

Model No. EGO400 - Titanium Model No. EM4446 - Enduro





REMOTE CARAVAN MOVER

Installation guide and user information.





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Package Contents (Fig.A)

Ref	Qty	Description
1	1	Motor Unit (A)
2	1	Motor Unit (B)
3	1	Main Cross Bar
4	1	Cross Actuation Centre Bar
5	2	Cross Actuation Insert Bars
6	1	Engagement Tool
7	2	Classic Stop Bolts & Nuts (2 pairs)
8	2	Upper Classic Clamp Plate*
9	2	Classic U Plate*
10	2	Lower Classic Clamp Plate*
11	1	Convoluted Cable Trunking
12	2	Positive (+) Red Motor Cable 5m
13	2	Negative (-) Black Motor Cable 5m
14	1	Positive (+) Red Battery Cable 1.8m
15	1	Negative (-) Black Battery Cable 1.6m
16	8	Classic Clamp Bolts - M10x55*
17	8	Classic Clamp Nylock Nuts M10*
18	8	Classic Clamp Washers 10mmØ*

Ref	Qty	Description
19	20	P-Clip Screws - M4x15
20	10	Cable Trunking P-Clips 19.2mm
21	10	Cable P-Clips 10.4mm
22	4	Battery Terminal Connector 8mmØ
23	2	Battery Terminal Connector 6mmØ
24	6	Cable Spade Connectors
25	3	Cable Number Markers (1,2,3,4)
26	3	Cable Polarity Markers (+,-)
27	4	Motor Unit Cable Ties 8x400
28	10	Cable Ties 2x70
29	1	Power Isolation Switch + Key + Fixings
30	2	Roller Distance 20mm Spacers
31	1	Remote Control Handset
32	1	Electronic Control Unit
33	3	AAA type 1.5V Batteries (not illustrated)
34	2	Shark Clamp Mounting System*

* Depending on model, either classic clamp or shark clamp will be supplied.

Thank you for choosing this caravan mover. This product has been produced according to very high standards and has undergone careful quality control procedures. Simply by using the remote control you can move your caravan effortlessly into any position required within operating guidelines.

Before proceeding with installation and starting to use the mover, please read this manual very carefully and be aware of all the safety instructions! The owner of the caravan will always be responsible for correct use. Keep this manual inside your caravan for future reference.

This User Manual covers two models of Caravan Mover: Model No. EGO400 and Model No. EM4446; any installation or operational differences between the two models are detailed where appropriate. The caravan mover consists of two 12V motor-powered rollers, a 12V electronic control box and a remote control. To function, the motor-powered rollers must be engaged against the tyres of your caravan. The supplied cross actuation device enables you to engage both rollers at the same time from one side of your caravan. Once this is done the mover is ready for operation. The remote control will allow you to move your caravan in any direction.

Fitting Guidelines

The chassis clamps provided are suitable for fitment onto most standard caravan chassis that have an L-shape or U-shape profile. Please refer to Fig.17 & Fig.18 for reference on dimensions and clearances BEFORE you proceed any further with installation. If your chassis has different dimensions to those shown in Fig.18 then various chassis clamp adapters are available to suit the majority of UK and Continental caravans; please refer to the section entitled 'Optional Fitting Adapters'. Note: Adjustment of this manner is only available with the Classic Clamp option.

Specifications

Model Number	EGO400	EM4446
Operational Voltage	12 Volt DC	12 Volt DC
Average Current Consumption*	25 Ampere (approx)	25 Ampere (approx)
Maximum Current Consumption**	76 Ampere (approx)	76 Ampere (approx)
Speed	12cm per sec. (approx)	9cm per sec. (approx)
Approx. Net Weight (inc. all fixings & accessories)	35 Kg	40 Kg
Safe Working Load (SWL) Twin Motor/Quad Motor	2250Kg/3500Kg	2250Kg/3500Kg
Minimum Width (caravan/trailer)	1800mm	1800mm
Maximum Width (caravan/trailer)	2500mm	2500mm
Power Source (caravan leisure battery)	12V	12V

* Average Current Consumption readings when using an approx. 1100Kg single axle caravan on a hard, level surface. ** Maximum Current Consumption readings when using an approx. 1100Kg single axle caravan ascending a 1:4 (25%) gradient.

Installation Safety Guidelines

(\Lambda CAUTION!)

Important Safety Instructions Read this User Manual carefully before installation and use. Failure to comply with these rules could result in serious injury or damage to property.



These symbols identify important safety precautions. They mean CAUTION! WARNING! SAFETY FIRST! IMPORTANT INFORMATION!

Before starting installation under the caravan:

DO check that the caravan is disconnected from the battery supply and the mains electrical supply.

DO only use adapters and accessories that are supplied or recommended by the manufacturer.

<u>DO</u> check that the tyres are not over worn (fitting to new or nearly new tyres is the best option).

<u>DO</u> make sure that the tyre-pressures are correct to the manufacturer's recommendation.

DO make sure the chassis is in good condition without any damage and is free from rust, dirt etc.

DO stop work immediately if you are in doubt about the assembly or any procedures and consult one of our engineers.

<u>DO</u> locate the battery isolation switch to be accessible at all times when parking and moving the caravan.

DO NOT remove, change or alter any parts of the chassis, axle, suspension or brake mechanism.

<u>DO NOT</u> operate the unit if you are under the influence of drugs, alcohol or medication that could impair your ability to use the equipment safely.

Installation - Mechanical Components



These instructions are for general guidance. Installation procedures may vary depending on caravan type.



Use appropriate support! Working under a vehicle without appropriate support is extremely dangerous. If you are fitting the mover system yourself, it is advisable that the installation is conducted by two people, as the mover will need to be raised up to the bottom of the caravan's chassis before the clamps can be installed.



Remember to complete the product registration form with the serial numbers of each motor assembly prior to fitment (see details within the Guarantee section of this manual).



If with your particular model of mover the motors are not pre-assembled onto the framework, please follow assembly manual supplied in the motor packaging.

Place the caravan on a hard, level surface. The use of a lifting ramp or an assembly pit is ideal for access and personal safety.

Clean the area of your chassis where you need to mount all components to ensure a good fitting.

Unpack all the components and check for the presence of all parts (see Package Contents List).

Make sure the caravan is prepared for installation. Check before installation that important areas, such as drains/spare tyre etc. do not cause any obstruction to the function of the mover.

Ensure both rollers are in the DISENGAGED position (Fig.8 or Fig.12), as the unit will not fit correctly otherwise.

Installation - Classic Clamping System (Fig.10.1)

Loosely assemble motor framework side (1), motor framework side (2) and main cross bar (3) (see Fig.1). The nuts (Fig.1B) on the cross bar (3) must be no more than finger-tight at this stage.

Place the assembly (Fig.1) loosely under the caravan. In principle, the unit should be fitted in front of the caravan road wheels, but if fitting in this position is not possible, it is permissible to fit it to the rear of the wheels by rotating the whole assembly by 180° degrees.

Loosely fit the two clamping assemblies to the chassis (see Fig.16) and attach using the bolts, nuts and washers (16,17,18) provided in the installation kit. Nuts must be no more than finger-tight.

Assemble the parts of the cross actuation bar (4 & 5) and connect them to the motor units (1 & 2) with the nylock nut and bolt (in bag of bolts) onto the cross actuation bar-connectors (see Fig.1A). Nuts must be no more than finger-tight at this stage.

Make sure that the Main Cross Bar (3) and the Cross Actuation Centre Bar (4) are positioned in the middle of the caravan/mover (the centre of the bar is marked).

With the main assembly loosely fitted onto the chassis, slide the whole assembly along the chassis until the rollers (Fig.2A or Fig.4A) are 20mm away from the surface of the centre of each tyre (Fig.8 or Fig.12). Two 20mm spacers (30) are provided.



It is vitally important that each roller is at exactly the same distance away from the tyre. The whole assembly must be parallel to the caravan/trailer axle.

Ideally, align the roller(s) with the centre of each tyre, if clearances permit. When positioning, always ensure there is at least 10mm of clearance between the gearbox and the tyre (Fig.14).

Fully tighten the four nylock nuts (17) on both clamping assemblies (Fig.16) to a torque setting of 40 ft lbs/55Nm, then the four bolts (Fig.1B) on the Main Cross Bar (3) and the four bolts (Fig.1C) on Cross Actuation assembly (4 & 5) to a torque setting of 9ft lbs/12Nm. Re-check the distance of 20mm from the rollers to the tyres and if necessary, loosen the bolts and re-adjust the position of the assembly. Once satisfied with the position of the assembly, fit and tighten the Chassis Stop Nuts & Bolts (7), one pair in each of the Upper Classic Clamp Plates (see Fig.16). Tighten to a torque setting of 40 ft lbs/55Nm. The Stop Bolts grip the lip of the chassis and help prevent the mover from sliding along the chassis. The main mechanical components have now been installed.

Installation - Quick-fit Shark Clamp System (Fig.15)

Loosely assemble the main cross bar (3) inside motor framework side (1) and motor framework side (2) (see Fig.1). The nuts/bolts (Fig.1B) on motor framework (1&2), must be no more than finger-tight at this stage.

Place the assembly (Fig.1) loosely under the caravan. In principle, the unit should be fitted in front of the caravan road wheels, but if fitting in this position is not possible, it is permissible to fit it to the rear of the wheels by rotating the whole assembly by 180° degrees.

Typically the Shark Clamp will be pre-assembled onto the motorsides for ease of fitting, but if the clamps have been purchased seperately or are not pre-assembled, they should be assembled onto the framework as shown in (Fig.22). Before attempting to install the mover onto your caravan chassis ensure that the pinch bolts (Fig.15B) are removed and put safely to the side.

In turn, open each jaw to its widest position (loosen nuts Fig.15A if required) and hang the motorside framework onto the chassis. If the caravan chassis is a tall U profile, the nuts (Fig.15A) may need to be removed first to allow the jaws to be opened wide enough.

Loosen the crossbar nuts/bolts (Fig.1B) and adjust the lateral position of each motorside so that the rollers are central to the tyre, or as close to the centre as possible, ensuring 10mm of space is left beween the tyre and gearbox (Fig.14). After adjusting ensure the clamps haven't moved out of position by holding the framework motorside firmly, while reaching round and pushing the clamps outwards until the fastening bolts and chassis are within 1-2mm of each other. Once happy with the overal width of the mover system, tighten crossbar nuts/bolts (Fig.1B) to 9ft lbs/12Nm to set the width.

Slide the whole assembly along the chassis until the rollers (Fig.2A or Fig.4A) are 20mm away from the surface of the centre each tyre (Fig.8 or Fig.12). Two 20mm spacers (30) are provided. Fully tighten the clamp bolts (Fig.15A) on both clamping assemblies to a torque setting of 40 ft lbs/55Nm. When tightening one clamp bolt, the other may loosen slightly so it may take several passes to get both bolts fully torqued on each clamp. A tip is to do all clamp bolts up until there is a strong resistance before torquing fully.

Insert pinch bolt (Fig.15B) and tighten to a torque setting of 18 ft lbs/25Nm, ensuring while doing this, that the retaining nut is at the highest position. Once the bolt is secure, tighten the retaining nut. Finally tighten the pivot bolt (Fig.15C) to 9ft lbs/12Nm.

Installation - Electrical/Electronic Components

Make sure the 12V supply from the battery and any 230V electricity supply are disconnected.

Find a suitable place for the Electronic Control Unit (32), such as a storage area, under a seat or a bed. Make sure this place is dry and close to the battery (30 cm to 60 cm). The unit can be mounted on the bottom (horizontal) or on the wall (vertical). When choosing location, ensure that the unit or antenna cannot easily be damaged.

Fix the Electronic Control Unit securely into position with four screws (19). Note: if the provided screws are not of suitable length or type for the desired location/material please substitute these as appropriate.

Drill a 25 mm hole through the floor of the caravan approximately 150 mm centrally in front of the control unit (32) terminals. Caution! Take extra care to avoid any chassis members, gas pipes and electrical wires!



Note: The motor cables are supplied pre-wired into each of the motor assemblies.

Route the motor-cables in accordance with wiring diagram (Fig.20) (red = positive, black = negative).



It is best to try and keep all motor cables an equal length, so it is advised that each pair of cables is routed towards the centre line of the caravan's length and then onward to the drilled hole near the Control Unit

The wiring diagram (Fig.20 + Table.A (see below) depicts the wiring route when installing the motor units in FRONT of the wheels/axle towards the 'A' frame. Please refer to table B (below) for fitment of the motor units to the REAR of the axle. Note: If you are fitting two sets of motors onto a twin-axle caravan to form a full Quattro[®] system then both Table A & Table B wiring will be utilised. Please refer to Fig.21.

Table . A FRONT OF AXLE FITTING

Motor A Positive (+) cable to terminal 1 Motor A Negative (-) cable to terminal 2 Motor B Positive (+) cable to terminal 3 Motor B Negative (-) cable to terminal 4

Table . B	REAR OF AXLE FITTING
	Motor A Positive (+) cable to terminal 4 Motor A Negative (-) cable to terminal 3
	Motor B Positive (+) cable to terminal 2 Motor B Negative (-) cable to terminal 1
	Motor B Negative (-) cable to terminal 1

Mark the ends of the Motor Cables (12 & 13) for both motor units using the cable markers (25). The cables for the left and the right motor should have the same length. Avoid any loops.

Route the motor cables along the underside of the caravan floor, inside the supplied Cable Trunking (11) (this will protect the electrical cables against sharp edges and dirt) through the drilled hole. Also use a combination of the smaller P-clips (21) where appropriate.

Secure the Cable Trunking (11) to the chassis or under body of the caravan by using the P-Clips (20) and screws (19). Once the motor cables are through the drilled hole next to the Control Unit (32), cut the cables, ensuring that they are the same length. Remove approx. 5 mm of the insulation from the ends. Fix the spade connectors (24) by using crimping pliers. A secure and good quality connection on each cable is essential.

Attach the connectors to the terminals on the Control Unit (see wiring diagram Fig.20). Route the Battery Cables (14 & 15) from the battery to the Control Unit (32).

Note: Depending on regulatory requirements, which vary depending on your location, it may be necessary to install an in-line fuse between the positive battery cable and the control unit aswell as utilising heavier gauge cabling between the battery, isolation switch and control unit when installing a four motor system. Please consult your dealer for further details if necessary.

The Power Isolation Switch (29) will also need to be installed in-line between the Control Unit and the battery, so please plan where this will be located. If available, the ideal location for the isolator switch is inside the battery compartment; usually there is a space to the side of the battery near the mains power connection. Essentially, the Isolation Switch needs to be in a location that is easily accessible in the event that the mover needs to be switched off in case of any emergency.

Install the Isolation Switch (29) between the battery and the Control Unit on the positive (+) cable, use two of the 8mm Battery Terminal Connectors (22) to link the cable to the switch terminals. Nuts and bolts are provided to mount the switch but please substitute as necessary if they are not of a suitable type. Again, it is recommended to use the supplied Trunking (11) to protect the cables against sharp edges. Attach the trunking with P-Clips (20) and P-Clip Screws (19).

Connect the Battery Cables to the existing battery terminals (red = positive, black = negative). Two types of Battery Terminal Connector (22 & 23) are provided for use as appropriate.



Caution! Make sure that you do not reverse the Positive (+) and Negative (-) connections. Incorrect connection (reverse polarity) will result in damage to the control box.

Cut the cables to an appropriate length and remove approx. 5 mm of the insulation from the ends. Fix the spade connectors by using crimping pliers. A secure and good quality connection on each cable is essential.

Finally, connect the Battery Cables (14 & 15) to the Control Unit (32). Installation of your Caravan Mover is now complete.

Operation - Safety Guidelines



Before use, always check the mover for any damage.



When towing or moving the caravan please be aware, at all times, that ground clearance is reduced by 50mm when the Mover has been fitted.



To maintain signal strength, always make sure that, during manoeuvring, the distance between the remote control and the caravan does not exceed 5 metres.



DO be aware that the mover increases your caravan or trailer weight. So this reduces the payload of the caravan.



DO always make sure that the rollers are fully disengaged from the tyres when the mover is not in use. This is better for the tyres and for the mover.



DO always make sure that the rollers are fully disengaged before towing/moving the caravan by vehicle or manpower. This can damage the tyres, mover and the towing vehicle.



DO always make sure that after you have finished using the Mover, the Battery Power Isolation Switch (29) is switched off and the key is removed and stored in a safe place (out of reach of children or other unauthorised people).



DO always make sure that the remote control is stored in a safe place (out of reach of children or other unauthorised people).

DO always apply the handbrake after manoeuvring, before disengaging the drive rollers from the tyres.

DO always ensure that children and pets are kept well out of the way during operation.



DO NOT rely on the mover to act as a brake.

DO NOT exceed the total Safe Working Load (SWL).

DO NOT make any modifications on the caravan mover (mechanical or electronically). This can be very dangerous! No warranty claim will be accepted and we cannot guarantee the function of the mover if any modifications are made. We will not be liable for any damage whatsoever caused as a result of incorrect installation, operation or modification.

Operation - Motor Units

The mover has two Motor Units (1 & 2). In general they are mounted in front of the axle of the caravan/trailer. Both units are identical but cannot be switched. Please refer to Fig.2 for Model No: EGO400 and Fig.4 for Model No: EM4446

Fig.2/Fig4

- A: Drive roller
- B: 12V Motor
- C: Connection Terminals (+ and -)
- D: Base Unit
- E: Drive Unit
- F: Gear Housing
- G: Engagement Bar



Always ensure that you are close enough to engage the caravan's handbrake when manoeuvring on uneven terrain and gradients/slopes in case of mechanical failure. Do not use the mover as a brake, when you have finished manoeuvring always engage the caravan's handbrake.



Warning! Ensure that there are no persons or obstructions in the vicinity of the caravan prior to testing.

In order to engage the rollers, fit the end socket of the Engagement Tool (6) on the spindle (Fig.2G, Fig.4G, Fig.7A & Fig.11A) on the right or left drive unit.

Engaging the Rollers

Position the engagement tool parallel to the ground, then rotate the tool through approximately 180° degrees. Note: to engage the rollers you always rotate the tool towards the tyre, irrespective of which side you are operating the engagement from.

The engagement mechanism utilises a simple over-centre cam that pushes the rollers onto the tyres and then locks into place automatically. If the mover has been installed correctly, at exactly 20mm away from the tyres when disengaged, the amount of force provided onto the tyre by the roller will be sufficient for most circumstances of use (Fig.10 & Fig.13).

To disengage the rollers, simply refit the tool onto one of the spindles and rotate away from the tyre. Please note that you will feel a small amount of resistance initially as you disengage the cam from its locked position; the spring will then do the rest of the work and pull the roller away from the tyre and into the fully disengaged position (Fig.12).

Operation - Remote Control Handset

The Remote Control handset (31) is powered by three 'AAA' 1.5V batteries, and is activated by double-pressing the power button (Fig.3A). Once activated the green LED (Fig.3H) will illuminate and the directional controls can now be used. If the handset has not been used for a period of 60 seconds then it will automatically switch itself off.

Fig.3

- A = On (press button twice within one second, green LED (Fig.3H) illuminates)
- B = Caravan forwards (both wheels rotate in forwards direction)
- C = Caravan reverse (both wheels rotate in reverse direction)
- D = Caravan left forwards (right wheel rotates in forwards direction)
- E = Caravan right forwards (left wheel rotates in forwards direction)
- F = Caravan left reverse (right wheel rotates in reverse direction)
- G = Caravan right reverse (left wheel rotates in reverse direction)
- H = Indication LED

In addition, the 'left forward' (Fig.3D) and 'right reverse' (Fig.3G) buttons or 'right forward' (Fig.3E) and 'left reverse' (Fig.3F) buttons may be pressed at the same time to turn the caravan around on its own axis (without moving forward or backward). Note: this function is disabled when the electronics are in twin-axle mode.

When pressing a directional button on the handset, the mover will start slowly, normal speed will be reached within 2.5 seconds.



Changing batteries in the remote control:

Open the rear cover of the handset by pushing gently and sliding the rear cover in the direction of the arrow (Fig.5). Take out the depleted/old batteries and dispose in the appropriate way (check with your local authority for correct disposal of batteries). Install new replacement batteries. Make sure to use leak proof batteries (No claims under guarantee can be considered for damage caused by leaking batteries). Slide the rear cover on gently and it will click into place.

Operation - Electronic Control Unit

The Electronic Control Unit (32), which is mounted inside your caravan, is responsible for controlling the caravan mover.

The control unit has three LED's (Fig.6B) and one recessed button (Fig.6A):

- Green LED This will illuminate when receiving the signal. The LED will flash if the remote control is out of range (the maximum range is 100 metres without obstruction).
- Blue LED This will illuminate if the temperature of the control unit is too high, or if the battery voltage is too low or too high.

The Red LED will specify the error as follows:

Red LED -Voltage too low <10V: LED will flash twice slowly.
Voltage too high >15V: LED will flash fast 5 times.
Electric current is too high (≥120A): LED will constantly flash.
Temperature is too high >80C: LED is on permanently.

Reset Button (Fig.6A) – This only needs to be used when replacing a remote control handset. Refer to the 'Before First Use - Pairing the Handset and Control(s)' section for reference on this procedure.

When the Control Unit is connected to power, it will perform a self-test automatically. The 3 LEDs will illuminate for 0.2 seconds, and turn off, which means there is no error and the unit is functioning correctly.

As a safety feature the Control Unit will switch off automatically if no button is pressed within 60 seconds. The Control Unit will also turn off automatically if the mover is working constantly in one direction for longer than 3 minutes.

Before First Use - Single Axle and Twin Axle Modes

The following procedure depends on whether you are using the Quattro[®] electronics for a single axle or twin axle caravan:

To enable Single-Axle Mode: Install only 2 of the 3 'AAA' batteries into the battery compartment of the handset (Fig.5). Hold down button Fig.3E and at the same time, install the final battery. The handset will sound single beeps. The electronics will now operate in single-axle mode.

To enable Twin-Axle Mode: Repeat the above procedure but hold down button Fig.3G. The handset will sound double beeps. The electronics will now operate in twin-axle mode. This mode is used for twin-axle caravan installations that use two or four motors.

Before First Use - Pairing the Handset and Control Unit(s)

When operating a full Quattro[®] four motor twin-axle system, only one handset is used to communicate with both Control Units. The handset will need to be paired or linked to both control units using the following procedure:

Press the Reset button (Fig.6A), the green LED will flash for 10 seconds. Press the power button on the handset twice whilst the Control Unit's LED is still flashing. The green LED will then be on without flashing. The remote control and Control Unit are now paired. Repeat this procedure with the second Control Unit.

Using your Caravan Mover with Quattro® Technology

It is, of course, impossible for a twin-axle caravan to be manoeuvred in the same way as a single-axle as the turning circle is greatly increased compared to a single-axle caravan. Also, the amount of different manoeuvres required to locate/park your caravan is increased.

However, the advanced electronics of the Quattro[®] electronics take care of the manoeuvring whilst also taking care of your caravan.

For example:

When the caravan is turning, the motors provide lower rotational speed on one side to help enable direction change. This enables the caravan to manoeuvre with minimal tyre 'scrub' or being dragged along the ground, which can cause undue stresses on its tyres, wheel hubs and chassis.

It is also a possibility that when operating a two motor twin-axle system, on very uneven ground, one of the wheels driven by the mover will not make adequate contact to continue progress. If this occurs, you will need to move the caravan in a different direction until adequate traction is regained.

Operation - Getting Started

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Please make sure you read the safety instructions very carefully and make sure that you follow these guidelines!



Make sure that the battery that supplies the mover is fully charged and in good condition.

Make sure that the caravan is free from the vehicle and the handbrake is on. Also make sure that the cornersteady feet are fully raised.

Engage both rollers as described in 'Operation-Motor Units'. This only needs to be done on one side of your caravan since the other side will automatically follow via the cross actuation bar.

Turn on the Battery Power Isolation Switch (29).

Before operating the Mover, release the handbrake.

Activate the mover by double-clicking the power button (Fig.3A) on the remote control. The LED (Fig.3H) on the remote control will illuminate. Now you can choose the movements according the symbols shown on the remote control As soon as the buttons are released the caravan will stop

The mover moves at one speed after the intitial 'soft-start'. The speed can increase a little when going downhill and decrease a little when going uphill. TIP: The mover is more efficient when reversing the caravan up an incline.

After manoeuvring, deactivate the mover by double-clicking the power button on the remote control again. The LED on the remote control will turn off. Apply the handbrake first and then disengage the drive rollers from the tyres. Turn off the Battery Power Isolation Switch.

Store remote control in a safe place (out of reach of children or other unauthorised people).

Operation - Hitching and Unhitching



It is possible to position the caravan's hitch exactly over a stationery car's tow ball using the mover. But please be very careful!

Use the button controls on the remote control to bring the caravan to the car. It is better to reach the tow ball with several short "trips" rather than trying to do it in one "trip". When the hitch is right above the tow ball of the vehicle, lower the hitch to the ball and engage in the normal way using the jockey wheel. Hitch the caravan in the normal way ready for towing.



Release the rollers from the caravan's tyres. You cannot tow the caravan with the Mover engaged! Make sure that both rollers are fully disengaged!



Trying to drive away with the mover still engaged, will damage the mover, your caravan tyres and strain your tow vehicle!

Maintenance

To prevent the battery from becoming totally discharged during long periods of inactivity it must be disconnected and recharged before using again.

Please check regularly that the rollers of the drive units are free of any dirt, or debris that may have been picked up from the road. Any further maintenance is not required.

Please check regularly the distance between the rollers and the tyres. In the neutral (fully disengaged) position this must be 20mm (EGO200) / 25mm (EGO400).

When your caravan is stored for an extended period of time (over winter for example) it is recommended to remove the leisure battery from the caravan. Make sure you keep it charged to ensure it is in good condition the next time you want to use it.

Once a year have your caravan mover maintained and visually inspected. This inspection must include all the bolt/nut connections, the cables and electrical connections and lubrication of movable parts/joints.



In case of any failures or problems, please contact your Caravan Mover supplier.

Trouble Shooting

Should your mover fail to operate, please check the following:

Unit fails to operate, does not function at all:

Make sure that the Battery Power Isolation Switch (29) is turned on.

Is the Remote Control Handset 'paired' with the Control Unit? To 'pair' the Handset and Control Unit please follow the procedure detailed in the section 'Before First Use - Pairing the Handset & Control Unit(s)' regarding the Reset Button (Fig.6A).

Check the batteries of the remote control. If empty, renew using three new 'AAA' 1.5V batteries.

Caravan battery could be empty. Check electronics box (Blue LED is on and Red LED is flashing twice slowly). If empty, recharge completely or renew caravan battery before taking any further action.

Advice on battery voltage: Even though batteries are rated at 12V, a fully charged battery will provide a charge nearer to 13V. A voltimeter reading of 12.7V or higher means that the battery is 100% charged, 12.5V is three quarters charged and 12.4V can mean your battery is only 50% charged. The caravan mover needs at least 12.5V to function correctly.

Caravan battery could be overloaded. Check electronics box (Blue LED is on and Red LED is flashing continuously). Check your charging equipment and try to discharge the battery by connecting/using a light or other load. If this does not give any result, renew caravan battery before taking any further action.

Check the cable-connection between the caravan battery and the control unit. Check the distance between the remote control and the caravan is not more than 5 metres. If there is no signal between the remote control and the control unit, the mover will not function at all, even though the LED on the remote control is on.

All error messages will reset automatically after 40 seconds. If this does not occur, reset the mover by switching off the mover via the isolator switch for at least 10 seconds and turn it on again. Then re-establish the connection with the remote control (by pressing the power button on the handset twice within 1 second).

Unit fails to operate or moves intermittently:

Check the battery of the remote control. If empty, renew using three new 'AAA' 1.5V batteries.

Caravan battery could be empty. Check electronics box (Blue LED is on and Red LED is flashing twice slowly). If empty, recharge completely or renew caravan battery before taking any further action.

Caravan battery could be low - with the rollers engaged. Check the voltage drop on the caravan battery meter, if this immediately drops well below 10 volts, charge or renew caravan battery.

Caravan battery could be overloaded. Check electronics box (Blue LED is on and Red LED is flashing continuously). Check your charging equipment and try to discharge the battery by connecting/using a light or other load. If this does not give any result, renew caravan battery before taking any further action.

Check the cable-connection between the caravan battery and the control unit.

Badly connected or corroded battery terminals can cause intermittent problems, check battery terminals, clean and connect again.

Check the distance between the remote control and the caravan is not more than 5 metres. If there is no signal between the remote control and control box, the mover will not function at all, even though the LED on the remote control is on.

All error messages will reset automatically after 40 seconds. If this does not occur, reset the mover by switching off the mover via the isolator switch for at least 10 seconds and turn it on again. Then re-establish the connection with the remote control (by pressing the power button on the handset twice within 1 second).

Rollers slip on wheels:

Check that the disengaged distance of the rollers to the tyres is 20mm on both sides. Check for correct tyre pressure by referring to your caravan manufacturer's handbook. If the pressure is low, the roller would need to be pushed into the tyre further than usual to gain sufficient traction.



In case of any doubt, please call your Caravan Mover supplier.

Guarantee

Quattro[®] caravan mover systems are provided with a UK parts only warranty for a period of 5-years which includes the first 12 months statutory, plus an additional 4 years extended warranty. Please note that the extended 4 year warranty is only offered if Product Registration is completed and returned within 14 days from the date of purchase. Any warranty claims must be directed through the place of purchase with a proof of purchase provided. Warranty cover is limited to products within UK mainland only.

Within the five year period, the manufacturer will, at their sole discretion, replace or repair any parts that have failed if deemed to be due to a manufacturing defect.

The manufacturer does not take responsibility for any consequential loss whatsoever.

Upon inspection, components that are missing when checked against the packing contents list must be reported to the place of purchase within 5 working days.

This warranty cover is available only to the original purchaser of the product and is non-transferable.

What is not covered:

- Normal wear and tear.
- Damage that is deemed to be due to customer misuse or neglect.
- The cost of repair following accidental damage, abuse of product or deliberate tampering.
- Warranty is not offered for any type of trade or commercial usage.
- As a result of the recall or modification of all equipment in a model range.
- Force Majeure e.g. Damage caused by extraordinary events or circumstance beyond anyone's control.
- Damage as a consequence of water ingress.
- Carriage or any additional charges incurred including travel or labour.
- Caravan electrics, including fuses, plugs, batteries, wiring connections and looms, remote control transmitters and receivers. Scratches, dents, paintwork and cosmetic trim.
- Damage as a result of incorrect installation and/or disregard to manufacturers fitting instructions.
- Cover will not be given to any part or component which is out of manufacture or no longer available.
- Cover will not be given if the product has been modified in any way.
- Damage occuring as a result of the product being used outside manufacturer's load recommendations.

Product Registration

Please register your Quattro[®] caravan mover online within 14 days of purchase. Registration is quick and simple, go to www.purpleline.co.uk/product-registration. Please retain your original purchase receipt.

Please fill-in the Serial Numbers + additional information and retain this manual for future reference. There are two serial numbers that are sequential and they are stamped onto the back face of the motor.

Serial No. EM4446/ EGO400	
Date of Purchase	
Name of Dealer	

Contact Information

UK Purple Line Limited Peninsula Business Centre Wherstead, Suffolk IP9 2BB, United Kingdom Tel: +44 (0) 1473 601200 E-mail: info@purpleline.co.uk

Optional Fitting Adapters

Additional chassis clamp adapters are available, as follows:



Low Profile Chassis Adapter Plates (Part No. CM-029) If your chassis frame height is less than 140mm these plates must be fitted to lower the assembly to provide the correct height of 185mm. Drilling of your chassis may be required. Note: In some countries, the installation must be checked by a professional technician in order to adhere to local regulations.



Narrow Gauge Chassis Adapters (Part No. CM-030) These plates must be utilised if you have an AL-KO Vario III/AV chassis which has a frame thickness of less than 2.8mm. These must be positioned behind the axle using pre-drilled holes already available on the chassis; so your mover must be fitted behind the axle.



16mm Spacers - 1 pair (Part No. CM-028)

Use spacers to lower the mover assembly if your chassis has a frame height of between 140 to 185mm. A maximum of 3 sets of spacers can be utilised to achieve correct frame height of 185mm. A set of extended clamp bolts must be used in conjunction with these spacers (Part No. 346-054).



Set of 8 M10 x 100 Bolts (Part No. CM-031) Set of 8 extended clamp bolts for use with 16mm spacers (Part No. 346-051)



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