

All-In-One Motor Mover



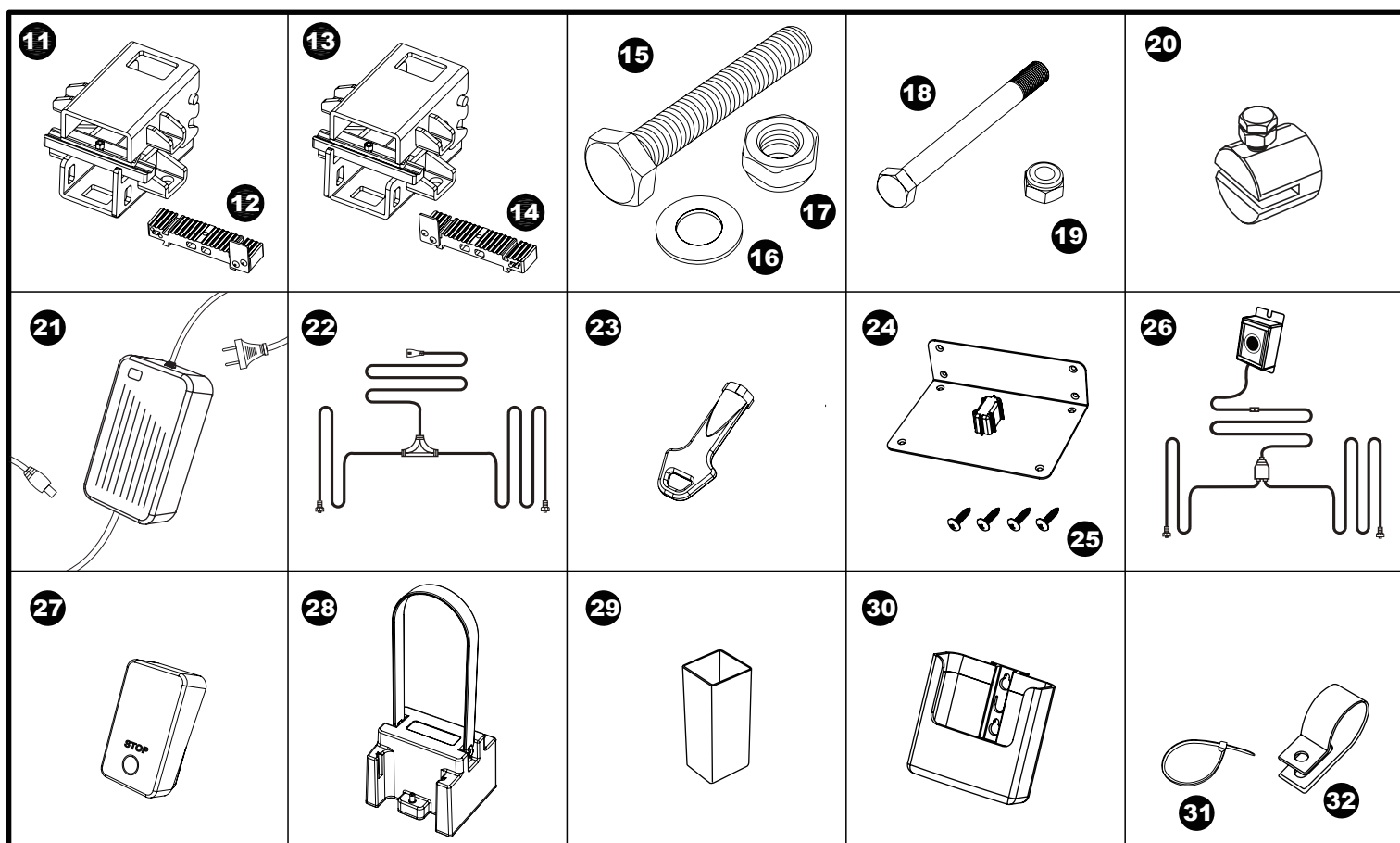
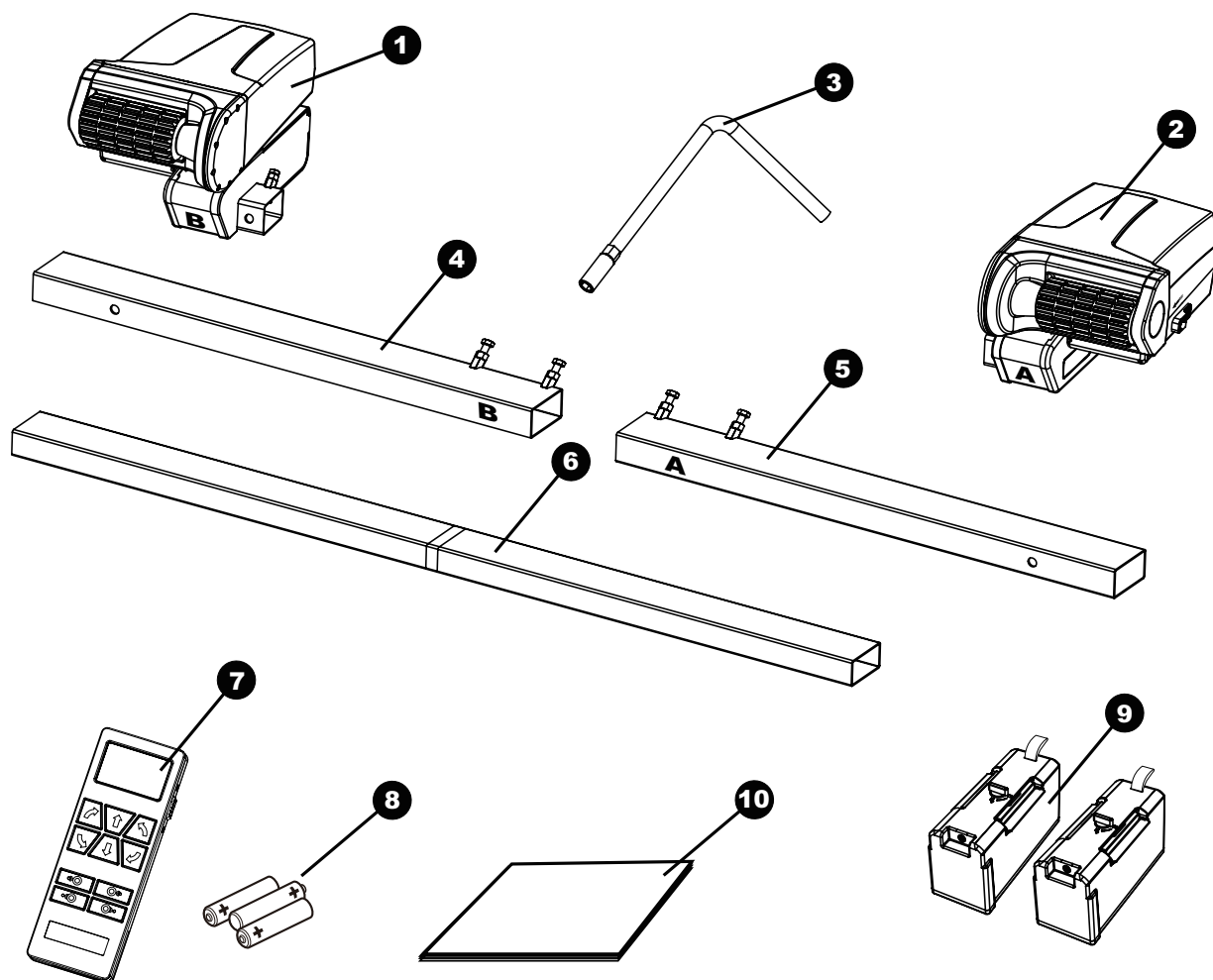
Tired of struggling to position your caravan in tight spaces? The Emove All-In-One Caravan Mover lets you effortlessly move caravans or trailers without needing a towing vehicle. With slow, controlled movement, you can park precisely even in challenging storage areas or campsites.

Before installation and use, please read this manual carefully and follow all safety instructions. The caravan owner is responsible for correct and safe operation. Keep this manual for future reference.

PACKAGE CONTENTS

- | | |
|---------------------------------|--|
| 1. Motor unit (B) | 17. 4x Nyloc nut M12 |
| 2. Motor unit (A) | 18. 2x Bolt – M8x75 |
| 3. Emergency key | 19. 2x Nyloc nut M8 |
| 4. Cross bar (B) | 20. 2x Chassis stopper |
| 5. Cross bar (A) | 21. Battery charger 100-240V, 43.8V - 2,5A |
| 6. Main cross bar | 22. Connecting charge current cable |
| 7. Remote handset | 23. 2x Battery cover key |
| 8. 3x AAA battery | 24. Charging station mounting plate |
| 9. 2x Battery lithium 36V 3,4Ah | 25. 16x Screw – M4.2x16 |
| 10. Instruction manual | 26. Wake-up switch wired |
| 11. Steel mounting clamp (B) | 27. Emergency stop switch |
| 12. Distance plate 15mm (B) | 28. Charging station |
| 13. Steel mounting clamp (A) | 29. 2x Roller distance spacers 20x20 |
| 14. Distance plate 15mm (A) | 30. Remote handset wall holder |
| 15. 4x Bolt – M12x110 | 31. 10x Cable tie 8x400mm |
| 16. 4x Washer Ø12mm | 32. 10x Cable P-clip 10.4mm |

PACKAGE CONTENTS



INTRODUCTION

The Emove All-In-One caravan manoeuvring system consists of two 36 Volt motor-power rollers and a remote handset. To function, the motor-powered rollers must be engaged against the tyres of your caravan. The Emove All-In-One caravan manoeuvring system is provided with an automatic engaging system. By pushing two buttons on the remote handset, both motor-powered rollers will be simply pressed on the tyre. Once this is done the manoeuvring system is ready for operation. The remote handset will allow you to move your caravan in any direction. You can even rotate the caravan on its own axis without moving forwards or backwards (this function just can work under the “single-axle function”).



Before proceeding with installation and starting to use the manoeuvring 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.

The Emove All-In-One manoeuvring system is suitable for single axle and double axle caravans. Suitable only for L-profiled and U-profiled chassis with a chassis thickness between min. 2.5mm and max. 3.5mm.

The standard installation kit only provides parts for installing the caravan manoeuvring system within the measurements given in Fig. 1.1.

SAFETY GUIDELINES



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:

- Check the towing load of your vehicle and the gross weight of your caravan (or trailer) in order to establish whether they are designed for the additional weight. The manoeuvring system itself has a weight of about 33kg and the lithium batteries have a weight of about 1.6kg each.
- Check the minimal installation dimensions of the manoeuvring system based on figure 1.1 and 1.2.
- Only use adapters and accessories that are supplied or recommended by the manufacturer.
- Check that the caravan is disconnected from a battery supply and the mains electrical supply.
- Check that the tyres are not over worn and do have the same size and design (fitting to new or nearly new tyres is the best option).
- Make sure that the tyre-pressures are correct to the manufacturer's recommendation.
- Make sure the chassis is in good condition without any damage and is free from rust, dirt etc.
- Stop work immediately if you are in doubt about the assembly or any procedures and consult one of our engineers.
- Locate the emergency stop 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. 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.

SAFETY GUIDELINES CONTINUED

- Practice operating the manoeuvring system in an open area before using for the first time. This is to fully familiarise yourself with the remote handset/manoeuvring system operation.
- Before use, always check the caravan manoeuvring system for any damage.
- When towing or moving the caravan please be aware, at all times, that ground clearance is reduced when the manoeuvring system has been fitted.
- 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 (e.g. drive rollers).
- In the event of malfunctions, pull on the caravan handbrake immediately and turn off the system by using the emergency stop switch.
- To maintain signal strength, always make sure that, during manoeuvring, the distance between the remote handset and the caravan does not exceed 5 metres.
- Due to the nature of a radio signal, it can get corrupted by external terrain or objects. So there may be small areas around the caravan where the quality of reception reduces, hence the manoeuvring system may stop momentarily.
- Always be aware that the manoeuvring system increases the weight of your caravan or trailer. So this reduces the payload of the caravan.
- Do not exceed the total safe working load of 2500kg (caravan including load) when 2 motors are used.
- Always make sure that the rollers are fully disengaged from the tyres when the manoeuvring system is not in use. This is better for the tyres and for the system.
- Always make sure that the rollers are fully disengaged before towing/moving the caravan by vehicle or manpower. This can damage the tyres, manoeuvring system and the towing vehicle.
- Always make sure that after you have finished using the manoeuvring system, the system is switched off by the remote handset. Even if the system is switched off, the Emove All-In-One batteries will be discharged by the small "standby" current.
- Always make sure that the remote handset is switched off and stored (in the wall holder) 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.
- Do not rely on the manoeuvring system to act as a brake.
- Always apply the handbrake after manoeuvring, before disengaging the drive rollers from the tyres.
- Do not use the manoeuvring system as a support when jacking up the caravan, since this can damage the system.
- Depending on the weight of the caravan, the manoeuvring system cannot overcome all obstructions without assistance. Please use wedges as a ramp.
- The wheels and tyres on the caravan must be of the same size and design. If tyres are worn or new tyres are fitted, the distance between the drive rollers and the tyres may need readjusting (see "Installation - Mechanical Components").
- Do not make any modifications on the caravan manoeuvring system (mechanical or electronically). This can be very dangerous! No warranty claim will be accepted and we cannot guarantee the function of the 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.

FITTING DIAGRAMS

Fig.1.1

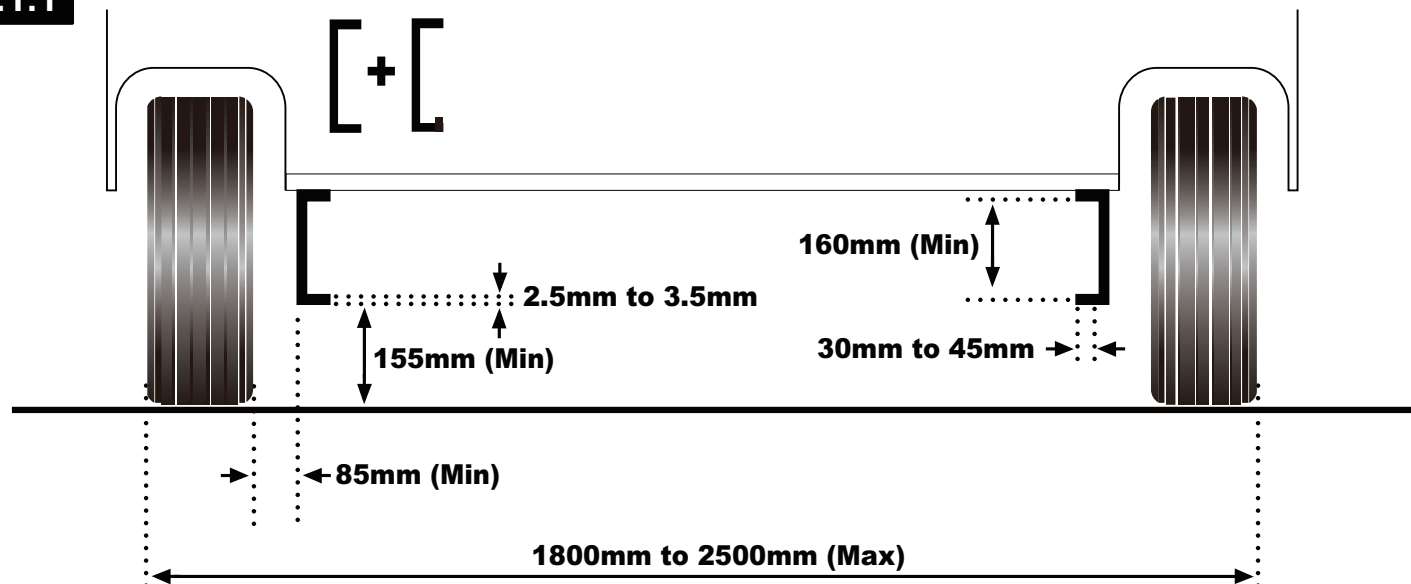


Fig.1.2

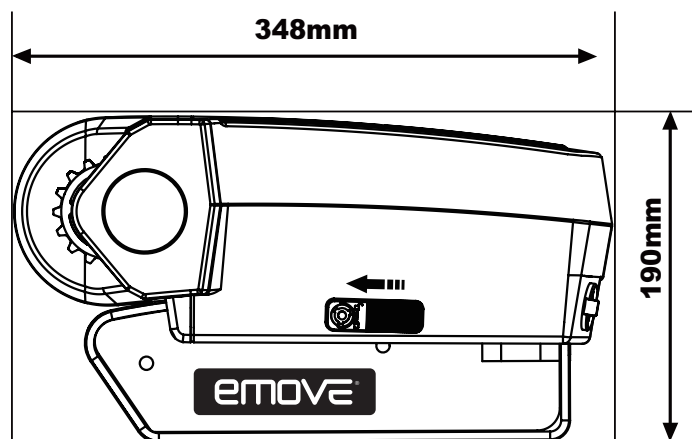
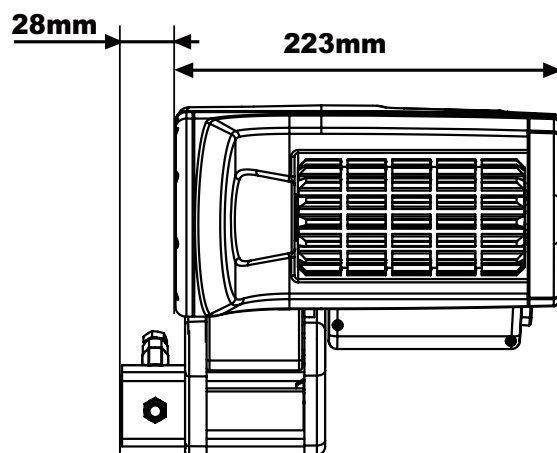
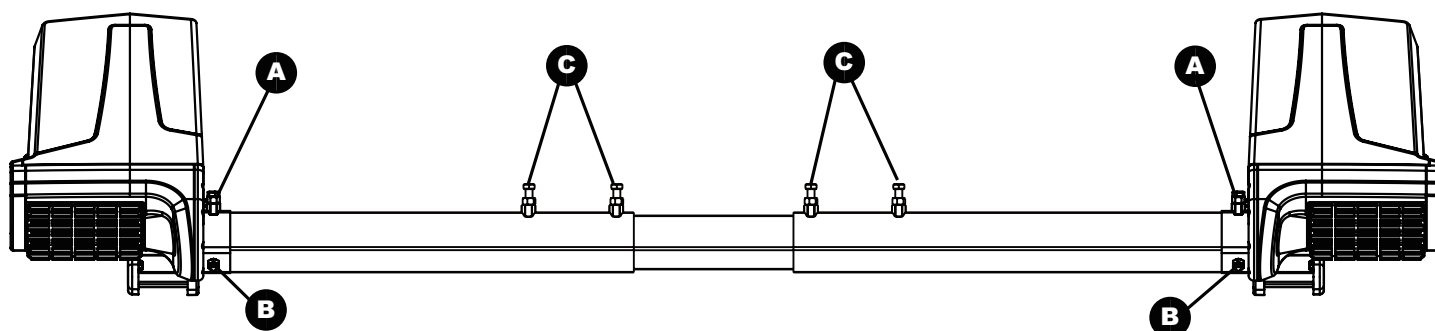


Fig.1.3



FITTING DIAGRAMS

Fig.2.1

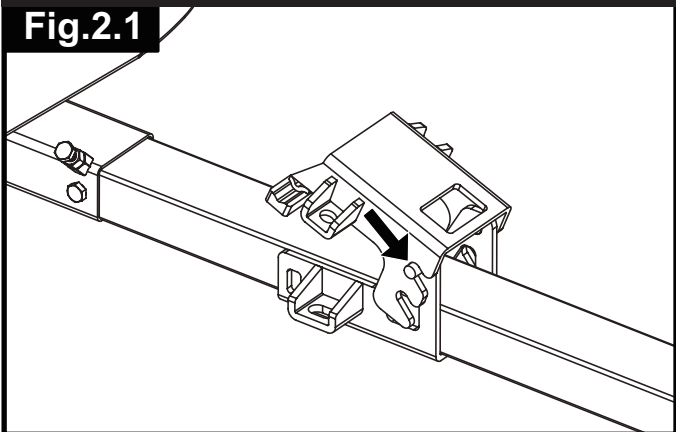


Fig.2.2

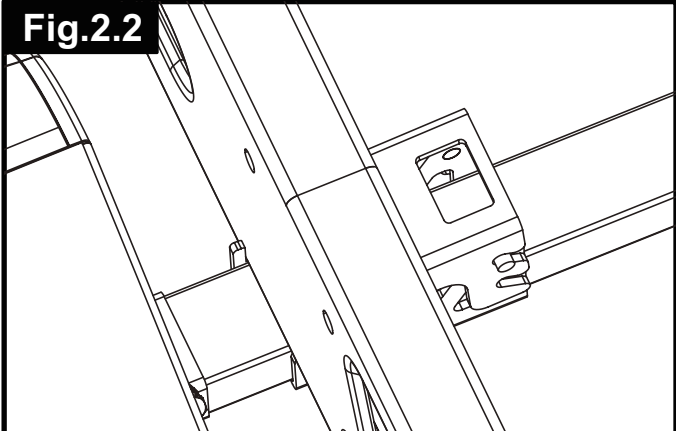


Fig.2.3

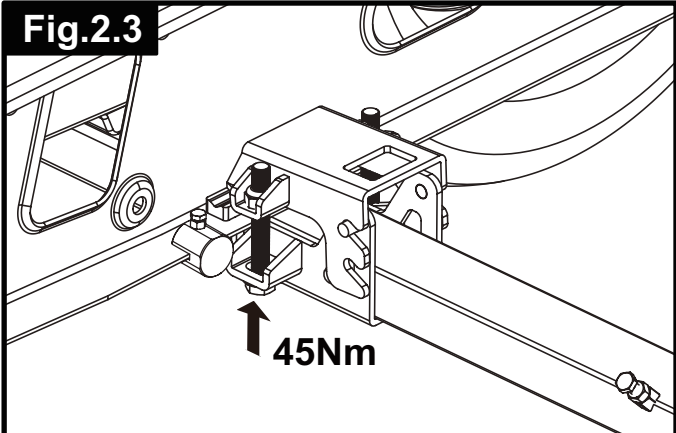


Fig.3

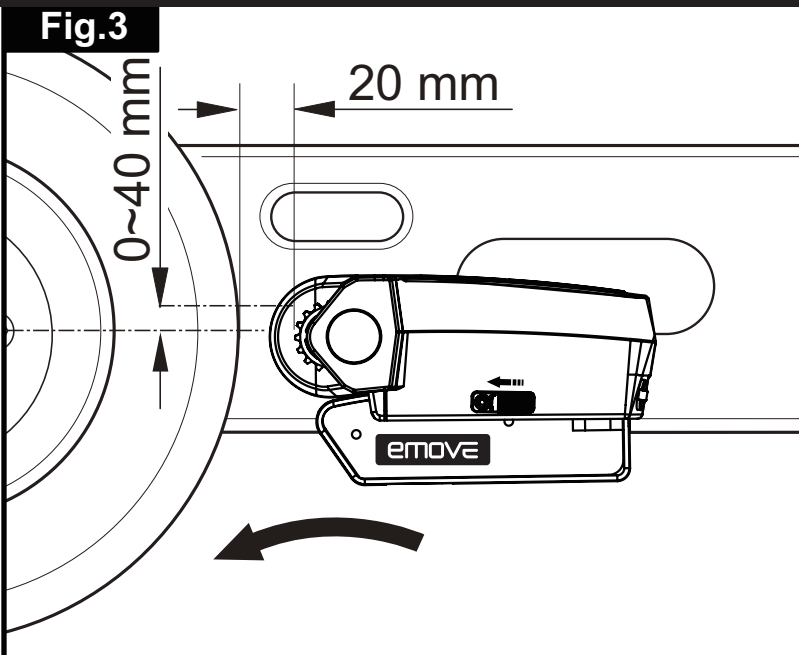


Fig.4

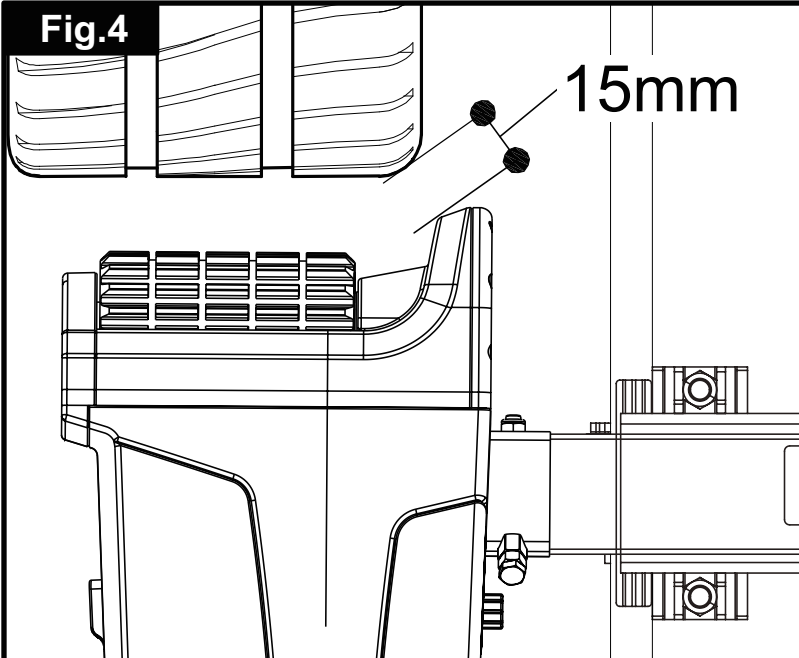


Fig.5.1

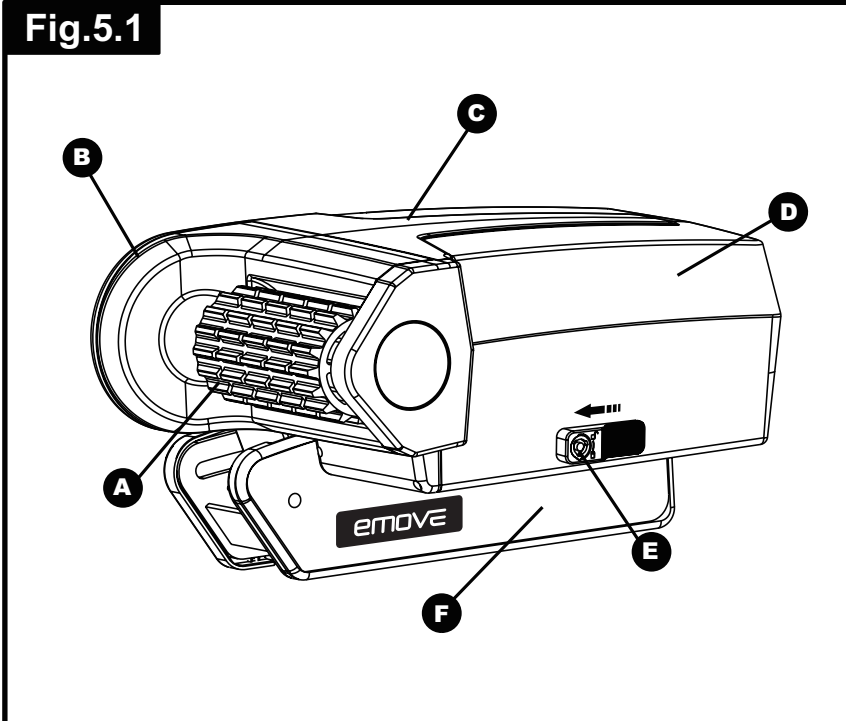
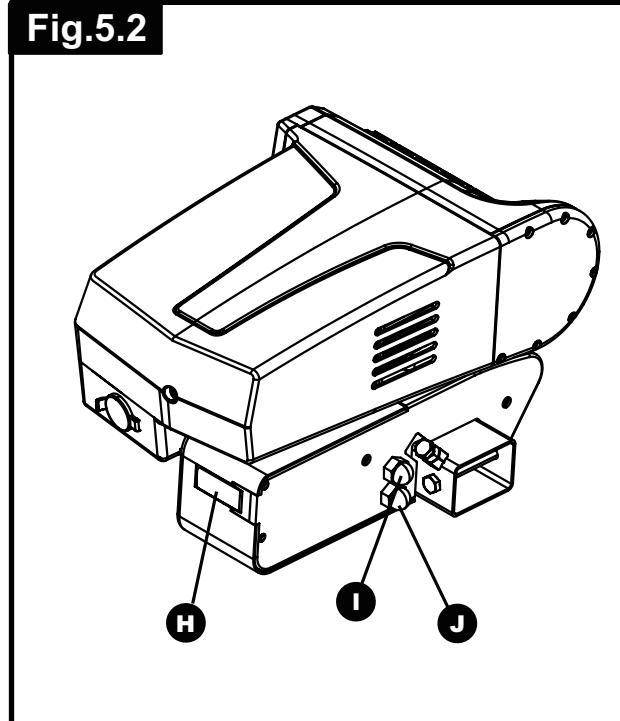


Fig.5.2



FITTING DIAGRAMS

Fig.6

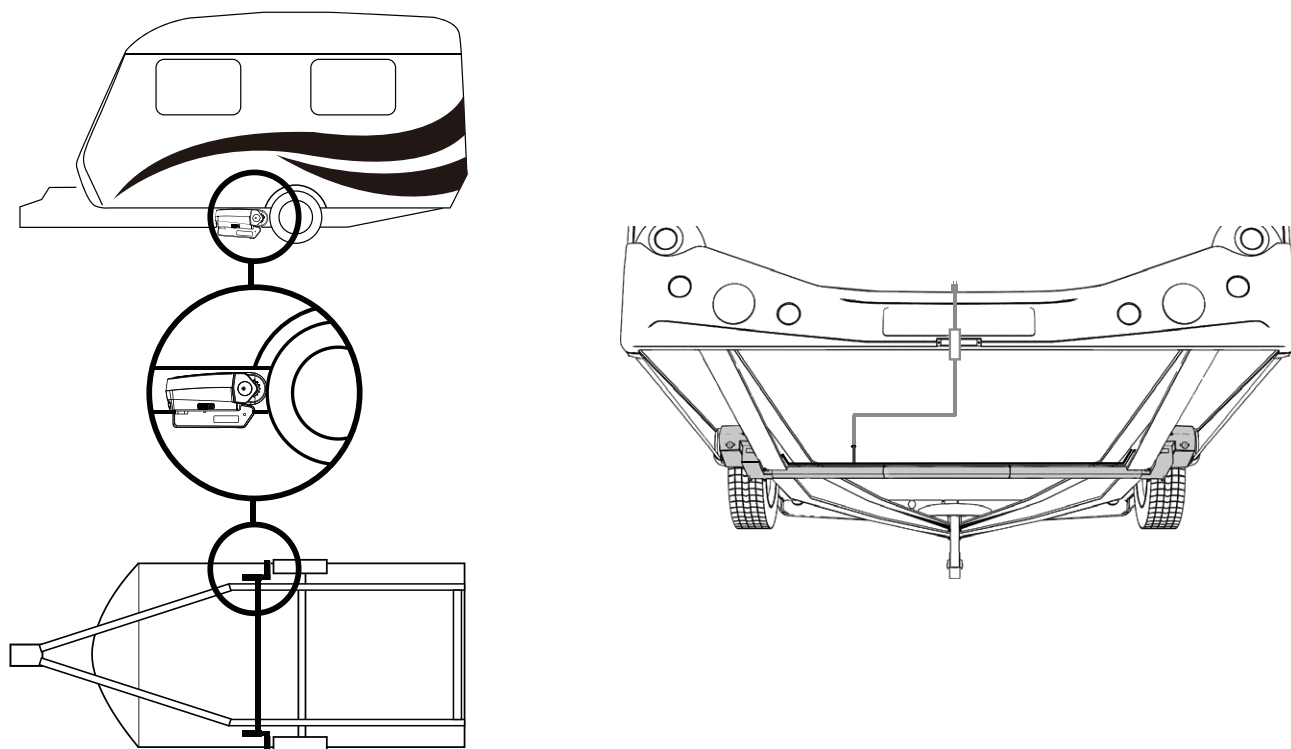


Fig.7

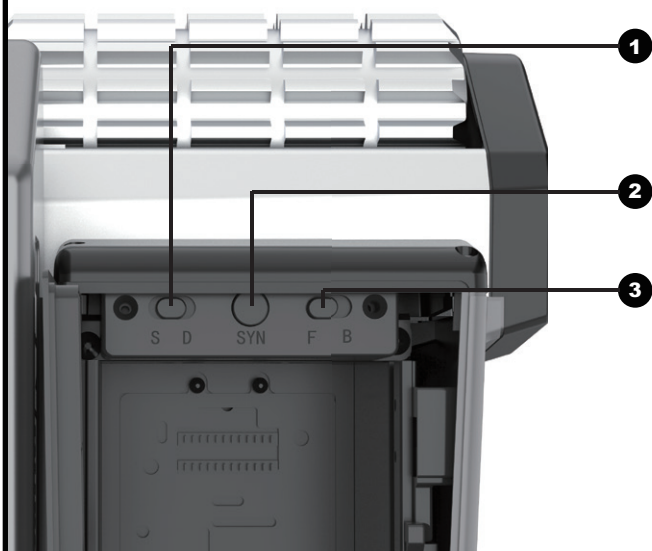


Fig.8

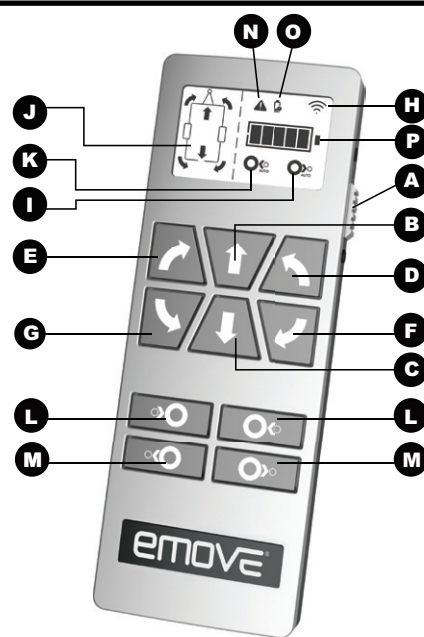


Fig.9

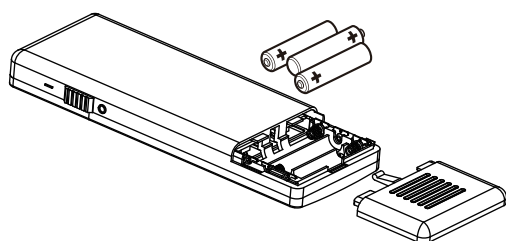


Fig.10

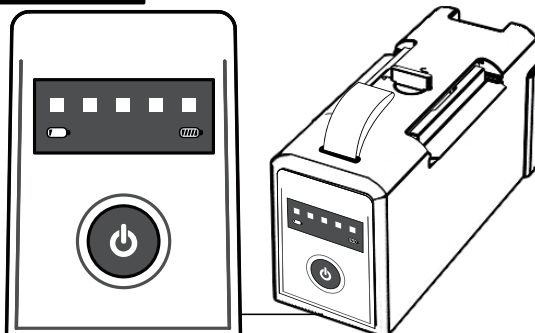
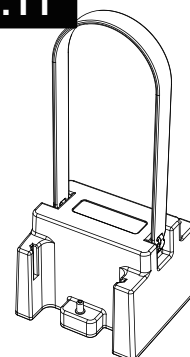


Fig.11



FITTING DIAGRAMS

Fig.12

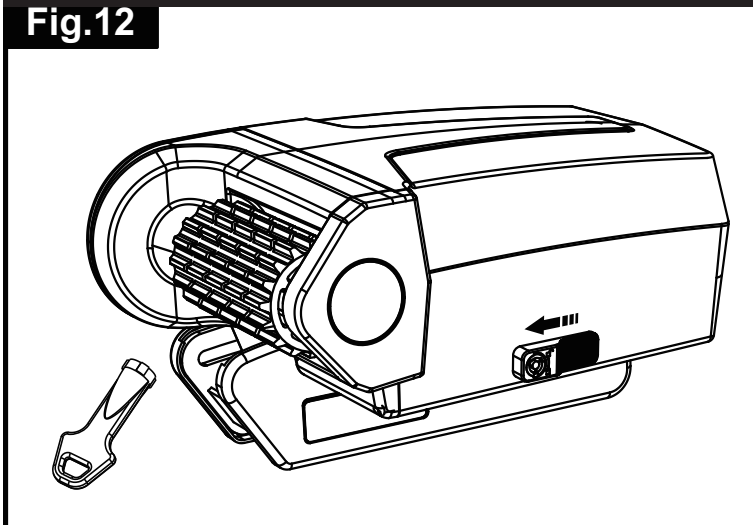


Fig.13

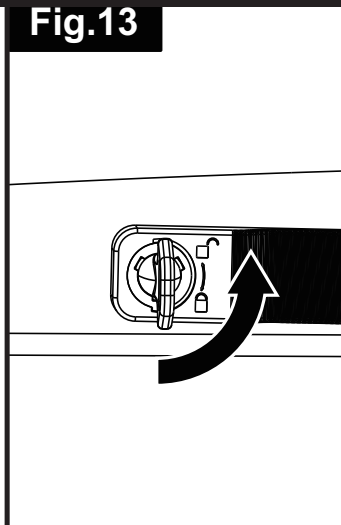


Fig.14

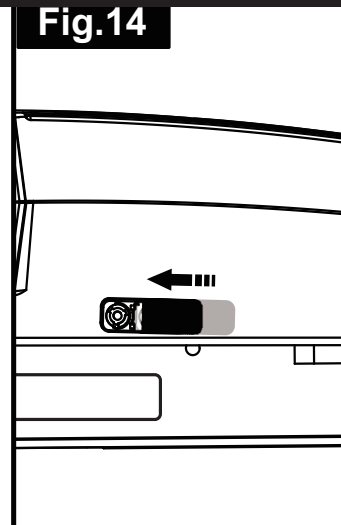


Fig.15

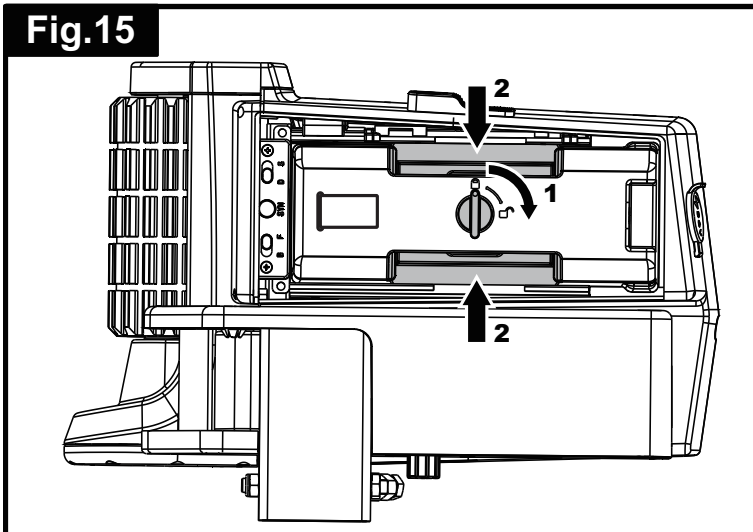


Fig.16

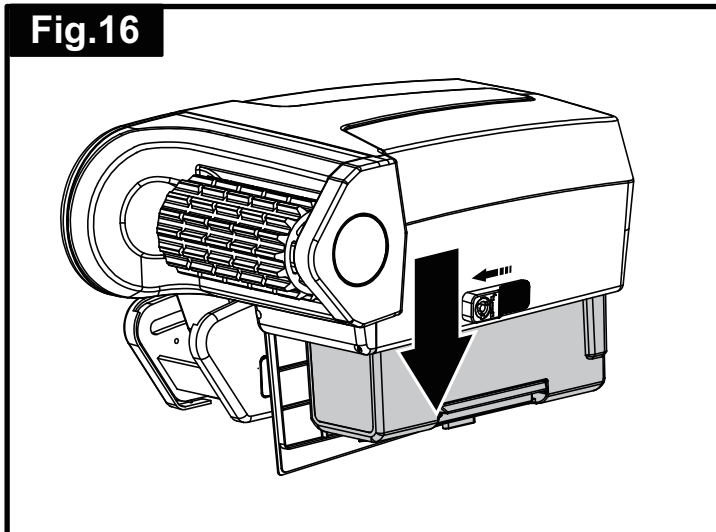
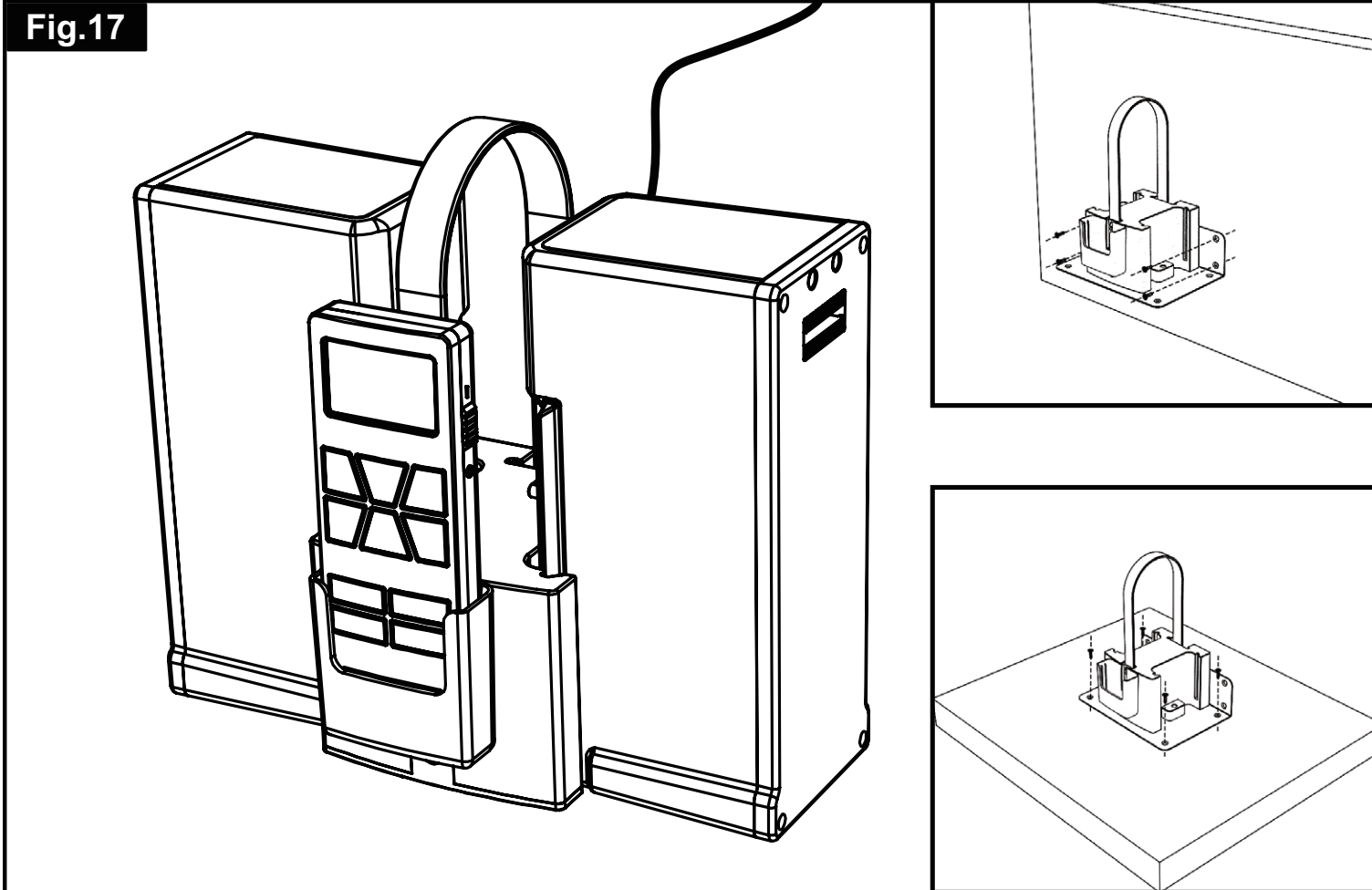
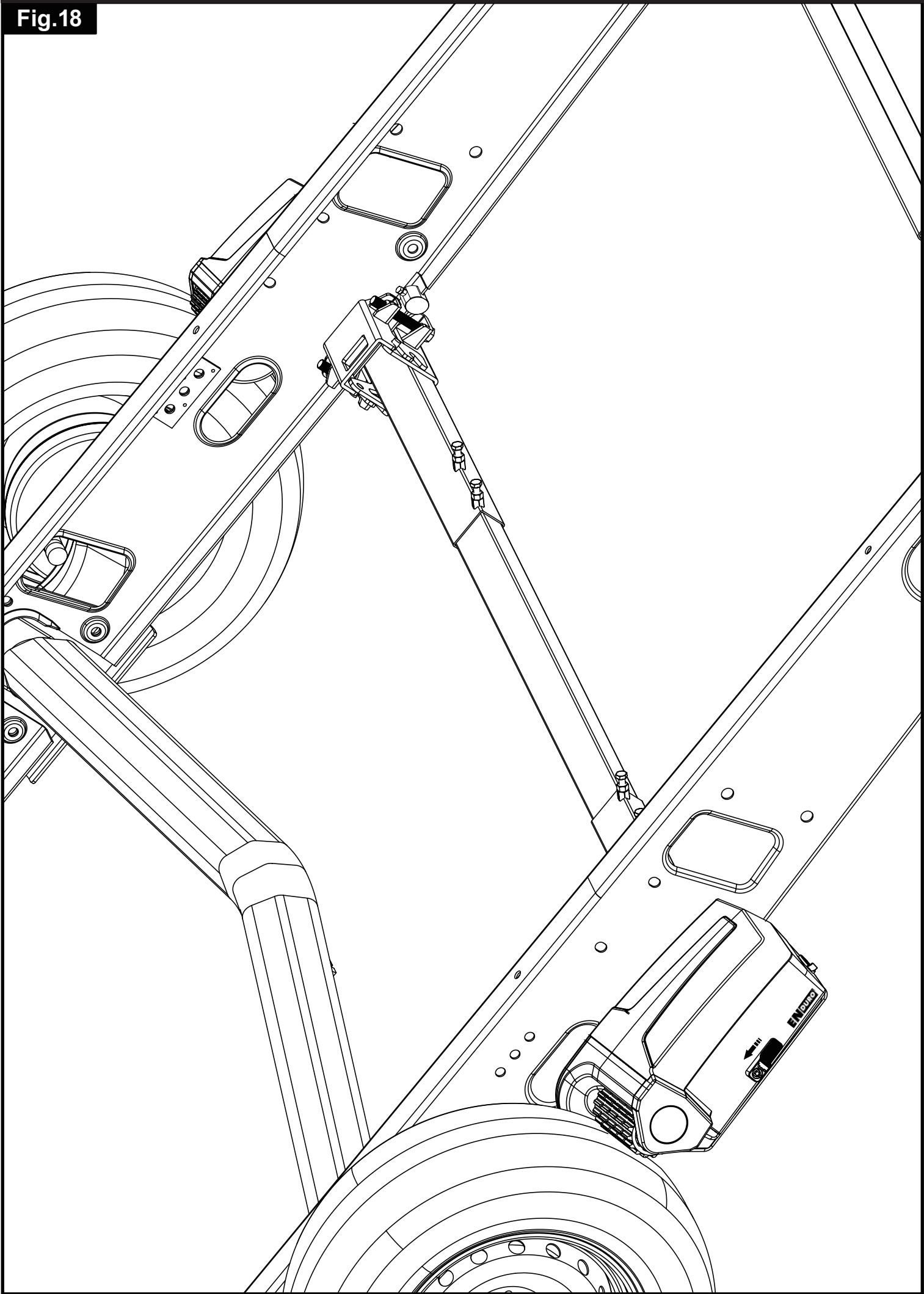


Fig.17



FITTING DIAGRAMS

Fig.18



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.**
- **Make sure the 230 Volt electricity supply is disconnected from the caravan.**

Please refer to figure 1.3 and 18 for an overview of the whole assembly fully fitted.

1. 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.
2. Unpack all the components and check for the presence of all parts (see package contents list). Write down, on the products invoice, the serial number (this is located on an aluminium plate on the side of one of the motor units).
3. Clean the area of your chassis where you need to mount all components to ensure a good fitting.
4. 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 caravan manoeuvring system.
5. Ensure both rollers are in the DISENGAGED position (Fig. 13), as the system will not fit correctly otherwise.
6. Loosely assemble with bolts (18) and nuts (19) the left hand motor unit (2+5), right hand motor unit (1+4) and main cross bar (6). The nuts (Fig. 1.3C), on the cross bar to secure both motor units, must be no more than finger-tight at this stage.
7. **Note:** In principle, the system should be fitted in front of the caravan road wheels, but if fitting in this position is not possible because of obstacles or a too high hitch ball weight, it is permissible to fit it to the rear of the wheels by rotating the whole assembly by 180° degrees and slide the Front/Back function switch (Fig. 7-3F/B) of both motor units to the Back position (Fig. 7-3), so that the rear mounted manoeuvring system can be used.
8. For mounting the mounting clamps (11, 13) it is important the two parts are first fitted around the base frame (Fig. 2.1) and then loosely fit the two clamping assemblies to the chassis (Fig. 2.3) and attach. Use the bolts M12x110, nuts M12 and washers M12 (15, 16, 17) and put them in the holes of the mounting clamps. Bolts must be no more than finger-tight. Such that the mounting clamps can just be moved.
9. Make sure that aluminium drive rollers of the motors are approximately on the same altitude as the centre (axle) of the caravan wheel (0mm~40mm, see Fig. 3). As well make sure that between the top of the motor housing and the floor of the caravan is minimal 10mm space to make sure the motors can move freely. To compensate a possible unevenness (and lower the motors), a set of Emove All-In-One distance plates is added (12, 14). One set can compensate 15mm. In total three sets can be used so that an altitude of 45mm can be compensated.

Adequate ground clearance: Please notice that the min. distance between the lowest line of motors and ground is 110mm, no matter what kind of chassis or install situation.

10. Make sure that the marked centre of the main cross bar (6) is positioned in the middle of the caravan.
11. With the main assembly is loosely fitted onto the chassis, slide the whole assembly along the chassis until the rollers are 20mm away from the surface of the centre each tyre (Fig. 3). Two 20mm spacers (29) 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.

12. Slide the motor units in or out of the cross bar accordingly to ensure the roller will have the maximum possible contact with the tread of the tyre. Ensure that the position of each motor unit does not obstruct shock absorbers (if fitted) and that the gear cover (Fig. 4) is not too close to the surface of the tyre/shock absorber. The minimum clearance when the motor units swivelled in is 15mm.

13. **Re-check that there is sufficient space available (minimal 10mm) between the top of the motor housing and the floor of the caravan so the motors can move freely.**
14. Fully tighten (10Nm torque) the four bolts (Fig. 1.3C) on the main cross bar and lock them by the additional nuts.
15. Fully tighten the bolts on both clamping assemblies (Fig. 2.3) with a 45Nm torque and also attach the chassis stoppers (20) behind the mounting clamps (Fig. 2.3).
16. Re-check the distance of 20mm from the rollers to the tires, the position of the aluminium rollers in addition to the surface of the tire and finally the distance between the gear cover (Fig. 4) and the tires & shock absorbers (>10mm). The weight of the caravan must be on the wheels when doing this. If necessary, loosen the bolts and re-adjust the position of the assembly.
17. **Re-check that all bolts/nuts have been tightened to the correct torque!**
18. The main mechanical components have now been installed.

INSTALLATION - OTHER COMPONENTS

1. Find a suitable place for the emergency stop switch (27). The emergency stop switch operates without batteries. Pressing the switch generates enough energy to communicate the 'STOP' signal to the Emove All-In-One control system. **Only use the emergency stop switch in an emergency.**



IMPORTANT: The button must be mounted onto the body of the caravan and be easily accessible from the outside of the caravan in case of any emergency (the emergency stop button could therefore be mounted onto the inside of the opened caravan door).

2. After (each) use of the emergency stop, check all functions of the manoeuvring system still work.
3. If wanted, find a suitable place for the charging station mounting plate (24), mount it with the screws provided (25) and place the charging station (28) (Fig. 17).
4. Finally find a suitable place for the remote handset wall holder (30) and fix this by the supplied screws (25) out of reach of children or other unauthorised people.
5. Installation of the caravan manoeuvring system is now complete.

INSTALLATION FOR TWIN (DOUBLE) AXLE CARAVANS

This manual describes the general installation and use of the manoeuvring system for single axle caravans. When you use the manoeuvring system for a twin (double) axle caravan, please check the following:

- Permissible overall weight twin axle (2 motors) **2500kg** (2500kg on 18% gradient)
- **2 motors:** The procedure for installing a 2 motors manoeuvring system on a twin axle caravan is the same as for a single axle caravan. The control units now need to be prepared for twin axle use: Take out both Emove All-In-One batteries and move the single/double axle function switch (Fig. 7S/D) on both the control units to the double axle position (Fig. 7D), so that the manoeuvring system can be used for a twin axle caravan. In the twin axle function, when making curves, all wheels will drive but at a different speed.
- The installation of the caravan manoeuvring system for twin axle use is now complete. For details of the operation, use and button functions, please refer to the standard chapters of this manual.

BATTERY SAFETY

- Check that the batteries and battery charger are not damaged during transport.
- The batteries and battery charger should be stored in a secure environment with good ventilation. Do not expose both to humid or high temperatures. Do not place the batteries and battery charger in an environment with flammable or explosive gases.
- Avoid completely covering the batteries/charging station/battery charger with rugs, blankets etc. or other insulating materials.
- Do not charge the batteries at temperatures below 0 degrees Celsius.



- **Before using the Lithium-ion batteries for the first time, they must be fully charged.**
- **The battery charger will become hot during battery charging. Ensure that the battery charger is used in a place with good ventilation and that this place is dust-free. Keep at least 10 cm clearance around the outside of the battery charger.**

- This battery charger is not designed to serve as a power supply.
- The battery charger must not be opened. Any attempted modification or repair by the user will result in loss of warranty. Do not disassemble the batteries/battery charger or cut the wires.
- The cable should be replaced if damaged.
- The batteries may be used in an ambient temperature of -20~60°C.
- The batteries and battery charger have a plastic casing. Avoid mechanical shocks, which may occur if dropped, struck or dented. Avoid damage to the battery/battery charger housing.
- If you plan to store the Emove All-In-One batteries for a long period of time, recharge them at least once every 6 months. Do not store the batteries when they are completely empty (discharged). Store batteries in a cool and dry place (The ideal temperature is between 0 and 20 degrees Celsius).
- Do not discharge the batteries when charging at the same time.
- Do not expose the batteries/battery charger to aggressive chemicals.
- Keep the batteries/battery charger away from children and animals.
- Do not expose the batteries/battery charger to fire or other heat sources.
- The chemical processes in the batteries are not completely reversible during charging and discharging of a LiFePO₄. As a result, LiFePO₄ batteries lose capacity during their existence. This is a common property and is not due to a manufacturing or production error.

BATTERY CHARGING

After each use (and before storage), immediately charge the batteries.

1. Check the plug of the battery charger for damage or loose wires.
2. Place both batteries in the charging station, insert the plug of the battery charger into the 12V DC plug opening of the charging station, then connect the battery charger to the wall socket (100-240V, 50/60Hz).

RED LED = Charging

GREEN LED = Fully Charged



To prevent the batteries from being completely discharged, especially if they are not used for a long period of time, the batteries should be fully charged and kept frost-free. Disconnect the battery from the battery charger.

ALTERNATIVE BATTERY CHARGING

1. Ensure that the 230-volt power supply is disconnected from the caravan.
2. If a battery is already fitted in the caravan, disconnect both battery terminals before starting to install the optional Emove All-In-One battery charging section.
3. The Emove All-In-One batteries can also remain placed in the drive units for a longer period of time and be charged in between without removing them. The materials required for this are included in the scope of delivery. However, the Wake Up switch cable (26) must be connected to be able activate the Emove All-In-One batteries installed in the drive units (Emove All-In-One batteries will, after two hours of no power use, automatically go into rest/sleep mode).
4. Find a suitable, easily accessible place in the caravan for this Wake-up switch. Drill a 10 mm diameter hole through the floor of the camper and feed the cable through. Connect the Wake-up switch cable (26) to the appropriate connectors (Fig. 5.2 I) on the drive units. to the appropriate connectors (Fig. 5.2 I) on the motor units.



- **CAUTION: If you choose to keep the batteries in the drive units before and after manoeuvring, the drive units must be activated at all times via the Wake-up switch, (batteries will, after two hours of no use, automatically go into rest/sleep mode).**

Charging by permanent battery charger connection

1. Find a suitable, easily accessible place in the caravan for the battery charger (21). Drill a 10 mm diameter hole through the floor of the caravan and feed the connection charge current cable (22) through. Attach the connection charging current cable to connector (Fig. 5.2J) of both drive units. In the caravan, connect the battery charger plug to the connection charge current cable plug so that both batteries are charged simultaneously. Route all cables along the underside of the caravan floor, securing them with the tie-wraps (31), P-clips (32) and screws (25) provided (Fig. 6C).
2. During regular use of the Emove All-In-One system, there is then no need to take the batteries out to recharge them. If you plan to store the All-In-One batteries for a longer period of time, recharge them at least once every 6 months. Do not store the batteries when they are completely empty (discharged).

OPERATION - MOTOR UNITS

1. The manoeuvring system has two motor units (1 & 2). In general they are mounted in front of the axle of the caravan.

Figure 5.1

- A. Aluminium drive roller
- B. Gearbox
- C. Motorcover
- D. Driving motor (in housing)
- E. Lock battery compartment
- F. Motor for automatic engaging system (in housing)

Disconnect the motor powered rollers in case of emergency:

1. In the case that the Emove All-In-One batteries are discharged too far to automatically take of the motor powered rollers of the tyre, or there is a defect, you can also do this manually.
2. Open the plastic cap (Fig. 5.2H) at the rear side of the housing of the motor unit for the automatic engaging system. If necessary use a screwdriver. Place the emergency key (3) on the emergency socket in the motor unit (Fig. 5.2H) and turn it until the motor unit including motor powered rollers are in the beginning position. Repeat this also on the motor unit on the other side.
3. Close the plastic caps on the motor housing.
4. As soon as the batteries are charged again, or the problem is solved, the motor powered rollers automatically work again.

OPERATION - REMOTE HANDSET

The remote handset (7) is powered by three AAA 1.5 Volt batteries, and is activated by moving the slide switch to “On”-I (Fig. 8A). Once activated and a proper connection with the motor units has been made, the communication icon (Fig. 8H) will illuminate and the directional controls can be used.

Figure 8

- A. Slide switch (“Off” –O and “On”-I)
 - B. Caravan forwards (both wheels rotate in forwards direction)
 - C. Caravan reverse (both wheels rotate in reverse direction)
 - D. Caravan right forwards (right wheel rotates in forwards direction)
 - E. Caravan left forwards (left wheel rotates in forwards direction)
 - F. Caravan right reverse (right wheel rotates in reverse direction)
 - G. Caravan left reverse (left wheel rotates in reverse direction)
 - H. Communication icon: reflects status of the remote handset and caravan manoeuvring system
 - I. Disengaging icon: reflects status of the automatic disengaging system
 - J. Caravan icon: displays the selected/activated function
 - K. Engaging icon: reflects status of the automatic engaging system
 - L. Two handed service for automatic engaging of the motor powered rollers to the tyre
 - M. Two handed service for automatic disengaging of the motor powered rollers from the tyre
 - N. Overload icon: Amp overload protection is activated, wait about 60 seconds and try again
 - O. Remote battery icon: the 1.5 Volt batteries of the remote handset are nearly empty
- When you drive straight forwards or reverse (press button B or C), it is also possible to adjust the direction by additional pressing button D or E (when driving forwards) or button F or G (when driving reverse).
 - In addition, the ‘right forward’ (D) and ‘left reverse’ (G) buttons or ‘left forward’ (E) and ‘right reverse’ (F) buttons may be pressed at the same time to turn the caravan around on its own axis without moving forward or backward (this function just can work under the “single-axle function”).
 - When you switch within 2 seconds from forward driving to reverse driving (and the other way around), a small delay of 1 second will appear to protect the electronics and the motors.



The remote handset slide switch (Fig. 8A) also acts as an “Emergency stop”.

THE AUTOMATIC ENGAGING SYSTEM: To activate the automatic engaging system of the motor powered rollers on the tyre, press the two buttons for engaging (Fig. 8L) or disengaging (Fig. 8M) for at least three seconds. The engaging icon (Fig. 8K) or disengaging icon (Fig. 8I) will blink fast during these three seconds and every second there will be a beep. This warns you that the system will be activated.

ENGAGING: After these three seconds the motor powered rollers will be pressed against the tyre, and the engaging icon will illuminate constant. Now you can release the two buttons. When the motor powered rollers are pressed on the tyre strongly enough you hear a short beep, the engaging icon will switch off and the system is ready to use.

DISENGAGING: after these three seconds the motor powered rollers will be released from the tyre, and the disengaging icon will illuminate constant. Now you can release the two buttons. When the motor powered rollers are completely disengaged you hear a short beep, the disengaging icon will switch off and the system is ready for transport.

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 screen turns 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 All-In-One will be communicated via the remote handset by the communication icon (Fig. 8H), the error message icon's (Fig. 8 N, O, P) and a buzzer signal:

- Communication icon (Fig. 8H) off, no buzzer: remote handset is turned off and also system is not activated.
- Communication icon (Fig. 8H) continue on, no buzzer: remote handset is turned on and system is activated and ready to use.
- Communication icon (Fig. 8H) is blinking, no buzzer: no communication between remote handset and control units. This could be because of too much distance between remote handset and Emove All-In-One control units, or the manoeuvring system batteries are still in rest/sleep mode or that there is a distortion signal disturbing the communication. As soon as connection is good again the communication icon will remain on and the system is ready to use.
- Caravan battery voltage icon (Fig. 8P) is blinking in combination with buzzer (2 times blinking, break, 2 times blinking, break etc.): The voltage of the Emove All-In-One batteries is too low (<10 Volt). Batteries need to be recharged.
- Overload icon (Fig. 8N) 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.
- Remote battery icon (Fig. 8O) is blinking, no buzzer: The 1.5 Volt batteries are nearly empty and need to be replaced.

CHANGING BATTERIES IN THE REMOTE HANDSET:

When the batteries are empty (Remote battery icon (Fig. 8O) is blinking), they need to be replaced.

1. Open the rear cover of the remote handset (Fig. 9).
2. Take out the dead/old batteries and dispose in the appropriate way.
3. Install new replacement batteries (Fig. 9). Make sure to use leak proof AAA (1.5 Volt) batteries (No claims under guarantee can be considered for damage caused by leaking batteries).
4. 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.

OPERATION - CONTROL UNIT

- The control units (Fig. 7), which are mounted inside the Emove All-In-One motor unit, are responsible for controlling the manoeuvring system.
- Both Emove All-In-One motor units have one push button and two slide switches (Fig. 7):
- In general all setting changes and error messages will reset automatically by removing the Emove All-In-One batteries for at least 15 seconds and then inserting the batteries again.

THE SYNCHRONISATION BUTTON (Fig. 7-1):

The remote handset and the motor units are synchronised with each other in the factory. If a motor unit or the remote handset is replaced, they must be re-synchronised as described below:

1. Check the installation in accordance with the installation instructions and ensure that the drive rollers are not applied. Check that the remote handset batteries are in good condition and the Emove All-In-One batteries are fully charged. Activate the batteries by pushing the 'On' button (Fig. 10) and the status LEDs light up.
2. Please ensure only one ALL-IN drive unit is activated (by inserting the battery a beep signal will follow).
3. Activate the remote handset by sliding the slide switch to "On"-I (Fig. 8A). The communication icon on the remote handset (Fig. 8H) starts to flash slowly.
4. Press the synchronisation button (Fig. 7-2) on the control unit (3 sec), (the drive unit reacts with a beep signal).
5. Press both forwards (Fig. 8B) and reverse (Fig. 8C) button on the remote handset for about 3 seconds until the remote handset buzzer will give a short beep to confirm that the synchronisation is completed.
6. Remove the Emove All-In-One battery of the motor unit which has been synchronized.
7. Insert the activated Emove All-In-One battery in the other drive unit and repeat the above steps.
8. After successful synchronisation, the communication icon on the remote handset (Fig. 8H) will illuminate continuously.

THE SINGLE-TWIN (DOUBLE) AXLE FUNCTION SWITCH (Fig. 7-1):

The Emove All-In-One caravan manoeuvring system is suitable for both single axle and twin axle caravans. By adjusting the single (S) twin (D) axle function switch (Fig. 7-1) on both motor control units, the manoeuvring system can be used for a single-axle caravan or a twin-axle caravan. In the twin axle (D) function all wheels will drive but at a different speed. (to protect the caravan against extreme forces on tires and chassis, the caravan will no longer be able to rotate on its axis when selecting this function).

The switch standard pre-selected for single axle use (Fig. 7-1 S). For twin axle use, just move the switch to the twin axle position (Fig. 7-1 D). **Note:** remove the batteries of the manoeuvring system before switching.

When using the single-twin axle function switch, the batteries have to be taken out of the Emove All-In-One motor units.

GETTING STARTED



Make sure that the Emove All-In-One batteries that supply the system are fully charged, in good condition and activated (activate the batteries with the 'ON' button, or by using the Wake-up switch when installed).

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

1. Check by pressing the 'On' power button (Fig. 10) if both batteries are fully charged. The five LEDs now briefly light green and the battery is activated. Place the fully charged and activated batteries, in the Emove All-In-One drive units. The drive units emit a short beep to confirm that the batteries are correctly inserted. Close the battery by using the rotary knob (Fig. 15) and lock the battery compartment cover (Fig. 12, 13) with the key (23).
2. Activate the manoeuvring system by move slide switch to "On"-I on the remote handset (Fig. 8A). The communication icon (Fig. 8H) on the remote handset will illuminate and you will hear a short beep. The remote handset is ready for use.
3. Press at the same time, during at least three seconds, the two buttons for engaging the motor powered rollers (Fig. 8L). The engaging icon (Fig. 8N) will blink fast during these three seconds and every second there will be a beep. This warns you that the system will be activated.
4. After these three seconds the motor powered rollers will be pressed against the tyre and the engaging icon will illuminate constant. Now you can release the two buttons. When the motor powered rollers are pressed on the tyre strongly enough, the engaging icon (Fig. 8K) will switch off and is the system ready to manoeuvre.
5. Before operating the manoeuvring system, release the handbrake.
6. Now you can choose the movements according the symbols shown on the remote handset. Straight forward (Fig. 8B), straight reverse (Fig. 8C), left forward (Fig. 8E), left reverse (Fig. 8G), right forward (Fig. 8D), right reverse (Fig. 8F).
7. In addition, the left forward (Fig. 8E) and right reverse (Fig. 8F) buttons or right forward (Fig. 8D) and left reverse (Fig. 8G) buttons may be pressed at the same time to turn the caravan around on its own axis without moving forward or backward (this function just can work under the "single-axle function").
8. When you drive straight forwards or reverse (press button 8B or 8C), it is also possible to adjust the direction by additional pressing button 8D or 8E (when driving forwards) or button 8F or 8G (when driving reverse).
9. Because of the "soft start" technology, the caravan will slowly speed up. Because of the "soft stop" technology, the caravan will stop slowly. This allows you to manoeuvre your caravan even more accurately without any shocks.



WARNING: When the buttons on the remote handset are released, the caravan will slowly stop after 0.5 second and continue to move about 8cm (depending on final speed). When the buttons of the remote handset are released when the system is still in the "soft start" stage (slowly speed up), the caravan will stop immediately.

10. After the "soft start" stage the caravan moves according one fixed speed. The speed can increase a little when going downhill and decrease a little when going uphill. **TIP:** The manoeuvring system is more efficient when reversing the caravan up an incline.
11. **When you are ready with manoeuvring you need to secure the handbrake.**
12. Press at the same time, during at least three seconds, the two buttons for disengaging the motor powered rollers (Fig. 8M). The disengaging icon (Fig. 8I) will blink fast during these three seconds and every second there will be a beep. This warns you that the system will be activated.
13. After these three seconds the motor powered rollers will be released from the tyre and the disengaging icon will illuminate constant, now you can release the two buttons. When the motor powered rollers

are completely disengaged the disengaging icon will switch off and the system is ready for transport.

14. After manoeuvring, deactivate the manoeuvring system by moving the slide switch to “Off”-O on the remote handset (Fig. 8A). The communication icon (Fig. 8H) on the remote handset will turn off. Store remote handset in a safe place (out of reach of children or other unauthorised people).

15. Before you start driving always make sure that the both motor units are fully (2cm) disengaged.

HITCHING & UNHITCHING

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

1. Use the button controls on the remote handset to bring the hitch of the caravan to the car. The soft start technology allows you to locate the tow-ball of the car by centimetre. It is better reach the tow ball with several short “trips” rather than trying to do it in one “trip”.



WARNING: When the buttons on the remote handset are released, the caravan will slowly stop after 0.5 second and continue to move about 8cm (depending on final speed). When the buttons of the remote handset are released when the system is still in the “soft start” stage (slowly speed up), the caravan will stop immediately.

2. 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.



Release the rollers from the caravan’s tyres. You cannot tow the caravan with the drive units are engaged! Before you start driving always make sure that the both motor units are fully disengaged.

Trying to drive away with the motor units still engaged, will damage the manoeuvring system, your caravan tyres and strain your tow vehicle.

MAINTENANCE

- To prevent the batteries from becoming totally discharged during long periods of inactivity it must be disconnected, fully charged and frost-proof stored.
- Please check regularly that the rollers of the motor units are free of any dirt, or debris that may have been picked up from the road.
- Regularly clean the motor units with a water hose to dissolve mud etc.
- Please check regularly the distance between the rollers and the tyres. In the neutral (fully disengaged) position this must be about 20mm.
- Once a year have your caravan manoeuvring 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.

TROUBLESHOOTING

Should your manoeuvring system fail to operate, please check the following:

SYSTEM FAILS TO OPERATE OR MOVES INTERMITTENTLY:

- Check the batteries of the remote handset. If empty, renew the 1.5 Volt batteries.
- The Emove All-In-One batteries could be empty. If empty, recharge completely or renew the batteries before taking any further action.
- The Emove All-In-One batteries could be low - with the rollers engaged. Check the voltage drop when using the manoeuvring system, if this drops well below 10 Volt, charge or renew the batteries.
- Badly connected or corroded battery connector can cause intermittent problems, check battery connector, clean and connect again.
- Check the distance between the remote handset and the caravan is not more than 5metres. If there is no signal between the remote handset and the motor control units, the manoeuvring system will not function at all and the communication icon (Fig. 8H) on remote handset is blinking.
- Check if there is any distortion signal (other transmitter, high power cables, Wifi etc.) that disturbs communication between the remote handset and motor control units. If there is no good communication between the motor control units and remote handset, the manoeuvring system will not function and the communication icon (Fig. 8H) on remote handset is blinking.
- In general, all error messages will reset automatically after one minute. If this is not the case, reset the electronics of the manoeuvring system by taking out both Emove All-In-One batteries and turn off the remote handset for at least 15 seconds and then turn them on again.

DRIVEROLLERS WILL NOT TURN:

- The motor or gear is broken, please contact your Emove supplier.

5 YEAR WARRANTY

Your Emove All-In-One 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 enter your details on the warranty screen. 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.

TECHNICAL SUPPORT

If you require any technical support for your product within the warranty period, please contact us on support@streetwize.co.uk and provide the product name and supplier code (see Technical Specifications) along with the technical query and proof of purchase.

WEEE



The WEEE symbol  on this product means that this unit should be ethically dismantled or recycled to minimise environmental impact. Please check with your local authority for more information.

TECHNICAL SPECIFICATIONS

Product Name:	Emove All-In-One Mover
Supplier Code:	EM317
Operational voltage:	36V DC
Average current consumption:	10A
Maximum current consumption:	25A
Transmitting frequency remote handset:	868MHz
Speed:	approx. 16cm per sec.
Weight (2 motor set):	approx. 33kg (exclusive battery)
Weight lithium battery	approx. 1.6kg (each)
Permissible overall Weight single axle (2 motors):	2500kg (2500kg on 18% gradient)
Permissible overall Weight double axle (2 motors):	2500kg (2500kg on 18% gradient)
Minimum width (caravan/trailer):	1800mm
Maximum width (caravan/trailer):	2500mm
Maximum tyre width:	225mm
Battery charger input:	100-240V
Battery charger output:	43.8V – 2.5A



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