

emove®

Finding Level

UK For Professional Installation Only

Model Number: EM306

UK: **User Manual**







EC DECLARATION OF CONFORMITY

Product: Manoeuvring Device for Caravans
Model No: EM306
Manufacturer: **The Ace Supply Company Ltd T/A Streetwize Accessories,**
Suite GA, Marsland House Marsland Road, Sale M33 3AQ



EU Authorized Representative : **Ace Supply Co (Europe) Ltd**, 25 Herbert Place, Dublin 2. DO2 AO98 Republic of Ireland.

This declaration is issued under the sole responsibility of the manufacturer.

The object of the declaration described above is in conformity with the relevant EC Directives:

2014/53/EU RE Directive, 2014/30/EC EMC Directive, 2006/42/EC Machinery Directive, 2011/65/EU RoHS Directive, ECE-R10

Conformity is shown by compliance with the applicable requirements of the following standards:

EN IEC 62321-5:2013, EN IEC 62321-4:2013+A1:2017, EN IEC 62321-7-2:2017, EN IEC 62321-6:2015,
EN IEC 62321-8:2017, EN300 220-1:2017, EN300 220-2:2017, EN301 489-1:2017, EN301 489-3:2019, EN 62311: 2008,
EN ISO 12100:2010, ECE-R10.05

Technical Data

Remote Control Frequency Class 1 Frequency 868 MHz <20mA.
Operational Voltage 12v DC Current Consumption Average 20A maximum 100A.
Power Transmitted 6.345 dBm.
Area of operation Single axle caravan with a total weight up 2250kg on hard/flat surfaces,
1800kg on other surfaces, 1450kg on 18% gradient.
Speed approx: 9cm per second
Weight approx: 34kg

Signed for and on behalf of: The Ace Supply Company Ltd T/A Streetwize Accessories

Place of Issue: Manchester

Date of Issue: 21/10/2023

Name: Lesley Cooper

Position: QC Manager Signature:

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2017 No. 1206 The Radio Equipment Regulations 2017, 2016 No. 1091 The Electromagnetic Compatibility Regulations 2016,
2008 No. 1597 The Supply of Machinery (Safety) Regulations 2008, 2012 No. 3032 The Restriction of the Use of Certain Hazardous
Substances in Electrical and Electronic, Equipment Regulations 2012, ECE-R10

References to the relevant designated standards in relation to which conformity is declared:

BS EN IEC 62321-5:2013, BS EN IEC 62321-4:2013+A1:2017, BS EN IEC 62321-7-2:2017, BS EN IEC 62321-6:2015, BS EN IEC
62321-8:2017, BS EN 62311:2008, EN300 220-1:2017, EN300 220-2:2017, EN301 489-1:2017, EN301 489-3:2019, BS EN ISO
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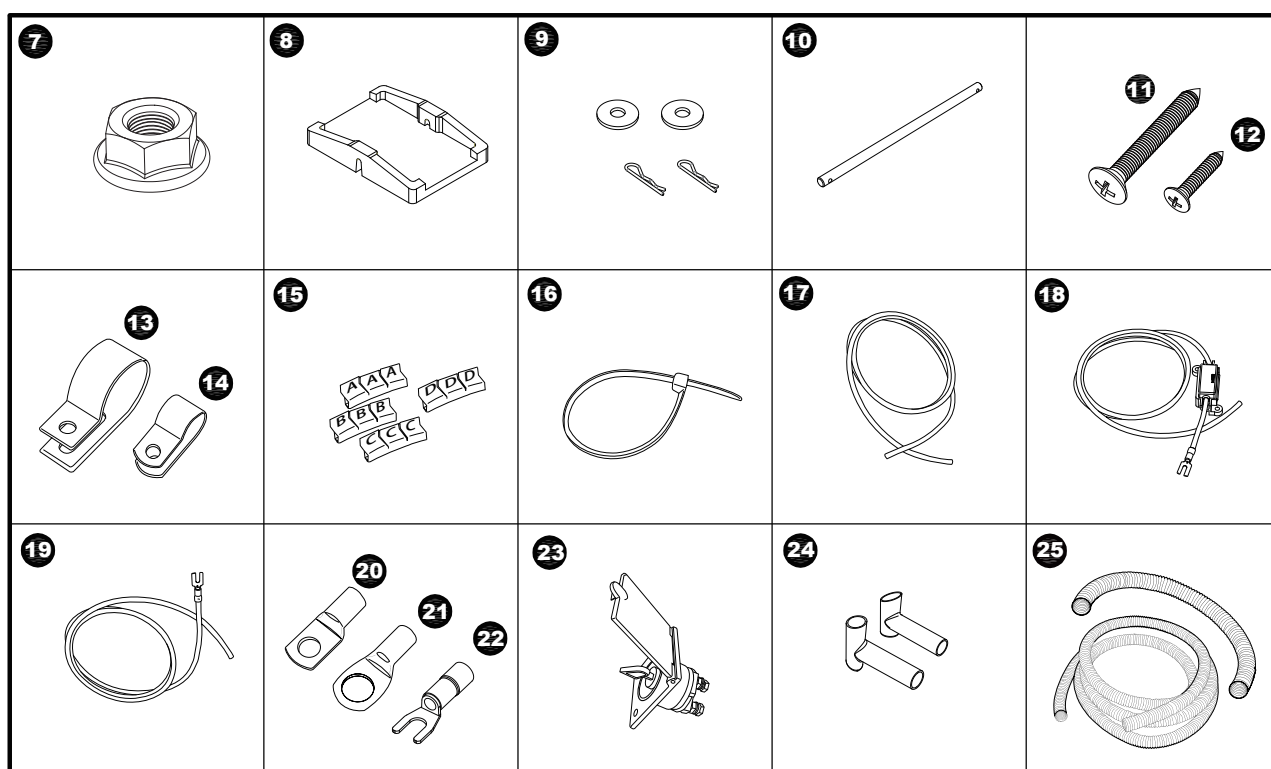
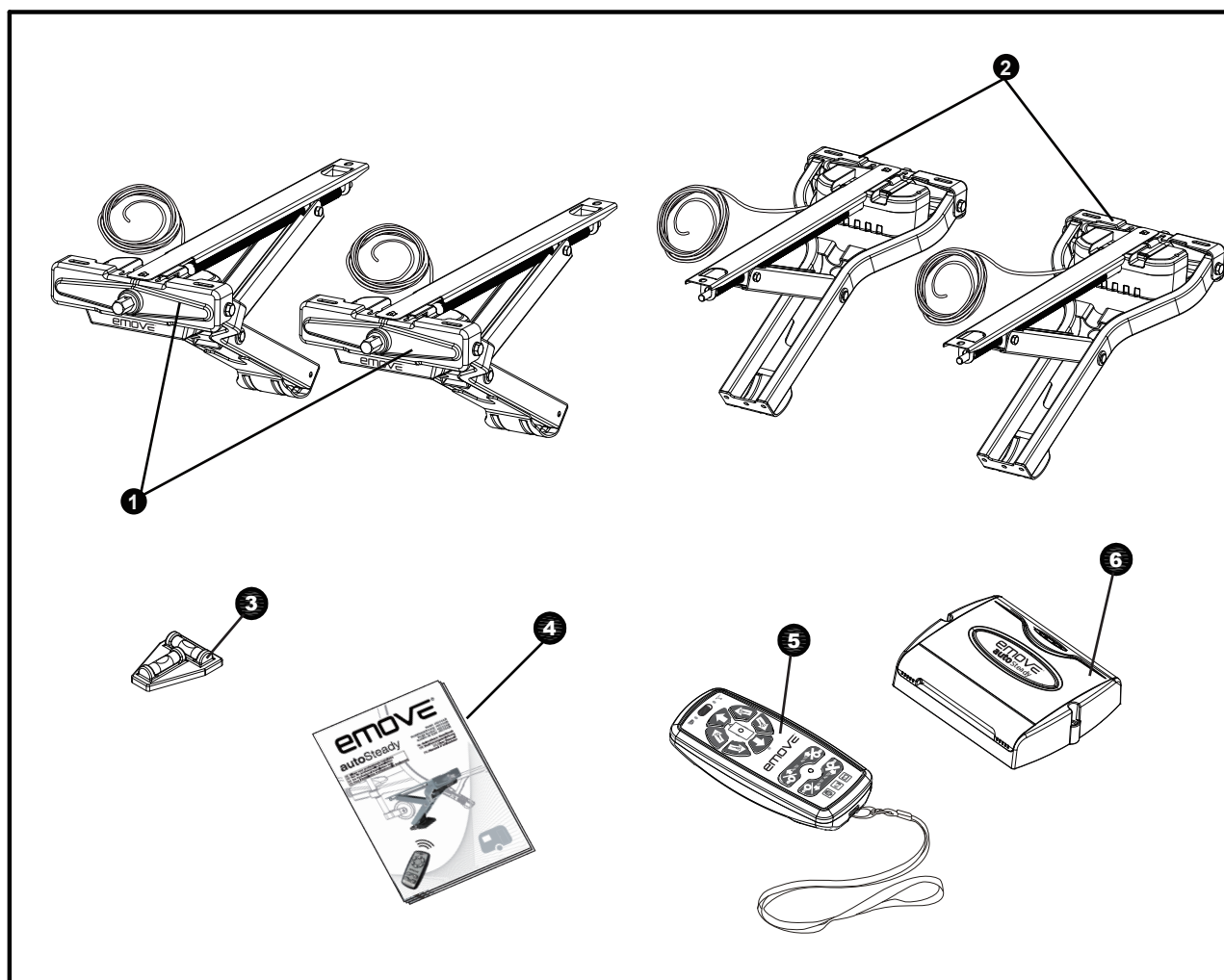
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Verpakkingsinhoud / Paketinhalt
Package Contents / Contenu du colis



Onderdelen en montagetekeningen/Bezeichnung der Teile & Montageschaubild
Parts identification & Fitting Diagrams/Partie l'identification-Diagrammes convenables

Fig. 1 AS201A

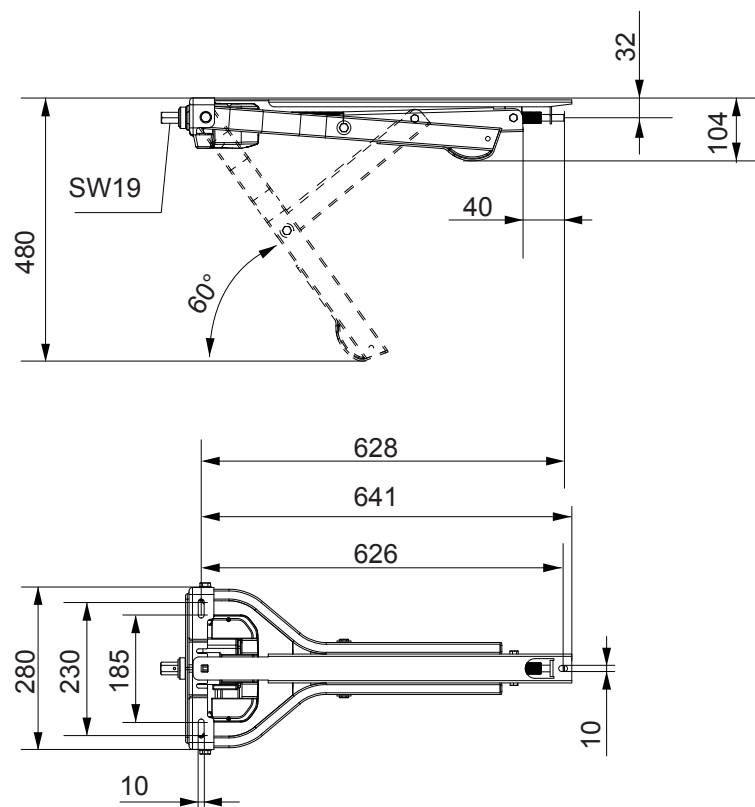
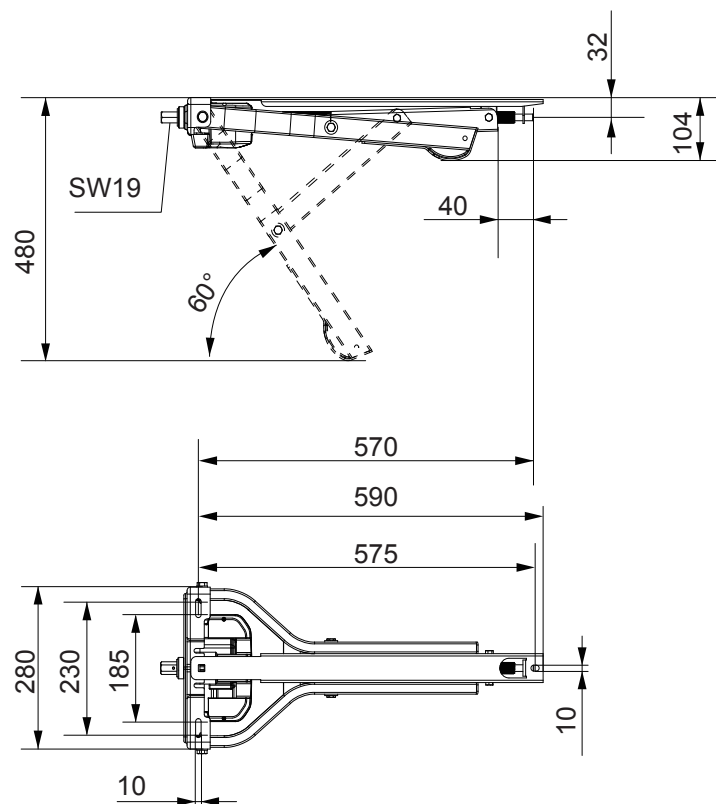


Fig. 1 AS201B



Onderdelen en montagetekeningen/Bezeichnung der Teile & Montageschaubild
Parts identification & Fitting Diagrams/Partie l'identification-Diagrammes convenables

Fig. 2

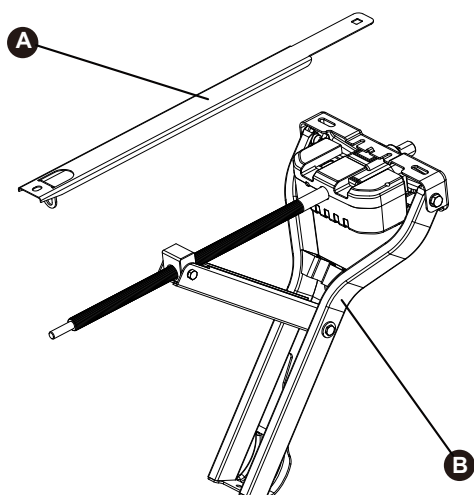


Fig. 3

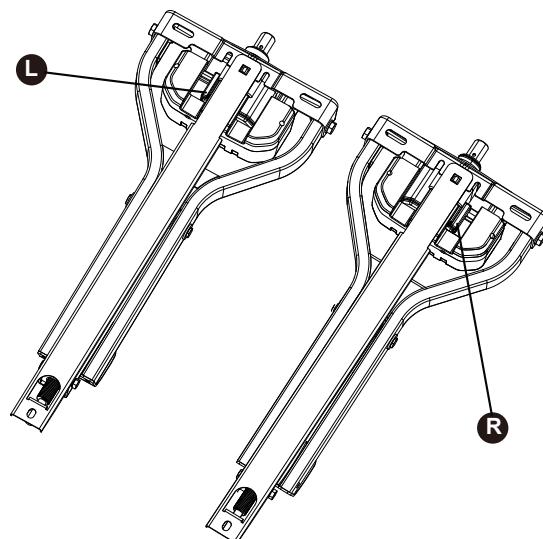


Fig. 4

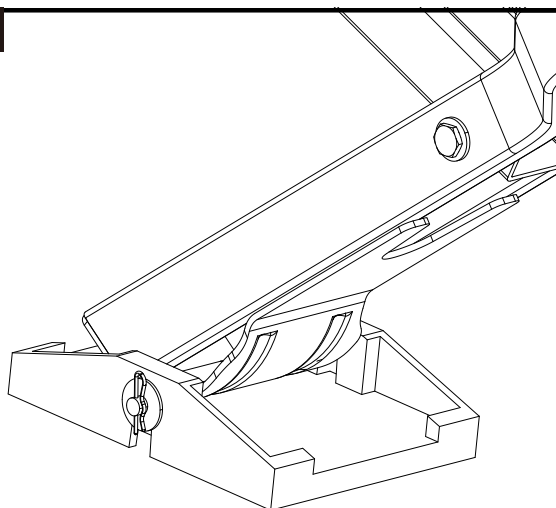


Fig. 5

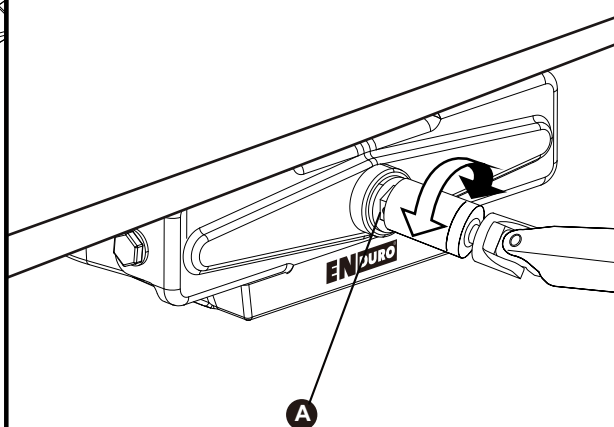
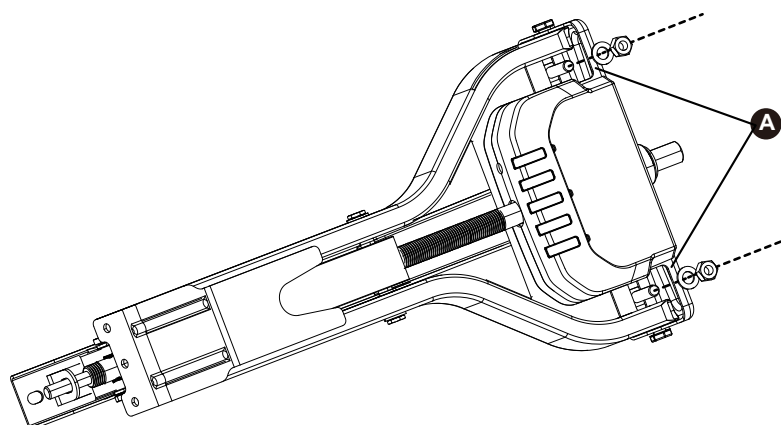
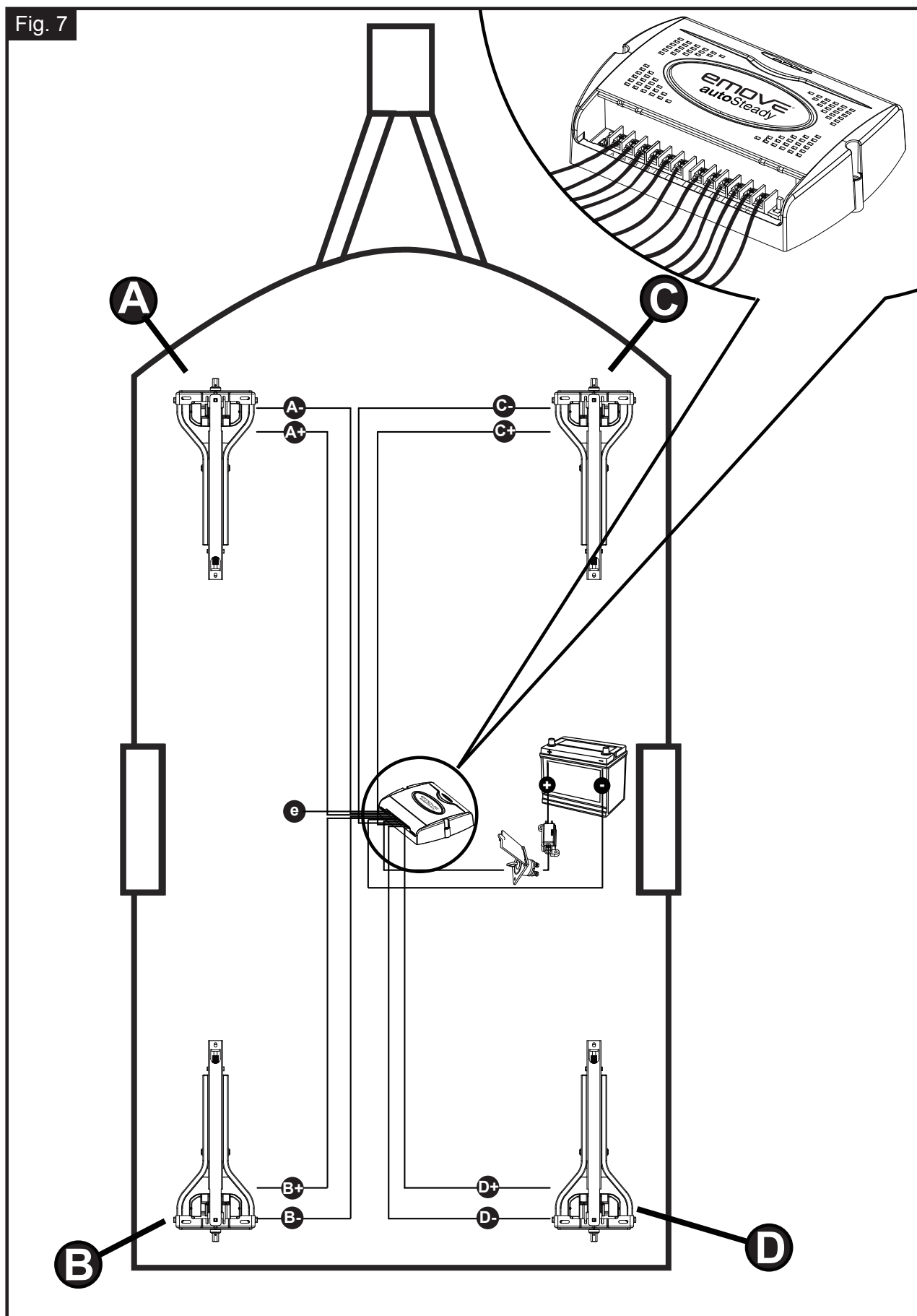


Fig. 6



Onderdelen en montagetekeningen/Bezeichnung der Teile & Montageschaubild
Parts identification & Fitting Diagrams/Partie l'identification-Diagrammes convenables

Fig. 7



Onderdelen en montagetekeningen/Bezeichnung der Teile & Montageschaubild
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Fig. 9

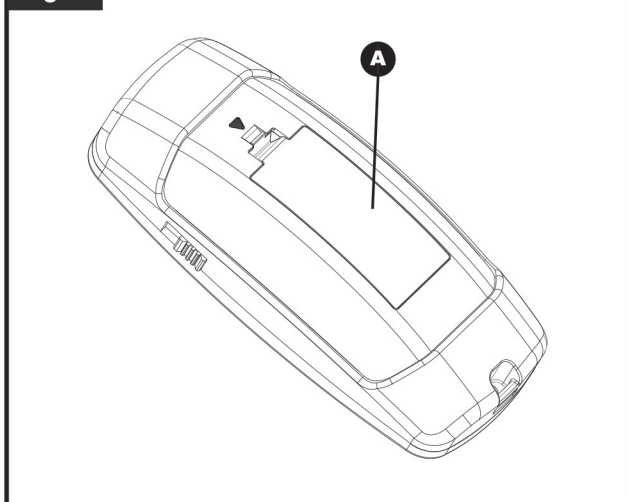


Fig. 10

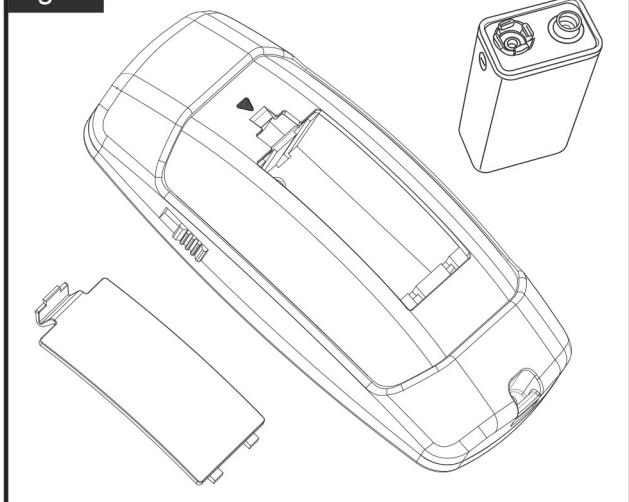


Fig. 12

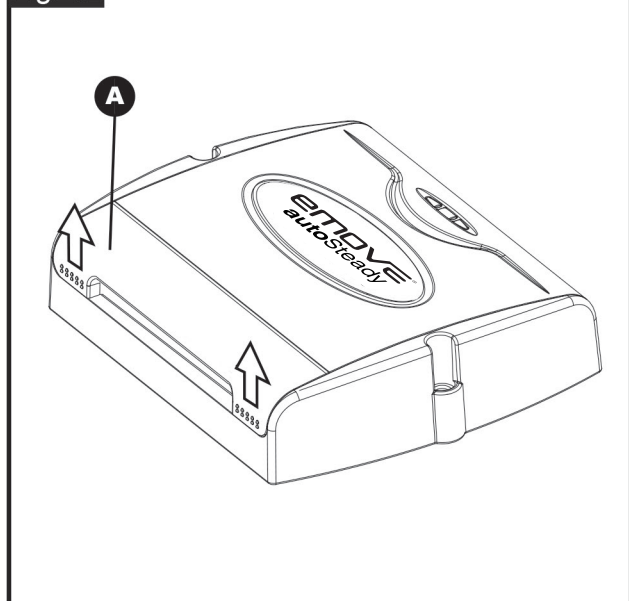


Fig. 8

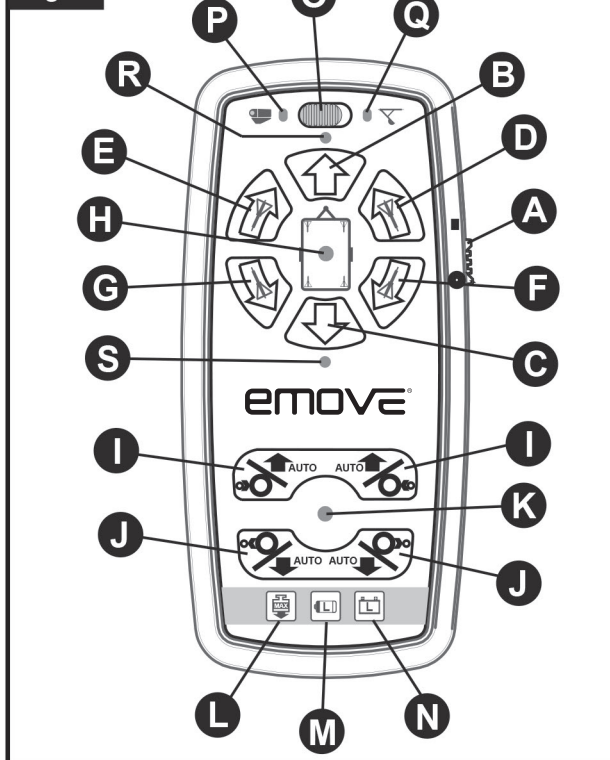


Fig. 11

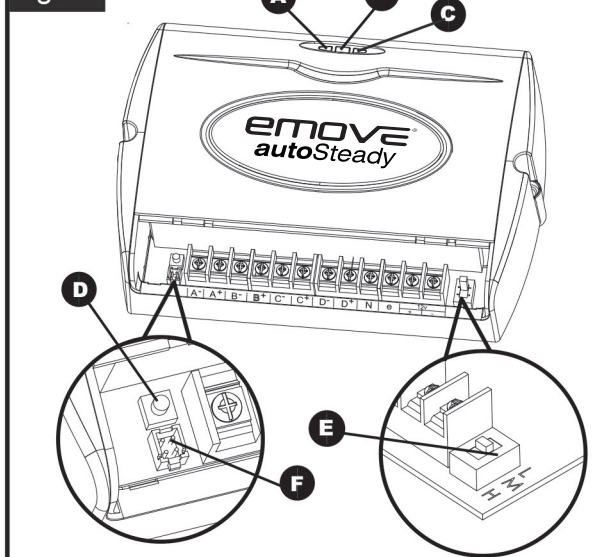


Fig. 13

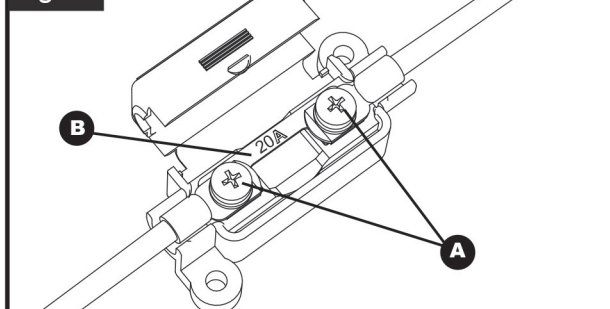


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INTRODUCTION

Congratulations on choosing the EMOVE Finding Level system EM306. This product has been produced according to the highest standards and has undergone careful quality control procedures.

The emove® Finding Level system consists of four motorized corner steadies, a 12 Volt control unit, and a remote handset.

Simply by using the remote handset you can lower or draw back your caravan corner steadies effortlessly. The emove® Finding Level system comes with an automatic function: By pushing the "Auto" button on the remote handset, four corner steadies will be lowered or drawn back automatically. The remote handset also allows you to operate each corner steady individually.

The soft start technology, ensures ease of action and protects the motors which leads to a prolonged life of the system.



Before proceeding with installation and starting to use the EMOVE Finding Level system, 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.

INTENDED USE

The emove® Finding Level system EM306 is suitable for retrofitting on an AL-KO chassis (for dimensions and specifications see Fig. 1 EM306).

Just as the standard corner steady of your caravan can only be used for stabilising, also the EMOVE Finding Level system cannot be used for jacking up or levelling out your caravan.

To avoid the corner steady feet to sink in the ground, the emove® Finding Level system is supplied with four ground support plates that can be permanently fixed on the steady feet (Fig. 4). Depending on the situation of ground, you may need some more assistance.

SPECIFICATIONS

Designation	emove® Finding Level EM306 (AL-KO Version)
Operational voltage	12 Volt DC
Average current consumption	12 Ampere
Maximum current consumption	36 Ampere
Transmitting frequency remote handset	868MHz
Weight	approx. 34kg (exclusive battery)
Min. permissible overall weight caravan	800kg
Max. permissible overall weight caravan	2000kg
Power source (battery)	LiFePO ₄ : 12V, 20Ah (recommended LI1220) Lead acid: 12V, 20Ah (min.)

INSTALLATION – SAFETY GUIDELINES



Read this user manual carefully before installation and use. Failure to comply with these instructions 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:

Check the towing load of your vehicle and the gross weight of your caravan in order to establish whether they are designed for the additional weight. The autoSteady system itself adds a weight of about 34kg (However, the existing steadies will lapse and compensate approximately 20kg) and a traditional lead acid battery has a weight of about 20-25kg (the by us recommended LI1220 LiFePO₄ battery weighs only 4,3kg).

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

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

Stop work immediately if you are in doubt about the assembly or any procedures and consult one of our engineers (Please refer to contact information on the last page of this manual).

Locate the battery isolation switch to be accessible at all times.

Do not remove, change or alter any parts of the chassis. Any drilling of holes in the chassis is not allowed.

Do not install the system if you are under the influence of drugs, alcohol or medication that could impair your ability to use the equipment safely.

INSTALLATION – MECHANICAL COMPONENTS



FOR PROFESSIONAL INSTALLATION ONLY. These instructions are for general guidance. Installation procedures may vary depending on caravan type.



Working under a vehicle without appropriate support is extremely dangerous!

Please refer to figure 7 for an overview of the whole assembly fully fitted.

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.

Unpack all the components and check for the presence of all parts (see package contents list). Ensure all parts are under good condition.

Clean the corner steady and area of chassis where you need to mount all components in order to ensure a good fitting.

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 and wires of the EMOVE Finding Level system. Completely draw back all of the manually operated corner steadies.

Dismount the manually operated corner steadies from the bottom of your caravan by removing the nuts (Fig. 6A).

Before mounting the emove Finding Level system, please check carefully the chassis and the mounting rail mounted on the bottom of the caravan (if applied). We supply two versions of the corner steadies (version left) and (version right). The difference between the two version is the position of motors. Please check the chassis to choose the correct corner steady, See (Fig. 3) for details.

Check if your caravan already has a pre-installed mounting rails with suitable size of our spindle with motor. If not, you need to take off the improper mounting rails from the caravan bottom and mount the one in our settings, see Fig. 2A.

Check if the position of existing mounting holes in the caravan bottom are suitable for mounting the new corner steadies. If not, drill holes of 8mm for better installation on the bottom of the caravan and seal the old holes using plastic body sealant.



Caution!

No drilling is allowed in the chassis of the caravan!

Take extra care to avoid any chassis members, shower base, gas pipes and electrical wires!

Mount the corner steadies on the bottom of the caravan (chassis) with the original bolts/nuts (Fig. 6A). If the original bolts are not long enough to be matched with the original washers and nuts, please use the supplied alternative flange nuts (7) to replace the original washers and nuts.

Fully tighten all the nuts and bolts.



Adequate ground clearance: Please notice that the minimum distance between the lowest line of corner steady and ground is 110mm, no matter what kind of chassis or installation situation.



Re-check that all bolts/nuts have been tightened!

Mount the ground support plates (8) on the feet of the corner steady with the supplied pins (10) and clips (9) (Fig. 4)

The main mechanical components have now been installed.

INSTALLATION – ELECTRICAL/ELECTRONIC COMPONENTS



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

Remove battery cable terminals and disconnect any external electrical power before starting work.

Find a suitable place for the control unit (6), such as a storage area, under a seat or a bed. Make sure this place is dry and close to the battery (40cm to 60cm). The control unit can be mounted vertically on a side wall or be mounted flat. When mounted vertically, the connections must point downwards to avoid any short-circuits by objects falling into.

Fix the control unit securely into position with two screws (11). Note: if the provided screws are not of suitable length or type for the desired location/material please substitute these as appropriate.

Drill a 25mm hole through the floor of the caravan approximately 150mm centrally in front of the control unit terminals.



Caution! Take extra care to avoid any chassis members, gas pipes and electrical wires!

Route and connect the motor cables and battery cables in accordance with wiring diagram (Fig. 7, top view of the caravan).

The motor cables have been pre-wired already to each motor (just the motor side). Red = Positive (+) and black is negative (-).

Open the cover on the control unit (Fig. 12A), to find the connectors for the wires.

The connectors on the control unit:

Terminal A-	Left front motor (-)
Terminal A+	Left front motor (+)
Terminal B-	Left back motor (-)
Terminal B+	Left back motor (+)
Terminal C-	Right front motor (-)
Terminal C+	Right front motor (+)
Terminal D-	Right back motor (-)
Terminal D+	Right back motor (+)
Terminal 12V-	Main power (-)
Terminal 12V+	Main power (+)
Terminal e	Automatic draw back function
Terminal N	Not used

See also wiring diagram (Fig. 8).

Notice: Left side means the driver side for Europe continent and the passenger side for the UK.

Mark the motor cables for all motor units using the cable number markers (15). Cable number markers "A" for left-front motor, "B" for left-back motor, "C" for right-front motor, "D" for right-back motor (Fig. 7).



Caution! Make sure that you do not reverse the positive (+) and negative (-) connections. Incorrect connection (reverse polarity) can result in damage to the control unit!

Ensure that there is no force and movement on the cables. Also avoid any loops.

Route the motor cables along the underside of the caravan floor, and through the drilled hole.

Protect the electrical cables against sharp edges (for example near the chassis) by the supplied convoluted cable trunking (25). Please can cut the trunking to the correct length.

Secure the motor cables and the cable trunking (25) under the body of the caravan by using the cable ties (16) or P-Clips (13 & 14) and screws (12).



Please ensure the motor cables are fixed very tightly near the corner steady, and the cables do not interfere with any part of corner steady when it is drawn back completely.

Once the motor cables are through the drilled hole next to the control unit, cut the cables. Ensure that they are all the same length. Remove approx. 5mm of the insulation from the ends. Fix the spade fork connectors (22) on the motor-cable ends by using crimping pliers. A secure and good quality connection on each cable is essential.

Attach the spade fork connectors to the terminals on the control unit (see wiring diagram Fig. 7) and fix them tightly by the screws. A safe and good quality connection on each cable is again essential.

Find a suitable place for the battery power isolation switch (23) which includes an external holder with hinged cover. **Important: The switch must be mounted onto the exterior body of the caravan and be easily accessible from the outside of the caravan in case of any emergency.** The switch must be mounted close to the location of the battery in order to keep the length of the battery cables to a minimum.

Use the cardboard template to position the hole positions and the drill holes. Mount the switch and the housing with the bolts, washers and nuts, and finally mount it on the caravan with stainless steel screws (12).

Route the positive (+) power cable (including fuse) from the battery to the battery power isolation switch and then further to the control unit.

Cut the positive power cable to an appropriate length and remove approx. 5mm of the insulation from the ends. Fix the O-ring connectors (21) by using crimping pliers. A secure and good quality connection on each cable is essential.

The electronic connections of the battery power isolation switch must be covered by the supplied rubber isolation shells (24).

Route the negative (-) power cable directly from the battery to the control unit.



No cables may be routed over the control unit!

Again it is recommended to use the supplied trunking (25) to protect the cables against sharp edges. Attach the cables and trunking with the cable ties (16) or P-clips (13 & 14) and P-clip screws (12).

Cut the cables to an appropriate length and remove approx. 5mm of the insulation from the ends. Fix the spade connectors (22) by using crimping pliers. A secure and good quality connection on each cable is essential.

Connect the battery cables (18 & 19) to the control unit: Attach the spade fork connectors to the positive (+) and negative (-) terminal of the control unit and fix them tightly by the screws.

Connect the battery cables to the existing battery terminals (red = positive, black = negative). Two types of battery terminal connector (20 & 21) 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 unit.

Seal 25mm hole in vehicle under body using plastic body sealant.

Next you can connect the cable for the emergency draw back function (**option, not obliged**). If you forget to draw back the corner steady before you start to drive, the corner steady or your caravan can get significant damage. This emergency draw back function ensures that (if installed properly!) the corner steady will be drawn back automatically when the caravan is connected on the constant 12 Volt power source of the car (via 7 or 13 pin plug).

Connect one end of the blue cable for the emergency draw back function (17) to the constant power source (+12V) of the car (via 7 or 13 pin connector) and not in direct connection is with the caravan battery! You can also find this constant power source in the 12 Volt central distribution box of your caravan. It is normally used to use your refrigerator during driving. If necessary measure again with a multimeter. If necessary you also need to connect the ground (-) of the car power source to the minus (marked 12V-) of the control unit (when the caravan battery is also used for lighting/water pump of the caravan this is not necessary).

If you need any help finding the constant power source of the car (in your caravan) please contact the manufacturer or supplier of your caravan for the wiring diagram.



NOTE: This constant cable power source (+12V) CANNOT be in direct connection with the caravan battery! Check this very carefully, otherwise the EMOVE Finding Level system will not work! You can test this by disconnecting the connector from the car so the constant +12V voltage drops. By connecting the connector on the car again, the +12V voltage will be restored. If you have doubts you can drop this option (it is not obliged).

Route the cable for the emergency draw back function from the constant power source (+12V) to control unit.

Again it is recommended to use the supplied trunking (25) to protect the cables against sharp edges. Attach the cable and trunking with the cable ties (16) or P-Clips (13 & 14) and mounting screws for P-Clip (12).

Cut the cables to the correct length. Remove approx 5mm of the insulation from the end. Fix the spade connectors (22) by using crimping pliers. A secure and good quality connection on each cable is essential.

Connect the cable for emergency draw back function to the control unit.

Installation of the EMOVE Finding Level system is now complete.

OPERATION – SAFETY GUIDELINES

Practice operating the EMOVE Finding Level system before using for the first time. This is to fully familiarise yourself with the remote handset and the EMOVE Finding Level system operation.



Before use, always check the EMOVE Finding Level system for any damage.



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



When operating the system, ensure that no hairs, fingers or other body parts, clothing or any other objects carried on the body can become trapped by moving or rotating parts.



Do not use the EMOVE Finding Level system to jack up your caravan. Just as the standard corner steady of your caravan can only be used for stabilising, also the EMOVE Finding Level system cannot be used for jacking up your caravan.



Before using the EMOVE Finding Level system always make sure that your caravan is levelled out in all directions.



In the event of malfunctions, turn off the main isolation power switch immediately.



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



Due to the nature of a radio signals, external terrain or objects can interfere and reduce the effectiveness. So there may be small areas around the caravan where the quality of reception reduces, hence the EMOVE Finding Level system may stop momentarily.



Always be aware that the EMOVE Finding Level system increases the weight of your caravan. So this reduces the payload of the caravan.



Always make sure that all the corner steady are fully drawn back before towing/moving the caravan. This can damage the corner steady, caravan or the towing vehicle.



Always make sure that after you have finished using the EMOVE Finding Level system, the battery power isolation switch (23) is switched off and the key is removed and stored in a safe place (out of reach of children or other unauthorised people). If you don't switch off, the battery will be discharged by the small "standby" current.



Always apply the handbrake during action.



Always make sure that the remote handset is stored in a safe place (out of reach of children or other unauthorized people). If you don't switch off, the battery will be discharged by the small "standby" current.



Do not exceed the total safe working load of the laden weight of the original corner steady.



Sensitive objects such as cameras, DVD-Players etc. must not be kept in the storage box near the control unit or the motor cable. They can be damaged by the electromagnetic fields.



Do not make any modifications to the EMOVE Finding Level system (mechanical or electronic). This can be very dangerous! No warranty claim will be accepted and we cannot warrant the function of the EMOVE Finding Level system 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 – REMOTE HANDSET

The supplied double mode remote handset (5) can be used for the emove® Finding Level system and most emove® caravan manoeuvring systems (*models >2013*). The control mode can be selected by moving the slide switch (Fig. 80) to "Caravan manoeuvring system mode" or "emove® Finding Level system mode".

The remote handset is powered by one PP3 9Volt battery, and is activated by moving the slide switch to "On"-I (Fig. 8A). Once activated the green LED (Fig. 8H) will illuminate and the controls can now be used.

Fig. 8 (emove® Finding Level mode):

- A. Main power slide switch:** "Off"=O and "On"=I.
- B. Up button in individual mode:** Select the draw-back function for single corner steady function buttons. After this button is pressed, the red LED above this button will light up. Then you can push the single corner steady function buttons for draw back. Without this selection the single corner steady function buttons are not workable. If there is not any operation within 30 seconds, the LED will turn off and invalidate the "UP" choice.
- C. Down button in individual mode:** Select the lower function for single corner steady function buttons. After pressing this button, the red LED below this button will light up. Then you can push the single corner steady function buttons for lower. Without this selection the single corner steady function buttons are not workable. If there is not any operation within 30 seconds, the LED will turn off and invalidate "Down" choice.
- D. Right-front single corner steady function button:** Adjust Right-front corner steady (see Fig. 7) draw back or lower by keep pushing the button. Choose the "UP" or "DOWN" button first.
- E. Left-front single corner steady function button:** Adjust Left-front corner steady (see Fig. 7) draw back or lower by pressing the button. Choose the "UP" or "DOWN" button first.
- F. Right-back single corner steady function button:** Adjust Right-back corner steady (see Fig. 7) draw back or lower by keep pushing the button. Choose the "UP" or "DOWN" button first.
- G. Left-back single corner steady function button:** Adjust Left-back corner steady (see Fig. 7) draw back or lower by pressing the button. Choose the "UP" or "DOWN" button first.
- H. Green power LED:** Power LED continuously lights up when the system is activated (by moving slide switch of the remote handset to "On"-I). If the remote handset is far away from the control unit, beyond the available distance, this LED will start blinking.
- I. Two handed buttons for automatic up function:** The "AUTO UP" button must be pressed for more than 3 seconds. The blue "automatic function" LED will blink and the buzzer also gives a beep per second. Then the automatic draw back process begins. If press it for less than 3 seconds, nothing happens (this is a setup to avoid misoperation). After three seconds the automatic lower or draw back begins, and the blue "automatic function" LED will illuminate constantly. Now you can release the button, and the draw back process will auto process. After the automatic draw back process is completed, the buzzer will give a beep.
- J. Two handed buttons for automatic down function:** The "AUTO DOWN" button must be pressed for more than 3 seconds. The "automatic function" LED will blink and the buzzer also gives a beep per second. Then the automatic lower process begins. If press it for less than 3 seconds, nothing happens (this is a setup to avoid misoperation). After three seconds the automatic lower process begins, and the "automatic function" LED will illuminate constantly. Now you can release the button, and the lower process will auto process. After the automatic lower process is completed, the buzzer will give a beep. *Before the corner steadies move downwards, there maybe a several second delay without any operation or the corner steady draw back a short time (about 3 seconds). This is normal.*
- K. Blue "automatic function" LED:** Reflects status of the "AUTO UP" and "AUTO DOWN" system.
- L. Red overload LED:** Amp overload protection is activated. Wait about 60 seconds and try again.
- M. Blue 9V battery LED:** The internal 9V battery of handset is near empty and needs to be replaced.
- N. Blue battery voltage LED:** The caravan battery voltage is too low or too high.
- O. Control mode slide switch:** The control mode can be selected by moving the slide switch (Fig. 80) to "P" or "Q". If moving the slide switch (Fig. 80) to "P" (indication becomes red), the combined remote handset is working in the caravan manoeuvring system mode. If moving the slide switch (Fig. 80) to "Q" (indication becomes red), the combined remote handset is working in the **autoSteady** mode.
- P. Caravan manoeuvring system mode indicator:** Reflects status of remote handset. When the remote handset is set into the caravan manoeuvring system modes, an emove® caravan manoeuvring system can be controlled via this remote handset. Please see functions of the buttons in the caravan manoeuvring system user manual. NOTE: in this mode the **autoSteady** system will not work!
- Q. emove® Finding Level control mode indicator:** Reflects status of remote handset. When the remote handset is set into the **autoSteady** system modes, the **autoSteady** system can be controlled via this remote handset. NOTE: in this mode the caravan manoeuvring system will not work!
- R. Red LED:** reflects status of "UP" function in the individual mode.
- S. Red LED:** reflects status of "DOWN" function in the individual mode.

For the button functions in the caravan manoeuvring system mode, please check the user manual of your emove®caravan manoeuvring system.



The slide switch (Fig. 8A) also acts as an "Emergency stop" .

The remote handset switches off:

After 3 minutes, if no button is pressed: After 2 minutes the buzzer will beep for 5 times with a repetition after 3 minutes. Then the system switches in the "stand-by" modes.

After 6 minutes, if one of the movement buttons is permanently held down: After 5 minutes the buzzer will beep for 5 times with a repetition after 6 minutes. Then the system switches in the "stand-by" modes.

The green LED goes off and the remote handset is in the "stand-by" modes which means that there always will be used some current which causes the battery to go down. So always make sure the remote handset is turned off by the slide switch.

To reactivate the remote handset, move slide switch to "Off" –O and then back to "On"–I after approximately 1 second.

Error messages via the remote handset:

Error messages of the emove® Finding Level system will be communicated via the remote handset by the green LED (Fig. 8H), the error message LED's (Fig. 8L, 8M & 8N) and a buzzer signal:

Green LED (Fig. 8H) off, no buzzer: remote handset is turned off and also system is not activated

Green LED (Fig. 8H) continue on, no buzzer: remote handset is turned on and system is activated and ready to use.

Green LED (Fig. 8H) is blinking, no buzzer: no communication between handset and control unit. This could be because of too much distance between remote handset and control unit, or the battery isolation switch for manoeuvring system is not turned on or that there is a distortion signal disturbing the communication.

As soon as connection is good again the green LED will be continue on and the system is ready to use.

Blue battery voltage LED (Fig. 8N) is blinking in combination with buzzer (2 times blinking, break, 2 times blinking, break etc.): Battery voltage too low (<10V). Battery needs to be recharged.

Blue battery voltage LED (Fig. 8N) is blinking in combination with buzzer (4 times blinking, break, 4 times blinking, break etc.): Battery Voltage too high (over charged). Try to discharge the battery by turning on a user (for example a lamp or water-pump).

Red overload LED (Fig. 8L) is blinking in combination with buzzer (6 times blinking, break, 6 times blinking, break etc.): Amp overload protection is activated. Wait about 60 seconds and try again.

Blue 9V battery LED (Fig. 8M) is blinking, no buzzer: The internal 9V battery is near empty and needs to be replaced.

Changing batteries in the remote handset:

When the internal battery is empty (blue LED (Fig. 8M) is blinking 2Hz), it needs to be replaced.

Open the rear cover of the remote handset (Fig. 9A).

Take out the old battery and dispose in the appropriate way.

Install a new replacement battery (Fig. 10). Make sure to use a leak proof PP3 (9Volt) battery (No claims under guarantee can be considered for damage caused by leaking batteries).

Close the rear cover again.

Dead and used batteries may leak and damage the remote handset! Remove the batteries if the remote handset is not going to be used for an extended period. Do not use rechargeable batteries.

How to synchronise the remote handset with a new manoeuvring system or emove® Finding Level control unit:

The remote handset and the EMOVE Finding Level control unit are synchronised with each other in the factory. If the control unit or the remote handset is replaced, or the combine-remote handset will also be used for an **emove®** caravan manoeuvring system, they must be re-synchronised as described below:

Check the installation in accordance with the installation instructions. Check that the battery is properly connected, check the condition of the battery and that a voltage of 12 Volt is present at the control unit. Please ensure that the battery isolation switch is on.

Press the reset button on the control unit:

- EMOVE Finding Level system: Press the reset button (Fig. 11D) on the EMOVE Finding Level control unit for three seconds and then release it. The green LED (Fig. 11A) starts blinking quickly (2Hz).
- **emove® caravan manoeuvring system**: Press the reset button (*see user manual caravan manoeuvring system*) on the emove® caravan manoeuvring system control unit for three seconds and then release it. The green LED on the control unit starts blinking quickly (2Hz).

Activate the remote handset by sliding the slide switch (Fig. 8A) to "On"–I. The green LED of the remote handset and the "UP" and "DOWN" LED's (Fig. 8R & 8S) will illuminate continuously.

Push both the "UP" and "DOWN" buttons (Fig. 8B & 8C) on the remote handset at the same time for more than 3 seconds. Then the handset buzzer will give a short beep to confirm that the synchronisation is complete.

After successful synchronisation, the green LED on the control unit (Fig. 11A) and on the remote handset (Fig. 8H) will illuminate continuously.

After pressing the reset button on the control unit, if have not any operation in more than 15 seconds, the re-synchronization process will stop.

OPERATION – CONTROL UNIT

The control unit (6), which is mounted inside your caravan, is responsible for controlling the emove® Finding Level system.

The control unit has three LED's, one pushbutton and one slide switch (Fig. 11):

Green LED (Fig. 11A):

Power LED continuously lights up when the system is activated (by moving slide switch of the remote handset to "On"-I). If the remote handset is far away from the control unit, beyond the available distance, this LED will start blinking.

Blue LED (Fig. 11B):

Error message LED concerning caravan battery:

Blue LED is blinking (2 times blinking, break, 2 times blinking, break etc.): Battery voltage too low (<10V). Battery needs to be recharged.

Blue LED is blinking (4 times blinking, break, 4 times blinking, break etc.): Battery Voltage too high (over charged). Try to discharge the battery by turning on a user (for example a lamp or water-pump).

Red LED (Fig. 11C) is blinking (6 times blinking, break, 6 times blinking, break etc.):

Amp overload protection is activated. Maybe the system has a current-shortage. Please check the whole system carefully. Wait about 60 seconds and try again.

In general all error messages will reset automatically after one minute. If this is not the case, reset the electronics by switching off the system via the isolation switch and the remote handset for at least 15 seconds and then turning it on again.

The Reset Button (Fig. 11D):

The remote handset and the control unit are synchronised with each other in the factory. If the control unit or the remote handset is replaced, they must be re-synchronised as described in chapter **OPERATION - REMOTE HANDSET: "How to synchronise the remote handset with a new manoeuvring system or autoSteady control unit"**

Jack-up force switch (Fig. 11E):

The system is suitable for a big range of the caravans. To make sure that the system is always working properly and your caravan is stable, the Current-protection can be adjusted via a slide switch on the control unit (Fig. 11E):

L: Low current for caravans up to 1000kg

M: Normal current for caravans in the range of about 1000 – 1500kg

H: High current for caravans in the range of about 1500 – 2000kg

Different caravan chassis or floors have different situation for jack-up force. The above mentioned values are just a rough indication. Please check what is the most convenient for your caravan so your caravan or caravan chassis will not be damaged but still your caravan is stable.

Bluetooth adapter connector (Fig. 11F):

The control unit can be expanded with an optional Bluetooth adapter (ENDURO® BC101) for controlling the emove® Finding Level system with a Smartphone or tablet. When connecting the cable, the battery power isolation switch must be turned off.

OPERATION – GETTING STARTED



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 system is fully charged and in good condition.



Make sure that the caravan is free from the vehicle and the handbrake is on.

Before you can start using the emove® Finding Level system, please make sure your caravan is already levelled out in all directions. Please use the supplied tool (3) and accomplish this the usual way.



Just as the standard corner steady of your caravan can only be used for stabilising, also the autoSteady system cannot be used for jacking up or levelling out your caravan.

Once the caravan is levelled out, you can start using the emove® Finding Level system.

Turn on the battery power isolation switch (23).

Activate the emove® Finding Level system by moving the slide switch to "On"-I on the remote handset (Fig. 8A). The green LED (Fig. 8H) will illuminate continuously. The system is ready for use.

During the operation of the system, the handbrake must be secured.

First check if the slide switch (Fig. 8O) is in "emove® Finding Level" mode (Fig. 8Q).

Press for at least three seconds the "AUTO DOWN" button (Fig. 8J) with two hands at the same time. The blue LED (Fig. 8K) will blink during these three seconds and every second there will be a beep. This is warning you that the system will be activated.

After these three seconds the auto function will start and the corner steadies will automatically act. The blue LED (Fig. 8K) on the remote handset will illuminate continuously. Now you can release the "AUTO DOWN" button.

The corner steady will act as following:

- first the two back corner steadies (Fig. 7B and Fig. 7D) lower
- then the two front corner steadies (Fig. 7A and Fig. 7C) lower
- than the back corner steadies (Fig. 7B and Fig. 7D) lower again
- finally the two front corner steadies (Fig. 7A and Fig. 7C) lower again

After activating the "AUTO DOWN" function, before the corner steadies lower, there maybe have a delay about 3 seconds. If one or more corner steadies are not at the complete draw back position, these corner steady will be draw back for about 3 seconds first.

When the AUTO function process is finished, there will be a beep.

Since the EMOVE Finding Level system is not equipped with an automatic levelling system, it can happen that the caravan is not completely levelled out anymore. This can be caused by the use of a flexible jockey-wheel, or a different spreading of the weight of your caravan or a different friction in the corner steady.

If needed, you can adjust every corner steady individually and slightly level out your caravan again.



The single corner steady function is used to adjust the height of single corner steady a little. Do not try to jack the caravan by this function, this could completely damage your caravan chassis or floor.



Different caravan chassis or floors have different situation for jack-up force. Using the single corner steady function button have the possibility to completely damage your caravan chassis or floor. The stop setup on the single corner steady function is used to protect the motor and control unit, it cannot protect your caravan chassis or floor all the time (this due to the various caravan models).

In general we recommend to use only the "AUTO" function.

After operation, deactivate the EMOVE Finding Level system by moving the slide switch (Fig. 8A) to "Off"-O on the remote handset. The LED (Fig. 8H) on the remote handset will turn off. Store the remote handset in a safe place (out of reach of children or other unauthorized people).

Turn off the battery power isolation switch.

When you want to draw back all the corner steady, you act as following:



Before starting the operation of the system, the handbrake must be secured and the jockey wheel must be tightly fixed and tough the ground.

Turn on the battery power isolation switch.

Activate the emove® Finding Level system by moving the slide switch to "On"-I on the remote handset (Fig. 8A). The green LED (Fig. 8H) will illuminate and you will hear a short beep. The system is ready for use.

First check if the slide switch (Fig. 8O) is in "EMOVE Finding Level" mode (Fig. 8Q).

Press for at least three seconds the "AUTO UP" button (Fig. 8I) with two hands at the same time. The blue LED (Fig. 8K) will blink during these three seconds and every second there will be a beep. This is warning you that the system will be activated.

After these three seconds the auto function will start and the corner steadies will automatically act. The blue LED (Fig. 8K) on the remote handset will illuminate continuously. Now you can release the "AUTO UP" button.

The corner steady will act as following:

- first the two front corner steadies (Fig. 7A and Fig. 7C) draw back completely

than the two back corner steadies (Fig. 7B and Fig. 7D) draw back completely

When the AUTO function process is finished, there will be a beep.

After operation, deactivate the emove® Finding Level system by moving the slide switch (Fig. 8A) to "Off"-O on the remote handset. The LED (Fig. 8H) on the remote handset will turn off. Store the remote handset in a safe place (out of reach of children or other unauthorized people).

Turn off the battery power isolation switch.



Before you start driving always make sure that the four steady feet are fully lifted! Please check the one by one!

Individually adjustment:

First choose the "Up button in individual mode" (Fig. 8B) for draw back or "Down button in individual mode" (Fig. 8C) for lower by press the button.

Press the single corner steady function button (Fig. 8D,E,F,G) to lower or draw back individually. The corner steady will move if the single corner steady function button is kept pressed. It will stop if the button is released.

In addition, two corner steady function buttons (Fig. 8D,E,F,G) can be pressed to lower or draw back two corner steady at the same time. For example both front or rear corner steady or both left or right corner steady.

If the press force (from ground and chassis) on corner steady is too big, the motor will stop, even if the single corner steady function button is kept pressed.



The single corner steady function is used to adjust the height of single corner steady a little. Do not try to jack the caravan by this function, this could completely damage your caravan chassis or floor.



Different caravan chassis/ floor have different situation for jack-up force. Using the single corner steady function button have the possibility to completely damage your caravan chassis/ floor. The stop setup on the single corner steady function is used to protect the motor and control unit, it cannot protect your caravan chassis/ floor all the time (this due to the various caravan models).

After operation, deactivate the emove® Finding Level system by moving the slide switch (Fig. 8A) to "Off"-O on the remote handset. The LED (Fig. 8H) on the remote handset will turn off. Store the remote handset in a safe place (out of reach of children or other unauthorized people).

Turn off the battery power isolation switch.



Before you start driving always make sure that the four steady feet are fully lifted! Please check the one by one!

OPERATION – EMERGENCY DRAW BACK FUNCTION

If you forget to draw back the corner steady after using, the emergency draw back function will draw back the corner steadies automatically when you connect the 13-pin (or 7-pin) plug to the towing vehicle's socket.



The emergency draw back function is only for emergency situations if you forget to draw back the corner steady. Never use this function as a normal draw back method.



The emergency draw back function still works even if the battery voltage is too low. It will not function if the battery isolation switch is turned off.

OPERATION – MANUALLY OPERATION

In the situation that the caravan battery is discharged too much to automatically draw back the corner steady, or there is a defect, you can also do this manually.

Place the original 19mm socket manual handle on the 19mm hex-head of spindle (Fig. 5A), and turn it until the corner steady is completely draw back.



The speed for manually draw back the spindle would not quicker than 1round per second. Also do not reverse it very quickly during manually turning. Otherwise, the motor and control unit maybe damaged by the sink current.

Repeat this also on all others corner steady.

As soon as the battery is charged again, or the problem is solved, the automatic spindle will work again.

MAINTENANCE

To prevent the battery from becoming totally discharged during long periods of inactivity it must be disconnected, fully charged and frost-proof stored.

Please check regularly that the spindle is free of any dirt, or debris that may have been picked up from the road.

Regularly grease spindle and corresponding screw nut. Dirt or corrosion of the EMOVE Finding Level system spindles can lead to premature shutdown!

Once a year have your emove® Finding Level system 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 failure or problem, please contact your emove® Finding Level supplier.

TROUBLE SHOOTING

Should your EMOVE Finding Level system fail to operate, please check the following:

Unit fails to operate, does not function at all:

Make sure that the battery power isolation switch is turned on.

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

Check the fuse in the red positive battery cable (Fig. 13). If the fuse is blown, it must be replaced with a fuse of the same value (20A). Never "bridge" the fuse (if needed contact your emove® supplier). To replace the fuse, first disconnect the positive (+) power cable from the battery. Then release the mounting screws that hold the fuse (Fig. 13A), replace the fuse (Fig. 13B), and finally tighten the screws securely. Close the housing of the fuse and connect the positive (+) power cable again to the battery. The system is ready again for use.

Check the battery of the remote handset. If empty, renew the 9V battery.

Caravan battery could be empty. If empty, recharge completely or renew caravan battery before taking any further action.

Caravan battery could be overloaded. Check your charging equipment and try to discharge the battery by connecting/using a light or any other load. If this does not give any result, renew caravan battery before taking any further action.

Check the distance between the remote handset and the caravan is not more than 5 meters. If there is no signal between the remote handset and the control unit, the emove® Finding Level system will not function at all and the green LED on remote handset will blink.

Check if there is any distortion signal (other transmitter, high power cables, Wifi etc.) that disturbs a good communication between remote handset and control unit. If there is no good communication between the control unit and remote handset, the EMOVE Finding Level system will not function and the green LED on remote handset will blink.

In general, all error messages will reset automatically after one minute. If this is not the case, reset the electronics of the emove® Finding Level system by switching off the emove® Finding Level system via the isolation switch and the remote handset for at least 15 seconds and then turn them on again.

Unit fails to operate or operates intermittently:

Check the battery of the remote handset. If empty, renew the 9V battery.

Caravan battery could be empty. If empty, recharge completely or renew caravan battery before taking any further action.

Caravan battery could be low. Check the voltage drop on the caravan battery, if this drops well below 10 volts, charge or renew caravan battery

Caravan battery could be overloaded. 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 handset and the caravan is not more than 5 meters. If there is no signal between the remote handset and the control unit, the EMOVE Finding Level system will not function at all and the green LED on remote handset will blink.

Check if there is any distortion signal (other transmitter, high power cables, Wifi etc.) that disturbs a good communication between remote handset and control unit. If there is no good communication between the control unit and remote handset, the EMOVE Finding Level system will not function and the green LED on remote handset will blink.

In general, all error messages will reset automatically after one minute. If this is not the case, reset the electronics of the emove® Finding Level system by switching off the EMOVE Finding Level system via the isolation switch and the remote handset for at least 15 seconds and then turn them on again.

Spindle will not turn, motor rotates freely:

The motor or gear is broken, or the connect-pin between the motor and spindle is broken, please contact your emove® Finding Level

In case of any doubt, please contact your EMOVE® supplier.



Five Year Warranty

Your EMOVE Finding Level is covered by a 5 year parts & labour warranty (when Registered).

You are covered against reasonable use of your caravan mover for the period of five years. It does not cover against misuse or accidental damage of the emove caravan mover. It does not cover against issues caused by the ill-fitting of the emove caravan mover. It does not cover against the fitting of the mover, when carried out by non-authorised fitter/dealer or fitted DIY. You are not covered by the warranty if the mover has been bought second-hand or from a non-authorised dealer or the mover has been transferred to another caravan. Any modification made to your caravan mover or non-use of emove authorised spare parts will make your warranty null and void. Any non-use of maker's instructions when fitting or using the emove caravan mover will make your warranty null and void. The emove caravan mover is a leisure product and your warranty does not cover you for commercial or industrial use. emove reserves the right to make a call out charge if faced with an issue outside the control of the company (such as faults with leisure battery, misuse of the mover, accidental damage, or unauthorised modification etc.).

WARRANTY: To validate the warranty on this product please go to our web site and click on the "Warranty Registration" link and enter your details www.streetwize.co.uk

Important! Retain this manual for future reference! Please forward this manual to the new owner when you sell the manoeuvring system!





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