misuse of any component;

4. Normal deterioration, corrosion, intrusion of foreign or harmful bodies, lack of servicing or negligence of any person other than Swift which causes stoppage of or impairment to the function of any component of the motorhome;
5. Replacement of parts which have reached the end of their effective working life because of age and/or usage;
6. Cleaning or adjustment of any assemblies;
7. Cosmetic finishes to kitchen sinks, cooker tops, vanity units, shower trays; and/or
8. Routine maintenance items which are part of the annual service including lubricants, rubber gas hose, the cleaning of the heater and fridge flues, the replacement of gas jets, the resealing and/or replacement of shower room sealant, and the adjustment and lubrication of locks.

11. In addition to the exclusions above, in years 2 and 3 of the SuperSure Warranty Period, Swift Group Limited shall not be liable under this Warranty for any defects related to:
    1. Any audio equipment
    - Any mocrowave; and/or
    - Any TV
    - Television or audio equipment
12. Swift shall also not be liable under the SuperSure, and Body Shell Warranties if the motorhome has been neglected, misused, modified or used for hire or reward or if the identification marks (chassis/VIN numbers) have been removed or defaced. The motorhome will be deemed to have been neglected if it has not been serviced and maintained as stated in this handbook or any repairs being identified as necessary at an Annual Service or by a Swift Group Service Centre have not been carried out in a reasonable time.

You have legal rights under UK law governing the sale of consumer goods. This Warranty does not affect your legal rights.

The name and address of the Warranty provider is:

Swift Group Limited, Dunswell Road, Cottingham, East Yorkshire, HU16 4JX

To make a claim under this Warranty, contact the Swift Group Service Centre which supplied your motorhome. Alternatively, details of your nearest authorised Swift Group Service Centre can be obtained by contacting the Swift Group Customer Service Department on 01482 875740, or enquiring on the website www.swiftgroup.co.uk

Change of Ownership

You can transfer the remainder of any three year 'Supersure warranty' and the three year 'Body shell' warranty, details of how to do this can be found at the rear of this handbook.

For Swift Connect Direct customers

You have access to a new online system which is for all Swift models. A password will be issued to you, to enable you to interact with us.

To access the system, called 'Swift Connect Direct', your initial log in details will be emailed to you once your supplying dealer has registered your ownership with us.

Please log in and create your own profile. Should you have issues with accessing Swift Connect Direct, please contact our Customer Services Team.

Assistance

What to do if you Require Assistance

Should you have an enquiry or require assistance with a problem, we hope that this guide will be of assistance to you.

If you have a problem, or enquiry with regards to your new motorhome, please follow these steps:

1. Check the Owners Handbook, paying particular attention to the fault finding advice at the back of the book.

2. Contact your supplying dealer for assistance.

If you need to contact Swift Group Limited, please be aware of the following:

1. When contacting Swift Group, please quote your name, postcode and build number of your motorhome.
2. In most instances, the Customer Service Team will involve your dealer in resolving the issue you are experiencing.
3. Check our website www.swiftgroup.co.uk and enter the help and advice section which provides answers to frequently asked questions and how to contact us.
4. If you are contacting the company by email, letter or fax, the Customer Service Team will respond to you within five working days from the date of receiving the correspondence.
5. If you are calling the Customer Service Team, please avoid where possible, Mondays and lunch times.
6. Please be aware that Swift Group Limited cannot send parts direct from the factory. In all cases, without exception, your dealer must place the order for you.

Supplier contacts

A number of Swift Group suppliers manage their own Technical and Warranty related queries. Where a customer has a question relating to a product manufactured by a company listed below, we would advise that the first contact should be directly with them.

SARGENT

Sargent Electrical Services
Unit 39, Tokenspire Business Park, Beverley, East Yorkshire, HU17 0TB

Phone: 01482 678981
Fax: 01482 678987
E-mail: support@sargentltd.co.uk

truma

Truma UK Ltd.
Park lane, Dove Valley Park,
South Derbyshire, DE65 5BG

Phone: 01283 586020
Fax: 01283 586029
Email: technical@trumauk.com

THETFORD Corporation

Thetford Ltd.
Unit 6, Brookfields Way, Manvers,
Dearne Valley, Rotherham,
South Yorkshire, S63 5DL

Phone - 0844 997 1960
Fax - 0844 997 1961
Email - infogb@thetford.eu

Dometic

Dometic (UK) Ltd
Dometic House, The Brewery,
Blandford St Mary, Dorset, DT11 9LS

Phone: 0844 626 0133
Email: technical@dometic.co.uk

Annual service / inspection record

In order to comply with the warranty, you must have your motorhome inspected and serviced in accordance with the warranty.

We highly recommend that you have your Motorhome serviced by a Swift Group Approved Service Centre who have direct access to our online Customer Service system, Connect. This system provides them with the ability to order approved parts and ensure that any product upgrades which may be available for your Motorhome can be offered to you and carried out as part of the service. In the unfortunate event that an issue requires attention under warranty then a Swift Group Approved Service Centre are able to submit a warranty claim to the Swift Group for processing, and deal with the issue for you from start to finish. All of our Swift Group Approved Service Centres are provided with up to date technical information and have access to current repair methods giving you peace of mind that any defect has been repaired effectively.

It is important that the owner's handbook is stamped on the appropriate page by the authorised Swift Group Service Centre.

Failure to do this will invalidate the warranty and the transfer of the warranty on the change of ownership.

The inspection should take approximately two hours and will cover the areas dealt with in the annual service check list. Any areas requiring service and/or maintenance will be highlighted by your dealer and we recommend that you authorise any necessary work to be carried out.

Just as the engine/gearbox/roadwheels need regular servicing by your chassis dealer, so there are components in your conversion that need regular maintenance by your motorhome dealer.

These include the gas and electrical systems and the seals in the bodywork. Your dealer will complete the record in this handbook to show that the work has been carried out.

1. Damp and lamination test.
2. Chassis and chassis to body security.
3. Motorhome step.
4. Road lights, wiring and reflectors.
5. Internal lights and 12V DC system.
6. Water heater - gas and 230V AC.
7. Hob, grill and oven.
8. Refrigerator 230V AC, 12V DC and gas.
9. Gas system.
10. Water pump, taps and water system.
11. Mains 230V AC system.
12. Windows and fittings.
13. Roof lights.
14. Furniture hinges/stays etc.
15. Exterior locks and hinges.
16. All internal vents.
17. Seals.
18. Blinds and fly screens.
19. Blown air heating systems.
20. Smoke alarm and battery
21. Carbon monoxide detector and battery

Annual service/inspection record

MOTORHOME MODEL .....
REGISTRATION NUMBER .....

CHASSIS NUMBER .....
REGISTRATION DATE .....

1st service DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.	**2nd service** DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.
3rd service DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.	**4th service** DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.
5th service DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.	**6th service** DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.

SERVICE INSPECTION

7th service DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.	**8th service** DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.
9th service DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.	**10th service** DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.
11th SERVICE DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.	**12th SERVICE** DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.
13th SERVICE DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.	**14th SERVICE** DATE: DEALER'S STAMP We certify that an annual service has been carried out in accordance with the handbook.

Camp sites

Arrivals

Report to reception immediately on arrival.

Vehicle Movement

Keep to roadways unless otherwise directed.

Adhere to speed limits. Note that these are generally 10 mph (remember that the stopping distance on grass is considerably greater than on tarmac). Only a person in possession of a current driving licence may drive on the site.

Park correctly as advised on your pitch. Where possible leave 20 feet of free space around your vehicle.

Use of Site Appliances

Use the electrical mains hook-up in the correct manner and with caution.

Ensure that all fresh water taps/connections are turned off after use. Have care and consideration when using all facilities (toilets and showers etc) and leave clean and tidy. Young children should be supervised.

Waste Disposal

If the vehicle is not fitted with a waste water tank, a suitable receptacle should be placed below all waste water outlet pipes. Do not let these containers overflow.

Dispose of all waste water where instructed. Empty effluent from chemical toilets where instructed. To avoid possible damage to sewage purification works, only approved chemical fluids must be used. Under no circumstances should coal tar, phenol or caustic-based fluids be used.

Disposable nappies and similar bulky items must not be put into chemical closet emptying points but should be wrapped in a polythene bag and placed in the container provided.

Place all litter in containers marked for the purpose.

Noise

Do not make excessive noise. Children should be restrained from making excessive noise.

Flying kites and model aircraft and the use of items like catapults or air-guns, as well as ball games, should not be permitted among, or close to other vehicles.

Musical instruments, record players, radios and televisions should not be used to the inconvenience of other people on the site.

Open and close doors quietly. Power generators must be adequately silenced and used with consideration.

Dogs and other Pets

All dogs and other pets should be kept under control. Unless permission has been granted, no animal should be allowed loose on the site and leads must not exceed 10ft.

No animals should be allowed in the shower/ toilet blocks. Do not let dogs foul the site.

Fire Precautions

Adhere to and take note of fire precautions noting the whereabouts of the fire points.

⚠ **WARNING:** Provide one dry powder fire extinguisher of an approved type or complying with EN3-7, of at least 1kg capacity, by the main exterior door and a fire blanket next to the cooker. Familiarise yourself with the operating instructions on your fire extinguisher and the local fire precaution arrangements.

When using a dry powder extinguisher it is suggested that the motorhome be evacuated until the powder has settled, to avoid inhalation.

Unless permission has been granted, barbecues should not be used.

If permission is given, consideration should be given to the annoyance that can be caused to other users of the site.

Open fires are not allowed.

Awnings and Tents

Awnings and tents should only be used when permission has been obtained.

When on grass and staying for more than a few days, the ground sheet and/or side flaps of awnings should be periodically raised in order to avoid damage to the ground.

Departure

Leave the pitch clean and tidy.

On leaving, check out with reception paying the required fees.

Wild Camping

Camping away from licensed sites, without the permission from the land owner or his agents, is not allowed in the United Kingdom.

When permission has been granted, all aspects of this Code should be adhered to.

On no account should:

a. Litter be disposed of other than in the receptacles provided.

b. Water be allowed to escape from the vehicle.

c. Chemical toilets be emptied except into the disposal places agreed with the land owner.

d. Washing or similar be hung outside the vehicle.

Parking

Motorhomes should only be parked in approved places.

When using the facilities of a motorhome, care and consideration should be given to those around them.

Driving

Before moving off, elevated rooflights and aerials should be lowered and correctly secured, and top hinged windows closed. Likewise all doors and access lockers for gas containers and chemical toilets must be properly secured.

Exterior steps should be properly retracted and secured. When the vehicle is in motion it is compulsory for all front seat passengers and rear seat passengers to wear seat belts, where fitted. When using a motorhome on either the public highway or private roads the Highway Code should be complied with and full consideration given to other road users.

In the event of a motorhome travelling slowly the driver of the motorhome should, where possible, pull over in order to let other traffic pass.

⚠ **WARNING:** When travelling, refuelling or on a ferry ensure the gas system is fully isolated at source.

Handbooks (Chassis & Converter)

Before using a motorhome all aspects of the handbooks, produced by the chassis manufacturer and the converter, must be read and adhered to.

The separate chassis manufacturer handbook refers to your motorhome chassis and base vehicle including care and maintenance.

Environment

Care and consideration should be taken to protect the environment.

Observe the Country and Coastal Codes shown overleaf.

The country code

Enjoy the countryside but respect its life and work. More people than ever before are exploring the countryside, interested in farming, plant life, bird watching or just observing the general wildlife. Whatever your interest, there is a lot to learn, but please observe the following code:

1. Guard against all risk of fires. Hay and heathland catch alight easily and once ablaze are very difficult to put out.

Remember: fire spreads quickly.

2. Fasten all gates.
3. Keep your dog under proper control.
4. Keep to the paths across farm land.
5. Avoid damaging fences, hedges and walls.
6. Leave no litter.
7. Safeguard water supplies.
8. Protect wildlife, wild plants and trees.
9. Go carefully on country roads.
10. Respect the life of the countryside.

The coastal code

As our coastlines are increasingly used for recreation and education, the following suggestions are made to enable us to enjoy our inheritance and preserve it for posterity.

DO NOT trample about, or move rocks unnecessarily.

DO NOT frighten seals or seabirds.

DO NOT spill detergents, solvents or fuel from boats as these can kill marine life.

Live molluscs and crustaceans need not be collected as souvenirs - dead shells can usually be found.

Shellfish can take years to grow and fines can be imposed for not observing national regulations.

DO NOT pull up seaweeds unnecessarily.

Make your visit instructive - not destructive.

Look at material - don't remove it. Take notes and photographs, not specimens.

Observe by-laws and be considerate to others.

National Trust property and Country Parks have regulations to protect the wildlife. Follow these and the Country and Coastal Codes.

Before moving off check:

- Gas cylinders are correctly positioned, secured and turned off unless using en-route heating.
- All gas operated appliances have been isolated except en route heating where fitted and in use.
- Loose articles including luton ladder are stowed securely. Do not stow tins, bottles or heavy items in overhead lockers.
- All lockers and cupboard doors are closed and secured.
- Tables are stored or locked in their transit position.
- Fridge is on 12V operation and door lock is set.
- 230V mains input socket flap is securely closed.
- All drain taps are closed.
- Tyre pressures
- Exterior roof rack ladder is raised and secured (where fitted).
- All windows/doors/rooflights are closed and secured.
- Exterior step (where fitted) is retracted / folded in.

Special attention must be taken to ensure all top hinged windows as well as rooflights are closed when in transit. All units should be fully closed and latched to prevent damage. The motorhome rear and side sliding door should also be locked.

⚠ **WARNING:** Large and/or voluminous items should be stored securely before travelling.

Motorhome terms

Mass in running order

The mass of the motorhome equipped to the motorhome manufacturers standard specification, as stated by the manufacturer.

The MRO comprises the ex-works weight of the motorhome, including the driver, 90% fuel capacity, 1 x LPG gas cylinder @10kg and standard fixtures & fittings in compliance with European Regulation No. 1230/2012 (Masses & Dimensions)

Note: The mass of the motorhome in running order contains provision for the masses of liquids, gas etc. (see Mass in Running Order in the Technical Section). Part of this provision can also be utilised as additional payload, if for example, you wish to travel with no gas cylinders.

Note: If you travel with water in the fresh water tank or waste tank, the payload will be reduced accordingly.

Note: Quoted MRO is subject to tolerance, due to weight variation of materials used in Motorhome construction.

Maximum User Payload:

The maximum allowable weight to be put into the motorhome whilst it is being driven. This is made up of 4 sections: Personal effects, conventional load, optional equipment and essential habitation equipment.

The Maximum User Payload is the difference between the Maximum Technically Permissible Laden Mass and the Mass in Running Order.

Personal Effects:

Those items which a user can choose to carry in a motorhome and which are not included as Essential Habitation Equipment or Optional equipment.

Conventional Load:

A mass allowance for each designated passenger seat.

Optional Equipment:

Items made available by the manufacturer over and above the standard specification of the motorhome.

Essential Habitation:

A mass allowance for liquids in systems not accounted for within the MRO.

Maximum Technically Permissible Laden Mass:

The maximum weight for which the motorhome is designed for normal use when being driven on a road, laden. This mass takes into account specific operating conditions including factors such as the strength of materials, loading capacity of tyres etc.

⚠ **WARNING:** Under no circumstances should the Maximum Technically Permissible Laden Mass of this motorhome be exceeded.

Nose weight on towed trailers:

The static mass of the trailer towing device on the rear of the towing vehicle.

When measuring the noseweight it is important that the trailer is loaded.

The trailer is intended to be towed slightly nose heavy. The nose weight can be adjusted by distribution of the load. The nose weight should be approximately 7% of the actual laden weight (but not greater than the hitch capacity) and at the same time suit the motorhome requirements. See 'Advice on Towing' page 22.

Loading of vehicle

⚠ **WARNING:** Loads must not be exceeded. The driver is responsible for arranging the loads so that they comply with the technical weight limits of the specific motorhome model.
See specification handbook.

Correct weight distribution is an important factor in ensuring your vehicle is well balanced and easy to drive. It is therefore necessary to load your motorhome carefully making sure all heavy articles are evenly distributed and are preferably placed in the lower lockers or bed boxes.

⚠ **WARNING:** Do not travel with televisions or microwaves in overhead lockers unless the appliance was supplied fitted to your motorhome by the manufacturer.

Although it is essential to ensure that the total weight of your motorhome does not exceed the stipulated Maximum Technically Permissible Laden Mass, (MTPLM), it is important to remember that the front and rear axles also have individual maximum weights which must not be exceeded.

To ensure adequate road holding the load on the front axle, under all conditions, must not be less than 40% or more than 70% of the total weight.

Ensure you distribute the payload equally on each side of the vehicle to avoid an imbalance.

These weights, together with the MTPLM, can be found on the statutory plate affixed to the forward edge side sliding door.

⚠ **WARNING:** Turn off all gas appliances while the vehicle is in motion. If a heating system is fitted isolate all appliances except the heater.

⚠ **WARNING:** Please take care to ensure you have allowed for the masses of all the items you intend to carry in your motorhome e.g. passengers, optional equipment, essential habitational equipment and personal effects such as clothing, food, pets, bicycles, sailboards and sports equipment etc.

Large storage areas

The large storage areas provided in some motorhome layouts are designed solely for the purpose of carrying personal possessions, these areas must not be used:

- As a habitation area (eg living, sleeping or cooking).
- To carry passengers, animals or livestock.
- For the installation (or use) of any LPG gas operated appliances (unless supplied fitted by the manufacturer).
- For carrying LPG gas cylinders.
- To carry any flammable liquids, unless properly stored, sealed and secured.
- For the operation of an electrical generator.
- In such a way that the load exceeds the MTPLM, and/or minimum and maximum axle loads.

Care must be taken to ensure that exterior doors are closed, locked and that all possessions are properly stored and secured before setting off on any journey.

⚠ **WARNING:** Motorhomes over 3m have a maximum vehicle height label affixed to the driver's side blind. When planning your route take the vehicle height into consideration.

Tyres

If a wheel or tyre is changed any replacement must be of the same type of construction and size.

The law requires that the tyres and pressures must be suitable for the use to which they are being put. The minimum tread depth must be 1.6mm throughout a continuous band comprising the centre three-quarters of the breadth of the tread and around the circumference of the tyre.

Please refer to base vehicle manufacturer's handbook for tyre pressure information. This may also be displayed in the driver's or passenger's door aperture.

The motorhome tyre pressure noted in the Technical book are the pressures stated by Fiat for your vehicle calculated in a fully laden condition. If you are not running fully laden, reduced pressures could be used but please seek clarification from the tyre manufacturer.

Dedicated travelling passenger seating

Seat belts are fitted to all travelling seats. Travelling seats are designated by the manufacturer and vary according to the layout you have purchased. Each seat is homologated i.e. tested to all relevant safety requirements. NEVER travel in or attempt to install a seatbelt to a non-designated seat.

Fig. 1

⚠ **WARNING:** Side facing seats are designed for habitational use only, not for when the vehicle is in motion.

Seat belts and legislation

Designated driver and passenger seats are fitted with seat belts and MUST be worn.

All Children up to 135cm (4'5") in height, or 12 years of age, whichever is reached first must use a restraint suitable for their age and weight.

Children over 135cm (4'5") in height or aged 12 or 13 years must wear a seat belt.

Note: It is the legal responsibility of the driver To ensure children aged up to 14 years old are suitably restrained.

For passengers aged 14 and over, it is their responsibility (not the driver) that a seat belt is worn.

Designated passenger seats within the habitational compartment of your motorhome are identified (fig. 1).

Seat belts are fitted for your safety and must be worn unless a 'Certificate of Exemption from Compulsory Seat Belt Wearing' is held. This Certificate must be produced if asked for by the Police – seat belt offences can result in a fine.

Child seats

Choosing/Buying

Go to a reputable retailer such as Halford's, Mothercare, Toys 'R' Us, John Lewis etc. Most reputable retailers will have trained child seat advisers on site and will offer a fitting service. Ask the advisor to fit various seats to the vehicle. Once a correctly fitted seat has been installed, satisfy yourself on it's suitability for your child and the vehicle before buying as it is important to use a correctly fitting seat in your motorhome.

⚠ **WARNING:** The child seat you use in your car may not be suitable for mounting on a motorhome seat.

Choose the right seat for your child's height and weight.

Ensure it has an official approval mark (usually the United Nations 'E' mark). The current UN standards is Regulation 44.04

Never fit or use a second hand car seat. It could have fit been damaged and may not meet modern standards. The fitting instructions may also be missing.

Positioning/Fitting

Dependant upon the child seat type, the most suitable position for the child seat to be fitted may be the front passenger seat of the cab (NOTE airbag advice below) or the window seat of the forward facing rear seat, the isle seat in the rear is **NOT** a recommended position, advice should always be taken from the retailer on the suitability and security of the seat in the motorhome. Read and follow the child seat manufacturer's instructions for fitting the seat.

All Swift motorhomes are fitted with inertia reel seat belts, however, the child seat must be tight in the adult seat. Push all your weight into the child seat as you tighten the belt.

Keep a copy of the child seat fitting instruction in the motorhome for easy reference.

Any doubts, ask an advisor to show you how to correctly install the seat.

Airbag

Never fit a rear facing child restraint in a seat with an active airbag in front of it.

Forward-facing child restraints should be positioned as far back from the airbag as possible. Check the base vehicle handbook.

Three point seat belts

This section refers to the seat belts located in the habitation area of your motorhome.

Fastening the seat belt:

Insert tongue into buckle; a positive 'click' indicates correct assembly.

Releasing the seat belt:

Press the red release button, the tongue will be ejected from the buckle.

- The belt is designed for use by one person and must not be put around a child seated on a person's lap.
- The belt is suitable for restraining most child seats and boosters.
- The belt should at all times be adjusted and used in accordance with the instructions. No excessive slackness should be present.
- Once installed the diagonal should pass across the centre of the shoulder and the buckle should lie just on or below the hip.
- Avoid twisting the webbing during use. Webbing must not be allowed to chafe against sharp edges.
- Do not make alterations or additions to the belt.
- Belts that have been cut, frayed, damaged or stressed through impact should be replaced. After impact the motorhome anchorage points should also be checked.
- To clean use warm soapy water only.
- Periodic inspection of the installation will ensure reliability of the seat belt.

Driving licence

Licences issued to drivers who passed their car driving test before 1st January 1997 include categories B+E and C1+E which gives them entitlement to drive motor vehicles up to 7500kg MTPLM.

Drivers who passed their test on or after this date have category B entitlement only, which restricts the entitlement to motor vehicles with up to 8 passenger seats and an MTPLM of up to 3500kg with trailers up to 750kg MTPLM (4250kg combined) or larger trailers providing the combination of the trailer and towing vehicle does not exceed 3500kg and the MTPLM of the trailer does not exceed the unladen weight of the towing vehicle.

Drivers who passed their test on or after the 1st January 1997 will need to take an additional test(s) to gain the B+E and C1+E entitlement.

Vehicle classifications

Motorhomes up to 3500kg MTPLM are P/LGV (Private Light Goods Vehicles), motorhomes with an MTPLM over 3500kg and up to 7500kg are P/HGV (Private Heavy Goods Vehicles). These are used for vehicle excise duty (road tax) classifications.

Advice on Towing

The towing capability of each motorhome differs depending on the specific chassis and engine types, (see 'Towing Capabilities Table' in your specification section).

This table takes account of the maximum front and rear axle loadings as well as the minimum front axle loading in two conditions, MRO and MTPLM condition.

Towing in these, and any other condition requires sensible loading and distribution of payloads to ensure the requirements of the towing capability table are met.

When towing, the demands on both the vehicle and driver increase. A trailer reduces manoeuvrability, the ability to climb hills, acceleration and braking capacity and makes the vehicle handle and corner differently. It will also increase the fuel consumption of the vehicle.

Always brake in good time. Special care must be taken when descending gradients. Change down before going down a steep hill so the engine can act as a brake. Ensure that the towing vehicle tyre pressures are correct and adjusted for full load conditions and that the trailer tyre pressures are as recommended by the trailer manufacturer. Regularly check the operation of trailer brakes and lights.

For maximum stability, when loading the trailer ensure that the loads are properly secured during transit. Position loads so that most of the weight is placed close to the floor and,

where possible, immediately above or close to the axle(s). Where the load can be divided between trailer and tow vehicle, loading more weight into the vehicle will generally improve the stability of the combination. After loading the trailer, check that the nose weight and axle loads are in accordance with the manufacturer's recommendations, also check the rear and front axle loads on the motorhome. When calculating the laden weight of the trailer, remember to include the weight of the trailer PLUS THE LOAD.

Note: Towing regulations vary from country to country. It is very important to ensure that national regulations governing towing weights and speed limits are observed (refer to the relevant national motoring organisation for information). The stated maximum permissible towing weights refer to the vehicle's design limitations and NOT to any specific territorial restrictions.

Notes:

1. Do not exceed the motorhome gross vehicle train weight.
2. Do not exceed the maximum front & rear axle loads on the motorhome.
3. Ensure the motorhome front axle load is never less than 40% or more than 70% of the total weight.
4. Motorhomes with an MTPLM up to 3500kg which have European Type approval can only be fitted with a type approved towbar complying to 94/20/EC or UN ECE R55.
5. The limit for towing an un-braked trailer is 750kg (based on VIN plate not actual weight), this applies to a towed car.
6. A car dolly with a car with a GVW over 750kg in place is considered as two trailers, these are legal for use for recovery but under the Road Traffic Regulations Act 1984 the combination is limited to 40 mph on motorways and dual carriageways and 20 mph elsewhere. A car dolly is not legal for transportation (there is a very specific difference between recovery and transportation. Recovery is defined as the removal of a broken down vehicle to a place of safety).
7. The maximum permitted vehicle combination length is 18.75m, however any combination must ensure compliance with the turning circle requirements of Construction and Use regulations 1986 & 97/27/EC.

Note: Not all motorhomes are suitable for towing and may not have sufficient payload to permit towing. If in doubt, consult your dealer.

European Touring

Please note there are a number of requirements placed on a driver when driving on European roads. Carrying a warning triangle, high visibility jacket, first aid kit and spare bulb is now compulsory in many EU states but some EU countries are now introducing further regulations such as carrying a breathalyser kit and not being able to use satellite navigation systems with speed camera warnings.

We would advise customers to check on the many web-sites available to ensure you are carrying the correct equipment when touring in those EU countries.

PREPARING FOR THE ROAD

Removal of Fiat spare wheel:
(For more details see Fiat user Manual)

a. the ground should be flat and adequately firm.

b. turn the engine off and engage the handbrake.

c. engage first gear or reverse.

Removal

a. wheel restraining device screw (fig 1) – rear right side of vehicle

b. use the extension and wrench provided to operate the wheel restraining device screw (fig 2).

c. when the wheel is fully lowered (fig 3) and the restraining device screw can turn no more, use the wrench to pull the wheel out (fig 4).

d. loosen the knob and remove the support to release the wheel (fig 5 & 6).

Fig. 1

Fig. 2

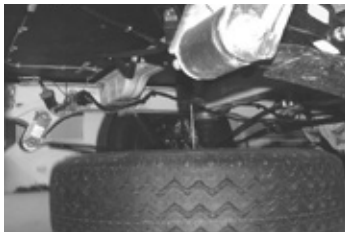


Fig. 3

Fig. 4

Fig. 5

Fig. 6

Replacement

Replacement is a reversal of the removal procedure.

⚠ **WARNING:** Exercise care when handling the wheel due to its weight.

Fix & Go Repair Kit (if fitted)

CAUTION: Before use please read the user instructions supplied with your Fit & Go repair kit.

(For more details see Fiat user Manual)

If a spare wheel is not fitted within the specification of your vehicle, then a Fix & Go kit is supplied.

The Fix & Go automatic quick tyre repair kit is positioned at the front of the vehicle passenger compartment and includes Fig. A:

Fig.A

- Bottle A containing sealer and fitted with:
  – a transparent filler pipe B;
  – a black pressure restoring pipe E;
  – sticker C bearing the notice “max. 80 km/h”, to be placed in a position visible to the driver (on the instrument panel) after fixing the tyre;
- Instruction brochure (see fig. B), to be used for prompt and correct use of the quick tyre repair kit and then to be handed to the personnel charged with handling the tyre treated with the tyre repair kit;
- A compressor D complete with pressure gauge and connectors; a pair of protective gloves located in the side compartment of the compressor;
- Adaptors for inflating different elements

CAUTION: Give the instruction booklet to the tyre repair workshop personnel.

CAUTION: Punctures on the sides of the tyre cannot be repaired. Do not use the quick tyre repair kit if the damage is due to running with flat tyre.

CAUTION: If the wheel rim has been damaged (bent so as to cause air to leak), the wheel cannot be repaired. Do not remove the foreign body (screws or nails) from the tyre.

CAUTION: Punctures caused by foreign bodies can be repaired if the damage does not exceed 4 mm on the tread and on the shoulder of the tyre.

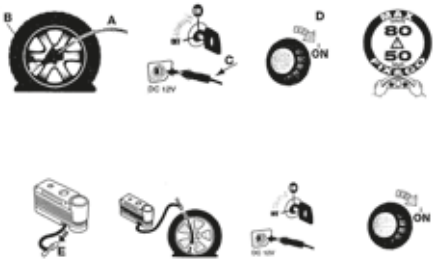


Fig.B

Important Information:

The sealing fluid of the quick tyre repair kit is effective at external temperatures of between -20 °C and +50 °C. The sealant has an expiry date.

CAUTION: The bottle contains ethylene glycol. It contains latex that might cause allergic reactions. It is harmful if swallowed. It is irritant for the eyes. It may cause sensitisation if inhaled or on contact. Avoid contact with eyes, skin and clothes. In the event of contact, wash immediately with plenty of water. Do not induce vomiting if swallowed. Rinse your mouth and drink plenty of water. Call a doctor immediately. Keep out of the reach of children. The product must not be used by asthmatics. Do not breathe in the vapours during insertion and suction. Call a doctor immediately if allergic reactions are noted. Store the bottle in its proper compartment, away from sources of heat. The sealant has an expiry date. Replace the bottle

Inflation Procedure

CAUTION: Wear the protective gloves provided together with the quick tyre repair kit.

CAUTION: Affix the adhesive label in an easy-to-see position for the driver as a reminder that the tyre has been treated with the quick tyre repair kit. Drive carefully, particularly on bends. Do not exceed 80 km/h. Do not accelerate or brake suddenly.

CAUTION: If the pressure falls below 3 bars, do not drive any further: the Fix & Go automatic quick tyre repair kit cannot guarantee proper hold because the tyre is too much damaged. Contact a Fiat Dealership.

CAUTION: You must inform the dealership that the tyre has been repaired using the quick tyre repair kit. Give the booklet to the personnel who will be handling the tyre treated with the repair kit.

CAUTION: If different tyres from the ones supplied with the vehicle are used, it may not be possible to carry out the repair. If the tyres are replaced, it is advisable to use those approved by the manufacturer. Consult a Fiat Dealership.

- Pull the handbrake. Unscrew the tyre valve cap, take out the filler hose A (Fig. C) and tighten the ring nut B on the tyre valve;
- Insert the plug E (Fig. E) in the nearest 12V power socket and start the engine. Turn the selector D (Fig. D) anti-clockwise to the repair position. Activate the kit by pressing the on/off switch. Inflate the tyre to the pressure specified in the "Inflation pressure" paragraph, in the "Technical Data" chapter;

For a more accurate reading, it is advisable to check the pressure reading on the pressure gauge F (Fig. D) with the compressor off and without moving the centre selector from the repair position

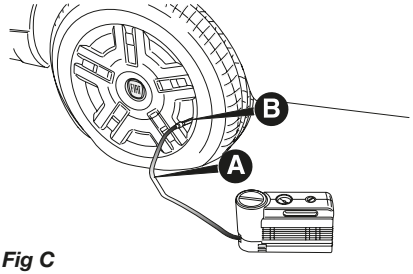


Fig C

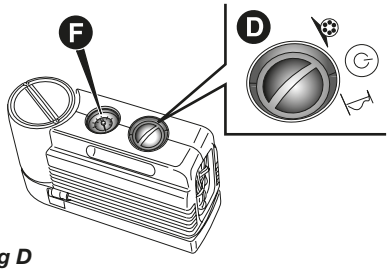


Fig D

- If after 10 minutes it is still impossible to reach at least 3 bar, release the transparent filler pipe from the valve and take out the 12 V plug, then move the vehicle forwards by about 10 metres in order to distribute the sealing fluid inside the tyre evenly, then repeat the inflation operation;
- If after this operation you still cannot reach at least 3 bar after 10 minutes, do not resume driving because the tyre is too damaged and the quick tyre repair kit cannot guarantee suitable sealing. Contact a Fiat Dealership;
- If the tyre reaches the pressure specified in “Inflation pressure” paragraph in the "Technical Data" section of the Fiat user manual start driving immediately;

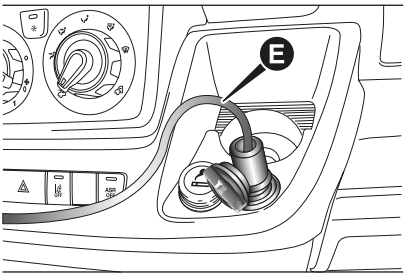


Fig E

- after having driven for about 10 minutes, stop and recheck the tyre pressure; remember to apply the handbrake;
- If a pressure value of at least 3 bar is detected, inflate to the correct pressure, resume driving and drive with care to nearest Fiat Dealership.

Bottle Replacement Procedure

To replace the bottle, proceeds follows:

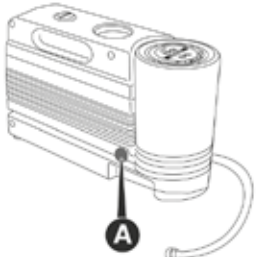


Fig. F

- press button A (Fig. F) to release the part;
- fit the new bottle and press until it is automatically engaged.

CAUTION: Punctures caused by foreign bodies can be repaired if the damage does not exceed 4 mm on the tread and on the shoulder of the tyre.

CAUTION: Replace the bottle containing the sealant after the expiry date. Dispose of the bottle and the sealant properly.
Have the sealing fluid and the bottle disposed of in compliance with national and local regulations.

Cruise Control

The driver of the vehicle should always remain seated and in control of the vehicle when the cruise control has been engaged. Never leave the driving seat for any reason when the vehicle is underway.

Parking sensors

Parking sensors are fitted to some vehicles. Please use the information provided. Use the sensors as a guide only. It is the responsibility of the driver to ensure it is safe to reverse the vehicle.

EN ROUTE

Fire

Note: Your attention is drawn to the notice affixed inside the wardrobe advising on fire precaution, ventilation and what to do in case of fire.

In case of fire

1. Get everyone out of the motorhome as quickly as possible using whichever exit is the quickest, including windows. Do not stop to collect any personal items.
2. Raise the Alarm. Call the Fire Brigade.
3. Turn off the gas supply valve if it is safe to do so.
4. Turn off the electricity supply at supply point.

Model - si 601 smoke alarm operation

Normal condition

The red LED on the front should flash once every 40 seconds to show the alarm is active.

Low Battery Condition

⚠ **WARNING:** Your smoke alarm requires a battery with a sufficient capacity of power to operate correctly. This must also be correctly installed.

Should your smoke alarm enter a low battery condition, the unit will emit an audible 'chirp' once every 40 seconds. When this occurs you must replace the battery immediately. Your smoke alarm will continue to warn of this low battery condition for at least 7 days, however, failure to change the battery after this time would mean your smoke alarm has insufficient power to alert you in a real fire situation.

Battery replacement

⚠ **WARNING:** Only the following batteries can be used for replacement. Use of a battery other than those recommended below may have a detrimental effect on the detector's operation. Use of a lithium (long-life) battery could provide power for 10 years under normal operating conditions, meaning there is no need for an annual battery change.

Note: The alarm cover can not be installed without a battery fitted.

Note: Upon delivery the battery may be fitted with a protective cover. Please ensure this is removed before use.

Carbon-Zinc type:

Eveready Energizer 1222;
Gold Peak 16045 (UL).

Alkaline Type:

Energizer 522; Duracell MN 1604; Duracell 9V Ultra; Energizer 9V Ultra+; Gold Peak 1604A.

Lithium (long life) type:

Ultralife U9VL

1. Remove the alarm from its mounting plate by turning anti-clockwise

2. Remove the existing battery and replace with a new battery from the list on the previous page, making sure that the positive and negative connections are in the correct position. If unsure see the alarm user manual.

3. Replace the alarm on its mounting plate, lining up the large central vent on the front of the alarm, with the 'X' that is moulded into the plastic on the mounting plate (if unsure see page 13 of the alarm user manual). Ensure the unit is securely fitted.

4. Test your alarm as explained in the next section 'Alarm Test'.

Alarm test

1. Press the test button in the centre and release.

2. The unit will emit a loud (85dB at 3 meters) alarm for around 5 seconds and stop automatically.

3. The red LED on your alarm will flash rapidly during the audible signal.

FIRE ALARM

Note: The test button accurately tests the alarm's smoke sensing circuit, there is no need to test your alarm with smoke. If your smoke alarm fails to give an audible test signal, please refer immediately to the troubleshooting guide at the end of the user manual supplied.

⚠ **WARNING:** Test your smoke alarm at least once per week

Your smoke alarm has been designed to be as maintenance - free as possible and although the unit requires only battery maintenance for its entire life, there are several things you must do to keep it working properly.

⚠ **WARNING:** Your smoke alarm is a sealed electrical device and no attempt should be made to open the case. Attempting to open the case will invalidate your Warranty.

Cleaning

As a minimum your smoke alarm should be cleaned once every 3 months using your vacuum cleaner fitted with the soft brush attachment.

⚠ **WARNING:** Your smoke alarm may false alarm when it is being cleaned using a vacuum cleaner.

⚠ **WARNING:** Do not use solvents or cleaners on your smoke alarm, as they may cause damage to the sensor or circuitry. The unit can be wiped with a slightly damp cloth.

⚠ **WARNING:** The electronic test button provides a full test of the unit's functionality. DO NOT try to test the alarm with a naked flame, as this may present a potential fire hazard.

⚠ **WARNING:** Never use portable cooking or heating equipment other than electric heaters that are not of the direct radiant type, as it is a fire and asphyxiation hazard.

⚠ **WARNING:** Appliances such as cookers must not be used for heating.

Fire Extinguisher

It is recommended that a dry powder fire extinguisher be carried inside your motorhome at all times.

When using a dry powder extinguisher it is suggested that the motorhome be evacuated until the powder has settled, to avoid inhalation.

A fat pan fire should not have a fire extinguisher aimed at it. It should be smothered with a fire blanket.

⚠ **WARNING:** Provide one dry powder fire extinguisher of an approved type or complying with EN3-7 or ISO 7165, of at least 1kg capacity, by the main exterior door and a fire blanket next to the cooker. Familiarise yourself with the instructions on your fire extinguisher and the local fire precaution arrangements.

Escape paths

It is important that you do not block escape paths to emergency exits with obstructions or hazards.

Children

Do not leave children alone in the motorhome in any event. Keep potentially dangerous items out of reach, as at home e.g. matches and drugs etc.

Ventilation

All motorhomes comply with BS EN 721. The ventilation points on your motorhome are fixed points of ventilation which are required by the European Standards.

All motorhomes have ventilation at high level and low level which have been calculated to suit the individual needs of your motorhome.

High level ventilation is achieved by means of the roof lights and washroom roof ventilators (where applicable). The low level ventilators are positioned in the front fascias of furniture in van conversions.

Under no circumstances must these vents be blocked or obstructed in any manner as this could lead to insufficient fresh air. In this case the confined atmosphere becomes depleted of oxygen which could lead to dangerous levels of carbon dioxide (CO_2) build up, leading up to the risk of asphyxiation.

The risk of carbon (CO) build up, which is a colourless, odourless and tasteless gas, will also be reduce with ventilation. Carbon monoxide is produced from incomplete combustion and should the CO detector be activated the cause of the incomplete combustion must be investigated prior to reusing the appliance in question.

It is advised that fixed ventilation points are checked and cleaned (if necessary) on a regular basis using a small brush and a domestic vacuum cleaner.

Additional night time ventilation is obtained by releasing the window catches and placing them in the second groove. Note the windows are not sealed from rain in this position.

As the ventilation levels are calculated to suit each model requirements, no modifications should be made which may result in reduced ventilation levels.

⚠ **WARNING:** Do not obstruct ventilation.

Security

Motorhome Theft:

The theft of a motorhome can occur in the most unlikely circumstances; from a motorway service area or even an owner's driveway. Secure all windows and doors when your motorhome is unoccupied even if only for a short length of time.

VIN (Vehicle identification Number)

Record your motorhome VIN which can be found on the lower edge of the base vehicle front windscreen and the plate located on the front cross member under the bonnet.

Make a note of these numbers in the space provided at the front of this handbook and make a separate note of the numbers to keep safe at home.

Additional security

Consider fitting any device which might deter intrusion by thieves. Customers are advised to identify their motorhome with a method for subsequent identification if other forms of identification have been altered or removed.

Free crime prevention advice about securing your motorhome, protecting your valuables, property marking either at home or whilst on site, can be obtained from the Crime Prevention Officer through your local Police station.

Swift Command Tracker by Sargent

A Swift Command Tracker is built in to your vehicle and forms part of the Swift Command system.

The unit is Thatcham Category 6 certified and is monitored by an approved monitoring centre which operates 24 hours a day 7 days a week and provides European coverage and direct police liaison.

This system is ready for use, all you need to do is purchase a tracking subscription by visiting www.swiftcommand.co.uk or calling Sargent on 01482 881655.

The subscription cost is £95 per year including VAT.

For more information please visit www.swiftcommand.co.uk

Operation

The Swift Command Tracker is easy to operate as it is controlled by the vehicle systems.

In a caravan the tracker is armed when the Stinger 310 / 350 Alarm System is armed. It is disarmed when the alarm is disarmed.

If the caravan doesn't have an alarm system fitted, a simple numeric keypad is used to arm / disarm the tracker. Enter your code followed by the ON button to arm the tracker.

Enter your code followed by the OFF button to disarm the tracker.

In a motorhome the tracker is armed / disarmed by the ignition key.

When the ignition is turned off the tracker is armed. When the ignition is turned on the tracker is disarmed.

Event of a Theft

If the vehicle is moved whilst the tracker is armed the geo-fence monitoring will trigger a theft event.

In addition to the above, in a caravan with the Stinger 310 / 350 Alarm System fitted, if the alarm is triggered by internal movement or caravan tilting the alarm monitoring will also trigger a theft event.

The monitoring station will now contact you to confirm the theft or false alarm. You will be required to confirm your identity against the

information you provided when you subscribed.

If a genuine theft is confirmed the monitoring station will liaise with the police and keep you informed of progress.

Note; during a theft event to comply with legislation you will not be able to manually locate your vehicle using the Swift Command locate feature.

Contact

Before contacting any of the following please ensure you know your caravan or motorhome serial number. For caravans this is the last 10 digits if the CRIS number (like SWG0123456). For motorhomes this is the unique MH number (like MH01234).

The Swift Command Tracker monitoring station can be contacted on 0345 6027302. The stations operates 24 yours a day 7 days a week.

Sargent customer support can be contacted on 01482 678981 or via support@ swiftcommand.co.uk

Telephone lines are manned during normal office hours.

Swift customer support can be contacted on 01482 875740 during normal office hours.

Precautions

The Swift Command Tracker monitors the leisure battery supply and if the voltage falls below a set level or the battery is removed this will trigger a fault event.

If you plan to remove your battery for maintenance or external charging please contact the monitoring station BEFORE removing the battery.

If you lose an alarm key fob you need to contact Sargent for a replacement and follow their instructions to remove the 'lost' fob from the system.

If you lose an ignition key you will need to visit a Fiat dealer for key replacement and removal of the 'lost' key.

CO alarm

Fireangel CO-9D Carbon Monoxide Alarm

⚠ **WARNING:** Please read the full user instructions provided.

Carbon monoxide

Known as the silent killer, Carbon Monoxide is an invisible, odourless and tasteless gas.

What are the symptoms of carbon monoxide poisoning?

Early symptoms of carbon monoxide (CO) poisoning can mimic many common ailments and may easily be confused with flu or simple tiredness. Symptoms to look out for include:

- tiredness
- drowsiness
- headaches
- giddiness
- nausea
- vomiting
- pains in the chest
- breathlessness
- stomach pains
- erratic behaviour
- visual problems

Anyone with these symptoms should immediately turn off all appliances and seek medical attention.

What to do during an alarm

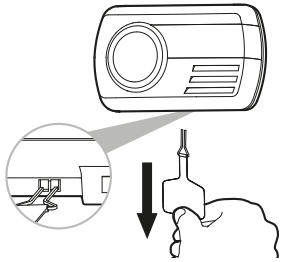
- Keep calm and open the doors and windows to ventilate the caravan.
- Stop using all fuel burning appliances and ensure, if possible, that they are turned off.
- Evacuate the caravan leaving the doors and windows open.
- Do not re-enter the caravan until the alarm has stopped. When exposed to fresh air it can take up to 10 minutes for the sensor to clear and the alarm to stop depending on the level of carbon monoxide detected.
- Get medical help immediately for anyone suffering the effects of carbon monoxide poisoning (headache, nausea), and advise that carbon monoxide poisoning is suspected.
- Do not use the appliance again until it has been checked by an expert. In the case of gas appliances the engineer must be Gas Safe registered.

Power Pack Activation

See diagram below

Your detector comes complete with an integrated power pack that will provide power for its entire operational life. To activate the power pack you need to pull the disabling tab (see image). This will in turn pull out the metal disabling clip, which is attached to the end of the tab, from the disabling socket which is situated on the underside of the detector. Retain the disabling tab for future use by taping it to page 22 of the CO-9D user manual.

When the detector is activated the screen will display all of the icons, then after a few seconds will show the current CO level. The power indicator LED below the symbol will also flash green once every minute to indicate that the detector is receiving power from the power pack and is fully operational. A symbol will also flash briefly on the LCD screen approximately once every minute.



Test the sounder, power pack and circuitry by pushing the centre of the Test/Mode button briefly to confirm that the detector is operating properly. The sounder will sound as soon as the button is pressed, and the Alarm LED

will illuminate red indicating that the sounder is working and the power pack is providing power to the unit. You'll notice that the display will switch to temperature mode, this is explained later in the manual, press button again to return to the CO display. This test for the sounder, power pack and circuitry should be performed on a weekly basis. This should be continued for the lifetime of the product.

⚠ **WARNING:** Prolonged exposure to the sounder in close proximity to your ears may damage your hearing.

Under normal operating conditions, the power pack will last for the lifetime of the product i.e 7 years. The detector will not protect against the risk of carbon monoxide poisoning when the power pack has drained.

⚠ **WARNING:** Prolonged exposure to extreme high or low temperatures may reduce the life of the power pack.

Power Pack Deactivation

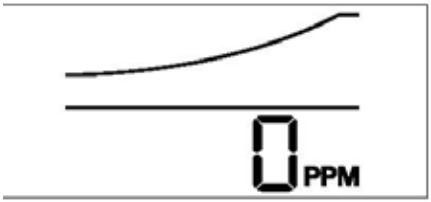
Your CO-9D is portable making it ideal for taking with you on holiday. You will need to deactivate your detector when traveling or even when storing e.g when decorating. Fitting is reverse of removal. To deactivate the detector the two ends of the metal clip must be inserted into the corresponding holes in the disabling socket located on the underside of the detector (see image). You can ensure that the product is disabled by pressing the test button- If there is no sound from the sounder then the clip has been fitted correctly.

Note: If the disabling tab is no longer available then the clip can be replicated by opening out a thin metal paper clip into a U-shape.

Operating Features

Standby Mode

The alarm can display two views when in normal standby mode, the current level of CO or the current room temperature in degrees centigrade (ºC). When the alarm is showing the current CO Level you will see something similar to the following.



FireAngel's unique digital read out displays the amount of CO that the sensor is detecting shown in parts per million (PPM). It is designed to indicate levels from 10PPM to 999PPM.

Note: Ambient background levels between 0PPM and 10PPM will show as 0PPM

When the alarm is showing the current temperature you will see something similar to the following.

In both modes you will notice a symbol appear briefly in the top left hand corner of the screen once every minute. This is an additional indication to show you that the alarm is operating as well as the flashing green LED.

To switch between CO and temperature view, simply press the Test/Mode button briefly. The unit will also sound when pressing the button to switch between the two display modes.

You will also notice that when switching between modes the display will change

slightly, this is because the alarm is displaying the Peak Level CO reading that it has recorded in the last 4 weeks, please see the following peak level reading feature section for further description.

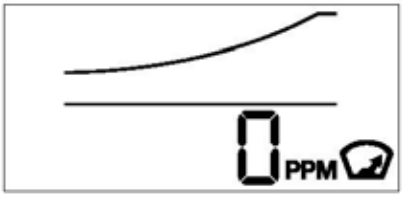
Note: If the alarm is in temperature view and detects CO it will automatically switch back to CO display mode.

Power pack, sounder and circuitary test

Pressing the Test/Mode button will also test the power pack, sounder and circuitry of the alarm. The unit will sound and the alarm LED below will illuminate red. You should perform this test once per week.

Peak Level Reading feature.

The alarm will record the highest reading of CO that it has detected in the last 4 weeks. This information is useful if your alarm has sounded so you can see the highest level of CO detected during that time. It is also useful to check periodically to see if a readable level of CO has been detected for a short time, but not long enough to trigger a full alarm. The peak level reading is shown briefly every time you press the Test/Mode button and will look something like the image below.

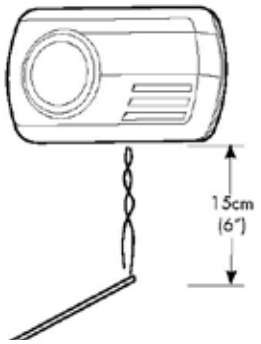


Note: It is possible and quite normal for the peak level to remain at 0ppm, i.e. this simply means that the alarm has not detected any CO in the last 4 weeks.

The Peak Level reading will be reset to 0ppm whenever a Sensor Test is carried out. (See the next section for Sensor Test).

Sensor Testing

⚠ **CAUTION:** Sensor testing should only be performed by a responsible adult. This test should only be performed once a month. Excessive testing will shorten the life of the power pack.



Note: We suggest the use of an incense stick or cigarette as the way in which these products burn produces a readable localised amount of CO. A readable level of carbon monoxide will not be given off by other sources of smoke, for example an extinguished candle or match.

Step 1: If the alarm is wall mounted unhook it from the fixing screws.

Step 2: Hold the Test/Mode button down until the spanner icon appears in the bottom left hand corner of the screen and the bar graph 'scans' from left to right. This indicates the alarm is in sensor test mode where the sampling rate of the sensor has increased and the alarm can be tested using a known source of CO.

Step 3: Light an incense stick or cigarette using a match or lighter. Extinguish the lighter, or put out the match and place it into a dish of water.

Step 4: Hold the incense stick or burning cigarette 15cm (6 inches) below the detector, so that the smoke goes into the

holes at the bottom of the detector. As the smoke gets into the alarm the display will show the amount of CO being detected. When the level of CO in the sensor reaches 50ppm the alarm will sound a single alarm cycle, this confirms that the sensor is working correctly and is the end of the sensor test. The alarm will return to normal standby mode.

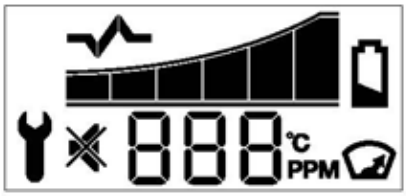
Step 5: Put out the incense stick or cigarette by placing it into a dish of water. Ensure that all flames have been extinguished.

Note: If the level of CO in the sensor doesn't reach 50ppm then the Sensor Test mode will time out and finish automatically after 3 minutes. Even if the level doesn't reach 50ppm, as long as the display shows a reading of CO then you can be confident that the alarm is working correctly. If you have any questions about testing the sensor please contact the FireAngel technical support team

Understanding the Product's Indicators

Digital Display

The LCD screen has many icons with one or more being shown at any one time.



Bar Graph to show early build up of CO.

To understand the role of the product indicators please refer to section 'Carbon Monoxide and how it can affect your family' on page 3 of the CO-9D User Manual. The alarm has a bar graph which mimics the way CO levels build up in the blood stream. The response times of the alarm are determined by the European Standard BS EN 50291:2001 so the alarm will only sound when it has detected CO for a prescribed length of time, the higher the level of CO the quicker the alarm must sound. However with FireAngel's CO-9D there is an early visual warning that CO is present. When CO is first detected the alarm indicates it's presence by displaying the level on the screen in parts per million (ppm). If CO continues to be present additional bars will appear on the graph. When the graph is full (i.e. the 6th segment is shown the unit will sound a loud audible alarm (85 dB at 1m (3 feet)) and the Alarm LED below the symbol on the front of the detector will flash red once every second.

The Alarm will sound

- Between 60 and 90 minutes when exposed to a minimum of 50ppm of CO.
- Between 10 and 40 minutes when exposed to a minimum of 100ppm of CO.
- Within 3 minutes when exposed to a minimum of 300ppm of CO.

Alarm silence

It is possible to temporarily silence the alarm up to two times if the level of CO that triggered the alarm is less than 200ppm. After ventilating the property you can temporarily silence the alarm by pressing the Test/Mode button, the alarm will stop and the silence mode symbol will appear on the screen. The silence mode will last for up to 3 minutes. If the CO level remains too high the alarm will trigger again or if the level of CO rises above 200ppm then the detector will automatically re-enter alarm mode. If the level of CO has fallen to a satisfactory level the silence mode icon will disappear, the unit will exit alarm mode and the segments of the bar graph will slowly disappear as the CO in the sensor clears.

Alarm in absence:

 If the Peak level reading symbol is showing on the screen but there is no full alarm sound and you are not pressing the test button, then your detector is warning that it has detected Carbon Monoxide in your absence. Immediately vacate the premises and seek medical attention for anyone suffering the effects of CO poisoning (headache, nausea). Treat this as a serious warning. Call a qualified technician and have the problem investigated and rectified immediately.

Error signal

Err The unit continuously checks the settings of its sensor and circuitry. If any of these settings
are found to be incorrect, the detector will emit a single chirp once per minute and the display will show “Err” for error and an error code,cycling between “Err”and the particular error code.

 **Low power pack signal**

If the power pack becomes low then the detector will emit a single chirp once per minute and the low power pack icon will flash on the screen.

⚠ **IMPORTANT:** A single chirp once per minute together with an error signal 14 or low power pack warning does NOT mean that the detector has detected carbon monoxide.

If you experience an error condition or low power pack warning and the product is still within warranty then contact FireAngel technical support.
If the product is no longer in warranty replace immediately!

⚠ **IMPORTANT:** The selected power pack was chosen to provide power beyond the lifetime of the product, in particular the sensor (under normal operating conditions). The operational life of the sensor is seven years, for this reason, the detector should be replaced after seven years from the date of installation.

FireAngel Technical Support Line
9.00am – 5.00pm, Monday – Friday

Telephone: 0800 141 2561
(1-800 523171 in EIRE)

e-mail: technicalsupport@fireangel.co.uk

Maintenance
Your detector will alert you to potentially hazardous CO concentrations in your motorhome when maintained properly. To maintain your FireAngel detector in proper working order, and to ensure that the sensor will last for the lifetime of the product, it is recommended that you:

- Test the sounder, power pack and circuitry of your detector at least once per week by pressing the Test/Reset button briefly (see above).
- Perform the Sensor Test once every month (See p36).
- Keep the detector free of dust by gently vacuuming the case with a soft brush attachment once per month.

To prevent the possibility of contaminating the sensor in your detector and thus affecting its reliability:

- Never use cleaning solutions on your detector. Simply wipe with a slightly damp cloth.
- Do not paint the detector.
- Do not spray aerosols on or near the detector.
- Do not use any solvent based products near the detector.
- Move the detector to a safe location and store in a plastic bag before painting, wall papering, or performing any other activities

using substances that emit strong fumes. Remember to remove it from the bag and replace the detector when these activities are finished.

Failure of any test should be reported to the Fireangel Technical Support Team. Do not attempt to repair your CO detector. Do not remove any screws or open the main casing of your detector. Any attempt to do so may cause malfunction and will invalidate the warranty.

What to do in the event of an alarm

⚠ **WARNING:** A loud alarm is a warning that unusually high and potentially lethal levels of carbon monoxide are present. Never ignore this alarm, further exposure can be fatal. Immediately check residents for symptoms of carbon monoxide poisoning, and contact the proper authorities to resolve all CO problems.
NEVER IGNORE ANY ALARM.

Please carefully review this owner's manual to ensure that you know what actions to take in the event of an alarm.

What to do during an alarm

Within 3 minutes when exposed to a minimum of 300ppm of CO.

- Keep calm and open the doors and windows to ventilate the property.
- Stop using all fuel burning appliances and ensure, if possible, that they are turned off
- Evacuate the motorhome leaving the doors and windows open.
- Do not re-enter the motorhome until the alarm has stopped. When exposed to fresh air it can take up to 10 minutes for the sensor to clear and the alarm to stop depending on the level of carbon monoxide detected.
- Get medical help immediately for anyone suffering the effects of carbon monoxide poisoning (headache, nausea), and advise that carbon monoxide poisoning is suspected.
- Do not use the appliance again until it has been checked by an expert. In the case of gas appliances the engineer must be registered.

Note: If the level of CO in the sensor doesn't reach 50ppm then the Sensor Test mode will time out and finish automatically after 3 minutes. Even if the level doesn't reach 50ppm, as long as the display shows a reading of CO then you can be confident that the alarm is working correctly. If you have any questions about testing the sensor please contact the technical support team

Disposal

Waste electrical products should not be disposed of with regular household waste. Please recycle where facilities exist. Check with your local authority, retailer or manufacturer for recycling/disposal advice as regional variations apply. The power pack should be deactivated before disposal. To do this, insert the two ends of the metal clip on the end of the disabling tab back in to the socket located on the underside of the detector.
If the disabling tab is no longer available then the clip can be replicated by opening out a thin metal paperclip into a U-shape. You can also return your carbon monoxide detector to Fireangel for disposal. For return address contact Fireangel Technical Support. Please include a note confirming the product is being returned for disposal.

Technical Information

Detector Specifications: Model CO-9D
Sensor Type: Electrochemical
Sensor Life: 7 Years
Alarm Sound Level: 85dB at 1 metre (3 feet)
Power Pack Life: 7 years (Life of product)
Temperature Range: -10ºC (14ºF) to 40ºC (104ºF)
Operating Humidity Range: 30 - 90% RH
Weight: 120 grams (4.23oz)
Certified to: BS EN 50291:2001
This FireAngel carbon monoxide detector is designed to continuously monitor for CO. Its response times meet the requirements of BSI standard BS EN 50291:2001.

⚠ **WARNING:** DO NOT ATTEMPT TO OPEN - DO NOT BURN

⚠ **WARNING:** APPARATUS CONFORMING TO THIS STANDARD MAY NOT PROTECT PEOPLE WHO ARE AT SPECIAL RISK FROM CARBON MONOXIDE EXPOSURE BY REASON OF AGE, PREGNANCY OR MEDICAL CONDITION. IF IN DOUBT, CONSULT YOUR DOCTOR.

A CARBON MONOXIDE DETECTOR IS NOT A SUBSTITUTE FOR A SMOKE ALARM OR A COMBUSTIBLE GAS DETECTOR.

REPLACE UNIT AFTER 7 YEARS OF OPERATION.

7 Year Warranty

FireAngel Ltd warrants to the original purchaser that its enclosed carbon monoxide alarm be free from defects in materials and workmanship under normal residential use and service for a period of 7 (seven) years from the date of purchase. Provided it is returned with postage paid and proof of purchase date, FireAngel Ltd hereby warrants that during the 7 (seven) year period commencing from the date of purchase FireAngel Ltd, at its discretion, agrees to replace the unit free of charge. The warranty on any replacement CO-9D alarm, will last for the remainder of the period of the original warranty in respect of the alarm originally purchased – that is from the date of original purchase and not from the date of receipt of the replacement product. FireAngel Ltd reserves the right to offer an alternative product similar to that being replaced if the original model is no longer available or in stock. This warranty applies to the original retail purchaser from the date of original retail purchase and is not transferable. Proof of purchase is required.
This warranty does not cover damage resulting from accident, misuse, disassembly, abuse or lack of reasonable care of the product, or applications not in accordance with the user manual. It does not cover events and conditions outside of FireAngel Ltd's control, such as Acts of God (fire, severe weather etc.). It does not apply to retail stores, service centres or any distributors or agents. FireAngel Ltd will not recognise any changes to this warranty by third parties.
FireAngel Ltd shall not be liable for any incidental or consequential damages caused by the breach of any expressed or implied warranty. Except to the extent prohibited by applicable law, any implied warranty of merchantability or fitness for a particular purpose is limited in duration for 7 (seven) years.
This warranty does not affect your statutory rights. Except for death or personal injury, FireAngel Ltd shall not be liable for any loss of use, damage, cost or expense relating to this product or for any indirect, or consequentia loss, damages or costs incurred by you or any other user of this product.

SAFETY & SECURITY

POSITIONING THE MOTORHOME

Note: Check and observe site regulations.

Keep to roadways unless otherwise directed. Adhere to speed limits. Note that these are generally 10mph.

Remember that the stopping distance on grass is considerably greater than on tarmac

Only a person in possession of a current driving licence may drive on the site.

Selecting a pitch

Do not pitch in such a position that your motorhome will obstruct others coming in.

Try to choose an area which is dry, reasonably level and preferably with a hard base.

If you have no alternative but to pitch on a slope try to ensure that you are facing down the slope, for when you leave.

Levelling the motorhome

Levelling must be carried out in both directions for the refrigerator and other equipment to function correctly. Stepped levelling boards or proprietary ramps are ideal for this purpose.

Fig. A

Awnings and Tents

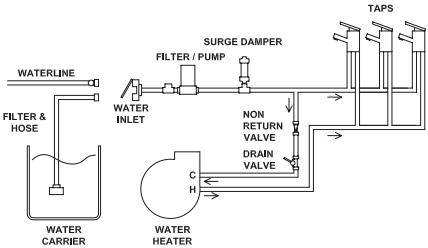
Awnings and tents should only be used when permission has been obtained. When on grass and staying for more than a few days the ground sheet and/or side flaps of awnings should be periodically raised in order to avoid damage to the ground.

Water system - Introduction

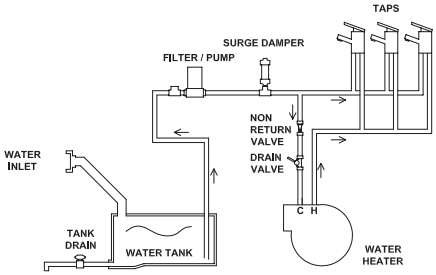
All Swift Group motorhome water systems have been designed around a pump fitted within the motorhome. This pump draws water from an under floor or external water carrier, to provide water pressure within the water system, whenever it is switched on and water is available.

The schematic below shows the basic configuration of the water system:

WATER SYSTEM SCHEMATIC MOTORHOME WITHOUT FITTED FRESH WATER TANK



WATER SYSTEM SCHEMATIC MOTORHOME WITH FITTED FRESH WATER TANK



When power is supplied to the pump, it will draw water from the water tank, and pump it to the motorhome taps, shower and water heater.

The pump is fitted with its own pressure switch, and the pump will continue to pump water, until the pressure of water on the output of the pump reaches a pre-set level. For this pressure to be achieved, the taps must be closed.

When the taps are opened, water will leave the tap via the spout, and the pressure in the pipes between the pump and the taps will reduce. Because of this reduction in pressure, the pressure switch on the pump will switch back on and the pump will again run to pump more water.

Close to the pump, the water under pressure is split into two paths:

1. Through blue water pipes routed directly to the cold connection of each tap.

2. To the water heater.

Water from the pump enters the bottom of the water heater. Once the water fills the water heater (typically 10 litres), water then leaves the water heater via a connection at the top of that water heater. This water, which is still under pressure, then routes to the hot connection of each tap via the red pipes.

To winterise the system please see separate details later in this handbook.

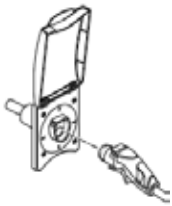
Ultraflow water intake housing

(without on board tanks)

Operating instructions

Raise the lid, clean both the water socket and the plug of the Intake Assembly.

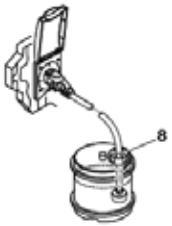
Plug the intake connector into the socket.



Place the assembly into the water container, ensuring that it is fully submerged before operating the system. The Dust cover is to stop contaminates falling into the water container.

When water is first introduced, or the water supply in the internal tank, or aquaroll, runs out, air will be present in the pipework. It is important that every tap is run to remove any air in the system before, for instance, the shower is used. Air left in pipework local to a tap can act as an accumulator and affect the ratio of hot and cold water flowing from other taps or shower mixers in the system.

If the pump fails to deliver water the most likely cause will be air in the system. Switch off the pump and shake the pump assembly in the external water container. Then switch on again.



To remove the Intake Assembly from the Water Intake Housing. To remove, pull the lower trigger and pull out the hose plug.

⚠ **WARNING:** Do not remove by pulling the hose. Please ensure that the lid is properly closed before driving!

Routine maintenance

Ensure that the O-ring seal on the hose plug and the socket are free from dirt. To aid fitting of the plug assembly smear the O-ring with vegetable oil.

Notes

Before winter storage the water system must be completely drained (see winterisation / storage in the maintenance section).

Clean the water system at the start and end of the season with sterilising fluid (see notes under sanitising on the following page).

System care

Allowing water to freeze in the system may result in damage to the pump and plumbing system.

Non-Toxic antifreeze for potable water may be used with Truma pumps. Follow manufacturers recommendations.

⚠ **WARNING:** Do not use automotive antifreeze to winterize potable water systems. These solutions are highly toxic and may cause serious injury or death if ingested.

Priming the Water System.

1. Close the water tank drain valve or re-fit the drain bung. (Model specific)
2. Fill the water tank with water.
3. Close the water heater drain valve (see boiler instructions in the fitted equipment section)
4. Open all the taps except the shower tap. Mixer taps should be opened in the central position so that both the hot and cold pipes are purged of air. Ensure the tap spouts are over the sinks.
5. Turn on the pump using the button on the control panel (See pump button in paragraph 2.5 of the Electrics section).
6. Turn each tap off in turn as and when the air is expelled and the water runs smoothly from each tap. Move the mixer taps to hot and then cold to check that the air is out of both the hot and cold pipes before turning them off.
7. Whilst holding the shower head down towards the shower drain, open the shower tap and shower head tap until all the air is expelled and the water runs smoothly. Turn the shower taps off.
8. Top up the fresh tank with water.

Please note that priming the system will automatically fill the water heater with water.

Please ensure all taps are fully turned off when not in use (except when winterising).

Note: All tanks are fitted with a breather which acts as an overflow. Overfilling a tank will result in water being expelled from the overflow.

Cleaning water system

Clean the water system at the start and end of the season with sterilising fluid.

Sterilising

When cleaning the water system at the start or the end of the season it is advisable to use a suitable sterilising fluid available from your motorhome dealer

Flush the system thoroughly to remove the effective fluid traces.

When water is first introduced, or the water supply in the internal tank, runs out, air will be present in the pipework. It is important that every tap is run to remove any air in the system before, for instance, the shower is used. Air left in pipework local to a tap can act as an accumulator and affect the ratio of hot and cold water flowing from other taps or shower mixers in the system.

System care

Allowing water to freeze in the system may result in damage to the pump and plumbing system.

Non-Toxic antifreeze for potable water may be used with Truma pumps. Follow manufacturers recommendations.

Do not use automotive antifreeze to winterize potable water systems.

These solutions are highly toxic and may cause serious injury or death if ingested.

Sanitising

The water systems, and in particular storage tanks, in motorhomes are susceptible to contamination by bacteria if care is not taken with their use and cleaning. The symptoms caused by bacterial contamination are not purely limited to gastro-intestinal diseases, but may also manifest themselves as ear, nose, throat, eye or skin infections. It is therefore important that you carry out the following procedure prior to using the motorhome each time, even if you boil or filter all water you use for drinking.

Separate Water Containers

1. All water remaining in the container should be disposed of so that the container is empty.
2. The outside of the container should be thoroughly cleansed and washed down to remove any dirt, dust or other contaminant. Water at a suitably hot temperature containing an appropriate detergent is recommended for this purpose.
3. Water should be put in the container, swirled around, then emptied out.
4. The container should then be totally filled with water containing an appropriate sterilant solution and allowed to stand for the recommended contact time
5. The solution should be emptied from the container.
6. The opening of the container should be cleaned thoroughly with an appropriate prepared wipe impregnated with a sterilant.
7. The container should be inverted whilst stored overnight (if possible).
8. The container must be filled with mains water only and mains water only should be used for the above cleaning procedure.
9. On no account should garden hoses be used to fill water tanks.

For Systems:

1. Drain down the system (open all taps to allow air in, enabling the system to drain quickly).
2. Remove any water filters fitted, and replace with a short length of hose or empty filter cartridge (this will ensure the filter is not affected by the disinfectant/ sterilant solution).
3. Fill the water system with a disinfectant/ sterilant solution (check that the solution at full strength appears at all taps/showers). A suitable container (not supplied) should be used to collect this waste water for disposal. Allow to stand for the recommended period of time.
4. Drain the system completely.
5. Thoroughly clean the outside of all taps/ connectors with a cloth soaked in the disinfectant/sterilant.
6. Flush the system through with clean drinking water until no traces of disinfectant/ sterilant can be detected at any tap.

Suitable sterilising chemicals are available from your motorhome dealer, accessory shop, chemist or home-brew shops. It is not, however, recommended to use bleach or sodium metabisulphite.

Do not use products containing aggressive agents for sterilising the water system. Always use products designed for use within stainless steel tanks available from your motorhome dealer.

Note: Never use the water heating system when disinfectant /sterilising fluid is present. Doing so may damage the system.

Waste water system (without fitted tanks)

When the motorhome does not have fitted tanks, waste water will exit directly from the outlets on the off side (drivers side) of the motorhome, at skirt level.

Waste water system (with on board tanks)

1. The waste water holding tank is secured underneath the chassis of your motorhome and is gravity fed.
2. In order to eliminate unpleasant odours as much as possible, only smooth bore pipes are used.

However, should the waste water tank be overfilled, it is possible the waste water will backfill the drain pipes until it eventually appears in the shower base. In order to prevent this, please take note of part 3.

3. The waste water gauge shows the level of the tank in quarter or half increments, it is therefore, recommended that the waste water tank is checked on a daily basis, emptying when required. This is done by opening the valve located just beneath the side skirt on the exterior of the Motorhome or by turning the handle located inside the

vehicle at floor level behind the rear axle, usually found in bed box or wardrobe base (model dependant).

It should be emptied either directly, or via a waste water container (not supplied) into a designated waste water area.

Fresh water system
(with on board tank)

1. All fittings, including the holding tank, water pipes, taps and connections are of food quality material (to BS6920) and therefore, should not affect the quality of the water used. It is recommended however, that the system is flushed through twice before it is used for the first time, and always cleaned/ flushed after it has stood unused for a period of time (eg over the winter period). Care has been taken (using smooth bore pipes etc) to eliminate as many water traps as possible.
2. When filling the fresh water system remember to check that the water source is suitable for use as drinking water and, if you are using a hose pipe or water carrier, that it is also made from nontoxic materials (preferably food quality material).
3. The fresh water tank may be drained either via a plug in the base of the tank accessible via the cleaning hatch or by the drain tap situated externally below the side skirts, or internally inside the furniture (model specific).

⚠ **WARNING:** The fresh water system is pressurised by a pump which will continue to operate until it senses a pre-set pressure in the system. If the fresh water tank is completely empty the pump will be unable to pressurise the system and will operate continuously. In this situation it is essential that, in order to avoid damage to the pump, it is switched off using the pump on/off button on the control panel until such time as the water tank has been filled.

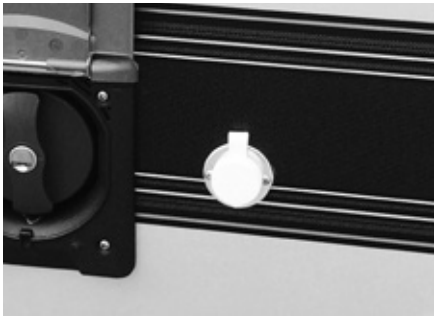
Lockable water filler inlet

Fresh Water Tank (with on board tank)

Your motorhome is fitted with a water tank filled from the outside via a lockable water filler cap. When filling, use a hose manufactured from non toxic material, to prevent tainting of the water. Remember, if the water heater has been drained it will require 10 litre (0.2 gal) of water to fill it.

External 12v Fill Socket

Depending on specification your motorhome may be fitted with an external 12v socket which can be used to attach an external 12V pump.



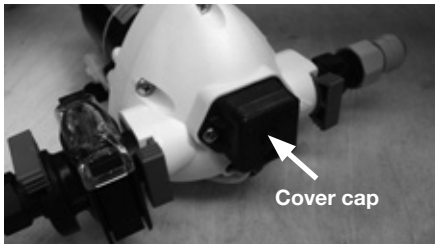
Pressure Switch

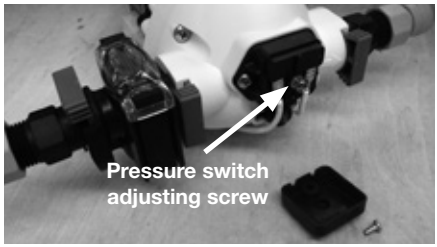
The purpose of a pressure switch is to monitor the pressure on the outlet side of the pump. When a tap is closed, and the pump continues to run, there is an increase of pressure in the system, and when that pressure reaches a pre-set limit, the pressure switch will turn the pump off.

Pressure switch adjustment

Pressure Switch Adjustment, Truma/Flo-Jet pump. (Normally Grey upper section with White lower section/valve housing)

- All of the Truma/Flo-Jet pumps used by Swift are pre-set at 25psi - 31psi.
- To further adjust the pressure switch setting, a cover cap must be first be removed from the end of the pump to reveal a pressure adjusting screw, as shown in the photos. A maximum of 1/4 turn clockwise or anti-clockwise, from the factory setting, is advised. Turning the screw clockwise 1/4 turn will increase the pressure switch cut-out pressure, turning the screw anti-clockwise will reduce the pressure setting.
- Please note a second screw mounted below the cover cap is set in position with threadlock, this should not be disturbed.





The pump may have to be removed to gain access to the adjusting screw. Drain the water system before removing the pump.

To remove the pump pull the blue taps at right angles to the pipe work and lift the pump out.

Troubleshooting

Pump will not start, when the tap is opened:

- Check fuse(s).
- Check power source(s), and ensure there is sufficient voltage to run the pump.
- Ensure 'pump' LED is illuminated.
- Using a multi-meter, ensure there is power at the pump. If not, refer to your dealer as there maybe damaged cabling or a fault with the fusebox.
- Is the pump hot? If so, allow to cool before retrying.
- Has the vehicle been stored over winter? was it correctly winterised? If no, the pump may have frozen, causing permanent damage.
- The pressure switch may need adjusting. (See pressure switch paragraph in this section for how to do this)

Pump runs, but will not pressurise system (i.e. no or little water being discharged from taps) - Not Pulsing:

- Ensure that there is water in the fresh water tank.
- Check in-line filter is free from debris and correctly fitted.
- Ensure water system has been primed correctly, (see priming the water system page 50), and there are no air-locks present.
- Ensure there are no restrictions in the plumbing.
- Using a multi-meter, ensure there is power at the pump. If not, refer to your dealer as there maybe damaged cabling or a fault with the fusebox.
- Ensure the inlet side of the pump is watertight and not allowing air into the system.
- Using a multimeter check that the voltage is between 10 and 14.5 volts. If not, refer to your dealer.

Pump continues to run (for more than 5 seconds) after taps are closed or pump turns on for no reason:

- Check for leaks on the high pressure side of the pump.
- Ensure water system has been primed correctly, as per the handbook, and there are no air-locks present.
- Ensure the pump is securely mounted.
- Ensure the piping on the high pressure side of the pump is in good condition (not blowing or deforming).
- The pressure switch may need adjusting. (See pressure switch paragraph in this section for how to do this)

Noisy or rough operation

- Check for leaks on the high pressure and low pressure side of the pump.
- Ensure that all pipes (especially those within 150mm of the pump) are not touching any furniture.
- Ensure the pump is securely mounted

Pump rapidly cycles (switches on or off) or water pulses from taps, including temperature pulsing:

- Check for leaks on the high pressure and low pressure side of the pump.
- Ensure there are no restrictions in the plumbing
- The pressure switch may need adjusting. (See pressure switch paragraph in this section for how to do this)

Water level sensor & cleaning

Principle (fitted water tanks only)

The sensor, fitted to Swift Group motorhomes are pre-fitted to water tanks, and link to the control unit, via a pre-fitted wiring harness. The sensors, which consist of a number of stainless steel studs, at different positions, are immersed in the fresh or waste water, and use the conductivity of water, between the studs, to provide a reading to the control unit.

The sensors are 'digital', in that while the conductivity (resistance) value can vary, the fusebox will register any conductivity between studs and the various different studs, indicating water present.

Normally, even if the studs are dirty, and providing the studs have not bridged by a foreign object, a circuit will still be delivered back to the control unit and a water level displayed.

Sensor cleaning

The first step, in case of fault diagnosis, is to clean the sensor studs. False water level readings at the control unit can be caused by calcium build-up or foreign objects within the tank bridging the studs. (Especially with waste tanks).

To clean the sensor:

⚠ **WARNING:** Only use food safe plastic mesh scourers, which are suitable for domestic use, for cleaning the sensor studs.

1. Remove the sensor from the tank
2. Check the studs for build up of contamination
3. Use clean soapy water
4. Place scourer in water to dampen
5. Apply scourer to the sensor probes with limited pressure
6. Rub sensor studs removing contamination
7. Swill sensor studs with fresh clean water
8. Replace sensor into tank.

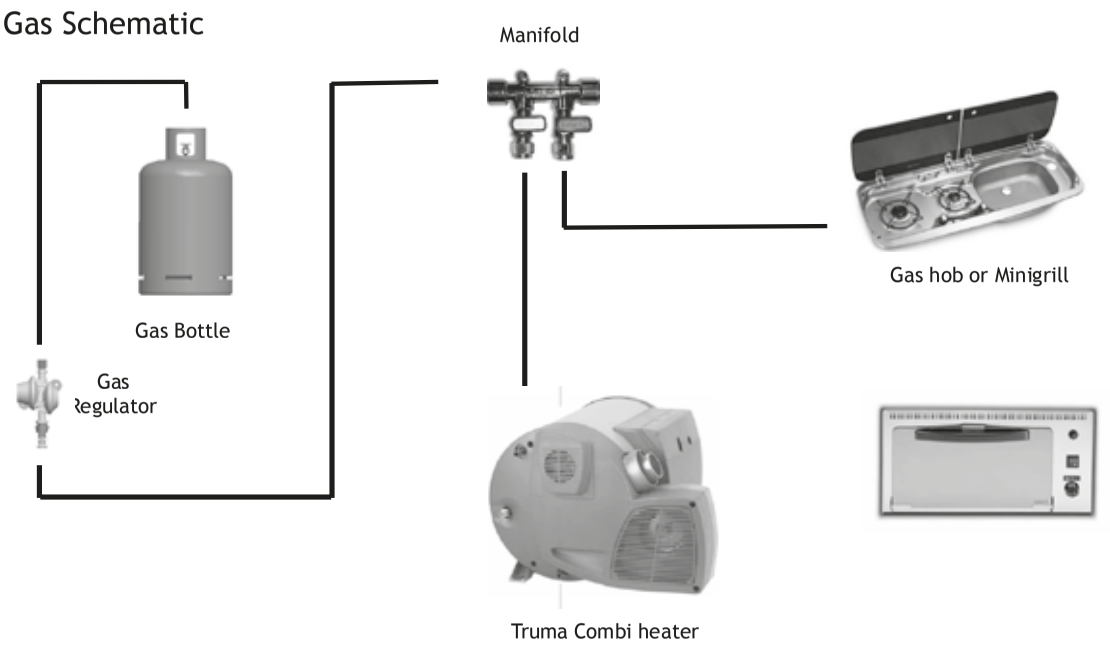
Water

Fault	Cause	Remedy
Water not flowing from any tap when operated but pump runs	Freshwater tank empty	Check
	Pump wired in reverse	Check wiring, refer to pump manufacturers instructions
	Pipe inlet or outlet pipe disconnected	Check connections
	Pump pipes restricted by kinking	Check pipes run
	Blockage in pump inlet or outlet pipe	Check, starting inside freshwater tank
	Blocked pump filter	Dismantle and clean filter. See pump manufactures instructions.
	Air leak in suction line to pump	Check condition of pipe and pipe joints between the water tank and the pump.
Pump does not run	Pump incorrectly wired	Refer to pump manufacturers instructions
	Pump fuse blown	Check wiring connection and then replace with fuse of correct rating
	Battery disconnected	Check connections
	Pump seized or overheated	Refer to pump manufacturers servicing instructions
	Pressure pump sensing switch may have failed	Refer to pump manufacturers servicing instructions
	Contacts may be faulty	Check contacts in plug and socket are clean and making contact
	Wiring connections may be faulty	Check wiring connections
Water flows from cold tap but not from hot	Blockage in hot pipeline	Disconnect pipes and inspect
	Heater inlet or outlet pipes kinked preventing flow	Check and re-route if necessary.
	Hot tap failed or blocked	Disconnect and inspect
	Heater non-return valve jammed	Seek service attention

Water

	Cause	Remedy
Water flows from hot tap but has reduced flow from cold	Cold water pipe kinked preventing flow	Check and re-route if necessary
	Blockage in cold pipe line	Disconnect pipes after 1st connector and check up to tap
	Cold tap not connected	Refer to installation instructions
	Cold tap failed or blocked	Disconnect and inspect
Reduced flow from both hot and cold taps	Battery condition low causing pump to run slowly	Check battery state of charge, refer to electrical supply note
	If new taps have been fitted they may be restricting flow	Disconnect and check that they have at least 1/4" (6.3mm) bore
	Pump needs servicing	Refer to pump servicing instructions
	Partially blocked pump filter or in-line filter, if fitted	Dismantle and clean if necessary
	Pump outlet pipe kinked restricting flow	Check and re-route if necessary
	Water leak	Check all water connections
Reduced flow from either tap	Pipe kinking restricting flow	Check and re-route if necessary
	Bore size difference in taps	Use taps of equal bore size
If pump motor runs steadily and will not stop	Battery voltage may be too low (below 10.5 volts)	Check that there is water in the container Adjust switch and/or re-charge battery Check all connections in pipework

Typical gas schematic drawing with combi boiler



Gas

General information Gas Cylinders

Bottled Liquefied Petroleum Gas (LPG) is the most convenient portable source of fuel for your vehicle.

The gas cylinder, cooking and heating appliances should be isolated when travelling unless your motohome is fitted with en-route heating.

Regularly check flexible gas hose, joints and connections for tightness. Finally make sure that each gas appliance is working efficiently to the recommendations of the appliance manufacturers.

The LPG system should be inspected annually by a competent person.

Only use gas cylinders that are located within their dedicated position within the gas bottle housing never extend the hose - hose lengths must not exceed 400mm.

Your vehicle is supplied with a wall mounted gas regulator plumbed inside the gas bottle compartment. The regulator and all appliances work at a harmonised 30mb pressure, which work with Butane and Propane gas.

Pressure regulation system in this vehicle has a fixed working pressure of 30 mbar with a flow rate of 1.5 kg/H and complies with the requirements of EN 12864 annex D.

We do not recommend the use of an inline LPG BBQ with the 1.5kg/H regulator when other LPG appliances are in use.

Gas Hoses

High-pressure hoses or pigtails as they are called must be used with the new style regulator.

High-pressure hoses incorporate a safety shut off valve for the use of the en-route heating system.

LPG cylinder i.e. Propane, Butane, BP and Camping Gaz cylinders all have unique bottle adaptor connections. It is important to check you have the correct hose and adaptor to suit your gas cylinders.

Push on hoses are no longer permitted under the latest regulations.

The high-pressure hoses have threaded connections and must be securely attached to the regulator and to the gas cylinder.

The hose connection to the pressure regulator relies upon a sealing washer(s) to maintain a gas tight joint, and it is essential to check that the washer is present, sound and correctly positioned prior to making the connection. The gas cylinder connection relies on a metal seating or bull nose connection to obtain a gas tight joint, therefore it is essential that the mating surfaces are clean and undamaged. In no case should a damaged valve or connection be used.

Ensure that there is a constant rise in the flexible gas hose between the gas cylinder outlet and the regulator elbow.

⚠ **WARNING:** Inspect flexible gas hose(s) regularly for deterioration and renew as necessary with the approved type, in any case no later than 5 years after the date of manufacture marked on the hose.
When replacing the en-route hose ensure the new hose incorporates a safety shut off valve (Hose rupture protection)

⚠ **WARNING:** Ensure that the high pressure hose is not excessively twisted or under stress when connected to the LPG cylinders and regulator.

⚠ **WARNING:** Always ensure the gas supply is isolated at the LPG cylinder (and not at the regulator) whilst the vehicle is in storage for any period. It is important to ensure that the high pressure gas hose has a continuous rise from the bottle cylinder to the regulator to allow any condensate to fall back into the gas bottle cylinder.

Cylinder compartment

Some cylinder compartments have four plastic mouldings per cylinder position fitted to the floor of the compartment that are designed to fit both steel and BP Gas Light cylinders. Either two straps are provided for retaining the

bodies of the cylinders at mid to high level or a single 'holding ring' strap is provided which secures the gas cylinder to the base of the compartment.

Types of gas

Propane

Propane is supplied in red, or partly red cylinders which have a female left hand threaded connector.

Scandinavian countries use the same connector.

Germany and Austria supply propane with a male connection.

Propane will work at temperatures as low as -40°C and is therefore suitable for all winter motorhoming.

Note: Swift recommend that 6kg CalorLite propane gas bottles are used.

Butane

Butane is supplied in the U.K. in green or blue cylinders.

All these have a male left hand thread

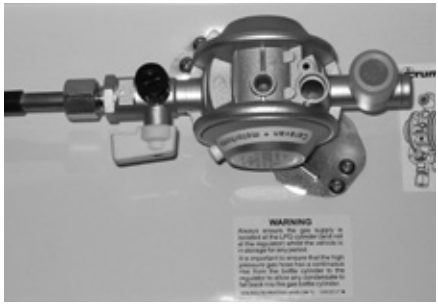
EXCEPT for Camping Gaz which has a special female right hand thread and Calor 7kg and 15kg and aluminium bottles which have a special clip-on connection.

Continental cylinders usually have a male left hand thread similar to but not identical with U.K. butane.

Butane is only suitable for use at temperatures down to 2°C but will not work below that.

Note: A hose suitable for use with propane has been supplied with your motorhome.

Regulators



Your motorhome is supplied with a wall mounted gas regulator plumbed inside the gas cylinder compartment. The regulator and all appliances work at a harmonised 30mb pressure, which work with Butane and Propane gas.

Pressure regulation system in this vehicle has a fixed working pressure of 30 mbar with a flow rate of 1.5 kg/h and complies with the requirements of EN 12864 annex D.

Note: Regulator valves and cylinder valves should always be in the 'OFF' position when travelling and storage.

⚠ **WARNING:** When leaving the motorhome for any period of time or storage always turn off the gas at the gas cylinder.

Note: Never allow modification of electrical or LPG systems and appliances except by qualified persons.

Changing a gas cylinder

Please use the correct size spanner for the gas hose connectors as this will prevent damage to the screw fittings and ensure that the fitting is tightened sufficiently.

- Turn off gas appliances
- Close the empty gas cylinder's valve
- Remove the high pressure hose from the gas cylinder.
- Attach the high pressure hose to the full gas cylinder.
- Open the full cylinder's valve. (En route heating only)
- Press the hose-break safety device and the gas-flow monitor (see: Priming the gas system).

Check the hose connection to the cylinder valve for leaks. Regulators

En-route heating (pack upgrade)

The optional en-route heating system is installed with additional safety features.

⚠ **WARNING:** When re-fuelling your motorhome, switch off the heater and close the cylinder valve.

Safety features

- MonoControl CS regulator incorporating a crash sensor which stops the gas flow in the event of the motorhome being involved in a traffic collision.
- Gas flow monitor
- Hose rupture protection is installed.

The full system is Homologated in compliance with UN ECE Regulation 122

Operating instructions

Priming the gas system

- Open the cylinder's valve. (1)
- Firmly press the hose rupture protection (green button) on the high pressure hose. (2) If necessary (e.g. if the regulator has been knocked when replacing a LPG cylinder) press the green reset button on the regulator. (3)
- Start the gas-burning devices if desired.

Note: The regulator should be replaced no more than ten years after manufacture.

⚠ **WARNING:** To ensure the safe working of the en-route heating any replacement high pressure hoses must be of the same type as originally fitted. They must have the safety valve to ensure that the gas does not leak out in the event of damage to the gas pipe work in the event of a traffic collision.

⚠ **WARNING:** When travelling using the en-route system all other LPG appliance shut off valves must be in the closed position including the cooker, water heater etc.

Note: It is dangerous and illegal to operate other LPG appliances whilst travelling. Service and repairs must only be carried out by a competent service engineer.

Gas safety advice

⚠ **WARNING:** If you smell gas or suspect a leak or in the event of a fire and if it is safe to do so, isolate the gas appliances and turn off the gas bottles at the regulator. Evacuate the motorhome and ventilate. Seek professional advice as to the cause of the leak.

Facts about LPG

- LPG is not poisonous.
- Bi-products are harmless.
- There is danger if all air and oxygen were excluded.
- (Ventilation holes must be kept clear at all times).
- LPG has been given a smell by the manufacturers in order to identify leaks.

GAS SAFETY ADVICE

Awning Spaces LPG Appliance Exhaust

There is no danger of pollution of an enclosed awning space by the LPG exhaust from a refrigerator venting into it, as awning spaces are generally well ventilated.

Space heaters may produce sufficient exhaust to pollute the awning space, if it is totally enclosed, from a general comfort, smell and hygiene point of view. In the extreme case there could be a build up of carbon dioxide to a dangerous level.

Motorhome owners are advised to allow some fresh air circulation in the awning space when such appliances are in use.

General Safety Notes

In the event of leaks in the gas system or if there is a smell of gas:

- Extinguish all naked flames.
- Do not smoke.
- Switch off the appliance and gas cylinder.
- Open the windows.
- Do not operate any electrical switches.
- Have the entire system checked by an expert.

Precautions

a. Never look for a leak with a match. Always use a soap solution or its equivalent when testing connections. Do not operate any electrical apparatus whatsoever, especially light switches. If the leak is not obvious, the motorhome should be evacuated and qualified personnel consulted.

b. Avoid naked lights when connecting or changing a cylinder.

c. Check the flexible hose frequently.

d. The gas is heavier than air and therefore sinks to the lowest point.

e. Keep bottle gas containers outside (and protected against frost). If they must be kept inside make sure they are well away from heat.

⚠ **WARNING:** Do not use appliances with a different working pressure to 30mbar.

⚠ **WARNING:** Maintain adequate spacing of combustible materials from sources of heat.

⚠ **WARNING:** Do not use independent portable gas appliances inside the vehicle. Cookers shall not be used as heaters

⚠ **WARNING:** A BBQ point inlet valve, if fitted, must only be used for the connection of portable LPG appliances.

⚠ **WARNING:** If in doubt, Ask!

Always read individual appliance instructions

Connection

Ensure that the gas regulator hose is correctly connected to the gas cylinder in gas bottle compartment and that the hose connection is tight.

Gas cylinders must be fully located, seated at the base of the bottles and restrained by the straps provided in the dedicated compartment position. Straps are positioned to suit 6kg, 7kg and 13kg bottles.

⚠ **WARNING:** If using cylinders other than those recommended, the user must ensure these are adequately supported, ventilation openings must not be obstructed and the cylinders must not cause damage to other fixtures and fittings located in the compartment.

Open ended gas hoses must always be protected from dirt and insects.

Before turning on the gas supply at the regulator, ensure that all gas operated equipment in the motorhome is turned off.

All gas equipment is supplied through a Gas Manifold System which has individual isolation taps for each appliance (Fig A), as follows:

Fig. A

RED	Water Heater / Combination boiler
BLUE	Blank (gas fridge if fitted)
GREEN	Hob
YELLOW	Grill

Note: If the motorhome is in storage or not being used for a period of time, we recommend turning off the gas supply at the gas bottles.

Flue installations

All flue installations should be inspected once a year throughout their length for corrosion. Flues should be replaced if any sign of perforation is found. Ensure that the replacement is of an approved type.

Thermal insulation heating

Your motorhome has been designed to achieve a thermal insulation and heating level for specific climatic conditions when tested according to the procedure in EN1646-1. All Swift Group motorhomes achieve a grade 3 classification

The classifications are as follows:

Grade 1

A motorhome with an average thermal transmittance (u) that does not exceed 1.7w/(m2k).

Grade 2

A motorhome with an average thermal transmittance (u) that does not exceed 1.7w/(m2k) and which can achieve an average temperature difference of at least 20°C between inside and outside temperatures when the outside temperature is 0°

Grade 3

A motorhome with an average thermal transmittance (u) that does not exceed 1.2w/(m2k) and which can achieve an average temperature difference of at least 35°C between inside and outside temperatures when the outside temperature is -15°C.

Gas

Fault	Cause	Remedy
Hob does not light	No gas	Check level of gas in cylinder Check gas cylinder valve is on Check gas taps are on
	Air in pipe	Purge system Refer to hob manufacturers instructions
Oven does not light	No gas	Check level of gas in cylinder Check gas cylinder valve is on Check gas taps are on
	Air in pipe	Purge system Refer to oven manufacturers instructions
Combination heater	No gas	Check level of gas in cylinder Check gas cylinder valve is on Check gas taps are on Check exhaust outlet is clear
	Over gassed Air in pipe	Turn off appliance, wait 2 minutes and try again Purge system Refer to space heater or boiler manufacturers instructions

The electrical system

General Information

It is strongly advised that the mains installation is inspected periodically to ensure safe use. The IET (BS7671) wiring regulations recommend that mains installations in motorhomes are re-inspected every 3 years or annually if the van is used frequently. The National Caravan Council lists the qualifications necessary to perform this inspection, but an NICEIC approved contractor is probably the first choice.

On arrival at the campsite

- Check the suitability of the supply, is it AC or DC, is the voltage and frequency correct.
- Ensure that there is a proper earth (3 pin socket outlet).
- If in doubt consult site staff.
- Make sure that the supply from the site is switched off.
- Make sure that the charger switch on the PSU is switched off.
- Lift the cover on the electricity inlet on the motorhome, and insert the connector on the flexible supply cable.
- At the site supply point, connect the other end of the supply cable to this using the socket provided.
- Switch on the main switch at the site supply point.

Note: It is good practice to test the RCD (Residual Current Device) in the PSU before switching on. There is a test button on the RCD to test the lever, put the lever in the up position (on) before testing.

Note: As with the RCD it is good practice to check the Miniture Circuit Breaker (MCB) in the PSU. Switch all to the on position (lever up). If any do not stay up then there is a fault.

On departure from the campsite

- Switch off supply from the site, disconnect the cable at both ends.
- Switch off RCD.

Note: Never use a mains supply lead whilst coiled. Always uncoil the full length before connecting to the supply and remember to protect the cable from traffic.

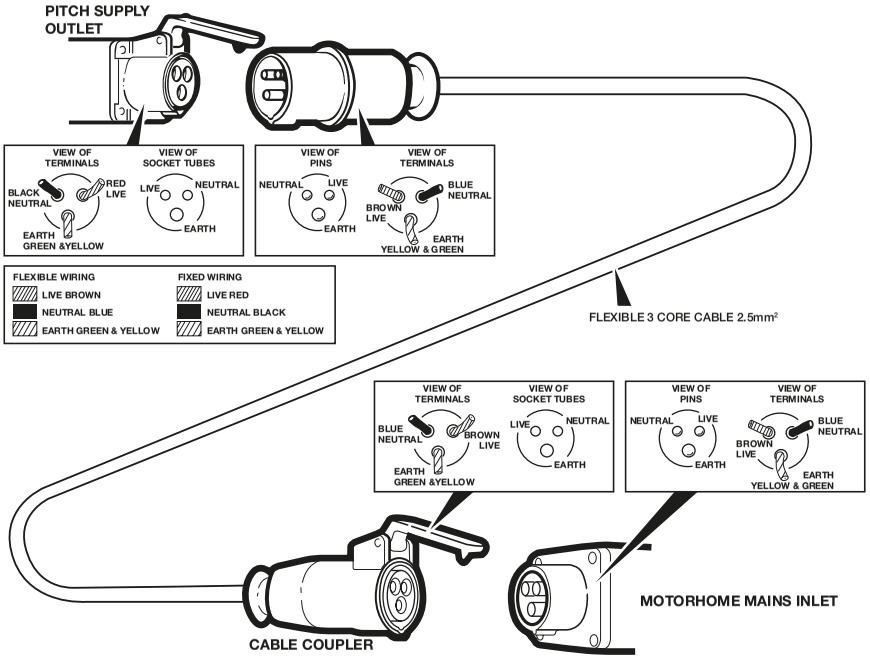
⚠ **WARNING:** Current consumption in the motorhome must not exceed 16 amps or the pitch permitted maximum if this is less than 16 amps.

Overseas connection

- Connection to a mains voltage overseas requires particular attention.
- Overseas supplies can be of reverse polarity.
- Reverse polarity results in equipment not necessarily being isolated when turned off, reverse polarity indicator on the PSU will light in the event of reverse polarity.
- The only sure way to make equipment safe is to unplug it.
- It is useful to have a means of checking polarity when overseas.
- If it can be achieved then connect live to live, and neutral to neutral to achieve full electrical protection.

⚠ **WARNING:** Never allow modifications of electrical or LPG systems and appliances except by qualified persons.

Wiring of connecting cable and motorhome mains inlet



The legal length of the mains inlet cable is 25 ± 2 metres. When in use it must be fully uncoiled and protected from traffic.

230V mains electrical equipment power consumption

Please note:

It is possible that the 230V mains electrical equipment may not all operate simultaneously. A typical UK motorhome site mains hook up point provides a maximum output of 10 amps and on some continental sites the available output may be as low as 5 amps.

If your loading exceeds the site supply it may trip the site circuit breaker. Please check the available mains output with your site operator.

Similarly loadings on each circuit breaker within the vehicle should be observed.

A label positioned close to the MCB's will identify which appliances within the vehicle are fed from which MCB. Consulting the table (Typical Appliance Consumption Figures) in conjunction with this label, will give an indication of which appliances can, and cannot, (site supply allowing), be operated simultaneously.

Typical appliance consumption figures

Appliances	230V		12V		LP GAS
	Watts	Amperes	Watts	Amperes	Grams/hour
Waeco CRX refrigerator	Not applicable		60W	5.0amp	Not applicable
Truma Combi 4kW Gas only Heating system	Not applicable		13W	1.1amp (avg)	320g/h
Truma Combi 4kW Gas/ Electric Heating System	900/1800W	3.9/7.8amp	13W	1.1amp (avg)	320g/h
Domestic hob & bowl	Not applicable		Not applicable		73 - 160g/h
Minigrill Grill	Not applicable		Not applicable		117g/h
Battery Charger	690W	3.0amp	Not applicable		Not applicable
12V LED lights (each, depending in size of light)	Not applicable		0.4W - 6.1W	0.05amp - 0.5amp	Not applicable
Water tank frost element (Winter pack)	Not applicable		30W	2.5amp	Not applicable

Note: These are approximate figures for guidance only, and are subject to changes in specification. The figures show energy consumption when an item or appliance is operating – i.e. a light is illuminated, or a heating system is providing space heating or water heating. Appliances which feature LCD or illuminated control panels can have a low current consumption when in stand by mode, or have a constant low current draw in the background to run their displays and electronic systems - these figures are typically 0.4 amps or less, for each applicable item. These electronic items can in most cases be switched off individually, or, use of the System Shutdown button on the power supply unit isolates all of these items.

Motorhome battery

Your motorhome has been fitted with a sealed, Absorbed Glass Matt leisure battery which is specially designed for installing on its side or without ventilation. The battery or batteries should only be positioned in the appropriate compartment, and be properly secured before travelling.

It is recommended that a good quality leisure battery is always connected when the motorhome electrical system is in use.

Leisure batteries are a deep cycling rechargeable heavy duty 12v battery designed to provide power for lights and other electrical appliances. Replacement batteries should be a proprietary brand leisure battery with a 85amp - 110 amp capacity.

⚠ **WARNING:** When renewing a leisure battery care should be taken ensuring that a fully sealed Absorbed Glass Matt battery, which can be fitted on its side is used. IF UNSURE SEEK ADVICE
Other types of leisure batteries contain a liquid and electrolyte which will leak out if laid on its side. CONTACT WITH THE LIQUID ACID CAN CAUSE SEVERE INJURIES AND DAMAGE TO THE VEHICLE.

Note: Replacement batteries should be checked dimensionally before purchasing, to ensure fitment within the battery compartment, as brands vary in size.

It should be remembered that batteries suitable for the electrical demands of a motorhome differ in design from those for use with a car, and whilst the system may operate with a car battery it is strongly recommended that only a rechargeable leisure type battery, maintained in good condition is used.

⚠ **WARNING:** When connecting the battery, ensure that the correct polarity is observed (black is negative and red/brown is positive) and that the terminals are securely fastened.

Under normal circumstances it should not be necessary to remove the battery other than for routine inspection of terminals.

Your motorhome has been fitted with an in-line 40 amp fuse between the battery terminal and the power supply unit. Do not use a higher rated fuse as this may cause damage to your motorhome.

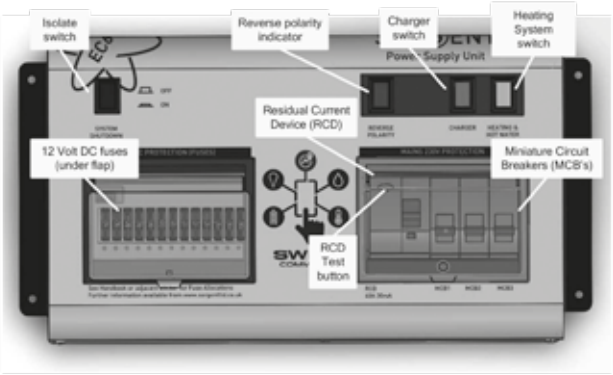
⚠ **WARNING:** Switch off all appliances and lamps before connecting or disconnecting the battery. Smoking is prohibited around the battery compartment.

To preserve the life of your leisure battery and charger please observe the following:

1. Do not leave all 12v lights powered at the same time as this will drain your leisure battery more rapidly.
2. If all 12v lights must be powered together, ensure the battery is ‘in-circuit’ and that the battery charger is turned on.
3. For optimum performance use the transformer/charger unit with a leisure battery attached.

Please note the auxiliary battery or batteries supplied with your motorhome may not be fully charged and should be charged for a minimum of 24 hours before use.

Battery performance may be affected by a number of things such as ambient temperature, age, state of charge etc.



1. Introduction

This section of the handbook will guide you through the operation of the electrical system.

Further technical details are contained in section 3 or in the supporting technical manual available from www.sargentltd.co.uk

For the safe operation of all electrical equipment within your Leisure Vehicle it is important that you read and fully understand these instructions. If you are unsure of any point please contact your dealer / distributor for advice before use.

The system has a number of key components that you will need to be familiar with before attempting to use the system, these are:

- The EC601 & EC651 Power Supply Unit (PSU) - a combined mains consumer unit and 12V controller located in the bed box or upper locker.
- The EC620 Control Panel (CP) - a remotely located user control panel used to turn circuits on and off and to display battery, water tank and other system information. This panel uses simple straightforward controls and reliable data communication to the PSU.
- The PX300 Intelligent Battery charger 300W

2. Using the System

2.1 Power Supply Unit - Component Layout (see image above)
The PSU is located in the bed box or is mounted into furniture.

2.2 Activating the System
The EC600 system has a shutdown feature that can be used when the vehicle is in storage. This allows the leisure electronics to be turned off when not required to save battery power. When in the off state the alarm and tracking system supplies are still active, all other supplies are turned off. Before using the system please ensure the system shutdown switch is in the on position (button in).

2.3 Connecting to the Mains 230V supply and Safety checks
For your safety it is IMPORTANT that you follow these connections instructions each time your Leisure Vehicle is connected to a mains supply. This section assumes that the system is complete and that a Leisure battery has been installed (see 3.4).

A) Ensure suitability of the Mains Supply.
Your Leisure Vehicle should only be connected to an approved supply that meets the requirements of BS7671 or relevant harmonised standards. In most cases the site warden will hold information regarding suitability of supply. If using a generator you also need to comply with the requirements / instructions supplied with the generator.

Please note that some electronic generators may not be compatible with your leisure system. Further generator operational information is contained elsewhere in this manual.

B) Switch the PSU internal Power Converter OFF.
Locate the green 'Charger' power switch on the PSU and ensure the switch is in the off position (button out) before connection to the mains supply.

C) Connect the Hook-up Lead.
Firstly connect the supplied hook-up lead (orange cable with blue connectors) to the Leisure Vehicle and then connect to the mains supply.

D) Check Residual Current Device operation.
Locate the RCD within the PSU and ensure the RCD is switched on (lever in up position). Press the 'Test' button and confirm that the RCD turns off (lever in down position). Switch the RCD back to the on position (lever in up position). If the test button failed to operate the RCD see section 3.18.

E) Check Miniature Circuit Breakers
Locate the MCB's within the PSU (adjacent to the RCD) and ensure they are all in the on (up) position. If any MCB's fail to 'latch' in the on position see section 3.18.

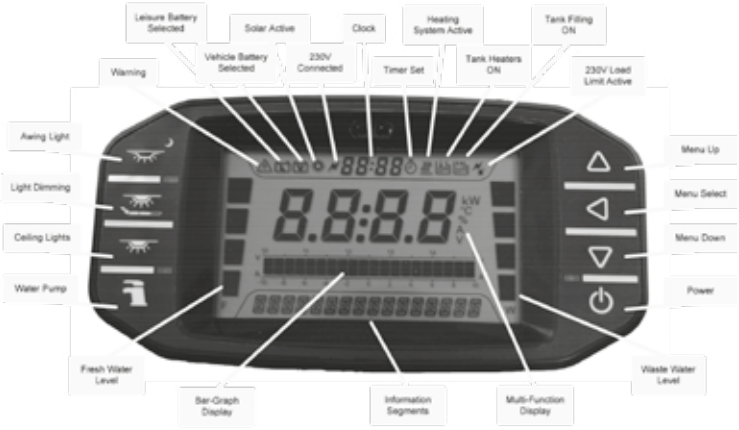
F) Turn the PSU ON.
Locate the black 'Shutdown' button and ensure it is in the on position (press button in). Locate the green 'Charger' switch on the PSU and turn to the on position (press button in). The charger switch will illuminate when turned on.

G) Check correct Polarity.
Locate the 'Reverse polarity' indicator on the PSU and ensure that the indicator is NOT illuminated. If the indicator is illuminated see section 3.18.

H) Check operation of equipment.
It is now safe to operate the 12V and 230V equipment.

2.4 Control Panel - Component Layout (see image below)

Your control panel will have an appearance as below, but depending on your type of vehicle the control panel features will vary. Not all features are present in all vehicles.



2.5 Control Panel Operation

	**Power Button.** Press the power button to turn the leisure power on. Press the button again to turn the power off. The adjacent LED will illuminate when the power is on, the screen backlight will turn on and system information will be shown on the LCD display. To avoid night time nuisance the LED and backlight will be turned off after a preset time, see note below.
	**Menu Navigation Up Button**. Use the menu up and down buttons to scroll through the various functions. The menu operates on a continuous loop arrangement so you can go up or down to reach all menu items. It is recommended to start in the down direction.
	**Menu Navigation Select Button.** Use the select button make a selection or to change a value or setting. This button is also used to select the display or toggle the display information on many menu items.
	**Menu Navigation Down Button.** Use the menu up and down buttons to scroll through the various functions. The menu operates on a continuous loop arrangement so you can go up or down to reach all menu items. It is recommended to start in the down direction.

Menu Tree

- **Leisure battery**, the leisure battery voltage and charging or discharging current is displayed. Use the select button to toggle the display, with voltage on the main display whilst current (in or out of the battery is shown on the bargraph and vice-versa, current on the main display and voltage on the bargraph.
- **Vehicle battery**, when connected the vehicle battery voltage and charging or discharging current is displayed. Use the select button to toggle the display, with voltage on the main display whilst current (in or out of the battery is shown on the bar-graph and vice-versa, current on the main display and voltage on the bar-graph.
- **Solar Power**, the charging current from the solar panel along with the voltage of the battery it is charging is displayed. Use the select button to toggle the display, with voltage on the main display whilst current is shown on the bargraph and vice-versa, current on the main display and voltage on the bargraph.
- **Select Battery**, press the select button toggles between the Leisure and Vehicle batteries as the power source (or battery to be charged). The selected battery is shown in the header area.
- **Tank-Fill on/off**, is not applicable to motorhomes and will not appear on the menu.
- **Tank Heaters on/off**, this feature enables or disables the automatic Fresh & Waste water tank frost protection system. Tank heating will start when the tank level is 25% or higher and the external temperature is under 2 degrees C.
- **AC Limit**, the AC current limiter, when enabled, will monitor the incoming AC current and if the set limit is reached the 230V heating element within the heating system will be temporarily turned off until the current falls below the set limit. Use the select button to set the limit or to turn the feature off. The AC Limit icon in the header indicated that a limit is set and will flash if the limiter is active.
- **Temperature & Humidity**, Pressing the select button scrolls through the internal temperature, internal humidity & external temperature readings. Please note that due to the location of the internal temperature sensor there may be slight differences to the temperature shown on the heating system.
- **Dimmer %**, this display shows the lighting dimming level and is adjusted in 5% increments. The display commences where the level was last set. Press the select button to increase the level up to 100% and then back down again to 5%. Pressing the dimming button on the control panel immediately shows this dimming value.
- **Heater Settings**, this sub menu allow the heater controls and associated settings to be adjusted. A full explanation of the controls can be found in the heater section.
- **System Settings**, this sub menu allows a number of system features to be configured like the Clock, Date, Key beep, Backlight time, LED time, Tank Alarms, Bluetooth Pairing etc.

	**Pump Button**. With the power on, press the pump button to turn the water pump on. Press the button again to turn the pump off. The adjacent LED will illuminate when the pump is on and the level of the water tank will be shown on the screen.
	**Interior Lights Button**. With the power on, press the lights button to turn the main lighting supply on or off.
	**Light Dimming Button.** With the power on, press the dimmer button to turn the dimmed lighting on or off. Press the select button to adjust the dimmer level (the menu automatically changes to the adjustment screen). The last setting is remembered.
	**Awning Light Button.** With the power on, press the awning light button to turn the awning light on or off. The Adjacent LED will illuminate when the awning light is on. The awning light may also be controlled by the motorhome locking system.

Note, display illumination. The LCD back light will illuminate for the pre-set time (default time is 30 seconds) adjustable between 5 and 120 seconds. Setting the timer to 0 seconds will force the backlight to be permanently on. The illumination of the blue LED's adjacent to the power, pump & awning light buttons can be configured in the same way as the back-light. The screen will wake up if your hand is placed near the panel or if a button is pressed.

2.6 Operation while driving

The EC600 system is designed to shutdown parts of the system while the engine is running. This is to meet Electro Magnetic Compatibility (EMC) regulations and to ensure the safe operation of the caravan or motorhome.

Please ensure the system shutdown switch on the PSU is in the on (button in) position before driving (see 2.2). This will ensure the electronic system is active and will therefore be able to control the charging process, supply the refrigerator and monitor other system circuits.

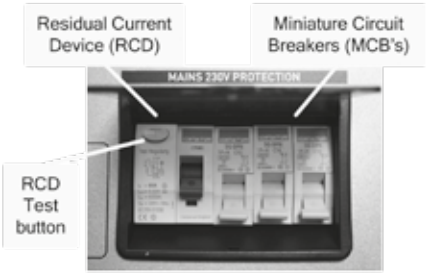
When fitted, designated 12V sockets, en-route reading lights and en-route heating will remain operational while the engine is running.

With the engine running the screen will show ENGINE RUNNING, the leisure and vehicle battery icons will be displayed to indicate they are being charged and the charging voltage will be show in the main display.

3 System Technical Information

The following section provides further technical information relating to the electrical system. You can also access the supporting technical manual from www.sargentltd.co.uk

3.1 Residual Current Device & Miniature Circuit Breakers



The Residual Current Device (RCD) is basically provided to protect the user from lethal electric shock. The RCD will turn off (trip) if the current flowing in the live conductor does not fully return down the neutral conductor, i.e. some current is passing through a person down to earth or through a faulty appliance.
To ensure the RCD is working correctly, the test button should be operated each time the vehicle is connected to the mains supply (see section 2.3)
The Miniature Circuit Breakers (MCB's) operate in a similar way to traditional fuses and are provided to protect the wiring installation from overload or short circuit.
If an overload occurs the MCB will switch off the supply. If this occurs you should investigate the cause of the fault before switching the MCB back on.

The following table shows the rating and circuit allocation for the three MCB's

MCB	Rating	Output Wire Colour	Description
1	10 Amps	White	230V Sockets
2	16 Amps	White (Yellow for heater)	Extra 230V Sockets / Alde or Truma Heating System
3	10 Amps	Black (Blue for Whale water heater)	Fridge / Charger / Auxiliary devices

3.2 Generator Usage

Caution should be used before connecting a generator to your caravan or motorhome.

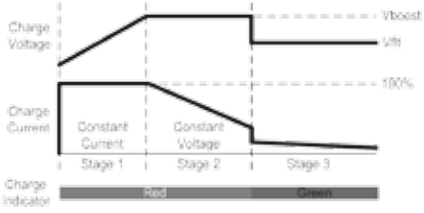
⚠ **WARNING:** Never start or stop the generator while electrical loads are connected and switched on. Start the engine, let it stabilise and then connect the electrical load. To stop the engine, disconnect the electrical load and let engine stabilise before switching off

Whilst some generators use electronic inverter technology, others use a more basic principle to generate the 230V supply. Preference should be to choose a generator which produces a consistent sinusoidal wave form with accurate voltage control.
The Reverse Polarity warning light on the PSU may illuminate when using a Generator. This is a normal side effect when using some types of generator. Instead of connecting the neutral conductor to earth, some generators centre tap the earth connection making both neutral and live conductors 110V above earth. This 110V difference causes the neon polarity indicator to illuminate. In most cases it is safe to use a generator, but please consult the generator handbook for further information.

3.3 Battery Charger

The system incorporates an intelligent three-stage battery charger.
During stage 1 the battery voltage is increased gradually while the current is limited to start the charging process and protect the battery.
At stage 2 the voltage rises to 14.4V to deliver the bulk charge to the battery. When the battery is charged, the voltage is decreased at stage 3 to 13.6V to deliver a float charge to maintain the battery in the fully charged state. The charger can be left switched on continuously as required.
The battery charger / power converter also provides power to the leisure equipment when the mains supply is connected. This module supplies DC to the leisure equipment up to a maximum of 25 Amps (300 Watts), therefore the available power is distributed between the leisure load and the battery, with the leisure load taking priority as per the following example:

Leisure Load	Available power for battery charging
5	20A
10	15A
15	10A
20	5A



⚠ **WARNING:** Under heavy loads the Battery Charger case may become hot. ALWAYS ensure the ventilation slots have a clear flow of air. Do not place combustible materials against / adjacent to the charger.

3.4 Leisure Battery

A) Type / Selection
For optimum performance and safety it is essential that only a proprietary brand LEISURE battery is used and it is suggested to select a battery from the NCC Verified Battery Scheme with a typical capacity of 75 to 120 Ah (Ampere / hours). Depending on the prospective use of the motorhome the correct type should be selected (A, B or C). A normal car battery is NOT suitable. This battery should always be connected when the system is in use.
The PSU is configured to work with standard lead acid leisure batteries, and in most cases is also compatible with the latest range of Absorbed Glass Matt (AGM) batteries. Before fitting non-standard batteries please check that the charging profile described in 3.3 is suitable for the type of battery by referring to the battery documentation or battery manufacturer. Some vehicle installations can cater for two leisure batteries connected in parallel. In these cases it is recommended that two identical batteries are used. The battery feed is fitted with an inline fuse between the battery and the electrical harness, and is usually located immediately outside the battery compartment or within 500mm of the battery. If a single battery is fitted to a motorhome, this fuse could be up to 40A, however if two batteries are fitted each battery should be fused at a maximum of 20A.

B) Installation & Removal
Always disconnect the 230V mains supply and turn the PSU green charger switch to the off position (button out) before removing or installing the battery.

When connecting the battery, ensure that the correct polarity is observed (black is negative [-] and red is positive [+]) and that the terminals are securely fastened. Crocodile clips must not be used.

⚠ **WARNING:** Your motorhome is fitted with Swift Command Tracker (by Sargent) which monitors battery voltage. If you plan to disconnect or remove your leisure battery for maintenance or external charging, then please contact the monitoring station before you remove or disconnect the battery.
If a leisure battery is not fitted, please also contact the Tracker monitoring station before removing the mains hook up. The Swift Command Tracker monitoring station can be contacted on 0345 6027302.

⚠ **WARNING:** Explosive gases may be present at the battery. Take care to prevent flames and sparks in the vicinity of the battery and do not smoke.

C) Operation / Servicing

Under normal circumstances it should not be necessary to remove the battery other than for routine inspection of the terminals and "topping up" of the battery fluid where applicable. Please see instructions supplied with the battery.

Note: Do not over discharge the battery. One of the most common causes of battery failure is when the battery is discharged below the recommended level of approximately 10V. Discharging a battery below this figure can cause permanent damage to one or more of the cells within the battery.

To prevent over discharge, the EC600 system incorporates a battery protect circuit that warns the users and then disconnects the batteries when they fall below set values.
If a warning is active a beep will be emitted by the control panel and information will be shown on the screen. To cancel the warning, press the select button. These warnings will not be repeated unless the power switch is turned off and on again. This is to ensure the warning does not become a nuisance.

Battery	Voltage cut off	Action after cut off	Notes
Vehicle	10.9V	Battery selection is changed from Vehicle battery to Leisure battery. If the leisure battery is below 9V then a further warning will occur (see below).	This cut off level is designed to protect the vehicle battery from over discharge. The 10.9V level ensures there is sufficient power in the battery to run the vehicle electronics and start the vehicle. This cut off only applies to power drawn from the battery by the leisure equipment; it will not protect the battery if you leave vehicle circuits switched on, such as the road lights.
Leisure	9V	Power is turned off	This is an emergency cut off level to protect the battery from severe damage. You should not rely on this cut off level during normal operation, but manage your power consumption to a discharge level of about 11.5V. This cut off only applies to power drawn from the battery by the leisure equipment that is controlled by the control panel power switch; it will not protect the battery from discharge by permanently connected equipment.

3.5 12 Volt DC Fuses

⚠ **WARNING:** When replacing fuses always replace a fuse with the correct value. NEVER replace with a higher value / rating as this could damage the wiring harness. If a replacement fuse 'blows' do not keep replacing the fuse as you could damage the wiring harness. Please investigate the fault and contact your dealer.

The following table shows the fuse allocation for the 13 fuses fitted to the PSU. Please note that fuses are dependant on PSU versions, so not all fuses may be present.

Fuse	Rating	Fuse Colour	Description
1	25 Amps	White	Charger
2	7.5 Amps	Brown	Permanent 12V / Alarm / Fridge Electronics / Alde Heating
3	10 Amps	Red	12V Sockets / TV Amplifier
4	10 Amps	Red	Extractor Fans / Truma Heating
5	5 Amps	Tan	Appliances / Hob Ignition / Toilet
6	10 Amps	Red	Water Pumps / Tank Heaters
7	5 Amps	Tan	Lighting, Main Lights & Dim Channel 1.
8	5 Amps	Tan	Lighting, Entry Light & Dim Channel 2.
9	10 Amps	Red	Spare Outputs / Marker Lights / En-Route Sockets & Lights
10	10 Amps	Red	Auxiliary / Awning Light / Electric Step
11	20 Amps	Yellow	Fridge 12V
12	15 Amps	Blue	Towing 12V
13	15 Amps	Blue	Fridge D+

Note: Fuses (2-13) have a Red LED below them which provides indication that the fuse has blown.The charger fuse has a green LED which Indicates that the charger is working.

The following table shows details of the fuse(s) located at the Leisure battery. See also 3.4A

Fuse	Rating	Fuse Colour	Description
Battery 1	20 Amps	Yellow	Fuse remotely located near battery
Battery 2	20 Amps	Yellow	Fuse remotely located near battery 2 (where fitted)

3.6 Solar Charge Management

The EC601/651 PSU incorporates a built-in solar charge management feature, which will monitor the input from a separate solar panel and regulator. The Solar Active symbol will be displayed on the control panel when there is an amount of energy available to charge the leisure or vehicle batteries.

The voltage and current produced from the regulator can be viewed on the multi-function display by selecting the Solar Power menu item. Depending on the charge state of the batteries, the solar power will be directed to the required battery or batteries, and be continuously monitored to ensure optimum operation. A maximum of 150w of Solar Charge can be managed in this way

3.7 Mains Charging

The EC651 PSU incorporates a smart charge feature, which monitors both leisure and vehicle batteries and automatically adjusts and directs the charger power (and solar power if a solar panel is installed) to maintain the leisure and vehicle batteries at an optimal level.

3.8 Water Pump Operation

The EC620 control panel pump button operates the internal water pump drawing water from an internal tank if fitted, or an external container when no internal tank is fitted. The water tanks (fresh & waste) incorporate a level warning feature to warn the user when the fresh water level drops below 25% or when the waste water level reaches 100%.

If the water pump power is turned on and the fresh water level drops to below 25% a warning beep will be heard and a message will be displayed on the control panel. To cancel the warning, press the select button.

If the water pump power is turned on and the waste water level rises to full (100%) a warning beep will be heard and a message will be displayed on the control panel. To cancel the warning, press the select button.

These warnings will not be repeated unless the water pump power switch is turned off and on again. This is to ensure the warning does not become a nuisance. The Swift Command App can be used to control this feature.

3.9 Water Tank Heaters (frost protection) Operation

The EC651 features the ability to switch on water tank heaters to provide frost protection for the fresh and waste tanks. (Tank heaters are not normally fitted when those tanks are inboard) The tank heater symbol is displayed on the control panel when this feature is enabled. The tank heaters will only operate if there is over 25% in the relevant water tank and the external temperature sensor detects that the temperature falls below 2 degrees C. If the temperature rises above this level the heaters will be switched off but the feature will remain on.

3.10 AC Current Limiter Operation

The EC600 system features a 230V current monitoring system which allows the mains hook up current to be displayed on the control panel. The resolution of this reading is 0.5A. A current limit setting can be activated which if reached will switch off the electric elements in the heating system, until such time as the current drops and the elements will be switched back on. An example of this is if a kettle was to be operated whilst the heating was on and the current limit was reached then the heater electric element would be temporarily switched off, when the kettle

had boiled then the heater element would be switched back on automatically.

This feature is particularly useful when abroad on a low current supply. A warning that the limit has been reached is displayed on the control panel. Setting the value to OFF will disable this feature. The Smart Command App can be used to adjust this feature.

3.11 Lighting & Dimming Operation

The system contains up to two dimming channels for groups of lights which can be controlled by the light dimming button on the control panel, and the furniture mounted controls for those lights.

The awning light on a motorhome can again be controlled by a number of items, the control panel awning light button, the App, and the lock and unlock system (dependant on system setting being set to do so). Each item can toggle the light on and off. The Smart Command App can be used to both configure and adjust the lighting and dimming.

3.12 Heating Controls

There are a number of heating systems that can be controlled by the EC600. The system will be preconfigured by the manufacturer. The following menu items are only available in Timer control mode, and example shows the heating system variants.

Scroll to the Heating Settings and press select to set or adjust the following items:

The timer example below will set the heating to 22 degrees C and the hot water to boost at 7:30 in the morni

TRUMA Combi CP+		
Menu Item	**Description**	
Control	Set to MANUAL to use the controls supplied by the heating appliance manufacturer. Set to TIMER to control the appliance by the control panel with the settings below. Set to APP control the appliance by the Smart Command app. *To allow Swift Command control of the heating system, the Combi Controller must be initialised while Swift Command is active. This should already be set up for you on your motorhome or caravan. See Truma Combi CP Plus instructions for further details.*	
The following menu items are only available when in Timer control mode.		
Energy	Set the electric element to OFF, 1KW, 2KW or 3KW	
Timer 1	Set the timer 1 event time. This setting adjusts in 15 minute increments and uses the 24 hour clock	Example 07:30
T1 Heating	Set the timer 1 heating temperature. This setting can be off, or 5 through to 30 degrees C	Example 22 deg C
T1 H/Water	Set the timer 1 hot water temperature. This setting can be OFF, ECO or HOT	Example Eco
The menu now repeats for timer 2 through to timer 4		
Exit settings?	When timer 4 is completed the exit settings item is reached. Press the select button to exit and save the settings.	

3.13 Other Controls

The main control panel will display the software version number of both the Control Panel and the PSU. On the EC620 menu item press the select button to display software information.

3.14 Electric Step Operation

On vehicles fitted with an electric step, this is operated by a button near the entry door. Press and release the button to move the step in or out. One press of the button will move the step out; a further press will move the step in again.

If the engine is started the step will move in automatically, after a short warning buzzer. If this operation fails due to an obstacle a buzzer will sound continuously to warn that the step is still out, and therefore requires your attention.

3.15 Additional CI Bus Enabled Devices

The Swift Command system will continue to develop enabling the control of additional devices such as air conditioning and control units. When selecting additional equipment check for CI Bus compatibility markings, and check with Sargent Electrical for details of the latest compatible devices.

3.16 Bluetooth Pairing

Using the control panel, access the System Settings menu and then scroll to the Bluetooth pairing section. Press the select button to start pairing, the power button LED will flash to indicate the pairing mode. You can now pair your device to the system following the devices instructions to add a Bluetooth item. Pairing remains on for 1 minute and is then turned off automatically. 3.17 System Warnings

The system incorporates a number of warnings that are active at specific times. These are

summarised below, and also covered by relevant sections of this manual.

3.17 System Warnings

The system incorporates a number of warnings that are active at specific times. These are summarised below, and also covered by relevant sections of this manual. When a warning is active a triangle will be displayed in the control panel header area.

Warning	When	Type
Fresh water level low	With pump turned on and fresh water level low (less than 25% full). Only available when an on-board tank is fitted.	Message on screen and 30 second audible beep.
Waste water level full	With pump turned on and waste water level full. Only available when an on-board tank is fitted.	Message on screen and 30 second audible beep.
Leisure battery voltage low	With control panel power on and leisure battery selected (as active battery) and the voltage level falls below 10V.	Message on screen and 30 second audible beep.
	With control panel power on and leisure battery selected (as active battery) and the voltage level is below 9V.	Message on screen and 30 second audible beep. If no action taken after 30 seconds then the system will switch the power off to prevent severe discharge of the battery.
	Note: This is an emergency cut off level to protect the battery from severe damage. You should not rely on this cut off level during normal operation, but manage your power consumption to a discharge level of 11.5V or above. This cut off only applies to power drawn from the battery by the leisure equipment that is controlled by the control panel power switch; it will not protect the battery from discharge by permanently connected equipment.	
Leisure battery voltage high	With control panel power on or off and leisure battery is selected (as active battery) and the voltage level rises above 15V.	Message on screen and repeated beeps from the control panel. The power is automatically turned off. The beeping will not stop until the fault is cleared.
Vehicle battery warnings	If the vehicle battery is selected instead of the leisure battery, then similar warnings to those described above are applied to the vehicle battery. The vehicle battery low warning level is 10.9V.	
Engine running	When the engine is started the system power will be turned off.	Message on screen, Leisure & Vehicle battery symbols indicating both batteries are connected for charging. The charging voltage is also shown on screen.
Step extended	Step extended and engine started.	Message on screen and warning buzzer.
	Step jammed or obstructed.	
Mains lead (hook-up cable) still connected / plugged in	When the engine is started and the mains cable is still plugged in and the charger is switched on.	Message on screen and repeated beeps from the control panel. The beeping will not stop until the hook-up lead is removed.

3.18 Common Fault Table

Fault	Possible Cause	Proposed Fix
No 230 volt output from PSU	Connecting lead between the site and Leisure Vehicle not connected	Check and connect lead as per 2.3C
	RCD switched off	Reset RCD as per 2.3D
	RCD not operating correctly	Check supply polarity; if the RCD continues to fail contact your Dealer as there is probably an equipment or wiring fault.
	MCB switched off	Reset MCB by switching OFF (down position) then back ON (up position), if the MCB continues to fail contact your Dealer as there is probably an equipment or wiring fault.
	No or deficient supply from site	Contact site Warden for assistance
	Other fault	Contact your Dealer
Reverse Polarity light is illuminated on PSU	Mains Supply reversed?	The reverse polarity light is designed to illuminate when the Live and Neutral supply has been reversed / crossed over. If the light illuminates there is a problem with the site supply or the cable connecting the supply to your vehicle. The light is designed to work on UK electrical supplies (where the neutral conductor is connected to earth at the sub station). If you are using your vehicle outside the UK this light may illuminate when no fault exists. In these cases consult the site warden for advice.
	Generator being used	'The Reverse Polarity warning light is on when using my Generator'. This is a normal side effect when using some types of generator. Instead of connecting the neutral conductor to earth, some generators centre tap the earth connection making both neutral and live conductors 110V above earth. This 110V difference causes the neon polarity indicator to illuminate. In most cases it is still safe to use the generator, but please consult the generator handbook for further information.
Control Panel Problems	Control Panel has no display	Check batteries and fuses, turn PSU isolate switch and charger switch on and ensure mains supply is connected. Check control panel connecting lead at PSU and behind Control Panel Contact your Dealer
	12V Power turns off	Battery protect feature has operated to protect the Vehicle battery and or the Leisure battery. See 3.4C Over voltage protection has been activated, the control panel will display a warning. A number of things can cause this but the most common is the solar panel, it is worth checking the regulator is connected correctly and operating within the correct parameters. Engine has been started, all equipment has been disconnected to meet EMC requirements. See 2.6
	Control Panel locked / erratic function	Observe control panel handling instructions Control panel software may have crashed. Reboot control panel by turning off the PSU isolate switch. Wait 30 seconds then turn the switch back on.

Fault	Possible Cause	Proposed Fix
No 12 volt output from PSU	No 230V supply	Check all above
	Charger not switched on	Turn charger switch on, switch will illuminate
	Battery not connected and / or charged	Install charged battery as per 3.4
	Power button on control panel not switched to on	Turn power on at control panel
	Battery flat / Battery fuse blown	Recharge battery, check fuses, check charging voltage is present at battery
	Fuse blown	Check all fuses are intact and the correct value fuse is installed as per fuse table
	Equipment switched off / unplugged	Check equipment is switched on and connected to the 12V supply
	Other fault	Contact your Dealer
Pump not working illuminated on PSU	Fuse blown	Replace fuse with correct value as per fuse table.
	Pump turned off	Turn pump on by pressing the pump button at the control panel.
	Setting incorrect	Both the internal and external pump feeds are controlled from the control panel. To alter the setting of the pump switch see section 3.8. Ensure the setting matches your desired requirement.
Lights not working	Fuse/s blown	Replace fuse with correct value as per fuse table.
	Lights turned off	Turn Lights on by pressing the lights button, use dimmer at the control panel.
Bluetooth Communications not working illuminated on PSU	Bluetooth not paired	Using System Settings menu, select Bluetooth Pair option
	Bluetooth not active on Device	Ensure that the handheld device has Bluetooth switched on and that the device supports the Bluetooth 4 standard (BLE)
	Bluetooth out of range	Ensure the handheld device is within 7M of the middle of the caravan/motorhome switch see section 3.8. Ensure the setting matches your desired requirement.
	Bluetooth connection issue	See App user guide for further details
Remote Communications not working	Account details notentered on App	Enter details in Account page of App settings menu
	Account not registered at time of vehicle delivery	Check with supplying dealer or Sargent Electrical that an account has been registered.

3.19 Contact details

Sargent Electrical Services Limited provide a technical help line during office hours. Please contact 01482 678981 if you require technical help. For out of hour support please refer to the tech support section of the Sargent web site www.sargentltd.co.uk.

4 Remote Access & Control

4.1 Swift Command App

The Swift Command app can be down loaded from the Apple App Store, the Android Play store or the Windows store (when available).

A separate Swift Command User Guide is available which covers the operation of the app. The app will update as features are continuously developed or added.

Before you can use the App with your caravan or motorhome you will need to create an account and sign up to the free communication service. This is a simple process and will be explained further by your dealer at the vehicle handover.
Additional information is available at
www.swiftcommand.co.uk

4.2 Swift Command Web usage & Description

In addition to the mobile App, you can also use the same account and login details to access the Swift Command web site.

Here you can update and amend your details, look at location information and history, review system information and historical data as well as changing some system options and settings. Additional information is available at www.swiftcommand.co.uk

4.3 Swift Command SIM Coverage & Usage information

The EC600 system, when delivered for mainly UK use, contains Mobile SIM with 36 month contract, which commences upon activation at the Dealership when a customer is assigned to the caravan/motorhome.

Below is a list of the countries covered by the SIM under a fair usage policy, a complete list is available at request.

Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Netherlands, Malta, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

For continued use outside of the countries listed above, a change of SIM card should be arranged by your supplying dealer.

4.4 Replacement parts

The Control panel contains a small lithium battery to maintain the clock when no other energy supplies are available this will last in excess of 5 years under normal conditions. The battery is a CR2032 3.0V

The EC630 Communication module contains a special backup battery pack which should last in excess of 3 years under normal conditions. The pack part number is 16308 available from Sargent.

4.5 Updates

From time to time there may be updates to the system software; these updates will be done

at service intervals by your dealership.

5 Technical Data & Approvals

5.1 Equipment – EC601, EC602, EC651, EC620, EC630 & PX300 Control Equipment

Outline Specification		
INPUT 230V	230 Volts / 0 to 16 Amps	+ / - 10%
OUTPUT 230V	RCD protected, 2 x MCB outputs of 10A & 1 x MCB output of 16A Separate switched channels for heating system and charger	
INPUT 12V	2 x 20A battery inputs via 2 x 4 way connectors	
SOLAR INPUT	1 X Dedicated solar panel input (20 to 150W panel) via a 2 way connector	
OUTPUT 12V	25A total output via multiple switched channels protected by 13 fused outputs	
Integrated CHARGER	Input 220-240 Volts AC +/- 10%, Frequency 50 Hz +/- 6%, Current 3A max. DC Output 13.6 to 14.4 Volts nominal, Current 25 Amps max (300 Watts).	
Signal INPUT	4 x Fresh water level, 4 x Waste water level, 1 x Engine running, plus multiple vehicle connections, sensor inputs for temperature & humidity	Fresh water negative sensed Waste water negative sensed
Data IN / OUT	CANBUS Data communication and power to Control Panel via 6 way connector CI-Bus Data communication to CI-Bus enabled devices via RJ11/12 connector	
IP rating	IP31	
Operating temperature	Ambient 0 to 35° Celsius Charger case temperature with full load 65° C Max	Automatic shutdown and restart if overheated / overloaded
Dimensions		
EC601 & EC651 PSU	Overall size (HxWxD) 180 x 305 x 135mm Clearances 75mm above, 50mm left & right	Weight 3.8 Kg
EC620 Control Panel	Overall size (HxWxD) 93 x 180 x 32mm Cut-out size (HxW) 82 x 165mm	Fixing centres 166mm X 26MM Weight 150 g
EC630 Comms Module	Overall size (HxWxD) 55 x 116 x 85mm	Weight 550g
EC640 Sensor	Overall size (HxWxD) 60 x 27 x 14mm	Weight 80g

5.2 Approvals

System: BSEN 1648-1, BSEN1648-2 compliant, BS7671: 2008 compliant

Residual Current Device: RCD 40A 30mA trip to BS EN 61008

Miniature Circuit Breakers: MCB's type C 6000A breaking capacity to BSEN 60898

Electro Magnetic Compatibility (EMC) directive 2004/108/EC Certificate CE20071224-1

Integrated Charger: BS EN 60335-1/2.29, 2006/95EC, IEC61000-3.2/3:1995, 1.

Low Voltage Directive: 2006/95EC TUV-014900-A1, EN55022, Class B, EN55024/ Level 2

5.3 Declaration of Conformity

Equipment: Leisure Power Control System

Model name: EC601, EC602, EC651, EC620, EC630 & PX300

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced approvals. The unit complies with all essential requirements of the Directives.

Signed	Name	Position	Manufacturer
	I L Sargent	Technical Director	Sargent Electrical Services Ltd Unit 35, Tokenspire Business Park Woodmansey, Beverley East Yorkshire, United Kingdom
Date:			

Cab Radio - Timer Settings

On all vehicles fitted with a Fiat radio, the amount of time the radio will stay on can be altered. To do this please follow the instructions below:

Procedure for setting radio switching off time after ignition-off.

1. Switch on the radio
2. Press MENU to access the menu.
3. Select SYSTEM SETTINGS and press OK.
4. Scroll to POWER OFF and tick the POWER OFF with 180min. Delay.
5. Press OK
6. Press MENU on the display.

With 180 showing on the display, the setting is complete and the radio will remain on for 3 hours.

Radio VP1

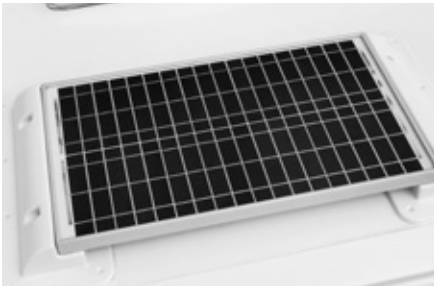
Radio VP2

Motorhome Radio Aerials

Your Motorhome is fitted with a base vehicle aerial located on the roof. Any issues with radio reception should be referred back to your Fiat dealer.

Note: Some customers may wish to fit an aftermarket radio unit to the base vehicle. While this is possible customers should note this may affect steering controls and increase power consumption.

Factory Fitted Solar Energy System



Depending on specification, your motorhome may be fitted with a solar panel and regulator. This solar panel and regulator may provide additional 12V power whenever sunlight is available to the panel, and this will be directed to the Power Supply unit (PSU), whether the control panel above the entrance door is ON or OFF. Conditions allowing, the system then keeps the battery/batteries 'topped up' during storage, and can provide a daily boost to the leisure battery when camping without a mains 230V supply.

If the system shutdown button on the PSU is ON, then via the Smart Charging facility in the PSU, charge may be directed to either the leisure battery or vehicle battery, as required.

If the system shutdown button is OFF, charge will be directed to the vehicle battery only.

Note: If additional solar panels are fitted and linked to the factory fitted panel, the maximum combined wattage must not exceed 150W.

Battery power

As a guide, a 40w panel is capable of supplying up to 2.3 amps, +/-1.5%, while an 80w panel is capable of supplying up 4.68 amps +/- 1.5%. Depending on the state of the charge of the battery it may take a few hours to several days to recover a discharged battery. For obvious reasons the solar panel will only work during daylight hours.

Regulator operation

There are two LED indicators located on the solar regulator. The first is the 'power' LED and this flashes when the solar panel produces energy, the flash rate increasing with the amount of sun light on the solar panel, until the LED is on solidly. The second LED is bicoloured, and it will indicated the charge condition when sufficient energy is being received by the solar panel. If the second LED is illuminated red, then the regulator is in bulk charge mode supplying 14v plus, if the LED is illuminated green then the regulator is in float charge mode supplying 13.6v.

Maintenance and cleaning

The solar panel will require cleaning periodically in order to maintain the performance of the panel, a caravan, car shampoo or simple soap can be used; no abrasive cleaners should be used.

Note: The instructions covering fitted equipment to your vehicle were correct at the time of going to print. Owners handbooks are updated annually and we take great care to try and ensure their accuracy. However,Swift Group Limited cannot accept responsibility for any changes that may be made in specification or operating instructions to the equipment described in this section after the time of going to press.

Every care is taken to ensure that the information provided in this handbook is correct and easy to understand.

Separate manufacturers' leaflets on many of the components are also included in the Owner's Pack provided with this vehicle and we recommend that you compare the instructions in the handbook with the component manufacturers literature, to ensure the information provided is as accurate as possible.

If you are in any doubt as to how to operate the equipment in your vehicle, please contact the component manufacturer's service department on the telephone number shown on their component leaflet. If you remain in any doubt, please contact customer service department on 01482 875740.

Equipment Specification

For details on type of equipment fitted in your vehicle, please refer to the Sales Brochure or Dealer.

⚠ **WARNING:** To maximise the use and life of all fitted equipment in your vehicle it is essential that any accompanying manufacturers' literature is read fully. All recommended maintenance and preparation procedures should be followed. The information provided in this handbook is only intended as a guide. If in any doubt consult your manufacturer appointed dealer, particularly before attempting to install EXTRA EQUIPMENT.

Note: In the interest of safety, replacement parts for an appliance shall conform to the appliance manufacturer's specifications and should be fitted by them or their authorised agent.

Truma Combination Boiler

The Truma Combination boiler is available as a gas or dual fuel appliance, and the version which is fitted to your motorhome will vary in specification.

A Gas only Combi (Combi 4) will use gas as an energy source to heat water and air, with 12V power required to control the appliance and power the blown air and/or combustion fan when required. A dual fuel Combi (Combi 4E) can use gas or 230V electrical power to heat water and air, with 12V power required to control the appliance and power the blown air and/or combustion fan when required.

Use of Dual Fuel settings, for Combi 4E equipped motorhomes

Optimum performance is obtained when used in dual fuel mode, that is running on gas and electric at the same time.

Running in dual mode has the following benefits:

• Fastest possible heat up time, the gas burner combines with an electric element to provide energy to heat your hot water and warm your motorhome.

• The intelligent heat management system automatically senses when the water and room are nearing the required temperature and then automatically turns off your gas burner and operates solely on electric power, conserving your gas.

• As hot water is used or the room cools the Truma combination heater will continue to operate on electric only until a point where the demands necessitate that additional gas power is required. An example for such a demand could be for instance if the exterior door was left open and the room temperature dropped by 10 degrees in the space of a few minutes, in this case the intelligent heat

management system would decide the best way to get the room back to the required temperature would be to use both gas and electric at the same time.

Operating the Truma 4E Combination system on electric or gas only will result in longer heat up times for hot water and the room temperature in comparison to operating on dual fuel.

Operating the Truma 4E on electric only may not in all cases maintain a comfortable room temperature especially in colder conditions.

The intelligent heat management system in dual fuel mode allows the Truma Combination boiler to prioritize the electric power source over your gas, this will conserve your gas supply.

Truma Heating System and Air Flow

The Swift Group undertakes considerable testing of our products in cold chambers to ensure they meet the BS EN 1649 Grade 3 standard and are usable in cold temperatures.

Butterfly outlets

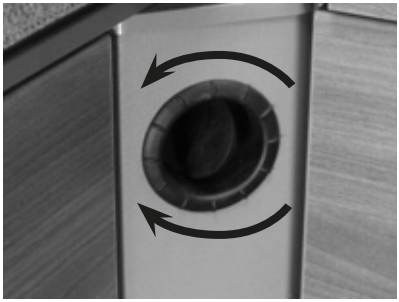
The air ducting outlets on models equipped with Truma Combi heating systems, are of the butterfly type. These may be opened or closed by moving the flap within the fitting, to adjust the balance of the heating output throughout the motorhome. This can help offset differences in blown air output, between outlets close to the heating appliance, and those at a greater distance away from the heating appliance. This can also help adjust the temperature of the bathroom, relative to the temperature of the main living area and/or bedroom.

When these outlet butterflies are closed in conjunction with a high heating system output, and therefore a high fan speed, a slight whistling sound can occur. In this case, opening the outlet slightly will reduce or remove the noise.

Closing too many outlets when the heating system is producing a high output, can cause the appliance to reach high operating temperatures. This does not in general terms affect the appliance, but it can cause the appliance to automatically shut down. This can cause an interruption of the heating of the caravan, however heating will resume when the appliance temperatures have reduced to a lower level.

The output of the appliance, and therefore the output of the blown air outlets, will generally be higher when using Gas or Dual Fuel operation. Electric only operation of the heating is rated at up to 1.8kw, whereas Gas (or Dual Fuel) operation is rated at up to 4kW (3.8kW) or 6kW (5.8kW), depending which model of Combi is fitted.

The blown air fittings can also be rotated to adjust the direction of air leaving the outlet, as shown in the photo below.



Note: The next instructions detail the operation of the Combi Control Panel - for further details of the Truma Combi appliance, please see the following section.

Truma CP Plus Digital Timer Control (when fitted)

The Truma CP plus control panel is used to control and monitor a Combi CP plus ready heater and/or a Truma air conditioning system. The Truma CP plus serves as an interface for operating connected appliances via Truma App and iNet Box. (Truma aftermarket option)

The following air conditioning systems can be operated with the Truma CP plus:

- Saphir compact
- Saphir comfort RC
- Aventa eco
- Aventa comfort

For further details on connecting and controlling these items, and installation contact your dealer.

Safety instructions

- Operate the Truma CP plus control panel only if it is in technically perfect condition.
- Repairs must be carried out immediately. Only carry out repairs yourself if the solution is described in the troubleshooting guide of this manual.
- Do not carry out any repair work or modifications on the Truma CP plus control panel
- A defective Truma CP plus control panel may only be repaired by the manufacturer or the manufacturer's service department.
- Never use LP gas appliances when refuelling, in multi-storey car parks, in garages, or on ferries. Switch off the LP gas appliance on the Truma CP plus control panel and make sure that the LP gas appliance definitely cannot be switched on via the Truma App.

Note:

- If the power supply to the system has been interrupted, the time / time switch must be reset.
- If a new or replacement appliance (heater, air conditioning system or iNet Box) is connected to the bus system, the procedure described in "Initial start-up" must be repeated.
- The ZUCB time switch can no longer be used when the Combi CP plus ready heater is connected to the Truma CP plus control panel.
- If an iNET box is connected, the operation of the CP plus controller will differ from these instructions

Note: If the motorhome is fitted with Swift Command, that system can also be used to control the Combi. See Sargent EC600 instructions for more information.

Note: With a gas only combi, not all features will be available.

Display and control elements

1 = Display

2 = Status bar

3 = Menu bar (upper)

4 = Menu bar (lower)

5 = 230 V mains supply indicator (power)

6 = Time switch display

7 = Settings / Values

8 = Rotary push button

9 = Back button

The menus can be selected in lines (3 + 4) and settings can be made using the rotary push button (8). The display (1) has an illuminated background. The Back button (9) can be used to return from a menu.

Rotary push button

Setpoints and parameters can be selected, modified and saved by tapping on it using the rotary push button (8). Selected menu items flash.

Rotate clockwise

- Menu is run through from left to right.
- Increase values (+).

Rotate anticlockwise

- Menu is run through from right to left.
- Decrease values (-).

Tapping

- Accept (save) a selected value.
- Select a menu item, change to the setting level.

Long Press

- Main switch function ON / OFF.
- Note: If an iNet Box was recognised while searching for an appliance, the function of the rotary push button changes.

Back Button

Pressing the Back button (9) returns you from a menu and discards settings. This means that the previous values are retained.

Initial Set-Up

In order to perform the initial start-up, the following steps are required:

- Switch on power supply. 12V direct voltage for CP plus control panel and Combi and 230V mains voltage for air conditioning systems and Combi E.
- Start the search of the appliances under menu item
  “Service menu” –> “RESET” –> “PR SET”.

After confirmation,Truma CP plus control panel initialises itself. “INIT ..” appears on the display while this is in progress. This stores in the Truma CP plus control panel the appliances that have been found.

Note: This initial set up will have been undertaken prior to delivery of your caravan.

Start-Up

Start/Stand by screen

After connecting the control panel to the power supply, a start screen is shown after a few seconds.

Note:

- The display changes between the time and the set room temperature.
- Special displays on command via Truma App, IR remote control of the air conditioning system (see “Special displays” on page 105).
- After a repair / retrofit, the procedure described under “Initial start-up” must be repeated.

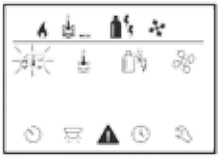
Functions

The functions in the menu bars (3, 4) of the Truma CP plus control panel are selectable in any order. The operating parameters are shown on the status bar (2) and on the displays (5, 6).

Select setting level

- Tap rotary push button.

The display shows the setting level. The first icon flashes.



Switching on and off

Switch on

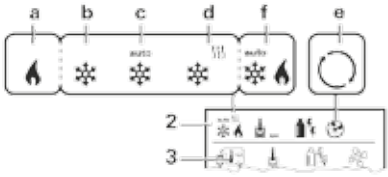
- Tap rotary push button.
- Previously set values / operating parameters are reactivated after switching on

Switch off

- Press rotary push button for longer than 4 seconds.
- “OFF” appears after another 2 seconds.
- The Truma CP plus control panel deactivation procedure can be delayed by several minutes because of internal heating or air conditioning system after-runs.

Change the room temperature

- Select icon in menu bar (3) with rotary push button.
- Change by tapping in the setting level.
- Depending on the appliance that is connected, select between heating system (HEATER) or air conditioning system (AC) or automatic air conditioning system[1] (AUTO) using the rotary push button.
- Tap rotary push button to confirm selection.
- Select desired temperature with rotary push button.
- Tap the rotary push button to confirm the value.



Heater

Settable temperature range 5 - 30°C
(1°C steps)

a = heater[2] – Heater is switched on.

Air conditioning system (AC)
(when connected/when AC is fitted)

Settable temperature range 16 – 31°C
(1 °C steps)

b = COOL* - Air conditioning system is switched on

c = AUTO - Air conditioning system is set to automatic

d = HOT - Air conditioning system is in heating mode.

e = VENT - Air conditioning system is in air circulation mode

Notes: Quick temperature change using rotary push button possible (in Stand-by screen).

[1]Automatic air conditioning system (AUTO) only if "ACC" has been activated in the service menu (see "Service menu" on page 103). This is deactivated at the factory.

[2] Symbol flashes until the desired room temperature is reached

Automatic air-conditioning system (AUTO)

Settable temperature range 18 – 25°C
(1°C steps)

Automatic switch over between heater and air conditioning system for an approximately constant temperature on the inside.

f = AUTO - Automatic air-conditioning system is activated

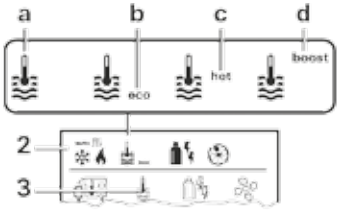
Requirements for operation with automatic air-conditioning system:

- The heater and air conditioning system must be connected.
- Automatic air-conditioning system "ACC" must be activated in the service menu (see "Service menu" on page 103).

Change the hot water level

Select icon in menu bar (3) with rotary push button.

- Change by tapping in the setting level.
- Select desired level with rotary push button.
- Tap the rotary push button to confirm the value.



– = OFF - Hot water generator is switched off.

a = Boiler[1] - Hot water generator is switched on.

b = Eco[2] - Hot water temperature 40°C

c = Hot - Hot water temperature 60°C

d = Boost[1] - Targeted, rapid heating of boiler contents (Boiler priority) for a maximum time window of 40 minutes. Then the water temperature is kept at the higher level for two post-heating cycles (about 62 °C). After reaching the water temperature, heating of the room continues.

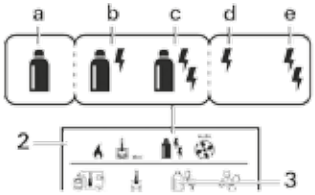
Notes:

[1] This symbol flashes until the required water temperature has been reached.

[2] A hot water temperature can only be maintained with combined room and water heating for a limited time at 40 °C.

Select energy source

- Select icon in menu bar (3) with rotary push button.
- Change by tapping in the setting level.
- Select desired energy source with rotary push button.
- Tap the rotary push button to confirm the value.



Symbol	Operating mode	Power type
a	Gas	Gas
b	MIX 1	Gas + Electro
c	MIX 2	Gas + Electro
d	EL 1	Electro
e	EL 2	Electro

As soon as the heater is switched on (room temperature, hot water level active), the status line shows the energy type selected in the previous heating procedure. The factory setting is gas / diesel.

Note: It will not be possible to use 'electro' settings if a gas only combi is fitted.

Special fixtures in the mixed mode

- Interruption of the mains voltage 230V:

  The heating system switches automatically into gas mode. As soon as the 230V power supply has been restored, the heating system automatically switches back to mixed mode.

- Fault in combustion procedure (e.g. lack of fuel).

  The heating system switches automatically into electrical mode. For the heater to operate in mixed mode again, the cause of the fault must be remedied and acknowledged on the Truma CP plus control panel. See “Fault” on page 106.

  The heater automatically switches to the gas mode. As soon as the 230 V power supply is reconnected, the heater automatically switches back to the mixed mode.

Special features in electric mode

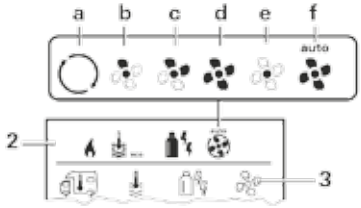
Combi Gas

- If the 230 V power supply is interrupted and the 12 V supply is switched on, a fault code is shown on the display.
- When the 230 V power supply has been restored, the heater is automatically started with the existing settings. The fault code goes off.

Select fan level

With connected heating / air conditioning system

- Select icon in menu bar (3) with rotary push button.
- Change by tapping in the setting level.
- Select desired fan level with rotary push button.
- Tap the rotary push button to confirm the value.



Heater (HEATER)

Icon	Operating mode	Description
–	OFF	Fan is switched off (only selectable if no appliance is in operation).
a	VENT[1]	Circulated air, when no appliance is in operation and the hot water generator is switched off. 10 speed settings available.
b	ECO	Low fan level
c	HIGH[2]	High fan level
d	BOOST	Rapid room heating. Available if the difference between the selected and the actual room temperature is >10 °C

Note:

[1] Can lead to additional motor wear depending on frequency of use.

[2] Fan level “HIGH” results in higher power consumption, higher noise level and increased motor wear.

As soon as the heater is switched on (room temperature, hot water level selected) the status bar (2) displays the fan level that was selected during the previous heating procedure. The factory setting is “ECO”.

Icon	Operating mode	Description
–	OFF	Fan is switched off (only selectable if no appliance is in operation).
a	-	
b	LOW	Low fan level
c	MID	Medium fan level
d	HIGH	High fan level
e	NIGHT	Ultra-quiet fan operation
f	AUTO	Automatic fan level selection. Cannot be changed in AUTO mode.

Automatic air-conditioning system (AUTO), When connected/When AC is fitted

Not possible to select the fan level with the automatic air conditioning system.

- The fan level of the air conditioning system is determined automatically.
- Only “ECO” is available for heaters.

Set time switch

⚠ WARNING:
Danger of toxic exhaust fumes.
The activated time switch switches on the heater even when the vehicle is parked. The heater's exhaust can be toxic in closed spaces (e.g. garages, workshops). If the vehicle is parked in closed rooms:

- Shut off the fuel supply (gas or diesel) to the heater.
- Deactivate the time switch of the Truma CP plus control panel (OFF).
- Switch off the heater on the Truma CP plus control panel.

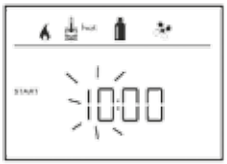
Note:
- When air conditioning systems are being operated, the time switch of the Truma CP plus control panel must only be used to clearly define the start and end time for a required period of time.
- If the time switch has been activated (ON), the deactivate time switch menu is displayed first (OFF).

- Select icon in menu bar (4) with rotary push button.
- Change by tapping in the setting level.

Enter start tme

- Set the hours then the minutes with the rotary push button.

24hour mode



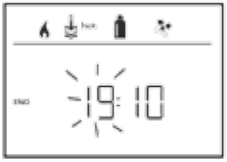
12hour mode

A = a. m.
P = p. m.

Entering the end time

- Set the hours then the minutes with the rotary push button.

24hour mode



12hour mode

A = a. m.
P = p. m.

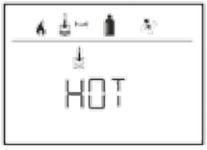
Note: If the start/end point was exceeded during entry, the operating parameters are not taken into consideration until the next start/end point has been reached. Until then, the operating parameters that have been set outside the time switch remain valid.

Set the room temperature

- Select the heater, air conditioning system or AUTO using the rotary push button, depending on the appliance that is connected.
- Tap rotary push button to confirm selection.
- Select required room temperature with rotary push button.
- Tap the rotary push button to confirm the value.

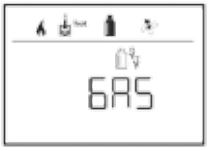
Set the hot water level

- Select required hot water level with rotary push button.
- Tap the rotary push button to confirm the value.



Select energy source

- Select required energy source with rotary push button.
- Tap the rotary push button to confirm the value.



Note: The select energy type menu is displayed if a heating system with electric heating elements is connected.

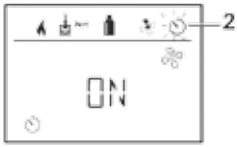
Select fan level

- Select desired fan level with rotary push button.
- Tap the rotary push button to confirm the value.

Note: The Select fan level menu is only available if the heater / hot water level has been set. Not available with automatic air conditioning system AUTO.

Activate the timer (ON)

- Activate time switch with rotary push button (ON).
- Tap the rotary push button to confirm the value.



Note:

- The time switch remains active until it is deactivated (OFF), even for several days.
- If the time switch is programmed and active, the time switch icon flashes.

Deactivate the timer (OFF)

- Change by tapping in the setting level.
- Deactivate time switch with rotary push button (OFF).
- Tap the rotary push button to confirm the value.

Switch lighting on/off

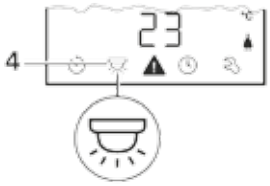
Available when air conditioning system is connected and only with Aventa comfort or Aventa eco air conditioners.

- Select icon in menu bar (4) with rotary push button.
- Change by tapping in the setting level.
- Select required function with rotary push button.

1 – 5 - Switch lighting on. Brightness selectable in 5 levels.

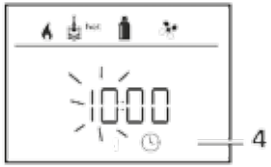
OFF - Switch lighting off.

- Tap the rotary push button to confirm the value.

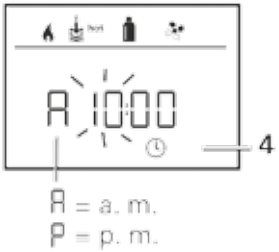


Set time

24hour mode



12hour mode



- With the rotary push button (8), select the “Set time“ symbol in the menu bar (4).

The hour display flashes.

- Set the hours with rotary push button (8).
- The minutes display flashes when the rotary push button (8) is tapped again.
- Set the minutes with rotary push button (8).
- Tap the rotary push button (8) to confirm the value.

Service menu

1. Calibrating the room temperature sensor of the heater (OFFSET)

The room temperature sensor of the heater can be individually adjusted to the sensor's installation situation. The setting can be made in increments of 0.5°C within the range of 0°C to -5°C.

Example:

Set room temperature 23 °C;
OFFSET = -1 °C;
- Setpoint value for heater = 22 °C
  Presetting: 0 °C (Celsius).

2. AC SET[1,2] (When air conditioner is connected/fitted)

The sensed room temperature can – during operation of the automatic air conditioning system – be perceived differently during cooling than during heating. "AC SET" is used to set an offset between cooling and heating. The setting can be made in increments of 0.5 °C within the range of 0 °C to +5 °C.

Example:

Set room temperature 23 °C;
AC SET = 2 °C
- Setpoint value for air conditioning system = 25 °C
  Presetting: +1°C (Celsius)

Notes:
[1] Only available if the air conditioning system and heater are connected.
[2] Only available if ACC is set to "ON".

3. ACC[1] (When air conditioner is connected/fitted)

The automatic air conditioning system function AUTO is activated or blocked with "ACC".

ON - The automatic air conditioning system function AUTO is activated. Automatic air conditioning system function AUTO can be selected in the Room temperature menu.
- "AC SET" appears in the Service menu.

OFF - The automatic air conditioning system function AUTO is blocked.

Presetting: OFF

Note:
The function of the Truma automatic air conditioning system depends on proper installation. Your Truma dealer/ partner would be pleased to advise you whether your vehicle is suitable.

Requirements for the automatic air conditioning system functioning as expected:

1. The air conditioning system and heater cover the entire area of the vehicle that is supposed to be automatically air conditioned.
2. The room temperature sensor of the heater is the lead sensor of the automatic air conditioning system and must therefore be in a suitable location, i.e.
   - in the area in which the required room temperature should be reached.
   - if possible not influenced by the outside temperature and sunlight.
   - not near to warm air ducts, cold air ducts or other sources of heat.
   - warm or cold air from the air outlets must not flow against the room temperature sensor. particular attention must be paid

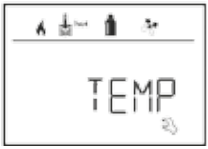
to this when adjusting the air throttles on Aventa air conditioning systems.

- with good circulation and not on the vehicle ceiling.

Truma dealers / Truma partners are trained in correctly installing the automatic air conditioning system. You can find Truma partners at www.truma.com.

4. °C / °F temperature display

Select the temperature display °C (Celsius) or °F (Fahrenheit).



Presetting: °C (Celsius).

5. Changing the background lighting

Change the background lighting of the Truma CP plus control panel in 10 levels.

6. 12 h / 24 h mode

Display time in 12 h (a. m., p. m.) / 24 h mode.

Presetting: 24 h mode.

7. Change language

Select the desired language (German, English, French, Italian).

Presetting: English

8. Showing the version number

Display version number of heater, air conditioning system,

Truma CP plus control panel or iNetBox.

Example:

H 1.20.01 –> H = appliance; 1.20.01 = version number

Appliance

C = Truma CP plus control panel
C = Truma CP plus control panel SMART Command
A = Air conditioning system
H = Heater
T = Truma iNet Box

9. Presetting (RESET)

The reset function resets the Truma CP plus control panel back to the factory setting. All settings will be deleted. Newly connected appliances are recognised and saved in the Truma CP plus control panel.

- Switch on the power supply
  12 V direct voltage for CP plus control panel and Combi and230 V mains voltage for air conditioning systems and Combi E.

Perform Reset

- Select “RESET” with the rotary push button (8).
- Tap on the rotary push button (8)
- “PR SET” appears in the display.
- Tap the rotary push button (8) to confirm.

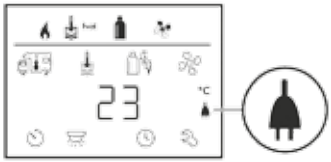
After confirmation, the Truma CP plus control panel initialises itself.

“INIT..” appears on the display while this is in progress.

Special displays

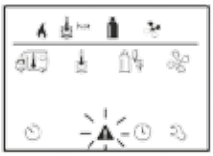
230V mains voltage available

The icon signals that 230 V mains power supply is available.



⚠ Warning

This symbol indicates that an operating parameter has reached an undefined state. In this case the appliance concerned continues to operate. As soon as the operating parameter is within the target range again, this symbol goes off again automatically.



Read out code of warning

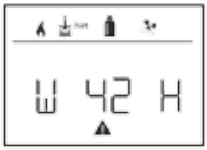
- Select icon with rotary push button.
- Tap the rotary push button.

  The current warning code will be displayed. The cause of the warning can be determined and remedied with the aid of the troubleshooting guide (from page 107).

  W = Warning

  42 = Fault code

  H = Device
  H = Heater
  A = Air conditioning system



Cause eliminated / return to setting level

- Tap the rotary push button.

Cause not eliminated / return to the setting level

- Press the Back button.

Note: In this case, the warning in the Truma CP plus control panel has not been acknowledged and the warning symbol remains. The affected appliance remains in warning status. Other connected appliances can be operated.

Fault

In the event of a fault, the Truma CP plus control panel immediately jumps to the "Fault" menu level and displays the fault code of the fault. The cause of the fault can be determined and remedied with the aid of the troubleshooting guide (from page 107).

E = Fault

112 = Fault code

H = Device

H = Heater

A = Air conditioning system

Cause eliminated / return to setting level

- Tap the rotary push button.
- The respective appliance is restarted.

Note: This can take several minutes because of internal after-runs of connected appliances.

If the cause has not been remedied, the fault will occur again and the control panel will jump to the "Fault" menu level again.

Cause not eliminated, / return to the setting level

- Press the Back button.

Note: In this case, the fault in the Truma CP plus control panel has not been acknowledged and the warning symbol remains. The appliance remains in fault state. Other connected appliances can be operated.

Troubleshooting instructions (Combi Gas heater)

See table to right

If these measures do not remedy the fault or if fault codes are displayed that you cannot find in the troubleshooting guide, contact Truma Service.

Troubleshooting instructions (Combi Gas heater)

Error code	Cause	Remedy
#17	• Summer mode with empty water container	• Switch device off and allow to cool. Fill boiler with water
#18	• Warm air outlet blocked	• Check each of the outlet openings
	• Circulated air intake blocked	• Remove the blockage from the circulated air intake
#21	• Room temperature sensor or cable faulty	• Inspect the room temperature sensor cable, replace if faulty • Check the resistance of the room temperature sensor. 15°C – 16.2 kOhm / 20°C – 12.6 kOhm / 25°C – 10.0 kOhm Replace the room temperature sensor if faulty
#24	• Risk of low voltage. Battery voltage is too low < 10.4 V	• Charge battery
#29	• Frost Control heating element has a short circuit	• Disconnect heating element plug from electronic control unit. Replace heating element
#42	• Open window above cowl (window switch)	• Close the window
#43	• Over-voltage > 16.4V	• Check battery voltage / voltage sources such as the charger
#44	• Low voltage. Battery voltage is too low < 10.0 V	• Charge battery. If necessary replace old battery
#45	• No 230 V operating voltage	• Restore 230V operating voltage
	• Faulty 230V fuse	• Replace 230V fuse
	• Overheating protection has triggered	• Please contact Truma Service
#112 #202 #121 #211	• Gas cylinder or quick-acting valve in the gas supply line closed.	• Check gas supply and open valves
	• Gas pressure regulation system iced up	• Use regulator heater (EisEx)
	• Butane content in the gas cylinder too high	• Use propane. Butane is unsuitable for heating, particularly at temperatures lower than 10°C.
#122 #212	• Combustion air infeed or exhaust outlet is sealed	• Inspect openings for obstructions (slush, ice, leaves, etc.) and remove any obstructions
	• Gas pressure regulation system faulty	• Inspect / replace gas pressure regulation system
	• Electronic system faulty	• Please contact Truma Service
#255	• Heater has no 12 V power supply	• Ensure that the 12V power supply is available
	• No connection between heater and control panel	• Make connection between heater and control panel
	• Control panel cable faulty	• Please contact the Truma Service

Combi 4E Operation (Gas, 230v or Dual Fuel)

Winter operation (Space heating with water heating)

In winter operation, the unit automatically selects the required power setting according to the temperature difference between the temperature set on the control panel and the current room temperature. When the boiler is filled, the water is automatically heated as well. The water temperature depends on the selected operational mode and the heater output. All 3 energy selection options can be used for winter deployment.

With gas operation the unit automatically selects the output level that is required. Depending on the fuse protection at the camping site, power of 900W (3.9 A) or 1800W (7.8 A) can be manually selected for electrical operation.

If more output is required (e.g. heating up or low outside temperatures) gas or mixed operation should be selected so that enough heating power is always available. With mixed operation, 230V electrical operation is preferred if the power requirement is low (e.g. for maintaining the room temperature).

The gas burner is not enabled until the power requirement is higher, and is the first to switch off during heat-up operations.

Summer operation (Water heating only)

Gas operation or 230V electrical operation is used for hot water preparation. The water temperature can be set to 40°C or 60°C. With gas operation the water is heated at the lowest burner setting. Once the water temperature is reached, the burner switches off. Depending on the fuse protection at the camping site, power of 900W (3.9A) or 1800W (7.8A) can be manually selected for electrical operation. Mixed operation is not possible. With this setting the unit automatically selects electrical operation. The gas burner is not enabled.

Truma Combination Heating System Function Description

The liquid gas heater Combi E is a warm-air heater with integrated hot water boiler (10 litre volume). The burner operates fan-supported, which ensures trouble-free function even when on the move. Depending on specification the unit may also have heating elements for electrical operation.

In winter operation the heater can be used to heat the room and simultaneously warm water. Up to 3 different options are available for operating the unit.

- gas operation only Propane / Butane for autonomous use
- electrical operation only 230V for stationary use on camp sites (Combi 4E models only)
- or gas and electrical operation – mixed operation only possible in winter mode (Combi 4E models only)

Repairs may only be carried out by an expert

Guarantee claims, warranty claims and acceptance of liability will be ruled out in the event of the following:

– modifications to the unit (including accessories),

– modifications to the exhaust duct and the cowl,

– failure to use original Truma parts as replacement parts and accessories,

– failure to follow the installation and operating instructions.

It also becomes illegal to use the appliance, and in some countries this even makes it illegal to use the vehicle.

During the initial operation of a brand new appliance (or after it has not been used for some time), a slight amount of fumes and smell may be noticed for a short while. It is a good idea to heat the device up several times in summer operation (60°C) and to make sure that the area is well ventilated. Heat-sensitive objects such as spray cans or flammable liquids may not be stored in the same compartment where the heater is installed because, under certain conditions, this area may be subject to elevated temperatures.

Important operating notes

The integrity and tight fit of the exhaust gas double duct must be checked regularly, particularly at the end of long trips. Also check the mounting of the appliance and the cowl. Following a blow-back (misfire) always have the exhaust gas system checked by an expert! Always keep the cowl for the exhaust duct and combustion air intake free of contamination (slush, ice, leaves etc.). A number of hot air outlets and the recirculated air intake openings must be free so that the unit does not overheat. The integrated temperature limiter blocks the gas supply when the unit becomes too hot.

Operating Instructions

Always observe the operating instructions and “Important operating notes” prior to starting! The vehicle owner is responsible for the correct operation of the appliance. Before using for the first time, it is essential to flush the entire water supply system through with clean water. If the heater is not being used, always drain the water contents if there is a risk of frost. There shall be no claims under guarantee for damage caused by frost!

Room thermostat

To measure the room temperature, a room temperature sensor is fitted to the furniture. The exact location is determined by the layout of the vehicle.

Taking into operation

Heating is possible without restrictions with gas, electrical and mixed operation, with or without water. Check to make sure the cowl is unobstructed. Be sure to remove any covers that may be present.

For operating on gas turn on gas cylinder and open the shut off valve at the manifold. For operating on electric operate the water heater switch on the power supply unit. See page 80.

Filling the water heater

Switch on power for water pump (main or pump switch) to prime the water system. Open hot water taps in kitchen and bathroom, (set preselecting mixing taps or single-lever fittings to “hot”). Leave the fittings open for as long as it takes for the boiler to displace the air and fill up, and the water to flow without interruption.

If just the cold water system is being operated, without using the water heater, the heater tank also fills up with water. To avoid frost damage, the boiler must be drained through the drain valve, even if the boiler was not operated.

When connecting to a central water supply (rural or city mains), a pressure reduction valve must always be installed to prevent pressures above 2.8 bar from developing in the water heater.

Draining the water heater

Switch off power to water pump (main or pump switch). Open hot water taps in kitchen and bathroom. In order to check the water that is flowing out, place an appropriate container (capacity 10 litres) beneath the drain valve.

Open the drain valve which is situated next to the boiler by lifting the yellow handle into the vertical position.

Check whether all of the water in the boiler (10 litres) has been drained into the container via the drain valve.

There shall be no claims under guarantee for damage caused by frost!

Maintenance

Only original Truma parts may be used for maintenance and repair work! Materials in the device which come into contact with water are suitable for use with drinking water (see manufacturer‘s declaration: www.truma.com / downloads / manufacturer‘s declaration).

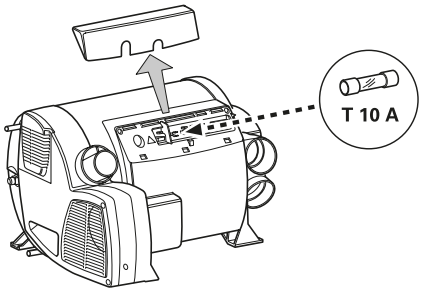
Bio-film, deposits and limescale must be removed using chemicals to protect the unit from infestation by microorganisms. Only chloride-free products must be used in order to prevent damage to the unit. The effectiveness of the use of chemicals to combat microorganisms in the unit can be increased by heating the water in the boiler to

70°C at regular intervals. The unit must stay switched on for at least 30 minutes and no warm water may be removed. The residual heat in the heat exchanger will heat the water up to 70°C.

Fuses 12 V

The fuse is in the electronics beneath the connection cover. Replace the unit's fuse only with an identical fuse.

Device fuse: 10 A – slow – (T 10 A)

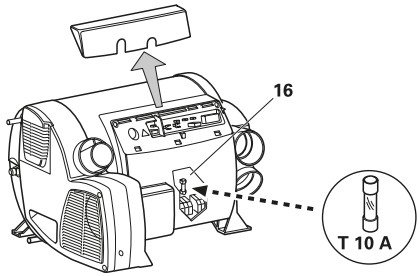


Fuses 230 V (4E Only)

The fuse and the power supply lines must only be replaced by an expert! The unit must be disconnected from the mains (all poles) before opening the electronic housing lid.

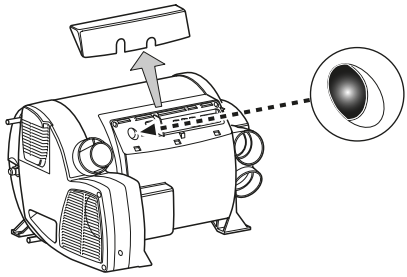
The fuse is in the power electronics (16) beneath the electronic housing lid.

This fine fuse must always be replaced with a fuse of the same type: 10A, slow, interrupting capacity "H".



Overheating protection 230V (4E Only)

The 230V heating facility has a mechanical overheating switch. If the 12V power supply is interrupted during operation or during the after-run period, for example, the temperatures within the unit could activate the overheating protection. To reset the overheating protection, allow heater to cool, remove connection cover and press red reset button.



Troubleshooting

Fault	Cause	Rectification
After switching on (winter and summer operation) none of the controls are operational.	- No operating voltage. - Device fuse or vehicle fuse defective.	- Check 12 V battery voltage, charge if necessary. - Check all electrical plug connections. - Check the unit or vehicle fuse and replace if necessary (see fuses).
The unit is switched on, but the heater does not operate.	- The temperature setting on the control panel is lower than the room temperature.	- Select higher room temperature at the control panel.
After operating for a longer period of time, the heater switches to failure.	- Summer operation with empty water tank. - Hot-air outlets blocked. - Recirculated air intake blocked. - Gas pressure regulator iced up - Butane content in the gas cylinder too high.	- Switch device off and allow to cool. Fill boiler with water. - Check individual outlet apertures. - Remove blockage from recirculated air intake. - Use regulator heating (EisEx). - Use propane (at temperatures below 10 °C in particular, butane is unsuitable for heating purposes).
Fan continues to run after controls switched off	- Unit was switched off during failure. After-running is active in order to reduce the unit's temperature. - After-running is active in order to reduce the unit's temperature.	- After-running will switch off after a few minutes. Only at that time will a failure reset be possible (switch off and then back on). - No failure. After-running will switch off after approximately 5 minutes.
When the device is switched on in electrical operation, the heater does not heat up.	- No 230 V operating voltage. - 230 V fuse defective. - Overheating protection has activated	- Check 230 V operating voltage, and settings on power supply unit (EC400/ES600) - Check 230 V fuse and replace if necessary. - Reset overheating protection. Allow heater to cool, remove connection cover and press reset button.

If these measures do not remove the failure, please contact the Truma Service Centre.

TRUMA COMBI 4E BOILER

Technical data

Determined in accordance with EN 624 or Truma test conditions

Device category

$I_{3\ B/P}$ in accordance with EN 437

Type of gas
Liquid gas (propane/butane)

Operating pressure
30mbar (see type plate)

Water contents
10 litres

Heating up time from approx 15°C to 60°C
Boiler approx 20 minutes (measure according to EN15033)
Heater + boiler approx 80 min

Water pressure
max 2.8 bar

Rated thermal output
(automatic output levels)

Gas operation
2000 W / 4000 W

Electrical operation (E4 Only)
900 W / 1800 W

Mixed operation (gas and electrical)
Combi 4 E: max. 3800 W

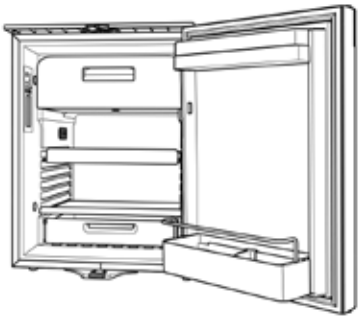
Gas consumption

Readiness-heat power requirement Combi 4 E
Gas operation 5.2 g/h

Air delivery volume
(free-blowing without hot-air pipe)
with 3 hot-air outlets max. 249 m3/h
with 4 hot-air outlets max. 287 m3/h

Current input at 12 V
Heater +boiler
Combi 4 E: Short-term max. 5.6 A
(average power consumption 1.1 A)
Heating up of boiler: 0.4 A
Stand-by: 0.001 A
Heating element FrostControl (optional):
maximum 0.4 A

CoolMatic CRX50



Explanation Symbols

DANGER: Failure to observe this instruction can cause fatal or serious injury.

WARNING: Failure to observe this instruction can cause fatal or serious injury.

CAUTION: Failure to observe this instruction can cause fatal or serious injury.

Notice: Supplementary information for operating the product.

Note: Failure to observe this instruction can cause material damage and impair the function of the product.

►**Action:** This symbol indicates that action is required on your part. The required action is described step-by-step.

✓ This symbol describes the result of an action.

Safety instructions

The manufacturer accepts no liability for damage in the following cases:

- Faulty assembly or connection
- Damage to the product resulting from mechanical influences and excess voltage
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in the operating manual

General Safety

⚠ WARNING:

- Have a qualified technician perform the installation in wet rooms.
- Do not operate the device if it is visibly damaged.
- If this device's power cable is damaged, it must be replaced by the manufacturer, customer service or a similarly qualified person in order to prevent safety hazards.
- This device may only be repaired by qualified personnel. Inadequate repairs may cause serious hazards.
- This device can be used by children aged 8 years or over, as well as by persons with diminished physical, sensory or mental capacities or a lack of experience and knowledge, providing they are supervised, or have been taught how to use the device safely and are aware of the resulting risks.
- Cleaning and user maintenance must not be carried out by children without supervision.
- Children must be supervised to ensure that they do not play with the device.
- Always keep and use the device out of the reach of children under 8 years of age.
- Do not store any explosive substances, such as spray cans with propellants, in the device.

⚠ CAUTION:

- Danger of crushing! Do not put your fingers into the hinge.
- Foodstuff may only be stored in its original packaging or in suitable containers.

Notice:

- Check that the voltage specification on the type plate is the same as that of the power supply.
- Never pull the plug out of the socket by the connection cable.
- If the refrigerator is connected to the DC socket: Disconnect the refrigerator and other electric consumers from the battery before connecting the quick charging device.
- If the refrigerator is connected to the DC socket: Disconnect the refrigerator or switch it off when you turn off the engine. Otherwise you may discharge the battery.
- The refrigerator is not suitable for storing substances which are caustic or contain solvents.
- Keep the drainage outlet clean at all times.
- Do not open the refrigerant circuit under any circumstances.
- Never transport the device in a horizontal position, so that no oil can leak out of the compressor.
- Make sure that the refrigerator circuit is not damaged during transportation.
  The refrigerant in the refrigerator circuit is highly flammable.
  In the event of any damage to the refrigerator circuit:
  – Avoid naked flames and sparks.
  – Air the room well.
- Set up the device in a dry location where it is protected against splashing water.

Operating the Device Safely

⚠ **DANGER:** Do not touch exposed cables with your bare hands. This applies especially when operating the device from the AC mains.

⚠ **CAUTION:**
- Before starting the device, ensure that the power supply line and the plug are dry.
- If you connect the device to a battery, make sure that no food comes into contact with the battery acid.

Notice:
- Do not use electrical devices inside the cooling device unless they are recommended by the manufacturer for that purpose.
- Do not place it near naked flames or other heat sources (heaters, direct sunlight, gas ovens etc.)
- **Danger of overheating!**
  Always ensure sufficient ventilation so that the heat generated during operation can dissipate. Make sure that the device is sufficiently far away from walls and other objects so that the air can circulate.
- Ensure that the ventilation vents are not covered.
- Do not fill the inner container with ice or fluid.
- Never immerse the appliance in water.
- Protect the appliance and the cable against heat and moisture.
- Make sure that foodstuffs do not touch the walls of the cooling area.

Intended Use

The refrigerator is suitable for cooling and freezing foodstuffs.

⚠ **CAUTION: Health Hazard**
Please check if the cooling capacity of the device is suitable for storing the food or medicine you wish to cool.

The refrigerator is only suitable for installation in a fitted niche. Once it is installed, only the front of the appliance may be accessible.

Technical description

The WAECO CoolMatic CRX series cooling appliances can cool products and keep them cool. Products can be deep-frozen in the freezer compartment.

If the refrigerator is operated without a freezer compartment, frozen products can be stored in the short term using the fast-cooling function.

All materials used in the refrigerator are compatible for use with foodstuffs.
The refrigerant circuit is maintenance-free.

The device is suitable for use with a DC voltage of 12 V or 24 V (e.g. in camper vans, caravans or on boats).

The temperature is set using the control panel on the inside left of the refrigerator. Four temperature ranges from +3°C to +12°C, and a fast-cooling function, are available for selection

Control Elements inside the Fridge

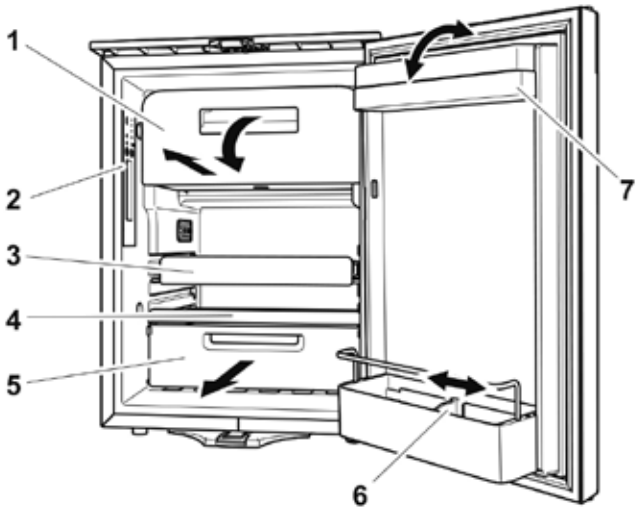


Fig 1

No.	Explanation
1	Freezer compartment (detachable: CRX50, CRX65, CRX80 only)
2	Control panel
3	Wire shelf (folding, so that bottles can be put in the fridge)
4	Shelf
5	Fruit compartment
6	Bottle restraint (to hold bottles in the door)
7	Compartment with lid (hinged)

Control Elements

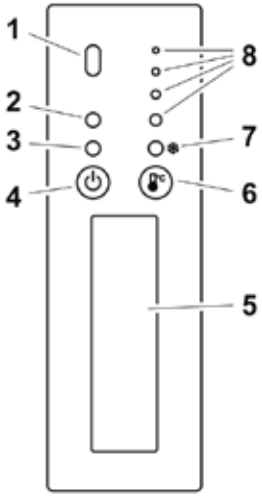


Fig 2

No. in Fig 5 & 6	Explanation
1	IR sensor for switching the interior light
2	LED Service display
3	LED Green: Compressor is running Orange: Compressor is off
4	On/off button
5	Inner lighting
6	Temperature selection button
7	LED: Fast cooling function on (CRX50, CRX65, CRX80) LED: Winter mode on (CRX110)
8	LEDs: Temperature levels 1 to 4

Using the Refrigerator

Note:
- Do not place any electrical devices inside the cooler. The only exceptions are devices approved for the purpose by the manufacturer.
- Ensure that food or liquids in glass containers are not excessively refrigerated. Liquids expand when they freeze and can therefore destroy glass containers.
- Food may only be stored in its original packaging or in suitable containers.
- Make sure that you only put items in the cooler which may be kept at the selected temperature.

Energy Saving Tips

- Choose a well ventilated location which is protected from direct sunlight.
- Allow hot food to cool down first before you put it in the refrigerator.
- Do not open the refrigerator more often than necessary. If the door is left open for more than 5 minutes, the light starts to flash.
- Do not leave the door open for longer than necessary.
- Defrost your refrigerator as soon as a layer of ice forms.
- Avoid unnecessarily low temperature settings.
- Clean dust and dirt from the condenser at regular intervals.

Notice:
- Do not place any electrical devices inside the cooler. The only exceptions are devices approved for the purpose by the manufacturer.
- Ensure that food or liquids in glass containers are not excessively refrigerated. Liquids expand when they freeze and can therefore destroy glass containers.
- Food may only be stored in its original packaging or in suitable containers.
- Make sure that you only put items in the cooler which may be kept at the selected temperature.

The fridge conserves fresh foodstuffs. You can also conserve frozen foodstuffs in the freezer compartment and freeze fresh foodstuffs.

► Switch the refrigerator on by pressing the on/off button.

Note: After switching on, the refrigerator needs some time before the compressor starts up.

Setting the Temperature

► Press the temperature selection button to set the temperature to one of four levels between “cool” and “very cold”.
The number of LEDs which light up above the temperature selection button indicate the temperature range:
– 1 = cool
– …
– 4 = very cold

► Press the temperature selection button again to switch from level 4 to level 1.

Note: The cooling performance can be affected by:
- The ambient temperature
- The amount of food to be conserved
- The frequency with which the door is opened.

If the ambient temperature is at 16 °C – 20 °C, set the refrigerator to at least level 2.

Energy Saving Tips

Setting the fast cooling function

Notice:

- Only use the fast-cooling function when the removable freezer compartment is not being used. Otherwise there is a risk that the freezer compartment becomes too cold and condensate cannot be prevented from forming on the outside of the refrigerator. The energy consumption will also increase dramatically.
- Note that bottles and other containers can burst when frozen.
- Note that it is difficult to open the refrigerator directly after closing it.

The option of operating the refrigerator using a fast-cooling function allows temperatures suitable for freezing foods to be reached.

► Press the temperature selection button for longer than 3 seconds.

✓ The LED above the temperature selection button lights up.

► Press the temperature selection button again for longer than 3 seconds to operate the refrigerator in normal mode.

Conserving Foodstuffs

Notice:

- Do not conserve warm foodstuffs in the refrigerator.
- Do not place glass containers containing liquid in the freezer compartment.

Note: Food which can easily absorb tastes and odours, as well as liquids and products with a high alcohol content, should be conserved in air-tight containers.

You can conserve foodstuffs in the refrigerator. The time for which the food can be conserved in this way is usually stated on the package.

The refrigerator is divided in different zones with different temperatures:

- The colder zones are immediately above the drawers for fruit and vegetables, near the back wall.
- Observe the temperature information and best before date on the food packaging.
- Observe the following when using the refrigerator:
  – Never re-freeze products which have started defrosting or have been defrosted; consume them as soon as possible.
  – Wrap food in aluminium foil or cling film and shut in a suitable box with a lid.
  This ensures that aromas, the shape and the freshness will be better conserved.

Defrosting the Refrigerator

The appliance has two options to remove the condensation resulting from operation:

- Pass it directly outside:
  Remove the drain plug (Fig 3-1).
  Connect a hose with an inside diameter of 10 mm to the outlet port. (Fig 3-2)

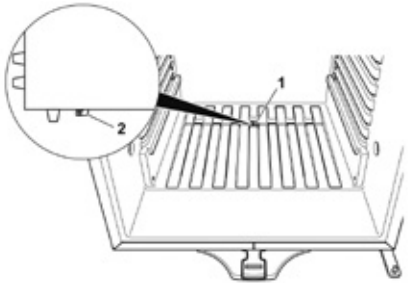


Fig 3

- Wiping it up occasionally:
  Wipe the condensate up when necessary.

Defrosting the Freezer

Notice: Never use mechanical tools to remove ice or to loosen objects stuck to the device. The only exceptions are devices approved for the purpose by the manufacturer.

This is how to defrost the refrigerator:

- ► Empty the contents.
- ► If necessary, put them in another cooling device to keep them chilled.
- ► Press the on/off button until the refrigerator switches off.
- ► Close the door properly.

Releasing the Lock

Notice:
Only adjust the locking mechanism when the door is open. If you use it with the door closed, you will damage the device.

The refrigerator has a locking mechanism (Fig.4) which is also used to protect it during transport. The following settings are possible:

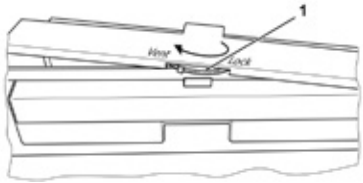


Fig 4

- **Lock** (turn wheel clockwise to the end stop): the door is locked and secured. To open the door, lift the handle up and open it.
- **Vent** (turn wheel anti-clockwise to the end stop): The door is slightly open, but fixed in position. Use this position if you are not going to use the unit for a long time.

Switching off and storing the refrigerator

If you do not intend to use the refrigerator for a long time, proceed as follows:

- ► Press the on/off button until the refrigerator switches off.
- ► Clean the refrigerator (see chapter “Cleaning and maintenance”).
- ► Turn the locking wheel (Fig 4) anti-clockwise to the end stop (“Vent”).
- ► Close the door until it latches in.
- ► The door stays open thus preventing smells from arising.

Cleaning and maintenance

Notice:
- Do not use abrasive cleaning agents or hard objects during cleaning as these can damage the refrigerator.
- Do not use hard or pointed tools to speed up the defrosting process.

- ► Clean the refrigerator regularly and as soon as it becomes dirty with a damp cloth.
- ► Make sure that no water drips into the seals. This can damage the electronics.
- ► Wipe the refrigerator dry with a cloth after cleaning.
- ► Clean dust and dirt from the condenser at regular intervals.

Disposal

⚠ WARNING: Children beware!
Before disposing of your old refrigerator:
- Take off the doors.
- Leave storage surfaces in the refrigerator so that children cannot climb inside.

- ► Place the packaging material in the appropriate recycling waste bins wherever possible.

If you wish to finally dispose of the product, ask your local recycling centre or specialist dealer for details about how to do this in accordance with the applicable disposal regulations.

Troubleshooting

The significance of the red LED (Fig.2-2)

For operational faults it illuminates several times. The number of pulses depends on the type of fault. Each flash lasts for one quarter of a second. After the series of impulses a pause follows. The sequence for the fault is repeated every four seconds.

Number of Flashes	Fault	Possible Cause
1	Line Voltage	The supply voltage is outside of the set range.
2	Excessive fan Current	The fan load on the electronics unit is more than 1 A.
3	The motor doesn't start	The rotor is jammed. The pressure difference in the cooling system is too high (> 5 bar).
4	Speed to low	If the cooling system is overloaded, the minimum speed of the motor of 1,850 rpm cannot be maintained.
5	Overheating of the electric unit	If the cooling system is loaded too heavily or the temperature is set too high, the electronics can overheat.
Constantly	NTC errors	NTC is defective.

Compressor is not running (battery connection)

Problem	Problem Cause	Remedy
UKL = 0 V	There is an interruption in the battery– electronics connection	Establish a connection
	Main switch faulty (if installed)	Replace the main switch
	Additional supply line fuse has blown (if installed)	Replace the supply line fuse
UKL ≤ UON	Battery voltage is too low	Charge the battery
Start attempt with UKL ≤ UOFF	Loose cables Poor contact (corrosion)	Establish a connection
	Battery capacity too low	Replacing the battery
	Cable cross section too small	Replace the cable
Start attempt with UKL ≥ UON	Ambient temperature too high	-
	Insufficient ventilation	Move the refrigerator to another location
	Condenser is dirty	Clean the condenser
Electric circuit between the pins in the compressor interrupted	Defective compressor	Replace the compressor

UKL Voltage between the positive and negative terminals of the electronics

UON Cut-in voltage of the electronics

UOFF Cut-off voltage of the electronics

Compressor is not running (connected to AC supply)

Problem	Problem Cause	Remedy
No voltage	Connection supply line interrupted	Establish a connection
	Main switch faulty (if installed)	Replace the main switch
	Additional supply line fuse has blown (if installed)	Replace the supply line fuse
Voltage is present but the compressor doesn't run	Ambient temperature too high	–
	Insufficient ventilation	Move the refrigerator to another location
	Condenser is dirty	Clean the condenser
Electric circuit between the pins in the compressor interrupted	Defective compressor	Replace the compressor

Poor cooling, increase in interior temperature

Problem	Problem Cause	Remedy
Compressor runs for a long time/ continuously	Ambient temperature too high	-
	Insufficient ventilation	Move the refrigerator to another location
	Condenser is dirty	Clean the condenser
	Faulty fan	Replace the fan
Compressor does not run often	Battery capacity exhausted	Charge the battery

Unusual Noises

Problem	Problem Cause	Remedy
Loud humming	A component of the refrigerant circuit cannot move freely (touching the wall)	Bend the component carefully away from the obstruction
	There is a foreign object stuck between the cooling unit and the wall	Remove the foreign object
	Fan noise	-

Technical Data

	CRX 50
Refrigerator compartment capacity Freezer capacity	41.2 L 4.4 L
Capacity:	45 L
Voltage:	12V
Rated Current 12V	5.0A
Cooling Temperature range Refrigerator Freezer Fast cooling (without dividing wall)	 3°C to +12°C -15°C to -5°C maximum -6°C + 2°C
Climatic class	T
Relative humidity	Max. 90%
Constant inclination	maximum 30°C
Max. Pressure	LP 11 bar/HP 25 bar
Propellant	C_5H_{10}
Refrigerant	R134a
Refrigerant Quality	38g
Dimensions	Fig 5
Weight	17kg
Inspection/ Certificate	CE E4

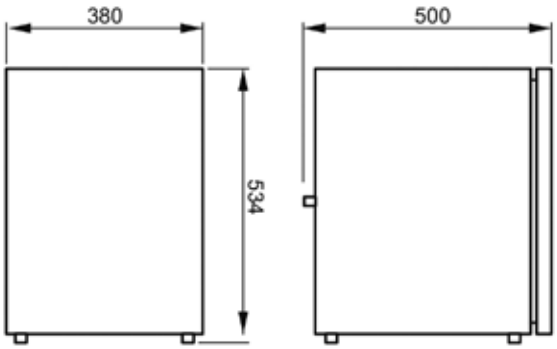


Fig 5

SMEV mini grill

Use the appliance only in a well ventilated space.

The ventilation openings must remain open when the appliances are operating.

Ignition of the appliance

1. Manual ignition: oven - grill

a. Push in control knob, slightly turn to ignition position, light burner with match or lighter and keep knob pushed for 5 - 10 sec.

b. Release knob and turn it lo required position.

2. Automatic ignition: oven - grill

a. For igniting oven or grill, open oven door completely

b. Push In control knob, slightly turn to ignition position keeping it pushed in for 5 - 10sec.

c. Release knob and turn it to designed position.

Note: Oven and grill burners will not light, if door is not completely open.

3. Ignition of appliances with thermostat

Proceed according to paragraphs 1 and 2, with or without electronic ignition. The ignition position is obtained by turning control knob on a position between 1 and 6 for the oven and grill position (see symbol ▼▼▼▼)

For ovens with thermostat the different positions of the knob correspond to the following temperatures in °C of the oven

POS	1	2	3	4	5	6
TEMP	130	160	180	200	220	240

⚠ **WARNING:** If ignition is unsuccessful, repeat operation from beginning; if necessary. have the appliance checked if a gas and/or electricity failure in the appliance. If appliance absolutely does not work, close gas inlet tap and contact retailer. Before using oven for the first lime, let it run at maximum temperature for the duration of 20 mins without foodstuffs inside:

⚠ **WARNING:** Use gloves when handling hot elements!

In the event of the burner flames being accidentally extinguished, turn off the burner control and do not attempt re-ignite the burner for at least 1 min.

Operation of the grill

a. Pull out heat protection plate

b. Light grill burner.

c. Keep oven door half-open

d. Do not use for more then 20 minutes.

Use of the rotisserie

Insert dripping-pan with the rotisserie installed as indicated in (fig 5a). Push in the appropriate button (fig 4a) in order to set going the rotisserie motor.

Use of the Grill

a. Slide out heat protection plate.

b. Light grill burner

c. Keep oven door in half-open position.

Use with Oven:

a. Light oven burner

b. Position control knob on desired temperature

c. Close oven door.

Dometic Hob and Bowl

Fig 1

Safety Warnings

⚠ **WARNING:** This warning is affixed to the appliance. This appliance must be installed in accordance with regulations in force and only used in an adequately ventilated area. Always read the instructions provided in full before installing and using this appliance. This appliance must be installed by specialist gas service engineers.

⚠ **WARNING:** This appliance is designed and manufactured for cooking food only. Any other use is considered improper and incorrect creating hazardous conditions. The manufacturer declines all responsibility for damage to things or injuries to persons caused by incorrect installation and / or incorrect and improper use.

⚠ **CAUTION:** Before installing check that the local gas available (gas type and pressure) and the appliance regulators are compatible with the appliance itself.
Gas regulating specifications for this appliance are provided on the label affixed to the appliance (or on the serial plate).
This appliance is not connected to a fume extraction flue for extracting products of combustion therefore it must be installed and connected (fitted) conforming to installation regulations in force for appliances of this type. it is of utmost importance to respect legislation regarding ventilation.

Warnings

⚠ **CAUTION:** This appliance must only be used by responsible adults. during use and immediately after use the burner and other accessible parts may be hot; do not touch these parts and always keep children at a safe distance. after using the appliance ensure the knob/knobs are off. After use always shut off the gas supply at the main gas tap.

⚠ **WARNING:** The use of gas appliances generates heat and moisture in the immediate area. always ensure a good ventilation in the cooking area: keep all air vents open for natural ventilation or install an extractor fan (cookerhood).
Due to intensive use of the appliance it may be necessary to increase ventilation such as opening a window or increasing cookerhood (extractor fan) speed. For models mo8800 the drainer must be removed when utilising the hob burner/s.

⚠ **CAUTION:** This warning is affixed in visible location on the hob glass lid. Glass hob lids may shatter when heated. Always raise the lid before igniting a burner/s (hob, oven and grill) and turn off all burners (hob, oven and grill) and let them cool down before lowering the hob glass lid.

⚠ **CAUTION:** This warning refers to models with incorporated sink unit and hob and with glass lid divided between sink and hob. this warning is affixed in a visible position on the sink unit glass lid. When using the hob with the glass lid on the sink unit closed, always keep pans on hob at a distance of 10 mm minimum from sink unit glass lid.

Controls

The following symbols indicate the burner corresponding to the control knob.

This symbol is placed next to the hob burner knobs. Full dot refers to the corresponding hob burner.

The following symbols indicate the burner regulation corresponding to the knob position.

Note: Different models may have different knobs and different symbols.

GAS OFF

HIGH FLAME

LOW FLAME

Other symbols

PUSHBUTTON ELECTRONIC IGNITION

Selecting burner

⚠ **WARNING:** The flame must never extend beyond the edge of the pan. Centre the pan over the burner ensuring stability on the pan support.

BURNER	PAN DIAMETER
AUXILIARY Ø 47 mm	from 6 to 16 cm
SEMI-RAPID Ø 62 mm	from 16 to 22 cm
RAPID Ø 77 mm	from 16 to 22 cm

Electronic Ignition Hob (Depending on model) Hob

⚠ **WARNING:** Make sure there are no pans or other any objects on the burners when igniting.

To ignite burner, gently push-in and turn the control knob to position HIGH FLAME and maintaining the knob pushed at the same time press the electronic ingnition pushbutton. Once the burner is alight maintain the knob in this position for a few seconds to ensure the flame remains alight.

⚠ **CAUTION:** If the burner does not ignite immediately repeat ignition after having followed each step below:

- Turn the knob to “small flame”
- Proceed with manual ignition
- Check there is sufficient gas in the gas bottle.

If the appliance still does not ignite shut off the gas supply at the main gas tap and contact your local dealer.

Manual Ignition Hob

Manual ignition when the appliance is not fitted with the electronic ignition feature or in the event of failure in the electronic ignition.

⚠ **WARNING:** Make sure there are no pans or other any objects on the burners when igniting.

To ignite burner, gently push-in and turn the control knob to position HIGH FLAME and maintaining the knob pushed at the same time light the burner with a match or gas lighter. Once the burner is alight maintain the knob in this position for a few seconds to ensure the flame remains alight.

⚠ **WARNING:** If the burner does not ignite immediately check there is sufficient gas in the gas bottle. If the appliance still does not ignite shut off the gas supply at the main gas tap and contact your local dealer.

Hob Flame Regulation

To regulate flame turn the knob to the desired cooking flame.

Visual Flame Control

Depending on the type of gas used the flame should be:
Propane (G31): blue flame without yellow tips.
Butane (G30): flame with yellow tips when ignited which becomes more intense in colour as the burner heats.

Gas Cylinders/Bottles

⚠ **WARNING:** Never operate the appliance with gas and or at gas pressures different to those indicated by Dometic as this could cause irregular and incorrect operation. Dometic declines all responsibility for damage or injury caused by an incorrect or improper use of the appliance.

The appliance runs off standard gas bottles which can be found in the country of use. The type of gas to use is clearly marked on the packaging and on the specifications label affixed to the rear of the appliance. However always respect the following instructions: gas bottles must always be located and positioned in the compartment provided for this purpose. They must always be vertical and fitted with a valve and pressure regulator. Do not obstruct or impede access to the gas bottle to permit quick and easy access when replacing.

⚠ **WARNING:** When replacing the gas bottle always take the following precautions:
a) close all gas knobs;
b) make sure there are no flames or fires in proximity of the gas bottle;
c) close the gas valve on the bottle to be replaced;
d) unscrew the pressure regulator on the empty bottle and remove the bottle from the purpose compartment. This procedure is inverted for fitting a new bottle. Check for gas leaks utilising a non-corrosive fluid. Do not use a water and soap solution.
NEVER USE A FLAME TO CHECK FOR GAS LEAKS;
e) ignite the burners to check they function correctly. If there are problems call in an authorised gas service engineer.

After appliance use always turn off the gas tap on the bottle

⚠ **GAS LEAKS:**
We recommend the use of an electronic and homologated gas detector for checking ambient air.
If there is a smell of gas;
a) immediately open the windows and evacuate the vehicle or caravan.
b) do not turn on or off light switches or other electronic appliances, do not light matches or lighters or anything that could cause the gas to ignite;
c) put out any flames
d) shut off the valve on the gas bottle or cylinder. Do not re-open this valve unless the gas leak has been identified and eliminated.
e) contact a specialised gas service engineer.

Cleaning

⚠ **WARNING:** Before cleaning the appliance always turn it off and disconnect from power supply and wait until it has cooled down.

⚠ **CAUTION:**
Surfaces that are still hot can be damaged if they come into contact with cold water or a damp cloth. Never use abrasive, corrosive or chlorine based cleaning products. Never use steel or plastic scouring pads. Never leave deposits of acid or alkaline substances (vinegar, salt, lemon juice etc.) on the appliance. Stainless steel or enamelled surfaces must be cleaned only with water and soap or a neutral detergent, thoroughly rinse and dry. Use clean sponges or cloths to clean.

Injectors

⚠ **WARNING:** Cleaning or replacing gas injectors must only be performed by authorised and qualified gas service engineers. The manufacturer declines all responsibility in regard.

Burner	Injector (mm)	Stanped N.
Auxiliary 47mm	0.50	50
Semi-Rapid	0.67	67
Rapid	0.75	75

Thetford cassette toilet

Cassette C-200CS and C200S

The toilet section of the C-200 includes a rotatable bowl, removable seat and cover, a console with a flush handle/flush buttons, a built in flush-watertank and a waste level warning indicator. The valve blade handle is located underneath the bowl.

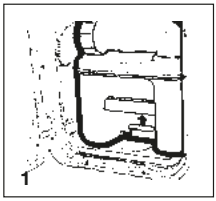
Preparing for Use

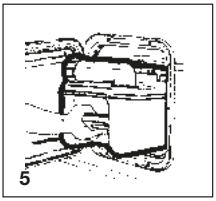
1. Open access door pull retaining clip upwards (fig. 1).
2. Remove holding tank by pulling straight out. When holding tank hits the stop, tilt front end downwards slightly and remove (fig. 2).
3. Position tank vertically and swivel pour out spout upwards (fig. 3).
4. Remove the cap of the pour out spout. Add required quantity of toilet fluid through pour-out spout then add approx. 2 litres of water through the spout to cover holding tank bottom. Replace cap and return pour out spout to its original stored position (fig. 4).

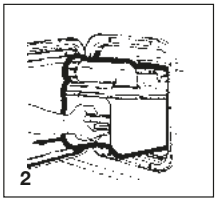
Note: Warmer weather or longer intervals between emptying the waste tank may require additional toilet fluid. Use only Thetford toilet fluid to achieve the best results.

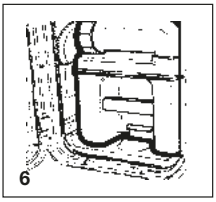
⚠ **WARNING:** Never add toilet fluid directly into toilet bowl.

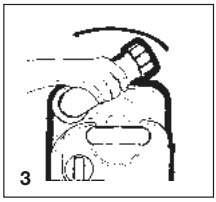
THETFORD CASSETTE TOILET

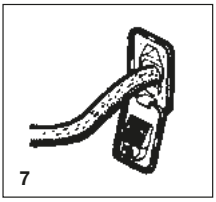


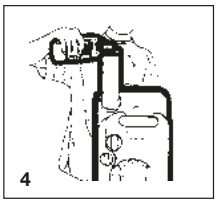


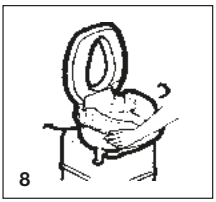


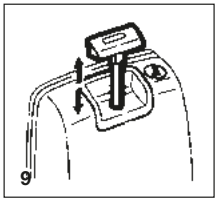


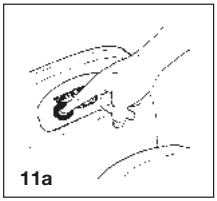


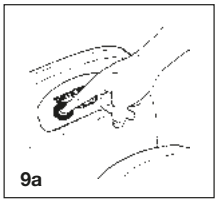


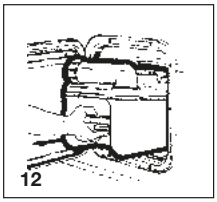


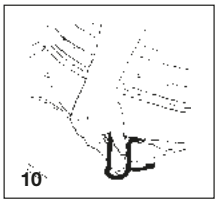


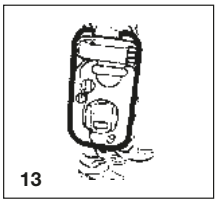


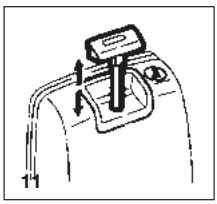


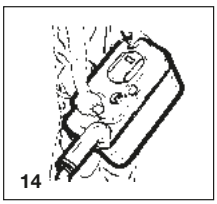












5. Slide the holding tank into position through access door (fig. 5).
6. Make sure the holding tank is secured by the retaining clip. (fig. 6).
7. Open the waterfill door and add 50 ml of Aqua Rinse. Aqua Rinse results in a better flush and improves the hygiene of the toilet. Then fill the watertank with fresh water using a jerrycan or a hose. Tank capacity is 7 litres (fig. 7).

Operation

8. Turn the bowl in the most comfortable position (fig. 8).
9. **C-200 CW only:** Before using the toilet it is recommended to flush some water into the bowl by lifting and pressing down the flush handle (fig. 9).

9a. **C-200 CWE & CS only:** Before using the toilet it is recommended to flush some water into the bowl by pressing and releasing the flush button (fig. 9a).

10. The toilet may be used with the blade open or closed. Pull valve handle towards you to open (fig. 10).

11. **C-200 CW only:** After use, open valve blade (if still closed) and flush, lift the flush handle and press it down (fig. 11). After flushing, close the blade by turning the blade handle.

11a. **C-200 CWE & CS only**: After use, open valve blade (if still closed) and flush, press the flush button (fig. 11a).

After flushing, close the blade by turning the blade handle.

The waste holding tank is located underneath the toilet and is removed for emptying from the outside of the vehicle through an access door. A rotating pour out spout, automatic holding tank vent, air release valve, valve blade, carrying handles and hand grip are incorporated in the waste holding tank. A sliding cover guarantees optimal hygiene.

Emptying the Holding Tank

The holding tank capacity is approx. 17 litres and the tank should be emptied when the waste-level indicator lights up. The waste-level indicator lights up when the holding tank contains more than 15 litres of waste.

⚠ **WARNING:** Do not allow the holding tank to become overfilled. See trouble shooting section for emergency emptying procedure.

12. Open access door and remove the holding tank. The holding tank can only be removed when the valve blade is closed (fig. 12).
13. Carry the holding tank to a normal household type toilet or other authorised disposal point. Place the holding tank in vertical position and rotate pour out spout upwards (fig. 13).
14. Remove the spout cap. Grasp unit by upper carrying handle nearest to pour out spout. Place other hand on upper rear hand grip so that vent button can be depressed with the thumb while emptying. This ensures a smooth outflow of the tank contents. (fig. 14).

Note: Only depress the vent button when pour out spout is pointed downwards. Rinse the holding tank with clean water. For preparing for use again, see steps 1 to 7.

Cleaning and maintenance

The lipseal and the seal of the automatic vent are made of rubber and therefore these parts need regular maintenance (depending on frequency of use, once or twice a month).

Lipseal: Remove the sliding cover. Open the valve-blade by turning the blade-opener knob anticlockwise. Clean the seal with water. Dry the seal and grease with silicone spray/oil or vegetable oil.

Seal of automatic vent: Turn the automatic vent 60° anticlockwise and remove gently. Clean the seal with water. Dry the seal and grease with silicone spray/oil or vegetable oil.

To clean the holding tank, empty the tank, and rinse with clean water. Use a mild soap to clean toilet bowl, seat and cover, as well as exterior of toilet unit and holding tank.

Note: Do not use strong household detergents or cleaners that contain chlorine, solvents or acid contents.

Wintering/storage

The Thetford Cassette C-200 CW/CWE/CS is easily winterised for storage.

Empty remaining fresh water into the bowl by activating the flush handle up and down (C-200 CW) or by pressing the flush button (C-200 CWE & CS).

Once pump has been cleared and water flow has stopped completely, release into waste tank. Remove waste tank and empty contents in normal way.

To evacuate any remaining water from the fresh water tank. place a container underneath the drainplug and remove drainplug.

When procedure has been completed replace drainplug and waste holding tank (fig. 15). Clean the seals and grease them after drying (see cleaning and maintenance).

Leave the blade of the holding tank open. Do not replace cap on the pour out spout, to ventilate the holding tank. (Also grease the seal of the pour out spout cap.)

Cold weather use

The toilet can be used in cold weather conditions provided that the toilet is in heated surroundings. If this is not the case, you can use a nontoxic antifreeze (propylene glycol) or an antifreeze such as those used in car radiators. Add the antifreeze to the water in the tank. Add the quantity specified in the instructions, paying due regard to the safety instructions.

High altitude and warm weather use

Pressure may build up in the holding tank if the tank is not inserted while driving at high altitudes or in warm weather conditions. The automatic holding tank vent will vent the tank when there is over- or under-pressure. High temperatures may require additional Thetford toilet fluid.

Thetford warranty

1. The Thetford Cassette is warranted for one year from the date of purchase, please fill in and return the warranty card.
2. The warranty covers replacement of defective or flawed parts and the inadequate performance of the toilet.
3. In case of a defect apply to an original dealer or Thetford Service Centre with proof of purchase.
4. Defects, which in our judgement occurred from misuse, negligence or accident, are not covered by the warranty. In addition, the warranty does not apply if the product is installed or handled improperly or if other than the prescribed toilet fluids have been used or if the product has been altered in any way or has been repaired by unqualified persons, or if the serial number and/or date has been altered or removed.
5. Should the original buyer wish to return to us parts believed to be defective, the parts should be sent prepaid. If we find the parts defective and covered by warranty, they will be repaired and returned. If warranty does not apply or has expired, a nominal charge will be made. Any transport costs are for the account of the owner.
6. Before returning product or parts they should be properly cleaned, in order to carry out inspection and repair.
7. No other warranty is given and no personal representative is authorised to make any warranty other than that is contained herein.

Thetford C260 and C260S cassette toilet

The Thetford Cassette Toilet is a high quality product. The toilet forms an integral part of your caravan or motorhome bathroom, thanks to its functional design which combines modern styling and ease of use. The C-250 Cassette Toilet is manufactured from high quality synthetic materials which makes it a durable, user and maintenance friendly toilet.

The toilet is made up of two parts: a permanently fixed part and a Waste Holding Tank that is accessible from the outside. The removable Waste Holding Tank is located under the toilet bowl and can be removed via a door on the outside of the caravan or motorhome. The Thetford Cassette Toilet is the solution to the sanitary problem in your caravan or motorhome!

These instructions cover the C-250CWE this has its own flush-water tank.

Parts

a. Removable Seat and Lid

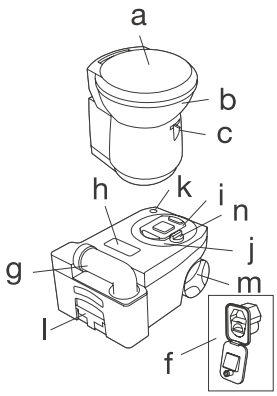
b. Swivelling Toilet Bowl

c. Blade Handle

d. Flush Button

e. Waste Holding Tank Level Indicator

f. Water Filling Door (only if toilet has own flush-water tank)



g. Rotating Emptying Spout

h. Automatic Pressure Release Vent

i. Sliding Cover

j. Removable Mechanism

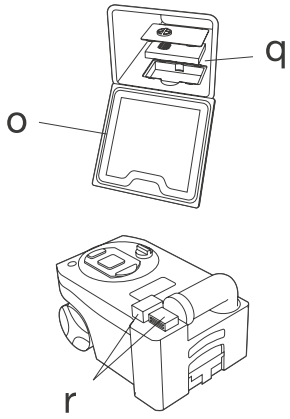
k. Vent Plunger

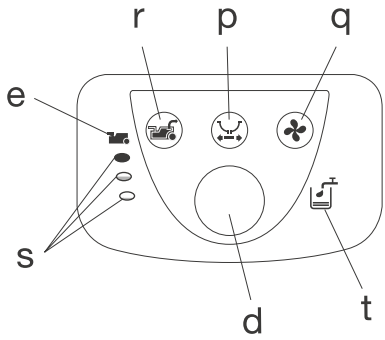
l. Pull-Out Handle

m. Wheels

n. Blade Opener

o. Access Door to Waste Holding Tank





Optional Features

p. Electric Blade

q. Automatic Ventilator

r. Waste Pump-Out System

s. Waste Holding Tank Multi-Level Indicator

t. Flush-Water Tank Level Indicator (only if toilet has its own flush-water tank)

Control panel

Preparing for use (standard)

1. Open the access door on the outside of your caravan or motorhome
2. Remove the Waste Holding Tank by pulling the safety catch (which holds the tank in place) upwards.
3. Pull the Waste Holding Tank outward to the stop. Tip it slightly and take the tank fully out.
4. Place the tank upright and turn the rotating emptying spout upwards. The emptying spout ensures that the tank can be easily and hygienically emptied.
5. Remove the cap, with the measuring cup inside, from the emptying spout and pour the correct dosage of Thetford toilet fluid (see product label) into the holding tank. This avoids unpleasant smells and keeps the inside of the tank clean. Next add approximately 2 litres of water - enough to ensure that the bottom of the Waste Holding Tank is covered. For more information on Thetford toilet fluids, see last page of the Thetford user manual. Screw

the cap back onto the emptying spout and turn back to its original position.

Note: The Emptying Spout Measuring Cap is supplied in the same packaging as the Thetford user manual.

⚠ **WARNING:** Never add toilet fluid directly via the blade or the toilet bowl as this could damage the lip seal of the Waste Holding Tank. Always pour the fluids via the emptying spout.

6. Slide the Waste Holding Tank back into its original position via the access door. Make sure that it is secured with the safety catch. Close the access door and lock it. Your Thetford toilet is now ready to use.

⚠ **WARNING:** Never use force if you cannot get the tank back into place easily. This may cause serious damage. If blockage occurs, always check if the blade handle is in the correct (closed) position.

7. For toilets with own Flush-Water Tank: Open the water filling door and fill the flush-water tank with the correct dosage of Aqua Rinse. This Thetford toilet fluid keeps the flush water fresh and improves the flushing. Next, fill up the flush-water tank with clean water (approximately 8 litres) using a jerry can or hose. Your toilet is now ready to use.

Preparing for use with optional features

8. Automatic Ventilator: Open the access door on the outside of your caravan and remove the Waste Holding Tank (as described above).
9. Remove the filter housing cover and if no filter is present, place a new filter into the filter housing. Peel off the sticker lids on the filter. Place back the cover of the filterhousing.

Using the toilet (standard)

10. Turn the bowl to the desired position with the lid closed and using both hands.
11. To activate the control panel, press the flush-button once. The control panel display will stay activated for approximately 5 minutes. Run some water into the bowl by pressing the flush button again briefly.
12. The toilet may be used with the blade open or closed. To open the blade, slide the blade handle under the toilet bowl sideways. After use, open the blade (if still closed) and flush the toilet by pressing the flush button for several seconds (if necessary re-activate the control panel). Close the blade after use.

⚠ **WARNING:** If your toilet has its own flush-water tank, please make sure that you do not travel with a flush-water tank that is too full. Do not travel with water in the toilet bowl. Failure to adhere to this notice may result in water damage to your motor home.

Using the toilet with optional features

13. Electric Blade: Push the electric blade button on the control display to electrically open or close the blade. In the case of failure, you can manually open or close the blade by sliding the small handle under the toilet bowl sideways.
14. Automatic Ventilator: The ventilator automatically starts when the control panel is activated (by pressing the flush button) and will automatically shut off after approximately 5 minutes. The Automatic Ventilator Indicator will flash until automatic shut-off occurs. If you want to stop the ventilator, press the Automatic Ventilator button. If you want to re-start the ventilator, press the button again (the LED will start flashing again).
15. Flush Water Tank Level Indicator (only for toilets with own flush-water tank): When the Flush Water Tank Level Indicator lights up, refill the flush-water tank, as only about 1.5 litres of water is left in the tank, which is sufficient for approximately 2 flushes.

Emptying

The Waste Holding Tank has a capacity of 18 litres and requires emptying when the red light (LED) on the toilet control display lights up, when the Waste Holding Tank only has

capacity for approximately 2 more litres, which is no more than two to three further uses. Make sure that the blade is closed. Open the access door located outside the vehicle, pull the safety catch upwards and remove the Waste Holding Tank.

16. Place the Waste Holding Tank in an upright position (Pull-Out Handle at the top, Wheels at the bottom). Slide the handle sideways - to the front of the tank - until it snaps out of its locked position.
17. Pull the handle up and wheel the Waste Holding Tank to an authorised waste disposal point.
18. Push the handle back into its locked position. Turn the emptying spout upwards and remove the cap from the spout. Hold the Waste Holding Tank in such a way that during emptying you can operate the vent plunger with your thumb. To empty the tank without splashing, depress the vent plunger while emptying the tank. After emptying, rinse the tank and blade thoroughly with water.

⚠ **WARNING:** Do not seriously shake the tank or use high pressure water cleaners. This may cause damage to the tank's interior.

Note: The vent plunger should only be depressed once the emptying spout is pointing downwards. Prepare the toilet for re-use if required. Slide the Waste Holding Tank into the toilet and close the access door.

Emptying with optional features

19. Waste Holding Tank Multi-Level Indicator: The lower lamp indicates that the Waste Holding Tank is almost empty; the middle lamp indicates that it is more than half full; when the upper lamp lights up, the tank needs emptying as it can only take 2 - 3 further uses.

Note: The Waste Holding Tank Level Indicator will flash when the holding tank is not present. In this case the toilet will not flush.

20. Waste Pump-Out System: When activating the control panel this feature automatically lights up. When the Waste Holding Tank Level Indicator illuminates, press the Waste Pump-Out button to pump out the waste from the holding tank Into the vehicle's waste tank. The button will flash while the waste is being pumped and will stop automatically (after approximately 5 minutes) when all waste has been transferred.

    If the vehicle's waste tank is full, the Waste Pump-Out light will flash rapidly and no pump-out will be possible until the central tank is emptied. (Check the level of the vehicle's waste tank on the vehicle's central console). After the Waste Holding Tank has been emptied, there will be approximately 1.5 litres of waste left in the tank. This is normal. Add 2 litres of water and a correct dosage of Thetford toilet fluids to the Waste Holding Tank.

⚠ **WARNING:** It is vital that the correct amount of toilet fluid is added to ensure the proper breakdown of the waste in the holding tank. Only use the system when the tank is full. Using the system too often on an empty tank can cause damage to the pump, which could cause the system to fail.

Cleaning and maintenance

The toilet should be cleaned and maintained regularly, depending on the amount of use. To clean Thetford toilets, we advise using water and Thetford Bathroom Cleaner.

Note: Never use bleach, vinegar or other powerful household cleaners that contain these substances. These may cause permanent damage to the seals and other toilet components.

THETFORD CASSETTE TOILET

Toilet bowl

- Squirt Thetford Bathroom Cleaner into the toilet bowl.
- Flush the toilet bowl with water and wipe down the rest of the toilet with a damp cloth.
- Clean seat and lid The seat and lid can easily be removed: Lift the seat and lid assembly and pull the round pins (inside the assembly) outwards from the pin holes. After cleaning, replace the seat and lid by positioning the round pins in front of the pin holes and push the lid and seat downwards.
- To keep your flush water fresh and to prevent deposits from forming in your toilet bowl, add a correct dosage of Aqua Rinse in your flush water tank, if present, on your toilet.

Tip! For a really shining toilet, dry with a soft dry cloth after cleaning.

Waste holding tank

To keep your Waste Holding Tank fresh and clean, Thetford has developed a number of different toilet fluids. Thetford toilet fluids suppress smells, reduce formation of gas, promote breakdown of toilet waste and increase the life span of a mobile toilet. See page 46 of the Thetford user manual for more information (=matrix). We advise a thorough cleaning of the Waste Holding Tank once each season. Next to using Thetford's Cassette Tank Cleaner, the powerful cleaning agent for the periodical cleaning of the Waste Holding Tank of your toilet, we suggest the following:

- Remove the removable mechanism from the Waste Holding Tank by turning it anti-clockwise and rinse it under a tap.
- Remove the cover plate from the Automatic Pressure Release Vent by prising it up using a small screwdriver. Use one hand to push the Automatic Pressure Release Vent open while holding the float of the Automatic Pressure Release Vent on the inside of the tank with the other hand. Push the float upwards, turn it 180 degrees and remove it from below. Remove the rubber seal underneath the float. Rinse the float and rubber seal under a tap. Replace the Pressure Release Vent using the same method in reverse.

The rubber seals in the toilet (the lip seal, the mechanism seal, the automatic pressure release vent seal and the cap seal) should be regularly cleaned with water and treated with Thetford High Grade Seal Lubricant. This will ensure that the seals remain flexible and in good condition. If the toilet is not to be used for any length of time, it is important to treat the seals with Thetford High Grade Seal Lubricant after cleaning.

Note: Never use Vaseline or any vegetable oil except olive oil. These may cause leakage or malfunction. The lip seal is a part of the toilet that is subject to wear. Depending upon the extent and manner of use, the seals will become less effective and will need replacing periodically.

Cleaning and maintenance for optional Features

- Automatic Ventilation: The filter of the Automatic Ventilation needs to be renewed periodically. After approximately 4 full weeks of use, the filter loses its absorption power.
- Pump-Out Waste System: To ensure optimal functionality of the Pump-Out Waste System, periodical maintenance of the tube and pump is recommended. After emptying the Waste Holding Tank completely, fill it with clean water and empty it again. This will clean the pump and the hose. Do this once every 3 weeks when on holiday. This should ensure proper operation of the system.

Winter operation

You can use your Thetford Cassette Toilet as normal in cold weather as long as the toilet is situated in a heated location. If there is a risk of freezing we advise that the toilet is drained by following the instructions under 'Storage'. For environmental reasons the use of antifreeze, such as that used in car radiators, is not recommended.

Storage

It is important that you follow the instructions below if you do not expect to use your Thetford toilet for a long (winter) period.

- Activate the Control Panel by pressing the flush button. Open the blade and press the flush button until water stops flowing into the bowl. Close the blade. Open the access door on the outside of your caravan or camper and empty the Waste Holding Tank at an authorised waste dump. Follow the instructions for cleaning and maintenance. To allow the Waste Holding Tank to dry, do not place the cap back on the emptying spout of the tank.
- If the toilet has its own flush-water tank, place a sufficiently large bowl under the drain tube to catch the remaining water from the flush-water tank and remove the drain plug. When no more water exits, put the drain plug on the drain tube, put it back in its original position and close the access door. If the toilet is connected to the vehicle's water tank, please follow your vehicle's instructions for draining the central water system. If your toilet is optionally featured with a Waste Pump-Out System, take out the Waste Holding Tank and completely clean it (see Cleaning and Maintenance). After cleaning, fill it with water, put it back and empty it via the waste pump-out system. Repeat this twice.

Thetford warranty refer to the Thetford user handbook.

Windows

To open, turn knobs anti-clockwise and open catches. Swivel the window pane open to the desired position and close knobs clockwise to lock in the open position.

To close, reverse the operation.

All opening windows have two catch positions. The first position is for ventilation the second seals the window from ventilation and rain.

Operating instructions for blinds

To operate the Blind

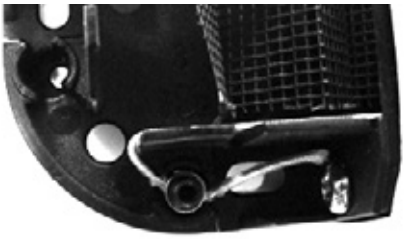
The blind is housed at the bottom of the cassette and flynet at the top. The metal bar can be pulled up or down as required- On some models there is a silver retaining clip that holds the two together. Rock the clip back to release.

Care instructions: Clean the blind only with a damp sponge. Clean on a regular basis to avoid dirt particle build up as this can damage the blind material. Use only water or with mild suds or a vacuum cleaner.

In order to avoid material fatigue, do not leave the flynet closed for a long time.

To adjust the tension of the Horrex blind:

Trim panels or window surround will need to be removed before the blind can be re-tensioned.



In each corner piece there is an cord tensioner (see photo). By unscrewing the hexagon screw, the cord can move through the cord tensioner. When you pull the cord, the tension will get higher, when you let it move back the tension will get less.

Roof lights

When opening the roof lights, care must be taken to release the locking mechanism as the unit is raised.

Roof lights must be fully closed when driving. Roof lights provide essential fixed levels of ventilation.

Mini Heki Rooflight

To open depress button and push bar upwards. The rooflight has two open ventilation positions and a fully open position.

The blind and flynet operate independently of each other and are engaged by connecting to each other and sliding.

Heki care instructions: Clean the blind only with a damp sponge. Clean on a regular basis to avoid dust/ dirt particle build up as this can damage the blind material. Use only water or with mild suds or a vacuum cleaner.

In order to avoid material fatigue, do not leave the flynet closed for a long time.

Midi Heki Rooflight

With operating bar: To open, depress button and push bar to required position. The rooflight has two open ventilation positions and a fully open position.

To close, reverse the operation and then check if locked into position.

With crank: To open, rotate the crank until a resistance is noticeable during the operation.

To close, reverse the operation and then check if locked into position.

Blind and Flyscreen

The blind and flyscreen operate Independently of each other and are engaged by connecting to each other and sliding.

Safety precautions:

1. Repairs should be carried out only by trained personnel.
2. Inform an approved dealer in case of defects and malfunctions.
3. Before starting off, check the rooflight for damage in the acrylic dome (tension cracks) and the winding mechanism which could arise owing to, for example, branches and other natural causes.
4. Do not step in the acrylic dome.
5. Close the roof light before starting off (check whether it is locked).
6. Do not leave the vehicle with the rooflight open (danger of burglary or from rain).
7. Do not open in strong wind or rain.
8. Before opening, remove snow, ice, dirt, etc. from the acrylic dome.
9. Malfunctions are to be repaired by an approved dealer at once.
10. Do not use caustic detergents (danger of tension cracks in the acrylic dome).
11. Do not operate whilst the vehicle is moving.

Care instructions:

- Please clean the acrylic panes with the Seitz Acrylic Cleaner.
- Stains and light scratches on the acrylic pane can be removed by using the Seitz Acrylic Polish and the Seitz special polishing cloth.
- Use talcum powder (4 times yearly) to care for the rubber seals
- Clean the blinds only with water and mild soap suds
- The guarantee becomes null and void if these instructions are not followed.

Seat swivel (Driver/Passenger)

For those cabs with swivel seats
To turn the swivel, slide the BLACK lever rearwards and adjust to the required angle. Before driving off ensure the locking mechanism is fully secure.

Omnistep slide-out step
(option pack)

Operation

Press the “step out” key to bring the step out until it reaches the end of its run or comes up against an obstacle. The step does not come out if the engine is running. Press the “step in” key to take the step back until it reaches the end of its run or comes up against an obstacle. The step goes back in automatically when the engine is running. In this situation the buzzer sounds until the step is fully closed.

Maintenance

Dirt and frost can prevent the step from operating properly. In this case the rails and moving parts should be cleaned or defrosted.

In case of electric break down

If the step does not retract by the motor

- Remove the front plate of the step. (Fig. 1)
- Remove the connection between the footboard and the arms (with screwdriver and wrench S10).
- Slide out the footboard.
- Reinstall the front plate.

Current drawn

- Working current: 5 A
- Blocking current, when fully extended or retracted: 14 A

Fig. 1 Front plate

Omnistor Awning

General remarks:

- An awning is a sun and not a rain protection. The awning should be in closed position in case of storm, snowfall or heavy rainfall.
- The awning can not be used without putting out the support arms.
- The fabric may not be rolled up wet for a longer period.
- Clean the awning only by using water or OMNI CLEANER.

Users instructions:

1. Adjust the crank to the required height.

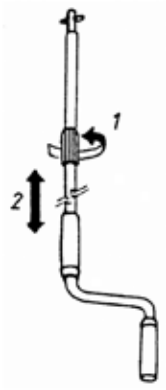


Fig. 1

2. Introduce the crank arm into the bayonet joint.

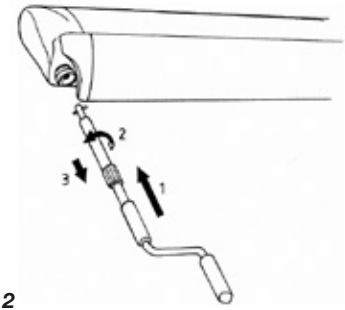


Fig. 2

3. Unroll the awning while keeping the crank down. The awning will only open after a couple of turnings.

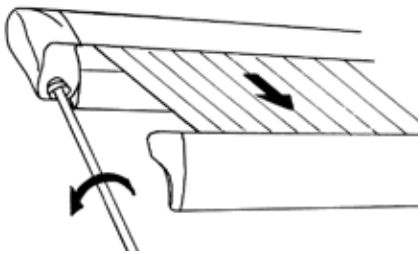


Fig. 3

4. Unroll till 1 m max. Then put out the support arms before further unrolling

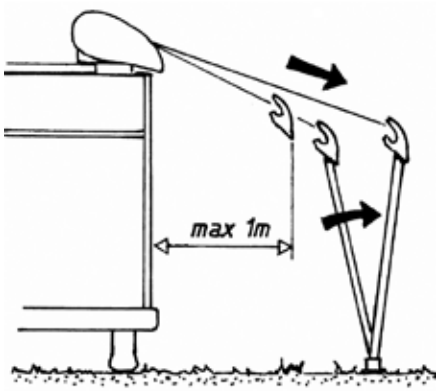


Fig. 4

5. Slide the support arms out of the front profile.

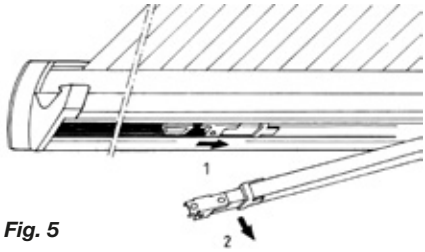


Fig. 5

6. Adjust them to the required height. The fabric can be tightened by rolling up a little.

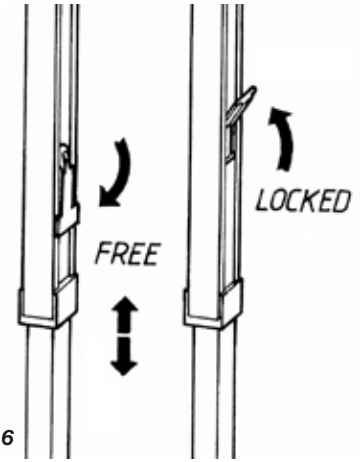


Fig. 6

Note: Never put out the support arms that high, that the fabric jams between the arms and the box.

7. Fasten the support arms.

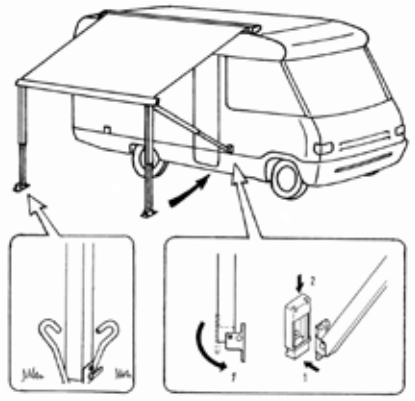


Fig. 7

8. Install the tension rafter (for 3.75 m awning).

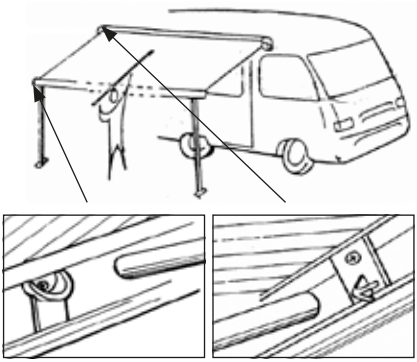


Fig. 8

9. When raining, lower one side of the awning in such a way that the water can run down the fabric. Prevent the fabric from flying up by a sudden wind blow by using the hold down kit (optional).

Fig. 9

10. The front profile locks automatically when rolling up

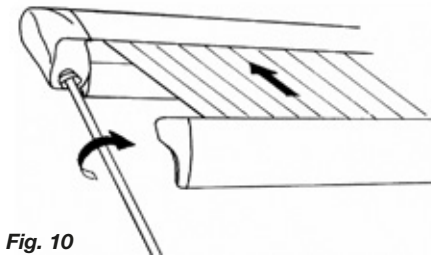


Fig. 10

Status 570 Digital antenna system (if fitted)

Travelling

Do not travel:

- with the antenna raised
- with the antenna set for vertical signals

To reduce the possibility of damage when travelling, point the antenna backwards.

The RED SPOT on the bottom of the mast indicates the front of the Antenna.

Operating the system

Firstly determine the approximate location of the nearest transmitter and whether the signals are horizontally or vertically polarised. For assistance ask your site operator or check other antennas in the vicinity.

1. Loosen the Mast Locking Collar and raise the antenna. Rotate the mast to direct the TV transmitter.

The RED SPOT on the bottom of the mast indicates the front of the antenna.

2. Should you need to receive vertically polarised signals rotate the winder, anti-clockwise to cant the antenna through 90°. The red / green indicator in the lower part of the aerial mast indicates whether the aerial is horizontal or vertical.

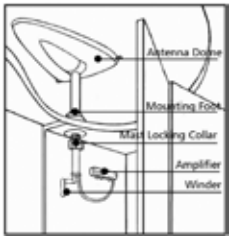
DO NOT use undue force on the winder.

3. Switch ON the amplifier and the LED will illuminate.
4. Check the gain control is set to maximum. For maximum rotate clockwise.
5. Tune your television into the strongest signal. You may need to adjust the direction of the mast to achieve the best picture quality.
6. Secure by tightening the mast locking collar.

Removing the antenna

1. Unplug the antenna lead from the amplifier.
2. Loosen the mast locking collar and lift off whilst feeding out the mast, coaxial cable and plug.

3. Push the blanking cap supplied into place.



⚠ **WARNING:** The blanking cap is temporary seal and is not recommended for long term use.

Technical:

Antenna dome
Height raised: 330mm
Height lowered: 150mm
No Antenna dome: 50mm

Mast: 365 mm
Amplifier: 115 x 45 x 29mm

Frequency Range: UHF 470-862 MHz
Antenna Forward Gain: 7db
Amplifier Gain - Max: 18db
Gain Adjustment - Min: 15db
Noise Figure: 2.8db
Output Impedence: 75ohms
Output: 98 dbuV
Power Supply: 12-24 VDC
Power Consumption: 55ma

Fault Finding

The following are some of the key areas we suggest you check which generally solve the most common problems encountered with the operation of the Status antenna.

Coaxial Connections

It is critical that all connections in the system are fitted correctly. Using the diagrams and procedures described over the page, please check all connectors ensuring they are wired correctly. Secondly please ensure only quality plugs have been used.

Coaxial Cable

Sharp bends, kinks and hot surfaces can easily damage coaxial cable and should be avoided. Coaxial cable, if placed in close proximity to electrical cables, transformers or other pieces of electrical equipment, may pick up electrical interference causing picture quality to deteriorate, especially in poor reception areas. Excess cable should be removed and NOT coiled as this may cause picture distortion. An inspection of the routing of the cable is highly recommended to ensure all is correct.

Gain Control

In normal use the button should be rotated clockwise for maximum. In strong signal areas the amplification may need to be reduced. To reduce amplification rotate the button anti-clockwise until picture quality improves. The button rotates through 270 degrees from MAX to MIN.

LED light

Should the LED on the amplifier not light, firstly check there is power to the unit. Secondly check the polarity is correct. Otherwise contact your dealer for further assistance.

Short Hook up - Test 1

This test isolates the wiring from the amplifier through to your TV/Radio points.

Unplug the coaxial plugs from the 'TV' sockets of the amplifier and using your TV fly lead with convertor 1 supplied. Connect your TV to the amplifier.

Please ensure the antenna dome is plugged directly into the 'ANT-IN' socket of the amplifier and switch on. Tune in your TV for the strongest signal.

If the picture quality improves the fault lies with the wiring of the system between the amplifier and the TV outlet socket.

Short Hook up - Test 2

This text isolates the amplifier by connecting your TV direct to the antenna.

Unplug the antenna from the amplifier and connect convertor 2 supplied to the plug on the cable end. Using your TV Fly lead connect the antenna directly to your TV. Tune in your for the strongest signal.

If the picture quality improves, the fault lies the Vision Plus Amplifier.

Antenna Dome Coaxial Cable

Check the routing of the coaxial cable from the antenna dome to the amplifier. Check to ensure there are no kinks or trapped cable or if there are loops of surplus cable which could be affecting performance.

Signal	Symptom	Action
Very poor	No picture or sound, TV freezing, severe pixilation, break up and picture drop out	Check the amplifier gain is set to maximum (rotate clockwise). Check antenna alignment which must be directed at the transmitter. Ensure the antennas polarity is correct, whether horizontal or vertical. Bypass the amplifier by following 'Short Hook-Up Test 1'
Poor	Moderate pixilation and sound distortion	
Medium	Minor pixilation, will not receive all channels	
Good	Stable picture, good sound quality, will receive all channels	N/A
Strong	Moderate pixilation, picture break up and drop out	Reduce the amplifier gain (rotate anti-clockwise). Rotate antenna AWAY from the transmitter.
Very Strong	No picture or sound, TV freezing, severe pixilation, break up and picture drop out	Rotate antenna AWAY from the transmitter. Switch 'OFF' the amplifier and turn the gain control to maximum (rotate clockwise).

After performing any of the 'Actions' above you must re-tune your TV.

Care of laminate tops, tables, furniture and doors

DO NOT use abrasives, chemically treated cloths or aggressive detergents as these may cause damage.

DO NOT place hot objects on laminated surfaces i.e. tops, tables. Any temperatures 70°C and over will cause permanent damage.

Clean worktop surfaces, furniture and door fascias with a soft, slightly damp cloth, dry off with a soft cloth.

Furniture doors

During normal travelling, vehicle vibration and flexing may cause some of the furniture doors to become out of alignment. For your convenience many hinges are adjustable.

Table stowage / store in transit

Tables stored in the table storage compartment (either with in the over cab locker or in wardrobes) must be securely clipped into place whilst in transit.

To avoid damage care must be taken when removing tables from their stored position.

Shower

When using the shower, always ensure that the shower door is fully closed thus avoiding water spray on unprotected areas.

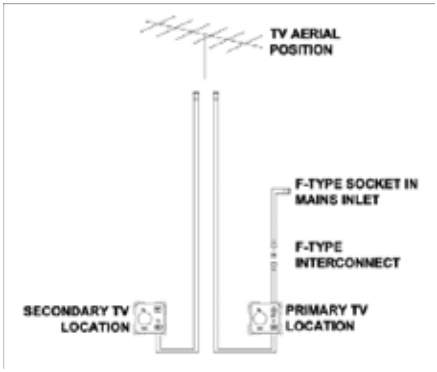
Trigger shower heads

- Squeeze trigger to release water. Release trigger to top. Twist trigger up to gain permanent water flow, lower to stop.
- Care should be taken as water may become hot temporarily when switched on until it mixes and regulates.
- Small children should be supervised at all times when using the shower.
- We recommend unfastening the trigger shower head before travelling and storing safely to prevent it becoming detached whilst travelling.

TV inlet

Depending on specification, the motorhome may be fitted with an external co-ax connection in place of, or in addition to, connections for a roof mounted TV aerial. The external co-ax connection point will be within the mains inlet enclosure.

Co-ax connection point within the mains inlet enclosure



A short co-ax lead featuring a screw on co-ax connection will be present behind the Blue mains inlet connector. A co-ax cable will be fitted and connected within the motorhome, from the back of this connection, to the primary TV position within the motorhome. At the same time, further co-ax cable or cables will be fitted which route from a likely TV aerial position (i.e. within the wardrobe) to each of the TV positions within the motorhomes.

The primary TV position will feature a socket marked 12v, TV, and SAT. The co-ax from the external connection point will route to the socket output marked SAT, whilst the co-ax from the wardrobe or similar will route to the socket output marked TV. At any secondary TV positions, if present, the co-ax from the wardrobe will route to the socket output marked TV.

An external TV aerial or site TV feed can be connected to the external connection point; signals from that connection will then be available at the primary TV position within the motorhome. As the connections are of the screw-on type, it is also possible to use this co-ax to route from an externally mounted satellite dish, to a satellite receiver.

Colour reference

The colour code for touch ups or resprays for all white Fiat cab components is Fiat White Bianco 549 silver cabs are Fiat Aluminium 611.

Please be aware that colours can fade over time, and therefore, if the vehicle is more than a few years old, it is suggested a colour match be obtained.

Sliding Door Flyscreen

Operation

The sliding door flyscreen (if fitted) runs on tracks mounted to the floor and the Control panel and moves from left to right. It is tensioned with cords that are fixed at floor level near to the passenger seat.

When the vehicle sliding door is open pull the blind from the central part of the vertical handle avoiding twisting to close the blind.

Ensure flynet is open before closing the vehicle sliding door.

Care

Clean only with a damp sponge ensuring dirt build that would affect the running tracks is removed. Use only clean water with mild suds or a vacuum cleaner. In order to avoid material fatigue, do not leave the flyscreen closed for a long period. Take care with high winds when the flynet is closed.

Winterisation

The Swift Group recommends the following winterisation points for customers.

Servicing

Arrange (in advance) the yearly service and habitation check, if the motorhome's next service is due while the vehicle is stored.

Plumbing

Water expands as it is frozen, and so trapped water, when it expands, can damage the tap / valve /pump or pipe it is trapped within. For this reason, (in addition to reasons of hygiene), the water system should be fully drained when not in use, particularly in colder weather.

- Depending on model, open the fresh water tank drain valve to drain the tank, and leave open or remove the tank drain bung inside the tank, and leave open
- Open the drain valve (yellow handle) next to water heater, and leave open.
- Fully open all the taps and shower mixer, move mixer position to the middle, and leave all taps in the open position.
- Unscrew the shower head and shower hose, shake out remaining water and allow water to drain. It is advised to leave the shower head and hose disconnected.
- Run pump for a short time, until all water is expelled.
- After a short while the majority of water will have left the plumbing system. At this point however it is still important to ensure that the pump itself is 'dry'. During this part of the winterisation, a suitable absorbent cloth or container should be used to catch a small amount of spilled water that will result.

Disconnect the pipe work from the pump by pulling the blue quick release tabs, at either side of the pump, at right angles to the pipe work, then pulling the pipe and connectors from the pump. See Fig.1 Run the pump for a short while to expel any remaining water within the pump.

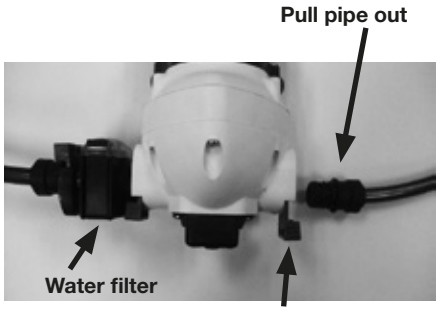


Fig 1

- This is a good time to de-assemble and clean the pump filter. Squeeze either side of the filter housing to release the retaining tabs and pull the filter cassette out of the housing. See Fig 2

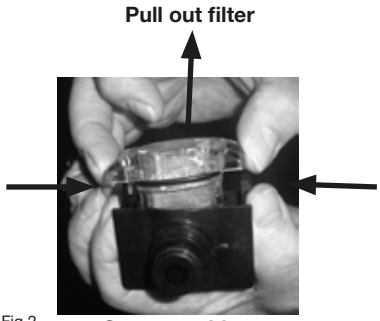


Fig 2

- Open the waste tank drain valve, collecting the waste water in a suitable container, and leave open. Dispose of the waste water in a designated waste water area, clean waste pipes and tanks using a sterilising fluid. See "Waste Tank" section under services Page 50.

Electrical

If vehicle is being stored while connected to 230v Mains Hook-up:

- Ensure that the leisure battery is connected and the 20A local fuse(s) is connected.
- The isolator switch on PSU should be in the 'ON' position, however. the control panel should be switched 'OFF'.
- Vehicles can be left in this condition for extended periods, with the charger operating to maintain the battery. However, periodic maintenance and inspection is recommended, this should include the battery condition.

If vehicle is being stored not connected to 230v Mains Hook-up:

- Charge the leisure battery for 24 hours prior to placing motorhome in storage.
- Ensure the isolation button on PSU is in the 'OFF' position.
- The battery should not be adversely affected by winter temperatures but the level of charge should be maintained to maximise the life span of the battery. This can be achieved using an automotive type battery charger as and when required.
- Disconnect the vehicle battery by selecting isolating mode on the ignition if fitted (see vehicle inactivity section in the Fiat handbook)
- Alternatively, disconnect the vehicle battery negative terminal. Check the charge of the battery every three months.

⚠ **WARNING:** Your motorhome is fitted with Swift Command Tracker (by Sargent) which monitors battery voltage. If you plan to disconnect or remove your leisure battery for maintenance or external charging, then please contact the monitoring station before you remove or disconnect the beattery.
If a leisure bttery is not fitted, please also contact the Tracker monitoring station before removing the mains hook up. The Swift Command Tracker monitoring station can be contacted on 0345 6027302.

Gas system

- Ensure the gas supply is isolated at the gas bottle, and ensure that the gas manifold taps are off.
- Check the age and condition of the high pressure gas hose and regulator, and replace if required.

Appliances

Check the battery expiry date on the smoke alarm and CO detector and replace or remove as required.

- Ensure the fridge is turned off.
- Clean the inside of the fridge.
- Prop the fridge door open, and if possible, the internal freezer compartment door for ventilation.
- Ensure all hob / oven / microwave surfaces are clean.
- If the motorhome is going to be left connected to 230v supply while not in use, ensure the microwave is unplugged.
- Clean the toilet and empty the cassette and lubricate the seals with an acid free lubricant such as Thetford High Grade Seal Lubricant. See Thetford toilet Users manual

Exterior (Body / Chassis)

- Ensure that all windows, skylights and access doors are closed and secured.
- Ensure all fixed ventilation points (high and low) are clear from debris and obstructions.
- Ensure the vehicle is not parked where falling debris (i.e. leaves, tree sap) could cause damage.
- Avoid leaving the vehicle parked in soft ground, long grass or a potential area where standing water may form.
- Lubricate relevant points on the chassis.

Wheels and Tyres

- Do not store in one position with partially deflated tyres. The tyre walls will suffer and do present a real danger of blow outs, especially when travelling at faster speeds than are allowed in the UK.
  The wheels should be turned every couple of weeks. If you are removing the wheels, follow the jacking procedure for changing a wheel. Check your tyres regularly for signs of age and deterioration, particularly wear, cracking and blistering. If in doubt consult a reputable tyre fitter.
- A purpose made cover maybe used, but please ensure the cover is a good fit, breathable and securely fitted.

Note: A poorly fitted cover can rub and damage the bodywork. Non-breathable covers will encourage mould to grow.

Interior (Furniture / furnishings)

- Open all lockers and internal doors, to ensure good circulation.
- Remove cushions and store them in a dry location or ensure all cushions are placed in a well ventilated area.
- Close all blinds and curtains. Customers are reminded to check the tension on blinds after storage if left closed for long periods.
- Thoroughly ventilate the motorhome by opening doors or windows periodically.
- Placing water absorbent crystals in the van during the winter months, will help reduce moisture levels and mould growth.
- We do not recommend leaving portable heaters in the van unattended.

Recomissioning the Water System

Re-connect the water pump by positioning the pipe connectors into the pump housing and pushing the blue tabs into position. It is advisable, after a period on non-use, to flush the water system with a sterilising fluid such as Milton 2. Fill the fresh water tank with water and sterilising fluid (Refer to sterilising fluid instructions for the amount to use). Turn the pump on and open all the taps, ensuring that the water drains away safely to the waste tank.

When the waste tank is full empty the fluid into a designated waste water area. Re-fill the tank with fresh water and flush through the system as described above; repeat this until all traces of the sterilising fluid have been flushed out. (See "priming the Water System" and "Waste Tank" sections on page 50/51)

Prepare the toilet system by adding water and Thetford fluid to the toilet waste tank. See "Preparing the Thetford Cassette Toilet for Use" on pages 129.

Appliances

Before starting motor caravanning after storage, check all gas appliances and electrical points.

Note: Preferably not less than once a year, the electrical installation should be inspected and tested by a qualified electrician.

After storage it is advisable to air the Motorhome and clean throughout, especially cooking appliances and the refrigerator.

Replace the bedding if they were removed for storage.

⚠ **WARNING:** Always follow the manufacturers recommended procedures after use of fitted equipment in the Motorhome, before storing for any length of time.

General care

For care of the vehicle battery please refer to the Fiat handbook in section 'Trouble Shooting'.

All moving parts should be checked for free operation.

Clean all cooking appliances and refrigerator. Lubrication should be carried out at the points illustrated in the general notes on chassis maintenance.

Charge up the on-board battery every 2 months.

Leave the refrigerator door open. Leave furniture doors and lockers open to allow air to circulate fully.

Modifications - DIY work

Owners need to be aware that carrying out DIY modifications to your motorhome may in certain instances, invalidate the warranty cover and could also affect the safety and structure of the vehicle.

⚠ **WARNING:** WD40 is not recommended for external or internal use

WD40 attacks paintwork and sealants.
If a lubricant is required for Interior hinges, Sliding door tracks, Bottle box hinges, Exterior door hinges, Plastic tracking etc. We recommend “Ambersil 40+” this is readily available from most DIY/Automotive retailers including Halford’s .

Before carrying out any DIY work within the warranty period, please check with your nearest dealer or contact Supercare customer services on 01482 875740 for advice.

Paintwork

Proper care involves washing the motorhome regularly with a mild detergent rinsing with cold water and leathering off. A good quality, similar coloured car wax may also be applied which will make washing even easier.

Please note: Do not use abrasive-eleaning agents, on the exterior of your motorhome. Stubborn stains may be removed using a soft cloth and mild detergent.

⚠ **WARNING:** Overzealous use of detergents may loosen the decals and / or badges.

Acrylic Windows

The windows in your motorhome are fully double glazed and, with care, will remain sparkling and scratch free.

Acrylic (Plastic) Window Condensation

Unlike domestic double glazed windows, your caravan / Motorhomes window are not vacuum sealed instead the double panes of acrylic plastic with are fitted with a breathable plug on the inner pane.

It is possible, in weather where extremes in temperatures occur between night and day, that customer will notice condensation between the panes. The same phenomenon may also occur when washing your vehicle on a hot day.

The condensation should clear itself when the ambient conditions return to normal and the air between the panes dries. However, if this is taking a longer time than required, the breathable plug (normally located in the top corner of the window) can be removed, with a pin or sharp object, and replaced when the panes are dry. Care should be taken when doing this.

Acrylic (Plastic) Window Cleaning

The material used to produce most caravan and Motorhome windows is acrylic plastic. While the acrylic used is very durable, it is able to be scratched with relative ease and therefore, care must be taken when clearing your vehicle not to use aggressive clearing products. Equally, care should be taken when using a drying cloth that it is clean and free from grit.

Keeping Your Acrylic Windows Sparkling
For small scratches, it is possible to use a liquid metal polish or a proprietary acrylic polish of a suitable grade dependant on the severity of the scratches.

Cleaning Windows

Wash down as you would your car. Do not use a sponge on dirty windows. When all the dirt has been removed, dry with a leather or similar type of cloth. The catches and stays do not require lubricating.

Removing Tar

Use a proprietary tar remover on your double glazed windows; (available from most leading car accessory or do-it-yourself shops). Do not use petrol or other chemicals.

Note: The use of a pressure washer on the exterior of your motorhome is not recommended as this may damage the transfers.

Condensation

What is condensation

Condensation is the process of change of water from its gaseous form (water vapour) into liquid water when it comes into contact with a surface that is cold. Condensation generally occurs when warm air cools quickly and looses its capacity to hold water vapour, and as a result water vapour condenses to form droplets.

Why condensation occurs

Condensation occurs when warm moist air meets a cold surface. The level of condensation will depend upon humidity levels, how moist the air is and how cold the surfaces are they come into contact with.

If the temperature falls below the dew point temperature, it is quite normal for condensation to occur on any material within the motorhome that is cold, for example the external walls, plastic windows etc.

When condensation occurs

Condensation occurs usually in winter months, because ambient temperatures are colder (leading to cold surfaces) and windows and roof vents are opened less so the moist air cannot escape.

Where condensation occurs

Condensation will occur where warm moist air is put into the atmosphere in areas such as in bathrooms (during showering) and in kitchen areas (during cooking).

In the enclosed space of a motorhome, the moist air from the kitchen or bathroom areas will inevitably transfer to the rest of the vehicle, which in turn condenses on cold surfaces leading to visible water droplets. This issue is compounded by warm moist air being generated from normal breathing.

Condensation will also form in cold areas where air movement and ventilation is restricted (e.g. cupuboards, wardrobes, under beds, etc.)

What is important

It is important to provide ventilation and air flow, so that warm moist air can escape, or be externally cooled, and to use the heating reasonably by not making the motorhome too warm such that people perspire, as this will only serve to generate more moist air and therefore more condensation.

However, in particularly cold periods, where the external ambient temperatures are low, condensation may still form on external walls as the insulation levels may well not be thermally able to cope with the difference between the internal and external temperatures.

How can you prevent condensation

Provide ventilation so that moist air can escape.

a. Good ventilation of the vehicle when cooking or when drying clothes, footwear or pets is essential. Observe when windows begin to show signs of misting and increase ventilation by opening a window slightly by 1cm or opening a roof vent, as these will help, but keep the habitation door closed as much as possible to retain heat.

b. If drying damp clothes or towels, open a window to ventilate the area and allow the moist air to escape.

c. Try to make sure that the caravan is partially heated. It can take a long time for a cold caravan to warm up, so it is better to have a small amount of heat for a long period than a lot of heat for a short time.

d. After showering, keep the bathroom window or skylights open, and shut the bathroom door long enough to dry off the room.

e. Fixed ventilation is provided in the vehicle, specifically through high level vents within the skylights and low level vents through the floor, it is important not to block these.

f. Electrical heating is dryer than gas heating, and introduces less moisture into the atmosphere. Do not use additional portable paraffin or flue-less gas heaters at all.

g. If left unoccupied and unheated for long periods of time the temperatures can soak down thermally into the entire product and

become very cold. Whenever possible, put the heating on at a low level before use by pre heating in cold weather.

h. Even with reasonable ventilation it is likely if the temperature is less than 5°C and the humidity is high that condensation will occur. Ideally the temperature should be kept about 20°C when occupied.

Mould Growth

Any sign of mould growth is an indication of the presence of moisture and if caused by condensation gives warning that heating or ventilation may require improving.

New vehicles

New products take a long time before they are fully 'dried out' because of the moisture in the materials used during manufacture. While this is happening extra heat and ventilation will be required.

Changing Exterior Bulbs

ALWAYS REPLACE LIKE FOR LIKE

For individual replacement bulb specification, refer to your base vehicle Handbook.

Generally road lighting bulbs can be easily replaced by unscrewing and removing the lens from the exterior of the caravan or motorhome.

Interior

Follow these guidelines to ensure your investment is receiving the very best attention.

Side Walls, Roof Lining

A simple wipe over with a damp cloth and a very mild detergent is all that is needed.

Soft Furnishings

Should be vacuumed occasionally to remove grit and sand and help to keep its smart appearance and ensure long life. The upholstery can be cleaned with a mild, reputable upholstery cleaner. It is recommended that the curtains and pelmets are specialist cleaned only. The foam used in cushions are manufactured to meet fire regulations. It requires time to return to its normal position after prolonged use.

Clean and dust the upholstery and if possible remove before placing the Motorhome into winter storage. Alternatively, stand the cushions on their edges to allow circulation of air. This will reduce the possibility of dampness from condensation. Keep curtains or blinds closed, to minimise fading of furniture.

If the blinds and/or flyscreens remain down for a prolonged period of time, re-tensioning of the springs will be necessary before re-use.

Leather furniture

Leather furniture, if fitted in your vehicle, requires little maintenance. Regular care of leather does ensure its lasting quality and some general rules for regular cleaning and maintenance are:

- Clean the leather with a soft damp cloth taking care not to soak the leather
- For a more thorough clean, use the Bridge of Weir Leather cleaning and protection kit available directly from the distribution centre
- Do not use saddle soap, wax polishes or spray polishes
- Do not use any product or any method of cleaning not recommended by the manufacturer
- Avoid letting buckles, studs and zips come into any direct contact with the furniture
- Avoid drying out the leather by taking extra care where there is heating or blown air outlets

Note: The above cleaning instructions do not apply to nubuck suede or any other uncoated leather. For further advice on care and maintenance please contact the tannery or its representative.

Work Surfaces

You should not stand very hot items on any of the work surfaces.

Cupboard Catches

It is advisable to lightly oil all cupboard catches, sliding bolts and hinges from time to time.

Bathroom, Shower Room and Kitchen Equipment

All the Thermoplastic parts in these areas have easy clean surfaces. To ensure long life and prevent damage you must not use any cleaning materials at all and ensure water temperatures do not exceed 70°C, (putting cold water in first is suggested). After every use, it is essential that you rinse with clean water only and wipe with a soft damp cloth.

Failure to follow these simple instructions may result in premature failure or cracking which will not be covered by any guarantees (including extended warranties).

Furniture

A simple wipe over with a damp cloth should be all that is required. Polishing with a proprietary brand of wax polish enhances and maintains furniture in showroom condition.

It must be remembered that because the frames of some doors are made of ash, which is a natural product, they can be affected by temperature and humidity and may bow under certain conditions. As conditions change they should revert to their original positions.

Kitchen Drainer and Cutting Board

You should not stand hot items on to these items. To wash use only warm soapy water, do not use chemicals and bleach.

Changing Interior Bulbs

ALWAYS REPLACE LIKE FOR LIKE

For individual replacement bulb specification, refer to your Specification Handbook. The majority of lamps are LED with no user serviceable parts.

Bulb Replacement and Type

Full details of the bulbs used with your Swift Group product can be found in the Technical section of this Handbook. Details of how to change the various bulbs can be found within our Practical Guides, located on Swift Talk (http://www.swift-talk.co.uk/forum/topics/swift-group-practical-manuals)

Select 184 Double bed make up instructions (with safety seat option)

Step 1

Use the release catch on the seat side and pull the seat base out, complete with cushion. The base cushion will drop down and rest on the pull out.

Step 2

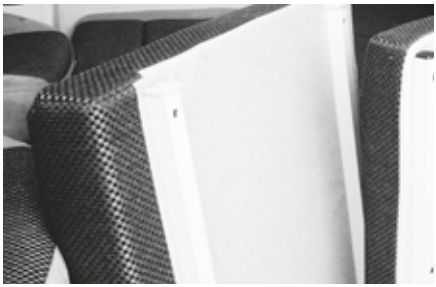
Lift the kitchen work top and remove the infill cushion for the seat base. Note: This cushion does not have rails on the underside. Place on the seat base.

Step 3

Remove the other 2 cushion make up pieces from the kitchen storage and slide out the support leg from the base of the storage area.

Step 4

Select the cushion make up piece with the tabs on the metal rails. Position the cushion on the slide out leg ensuring that metal rail sits between the nylon spacers on the slide out leg. The opposite side will sit on the Forward facing seat pullout.



Step 5

The final make up piece rests on the side of the forward seat and a metal bracket in the kitchen storage compartment.

Caring for the environment

After many years of service you may decide that your motorhome has become beyond economic repair and should be disposed of. Please ensure that you comply with the end of life vehicle legislation and take it to an authorised treatment facility where it will be properly dealt with to minimise any negative environmental impact. The transaction will be logged at the DVLA, identifying that you are no longer the owner of the vehicle.

SPECIFICATIONS

Note: All weights estimated

Model	Select 122	Select 144	Select 164
Roof Profile	Panel Van	Panel Van	Panel Van
Engine Power	115 MJT	115 MJT	115 MJT
Engine Capacity	2.0L	2.0L	2.0L
Chassis	Ducato 33L	Ducato 33L	Ducato 35L
Wheel base	4.04m/13'3"	4.04m/13'3"	4.04m/13'3"
Designated Passenger Seats excluding Driver	1	1 (opt 3)	1 (opt 3)
Berths (sleeping positions)	2	2 (opt 3)	2 (opt 3)
Overall Length (no ladder)	6.00m/19'8"	6.00m/19'8"	6.36m/20'11"
Overall Width	2.05m/6'9"	2.05m/6'9"	2.05m/6'9"
Overall Width (mirrors folded)	2.26m/7'5"	2.26m/7'5"	2.26m/7'5"
Overall Width (mirrors extended)	2.51m/8'3"	2.51m/8'3"	2.51m/8'3"
Overall Height	2.72m/8'11"	2.72m/8'11"	2.72m/8'11"
Maximum Technical Permissible Laden Mass (A)	3300kg	3300kg	3500kg
Mass in Running Order (B)	2715kg	2685kg	2705kg
Maximum User Payload (A-B)	585kg	615kg	795kg
Unladen Weight	2559kg	2529kg	2549kg
Essential Habitation Equipment	0kg	0kg	0kg
Thermal Insulation Grade	Three	Three	Three
Bed Sizes			
Front Double (Travel seat option only)			
Front Nearside Single			
Front Offside Single (Travel seat option only)		1.70m x 0.90m/0.54m / 5'7" x 2'11"/1'9"	1.70m x 0.90m/0.54m / 5'7" x 2'11"/1'9"
Rear Double	1.86m x 1.88m / 6'1" x 6'2"	1.83m x 1.35m / 6'0" x 4'5"	1.85m x 1.30m / 6'1" x 4'3"
Rear Nearside Single	1.88m x 0.65m / 6'2" x 2'2"		
Rear Offside Single	1.88m x 0.65m / 6'2" x 2'2"		
Rear Bunk (Upper)			
Rear Bunk (Lower)			
Overcab Bed			

Note: 1. The **Maximum User Payload** includes:

a) C**onventional load** (this is the allowance for passengers)

b) **Essential habitation equipment** (items and fluids required for safe and proper functioning of habitation equipment)

c) **Optional equipment** (items available from the manufacturer over and above the standard specification)

d) **Personal effects** (those items not covered by the above)

2. The **Mass in Running Order** is the mass of the unladen vehicle including a 75kg allowance for the driver plus engine coolants and 90% of the fuel tank and 1 x 6kg Calor Lite LPG cylinder.

3.The **Mass in Running Order** is calculated with the fresh water tank and water heater empty. If you travel with water in the fresh water tank or water heater then the payload will reduce accordingly.

Select 184
Panel Van
115 MJT
2.0L
Ducato 35L
4.04m/13'3"
1 (opt 3)
2 (opt 4)
6.36m/20'11"
2.05m/6'9"
2.26m/7'5"
2.51m/8'3"
2.72m/8'11"
3500kg
2760kg
740kg
2604kg
0kg
Three
1.76m x 1.22m / 5'9" x 4'0"
1.70m x 0.90m/0.54m / 5'7" x 2'11" / 1'9"
1.86m x 1.20m / 6'1" x 3'11"

Options	Mass Increase
Automatic gear box	17kg
130 Engine	30kg
Drivers Pack	10kg
Vogue Pack	35kg
Living pack	43kg
Living & Luxury Pack	110kg
Rear passenger seat	80kg (See note 3)

Notes for options:

1. The payload that can be carried will reduce by the mass of the options selected.
2. The option of an increase in the MTPLM on the Select 122 and 144 will increase the payload by 200kg (3300kg to 3500kg). The MRO will remain the same. For any further additional specification see the option weights to calculate the final MRO.
   eg. On the Select 122 and 144 the payload will increase by 165kg when selecting the Vogue pack as the MTPLM increases by 200kg.
   (200kg less 35kg = 165kg)
3. Please note that the mass of the passengers is included in the payload and therefore this must be taken into consideration when when loading the vehicle.

4. PLEASE TAKE CARE TO ENSURE THAT YOU HAVE ALLOWED FOR THE MASSES OF ALL ITEMS YOU INTEND TO CARRY IN THE MOTOR CARAVAN, e.g. passengers, optional equipment, essential habitation equipment and personal effects, such as clothing, food, pets, bicycles, sailboards, sports equipment etc.
5. **WARNING** - UNDER NO CIRCUMSTANCES SHOULD THE MAXIMUM TECHNICAL PERMISSIBLE LADEN MASS OF THIS MOTOR CARAVAN BE EXCEEDED.

CAPACITIES

Water Tank Capacities

	Standard specification van	Fresh Water Tank (Living Pack option)	Waste Water Tank (Living Pack option)	Water Heater
Select 164 & 184	N/A	59 litre	41 litre	10 litre
122 & 144	N/A	93 litre	58 litre	10 litre

LPG Locker Capacity

	Capacity
All models	2 x 6kg

The above are recommended gas bottle sizes

Note: For technical data on the base vehicle please refer to the manufacturer's handbook.

Van Conversion Towing Capabilities

Model	MTPLM	Permissible Front Axle Load	Permissible Rear Axle Load	Recommended Maximum Trailer Weight	Gross Train Weight
Select 122	3300kg	1750kg	1900kg	2500kg	5800kg
Select 122	3500kg	1850kg	2000kg	2500kg	6000kg
Select 144	3300kg	1750kg	1900kg	2500kg	5800kg
Select 144	3500kg	1850kg	2000kg	2500kg	6000kg
Select 164	3500kg	1850kg	2000kg	2500kg	6000kg
Select 184	3500kg	1850kg	2000kg	2500kg	6000kg

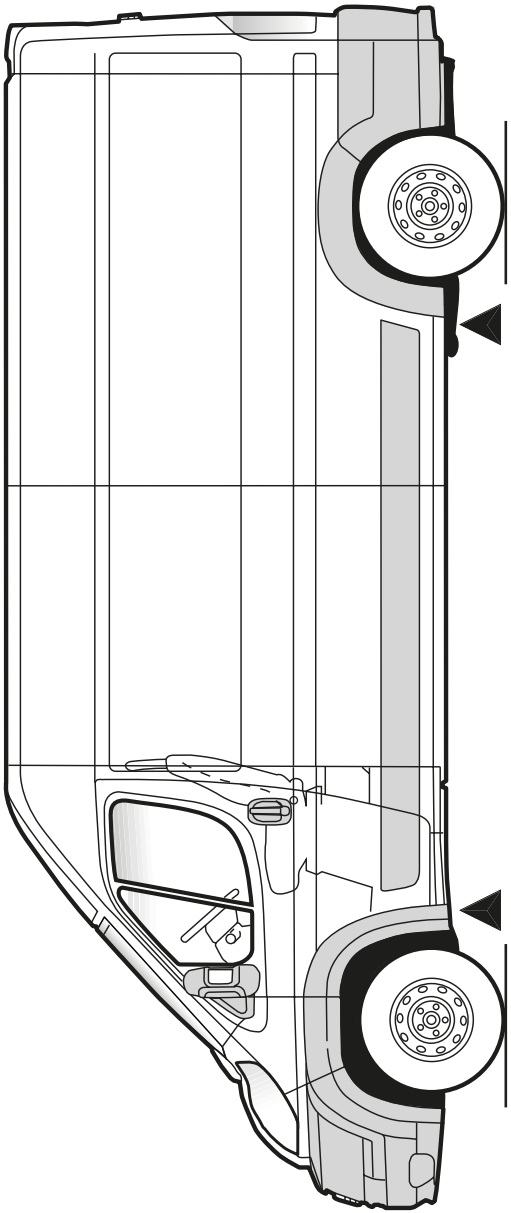
Please note that the additional weight of the tow bar and trailer nose weight increases the rear axle loading of the motor home so care should be taken that the rear axle load is not exceeded when towing.

To ensure adequate road holding, the load on the front axle, under all conditions, must not be less than 40% or more than 70% of the total weight.

Care must be taken when distributing loads. The loadings and weights above are maximums and must not be exceeded under any circumstances.

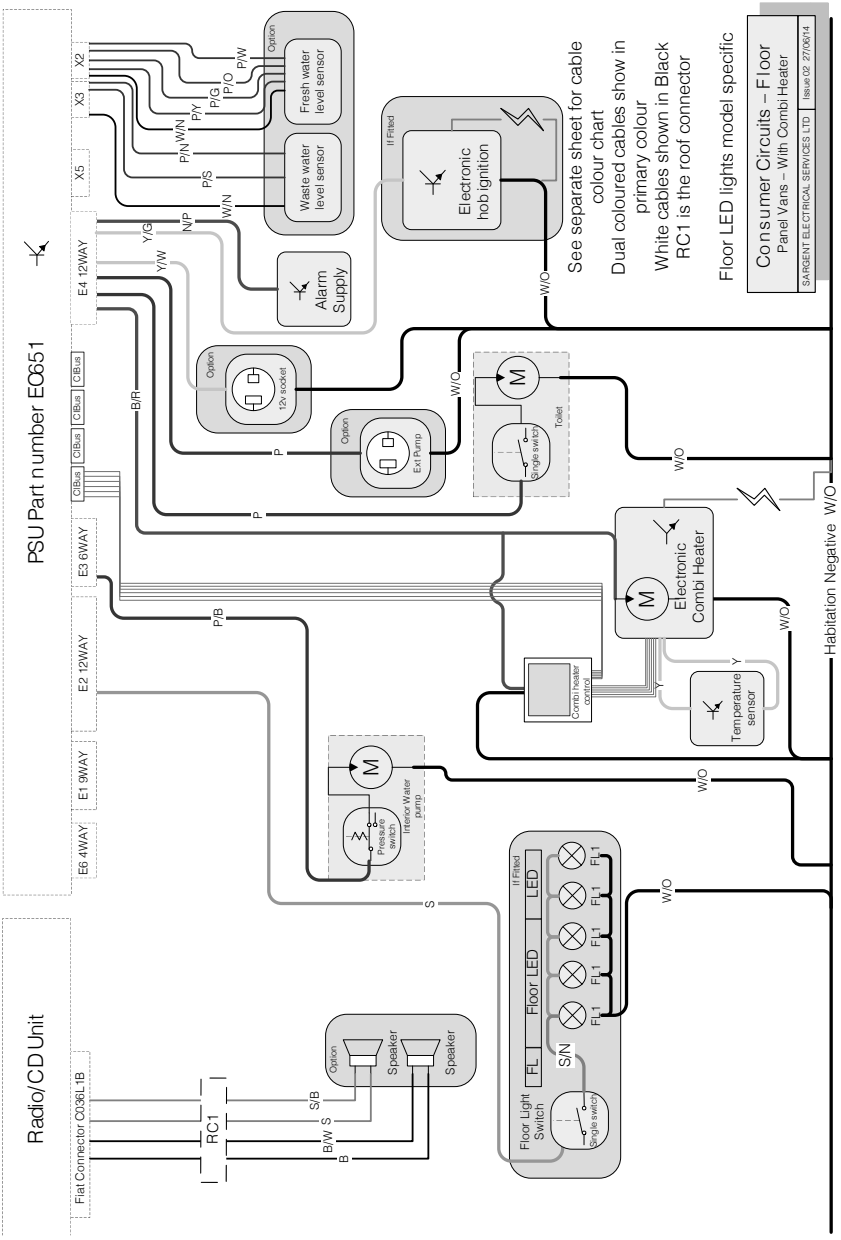
⚠ **CAUTION:** When fitting a towbar, it must meet certain minimum requirements as specified by Type Approval Regulations. The bar will have marked on it the approval standard (94/20/EC or 55R ECE) and the maximum download, or noseweight, that it can accept. It must fit the manufacturer's approved mounting points and must not obscure the towing vehicle's number plate.

Van Conversion

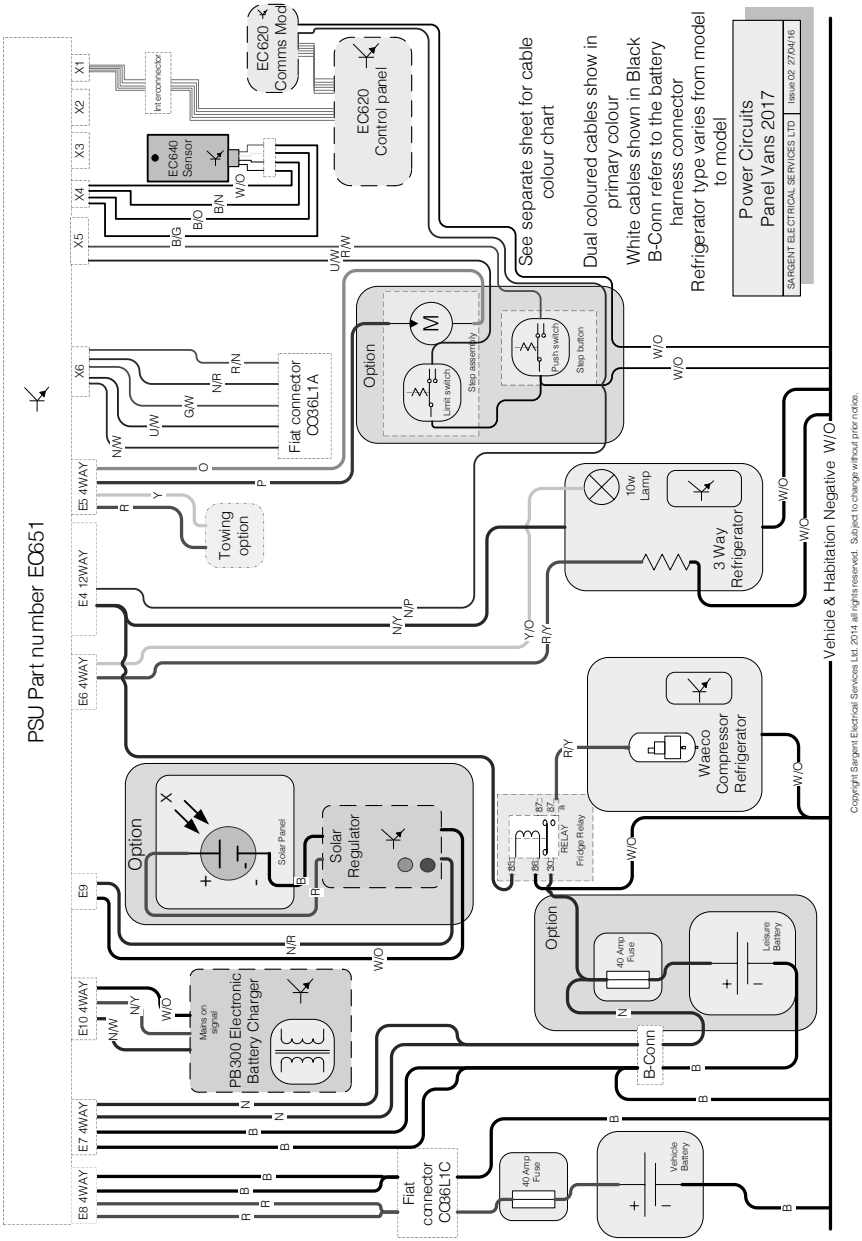


Jacking Point: ▲

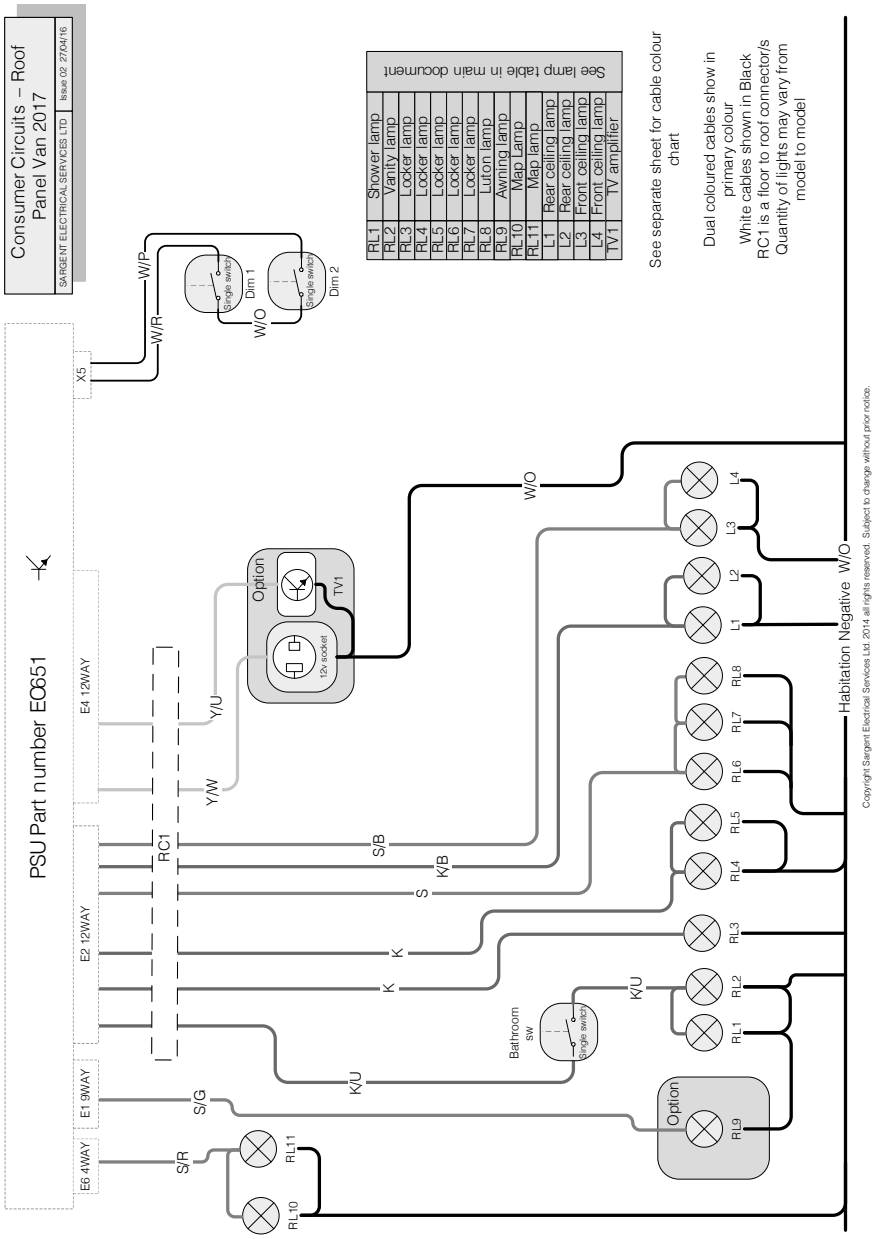
Consumer circuits floor with combi heater



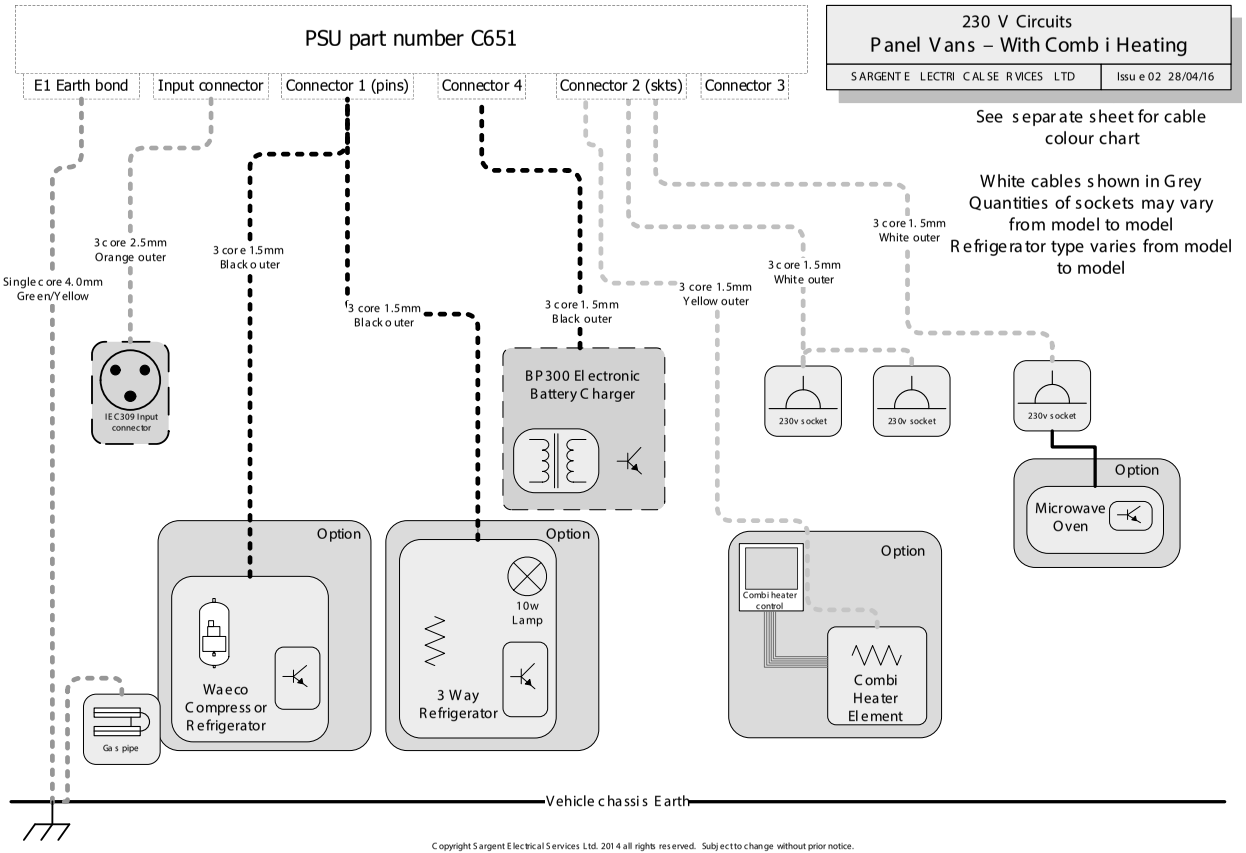
Power circuits



Consumer circuits roof



230v circuits with combi heater



Example

Y/U Yellow cable with Blue stripe

Cable Colour Chart Swift Group	
SARGENT ELECTRICAL SERVICES LTD	Issue 01 01/09/08

12v Cable Colours

B	BLACK
N	BROWN
R	RED
O	ORANGE
Y	YELLOW
G	GREEN
U	BLUE
P	PURPLE
S	SLATE GREY
W	WHITE
K	PINK

230v Cable Colours

B	BLACK
N	BROWN
W	WHITE
O	ORANGE
Y	YELLOW
G	GREEN
U	BLUE

Bulb Replacement

Interior/Other		
Application	**Type or Wattage**	**Bulb or lamp Reference**
Locker spotlamp	LED	FEM1555
Locker spotlamp with dimming control	LED	FEM1561
Downlights, Chrome surround	LED	FEM1567
Downlights, 3-stud offset lense	LED	FEM1556
China locker base lamp, switched, recessed	LED	FEM1374
Over locker / high level strip lamps	LED	FEM1214 (cut to length strip)
Illuminated panel backlighting	LED	FEM1214 (cut to length strip)
B-pillar Map reading lamps	LED	201598
Walkway low level ,lamps	LED	FEM0993
Awning Lamp	LED	L101-00-L12V

Note: Not all light features on all models within range. For road lighting please see Fiat Handbook

ROAD LIGHTING, PANEL VAN REAR LIGHT CLUSTER ACCESS

REAR ROAD LIGHT CLUSTERS

Bulb access is from the rear of the cluster. Please see the Fiat handbook for specific details of the clusters and individual lights contained within them.

The rear road light clusters are secured to the rear of the motorhome via nuts located on the rear of the cluster. To access these fixing nuts, an internal panel must be removed.

Two angled panels can be found at the rear of the motorhome, close to the rear door hinges. In the upper sections of these panels, a removable section exists (the removable panel may also house remote thermostats, light switches etc).

To remove the panel, first locate single screw cover caps at the top of the panel, using a flat bladed screwdriver or similar. Removing the screws will then allow the panel to be pulled up away from the corner of the vehicle, exposing a void with access to the rear of the lamp clusters.

Reverse the procedure and push fit the screw cover cap back into place once complete.

ROAD LIGHTING, FRONT OF VEHICLE

Please see the information contained within the Fiat handbook for details of access to headlight or side repeater bulbs.

TECHNICAL INFORMATION

Owners club

The Owners Club is a completely independent organisation run for the benefit of the motorhome owners. They have numerous rallies during the year in various parts of the country. Apart from the friendliness and companionship the Club generate it is also actively engaged in charity work for those less fortunate than ourselves. The address of the Secretary of the Owner Club can be obtained from the Swift Group website.

Spare parts and after sales customer service

A catalogue of spare parts are available through our Swift Group Dealer Network, from door catches through to spare wheels. Please note, all parts enquiries must be directed through your dealer, as the Swift Group does not operate a direct retail service.

We endeavour to supply parts for vehicles up to 8 years old. If the original part is no longer available your dealer should be able to source a suitable alternative.

Note: Please remember to quote chassis VIN (Vehicle Identification Number) when ordering any items from your dealer. This can be found at the bottom of the front windscreen, on the plate on the front cross member within the engine compartment and on the Swift manufacturers plate situated on the forward edge of the side sliding door.

Repair Facilities

Should you be unfortunate to encounter damage to your vehicle, we have a number of approved workshops and dealerships with workshop facilities to untertake such repairs. Details of which can be found via our website: www.swiftgroup.co.uk/find-a-dealer

The enjoyment of your motorhome can be greatly enhanced by membership of one or more of the various caravanning, motoring and holiday clubs. Here are some useful addresses:

Caravan Clubs

The Caravan Club,
East Grinstead House,
East Grinstead
West Sussex, RH19 IUA

Tel: 01342 326944
www.caravanclub.co.uk

The Camping and Caravanning Club,
Greenfields House,
Westwood Way,
Coventry,
West Midlands.
CV4 8JX

Tel: 0845 130 7631
or: 024 7647 5448
www.campingandcaravanningclub.co.uk

Motoring Associations

Automobile Association (AA)
Fanum House,
Basinstoke,
Hants, RG1 2 EA
Tel: 08705 448866
www.theaa.co.uk
e-mail: customer.services@theaa.com

RAC Motoring Services
8 Surrey Street
Norwich
Norfold
NR1 3 NG
www.rac.co.uk
01922 437000

Green Flag
Tel: 0845 246 1557
www.greenflag.com

RBS Insurance
Churchill Court
Westmoreland Road
Bromley
Kent
BR1 1DP
0800 158 2493

Trade association

NCC
Catherine House,
Victoria Road,
Aldershot,
Hampshire, GU11 1SS
Tel: 01252 318251
www.thencc.org.uk
www.motorhomeinfo.co.uk

The Society of Motor Manufacturers and Traders Limited (SMT)
Forbes House,
Halkin Street,
London SW1X 7DS

Tel: 020 7235 7000
www.smmt.co.uk

Swift Group Limited
Dunswell Road, Cottingham, East Yorkshire, HU16 4JX

Tel: 01482 875740
email: enquiry@swiftgroup.co.uk
website: www.swiftgroup.co.uk

USEFUL INFORMATION

USEFUL INFORMATION

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Change of ownership

Notification of change of ownership

As the new second hand owner, please notify the Swift Group of the change of ownership by completing this page and sending it to:

Customer Services
Swift Group Limited,
Dunswell Road,
Cottingham,
East Yorkshire HU16 4JX.

Note: Warranties are only transferable providing the terms and conditions of the warranty have been met by the previous owner(s). Please see warranty information at the beginning of this handbook for full details.

DETAILS OF MOTORHOME:	Model:	
	Chassis No:	
NEW OWNER:	Name:	
	Address:	
	Email:	
	Telephone:	
	Mobile:	
	Date of purchase:	
PREVIOUS OWNER:	Name:	
	Address:	
	Email:	
	Telephone:	
	Mobile:	
	Date of purchase:	