2010

The Pennine Group Owners Handbook

www.foldingcampers.net

OWNER'S DOCUMENT 6

INTRODUCTION & WELCOME 7

THE CAMPER'S CODE 11

THE TOWING CODE 13

CHASSIS SERVICE AND MAINTENANCE 15

Al-Ko Kober Chassis 16

Assembly and Operating Instructions 16

Maintenance 19

Servicing 21

Brake drum/Hub Assembly 21

Tyre Information 25

Wheel Changing 26

HITCHING UP – STEP BY STEP 27

ADVICE ON TOWING 29

SELECTING A SITE 31

ELECTRICAL SYSTEM 33

Introduction 33

PSU 2005 Control Panel 33

Battery 33

Mains Connection 35

Fault Table 36

Fuse/MCB Table 36

Technical Data 36

THE GAS SYSTEM 38

Introduction 38

Using LPG Safely 38

Calor Gas Information 38

THE WATER SYSTEM 39

Introduction 39

Operation of Submersible Pump – Hints 39

Winter Storage (Tiptoe and Submersible Pumps) 40

The New Therme 40

Truma- Ultrastore Water Heater 41

Thetford Cassette Toilet 41

KITCHEN EQUIPMENT 45

Stainless Steel Hob Unit and Sink with Drainer 45

Cleaning 46

Adjusting 46

Using Your Hob Safely 46

Spinflo Cooker 46

www.foldingcampers.net

TABLE OF CONTENTS

The Hob 46
The Grill 47
Cleaning 47
Oven 48
Cleaning 49
Important Safety Requirements 49
The Dometic RM4200 Refrigerator 50
LP Gas Operation 51
Electric Operation 52
Maintenance 55
Kitchen Heater 56

OPTIONAL BLOWN AIR HEATING 57

CARING FOR YOUR LEISURE VEHICLE 59
Exterior Panels 59
Corner Mouldings 59
Gas Bottle Locker 59
Canvas 59-60
Synthetic (Acrylic Care) 60
Interior 62
Curtain Care 63
Winter Storage 63
Storage Checklist 64
Condensation 64
Chassis 64
Tyres 65

ASSEMBLY INSTRUCTIONS 66
Fiesta/Countryman Step-by-Step Instructions 66
Sterling/Continental Step-by-Step Instructions 67
Pullman Step-by-Step Instructions 68
Pathfinder Step-by-Step Instructions 68
Crusader/Cruiser Step-by-Step Instructions 70

SECURITY/FIRE AND SAFETY 72
Protecting Your Camper from Theft 72

IN CASE OF A FIRE 72
Fire Precautions 72
Before you tackle a fire 73
Fighting some typical fires in a camper 73

PENNINE OWNERS' CLUB 75-76
CONWAY OWNERS' CLUB 76

www.foldingcampers.net

Your supplying dealer should complete this document. It uniquely identifies your camper and should be referred to when requesting service or ordering extras.

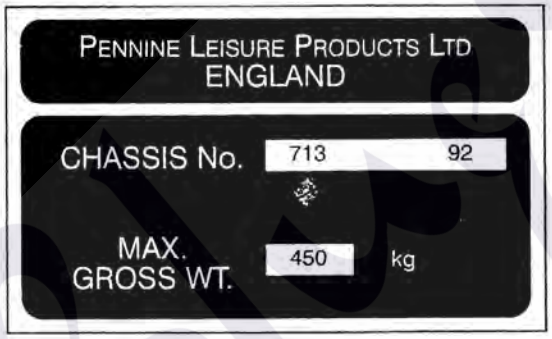
Owner's Name		Manufacturer	Pennine Leisure Products
Owner's Address		Model	
		Serial Number	
		Year of Manufacture	
Telephone Numbers		Key Number	
Pre-Delivery Inspection by			
Dealer		Pennine Leisure Products Ltd., Unit 4, Chester Street, Accrington, Lancs BB5 0SD Tel: 01254 385991 Fax: (01254) 386111	

www.foldingcampers.net

You are now the proud owner of one of the finest folding campers available. Pennine Group Leisure Vehicles are designed for your camping convenience and pleasure and built to the highest standards.

We are sure you will spend many happy hours camping in your new purchase. This handbook is designed to help you make the most of your camper. Please read it thoroughly and keep it handy for reference.

FOR YOUR INFORMATION – The serial number of your model is on a plate on the chassis drawbar or on the chassis underneath the unit access door, the last two digits indicate the model year and the remaining figures represent your camper's serial number (See diagram).



This number must be quoted in all correspondence with your dealer – it uniquely identifies your camper. This plate also states the maximum gross weight of your camper – this weight must not be exceeded.

Important

At various points in this handbook, safety instructions and warnings are given for the protection of you and your family. All such warnings are printed in bold type and preceded by this symbol – !

After Sales Service

All after-sales enquiries must be made to the dealer from whom you bought your camper. This includes enquiries relating to appliances as well as enquiries for optional extras.

Pennine Optional Extras

Your Dealer has details of additional items available to enhance your camping experience. These include awning, underbed skirts, Awning Extensions and Outdoor Storage Covers.

Finally, it is our wish that you derive much pleasure from your Pennine. Read the following pages carefully – they will help you achieve our aim.

Guarantee

Complete this section for your own peace of mind.

NAME AND ADDRESS OF DEALER

.....

.....

.....

.....

TELEPHONE NUMBER .....

DATE OF PURCHASE.....

SERIAL NUMBER.....

KEY NUMBER.....

www.foldingcampers.net

Owner's Service Statement

1. Pennine Leisure Products Ltd (hereinafter called 'the company') warrants that the owner of a Leisure Vehicles manufactured by the company (hereinafter called 'the camper') will subject to the conditions specified below receive the following service free of all charges (including labour charges) from the authorised Pennine Leisure Products dealer from whom the camper was purchased, namely:–

   The repair or replacement of any part (except those mentioned hereafter) of the camper which as a result of defective material or workmanship in manufacture required repair or replacement within twelve months from the date on which the camper was released in a new and unused state by the dealer to its first owner.

   The conditions mentioned above are:–

   a) That the camper has not been overloaded or used for racing or time trials or used for hire or reward or otherwise misused.

   b) That the camper has been maintained in accordance with Pennine Leisure Products Owner's Handbook maintenance instructions supplied with each Leisure Vehicle.

   c) That neither the camper or any part has been altered, modified or repaired without the company's prior written consent.

   d) That the identification numbers of the company on the camper have not been removed or defaced.

   e) That the model has not been used on roads or in conditions not suitable for a Leisure Vehicle.

   f) That the owner notifies the authorised dealer of the alleged defect within fourteen days of discovering it (the notification should be in writing and should specify the brand and model name and serial number of the camper and the supplying dealer's name) and give sufficient particulars to enable the matter complained of to be identified.

   g) That the Leisure Vehicle is used only in the United Kingdom (other than temporary removals outside the United Kingdom for the purpose of a holiday or business tour).

   h) That the Leisure Vehicle is towed by a motor car. If the camper is towed by another vehicle, commercial or otherwise, fitted with a 'rigid' towbar the suitability must be accepted in writing by Pennine Leisure Products prior to commencement of warranty.

   The excepted parts referred to are chassis, tyres, hubs, couplings and propriety products such as cookers, refrigerators and heaters normally covered by the respective manufacturer's own guarantee.

   The warranty terms do not cover the cost of returning the camper to the place of repair.

2. The company's agents have no authority to vary the terms of this statement.

3. In this statement, the words 'the owner' means the purchaser or the hirer under a hire purchase agreement and the words 'authorised dealer' means a person, firm or company under contract with Pennine Leisure Products Ltd to supply or service Pennine Leisure Vehicles.

4. Nothing in this Owner's Service Statement affects the owner's statutory rights in respect of the Pennine Leisure Vehicles.

www.foldingcampers.net

THE CAMPER'S CODE

On The Road

The Leisure Vehicle complies with the Road Traffic Acts and Regulations. Its weight distribution and undergear are not such as to cause undesirable swaying.

The owner ensures that it is insured against third party risks and that the car policy is not invalidated by towing.

The unit causes as little inconvenience as possible by looking out for and giving way to faster traffic.

He allows himself ample safety margin for stopping and changing direction.

He keeps close to the left, but is careful not to return too quickly to the left after passing cyclists or other traffic.

He does not tow a Leisure Vehicle so large and heavy that the towing car cannot hold it steady under normal conditions, without snaking, or cannot climb ordinary main road hills without failing and obstructing other traffic, or cannot pull it up in adequate distance under braking.

On The Site

The Leisure Vehicle does not stop on private land without obtaining the permission of the owner.

He places his unit where it will not interfere with the convenience or enjoyment of others.

He keeps his pitch neat and tidy with no loose equipment outside the unit beyond what is necessary or appropriate, and he leaves his pitch as clean or cleaner than he found it.

On organised sites he disposes of all rubbish by the means provided and on casual sites he buries it or takes it away for disposal elsewhere in the proper manner.

He collects waste water from the units waste outlet in a receptacle which he does not allow to overflow and foul the ground. On organised sites he disposes of waste water in the manner provided for and on casual sites he minimises fouling of the ground, e.g. by distributing waste water along a hedge.

He does not damage the turf by digging unnecessary holes or by improper use of his car.

For touring he carries his own sanitary equipment, comprising a chemical closet and suitable fluid. He does not rely on the earth method except at casual sites in very remote country. When the contents of a chemical closet are disposed of by burial, he avoids the vicinity of any watercourse.

At organised sites he keeps his dog under proper control, drives very slowly through the caravan lines, and avoids singing, loud radio, electric generator or any other noise at an hour where it would reasonably annoy others.

He makes sure that any laundry necessarily hung outside the camper is displayed discreetly.

He observes the country code relating to fire dangers, litter, gates, damage to crops, hedges, trees and livestock.

General

The camper shows courtesy and consideration to all with whom he comes into contact, so that the goodwill of campers is enhanced and he pays his proper dues.

www.foldingcampers.net

THE TOWING CODE

This Code of Practice contains recommendations jointly reviewed and agreed by the following organisations:

The National Caravan Council, The Caravan Club, The Camping and Caravanning Club, The Caravan Writers Guild, The Department of Transport.

Scope of the Code

The code applies to all trailer caravans and campers of maximum laden weight not exceeding 2030kg (4475lbs), overall width not exceeding 2.3m (7ft 6in approximately) and overall length not exceeding 7m (23ft approximately), excluding the drawbar and coupling.

This is legally the maximum size of trailer that can be towed by a motor car. (Regulations 7 & 8 of the Road Vehicles (Construction & Use) Regulations 1986).

CARAVAN / CAMPER TERMS

Ex Works Weight:

The maximum weight of the trailer as stated by the manufacturer, as new with standard fixtures and fittings. (Note: because of the differences in weight of materials supplied for construction of the camper, variation of ±5% of the manufacturer's stated ex works weight can be expected).

Actual Laden Weight

The total weight of the trailer and its contents when being towed.

Maximum Authorised Weight (MAW):

The maximum weight for which the trailer is designed for normal use when being towed on a road laden. This figure must not be exceeded (See page 14)

Noseweight:

That part of the weight of the trailer supported by the rear of the towing vehicle.

The Towing Vehicle

Kerb Weight

The weight of the towing vehicle as defined by the vehicle manufacturer
This is normally:
with a full tank of fuel;
with an adequate supply of other liquids incidental to the vehicle's propulsion;
without driver or passengers;
without any load except those tools and equipment with which the vehicle is normally provided;
without any towing bracket.
Camper / towing vehicle weight ratio:
The actual laden weight of the camper is expressed as a percentage of the kerb weight of the towing vehicle, ie.

$$\frac{\text{actual laden weight of camper}}{\text{Kerb weight of towing vehicle.}} \times 100 = \%$$

www.foldingcampers.net

FACTORS WHICH MUST BE CONSIDERED FOR SAFE TOWING

Driver's towing experience

Experience of towing is not essential for taking up caravanning but drivers without experience should take greater care when manouvering. Speed should be built up gradually to get used to the different braking and handling characteristics.

Further experience should be gained before tackling the more advanced elements of towing (higher weight ratios, mountain passes, difficult terrain, etc.)

CAMPER / TOWING VEHICLE WEIGHT RATIO

This ratio has a major influence on stability. It is recommended that:

The actual laden weight of the trailer should be kept as low as possible. The lower it is when the trailer is being towed on a road the safer the camper/towing vehicle combination will be.

Ideally, for a newcomer to caravanning the actual laden weight of the trailer should not exceed 85% of the kerbside weight of the car.

As a general guide, the actual laden weight of the trailer should not exceed the kerb weight of the towing vehicle if the latter is a conventional car (saloon, coupe, hatchback, estate convertible etc)

The greater the actual laden weight of the trailer is in relation to the kerb weight of the towing vehicle, the more careful and experienced the driver needs to be.

Care must always be taken not to exceed the towing vehicles loading and towing limits.

The law requires that caravans and their towing vehicles and the loads they carry must be in such a condition that no danger or nuisance is caused.

(Regulation 100 of the Road and Vehicles (Construction and Use) Regulations 1986)

POWER TO WEIGHT RATIO OF TOWING VEHICLE TO CAMPER

The performance of the towing vehicle has an important bearing on its suitability for towing and, therefore, on the selection of the camper to match the towing vehicle.

There are many factors involved, which are often contradictory, such as brake horse-power, gearing, torque characteristics, turbo charging and fuel injection.

No hard and fast rules can be stated but, as a general guide, conventional petrol engines with a capacity up to approximately 1500cc should be adequate for towing a camper weighing around 85% of the kerb weight of the towing vehicle. Above 1500cc such engines should manage a camper weighing up to 100% of the kerb weight of the towing vehicle and still give adequate performance, but it should be noted that the towing vehicle manufacturer's limit is, in some cases, less than the kerb weight. While the towing vehicle may manage 100%, attention is drawn to the recommendation under the previous heading 'camper/towing vehicle weight ratio', that a weight ration of 85% is an ideal starting point.

Diesel engines of whatever size have a lower performance for a given cubic capacity compared to petrol engines.

When climbing a 10% loss of power with a petrol engine and slightly less with a diesel engine should be expected for every 1000 metres gain in height. A good reserve of power is therefore very necessary for towing up gradients at altitude.

Vehicles with automatic transmission may need additional cooling for the gearbox when towing. The advice of the vehicle manufacturer should be sought.

www.foldingcampers.net

BRAKE FAULTS AND THEIR ELIMINATION

FAULT	CAUSE	
Braking Effect	Too much play in the brake system.	Re-adjust the brake system.
	Brake linings not run in.	Tighten somewhat the handbrake lever, drive 2-3 km
	Brake linings smooth, oiled or damaged	Replace brake shoes completely. Clean the braking surfaces in the brake drums.
	Over-running hitch is tight.	Lubricate the over-running hitch.
	Brake rod skewed or bent.	Eliminate the cause.
	Brake cables rusty or buckled.	Replace the brake cables.
Jerky Braking	Too much play in the brake system.	Re-adjust the brake system.
	Shock absorber of over-running hitch defective.	Replace shock absorber.
	Backmat brake shoe skews in the brake shoe carrier.	Replace complete brake shoe with brake shoe carriers.
Trailer already brakes when relieving the foot throttle.	Shock absorber of over-running hitch defective.	Replace shock absorber.
Reversing is hard or impossible	Brake system adjusted too severely.	Readjust the brake system.
	Cables pre-tensioned	Readjust the brake system.
Handbrake effect too weak	Incorrect adjustment	Readjust the brake system.
		Tighten handbrake lever as far as possible.
Wheel brakes get hot.	Incorrect adjustment of brake system.	Readjust the brake system.
	Wheel brakes dirty.	Clean.
	Handbrake lever not or only partly released.	Bring handbrake lever in zero position.
Ball coupling doesn't rest on ball	Inside of coupling dirty.	Clean out.

www.foldingcampers.net

AL-KO KOBER CHASSIS

Description and Operation

The chassis is made of heavy duty galvanised steel.

Coupling Head

The ball couplings are entirely automatic in operation and designed for one hand operation to suit the 50mm international ball recommended by the British Standards Institution, National Caravan Council and the Society of Motor Manufacturers and Traders. The coupling head incorporates a 'positive attachment indicator button' designed to assist correct attachment. In addition there is provision for an anti-theft device consisting of a brass bawel lock which when inserted into the coupling head prevents movement of the handle, therefore making it impossible to lock the coupling either 'on' or 'off' the towing ball. (Please note: certain models may be fitted with AKS1300 stabiliser.

ASSEMBLY AND OPERATING INSTRUCTIONS FOR AL-KO SECURITY DEVICE FOR AK160/300 COUPLINGS & AKS 1300 STABILISER.

PLEASE ENSURE YOU READ THESE INSTRUCTIONS CAREFULLY, BEFORE COMMENCING TO OPERATE THIS PRODUCT.

GENERAL:

1) The AL-KO Security (Hitch Lock) Device is effective against the following unauthorized operations:
   a) Uncoupling from the towing vehicle
   b) Coupling onto another towing vehicle
   c) Theft of the Coupling/Stabiliser- from the trailer/caravan.
2) AL-KO recommends the use of the AL-KO Safety Ball to complement the AL-KO Security. The Safety ball is inserted into the coupling area of the Stabiliser, before the AL-KO Safety Ball is locked into position (Fig. 1). This prevents your caravan from being coupled to any other tow hook or smaller towball and being towed away. The AL-KO Safety Ball is available from most Caravan Shops or if this safety device was purchased viaAL-KO'S direct Mail Order Service*, the Safety Ball is provided with the kit.

APPROVAL:

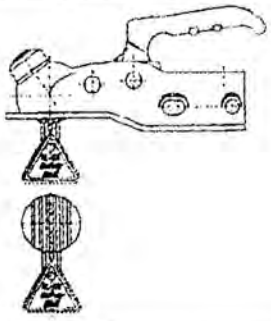
1) This product holds full TUV approval and is also Sold Secure Approved.

WARRANTY:

1) Product warranty is given in accordance with S 10, Clause 1-7 of the General Terms of Business and is usually 12 months from date of purchase.

Please note - the Safety Ball is only included with kits purchased direct from AL-KO's main factory - if this item is purchased from a caravan dealer then the Safety Ball is an additional item.

Fig.1



Please Note:
All diagrams shown in this booklet represent AK160/300 couplings but assembly procedure for AKS 1300 Stabiliser is identical.

www.foldingcampers.net

1. ASSEMBLY INSTRUCTIONS

Removal of existing fixing bolts:

Before you start to remove the existing fixing bolts, please note the following: On most overrun assemblies, the shock absorber is secured by the fixing bolt (Fig. 2/Item 2).

Warning:

The shock absorber (damper) extends independently. Enclosed with this box is a retaining pin (Fig. 3/Item 1) to aid assembly.

a) Remove gaiter
b) Loosen self-locking nut from hexagon cap bolt (Figs. 2/3, Items 1/2)
c) Push or knock out hex. cap bolt (Fig. 2/Item 1)
d) Knock through retaining pin (Fig. 3/2) with (Fig. 3/Item 1) and leave the pin in the shaft for centring the shock absorber (damper).
e) Any spacers originally fitted must be re-used.

Fig.2

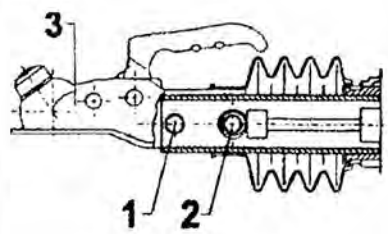


Fig.3

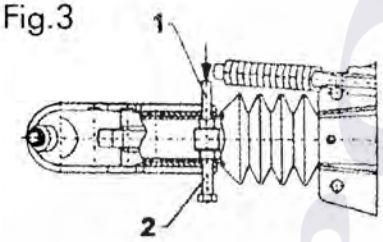
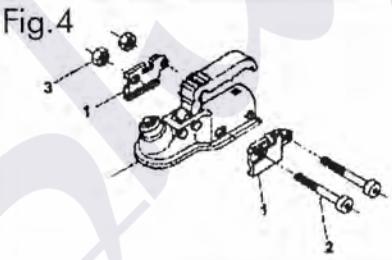


Fig.4



Fitting of Al-KO Security Device

Horizontal Bolt Fitting: (for AL-KO Overruns)

Parts configuration as Fig. 4

Item

1 Locking plates left/right
2 Inner Hex. Bolt M 12 8.8 with flat head to DIN 7984
3 Self locking nut M 12

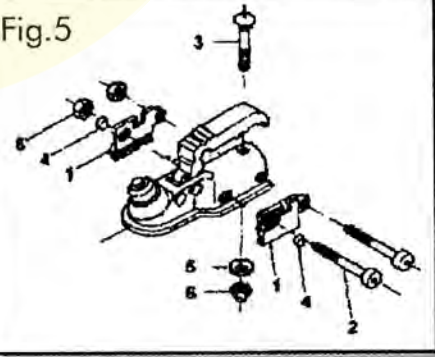
Cross-type Bolt Fitting: (for other overruns)

Parts configuration as Fig. 5

Item

1 Locking plates left/right
2 Inner Hex, Bolt M12 8.8 with flat head to DIN 7984
3 Dome Head Bolt M12 8.8
4 Half moon shaped fixing lugs
5 Section washer (not included in this kit) - please use original washer from coupling head you are removing
6 Self locking nut M12

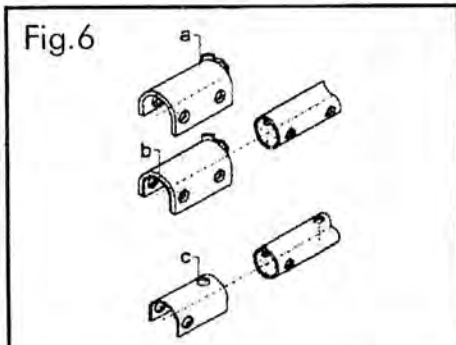
Fig.5



Procedure:

Push Gaiter onto the drawshaft followed by the AK160/300 coupling or AKS 1300 stabiliser with spacers (Fig. 6) if necessary, so that the fixing holes line up. If present, position the spacer sleeve in the draw shaft.

Fig.6



www.foldingcampers.net

Fit parts as shown on figs. 4 or 5. If a spacer sleeve is in the draw shaft, thread this on as well. Push retaining pin (Fig. 3/Item 1) through (with the bolt behind - horizontal or vertical). Shock absorber (damper), is threaded on.

For your own safety, please check:

To make sure the shock absorber (damper) is threaded on, push the draw shaft in and out. If you can feel resistance, then it is correctly positioned.

Always insert horizontal bolts as shown in Figs. 4/5 ie from right to left (when facing caravan) as this allows correct clearances. Always insert vertical bolt from top to bottom and re-use original shim used on the overrun.

With cross-type bolt fixing, do not forget to insert half moon shaped plates (Fig. 5/Item 4) and section washer (Fig. 5/Item 5).

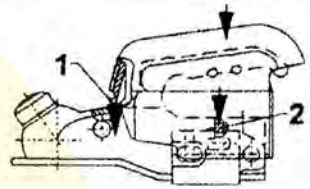
For horizontal bolts, tighten with Alien Key (size 8), as the nuts are fixed and cannot be moved.

For vertical bolt tighten nut and torque as follows:

Overrun Type	Torque Setting
AL-KO 30S	60 Nm
AL-KO 60S-60S/2	60 Nm
AL-KO 90S-90S/3	70 Nm
Other overruns with M12 (8.8) Bolts	86 Nm

Secure gaitor with tie wrap.
Put security device on and lock. If the cover is difficult to put on or lock/unlock then you need to reposition the locking plates. Loosen front bolt and the plates can now move laterally. Re-tighten bolts to correct torque and check if safety cover now fits.

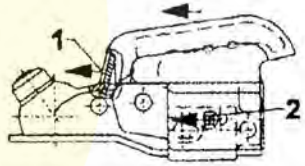
Fig.7



2. OPERATING INSTRUCTIONS:

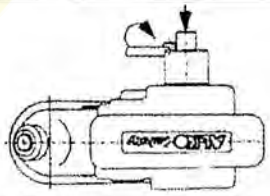
Insert left and right lugs of safety cover into cutaway portion of the attached locking plates (Fig. 7/Item 2).

Fig.8



Push security device firmly forward until it can go no further (Fig, 8/Item 1).

Fig.9



Hold security device in place, turn key to the-right and press the lock cylinder in, until it clicks into place (Fig. 9). Turn the key to the left into the locked position. The strain bolt then moves out and locks.

Swing the dust cap over the lock cylinder to protect from dirt (Fig. 9).

Removing Security Cover (reverse order to fitting cover):

Open dust cap.

Insert key and turn to the right, as far as it will go (about 60°). As a result the lock cylinder will slide up automatically. If necessary, press the safety cover forward and pull out the lock

www.foldingcampers.net

cylinder with the key (turned about 60°).
Pull security device back.

Remove security device and stow in vehicle or caravan. So that the dust cap is not damaged during transit, remove key (inserting lock) and swing dust cap over the lock cylinder.

Important Information:
Never attempt to fix or remove the security device with the aid of a hammer - this may result in damage to the cover.

3. MAINTENANCE

Clean strain bolt, locking bolts and the cutaway portion in the locking plates if they become dirty. A little grease may be applied but remove excess with a cloth so that only a thin film remains.

Operate the locking cylinder periodically, if the cover has not been used for a while. If the lock only operates with difficulty, spray the cylinder with WD 40 (or similar).

Coupling Up

Reverse the car to the trailer or move the trailer forward to the coupling point. Lift the locking trigger, and lift the handle upwards and forwards. Place the unlocked coupling onto the towing ball and with the slightest downward pressure it will lock onto the ball automatically. Ensure locking trigger returns to its free position. Connect the breakaway cable and lighting plug to the towing vehicle. Raise the jockey wheel to its stowed position.

Uncoupling

Lower the jockey wheel to the ground. Disconnect the breakaway cable and lighting plug.

Operate the handle and manually lift the coupling head clear of the towing ball or raise the telescopic jockey wheel to achieve the same effect. The trailer towing ball coupling of the chassis has been type tested; the maximum support load at the coupling point must not be exceeded.

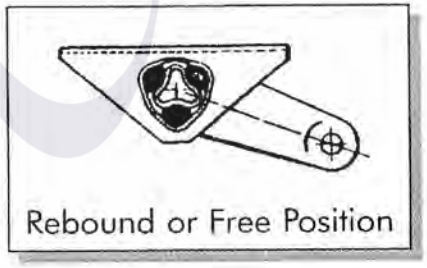
The Axle

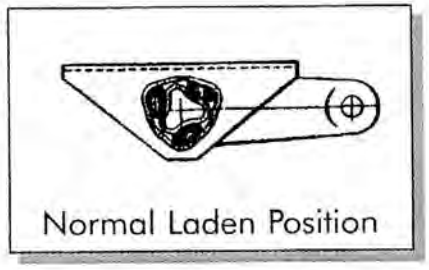
The AL-KO rubber suspension axle has been designed for new standards of spring comfort and is maintenance free.

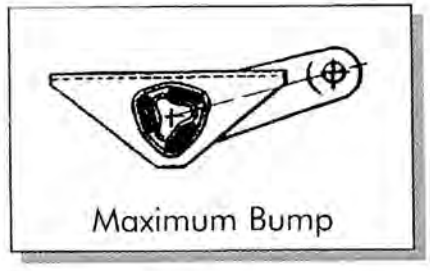
Three rubber elements are contained within an hexagonal axle tube. These provide suspension and have inherent damping characteristics.

The following three figures show the deformation of the rubber elements at the extremes of suspension movement.

The axle is designed to ride with the suspension drop arm at, or slightly below, the horizontal position.


Rebound or Free Position


Normal Laden Position


Maximum Bump

www.foldingcampers.net

The AL-KO automatic reversing wheel brake system comprises, twin brake shoes acting against a drum. The shoes are actuated by a fully floating expanding clutch, which when operated forces the shoes into contact with the drum.

The system also contains an adjuster box to arrest directional motion of the expanding clutch and shoes when the brake is engaged and a spring loaded reverse lever which collapses when reverse travel is required.

Operation

Forward braking; in the free position, with the handbrake fully forward in the off position, the drawshaft of the over-run device is fully extended and the shoes are clear of the drum.

As the towing vehicle brakes, the drawshaft of the over-run device is depressed toward the unit being towed. This action imparts linear motion to the main shaft of the over-running device which is transmitted via the over-run lever, brake rod and Bowden cable to the expanding clutch. This mechanism forces the leading brake shoe and, by reaction, the trailing shoe outwards into contact with the drum.

Friction between the brake shoes and the drum creates a tendency for both shoes and the expanding clutch to move in the direction of forward rotation until they abut against the adjuster box. This ensures that both shoes remain in the braking position.

Reversing

When the towing vehicle reverses, the drawshaft is pushed backward, moving the over-running device through its full travel. This movement is transmitted in the normal manner to the expanding clutch.

The clutch forces both shoes into contact with the drum. Initial friction between these creates a tendency for the shoes and expanding clutch to move in the direction of wheel rotation ie. reverse. This movement imparts pressure to the spring-loaded auto-reverse lever, causing it to collapse. Thus, friction between the shoes and drum is almost eliminated, allowing the trailer to reverse in contact with the towing unit.

Slight forward movement of the chassis will allow the spring to reassert itself, enabling the reverse lever to recover to its normal position. Normal braking is then immediately available.

Parking – Handbrake Application

The AL-KO automatic reversing brake system incorporates a patented device for added safety when parking on a reverse sloping site or steep hill.

A spring cylinder has been added to the link between handbrake lever and centre brake rod.

Full application of the handbrake lever compresses a coil spring inside a steel cylinder and should any movement of the caravan occur following uncoupling the energy stored in the spring is immediately released to lock the wheel brakes.

The handbrake should always be applied to the full vertical position. Should any difficulty be experienced in achieving this position, gently inch the caravan backwards whilst applying the handbrake.

It should be noted that it is good practice to chock the wheels of a caravan when parking on steep slopes, or under adverse conditions such as loose or slippery surfaces.

Tyre Wear and Damage

The legal requirements for tread depth on motor vehicle tyres applies also to caravans. Similarly it is not permitted to mix cross ply and radial tyres on the same axle. A redundant tyre

www.foldingcampers.net

must be replaced by one of the same size and construction.

Wheels should be balanced and changed round occasionally to equalise wear and prolong the life of the tyres.

It is very dangerous to neglect tyre damage. A tyre should be renewed if a blister, rupture or cut exposing the casing is detected. If the tyre has suffered violent impact (eg. against a kerb) it should be examined by a specialist as soon as possible.

SERVICING

Servicing Philosophy

The chassis has been designed to be maintained at its optimum performance level with minimal servicing. Servicing philosophy embraces lubrication, inspections and adjustments carried out in accordance with a schedule based on mileage. However, if the mileage is not attained, servicing should be carried out on a periodic basis.

Servicing Schedule

After First 500 Miles;

Check wheel bearing adjustment.
Check and adjust the brake shoes and the brake linkage.

Every 500 Miles or 2-monthly

Inspect all wheels.
Examine and lubricate the ball coupling.
Inspect and lubricate the over-running device.
Lubricate the jockey wheel.
Lubricate the brake linkage.
Lubricate the corner steadies.

Every 3000 Miles or Annually

Measure the towing ball.
Grease the over-running device.
Check and adjust the brake shoes and the brake linkage.
Grease the torsion bar axle.

Every 6000 Miles or Bi-annually

Adjust the axial play of the wheel hub bearings.
Check the brake linings and brake shoes pull-off springs for wear or fatigue.
Check and adjust the brake shoes and the brake linkage.
Grease the running nuts on the brake linkage.
Lubricate the pivot points of the running brake system.

After Use Servicing

After journeys during winter, hose down the chassis to wash the road salt off.

Recommended Lubricants

Mobilgrease MP is recommended for all greasing routines. A good all-purpose oil is recommended for general use.

BRAKE DRUM / HUB ASSEMBLY

Your chassis uses the new AL-KO Euro-axle system incorporating sealed for life bearings which are maintenance free and have a design life of 100,000km (62,000 miles). Do not attempt to remove or replace this bearing if it, or the drum, are damaged then it will be necessary to replace with a complete drum and bearing assembly. If it is necessary to remove the brake drum, the following procedure should be followed (we recommend this to be carried out by an accredited AL-KO Service Centre):

www.foldingcampers.net

1. Remove dust cap.
2. Remove flanged hub nut. Note: This is a 'one shot' nut, when re-fitting brake drum a new flanged nut MUST be used.
3. No greasing of hub bearing is required nor should the dust cap be packed with grease as on previous designs.
4. Re-assembly is the reverse procedure, however, the stub axle thread must be coated with 'Indol' mineral grease (available from AL-KO prior to fitting the new flanged nut. This nut must be torqued to 290Nm±10Nm (214lb/ft±7.5lb/ft).

Under no circumstances should the rear stub nut be disturbed as this controls toe in and camber. Interference with this nut will invalidate warranty. If it is, for any reason, disturbed then the axle must be returned to AL-KO for resetting of toe in and camber.

Check and adjust the brake shoes and the brake linkage. The AL-KO automatic reversing brake system and its linkage should be periodically adjusted to compensate for wear of the break shoe lining and subsequent stretching of the Bowden cables.

The trailer brake will be subject to greater wear when used on continuous mountain journeys. The corner steadies should never be used to jack up the unit. When jacking becomes necessary, place the jack into the jacking point fitted on the camper.

NEVER USE THE CHASSIS MEMBERS AS A JACKING POINT

Recommended Adjustment Procedure

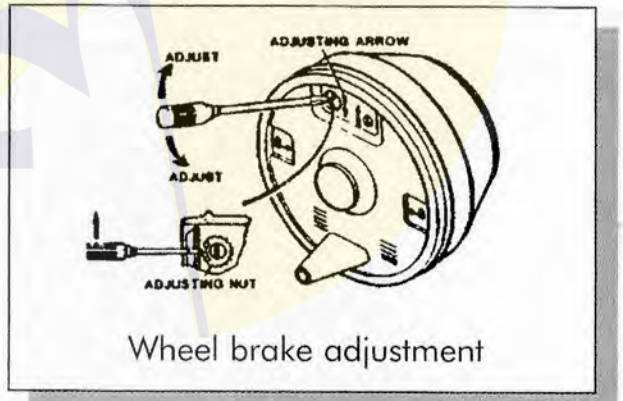
a) Jack up the axle to raise the road wheel clear of the ground. Place a chock under the grounded wheel.

b) Ensure that the drawshaft is fully extended (in the towing position) and the handbrake is OFF (fully forward position). Confirm that there is some end float in the rod and spring cylinder.

The brakes must be adjusted first and then, but only if necessary, the brake linkage.

During wheel brake adjustment, the drum must only be turned in the direction of forward rotation.

Do not use excessive force during adjustment.



Wheel brake adjustment

c) Remove the plastic bung at the rear of the brake back plate and insert a suitable screwdriver into the hole.

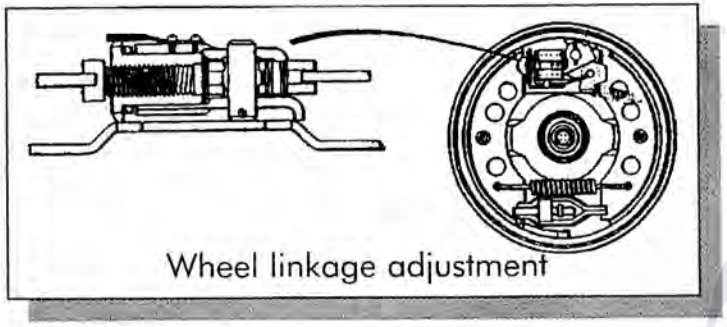
d) Adjust the star wheel in the direction of the arrow until there is resistance to wheel movement.

e) Slacken until the brake drum turns freely in the forward direction.

f) Check for correct adjustment at the chassis end of the Bowden cable. When pulled the cable should extend between 5 and 8mm.

www.foldingcampers.net

g) Check for uniform response by both wheel brakes when the hand brake is operated. Adjustment must be made on the wheel brake, not on the brake linkage.



Wheel linkage adjustment

h) Apply the handbrake two or three times to ensure that the brake shoes are centralised on the drum. Re-check shoe clearance at the wheel brake.

i) Centre brake rod – check that there is full thread engagement in the fork end of the over-running device. Secure the locking nut.

j) At the axle, ensure that the compensator plate is parallel to the axle by adjusting the nuts on the Bowden cables. Lock the nuts.

k) Adjust the centre brake rod at the rear nut so that there is no clearance between the over-run lever and the drawshaft and plate. Secure the locknuts.

l) Correct adjustment of the linkage is checked by operating the handbrake lever so that it engages the second tooth of the ratchet and confirming that a slight braking force is felt at the wheels.

m) On completion, tighten the self locking nut to give 1mm clearance between the nut and the spring cylinder. (Ignore this instruction if a gas strut type handbrake lever is fitted.)

Reversing will be difficult if either the wheel brake or the brake linkage is over adjusted.

Examine and Lubricate the Ball Coupling

a) Examine all moving parts and the locking feature for wear and correct operation.

b) Clean off and grease the spherical seat, bearing points and pivot pins.

Torque settings for securing bolts of ball couplings:

9OS-AK10 . . . . . .80Nm (18lbf)

161s-AK10 . . . . . .90Nm (20lbf)

Examine and Lubricate the Over-Running Device

a) Examine all pivot pins and levers for correct operation and lubricate with oil.

b) Check the handbrake ratchet for correct operation and lubricate with oil.

Lubrication

Lubricate the Jockey Wheel – lightly oil the wheel axle and screw thread.

Lubricate the Brake Linings – Lightly oil all moving parts.

Lubricate the Corner Steadies – Lightly oil the screw and pivot points.

CHECK THE WHEEL NUTS BEFORE STARTING EVERY JOURNEY.

www.foldingcampers.net

SERVICING AND TYRE INFORMATION

Recommended Servicing

As with your car, regular servicing of your trailers braking system, wheels/tyres and road lights are important, to maintain its optimum performance, investment value and most of all, safety.

Owners are strongly recommended to have their trailers serviced prior to winter storage and before the start of the camping season.

Regular servicing of your trailer can prevent accidents and it is the responsibility of the owner to ensure this is carried out.

Tyre Information

Model	MTPLM kgs	Tyre Size Load Index	Psi Max/MTPLM
Apollo	700	155R13Li78	35/32
Aztec	600	145R10Li68	35/35
Countryman	750	155R13Li78	35/32
Continental	750	155R13Li78	35/32
Cruiser(2004-2008)	1000	165R13Li82	36/36
Cruiser (2009 on)	1000	165R13Li94	65/51
Crusader(2007 on)	1000	165R13Li94	65/51
Fiesta	750	155R13Li78	35/32
Sterling	850	155R13Li78	35/32
Pullman	900	155R13Li78	35/35
Pathfinder(1998-2006)	1000	165R13Li82	36/36
Pathfinder (2007 on)	1000	165R13Li94	65/51
Sovereign	935	155R13Li78	35/35
Alloy fitment	700	175/65R14Li86	44/38
	750	175/65R14Li86	44/38
	850	175/65R14Li86	44/38
	900	175/65R14Li86	44/41
	935	175/65R14Li86	44/41
	1000	175/65R14Li86	44/44

"MTPLM" signifies "Maximum Technical Permissable Laden Mass" or "Max Gross Weight of Trailer.

"PSI" signifies "Pounds Per Square Inch"

Model names may differ from these shown on occasion please contact your Retailer in this instance.

The first figures shown for load and pressure are applicable for 130kmh, the second figure 100kmh.

Please note that tyre pressures are maximum permissible and products supplied will be inflated accordingly. A reduction in pressure may be applicable if maximum tyre load is not utilised.

Your camper tyres must be at the pressure shown above. The correct pressures for your towing vehicle will be found in the vehicle's handbook, BUT it is recommended that an extra 4 to 6psi is put into the rear tyres of the vehicle to improve handling and to bear the extra load on the hitch.

Pressure should be checked with the tyres cold, not after a run when the pressure will be higher. Never reduce the pressures when the tyres are warm as they could be too low when they cool down.

If your camper should have a puncture, replace the affected wheel only with the correct spare wheel and tyre, which can be found in a carrier underneath the camper chassis. Spare wheel/bracket not fitted on certain models

Check your tyres regularly, but particularly if the camper has not been used for a long time. In order to minimise wear, it is recommended that wheels be balanced.

4WD Lightweight Commercial Vehicles

We would strongly recommend that any caravanner who uses either a 4WD (ie Landrover, Shogun etc) or a lightweight

www.foldingcampers.net

commercial vehicle should use a spring assisted towball. The unit will reduce the shock put into the system by between 50% and 70%.

This unit is already a standard factory fitted optional extra for such manufacturers as Diahatsu and Isuzu and more are considering the 'Shocklink'.

WHEEL CHANGING

In the event of a puncture, the affected wheel will need to be changed in the following manner;

1) Apply the handbrake fully, as for parking. Remove the wheel trim if fitted.
2) Slacken off the wheel bolts on the wheel to be changed.
3) Jack up the camper with the jack under the axle tube or axle mounting plate, using a bottle jack or scissor jack if available. If such a jack is not available, alternative methods of raising the wheels off the ground are given below.
4) Remove the wheel bolts and the wheel.
5) Locate the spare wheel carrier under the chassis at the rear of the camper. Remove the 'R-clip' and wing nut. Slide the carrier forwards and lower the carrier and wheel to the ground and remove the wheel.
6) Check the condition of the spare wheel before fitting. Check all mating surfaces are clean and dry, including the bolt seats. Always use the correct bolts to secure the wheel.
7) Fit the spare wheel and refit the bolts, finger tight to begin with. Using a car wheel brace, fully tighten the bolts in diagonal pair to ensure the wheel is correctly seated. Ideally the bolts should be tightened to a torque of 65lb/ft. If it is not possible to check this, (ie. at the roadside), have the torque checked at the first opportunity.
8) Lower the camper to the ground. Check the wheel bolts for tightness after 20 miles and every 3,000 miles thereafter.
9) Stow the damaged wheel in the spare wheel compartment and make sure it is repaired or replaced as soon as possible.

If you do not have a jack: In the case of the Pullman and the Sterling, the affected wheel may be raised by winding down the corner steadies on that side evenly (ie. wind one turn on each steady alternately) until the wheel is clear of the ground.

!WARNING: The side door must be closed when this operation is carried out.

For the Countryman and Fiesta, both wheels may be raised off the ground by the following means:

1) Unhitch the camper and lower the nose as far as you can by winding the jockey wheel.
2) Lower the two rear corner steadies to the ground.
3) Carefully raise the nose of the camper by use of the jockey wheel, until the wheels are clear of the ground.
4) Follow procedure above, steps 4 to 9.

!WARNING: These methods of raising the camper should only be used in an emergency and with extreme caution.

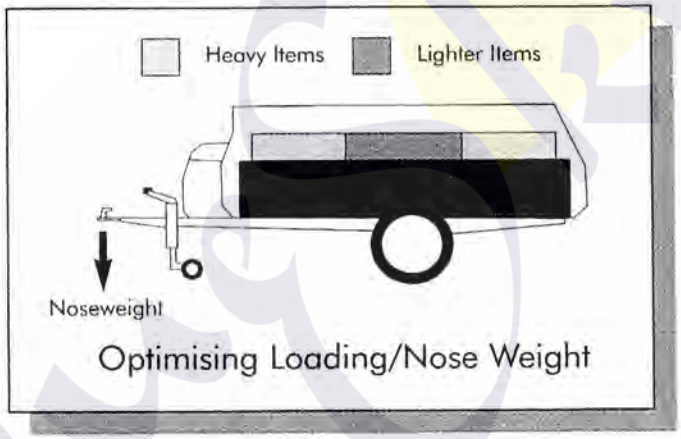
www.foldingcampers.net

HITCHING UP – STEP BY STEP

Important

Before entering the camper for any reason, make sure the corner steadies are fully wound down. Before starting your journey, check wheel nuts, tyre pressures and tyre condition. The towball should be well greased.

If you have no experience of towing, it is a good idea to take the camper out on quiet roads to get used to towing before your first outing. If possible, obtain permission to use private roads at the weekend when you know there will be no other traffic in order to practice reversing the camper.



Optimising Loading/Nose Weight

1) Store the contents of lockers securely; close all doors. Make sure the table is stowed correctly and if you have a fridge, close the door securely (remember always to push the travel catch down so that its lower end fully engages the plastic bush on the top of the door before moving off). If you have food in the fridge, set it to 12v operation for the journey (see page 52 – Kitchen Equipment).
2) If you are storing items on the floor make sure they are distributed as shown. Maximum load weight must not be exceeded and the camper nose weight must be no less than 95lbs (43kg) and preferably 110lbs (50kg). If the nose weight is less than the recommended value, it may lead to instability. The nose weight is the force acting downwards from the tow hitch (see diagram) and can be measured using a proprietary hitch weight gauge. See your Pennine dealer for details.
3) Check the gas bottle is secure and turned off. Close and lock the gas bottle locker lid.
4) Fold the camper and lock the door. Fit transit cover and raise the corner steadies fully.
5) Although Pennine campers can be manouvered by hand, we recommend that you reverse the towcar to the camper if practical. It will help to have someone guiding you. Secure the car hand brake.
6) Before hitching the camper, position the towball beside the towhitch. It is easier to move the towhitch sideways than to pull the camper forwards. Remove the towball cover and store it somewhere accessible.
7) Use the jockey wheel winding handle to raise the tow hitch slightly above the towball. Position the tow hitch cup over the ball. Release the safety catch and lift the handle. Lower the cup onto the ball using the jockey wheel handle. Make sure the handle can close fully and the safety catch clicks on. If you have a hitch lock or similar device, fit it now.
8) Secure the camper handbrake. Attach the breakaway wire to a suitable point on the tow bar (don't just loop it over the ball) and fasten it securely to itself using the clip.
9) Wind up the jockey wheel, locking it in the cut-out at the base of the tube so it can't move. Undo the tube clamp, raise the wheel assembly to its highest position and tighten the clamp firmly.
10) To make sure the camper is properly hitched, grip the drawbar underneath the rubber gaiter and lift it smartly. If

www.foldingcampers.net

the rear of the tow car lifts then you can be confident of a safe hitch.

11) Connect the electrical plug; arrange the cable so it does not drag on the ground, but leave enough slack to allow for cornering.

12) With a helper, check the car and camper lights – check rear lights, indicators, rear fog lights, brake lights and front lights on the camper.

13) If you are leaving site, check round to make sure you have left nothing, release the camper handbrake and check mirrors before driving away.

NOSE WEIGHT

It is recommended that the nose weight should be varied to find the optimum for towing dependant upon the actual laden weight of the camper. Experience has shown that the noseweight should be between 50 & 90kg.

Measurement of Nose Weight

The nose weight may be measured using a proprietary brand of nose weight indicator. Such equipment is obtainable at caravan dealers. Another simple method is to use bathroom scales under the coupling head with a piece of wood fitted between the coupling head and the scales, of such length that the camper floor is horizontal with the jockey wheel raised.

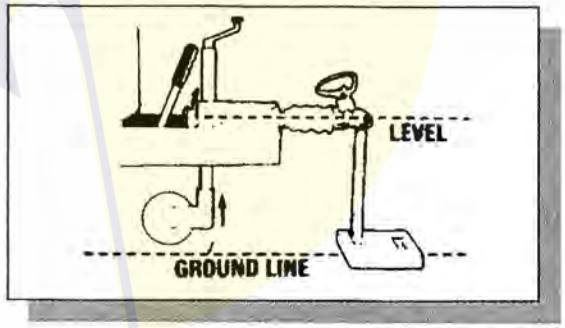
Stabilisers

A stabiliser should never be used to try to improve a camper/towing vehicle combination which has poor stability because the instability will reappear at higher speeds. However, a good stabiliser can make an acceptable camper/towing vehicle combination more stable and safer to handle.

Towing Vehicle's Rear Suspension

It is important that the towing vehicle's rear suspension is not deflected excessively by the nose weight on the tow ball. If it is excessive, the steering and stability will be affected.

The greater the towing vehicle's tail overhang (The distance between the rear axle and the tow ball) the greater effect the nose weight will have on the towing vehicle's rear suspension. After trying out the camper, it may be found that stiffening of the



rear suspension is necessary – but note that this may give the towing vehicle a firmer ride when not towing. There are a number of suspension aids available and advice should be sought on which to use and how to fit it.

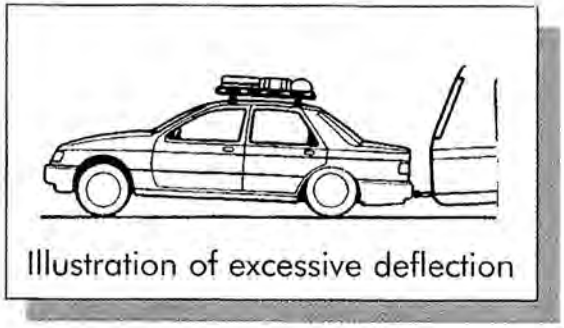


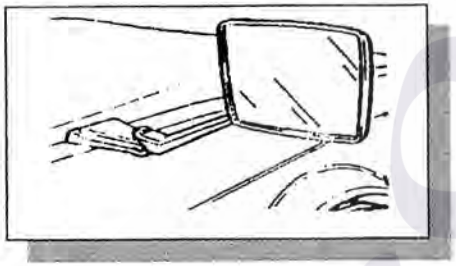
Illustration of excessive deflection

It is important to ensure that the camper is towed either level or slightly nose down.

www.foldingcampers.net

When reversing round a corner, start with the outfit in a straight line. Decide the direction to turn and apply the opposite lock (1) See diagram Pg 30. Watch the nearside wheel and when it stops turning and begins to pivot, apply the opposite lock (2). Make the car follow the camper round then finally straighten up (3).

Proficiency at reversing can only be achieved with practice and should first be attempted in a large open area. Courses are also run by many organisations.



Mirrors

The driver of the towing vehicle must have an adequate view of the rear. If there is no rear view through the camper, it is essential that additional exterior towing mirrors are fitted.

Caution: Any rear view mirror must not project more than 200mm outside a) the width of the camper when being towed; b) the width of the towing vehicle when driven solo.

Note: Any rear view mirror fitted shall be 'e' marked and cover the field of view as stipulated by type approved requirements. (Regulation 33 of the Road Vehicles (Construction and Use) Regulation 1986)

Number Plate

A trailer must carry a rear number plate bearing the number of the towing vehicle and be illuminated at night. The number plate should conform to the same size and colour regulations as for cars. A reflective black and yellow plate may be used on a trailer towed by a vehicle with non-reflective plates and vice versa.

Speed Limits

Normal road towing: 50mph. All other limits apply.
Motorways (including dual carriageways): 60mph.

Pulling Off

Operate the clutch smoothly. Allow more engine speed to produce the power to move the additional weight of the camper.

Avoid wear and tear on clutch and transmission by taking extra care.

Change gears smoothly.

Try not to jerk the clutch.

CAMPER HANDLING

Allow for the camper being wider than the car. Do not bump the kerb with the camper wheels. When passing other vehicles, allow more than the normal clearance for driving solo. Allow longer to get up speed to pass. Allow for the vehicle being twice its normal length. Do not suddenly swing out.

Carry out all manouvers as smoothly as possible. Use nearside wing mirror to check the camper has cleared when overtaking.

Concern for other road users – Campers are slower than most motor cars. They take up more room. However, they follow the towing vehicle 'faithfully' with hardly any cut-in on corners, so drive close to your side of the road. **DO NOT** hog the centre of the road.

Indicate your intentions – clearly and early. Stopping and overtaking distances are greatly increased when towing a camper.

Care in Cross Winds. Your camper/car combination can be interfered with by bow waves from large overtaking vehicles. Be prepared!

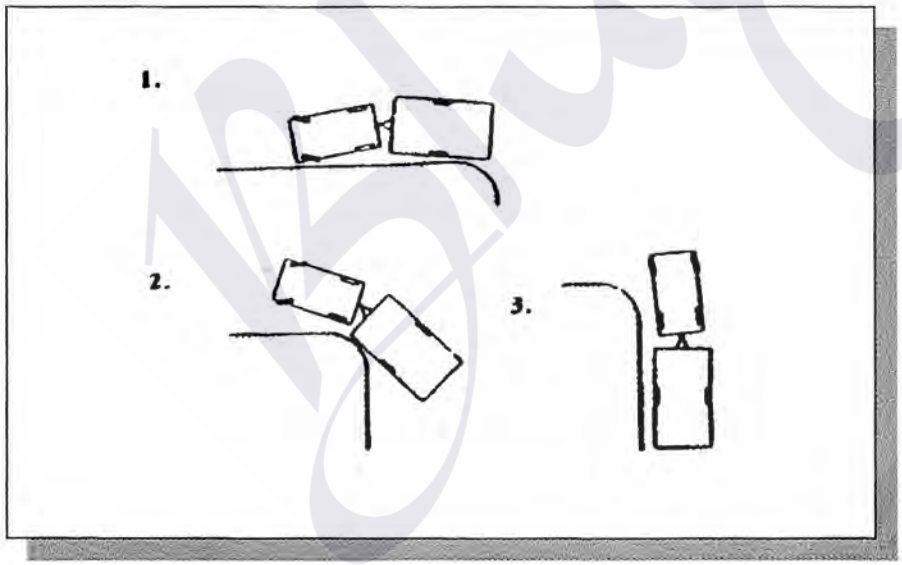
www.foldingcampers.net

Snaking – If the camper starts to veer violently from side to side, **SLOW DOWN** using the engine. **DO NOT BRAKE**. When you have stopped, check the camper's nose weight, load distribution and ALL tyre pressures.

The fitting of a stabiliser will make a good combination even safer to handle. A stabiliser **WILL NOT** improve a combination having poor stability to any significant extent.

NOTE: In the event of fitting a stabiliser, a bolt on type of arrangement is recommended. The hitch assembly on chassis members should never be drilled without prior approval of chassis manufacturers AL-KO Kober.

Reversing becomes easier with practice. Pennine campers are equipped with an automatic reversing mechanism enabling the camper to be reversed immediately on stopping. Reversing practice should be carried out in a large open area.

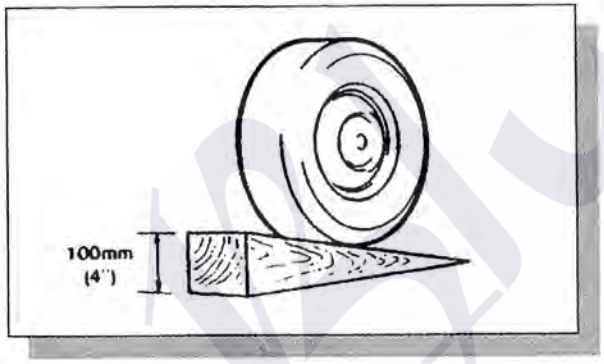


Arnold Laver TIMBER WORLD
www.timberworld.co.uk
EVERYTHING UNDER ONE ROOF...
Hardwoods • Softwoods • Doors
Windows • Flooring • Decking
Kitchens • Building Products
Arnold Laver Timber World has over 90 years trading experience and in that time we have become leading experts in timber products.
Get more out of your timber products, contact your local Manchester Timber World depot today and discuss your requirements with one of our experts.
CONTACT US TODAY
Timber Terminal, Liverpool Road, Cadishead, Manchester M44 5BZ
Tel: 0161 777 9000 Fax: 0161 777 9007 Email: sales@manchester.timberworld.co.uk

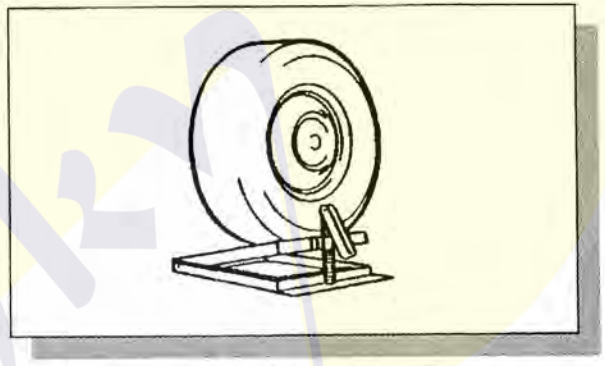
www.foldingcampers.net

SELECTING A SITE

1) Carefully choose the pitch where you wish to place the camper. The site should be as level as possible, not under or near to trees. It should be well drained and not near possible boggy or marshy areas.
2) Select the site bearing in mind that you will have to move off at some future time. On sloping ground, face the camper down hill – it is easier to tow off downhill, especially during rainy periods.
3) Level the camper laterally. This is accomplished by the use of levelling blocks (see sketch) an a spirit level placed parallel to the camper axle. Place the levelling block in front of the wheel needed to be raised to level the axle. The block should be wedge shaped, tyre width 100mm (4 inches) high and strong enough to support the weight of the camper.



4) With the help of a partner to watch the spirit level, tow the camper up the levelling block until the camper axle is level
5) Apply the camper handbrake. Chock the camper wheels, if necessary, lower the jockey wheel to the ground and lock it into position.
   NOTE: Whenever reversing into position on a downward slope, it is essential that the camper is eased forward a few inches into the final parking position. This forward movement repositions the braking auto reverse mechanism thus allowing the hand brake to become effective when applied. If parking on steep or slippery slopes as a precautionary measure, the wheels should be adequately chocked.



Unhitching the Camper

1) Using the adjustment on the jockey wheel and holding up the latch of the locking device, wind up the jockey wheel until the hitch is clear of the towing vehicle ball.
2) Fit the towing ball cover.

NOTE: On upward facing sites when the hydraulically damped drawbar of the camper is fully extended, it will be necessary to slightly compress the drawbar to achieve a 'clean' unhitching.

Proceed as follows;

1) Camper handbrake **ON**.
2) Reverse the towing vehicle **JUST** 1 inch to release the tension on the ball.

www.foldingcampers.net

3) Use the jockey wheel adjustment, as previously described, to unhitch the camper.

Horizontal Levelling

1) Place the spirit level in the doorway facing front to rear.
2) Wind the jockey wheel adjustment up or down until the spirit level indicates that the camper is level 'fore and aft'.
3) Wind down the corner steadies onto 'load spreaders' – (pieces of wood 6 inches square) taking care not to lift the camper.

NOTE: Corner steadies should only be used as wheel jacks in an emergency.

It is important that the camper is correctly levelled so that the fridge, cooker, water heater etc. will operate satisfactorily.

SARGENT

Sargent Electrical Services Ltd

Manufacturer and supplier of complete electrical systems for the Caravan, Motorhome, Holiday Home and Construction industry. Supplying a vast array of products, some of which include:

- Bespoke wiring harnesses and electrical kits for 12v and 230v installations using simple 'plug together' technology
- Power supplies and integrated battery charging systems using the latest charging techniques
- Digital and analogue control and display panels
- Mobile alarm systems for caravan and motorhome, offering easy OEM fitment with remote control and PIR movement / tilt sensing
- Bespoke modules for vehicle interface or control / interface functions
- Comprehensive stocks of switches, sockets and other electrical accessories

Contact details
Main office: 01482 881655 sales@sargentltd.co.uk
Dedicated support line: 01482 678981 support@sargentltd.co.uk
Web site: www.sargentltd.co.uk

www.foldingcampers.net

ELECTRICAL SYSTEM USING PSU 2005

1 INTRODUCTION

For the safe operation of all electrical equipment within your Folding Camper 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. Your Folding Camper has been fitted with an electrical system from Sargent Electrical Services Ltd.

and incorporates the PSU2005 power supply and AC60 control panel. This system provides protection for the 230v (mains) and 12v equipment, supplies 12v consumer power and charges the internal leisure battery. The electrical system complies with EN 1648-1 & -2 and BS7671.

2 CONTROL PANEL

The following diagram shows the DP20 control panel layout.



Note: to remove the decorative bezel, pull down and lift forward as indicated by the blue arrows.

Item	Function	Options / Notes
Battery SELECT / Master OFF	Used to select power from the Leisure or Vehicle battery, or to turn all 12v power OFF by placing in the centre position.	Up position - to select power from the Car battery (12S lead must be plugged into the car) Centre position - all power OFF Down position - to select power from the onboard Leisure battery
Battery GAUGE	The battery gauge shows the level of the selected battery (Car or Van). With the battery select switch in the centre position the battery gauge will be switched off.	The green region indicates a battery with a good charge, the yellow region indicates a battery with an adequate charge, and the red region indicates a battery that requires charging.

3 BATTERY

A) Type / Selection

For optimum performance and safety it is essential that only a proprietary brand LEISURE battery is used with a typical capacity of 75 to 120 Ah. A normal car battery is NOT suitable.

It is recommended that the leisure battery is always 'in circuit' when the system is in use.

The battery feed is fitted with an inline fuse between the battery and the electrical harness, this fuse is usually located immediately outside the battery compartment. The maximum rating of this fuse is 20A.

B) Installation & Removal

Always disconnect the 230v mains supply and turn the PSU 2005 charger switch to the OFF (0) position 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

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.

www.foldingcampers.net

C) 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. 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 10.5v. Discharging a battery below this figure can cause permanent damage to one or more of the cells within the battery.

D) Charging

The Leisure battery can be charged by the PSU2005 power supply unit, as follows:

- The mains 230v supply is connected and switched ON
- The RCD and MCB's are turned ON (up position)
- The red charger switch is turned ON
- The battery selector switch is switched to VAN at the control panel

The Vehicle battery can be charged by the PSU2005 power supply unit, as follows:

- The mains 230v supply is connected and switched ON
- The RCD and MCB's are turned ON (up position)
- The 12S connector is plugged into the CAR
- The red charger switch is turned ON
- The battery selector switch is switched to CAR at the control panel

4 12V CAR CONNECTIONS

To use your Leisure Vehicle effectively you will need to ensure your vehicle has been wired in accordance with the following diagrams:

Please also ensure that the RED cable within the 12S auxiliary connector is controlled via a relay so that the cable is only 'live' when the engine is running, otherwise the vehicle battery may become discharged by the fridge.

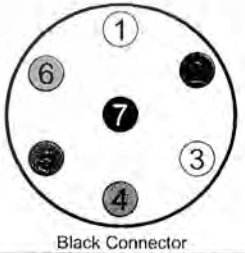
12S Auxiliary Connector



Grey or White Connector

1 - YELLOW – Reverse Lamps / reverse Brake
2 - BLUE - (Not Used)
3 - WHITE - Car Battery Negative (Earth)
4 - GREEN - Car Battery Positive
5 - BROWN - (Not Used)
6 - RED - Refrigerator Positive
(Connected to Car Battery when engine is running)
7 - BLACK - Refrigerator Negative (Earth)
(Separate earth cable to Car Battery negative)

12N Lighting Connector



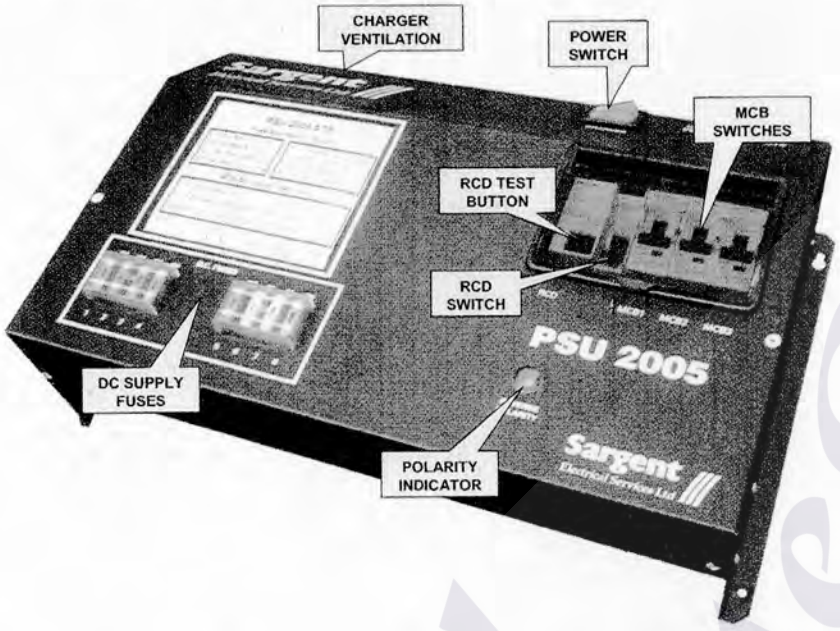
Black Connector

1 - YELLOW - Left Hand Indicator
2 - BLUE - Rear Fog Lamp
3 - WHITE - Car Battery Negative (Earth)
4 - GREEN - Right Hand indicator
5 - BROWN - Right Hand Lights
(Side, Tail, Number Plate)
6 - RED - Stop lamps
7 - BLACK - Left Hand Lights
(Side, Tail, Number Plate)

www.foldingcampers.net

5 MAINS CONNECTION

The following diagram shows the PSU2005 layout.



For your safety it is IMPORTANT that you follow these connection instructions each time your Leisure Vehicle is connected to a mains supply.

A) **Ensure suitability of the Mains Supply.** Your Leisure Vehicle should only be connected to an approved supply that meets the requirements of BS7671. 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 with the generator.

B) **Switch the PSU2005 unit OFF.** Locate the red power switch on the PSU2005 and ensure the switch is in the OFF (0) position 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. Ensure the cable is fully uncoiled before use.

D) **Check Residual Current Device operation.** Locate the RCD within the PSU2005 and ensure the RCD is switched on (lever in up position). Press the 'TEST' button and confirm that the RCD is turned 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 6.

E) **Check correct Polarity.** Locate the 'Reverse Polarity' indicator on the PSU2005 and ensure that the indicator is NOT illuminated. If the indicator is illuminated see section 6.

F) **Check Miniature Circuit Breakers.** Locate the MCB's within the PSU2005 (adjacent to the RCD) and ensure they are all in the ON (up) position.

G) **Turn the PSU2005 ON.** Locate the red power switch on the PSU2005 and turn to the ON (I) position. The switch will illuminate when turned on.

H) **Check operation of equipment.** It is now safe to check the operation of the 12v and 230v equipment.

www.foldingcampers.net

6 FAULT TABLE

Fault	Possible Cause	Proposed Fix
No 240 volt output	Connecting lead between the site and Folding Camper not connected	Check and connect lead as per 5C Check also input connector at the base of the PSU 2005
	RCD switched off	Reset RCD as per 5D
	RCD not operating correctly	Check supply polarity
	MCB switched off	Reset MCB by switching OFF (down position) then back ON (up position)
	No or deficient supply from site	Contact site Warden for assistance
	Other fault	Contact your Dealer
No 12 volt output	No 240v supply	Check all above
	Charger not switched on	Switch charger switch on (I) position, switch will illuminate
	Battery not connected and / or charged	Install charged battery as per 3
	Power selector switch on control panel not switched to 'van' (where fitted)	Select 'van' on control panel
	Fuse blown	Check all fuses are intact and the correct value fuse is installed as per fuse table shown in 7
	Equipment switched off / unplugged	Check equipment switched is on and connected to the 12v supply
	Other fault	Contact your Dealer

7 FUSE / MCB TABLE

Fuse	Rating	Fuse Colour	Wire Colour	Description
1	10 Amps	Red	*	Not Used
2	10 Amps	Red	Slate	Lights (if fitted)
3	10 Amps	Red	*	Not Used
4	10 Amps	Red	Purple	Water pump / Toilet pump (if fitted)
5	10 Amps	Red	Yellow / White	12v Sockets
6	5 Amps	Tan	Yellow / Green	Water Heater Ignition (if fitted)
7	5 Amps	Tan	Black / Blue	Internal Heater
8	15 Amps	Blue	*	Charger (internally connected)
Battery	20 Amps	Yellow	Brown / Blue	Fuse remotely located near battery

MCB	Rating	Wire Colour	Description
1	10 Amps	White	240v Sockets
2	10 Amps	White (Orange for water heater)	240v Sockets / Water heater (if fitted)
3	6 Amps	Black	Fridge / 12v Charger

8 TECHNICAL DATA & APPROVALS

8.1 OUTLINE SPECIFICATION

INPUT 230v	230 Volts / 0 to 16 Amps	+ / - 10%
OUTPUT 230v	RCD protected, 3 x MCB outputs of 10, 10 and 6A via 2 x 9 way connectors	
INPUT 12v	1 x 20A battery input (selectable from the control panel)	
OUTPUT 12v	20A total output protected by 7 fused outputs via a 4 and 12 way connectors	
Integrated CHARGER	Input 220-240 Volts AC +/- 10%, Frequency 50 Hz +/- 6%, Current 3.15A max. DC Output 13.5 Volts nominal, Current 12 Amps max (150 Watts).	
Signal INPUT	1 x Engine running signal connected directly to externally mounted EMC isolation relay.	
IP rating	IP31	
Operating temperature	Ambient 0 to 35° Centigrade PSU case temperature with full load 65° C Max	

8.2 DIMENSIONS

PSU2005	Overall size (HxWxD) 230 x 370 x 110mm	Fixing centres 195 x 360mm
	Weight 3.2 Kg	
CONTROL PANEL	Overall size (HxWxD) 80 x 193 x 40mm	Fixing centres 123mm
	Weight 75 g	

8.3 APPROVALS

System: BSEN 1648-1, BSEN1648-2 compliant, BS7671: 2001 compliant

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

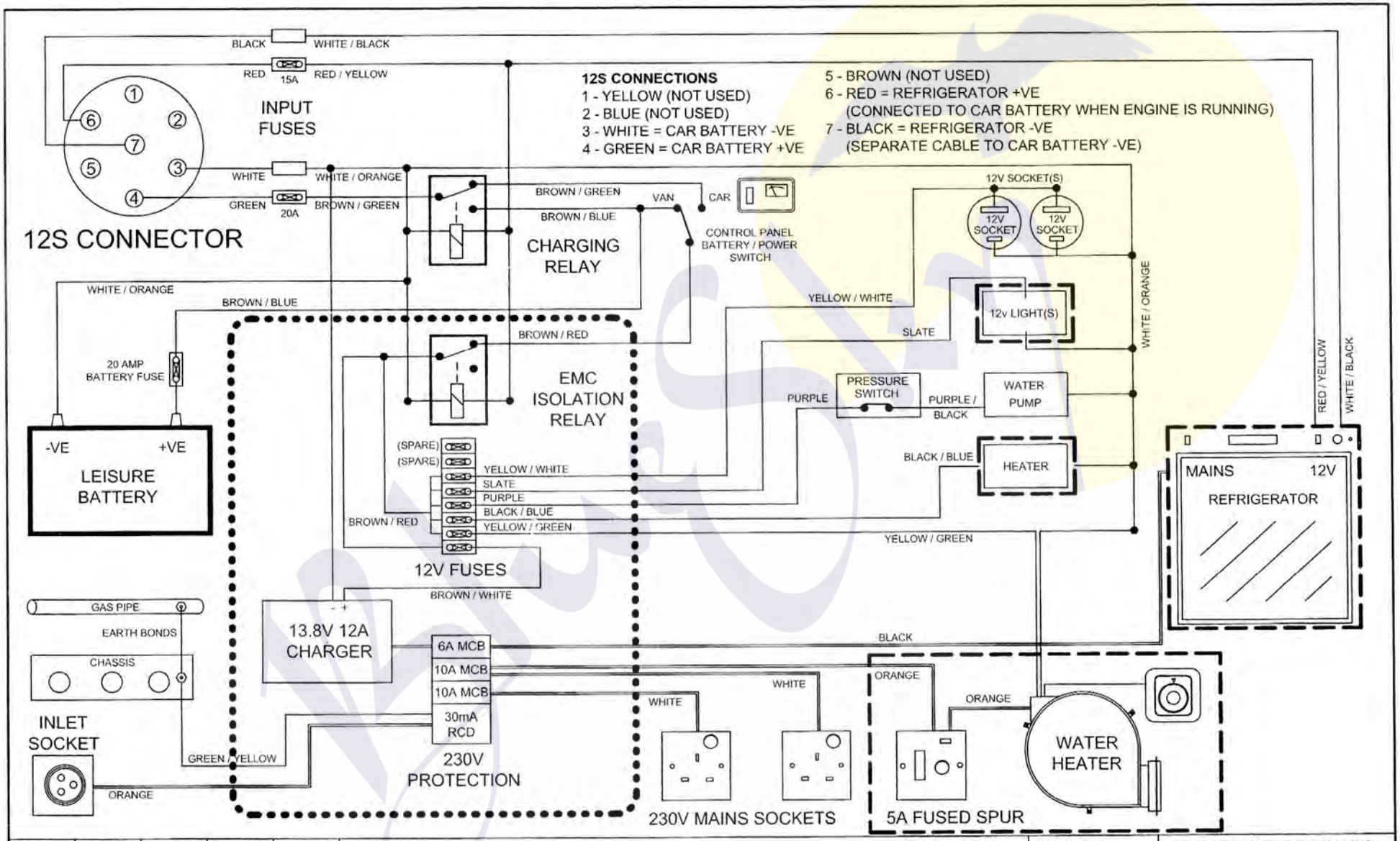
Miniature Circuit Breakers: MCB's (10 & 6A) type C 6000A breaking capacity to BSEN 60898

Electro Magnetic Compatibility (EMC) directive 89/336/EEC

Integrated Charger: BS EN 60335-1/2.29, 89/336/EEC, IEC61000-3.2/3:1995, EMC certificate 5172TC 3rd party tested.

www.foldingcampers.net

8.4 TYPICAL APPLICATION SCHEMATIC WIRING DIAGRAM

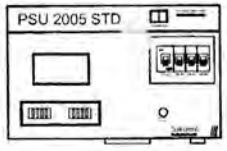


ISSUE	REV'N	DATE	DRN	APRV
P	N/A	29/09/03	DMC	
01	N/A	11/03/10	DMC	
02	****	**/**/**	****	
03	****	**/**/**	****	

COPYRIGHT SARGENT ELECTRICAL SERVICES LTD.
UNIT 39, TOKENSPIRE BUSINESS PARK
WOODMANSEY, BEVERLEY, EAST YORKSHIRE, HU17 0TB

DOTTED LINE SHOWS COMPONENTS CONTAINED WITHIN THE PSU2005 UNIT >>>

DASHED LINE SHOWS OPTIONAL COMPONENTS



DRG TITLE	2010 PENNINE SCHEMATIC
DRG NUMBER	*****_**
CUST PART No	*****
CUSTOMER	PENNINE LEISURE
VEHICLE	2010 RANGE

www.foldingcampers.net

THE GAS SYSTEM

Introduction

Your Leisure Vehicle will be fitted with a a hob unit and a Dometic RM4200 refrigerator and on certain models a water heater and an oven. (Operating instructions for these appliances can be found in the specific user instructions supplied.

Liquified Petroleum Gas (LPG) is used to fuel the appliances via a regulator. There are two types of bottled LPG commonly used in the United Kingdom and Europe, Butane and Propane. Most cylinders containing Butane are blue, those holding Propane are red. The variety, sizes and shapes of gas cylinders are many. Consult your Pennine dealer for advice.

Using LPG Safely

!WARNING: Read the following carefully:

1) Before towing your camper you must ensure that gas appliances and gas cylinders are turned off. It is recommended that a refrigerator (if fitted) is operated from the 12v supply via the 12S ancillary power cable while travelling – not from bottled gas.
2) **NEVER** apply heat to a gas cylinder.
3) Regularly check the flexible gas hose and clips sealing the joints between hose/cylinder and hose/gas inlet.
4) Make sure there are no naked lights when changing a gas cylinder. Do not smoke while changing a gas cylinder.
5) Make sure that each gas appliance is working efficiently to the recommendations of appliance manufacturers.
6) **NEVER** look for a gas leak with a naked flame. Always use a soap solution when testing connections.

   Better still – call your Pennine dealer if in doubt.

CALOR GAS INFORMATION

Calor Gas At Your Service

Calor Gas introduced bottled gas for caravanners nearly 60 years ago and has continued to give an unparalleled service throughout Great Britain and Ireland ever since.

The Gas That Goes Anywhere

Backed by the country's largest LPG (Liquified Petroleum Gas) storage and distribution network and over 10,000 retail outlets – many of which are caravan parks – Calor Gas provides portable gas for tourers and more permanent installations for caravan holiday homes virtually anywhere in the British Isles.

All Year Round Performance

The Calor Gas cylinder range now includes a range of propane as well as butane cylinder sizes to meet the needs of every caravanner, in winter and summer. Now there is even a 6kg propane cylinder available especially developed by Calor Gas for campers and caravan tourers. For those thinking of switching to propane, with its superior winter performance, Calor Gas dealers will be pleased to help.

Hot, Cool or Sizzling

Calor Gas dealers have a wide range of approved gas appliances, including cookers, fridges, water heaters, space heaters and of course, portable barbecues to add the sizzle to summer.

Safety Comes First

Calor Gas puts safety first and encourages caravanners to do the same. In particular, make sure ventilators are not blocked.

www.foldingcampers.net

If in doubt, check with your local Calor Gas dealer or phone the freephone number below.

For details of how to connect the regulator to the Calor Gas cylinder please refer to the booklet enclosed.

Calor Gas Customer Services

Calor Gas regional customer service departments are always happy to help you. Call free on 0800 626 626 and ask for 'Customer Service'.

NEW GAS REGULATION STANDARD EN 1949

This gas regulation came into effect on September 1st 2003. The new regulation is applicable to all 2004 model year units and basically means that all Folding Camper models produced after the 1st September 2003 will have been fitted with a regulator as standard.

This was not the case on units produced via to this date, but the fitting of the regulator will offer you the following benifits/advantages

1. The units are fitted with a dual diaphram for over pressure protection - if one fails the other will prevent unregulated gas entering the system.
2. The bodies are made from stainless steel to prevent corrosion.
3. There will no longer be a need to choose between propane or butane gas - the new regulator is designed to cope with either.
4. The regulator will be fitted as standard equipment and will therefore mean that in relation to the gas connection of the camper, there will only be a need to purchase hoses (or pigtails as they may be called)

Your supplying dealer should be fully aware of these regulations and will be able to advise on your requirements with reference to connecting to the regulator.

THE WATER SYSTEM INTRODUCTION

In order to utilise the water system of your camper, you will need two water containers; one to carry fresh water to the camper and another to allow waste water from the kitchen to be properly disposed of. There are jerrycans, folding containers and wheeled containers on the market. Ask your Pennine Dealer for advice.

THE TRUMA SUBMERSIBLE PUMP

The Truma Submersible Pump 12v socket/water inlet can be found towards the front of your camper. With your filled fresh water container in position, connect the water pipe and the attached plug to the 12v socket outlet.

Gently place the end with the pump attached into the water container. The Truma Submersible Pump is self-priming so is now ready for use. The operation of your tap will automatically activate the pump.

OPERATION OF SUBMERSIBLE PUMP – HINTS

To obtain efficient running and maximum life, ensure the following;

1) There is sufficient water in the container; do not run the pump when dry.
2) All hose connections are water tight.
3) There is adequate ventilation in the water container – any cap fitting must have a ventilation hole of at least 5mm diameter.

www.foldingcampers.net

4) The 12v power supply is adequate – low performance could result from a weak battery.

5) Sometimes, when refilling the water container, it is possible to create an airlock in the pump. As a result, the pump will run noisily and will not pump. To cure this, gently shake the hose to dislodge the air pocket in the pump.

6) The pump strainers should be inspected and cleaned at regular intervals.

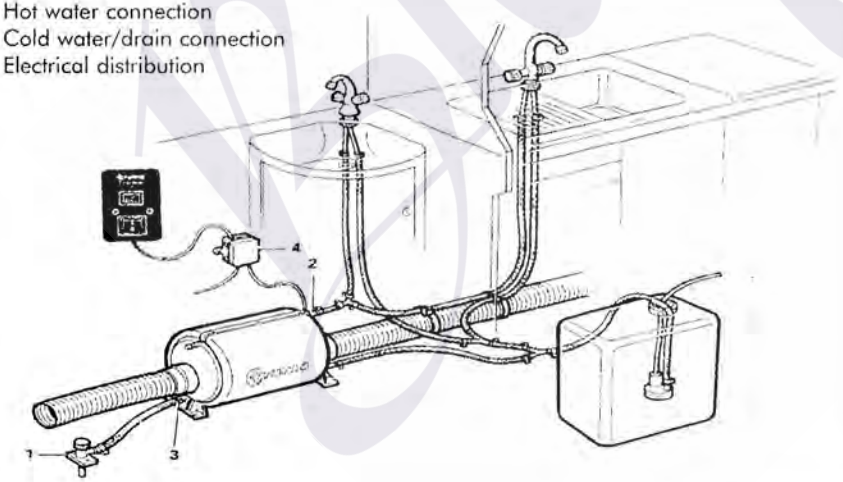
7) The pump body is completely sealed and no maintenance is required.

WINTER STORAGE (SUBMERSIBLE PUMPS)

To prevent frost damage during winter storage, the following precaution should be taken after your last outing of the season.

Installation diagram

1. Drain valve
2. Hot water connection
3. Cold water/drain connection
4. Electrical distribution



The complete system should be drained of water. In case of the Tiptoe pump, it is necessary to disconnect the inlet hose from the base of the pump and allow all water to drain. The submersible pump must be drained by opening the tap and allowing the water to empty completely from the pipework.

THE NEW THERME

Hot water produced by warm air system or electricity

Remote switch with LED display

Can be operated with all standard immersion pumps

Short heating up time

High burst pressure resistant

Technical data

Capacity:	5 litres
Heating system:	Warm air and/or electricity
Length / height / width:	37 cm / 23 cm / 22 cm
Weight:	approx. 2 kg, cpl. with drain valve
Electric heating element:	230 V (300 W) with temperature limitation 65° C (over temperature fuse 85 °C)
Operating pressure:	1.2 bar max. (only use pumps without non return valve)

Accessories

Art.No.	Description
42011-01	Therme TT2 cpl. with drain valve, remote switch and electrical distribution box
40020-00300	Mixing tap (necessary with one-way cocks)
40400-00	ST water hose (food approved)
40710-00	SC water hose clip (for routing water hoses on warm air pipes)
40350-00	VD end cap

www.foldingcampers.net

TRUMA-ULTRASTORE (OPTION)

liquid gas storage water heater with additional electric heating 230v

Operating instructions

Always observe the operating instructions prior to starting! The vehicle owner is responsible for the correct operation of the appliance.

The installer or vehicle owner must apply the yellow sticker with the warning information, which is enclosed with the appliance, to a place in the vehicle where it is clearly visible to all users (e.g. on the wardrobe door)! Ask Truma to send you stickers, if necessary. Please refer to specific user instructions supplied with camper for more information.

THETFORD ELECTRONIC FLUSHING CASSETTE TOILET

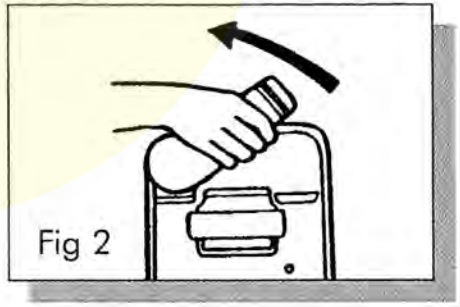
Introduction

The new Thetford Cassette Porta Potti design is functional and incorporates modern sculpture styling with home-like features making it aesthetically compatible with the Caravan bathroom decor. The unit is an integral part of the caravan bathroom.

The Cassette Porta Potti is constructed of high quality plastics for durability and has a high gloss finish that is easy to clean and maintain. The unit consists of two sections, a permanently installed toilet system and a slide out waste holding tank - CASSETTE.

The toilet section includes a seat and a cover, flush and valve blade opener knob, toilet tissue compartment, a drip tray - a drain tube assembly. The unique cassette section is located underneath the toilet and is removed for emptying from outside the caravan through an access door. A rotating pour out spout, automatic holding tank vent, air release valve, valve blade, carrying handles and hand grips are incorporated into the cassette. Other features include a safety sensor switch that guards against adding water to the bowl without cassette in proper position. The Thetford Cassette Porta Potti is a unique solution to a caravan's sanitary problem.


Fig 1


Fig 2

www.foldingcampers.net

Note: The water for flushing the toilet is supplied direct from the onboard water tank.

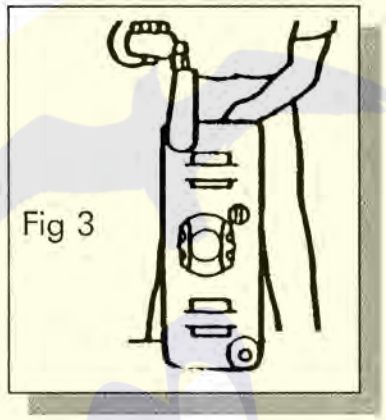
Preparing for use

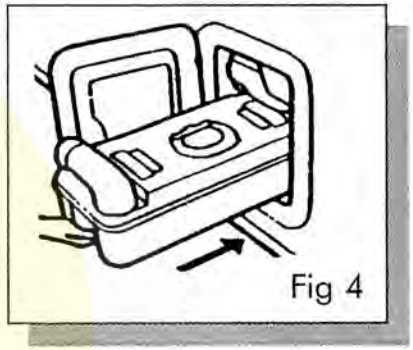
1) Remove cassette by pulling straight out. When cassette hits stop, tilt downwards slightly and remove (stop for safety when cassette is full).
2) Position tank vertical and swivel pour out spout upward.
3) Remove cap. Remove deodorant from storage compartment. Add 100ml of Aqua Kem or 120ml of Aqua Kem Bio through pour out spout. Add small amount of water through spout to cover. tank bottom. Replace cap and return pour out spout to its original stored position.

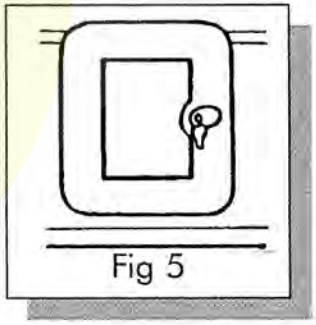
NOTE: As an alternative deodorant can be added to cassette through the valve blade opening.

Hotter weather or longer retention time may require addition of more Aqua Kem.

CAUTION: Do not add Aqua Kem Concentrate or Aqua Kem Bio directly into toilet bowl while cassette tank valve blade is closed. Pressure due to heat and altitude change can build up in the cassette tank causing bowl contents to splash upward upon opening the valve blade, if opened too fast. Before each use, open and shut the cassette valve blade to vent the tank.


Fig 3


Fig 4


Fig 5

4) Slide the cassette, pour out spout facing outside into the caravan through access door. Never force insertion or removal of the cassette tank, damage to the system may occur.
5) Make sure the cassette is secured by retaining clip, close and lock access door.

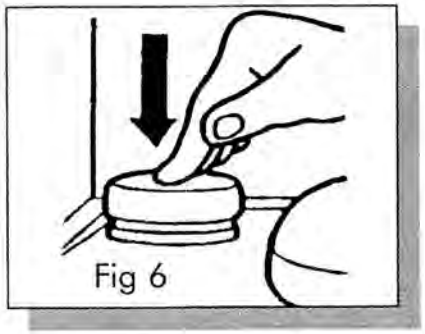
Operation

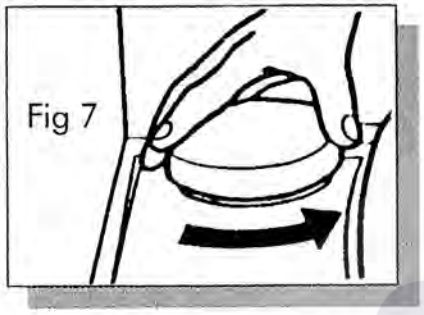
Flushing

6) Before using the toilet we advise you to add some water to the bowl by pressing down the flush knob. This avoids marking the bowl. Water will stop flowing when the knob is released.

www.foldingcampers.net

7) To flush after use press the flush knob down while turning in an anti-clock wise direction.


Fig 6


Fig 7

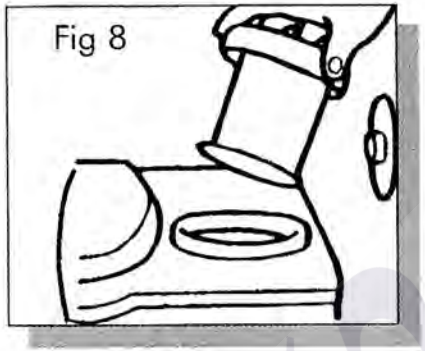

Fig 8


Fig 9

The turning motion opens the valve blade, emptying the toilet bowl. This procedure results in the best bowl rinse and most efficient use of water. After flushing, turn the knob in a clockwise direction to close the valve blade. The toilet can also be used with the valve blade open, which allows the waste to go directly into the holding tank.

Toilet Tissue

8) Toilet tissue is stored in the specially designed storage compartment that helps to keep the tissue clean and dry. Tissue can also be suspended on a tissue holder using the special wall mounted bracket if desired.

9) To replace tissue, remove tissue holder from compartment by pulling up on tissue cover. Hold bottom of tissue holder in one hand and cover in the other, and turn in opposite directions until you hear a click. Pull apart. Place tissue on holder, insert prongs of cover into holder. Hold cover and holder and twist in opposite direction until locked. Aqua soft toilet tissue is recommended for best results.

Emptying the Cassette

The cassette capacity is 20 litres and should be emptied when the waste level gauge indicator goes from green to full red. The gauge does not begin to move to red until tank is over half full.

CAUTION: Do not allow cassette to become overfilled, see trouble shooting section for emergency emptying procedure. To empty cassette be sure that the valve blade is in the closed position.

10) Open the access door on side of caravan. Depress the retainer clip, pull cassette until stop, tilt and remove cassette.

11) Carry the cassette using the lower carrying handle, pour out spout up, to a normal household type toilet or other authorised disposal point. Set cassette in vertical position on the ground and rotate pour out spout upward.

12) Remove spout cap. Grasp unit by upper carrying handle nearest to pour out spout. Place other hand on upper rear hand grip so that the air relief valve button can be depressed with thumb while emptying, to ensure smooth outflow of tank contents.

www.foldingcampers.net

When empty, rinse tank and valve blade area with water.

NOTE: Depress air release valve button only when pour spout is pointing upwards.

13) After preparing for use, slide the cassette into the caravan. Check to make sure that the retaining clip secures the tank in a locked position. The pour out spout end of the tank should be visible through the access door opening. Add water to the fresh water tank as outlined in "preparation for use" section and close and lock access door.

Cleaning and Maintenance

No routine maintenance is required on the Thetford Cassette Porta Potti. The use of Aqua Rinse helps to clean and protect the toilet bowl, valve blade and seals during flushing. Do not use strong household detergents or cleaners with chlorine, solvents or acid contents, as they will damage seal valves. Empty cassette and rinse tank with clear water. Use a mild soap to clean toilet bowl, seat and cover, as well as exterior of toilet unit and cassette. Replace tank inside caravan. **NOTE:** a) pour out spout and vent plug can be removed; b) seals should be greased if necessary with acid free vaseline.

WINTER STORAGE

The Thetford Porta Potti is easily stored in winter. When the cassette is not going to be used in winter you have to carry out the winterising of the cassette in the normal procedure of winterising the caravan. Before beginning to drain the water supply system of the caravan. Open the electric valve by pressing down the flush knob while the system is under pressure. keep the flush knob pressed down while draining the water supply system.

Trouble Shooting - Problems & Solutions

Bowl does not drain when toilet is flushed. Cassette is overfilled. **DO NOT REMOVE CASSETTE.** While inside the caravan turn flush knob anti-clockwise to open valve blade and leave it in the open position.

Open access door on side of caravan. Rotate pour out spout outward. Place appropriate size container under spout cap. Remove cap carefully. Allow bowl contents to drain into container. This will lower the water level in the bowl. Replace cap and return pour out spout to stored position. **DO NOT REMOVE CASSETTE.** Go inside and turn the flush knob clockwise to close valve blade. Now, the **CASSETTE** may be removed following the normal removal and emptying procedure.

Toilet tissue does not fit into compartment

Since some tissues are supplied on larger rolls, it may be necessary to use some tissue before storing in the compartment.

Soiled bowl after flushing

Partially fill bowl to cover soiled portion of bowl. Next flush will dissolve waste. TIP: Leave valve blade open during use.

No power to add water to toilet bowl

Check **CASSETTE** safety sensor switch and fuse holder for proper engagement and operation. **NOTE:** **CASSETTE** has to be removed to reach switch and fuse. Insert **CASSETTE** and try adding water to toilet bowl. Toilet can be flushed manually. Add water to bowl from a separate container. Turn flush knob anti-clockwise to open valve blade. Turn clockwise to close valve blade.

www.foldingcampers.net

CASSETTE cannot be removed.
Check for obstacles under retaining clip. Depress retaining clip several times to check operation. Remove CASSETTE. Flush knob and valve blade in partial open position. Close valve blade by moving knob clockwise.

CAUTION: If valve blade is open during CASSETTE removal, severe damage to system can occur. Never force insertion or removal of the CASSETTE tank.

Valve blade mechanism sticks or is hard to open
Spray light film of silicone on blade.

Major unit malfunction
Contact your Pennine dealer.

KITCHEN EQUIPMENT

STAINLESS STEEL HOB UNIT AND SINK WITH DRAINER, HOB BURNERS

!WARNING: Do not use your hob or grill without ensuring that the lid is open, the support stay locked and the aluminium shield clipped in place.

Burners can be used for fast boiling or simmering and are controlled by safety taps of the self locking type.

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

When turning a tap from the full on position to a low rate, turn anti-clockwise until the tap will not turn any further. This indicates the bottom of the simmer range. By turning clockwise, a larger flame can be obtained when required. To turn off, turn clockwise to the off position, when a stop will be reached; then release and the tap will spring out. Try not to have burner flames spreading beyond the base of small pans since this is wasteful. Make sure that the base of every kettle, saucepan or frying pan is smooth; any roughness may damage the chrome plated support.

Pan Sizes

The unit is suitable for use with pan sizes from 10cm (4") to 22cm (8.5") diameter.

www.foldingcampers.net

Grill

The operation of lighting and controlling this burner is the same as for the hob burners. Place the pan centrally under the grill. The grill heats up quickly so it is unnecessary to pre-heat it unless steaks or chops are being cooked in which case a couple of minutes pre-heating improves the quality of the grill. If a pre-heat is used, the empty grill pan should be placed under the grill to protect the base lining. When the grill has heated up, remove the grill pan, load the pan and place it centrally under the grill. The grill pan grid is reversible, giving a choice of two heights. Use it in the high position for toast.

Cleaning

To keep this appliance in good condition, it should be cleaned as soon as possible after use. The stainless steel sink unit and the burner heads should be cleaned with warm water and detergent using a soft cloth or a non-abrasive liquid cleaner. Stubborn stains can be removed by Duraglit or similar products. **DO NOT** use harsh abrasive cleaners, steel wool or cleansing powders. **NEVER** insert prickers, wires etc into jets for cleaning.

Adjusting

Your unit will be supplied correctly fitted and adjusted. Any subsequent service must be carried out by a person qualified to do so.

Using Your Hob Unit Safely

1) When the grill or hob is in use, always leave the front of the grill compartment open to allow hot air to escape. Always allow to cool before closing.
2) Always raise the hob lid, lock the support stay and clip the aluminium shield in place before using the grill or hob.
3) The clear plastic cover over the ventilation mesh behind the hob/sink unit should be opened while using the hob/sink.
4) The grill or hob must not in any circumstances be used as a space heater.
5) Care should be taken to ensure that flammable materials are not in the vicinity of the burner flames.

Manufactured by;

Spinflo Limited,
4-6 Welland Close,
Parkwood Industrial Estate,
Rutland Road,
Sheffield S3 9QY
Tel: (0114) 2738157

or

Dometic UK Limited
The Brewery
Blandford St. Mary
Dorset
DT11 9LS
Tel: 0844 626 0133

SPINFLO COOKERS

The Hob

To Light The Hob

1) Push in the control knob and turn anti-clockwise to the large flame symbol.
2) No ignition button is fitted, you will need an igniter or matches.
3) Keep the control knob depressed for a few seconds after the burner has lit
4) until the flame is established and the flame sensing device has opened.
5) Turn the control knob to the required setting.

To Turn Off

Turn the control knob clockwise until the dot symbol on the control knob is next to the reference mark on the facia.

www.foldingcampers.net

BE SAFE, NOT SORRY
WHEN YOU ARE COOKING KEEP CHILDREN AWAY FROM THE VICINITY.

Turn pan handles inwards so they are out of reach of children and cannot be caught accidentally.

Avoid using pans with a diameter of less than 100mm/4ins or old mis-shapen pans which are unstable and dangerous.

NEVER LEAVE FAT OR OIL UNATTENDED ON A LIT RING.

Do not use pans with a base diameter greater than 200mm / 8ins. Using a pan that is larger than this may cause damage to the control knobs.

Always use the most appropriate size of burner for the pan you wish to use. Do not use foil on the hob as it creates a fire hazard.

The Grill

THE DOOR MUST BE OPEN WHEN THE GRILL IS USED.

Never cover the grill pan or grid with cooking foil, or allow fat to build up in the grill pan as this creates a fire hazard. Keep all flammable material away from the appliance.

CAUTION: WHEN THE GRILL IS BEING USED, ACCESSIBLE PARTS MAY BE HOT - YOUNG CHILDREN SHOULD BE KEPT AWAY.

To Light The Grill

Open the door and push in and turn the control knob anticlockwise to the large flame symbol. Keep the knob depressed and light using ignitor (not supplied). The knob must be held in for 15-20 seconds before releasing. Adjust to the desired setting.

Using The Grill

Push in the grill pan until it locates centrally under the grill burner.

There are three different grilling positions as the trivet can be inverted to give a high or low position or it may be removed.

1) The high trivet position is suitable for toasting bread.
2) The low trivet position is suitable for grilling all types of meat.
3) With the trivet removed, the food is placed directly on the base of the grill pan eg. when cooking dishes such as whole fish.

Always pre-heat the grill for 3 minutes for best results. When you have finished grilling, check the control knob is in the off position.

CLEANING

Caustic pastes, abrasive cleaning powders, coarse wire wool and hard implements will damage the surfaces.

All parts of the hob can be safely cleaned with a cloth wrung out in hot soapy water but allow it to cool before cleaning. To avoid damaging the surfaces when removing stubborn marks we recommend the following:–

Facia knobs – Only use hot soapy water.

Hotplate pan supports and burner caps – Use a mild paste cleaner which has the vitreous enamel recommendation seal, eg. Jif, Flash or Ajax liquid, or use a moist soap pad eg. Brillo.

Burner ring – For the burners to work safely, the holes in the burner ring where the flames burn need to be kept clear of deposit. Use a moist soap pad or clean with a nylon brush, rinse

www.foldingcampers.net

and dry thoroughly.

BLOW OUT ANY WATER REMAINING IN THE HOLES.

Burner Skirt – The burner skirt is aluminium and can be **PERMANENTLY DAMAGED** by soaking or automatic dishwashers. Use a mild soap pad.

When replacing the pan supports, locate with the plastic clips.

THE OVEN

DO NOT use foil on the oven shelves as this creates a fire hazard.

Keep all flammable material away from the appliance.

CAUTION: When you are cooking, keep children away from the vicinity of the oven.

IMPORTANT: a safety device stops the ignition being used when the oven door is closed.

To Light The Oven

1) Open the oven door and turn the control knob anti-clockwise to the required gas mark. Press and hold the Piezo ignition until flame stays in!
2) Once the burner has lit, close the oven door, and hold the knob in for 15-20 seconds.
3) If the flame goes out, the flame sensing device cuts off the gas supply to the burner.

To light the oven again, wait for 3 minutes and then repeat steps 1 and 2. The required gas mark setting can now be selected.

To Turn Off

Push in the control knob and turn clockwise.

Using The Oven

The oven must be pre-heated for 10 minutes when re-heating frozen or chilled food, and it is recommended to preheat for all yeast mixtures, batters, souffles and whisked sponges. If you are not pre-heating the oven the cooking times in the oven cooking guides may need to be extended as they are based on use of a pre-heated oven.

The shelf positions in the oven baking guide are counted from the top of the oven. If you prefer darker cooked results, cook on a higher shelf, for paler results, use a lower shelf.

The cake tray and roasting tin that are supplied with this appliance are the largest which can be used for good results and even baking.

Place food items on the tray and position the tray on the centre of the shelf, leaving one clear shelf position between shelves to allow for circulation of heat.

www.foldingcampers.net

CLEANING

DO NOT USE CAUSTIC PASTES, ABRASIVE CLEANING POWDERS, COARSE WIRE WOOL OR ANY HARD IMPLEMENTS AS THEY WILL DAMAGE THE SURFACES.

Clean your oven frequently to avoid a build up of soiling which will be difficult to remove.

Always clean off any spillages as soon as possible to prevent them burning on.

All parts of the oven can be safely cleaned with a cloth wrung out in hot soapy water, but let the oven cool before cleaning.

Use the following recommended cleaning methods for the various component parts and finishes of the oven.

For the vitreous enamelled parts of your oven, only use cleaners which bear the Vitreous Enamel Development Council's recommendation seal, eg. 'Jif', 'Ajax' liquid or cream.

Gold Finished Parts

Door handles – Only use a clean cloth wrung out in hot soapy water.

Glass Parts

Do not use abrasive cleaners or polishes. Use a mild cream cleaner, rinse thoroughly and dry with a soft cloth.

The lower door glass panel can be removed for cleaning, open the oven door wide, hold the bottom and top edges and slide out. When replacing the glass panel, hold it level and straight with the grooves in the door trims before sliding it back in.

Painted Parts

Only use a clean cloth wrung out in hot soapy water.

Vitreous Enamel Parts

(Grill pan, heat guard and oven/grill compartments)

Use a mild cleaner with approved seal.

Chrome Plated Parts

Do not use abrasives or polishes. Use a moist soap pad eg. Brillo.

Shelf runners can be removed for cleaning. Grasp the runners and slide out of the hanging holes.

IMPORTANT SAFETY REQUIREMENTS

Servicing

All servicing work should be carried out by an experienced and skilled person.

Important

These recommendations apply to all cooking appliances and are intended as a guide for your safety.

Do not leave the oven door open for longer than necessary when the burner is alight. The oven must not be used as a heater.

Do not leave cabinet doors open which are near to the heat source whilst any cooking appliance is in use.

Perishable foods flammable items ie. aerosol cans etc. should not be stored in cabinets which are in close proximity to any cooking appliance.

www.foldingcampers.net

THE DOMETIC RM4200 INSTRUCTIONS FOR USE

Introduction

To ensure good refrigeration and economical operation, the refrigerator must be used as described in these instructions.

The refrigerator is designed for 'built-in' installation in campers. The refrigerator can be operated from either propane or butane gas without adjustment to the appliance.

Important Information

This product is designed to be operated by adults. Children should not be allowed to tamper with the controls or play with the product.

Any electrical work required to install this appliance should be carried out by a qualified electrician.

It is dangerous to alter the specifications or modify this appliance in any way.

Care must be taken to ensure that the appliance does not stand on the electrical supply cable.

Electrolux camper refrigerators are designed to be used specifically for the storage of edible foodstuffs only.

There are working parts in this product which heat up. Always ensure that there is adequate ventilation as failure to do this will result in component failure and possible food loss.

Parts which heat up should not be exposed. Wherever possible, the back of the product should be close to a wall, but leaving the required distance for ventilation as stated in the installation instructions.

Before defrosting, cleaning or maintenance work is carried out, be sure to switch off the appliance and unplug it.

The ice box in this appliance contains tubes through which the refrigerant passes. If these are punctured this would cause substantial damage and result in food loss. **DO NOT USE SHARP INSTRUMENTS** to scrape off frost or ice. Under no circumstances should ice be forced off the ice box. Solid ice should be allowed to thaw when defrosting the appliance.

This appliance is heavy. Care should be taken when moving it.

Ice lollies can cause frost burns if consumed straight from the freezer.

Frozen food must not be refrozen once it has thawed out.

Manufacturers' food storage recommendations should be strictly adhered to. Refer to relevant instructions.

Do not place carbonated or fizzy drinks as it creates pressure on the container which may cause it to explode resulting in damage to the appliance.

Under no circumstances should you attempt to repair the appliance yourself as it may lead to injury or a more serious malfunctioning.

www.foldingcampers.net

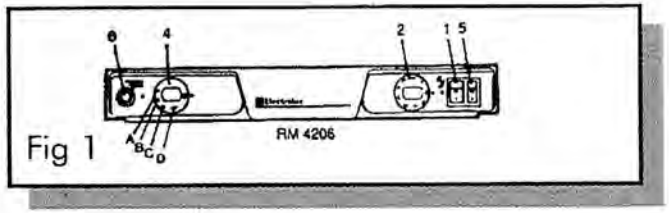
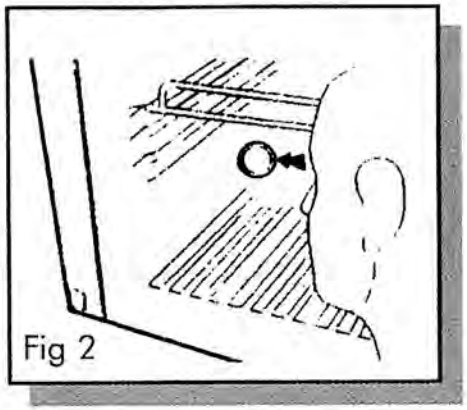
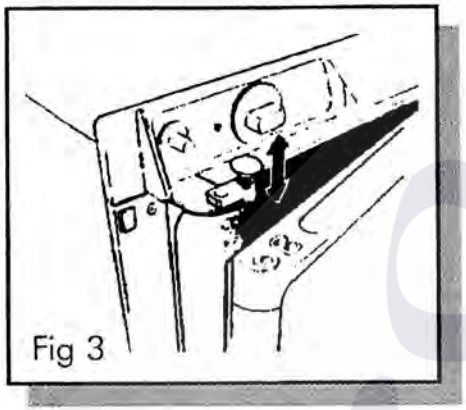


Fig 1


Fig 2


Fig 3

Controls

The refrigerator can be run on either 240v, 12v or LP gas. Changing between these modes of operation is carried out by means of the control panel. (See the diagrams above).

Two rocker switches are used to select the electric power supply, one for 240v (1) and one for 12v (5).

Refrigerator temperature is controlled by a thermostat knob (2) when the refrigerator runs on 240v.

The gas supply is turned on/off by means of the knob (4). When lighting the gas, one must press in the knob as explained further on.

A manual piezo-electric igniter is used. When button (6) is pressed, sparks are generated at the burner.

STARTING THE REFRIGERATOR

CAUTION: Only one source of energy at a time.

LP GAS OPERATION

After initial installation, after servicing, changing gas cylinders etc., the gas lines may contain some air which should be allowed to escape by briefly turning on the refrigerator or other appliances. This will ensure that the flame lights immediately.

The flame failure device will automatically shut off gas to the burner if the flame is blown out. On electronic ignition versions the flame failure device will also shut off the gas, if the burner does not relight within about a minute of the flame being blown out.

Before You Start Gas Operation

1) Open the shut-off valve of the gas bottle (check that there is enough gas). Open any on-board shut-off valve.
2) Check that the switches for mains and 12v are off.
3) Depress and turn on the gas control safety device knob (4) to the gas position D.
4) Depress the gas control safety device knob (4) and hold it down while depressing the piezo-electric igniter button rapidly 3 or 4 times in quick succession.
5) Check the flame viewer to see whether the flame is alight (see Fig 2).
6) Keep the safety device control depressed for a further 15-30 seconds.
7) Release the safety device control and check to see that the flame is alight. (See Fig 2).
8) To terminate gas operation, turn knob (4) to '0'.

www.foldingcampers.net

240V OPERATION

1) Turn off gas or 12v operation where applicable.
2) Set switch (1) to position 1.

12V OPERATION

There is no Thermostatic Control on 12v Operation.

Only operate your refrigerator on 12v when the engine of your vehicle is running. Install through a relay or otherwise your battery will soon be discharged. Relay fitted as standard in camper.

NOTE: Before operating the refrigerator on 12v, it should be pre-cooled, together with its contents, by running it on bottled gas or 240v for a few hours before changing over to 12v and starting on a journey.

1) If applicable, turn off the gas operation.
2) Set the 240v rocker switch (1) to '0' and the 12v switch (5) to 1.

Winter Operation

If the refrigerator has been left switched off in an unheated camper when the outside temperature is below -12C, the cooling unit will become so cold that it cannot be started in the 240v mode of operation. In such an event, the refrigerator must be started on LP gas.

Some ventilator grills have a facility for winter cover (ask your dealer). These covers should be fitted in winter conditions to avoid over freezing of the refrigerator. The covers can also be used when the camper is in storage or is being washed by a high pressure spray. Remember to remove the winter covers at all other times when the refrigerator is in use.

Regulating The Temperature (See Fig 1)

Once the refrigerator has been started up, it will take a few minutes to become cold. On 240v operation, the refrigerator is controlled by a thermostat and the thermostat knob (2) should be set at 3. If a lower (colder) temperature is desired, set the thermostat to a higher number. If less cooling is required, set to a lower number.

On LP gas operation, the refrigerator is regulated by the gas thermostat knob (4), which should be set at B. This setting provides a suitable refrigerator temperature in warm weather. Should the storage compartment for fresh items grow cold, particularly in cold weather, set the valve to A. Do not forget to restore it to C or D if the weather turns cold.

On 12v operation the refrigerator works continuously.

Travel Catch (See Fig 3)

Make sure that the travel catch is engaged when the camper is on the move. The travel catch at the top of the door can be set in two different positions. In one position, the door is held tightly shut. In the other position, the door is secured ajar so that the refrigerator can be aired when not in use.

Food Storage

Always keep food in closed containers. Never put hot food in the refrigerator, allow it to cool first.

Never keep items in the refrigerator which might give off flammable gasses.

The temperature within the frozen and fresh food compartments will be affected by the location of the refrigerator, the ambient temperature and frequency of door opening. It may be necessary to adjust the thermostat setting to allow for these factors.

www.foldingcampers.net

The 2 star (**) frozen food compartment is intended for the storage of frozen foods and for making ice. It is not suitable for freezing items of food.

Most kinds of frozen food can be stored in the frozen food compartment for about a month, This period of time may vary, however, and it is important to follow the instructions on the individual packing.

Defrosting

Frost will gradually accumulate on the refrigerating surfaces. It must **NOT** be allowed to grow thick as it acts as an insulator and adversely affects refrigerator performance.

Check the formation of frost regularly every week and when it is about 3mm thick it will be necessary to defrost the refrigerator.

To defrost the refrigerator, turn it off and remove the ice tray and all food items.

Any frozen foods should be wrapped loosely, but completely, in several layers of clean newspaper. Remember that if the temperature of frozen foods is allowed to rise unduly during defrosting then its storage time may be shortened.

If desired, defrosting can be speeded up by filling the ice tray with hot water and placing it in the frozen food compartment.

Do not try to accelerate defrosting by using any kind of heating device as the plastic surfaces of the refrigerator may be damaged. Neither should any sharp object be used to scrape off the ice.

The defrost water from the cooling plate in the fresh food compartment runs from a collector channel down a tube to a drip tray at the rear of the refrigerator where it evaporates. This does not apply to the frozen food compartment which needs to be cleaned manually. Do not refreeze any thawed frozen food. When all the ice has melted, wipe the frozen and fresh food compartments dry and leave the door ajar for airing prior to re-starting.

Place the food items back inside, but wait until the refrigerator is cold before making icecubes.

Cleaning the Refrigerator

Clean the inside of the refrigerator regularly to keep it fresh and hygienic.

Soak a cloth in a solution consisting of a teaspoon of bicarbonate of soda to half a litre of warm water. Wring out the cloth and use it to clean the interior of the refrigerator and its fittings.

Never use detergents, scouring powder, strongly scented products or wax polish to clean the interior of the refrigerator as they may damage the surfaces and leave a strong odour.

The exterior of the refrigerator should be wiped clean now and again, using a damp cloth and a small quantity of detergent, but not the door gasket which should only be cleaned with soap and water and then thoroughly dried.

The cooling unit behind the refrigerator ought to be cleaned with a brush from time to time, but make sure that the refrigerator is switched off when doing this.

Turning Off The Refrigerator

If the refrigerator is not in use for some time:

1) Turn off the LP gas and electric power.
2) Empty the refrigerator and defrost it.

www.foldingcampers.net

3) Clean the refrigerator interior and accessories and wipe them dry afterwards.
4) Leave the door ajar. It can be secured in this position by means of a travel catch.

If The Refrigerator Fails To Work

Check the following points before calling a service technician;

1) That the 'starting the refrigerator' instructions have been followed correctly.
2) If it is possible to start the refrigerator on any of the connected sources of energy.
3) If the refrigerator fails to work on gas, check that;
   The gas bottle is not empty.
   That all LP gas valves are open.
4) If the refrigerator fails to work on 12v, check that;
   The 12v supply is connected to the refrigerator.
   The fuse on the 12v supply is intact.
   That the 12v switch is on.
5) If the refrigerator fails to work on 240v, check that;
   The 20v supply is connected to the refrigerator.
   The fuse is intact.
   That the 240v switch is on.

If the refrigerator is not cold enough, it may be because;

1) The ventilation is inadequate owing to objects such as wire mesh or winter covers blocking ventilation passages.
2) The evaporator is frosted up.
3) The temperature control setting is incorrect.
4) The gas pressure is incorrect – check the pressure regulator at the gas container.
5) The ambient temperature is too high.
6) Too much food is loaded at the same time.
7) The door is not properly closed.
8) More than one source of energy is used at the same time.

The sealing cooling system must not be opened, since it contains corroding chemicals under high pressure.

Failure to observe these checks and those shown on the door panel instruction label could result in you being charged for the service call.

Some Useful Hints

Make sure that;

The refrigerator is not operating on 12v when the vehicle is parked, otherwise you may drain the car battery in a short time.

Defrosting is carried out periodically.

The refrigerator is clean and dry with the door left open when it is not in use.

The ventilation openings are not obstructed.

The door is secured by means of a travel catch when the camper is on the move.

Only one mode of operation at a time is used to run the refrigerator.

www.foldingcampers.net

MAINTENANCE

Couplings can be tested for leaks using a soap solution.

DO NOT USE AN OPEN FLAME!

If there is any suspicion of damage, call for a service engineer.

In order to maintain optimum performance, it is recommended that this appliance is inspected and serviced annually by a qualified person.

Technical Data

Model	RM4200
Overall Dimensions:	
Height	615mm
Height	516mm
Width	482mm
Depth with door	482mm
Depth without door	443mm
Built-in Dimensions:	
Height	613mm
Width	490mm
Depth	460mm
Capacities:	
Gross Vol. (Approx.)	60 Litres
Weight (Max.)	17kg

TENT VALETING SERVICES LIMITED

TVS

Tent Valeting Services are the recommended Conway and Pennine Canvas Spares/Repair Service.

We also stock and manufacture Canvasses for the older Conway and Pennine Folding Campers.

Vist our website:
www.tentvaletingservices.co.uk

EGERTON STREET • FARNWORTH
BOLTON • LANCS • BL4 7LH

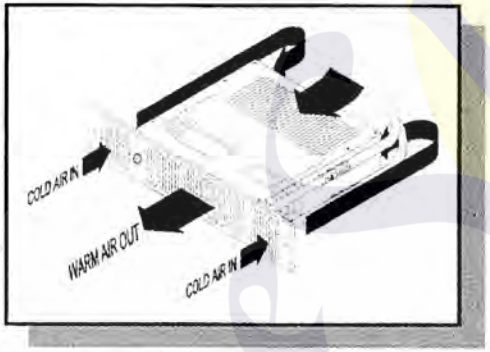
Tel: 01204 708131 • Fax: 01204 861892

www.foldingcampers.net

KITCHEN HEATER - CENTRAL HEATING (FITTED AS STANDARD IN CERTAIN MODELS)

User Information

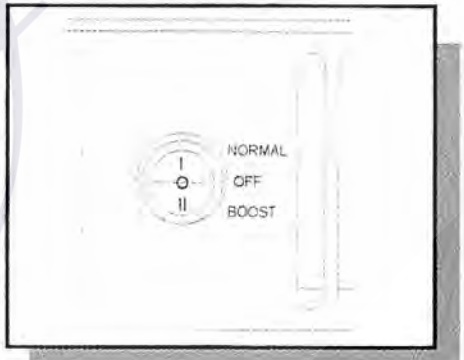
Your kitchen heater is designed to operate as part of your central heating system in the same way as a panel radiator. Providing the heat output switch is left in the normal (I) position your heater will switch on and off automatically with your central heating system.



How Your Kitchen Heater (Central Heating) Works

Hot water from your central heating system passes through a heat exchanger transferring its heat to the aluminium fins. Cooler air is drawn in by the fan and heated as it passes through the heat exchanger before being expelled gently back into the room. This not only gives a more even temperature spread, but will heat a room up in less than half the time of a traditional panel radiator.

This heater includes an internal thermostat that prevents the fan from operating until the central heating system water passing through the heat exchanger reaches 42°C. This prevents the heater circulating cooler air at start up.



Heating

Ensure your central heating is on, the switch set to normal (I). Providing the water temperature in the system is more than 42°C and the thermostat controlling your central heating system is calling for heat, your heater will switch on. If you require a faster warm up set the switch to boost (II). To switch off the heater set the switch to 0.

KITCHEN HEATER - ELECTRIC

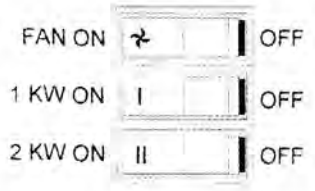
User Information

Your product is covered by a free 2-year parts and labour guarantee.

Heating

Before switching the heater on, please ensure the facia grille is free from obstruction.

Ensure your fused spur is switched **ON**. Set the thermostat (if fitted) to the desired temperature. Set the upper fan switch and the middle 1kW switch to **ON**. If you require a faster warm up set the lower 2kW switch to **ON**.



To turn the heater off, set the fan switch to **OFF**. Please note all switches must be in the **ON** position to achieve 2kW heat output.

For your safety this heater is fitted with automatic overheat protection. If the heater stops, turn off the power at the fused spur, wait 5 minutes and switch the power back on.

Air Circulation (Summer Use)

Set the thermostat (if fitted) to maximum. Set the fan switch to **ON**. Ensure the 1kW and 2kW switches are **OFF**. The heater will provide a cooling flow of air.

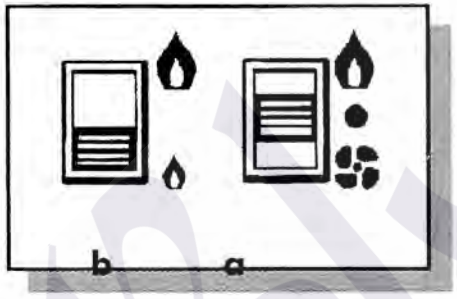
www.foldingcampers.net

OPTIONAL BLOWN AIR HEATING
Trumatic E 2400 L.P.G Heater

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. The installer or the vehicle owner must apply the yellow sticker with the warning information, which enclosed with the appliance, to a place in the vehicle that is clearly visible to all users (e.g. on the wardrobe door)! Ask Truma to send you stickers, if necessary.

Control panel with thermostat



a) Slide valve Heating -Off- Ventilation

b) Slide valve for high setting (large flame symbol) and low setting (small flame symbol)

Switching on the Heating

1) Turn on the gas cylinder and open quick-acting valve in the gas supply line.
2) Adjust desired room temperature at rotary knob.
3) Switch the slide valve (a) to heating and slide valve (b) to the desired output setting. If the outside temperature is low, switch to high setting.

Switching on the Ventilation

Switch the slide valve (a) to Ventilation switch the slide valve (b) to high setting or low load.

Switching Off

Move the slide valve (a) to middle position. If the appliance is switched off after a heating phase, the fan can continue running in order to make use of the residual heat.

If the appliance is not used for a prolonged period of time, mount the cowl cap, close quick acting valve in the gas supply line and turn off gas cylinder

Green Indicator lamp Operation (under rotary control knob)

When the appliance is switched on (heating or ventilation) the green indicator light must be illuminated (the fan is running). If the indicator light is not illuminated, possibly check the (main) switch. For this purpose observe respective instructions of the vehicle manufacturer. During the heating operation, while the flame is burning, the green indicator lamp lights up with twice the intensity. This also makes it possible to determine the instantaneous switching point of the room temperature.

Fuses

The appliance fuses are situated on the electronic P.C board on the appliance.

www.foldingcampers.net

Important note: Only replace the miniature fuses F1 and F2 with a fuse of the same type:

F1 = 3,15 AF EN 60127-2-1 (fast)
F2 = 1,25 AF EN 60127-2-2 (fast)

Red indicator lamp Failure

Should a failure occur, the red indicator is illuminated permanently. Possible causes for the failure can be e.g no gas, insufficient combustion air, heavily soiled rotor, defective fuse etc.. Deactivate by switching off and then switching on again.

Flash Operation indicates that the operating voltage is too low or too high for the appliance (change battery, if necessary)

Accessories

1) **Time switch ZUE** - For pre-programming 3 switch-on times within 7 days, including 4m connecting cable (suitable for 12v and 24v vehicle electrical system).
2) **Remote sensor FF** - Monitors the room temperature independent of the position of the control panel (available with 4m or 10m connecting cable).
3) Multiple connector MSD - For connecting several accessories (e.g. time switch and remote sensor).
   All electrical accessories are fitted with a connector and can be connected individually.

Important operating notes

1) Following a blow-back (misfire) always have the exhaust gas system checked by an expert!
2) Always keep the cowl for conducting exhaust gas and supplying combustion air, free from contamination (slush, leaves etc.).
3) The installed temperature limiter shuts off the gas supply if the appliance becomes too hot. Therefore do not shut the warm air outlets and opening for the returning circulating air.
4) If the electronic control p.c.b is defective, return it well packed. If you fail to do so, guarantee claims shall no longer be valid. Only use original p.c.b as a spare part! .The vehicle owner is the person responsible for arranging the inspection and the replacing of the parts.
5) For conducting the exhaust gas under the floor., the vehicle floor must be sealed tight. There must also be three open sides beneath the vehicle floor to ensure unhindered escape of the exhaust gas (snow, aprons etc).

General safety notes

If the gas system is leaking or if there is a smell of gas:
extinguish all naked flames
Do not smoke
Switch off the appliances
Shut off the gas cylinder
Open the windows
Do not actuate any electrical switches
Have the entire system checked by an expert.

1) Repairs may only be carried out by an expert.

Attention: A new O-ring must always be installed after dismantling the exhaust duct!

www.foldingcampers.net

2) Any alteration to the appliance (including the exhaust duct and cowl) or the use of spare parts and accessories which are important to the function of the heater and which are not original truma parts, as well as the non observance of the installation and operating instructions, will lead to the cancelling of the guarantee and exclusion of liability claims. It also becomes illegal to use the appliance, and in some countries this even makes it illegal to use the vehicle.
3) The operating pressure for the gas supply is 30 mbar (or 28 mbar butane/ 37 mbar propane) and must correspond to the operating pressure of the appliance(see name plate).
   The vehicle owner is always responsible for arranging the inspection.
4) For your own safety it is absolutely necessary to have the complete gas installation regularly checked by an expert (every 2 years at the latest).
5) During the initial operation of a brand new appliance (or after it has been used for some time), a slight amount of fumes and smell may be noticed for a short while. This can be remedied by running the heater at maximum output and ensuring adequate room ventilation.
6) If the burner makes an unusual noise or if the flame lifts off, it is likely that the regulator is faulty and it is essential to have it checked.

CARING FOR YOUR LEISURE VEHICLE

EXTERIOR PANELS

The exterior panels of your camper are acrylic painted aluminium sheets which are very easy to keep clean. We recommend that you wash down with plenty of clean water and a mild detergent. The most effective cleaning aid is either a short-haired bristle brush or a piece of tufted carpet. Polish occasionally with a good quality wax to help obtain a high gloss finish.

NEVER USE ABRASIVE OR HARSH CLEANERS

Use white spirit to remove stubborn marks such as tar or grease.

CORNER MOULDINGS

Mouldings are anodised aluminium and should be treated in the same way as exterior panels. Examine mouldings regularly to ensure that no gaps have appeared which could allow water in. If gaps should appear, they may be sealed with mastic (contact your Pennine dealer if you are unsure)

GAS BOTTLE LOCKER

This is made from Glass Reinforced Plastic (GRP) on the Fiesta only and should be cleaned with detergent and water and waxed regularly. All other models are manufactured in ABS plastic and cleaning should be as per GRP. Maximum gas bottle size – 4.5kg Butane or Propane

CANVAS

Before use, your canvas requires weathering. Once the canvas is weathered as described, it will be fully waterproof.

www.foldingcampers.net

Avoid allowing aerosol sprays to come into contact with the canvas, as this may adversely affect its waterproof qualities.

Mud and light soiling should be brushed off when dry. If necessary, a weak solution of pure soap flakes may be used to remove stubborn marks. It is important, if this is done, to clean a complete panel of canvas, rather than a small area, to avoid watermarking.

Any new Convertible Caravan or Folding Camper that has either a cotton or acrylic (synthetic) cabin covering may possibly leak at the seams, roof tie tapes and door ties or let fine spray through the roof and walls when subjected to heavy rain for the first time. This is perfectly normal for a new unweathered cabin.

Controlled weathering is needed to overcome this situation before use on holiday.

The canvas/acrylic cabin coverings have been specially woven and dyed and finally impregnated by submersion in a waterproofing agent. However, it is not until the new fibres have been in contact with water, causing initial shrinkage and therefore tightening of the weave (in the case of cotton only) and needle holes along the seams that the cabin can be considered weathered.

Note: It is important to extend the cabin frame fully, without over tightening!

Now thoroughly soak the cabin. In the absence of rain, use a hosepipe with a fine spray. Two or three soakings with a slow drying period between them should be accomplished within the day if possible and is all that is normally necessary to weather a cabin. Ensure the cabin is thoroughly dry prior to packing away, especially under zip flaps, tape edges and main seams.

SYNTHETIC (ACRYLIC) CARE:

Water Ingress:

In some instances our synthetic (acrylic) cabins and awnings (manufactured by Isabella) the stitches of the sewing thread are thinner than the stitch holes. Some water may leak through these small holes but after the unit has had a good "soaking", the threads will swell and seal the holes and there are no further problems.

It is also beneficial to check that water is not coming in through the eyelets of the awning (on top of the spikes) these should be sealed with aqua stops/drop stops supplied with all new awnings.

The most common cause of the appearance of water in a synthetic cabin or awning is condensation. Ventilation is more important than is commonly realised - particularly with synthetic materials. Under extreme conditions, condensation cannot be completely avoided and it will normally occur on cabin/awning poles and therefore it is often confused with leaks.

To minimise the risk of condensation, please ventilate the cabin/awning as much as possible, especially when the unit is erected for a long duration of time. Wherever possible, it is recommended that the draught skirt is drawn aside slightly so that extra air circulation can take place.

Pattern Holes:

(In certain circumstances, you may find small "pin holes" in specific positions on you acrylic cabin/awning. These small holes are caused by the machinery, which holds and cuts the material. They are there to assist in inserting the zips in the correct position and to ensure uniformity and precision in placing the zips. They are also used by the machinists to align panels and position canopy sleeves etc.

www.foldingcampers.net

You may take this as a guarantee that these holes will not enlarge or be of detriment to the cabin/awning or its value.

Contamination:

Mould is a living, growing organism and should be cleaned off without delay.

The cabin/awning roof material is a Ten Cate 100% synthetic fabric and has no natural (biological) enemies. The material undergoes an anti-rot and mildew repellent treatment as well as a dirt and water repellent treatment. This treatment protects the fabric against dirt, defined as water, oil, grease or a combination of these and prevents the dirt and spots directly penetrating deeply into the fabric, as the dirt remains on the surface. The treatment does not protect the fabric from chemical pollution.

Whilst mould does not affect the fibres and strength of fabric it can leave ugly spots. This occurs where the air is polluted and/or moist and there is insufficient ventilation.
Pollution can occur when a fridge/cooker is vented into the awning and there is insufficient air circulation to expel the dangerous particles.

It is highly recommended that the cabin and awning are kept clean with water and a soft brush wherever possible. In instances of mould, it is necessary to use a compatible cleaner, such as Alpha 123 (Isabella part number 900060208)
Each Alpha 123 bottle is supplied with its own brush, enough to clean 15m^2 & can remove water marks, tree resin, bird droppings and other dirty marks.

Easy to use:

1. Brush dirt off material and dampen.
2. Spray with Alpha 123, work into foam.
3. Rinse

Water resisting properties of the material may be affected when a cleaner is used. This can be restored using Aquatex aerosol spray.

Cabins/awnings need only be re-proofed when the material is absorbing water; this can easily be seen in the rain when dark patches appear on the material.

Highly recommended - Isabella "Aquatex" re-proofing spray Part number 900060062.

Materials need to be clean before you spray and if there is any ingrained dirt it is recommended that you spray the inside of the roof, as the silicone spray could seal dirt into the material.

This spray is also useful for lubricating zips and awning channels.

Information on care of window foil:

Whilst being made to the highest specifications, the window material needs to be soft enough for folding and for maximum vision; it must also be as transparent as possible. Isabella use the best available window material from leading manufacturers who, because of environmental restrictions are no longer allowed to use the heavy metal consisting softener Barium/Cadmium. The replacement softener ids Barium/Zinc, which unfortunately causes changes to the material and makes blemishes and fold marks more distinct. Where double folding occurs, the marks may appear to be small lacerations but these are not detrimental to the performance.

For the immediate future, it is impossible to avoid this problem, but customers may rest assured in Isabella's guarantee to always use the finest material available. That is, a foil that withstands ultraviolet rays and temperatures from -25°c to +60°c.

www.foldingcampers.net

When the awning has been stored for any length of time, it is recommended that panels are removed from the bag/box a couple of days before each usage and that they are then hung in a warm place - i.e. above a radiator (without touching it). This will help to alleviate the problem.

Cleaning fabric and windows:

Clean with plenty of pure water and a soft brush, the type used to clean your car is ideal. Spray water onto the canvas and loosen the dirt with the brush. Remove the dirt with a steady flow of water. Ideally this cleaning process should take place a couple of times a year and is easiest when the unit is erected. Exposed parts such a roof, sides and corners need careful attention. **NEVER** use spirit or polishes on the PVC windows. This advice applies to synthetic awnings only.

Canvas Care

It should be noted that the 100% cotton canvas, as used in your folding camper, is manufactured from natural cotton fibres and so needs certain basic conditions of care to ensure a long and trouble-free life.

The folding camper, although using the same cotton canvas material as many frame tents and awnings, presents a unique and completely different application of the product. In a tent or awning adequate ventilation is achieved not only by mesh ventilation panels in the side walls but also by the 'draughts' that blow under the mud walling on all sides. The folding camper however is sealed all round and is virtually draught-free. It is therefore important that adequate ventilation is maintained in your folding camper at all times by utilising all the mesh ventilation windows.

The use of uncovered gas burners as a source of heat must not be contemplated as not only is this extremely dangerous but the burning of the gas produces yet more water vapour and thus makes the ventilation problem worse.

If heating is required a source of 'dry' heat is necessary, such as the blown air heater that can be fitted in the camper. If adequate ventilation is used in conjunction with with the heater it will ensure that the inside surface of the canvas, particularly the roof panels above the inner linings, do not collect and hold water vapour in the form of condensation.

It must be remembered that your folding camper is not designed to be used as a permanent dwelling. If left erected for a prolonged period of time the roof lining should be taken down and the inner tents dropped on to the beds from time to time, to allow the inside surface of the roof canvas to 'air'. It should also be ensured that when the camper is being stored the roof lining is removed and the inner tents folded and strapped to the beds, and that the inner surfaces of the canvas are completely dry.

INTERIOR

For upholstery, a proprietary dry cleaning fluid will remove most stains; pre-treatment with a mild soap and water may be necessary for more stubborn stains, Brushing or vacuuming regularly will keep upholstery looking at its best. Fabric snags should be trimmed off immediately. Never attempt to pull them off as this could cause even more damage.

Carpeting, where fitted, should be regularly brushed while on site and vacuum cleaned on returning home to ensure particles of mud and grit do not become embedded.

Use a damp cloth to remove finger marks from furniture, or an

www.foldingcampers.net

all purpose cleaner. Furniture polish may be used, but do not use oil or abrasive cleaners.

Cupboard catches, stays and hinges, should be kept clean and lightly oiled or smeared with vaseline or alternatively silicon spray.

Use a mild detergent and damp cloth to remove any finger marks from interior wall boards.

CURTAIN CARE INSTRUCTIONS

Curtains may be dry cleaned or washed as follows;

1) Wash separately by hand or machine in luke warm water, not exceeding 40C.
2) If by machine, use delicate fabric programme.
3) Finish with cold rinse and short spin.
4) Line dry.
5) Steam Iron with setting on cotton.
6) Only pure soap solution should be used.
   a) Do not use bleach.
   b) Do not use detergents.

Shower Room and Wash Basin Fittings

Always use a non-abrasive cleaner. Always put the cold water into the wash hand basin **BEFORE** adding the hot water in order to preserve the finish of the thermoplastic basin.

WINTER STORAGE

If the environment in which the camper is to be stored is likely to be damp, it is best to remove the canvas and store it in a warm, dry place. In any case, the inner tents, curtains and mattresses must be removed and stored inside.

To remove the canvas;

1) Unfold beds. Unfasten the three screws securing the canvas to each bed board. Unfasten the canvas ties from the frame where applicable.
2) Carefully remove and roll up the canvas, ideally packing it into a polythene bag. **NOTE:** Make sure that the canvas is absolutely dry before you do this.

Location

Ideally, your Pennine camper should be stored undercover, protected from the elements but in a location which allows free circulation of air. If an undercover location is not available, the camper should be sited on firm ground with adequate drainage and not too exposed. Avoid storing under trees or in areas where it might be subject to accidental damage.

www.foldingcampers.net

Storage Checklist

1) Remove inner tents, curtains and mattresses and store safely indoors. Vacuum and clean the interior of your camper.
2) Clean and polish the cooker hob. Ensure cupboards are clear of food or crumbs as vermin could be attracted if they are left.
3) Clean out the fridge (if fitted) with bicarbonate of soda and leave the door in its 'vent' position.
4) Clean and sterilise the water system, pipework and containers by flushing with a suitable solution (eg. Milton) and rinsing. The containers can be stored inside the camper. Drain the water system before the risk of frost damage.
5) Stand the camper with towbar end higher than the rear to allow any water to run off. **NOTE:** Do not allow water, ice or snow to collect on top of the camper as it will discolour the transit cover.
6) If you wish, you may jack up the wheels and support the camper on blocks or axle stands, being sure to support the camper on blocks rather than drop arms so that the load is taken off the suspension. Alternatively, wind down the corner steadies so that the bulge at the bottom of the tyres is taken out.
7) Release the handbrake to prevent the brakes seizing onto the wheel drums. Rotate the wheels occasionally to keep the bearings lubricated.
8) Examine the plug(s) and cables for corrosion or damage. Replace any damaged cables and corroded pins or grubscrews. All round terminals should be cleaned with fine emery paper and brass cleaner and finally smeared with petroleum jelly.
9) Wash the exterior periodically.

Condensation

When a camper is stored away, particularly in winter, there is an inherent danger that condensation will occur. Certain precautions can be taken to reduce the risk of condensation, which we list below, however it is not possible to totally eliminate condensation.

1) Store the camper with rear end down to prevent water and ice pooling on the surface and to enable any moisture inside the cover to run away.
2) Place an old cushion or pillow (anything non-abrasive) in the centre of the camper to create a gap between the P.V.C. cover and the bed-boards to enable free circulation of air.
3) Remove inner tents, roof liners and upholstery and store in a warm dry place to prevent damage from condensation and possible mildew.
4) Frequent checks are to be made to include the opening and airing of the camper whenever the weather permits.
5) Ensure that canvas is **THOROUGHLY** dry before storing the camper away.
6) Drain all water systems thoroughly.

POINTS TO NOTE

Chassis

Apply lithium based grease to the corner steady joints and screw threads also to the tow-hitch and the car's towball (then fit the towball cover). Lubricate the jockey wheel.

www.foldingcampers.net

Al-Ko Galvanised Chassis & Wet Storage Stain (Rust)

Hot dip galvanising has been used for many years throughout the automotive industry, and is widely regarded as one of the best forms of corrosion protection. It does, however, need minimal maintenance in certain circumstances.

In its natural state, zinc is not a corrosion resistant metal, it achieves its corrosion resistance by forming a barrier layer through reaction with the atmosphere. This is mainly caused by the CO_2 content forming zinc carbonates.

The shiny silver colour of Hot Dip Galvanising will, over a period of time, turn light grey. This does not denote a failure of the galvanising, but simply shows the formation of the protective layer of zinc compounds.

These protective layers cannot form as a part of the curing process on material newly galvanised if the surface is covered with moisture of a low mineral content such as condensation, rain water or thawing snow. Insufficient air circulation will also prevent formation of these layers.

These are exactly the conditions experienced during long term parking or pre-build storage of chassis components where such moisture cannot be avoided. Restriction of air circulation can result in the formation of a soft, porous light grey oxidisation layer. This is known as 'White Rust' and, in this context, should not be confused with rust as applied to steel.

Light white rust deposits do not affect the performance of Hot Dip Galvanised Steel, as the deposits are transformed into a protective layer by the action of CO_2 . This does, however, require good air circulation.

AL-KO, therefore, strongly recommends that camper manufacturers should ensure a clean chassis prior to dispatch and advise their dealers that upon receipt of a camper, the chassis should be washed with clean water to prevent the formation of any white rust. THIS IS OF PARTICULAR IMPORTANCE TO ANY DELIVERIES MADE DURING THE WINTER, WHEN LOW MINERAL CONTENT MOISTURE EG. ROAD SPRAY, IS MORE COMMON.

Should any light deposits of white rust be found while washing the chassis, they can easily be removed by use of a wire or hard nylon brush.

Tyres

Check tyre pressures regularly during storage and re-inflate if necessary. In addition, check for cracks, splits or bulges. If in doubt, replace with tyres of identical specification. (See Page 25 – Servicing and Tyre Information).

Preparation for Re-use

1) Sterilise water system pipework (See page 39 – Water System) and container. Check water system for leaks before first using the camper.
2) Check the gas system for leaks and general condition (See page 38 – Gas System).
3) Check the operation of internal 12v electrical system and mains electrical system (if fitted).
4) Check the operation of 12N and/or 12S plugs, leads and sockets.
5) Check the operation of the roadlights.
6) Check the operation and adjustment of the handbrake (see page 15 – Service and Maintenance or refer to your Dealer).
7) Check the security of the towing bracket and ball hitch. The ball hitch must be clean and well greased.

www.foldingcampers.net

FIESTA/COUNTRYMAN
Step-by-Step Instructions

Note: On occasion certain models names may not be listed - please liase with your supplying dealer for confirmation.

Please follow these simple and easy instructions to set up your folding camper from car.

1. Disconnect lighting and ancillary 7 pin plugs, lower jockey wheel and unhitch camper from car.
2. Apply handbrake and wind down all four corner steadies using handle provided.
3. Roll up P.V.C transit cover from the rear, fold in both end of the roll and secure on the front of the trailer with the P.V.C retaining flap.
4. Lift out LH bed through 180° and level so that it is in line with the camper body. (Note: sighting along both beds will facilitate this function)
5. Repeat above function for RH bed.
6. Unfold wall canvas from top of roof so that it hangs down freely on both sides of camper.
7. Set all four centre cabin frame poles with the spring button in the bottom of the four adjusting holes.
8. Locate the swing up frame which creates the centre ridge and extend the bars at each end to the outer position using the spring button adjustment.
9. Swing up ridge poles and joint together by locating spring buttons provided.
10. Swing up kitchen roof pole to vertical position and extend to set spring buttons in the bottom hole.
11. Clip the two kitchen extension tension poles Into position just above curtain wire holes.
12. Extend to two diagonal comer roof poles until spring button is in the next to the top hole position.
13. Secure bottom of canvas all round the camper by hooking the shock cord under the bed boards and pressing the 'Velcro' together under the aluminium moulding.
14. Finally, tension canvas all round including kitchen extension by means of extending poles until canvas is taut.
15. Raise kitchen unit to working height by lifting LH side then sliding the unit to the right and setting down on support block. Lift up the RH side and slide the unit further to the right until it locates in the support channel. (FIESTA ONLY)
16. Hang up inner tents and roof lining to the roof poles by means of the hooks attached.
17. Swing up seat back support arms and locate seat back frame into the arms. Secure seat back cushions in position with the 'Velcro' tapes provided.
18. Hang up curtains. (FIESTA ONLY)

FIESTA ASSEMBLY INSTRUCTIONS

1. Take down curtains.
2. Unclip inner tents, fold neatly onto mattress and secure to the bed board with straps provided. (NOTE: if canvas is wet cover beds with the PVC covers fitted to the bed board before strapping down).
3. Unclip LH side of roof lining and clip onto swing down arms of cabin frame.
4. Lower kitchen unit to travelling height. (Fiesta only)
5. Unclip seat back frames and place on floor in front of fridge, swing down support arms to rest on the floor.
6. Collapse the two corner diagonal roof poles by depressing the spring buttons.
7. Unclip the shock cord and release the canvas all around the camper.
8. Set all four cabin frame poles with the spring button in the bottom hole position.

www.foldingcampers.net

9. Unclip the two kitchen extension tension poles, collapse the roof pole and swing down to rest on top of the kitchen unit.
10. Disconnect ridge poles by depressing spring buttons and allow ridge poles to swing down to the vertical position. Secure to the intermediate poles using the straps provided.
11. Fold over front and rear canvas wall neatly onto roof (ensure door zip is closed).
12. Swing over RH bed first through 180° ensuring that no canvas is trapped between bed and bed support bracket.
13. Ensure that all four swivel feet lie flat.
14. Fit transit cover and wind up corner steadies.
15. Release handbrake and hitch onto car, raise jockey wheel and lock in position.
16. Connect lighting and ancillary 7 pin plugs.

GENERAL NOTES

The canvas will shrink when wet. To avoid stretching the canvas, lower all poles by one hole on the adjustment holes. When the canvas is dry the poles can be returned to their original positions.

The first time you use your camper in wet weather you may experience a small amount of leakage along the stitching. DO NOT WORRY this is not unusual and after weathering the leaks will cease.

If the camper is folded down whilst wet it should be opened at the earliest opportunity to allow the canvas to dry out.

STERLING/CONTINENTAL

Step-by-Step Instructions

Please follow these simple and easy instructions to set up your Sterling folding camper.

1. Disconnect lighting and ancillary jack plugs, lower jockey wheel and unhitch trailer from car.
2. Fully apply handbrake to vertical position and level trailer using jockey wheel. Wind down all four corner steadies with handle provided and remove trailer cover.
3. Before swinging the beds over it is advisable to turn on the gas in the gas bottle box.
4. To extend the rear bed support frame, pull out the spring-loaded handwheel and slide out the frame until it automatically locks in the fully extended position.
5. Swing over rear bed through 180° until the bed support tube locates in the channel on the telescopic support frame, secure into place with the strap attached.
6. The wall canvas which is currently folded on the roof can now be pulled down so that it hangs down the sides of the semi-erected framework.
7. Before stepping inside the trailer it is easier to grab both bed end roof frames and pull them out until they extend to the first spring button position (rear bed first).
8. Now open the trailer door, step inside and extend the three remaining roof frames until the spring buttons locate into the first hole position.
9. Before going outside, it is easier at this stage to lift the seat backs into place and remove the table leaving the kitchen unit accessible. Now lift the kitchen unit onto the base unit and connect both the fresh water and gas connection. Snap the side splash into place and turn on the gas taps in the left hand cupboard.
10. Go outside, close the door and do up the zip. Now extend both bed end roof frames up to the third highest hole position. Fit the Velcro along the ends ensuring that it is carefully closed together, hook the shockcord under bed ends and tuck remaining bottom edge of the canvas wall under the

www.foldingcampers.net

Velcro strip around the trailer body.

11. Finally, go inside the camper and tension the three centre cabin roof frames until the canvas is reasonably taut
12. Clip up inner tents and roof liner. Hang up bed end and privacy curtains on wires provided.
13. The three cabin window curtains are hung on rods, which are located in the tape loops sewn up to the roof liner. Reverse procedure to fold down camper.

Note! Roof liner, privacy & bed end curtains need not be taken down unless the canvas is wet.

PULLMAN
Step-by-Step Instructions

Please follow these simple and easy instructions to set up your Pullman folding camper.

1. Remove trailer from car, fully apply handbrake to vertical position and level trailer using jockey wheel. Wind down all four corner-steadies with handle provided.
2. Neatly roll up trailer cover from rear, tuck in ends and secure into place with the press studded flap.
3. Before swinging the beds over it is advisable to unlock the gas bottle box lid and turn on the gas.
4. To extend the rear bed support frame, pull out the spring-loaded handwheel and slide out the frame until it automatically locks in the fully extended position.
5. Swing over the rear bed through 180° until the bed support tube locates in the channel on the telescopic support frame, secure into place with the strap attached.
6. Repeat the operation for the front bed.
7. The wall canvas which is currently folded on the roof can now be pulled down so that it hangs down the sides of the semi-erected framework.
8. Before stepping inside the trailer it is easier to grab both bed end roof frames and pull them out until they extend to the first spring button position (rear bed first).
9. Now open trailer door, step inside and swing wardrobe up through 90°, slide over corner cupboard and lock into the upright position with the barrel bolt.
10. Now extend the three remaining roof frames until the spring buttons locate into the first hole position.
11. Before going outside, it is easier at this stage to lift the seat backs into place and remove the table leaving the kitchen unit accessible. Now lift the kitchen unit onto the base unit and connect both the fresh water and gas connections. Snap the side splash into place and turn on the gas taps in the left hand base cupboard.
12. Go outside, close the door and do up the zip. Now extend both bed end roof frames up to the third highest hole position. Fit the elasticated bed end flaps around the beds ensuring that the Velcro along the ends is carefully closed together. The remaining bottom edge of the canvas wall can now be tucked up under the Velcro strip around the trailer body
13. Finally, go back inside the camper and tension the three centre cabin roof frames until the canvas is reasonably taut.
14. Clip up inner tents and roof liner. Hang up bed and privacy curtains on wires provided.
15. The three cabin window curtains are hung on rods which are located in the tape loops sewn to the roof liner. Reverse procedure to fold down camper.

NOTE! Roof liner, privacy and bed end curtains need not be taken down unless the canvas is wet.

PATHFINDER
Step-by-Step Instructions

Please follow these simple and easy instructions to set up your folding camper.

www.foldingcampers.net

1. Remove trailer from car, fully apply handbrake to vertical position and level trailer using jockey wheel.
2. Wind down all four corner steadies with handle provided.
3. Neatly roll up trailer cover from rear, tuck in ends and secure into place with the press studded flap.
4. Before swinging the beds over it is advisable to unlock the gas bottle box lid and turn on the gas at the bottle. Also turn on the gas supply to the fridge and external gas barbecue point. The taps are located at the right hand side of the gas bottles.
5. Remove the four roof stretcher poles that straddle across the width of the camper.
6. Extend the rear bed support frame by pressing in the spring button and sliding out the frame until it automatically locks in the fully extended position.
7. Swing over the rear bed through 180° until the bed support tube locates in the channel on the telescopic support frame, secure into place with the strap attached.
8. Repeat the operation for the front bed.
9. Introduce the four roof stretcher poles to the main camper framework by hooking the curved hook into the plastic moulding on the centre frame and the right angled hook to the intermediate frame. Ensure safety straps are clipped to the intermediate roof frames. NOTE!!! Ensure two stretcher poles marked 'TOW BAR END' go to that end and the other two marked 'SEAT END' are located in the other end. (Do not extend the stretcher poles at this stage).
10. The wall canvas, which is currently folded on the roof, can now be pulled down so that it hangs down the sides of the semi-erected framework.
11. Before stepping inside the trailer it is easier to pull out both end roof frames until they extend to the first spring button position (rear bed first).
12. Now open trailer, step inside and push up the three roof frame supports until the spring buttons locate in the first hole position. Swing up the washroom side wall to vertical and secure in this position by clipping the press stud on panel to one of the two safety straps that are fixed to the roof frame support. Swing wardrobe up through 90°, slide over fridge cupboard and connect 12volt plug into socket behind the wardrobe.
13. Lift the seat backs into place and remove the table leaving the hob and sink units accessible.
14. Now lift the hob unit onto the left hand side of the base unit ensuring that it is correctly positioned on the location buttons and connect the gas nozzle into the recessed gas outlet.
15. Slot the shelf onto the tongue strip at the back of the hob unit and ensure the shelf unit aligns with the left hand side of the hob.
16. Swing the tap assembly unit to vertical and lift the sink unit onto the right hand side of the base unit ensuring that it is correctly positioned on the location buttons.
17. The washroom end wall can now be swung up to vertical and secured in place by the use of a toggle catch, situated at the back left hand corner of the hob unit. Now swing the top section of the end wall to vertical and lock in position by use of the swivel catch. This can now be locked to the shelf unit by use of a further toggle catch situated on the back of the shelf unit.
18. The main section of the washroom must now be carefully raised until the lower section rests against the front wall of the camper and the mirror section is swung up vertically and secured in position by using the second safety strap. Now lock the washroom side wall and the main washroom section together by the two toggle catches at the back of the main section panel.
19. The door and frame can now be slotted into place on the

www.foldingcampers.net

floor and retained by a toggle catch at the top right hand side and a swivel catch on the left hand side. Finally, locate the top capping into the four catches and the washroom is ready to use.

20. Extend both bed end roof frames up to the third highest position. Close both the trailer and canvas doors. Fit the elasticated bed end flaps around the beds ensuring that the Velcro along the ends is carefully closed together. The remaining bottom edge of the canvas walls can now be tucked up under the Velcro strip around the trailer body.
21. Finally, go back inside the camper and tension the three centre cabin roof frames until the canvas is reasonably taut and extend the four roof tensioners until the spring buttons snap out at the ends of the outer tubes.
22. Hang up bed end and privacy curtains on wires provided.
23. Clip up inner tents and roof liner.
24. The three cabin window curtains are hung on rods, which are located in the tape loops sewn to the roof liner.
25. Turn on the gas supply to the hob, water heater (optional) and blown air heater (where applicable) at the bank of taps situated in the left hand base cupboard.

PLEASE REFER TO THE MANUFACTURERS INSTRUCTIONS BEFORE OPERATING ANY OF THE ABOVE APPLIANCES.

Reverse procedure to fold down camper.

NOTE!!! Roof liner, privacy and bed end curtains need not be taken down unless canvas is wet.

CRUSADER / CRUISER

Step-by-Step Instructions

Please follow these simple and easy instructions to set up your folding camper.

1. Remove trailer from car, fully apply handbrake to vertical position and level trailer using jockey wheel. Wind down all four corner steadies with handle provided.
2. Neatly roll up trailer cover from rear, tuck in ends and secure into place with the press studded flap.
3. Before swinging the beds over it is advisable to unlock the gas bottle box lid and turn on the gas at the bottle. Also turn on the gas supply to the fridge. The taps are located at the right hand side of the gas bottles.
4. Extend the rear bed support frame by pressing in the spring button and sliding out the frame until it automatically locks in the fully extended position.
5. Swing over the rear bed through 180° until the bed support tube locates in the channel on the telescopic support frame, secure into place with the strap attached.
6. Repeat the operation for the front bed.
7. The wall canvas, which is currently folded on the roof, can now be pulled down so that it hangs down the sides of the semi-erected framework.
8. Before stepping inside the trailer it is easier to pull out both end roof frames until they extend to the first spring button position (rear bed first).
9. Now open trailer door, step inside and push up the three roof frame supports until the spring buttons locate in the first hole position. Swing up the washroom side wall to vertical and secure in this position by clipping the press stud on panel to one of the two safety straps that are fixed to the roof frame support.

www.foldingcampers.net

10. Swing wardrobe up through 90° slide over fridge cupboard and connect 12 volt plug into socket behind the wardrobe.
11. Lift the seat backs into place and remove the table leaving the hob and sink units accessible.
12. Now lift the hob unit onto the left hand side of the base unit ensuring that it is correctly positioned on the location buttons and connect gas nozzle into the gas outlet.
13. Slot the shelf unit onto the tongue strip at the back of the hob unit and ensure the shelf unit aligns with the left hand side of the hob.
14. Lift the sink unit onto the right hand side of the base unit ensuring that it is correctly positioned on the location buttons and connect the hot / cold and electrical connection to the rear of the sink.
15. The washroom end wall can now be swung up to vertical and secured in place by the use of a toggle catch, situated at the back left hand comer of the hob unit. Now swing the top section of the end wall to vertical and lock in position by use of the swivel catch. This can now be locked to the shelf unit by use of a further toggle catch situated on the back of the shelf unit.
16. The main section of the washroom must now be carefully raised until the lower section rests against the front wall of the camper and the mirror section is swung up vertically and secured in position by using the second safety strap. Now lock the washroom side wall and the main washroom section together by the two toggle catches at the back of the main section panel.
17. The door and frame can now be slotted into place on the floor and retained by a toggle catch at the top right hand side and a swivel catch on the left hand side. Finally, locate the top capping into the four catches and the washroom is ready to use.
18. Go outside and fit the elasticated bed end flaps around the beds ensuring that the Velcro along the ends is carefully closed together. The remaining bottom edge of the canvas walls can now be tucked up under the Velcro strip around the trailer body.
19. Finally, go back inside the camper and tension all of the cabin roof frames where necessary until the canvas is reasonably taut (Do not over tension the cabin during this operation).
20. Hang up bed end and privacy curtains on wires provided.
21. Clip up inner tents and roof liner.
22. The three cabin window curtains are hung on rods, which are located in the tape loops sewn to the roof liner.
23. Turn on the gas supply to the hob, water heater and blown air heater (where applicable) at the bank of taps situated in the left hand base cupboard.

PLEASE REFER TO THE MANUFACTURERS INSTRUCTIONS BEFORE OPERATING ANY OF THE ABOVE APPLIANCES.

Reverse procedure to fold down camper.

NOTE!!! Roof liner, privacy and bed end curtains need not be taken down unless canvas is wet.

www.foldingcampers.net

SECURITY

You will appreciate that total security of your camper is impossible to achieve. However, there are several means by which you can deter the opportunist thief and protect your property.

General Security

1) Always lock the door and zip up the canvas whenever you leave the camper unattended.
2) Remove any valuable or portable items when you leave your camper. Note – for all small items, a secure locker is available from Pennine as an optional extra.

Protecting Your Camper From Theft

1) Always use a hitchlock, which will delay anyone attempting to tow away your camper or unhitch it from your car. There are various types available, some of which are very inexpensive. Pennine make a wheel clamp which is designed specifically for Pennine Campers. See your Pennine dealer for details.
2) Corner steadies can be locked in the down position by means of various devices available from your dealer. A wheelclamp is perhaps the ultimate method of preventing your camper from being stolen.
3) Keep the gas bottle locker lid padlocked at all times.

IN CASE OF A FIRE

1) Get everyone out of the camper.
2) Call the fire brigade.
3) Turn off outside gas valve and remove cylinders away from the camper if possible.
4) If it is an electrical fire, always turn off the supply as quickly as possible.
5) Tackle the fire if it is safe to do so:
   i) From outside the camper, **NOT** inside.
   ii) Stand back about 6ft aiming the extinguisher.
   iii) Always aim the extinguisher at the base of the fire, not the flames.
   iv) Once the extinguisher is empty, shut the camper and wait for the fire brigade. Do **NOT** go back into the camper, even if the fire appears to be out, there is always danger of re-ignition.

FIRE PRECAUTIONS

1) Keep a torch handy for emergencies, never use a naked flame.
2) Turn off all appliances and the gas bottles before going to bed or leaving the camper for some time.
3) Combustible materials should be kept clear of all heating and cooking appliances.
4) Do not leave fat pans unattended.
5) Do not leave children alone in the camper.
6) Keep matches out of children's reach.
7) Do not smoke in bed.
8) Do not block up any air vents.
9) Have gas piping and electrical wiring checked annually.
10) If a gas leak is suspected, use soapy water and look for bubbles – never use a naked flame. Better still – call your Pennine dealer. For extra safety, consider fitting gas detection equipment.

www.foldingcampers.net

Fire Extinguisher

Always carry a fire extinguisher mounted in a visible position close to the door.

A dry powder extinguisher (minimum capacity 1kg) is recommended. This will deal safely with fat or electrical fires. (Water extinguishers should not be used for these types of fire: and vapourising extinguishers should not be used in the confined space of a camper).

Read the instructions and make sure you and your family understand how to use your extinguisher or fire blanket before fire breaks out. Make sure that everyone in your family including children, know what to do if a fire starts.

A fire blanket is a useful complement to your fire extinguisher.

BEFORE YOU TACKLE A FIRE

Many people put out small fires in their campers quite safely. By doing so they prevent serious injury or damage. But some people are injured and even die while trying to tackle fires which should have been left to the experts. Here is a simple fire fighting code to help you decide whether to put it out or get out.

Always get everyone out and call the fire brigade. Only tackle a fire in the very early stages.

Always put your own and other people's safety first and never risk injury to fight fires. Always make sure you can escape if you need to and remember that smoke can kill. **IF IN DOUBT – GET OUT.**

Tackle the fire from the outside doorway, **NOT** inside. Never let a fire get between you and your way out. If you have any doubt whether your extinguisher is suitable for the fire, do not use it, **GET OUT.**

Always remember that fire extinguishers are only for 'first aid' fire fighting. Never tackle a fire if it is starting to spread to other items of the camper or if the camper is filling with smoke. **IF IN DOUBT, GET OUT.**

If you cannot put out the fire, or if your extinguisher runs out – some last for only a few seconds – get out of the camper immediately. Close door.

DO NOT go back into the camper even if the fire appears to be out, there is a danger of reignition.

Don't risk injury to fight fire. **IF IN DOUBT, GET OUT.** Make sure the fire brigade has been called.

FIGHTING SOME TYPICAL FIRES IN A CAMPER

Chip Pan Fires

1) Leave the pan where it is.
2) Turn off the heat if it is safe to do so.
3) Protecting your hands, place a damp cloth, a close fitting lid or a fire blanket over the pan to smother the flames.
4) Leave the pan to cool for at least 30 minutes. The fire can start again if the cover is removed too soon.

WARNING: NEVER USE WATER OR ANY TYPE OF EXTINGUISHER TO FIGHT THE FIRE

Furniture Fires

Use an AFFF (Aqua Film Forming Foam) or a water extinguisher.

WARNING: Fires in upholstered furniture will take a long while to start because of the fire retardant properties of the fabric and foam. But once alight it can spread quickly and

www.foldingcampers.net

produce poisonous fumes. Do not tackle the fire if it is burning fiercely or if there is already thick smoke. Get out and shut the door.

Curtain Fires

1) Use an AFFF, water or multi-purpose dry powder extinguisher.
2) Once the flames are out, make sure there is no smouldering material.
3) If it is safe to do so, pull the curtains to the floor.

WARNING: FIRES IN CURTAINS CAN SPREAD VERY QUICKLY

Electrical Appliances

1) If possible turn off the power (pull out the plug or, if you cannot reach the socket safely, switch off at the mains).
2) Use a halon 1211 (BCF), CO_2, AFFF, multi-purpose dry powder or water extinguisher.

WARNING: Do not use water-based extinguishers (including AFFF) unless the appliance is disconnected from the mains. You may risk electric shock. Dry powder does not penetrate the spaces in equipment easily and the fire may flare up again.

Fires Involving Bottled Gas

1) Call the fire brigade immediately and tell them bottled gas is involved.
2) If it is safe to do so, turn off the gas supply at the cylinder valve, and remove cylinders away from the camper if possible.
3) Wait until the flow of gas has stopped.
4) Extinguish other burning materials as instructed.

WARNING: Only deal with minor fires involving bottled gas. There is a risk of explosion if a fire involving escaping bottled gas is extinguished before the flow of gas has stopped, or if the cylinder is heated in the flames.

Car Fires

1) Switch off the engine.
2) Get everyone away from the vehicle.
3) Use an AFFF, halon 1211 (BCF), multi purpose dry powder or CO_2 extinguisher from outside the car, at a safe distance.

WARNING: Call the fire brigade and leave the area at once if the fire begins to develop quickly. (There is a danger of explosion if the petrol tank catches fire).

Space Heating Fires

Heating appliances should be completely extinguished before the camper is moved, and should not be used when the camper is in motion. Portable heaters or any other appliance other than the space heater should not be used to heat the camper.

Awning Spaces LPG Appliance Exhaust

Space heaters using liquified petroleum gas have a high output and are continuous burning and therefore produce a high volume of exhaust. They should not be used if their flue outlets discharge into an awning space which is fully enclosed and which people are occupying.

Instantaneous water heaters also have a high output but are used only intermittently. When they are being used, fresh air circulation has to be provided within any space covered by an awning into which their flues discharge.

There is no danger of exhaust gas pollution in awning spaces from refrigerators and storage water heaters which vent into them, but some fresh air circulation in the space should be provided.

www.foldingcampers.net

PENNINE OWNERS' CLUB
COME AND JOIN US

Buying a Pennine is merely the beginning of what will be a long relationship between you, the customer, and Pennine.

Sharing your experiences of life under canvas with others is all part of the fun of camping. The pleasures that this camaraderie provides is the reason why Pennine have firmly supported the development of the Pennine Owners' Club. An exciting venture started in 1993 by extremely enthusiastic Pennine users.

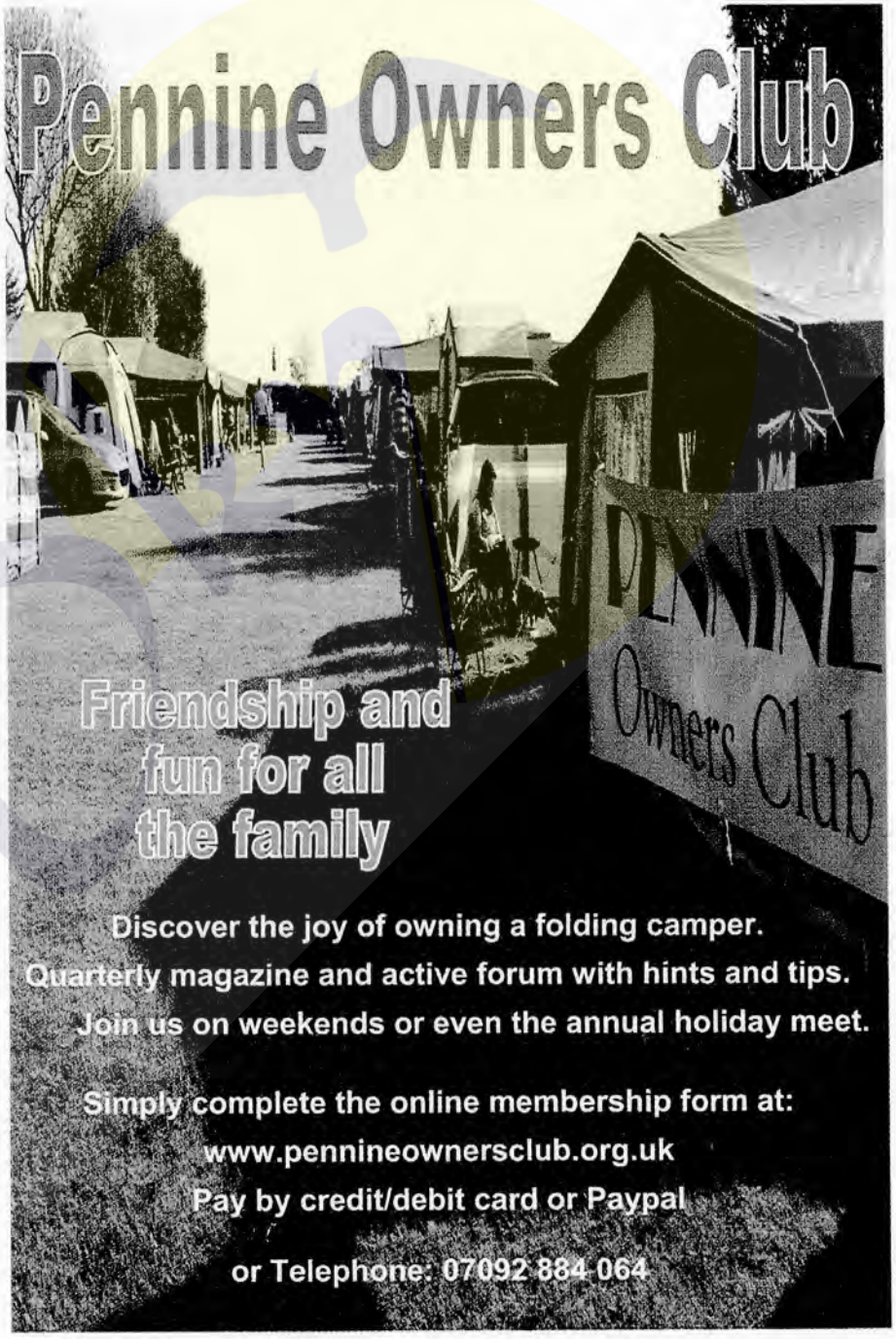
From the original seed of an idea, prompted by the enjoyment they were getting from their Pennines, has grown the Pennine Owner's Club. A highly organised club with a growing membership from all over the country and all walks of life.

The aim of the club is to provide social and leisure activities for the mutual enjoyment and benefit to all Pennine Folding Camper Owners. As the club goes from strength to strength a full programme of varied activities is planned to take place all year round.

Tours of the Pennine factory at Accrington are organised whilst the impressive sight of hundreds of Pennines at the many rallies held by the club both in the UK and on the continent are an unforgettable experience indeed.

Complementing this active programme, the Pennine Owners' Club offers many other exciting reasons for joining. Discounts on product insurance, quarterly news magazines and regular updates on product information are just part of the many services open to club members.

The emphasis at the Pennine Owners' Club is very much placed on the family atmosphere, choosing sites with good facilities and with plenty of opportunities to keep all the family fully occupied.



www.foldingcampers.net

Significantly, the spirit of involvement fostered by the Pennine Owners' Club has played a key role in the product development programme at Pennine's factory. Practical suggestions and tips from members have been incorporated into many of the new products. Proof indeed that at Pennine we listen.

Join us now for;

Fun and friendship for all the family.
Discounts on folding camper and holiday insurance.
Organised Rallies in the UK and Europe.
Quarterly Newsletter with news and technical advice from Pennine Leisure.

CONWAY OWNERS' CLUB
ABOUT THE CLUB

Whatever type of Conway unit you own, you are eligible to join the Conway Owners' Club. The Club was started in 1989 for people who owned Conway Trailer Tents and Folding Campers and is now well established with a nationwide membership.

We hold rallies and gatherings all over the country from March to October, indeed some of our members camp throughout the year and no matter what the event everyone is welcome. This gives members a chance to visit other parts of the country and meet others who share camping as a common interest.

The highlights of our season are the holiday rallies in the UK and in Europe. So far we have been to Spain, France, Germany and Ireland. So many friendships have been forged through the club that often members meet up through the closed season at non-camping events.

Everyone is welcome to join in the organised activities on our rallies, such as treasure hunts, sports, barbecues, discos - the list is endless. The idea is to provide fun for all those who want it, but if your idea of a perfect day is to sunbathe or explore, the choice is yours.

If the weather is not as good as we would like a party tent is available at our larger rallies. It is used during the day as a games, drawing or activities room for the children and at night as an area for the adults to meet and socialise.

The club produces its own quarterly magazine, Contours, filled with interesting features, rally reports, a members' letters page, funny stories, competitions and classified ads. Children are an essential part of the club, the members of tomorrow, and consequently there are sections for the children to which they regularly subscribe.

At the present time club membership entitles discounted insurance for Trailer Tents and Folding Campers from a specialist insurance company. We also have our own line of camping & casual wear.

There is something for everyone in the Conway Owners Club, so why not join the Club and take advantage of all that being a Conway Owner brings. Membership covers the family unit, regardless of how many children there are.

www.conwayowners.org.uk

www.foldingcampers.net