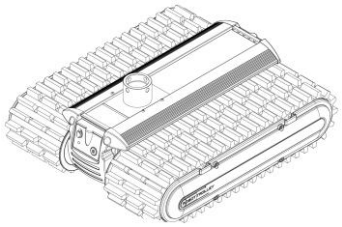
ROBOT TROLLEY

The Robot Trolley can help to maneuver for all types of trailers and campers. Simply attach the standard bracket to the chassis, charge the battery, and you're ready to park-with easy. Besides trailers and camper, Robot Trolley also can maneuver boat trailer, horse trailer, industrial trailer, or caravans with an easy-operated remote.

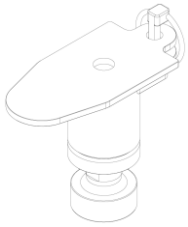
Operate always smoothly on all surfaces like grass, soil, gravel, and sand.

COMPONENTS

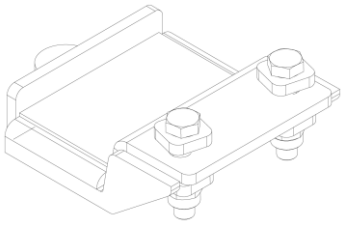
A 1x



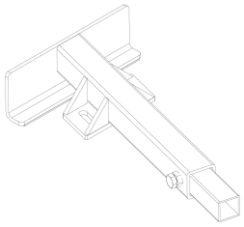
B 1x



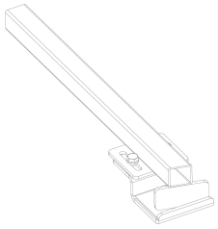
C 1x



D 1x



E 1x

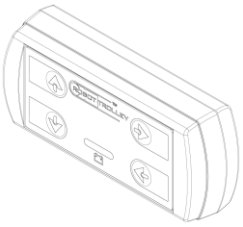


F 1x

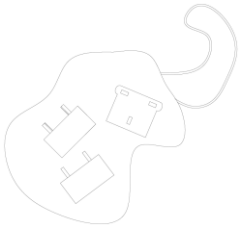
G 1x

H 1x

I 1x



J 1x



K 4x

L 4x

A: Robot Trolley Mainbody **B:** Low Tower **C:** Female for mounting bracket **D**: Outer mounting tube with inner extension tube **E**: Inner mounting tube with mounting bracket **F**: Storage bag **G**: Charger plug **H**: Adapter **I**: Remote control incl. 2x AA batteries **J**: Conversion plugs **K**: Cylindrical pins M8x14 **L**: Finger screw M4

Robot Trolley – www.robot-trolley.com
Lammefjordsvej 5 – 6715 Esbjerg N – Denmark
Phone +45 7022 5840 – sales@robot-trolley.com
VAT No DK – 40193189
Version 02-08-2024

SAFETY INSTRUCTIONS

1. Do not use the Robot Trolley on slopes and inclines beyond stated limits.
2. Avoid getting Robot Trolley wet. Do not submerge the Robot Trolley in water(salt or fresh).
3. Carefully read all instructions. The operator of the Robot Trolley must exercise common sense, caution, and full judgment when assessing situation not cover or cautioned in this manual.
4. The Robot Trolley is designed for specific application only. Robot Trolley company will not be responsible for issues arising from modifications made onto the device. Do not modify the device or use the device for any application other than its intended purpose. Do not exceed the designated weight limits.
5. Stay alert! Do not operate if you are tired. Do not operate the device while under the influence of drugs or alcohol.
6. Do not allow the Robot Trolley to be operated by children.
7. Operator and bystanders should never place any part of the body under or in the path of any portion of this product or the load being supported or moved.
8. This product must be installed and used in strict accordance with these instructions.
9. Before each use of the RVR, check for functionality and charge. Carefully inspect the device for any part that appears to be damaged to determine if the device will operate properly. If the device is neither charged, secured, or both: DO NOT use the device.
10. When serving, use only factory replacement parts.
11. Have wheel blocks in place before/after use and ready in case of emergency.
12. Never exceed the maximum rated capacity. Please refer to SPECIFICAION part.
13. The Robot Trolley is designed for vertical loading. Excessive side forces may cause failure and must avoided.
14. The use of gloves is recommended while attaching the device to the trailer.
15. The Robot Trolley is designed for use on solid surfaces. Do not use the product on excessively soft or muddy terrain as the device will not be able to gain traction. If there is no traction despite being on a solid surface, consider shifting more of weight of your trailer forward.

S P E C I F I C A T I O N S

Initial generation

	RT1500 G-3	RT2500 G-1	RT2500RS G-1	RT4500 G-1
Battery voltage	16.8V	16.8V	29.4V	29.4V
Battery type	Non- Swap Lithium Battery	Non- Swap Lithium Battery	Non- Swap Lithium Battery	Non- Swap Lithium Battery
Battery capacity	Approx. 6,600mAh	Approx. 10,000mAh	Approx. 10,000mAh	Approx. 10,000mAh
Battery operating capacity	Approx. 30min. operation	Approx. 30min. operation	Approx. 30min. operation	Approx. 30min. operation
Battery charger	100-240 V, 1A	100-240 V, 2A	100-240 V, 2A	100-240 V, 2A
Remote control battery	2 x AA 1.5 Volt	2 x AA 1.5 Volt	2 x AA 1.5 Volt	2 x AA 1.5 Volt
Max. load stress	300kg	300kg	300kg	300kg
Speed unloaded	Approx. 7.5m/min	Approx. 7.5m/min	Normal: Approx. 7.5m/min Speedup: Approx. 15.5m/min	Approx. 7.5m/min
Speed loaded	Approx. 6m/min	Approx. 6m/min	Normal: Approx. 7m/min Speedup: Approx. 14m/min	Approx. 6m/min
Motor	2 x DC motors	4 x DC motors	4 x DC Hall motors	4 x DC motors
Safety function	3 min. Auto shut-off.	3 min. Auto shut-off.	3 min. Auto shut-off.	3 min. Auto shut-off.
Hauling capacity	Trailers up to 1,500 kg	Trailers up to 2,500 kg	Trailers up to 2,500 kg	Trailers up to 4,500 kg
Caterpillar tracks	2 with rubber profiles	2 with rubber profiles	2 with rubber profiles	2 with rubber profiles
Weight	Approx. 20 kg	Approx. 35 kg	Approx. 35 kg	Approx. 35 kg

Old generation

	RT1500 G-4	RT2500 G-2	RT2500RS G-2	RT4500 G-2
Battery voltage	16.8V	16.8V	29.4V	29.4V
Battery type	Quick Swap Lithium Battery	Quick Swap Lithium Battery	Quick Swap Lithium Battery	Quick Swap Lithium Battery
Battery capacity	Approx. 6,600mAh	Approx. 10,000mAh	Approx. 10,000mAh	Approx. 10,000mAh
Battery operating capacity	Approx. 30min. operation	Approx. 30min. operation	Approx. 30min. operation	Approx. 30min. operation
Battery charger	100-240V, 5A	100-240V, 5A	100-240V, 5A	100-240V, 5A
Remote control battery	2 x AA 1.5 Volt	2 x AA 1.5 Volt	2 x AA 1.5 Volt	2 x AA 1.5 Volt
Max. load stress	300kg	300 kg	300kg	300 kg
Speed unloaded	Approx. 7.5m/min	Approx. 7.5m/min	Normal: Approx. 7.5m/min Speedup: Approx. 15.5m/min	Approx. 7.5m/min
Speed loaded	Approx. 6m/min	Approx. 6m/min	Normal: Approx. 7m/min Speedup: Approx. 14m/min	Approx. 6m/min
Motor	2 x DC motors	4 x DC motors	4 x DC Hall motors	4 x DC motors
Safety function	3 min. Auto shut-off.	3 min. Auto shut-off.	3 min. Auto shut-off.	3 min. Auto shut-off.
Hauling capacity	Trailers up to 1,500 kg	Trailers up to 2,500 kg	Trailers up to 2,500 kg	Trailers up to 4,500 kg
Caterpillar tracks	2 with rubber profiles	2 with rubber profiles	2 with rubber profiles	2 with rubber profiles
Weight	Approx. 20 kg	Approx. 35 kg	Approx. 35 kg	Approx. 35 kg

New generation

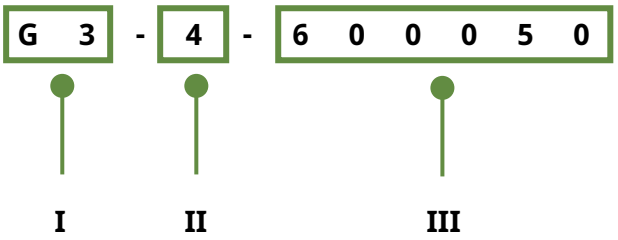
	RT1500RS G-5	RT2500RS G-3	RT4500 G-3
Battery voltage	29.4V	29.4V	29.4V
Battery type	Quick Swap Lithium Battery	Quick Swap Lithium Battery	Quick Swap Lithium Battery
Battery capacity	Approx. 5,000mAh	Approx. 10,000mAh	Approx. 10,000mAh
Battery operating capacity	Approx. 30min. operation	Approx. 30min. operation	Approx. 30min. operation
Battery charger	100-240V, 5A	100-240V, 5A	100-240V, 5A
Remote control battery	2 x AA 1.5 Volt	2 x AA 1.5 Volt	2 x AA 1.5 Volt
Max. load stress	300kg	300 kg	300 kg
Speed unloaded	Normal: Approx. 7.5m/min Speedup: Approx. 15.5m/min	Normal: Approx. 7.5m/min Speedup: Approx. 15.5m/min	Approx. 7.5m/min
Speed loaded	Normal: Approx. 7m/min Speedup: Approx. 14m/min	Normal: Approx. 7m/min Speedup: Approx. 14m/min	Approx. 6m/min
Motor	2 x DC motors	4 x DC motors	4 x DC motors
Safety function	3 min. Auto shut-off.	3 min. Auto shut-off.	3 min. Auto shut-off.
Hauling capacity	Trailers up to 1,500 kg	Trailers up to 2,500 kg	Trailers up to 4,500 kg
Caterpillar tracks	2 with rubber profiles	2 with rubber profiles	2 with rubber profiles
Weight	Approx. 20 kg	Approx. 35 kg	Approx. 35 kg

How to distinguish which generation

Every Robot Trolley has its own SNs, which related to the generations.

The SNs tags is on the top of every Robot Trolley. Every Robot Trolley has a unique one.

Rule for the SNs:



I: Number of product generation

II: Number of product version

III: Running number

INSTALLATION GUIDE

Checking the status:

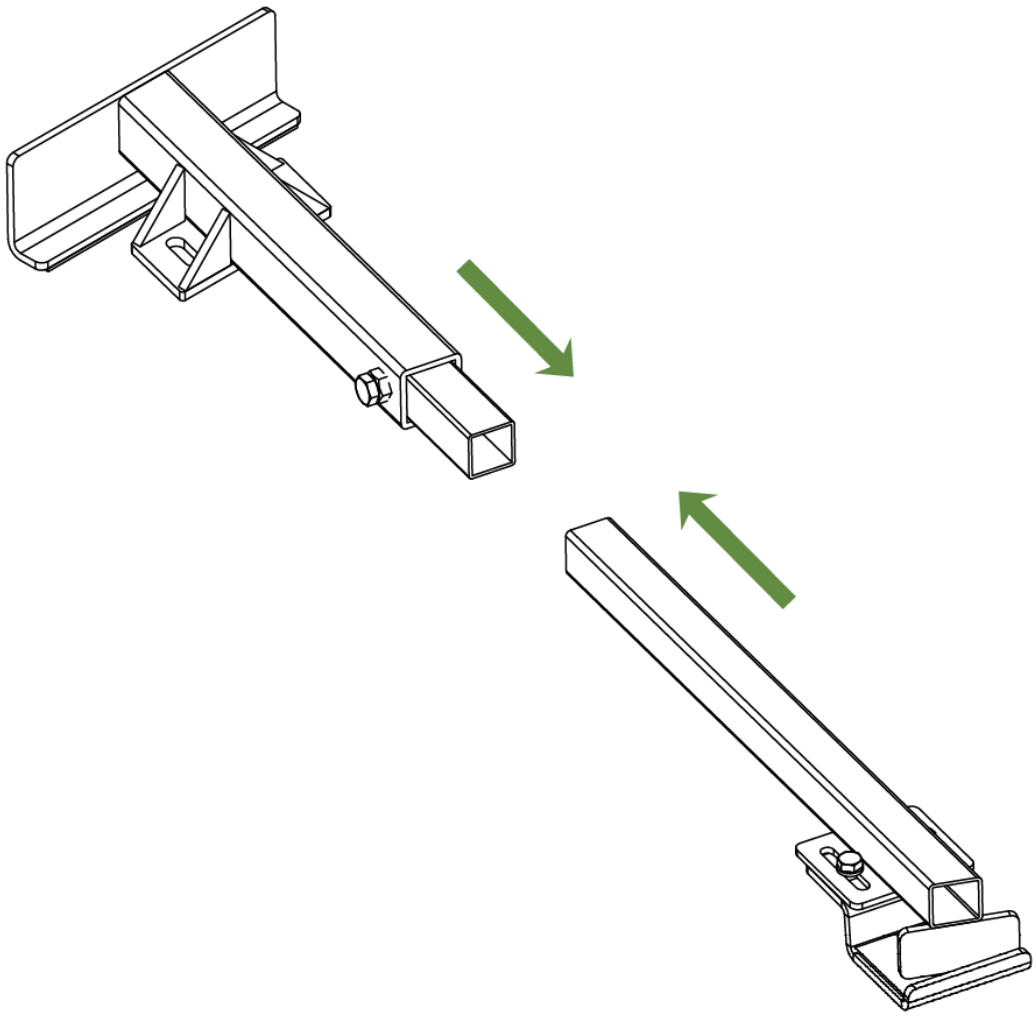
1. Unpack the Robot Trolley and check that the Robot Trolley is clean and not broken
2. Make sure the Robot Trolley battery is charged according to instruction

Mounting the suspension fitting- Standard bracket

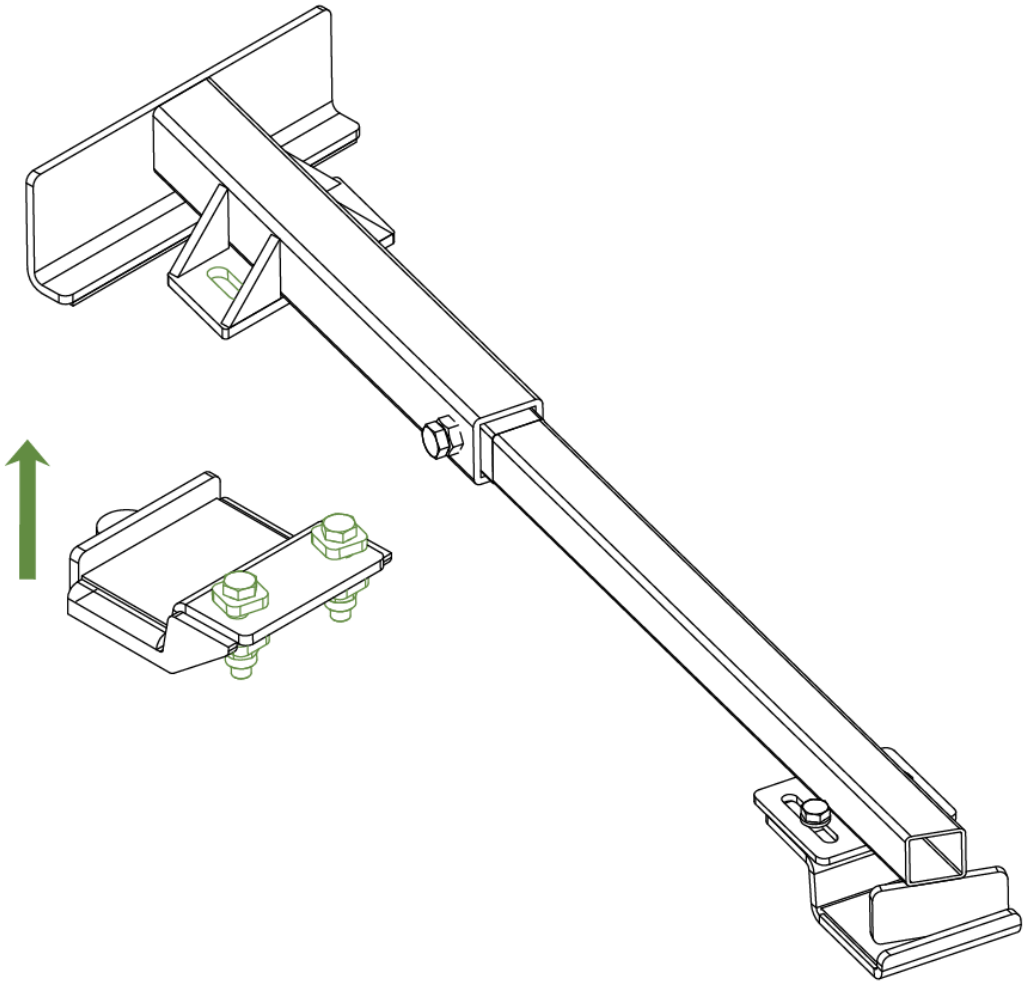
Please note the regional variants: Some countries and makes of caravan may require a special bracket version. Please inquire with your dealer.

If there is a plastic cover over the side member system on the caravan, it can helpful to remove it while mounting the suspension fitting.

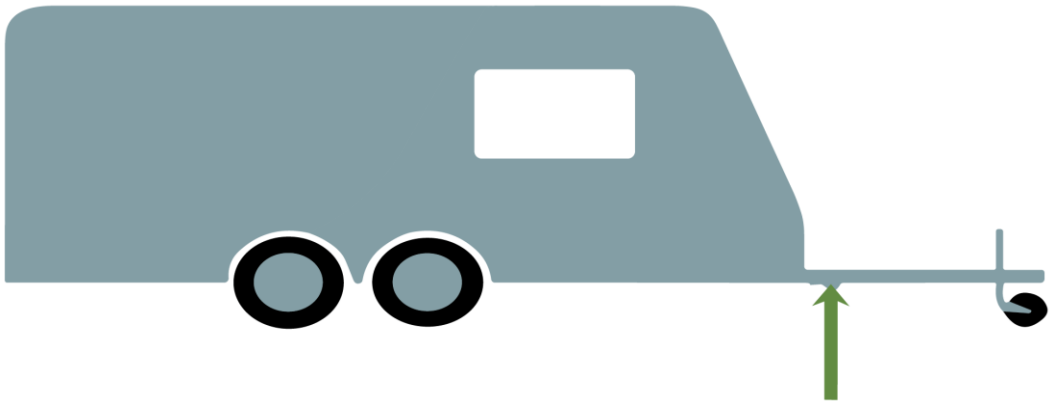
1. Stand by gliding the Outer mounting tube with inner extension tube(D) and Inner mounting tube with mounting bracket(E). Place them up inside members.



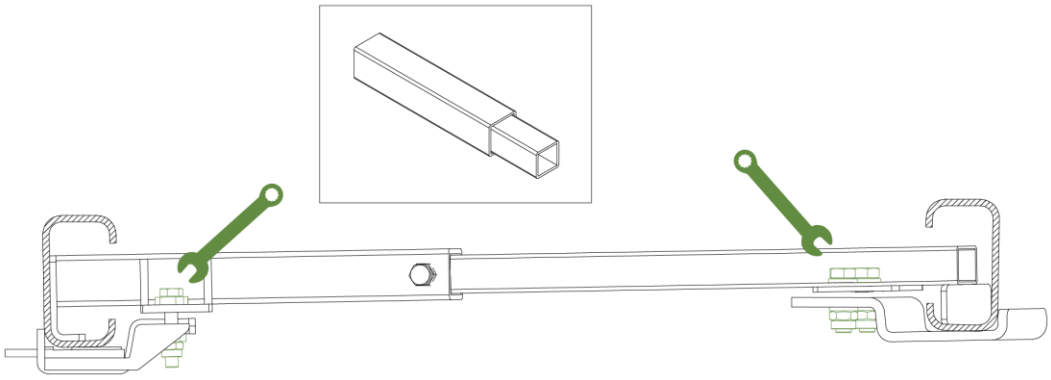
2. Screw the female piece to the Outer mounting tube. If there is a large distance, place the extension tube inside the inner mounting tube.



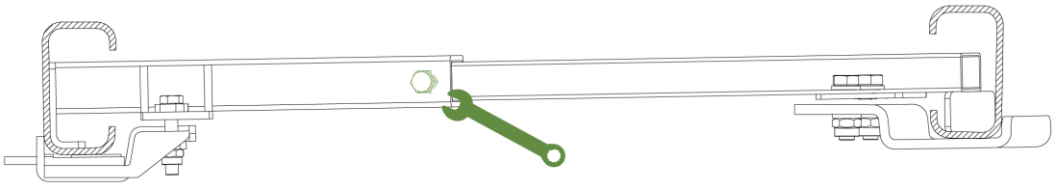
3. Slide the entire suspension fitting as far back on the side member as possible to put maximum weight on the Robot Trolley. Do not push the suspension fitting so far back that mounting and removing the Robot trolley becomes difficult.
   The following illustration shows the optional placement of the suspension fitting on the caravan:



4. Push the Outer and Inner Mounting Tube as far from each other as possible, towards the sides of the side members. Tighten the left and right brackets so that the bent undersides of these are positioned precisely against the outer side of the side members. Make sure that the bolts are tightened to the maximum extent.
   (If the caravan's bearers are extremely narrow, and the mounting tubes cannot be pressed far enough together upon mounting, you can use a hacksaw to Inner shorten mounting tube(E). There must be minimum 10-15 cm inner overlap of the Outer and Inner mounting tubes.)



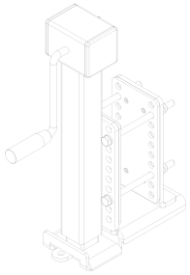
5. Once the suspension fitting is adjusted and fastened to the side members, tighten the clamp bolt into the side of the inner mounting tube.



Different bracket choice

Besides standard bracket included in the Robot Trolley package, we provide universal closed frame bracket and universal high lift bracket to fit more usage scenarios

Universal closed frame bracket

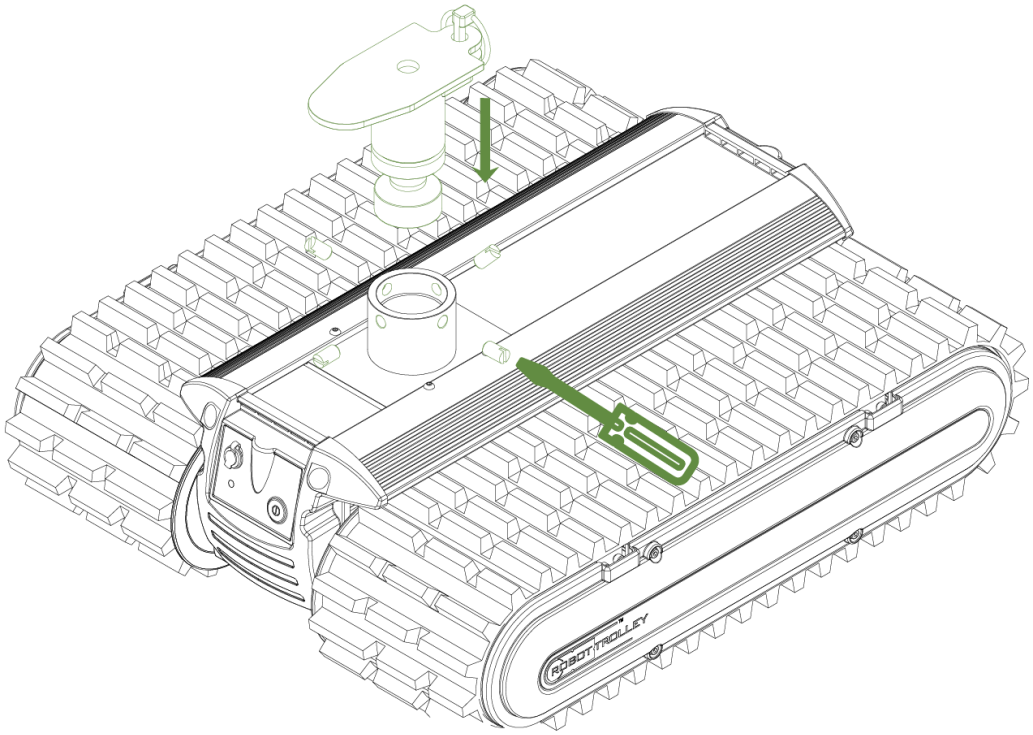


Universal high lift bracket

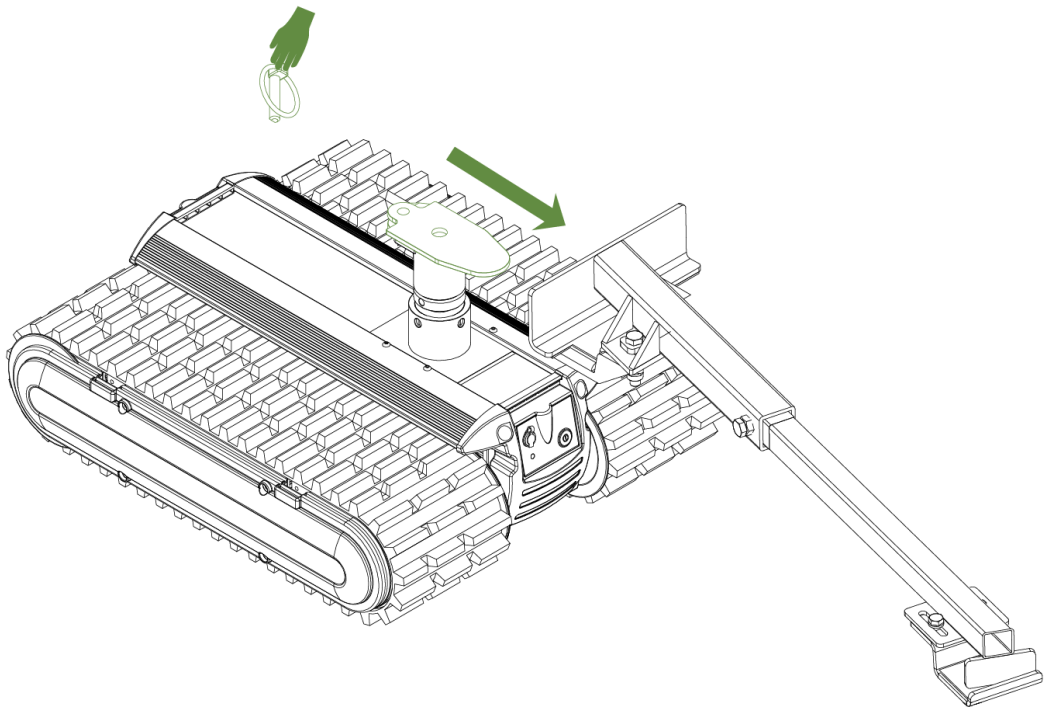
More information, please find in our Robot Trolley homepage: https://robot-trolley.com/collections/accessories

Mounting of Robot Trolley

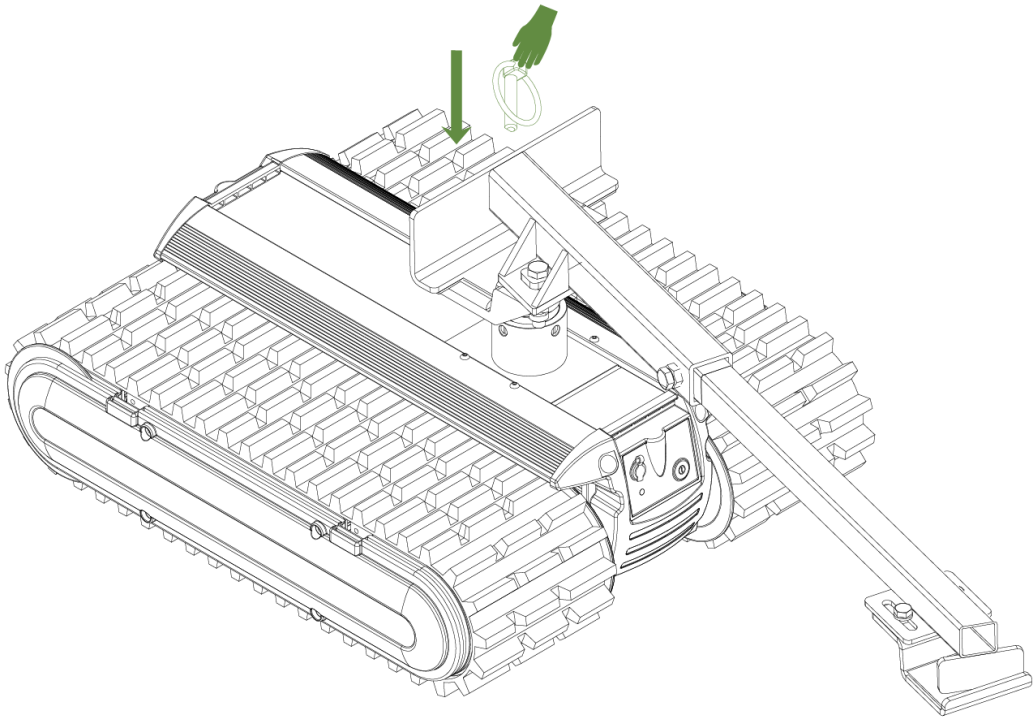
1. Put the Low tower(**B**) on the top bracket of the Robot Trolley.
   Mount 4 pcs cylindrical pins(**K**) with the slotted screwdriver.



2. When mounting the Robot Trolley on the suspension fitting, please adjust the height of the suspension fitting using the nose/jockey wheel. Make sure it reaches a right height to mounting the Robot Trolley.
   Pull out the cotter ring and put it aside. The suspension fitting mounted on the Robot Trolley fits into a slit on the underside of the mounting fitting on the left side (seen from the ball catch) and can be pushed into place in this slot.



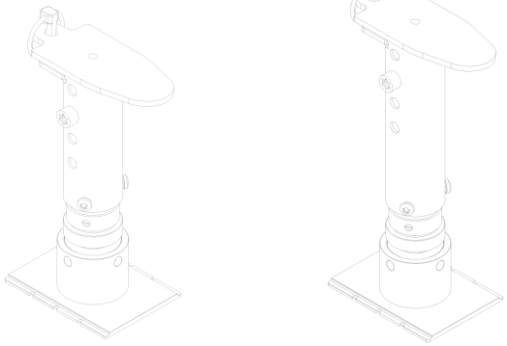
3. After pushing the Robot Trolley into the slot in the mounting fitting, attach the cotter ring, which locks the Robot Trolley in place.
   After attaching the cotter ring to the Robot Trolley. Raise the support wheel to its highest position, and release the hand brake. This shifts the weight of the caravan onto the Robot Trolley. You are now ready to tow your caravan.



Different height tower choice

Besides the standard low tower included in the Robot Trolley package, we provide middle tower and high tower to fit more usage scenarios.

Middle tower



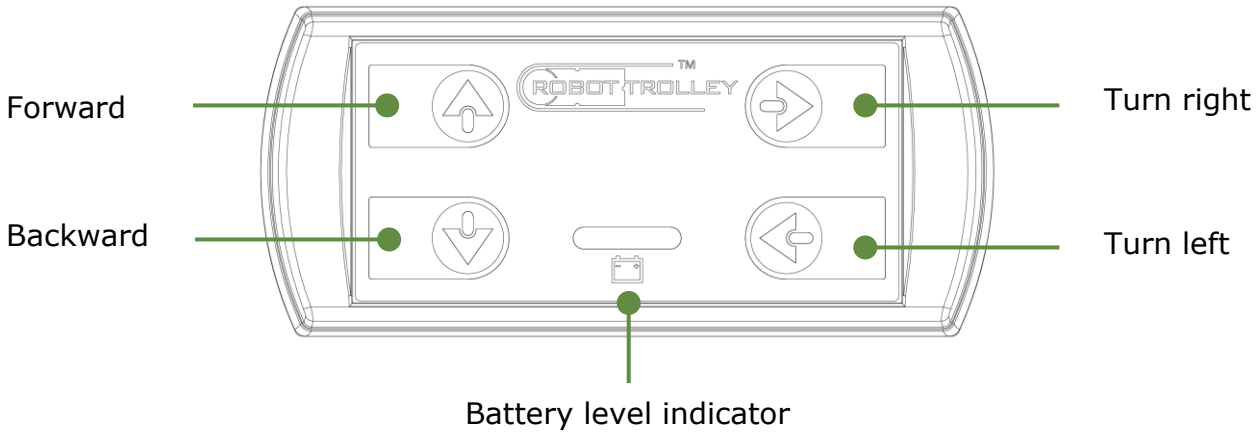
High tower

More information, please find in our Robot Trolley homepage:
https://robot-trolley.com/collections/accessories

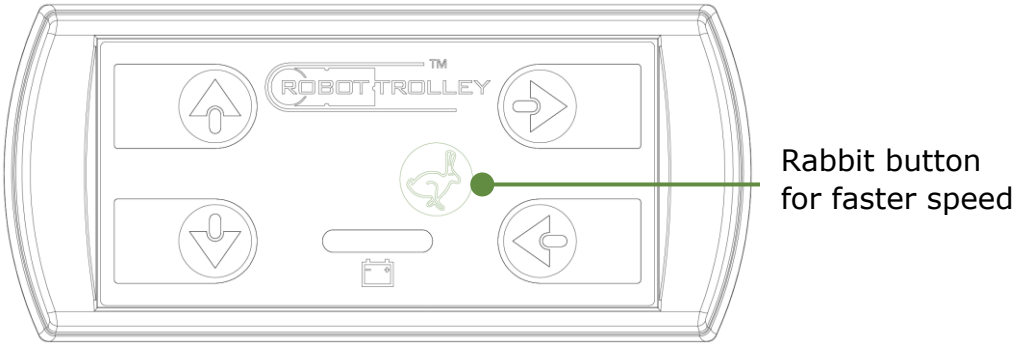
REMOTE CONTROL

Remote control buttons

For the RT4500:



For the RT1500RS, and RT2500RS:



The Robot Trolley logo on the remote control must always point toward the trolley.

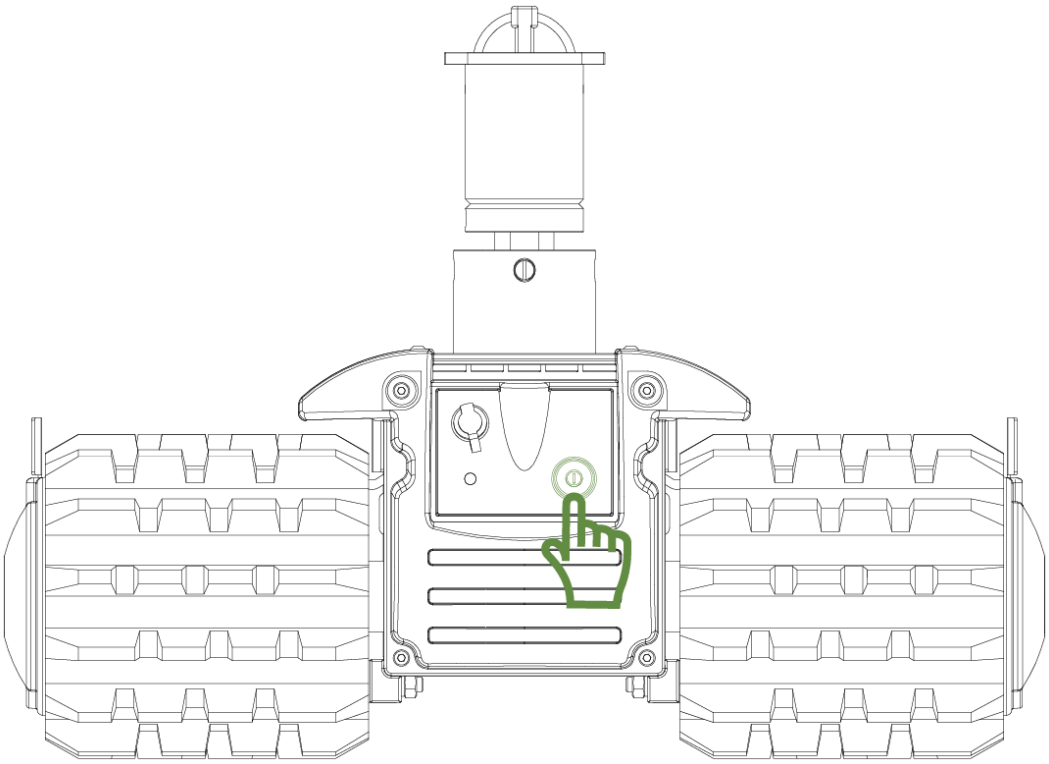
Use both hands on the remote control, and hold it horizontally during use.

- **Forward**: To move forward, in the same direction as the antenna, hold down forward button(↑).
- **Backward**: To move backward/reverse, hold down the back button(↓).
- **Turn**: To turn, hold down the forward(↑) or backward(↓) button while at the same time holding down one of the turn buttons of the remote control to turn right(→) or left(←). The Robot Trolley will only turn if you first hold the forward or backward button, followed by a turn button.
- **Stop**: To stop the Robot Trolley from moving, simply release the forward or backward button.
- **Fast speed**: To make the Robot Trolley moving faster, hold down Rabbit button .

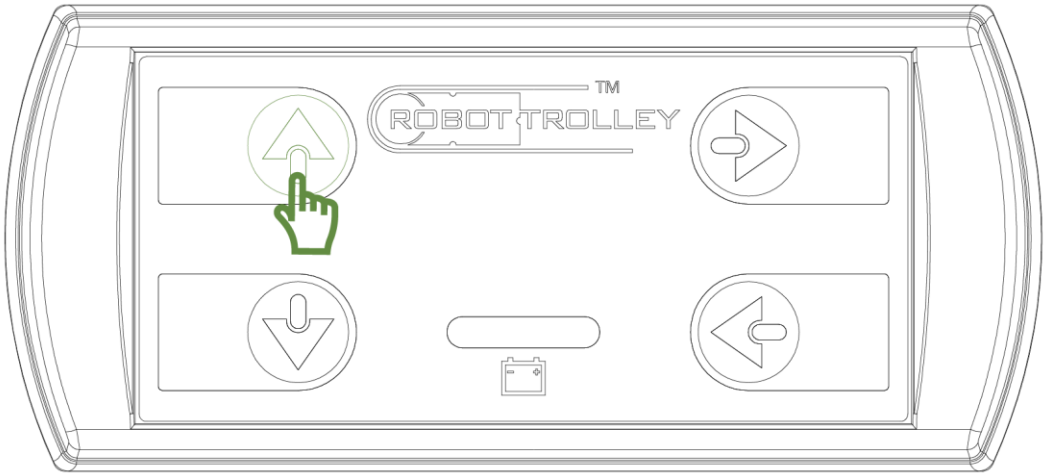
How to activate and pair the Robot Trolley with the remote control

The Robot Trolley comes pre-paired with the remote control.

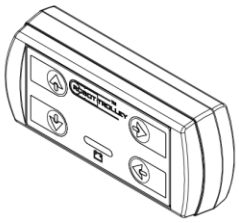
1. Turn on the Robot Trolley by simply pressing the Start/Sop button for maximum 1-2 seconds.

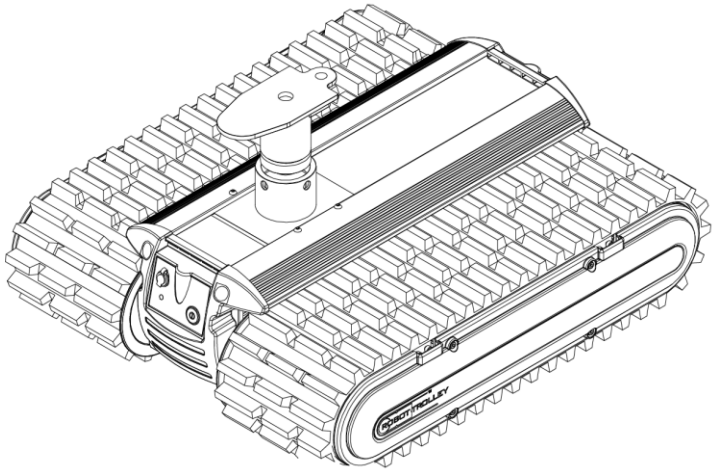


2. Turn on the remote control by pushing the forward button(↑) once.



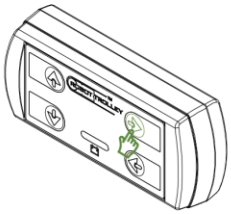
3. The Robot Trolley is now ready to use.

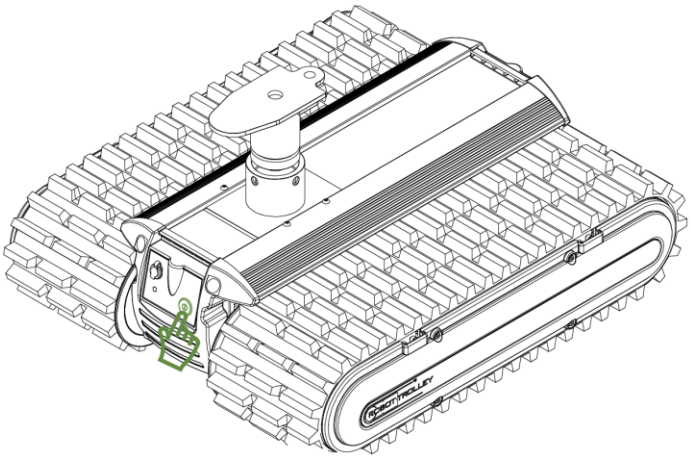




IMPORTANT:
If your Robot Trolley has been repaired(Main PCB or Remote control broken), you might need to **re-pair the Robot Trolley with the remote control**.
The first operation steps like the above, but the Step3 as below:

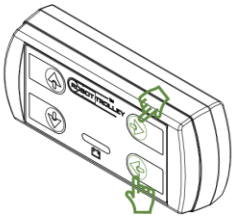
- Now simultaneously press and hold the Turn Right button (→) on the Remote Control and press and hold the Start/Stop button on the Robot Trolley, both LED lights start to blink for 8 seconds, after which the LED lights will light constantly. Now the Robot Trolley and Remote Control have been re-paired and are ready to use. If this pairing procedure is unsuccessful, the Remote Control will turn off automatically in around 15 seconds, and the user needs to redo the procedure from step 1.

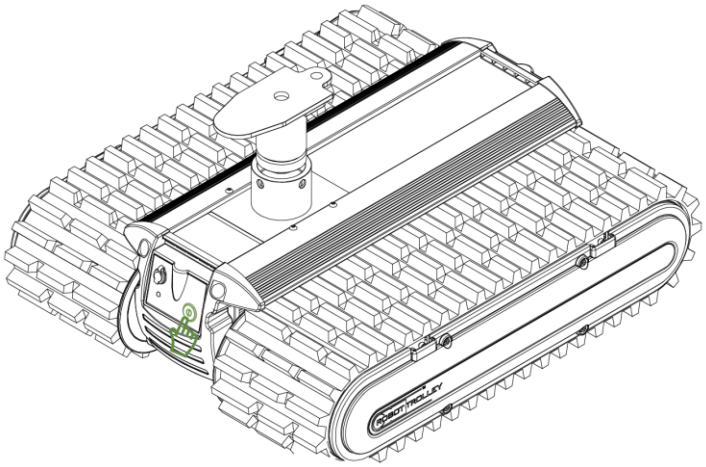




Deactivating the Robot Trolley

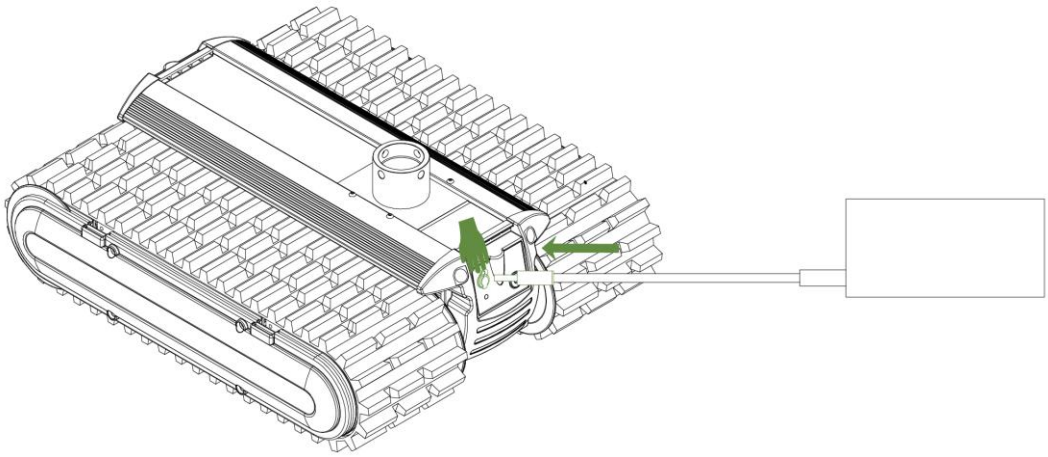
- The Robot Trolley shuts off automatically after 3 minutes if the remote control is not activated within that period.
- If you do not want to wait 3 minutes until the Robot Trolley shuts off automatically, press the start/stop button to disconnect the power manually on the Robot Trolley. Turn off the Remote Control LED light by holding down the Right Button(→), and then pressing the left button(←) at the same time.



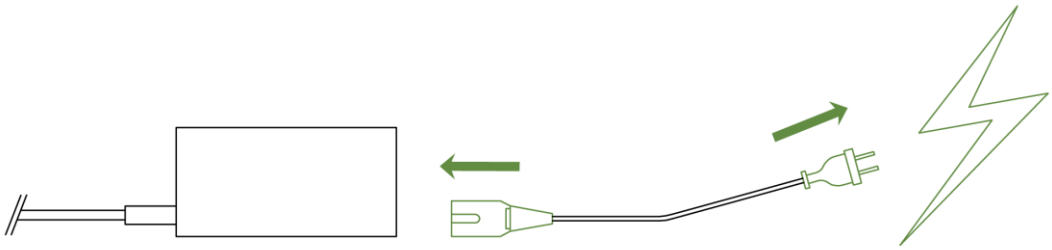


HOW TO CHARGE THE BATTERY

1. Open the charger rubber cover. Connect to the Robot Trolley by placing the adapter(**H**) plug in the outlet on the front cover.

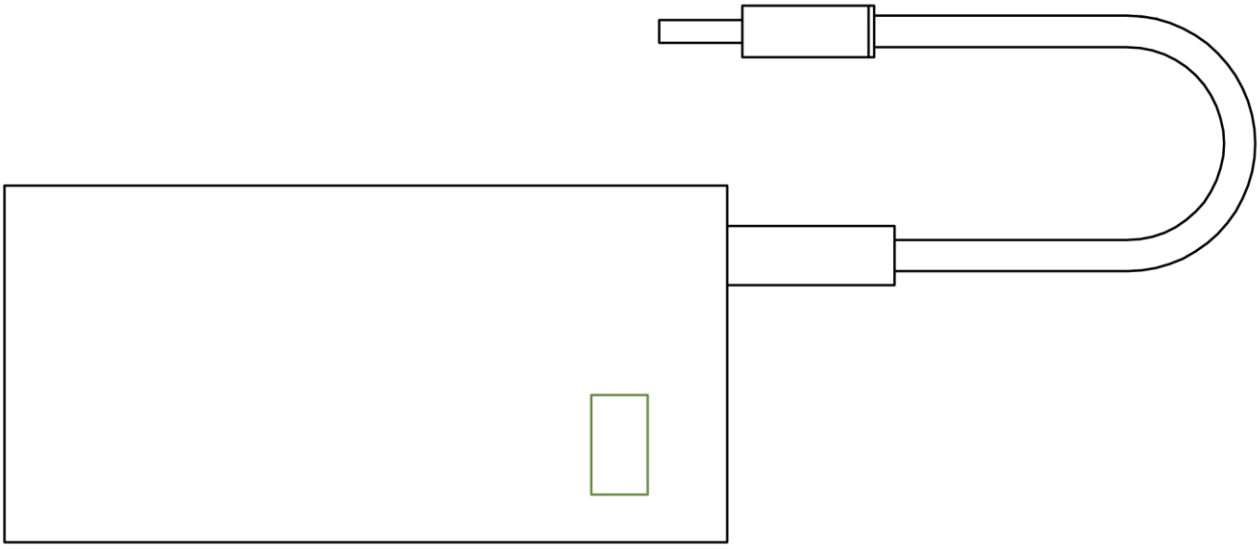


2. Connect to the adapter by inserting the charger plug(**G**). The other side of charger plug connects to the power(110v-240v)



Robot Trolley – www.robot-trolley.com
Lammefjordsvej 5 – 6715 Esbjerg N – Denmark
Phone +45 7022 5840 – sales@robot-trolley.com
VAT No DK – 40193189
Version 02-08-2024

3. The charger adapter displays a constant red light while charging is in process. Completion of battery charging is indicated by a constant green light.



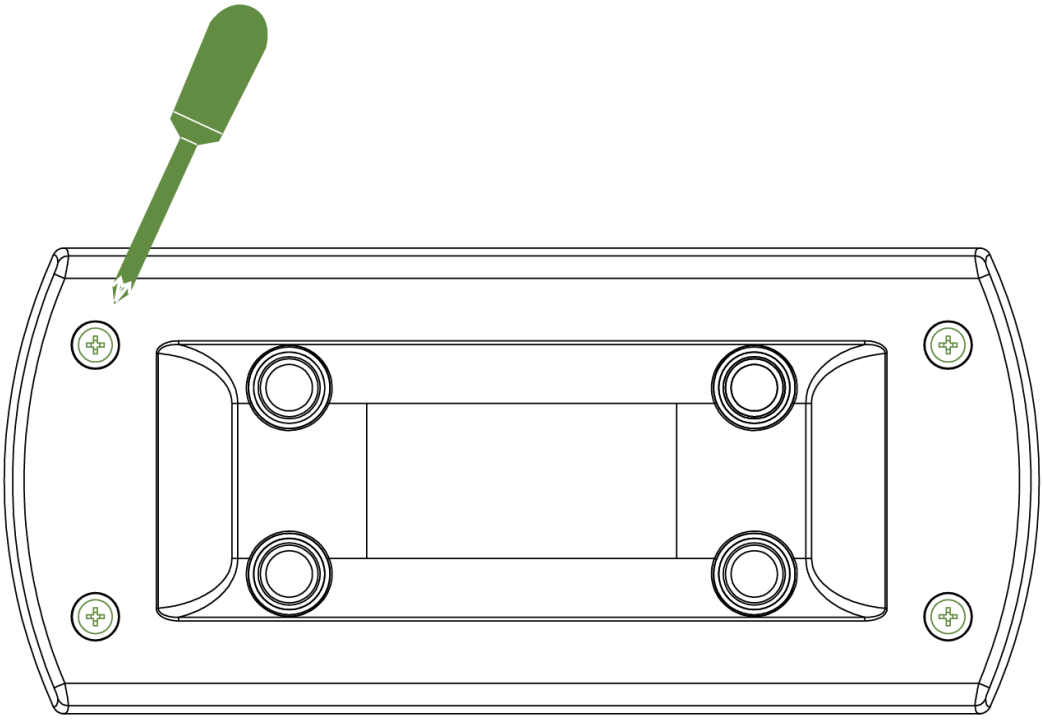
WARNING: **please check battery spec and charger is compatible to avoid 29.4 V charger is used on "old" generations**

Below indicates all RTs matching correct chargers.

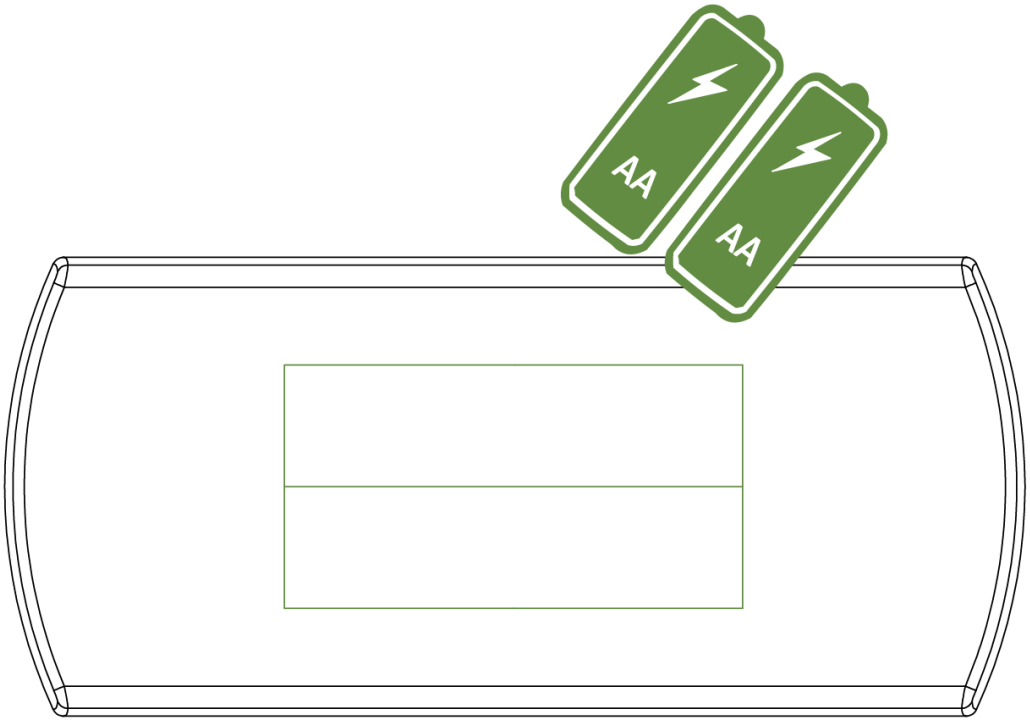
Robot Trolley	Battery	Charging Plug Max. A	Standard Charger Spec
RT1500G1/G2	14.8V/5Ah Ni-MH or Li-ion battery	2A	16.8V/1A
RT1500G3-3	14.8V/5.6Ah Lithium Polymer battery	2A	16.8V/1A
RT1500G3-4	14.8V/6.6Ah Li-ion battery	2A	EU/AUS/CN 16.8V/1A US 16.8V/2A
RT1500G4	14.8V/6.6Ah Li-ion battery	5A	16.8V/5A
RT1500G5	25.9V/5Ah Li-ion battery	5A	29.4V/5A
RT2500G1	14.8V/11Ah Lithium Polymer battery or Li-ion battery	2A	16.8V/2A
RT2500G2	14.8V/11Ah Li-ion battery	5A	16.8V/5A
RT2500RSG1	25.9V/10Ah Li-ion Battery	2A	29.4V/2A
RT2500RSG3	25.9V/10Ah Li-ion Battery	5A	29.4V/5A
RT4500G1	25.9V/10Ah Li-ion Battery	2A	29.4V/2A
RT4500G2	25.9V/10Ah Li-ion Battery	5A	29.4V/5A
RT4500G3	25.9V/10Ah Li-ion Battery	5A	29.4V/5A

HOW TO CHANGE THE REMOTE CONTROL BATTERY

1. Unmount 4 screws(ST2.6x16) with screwdriver(PH2). Put remote control back cover and 4 screws aside. We will reuse later.

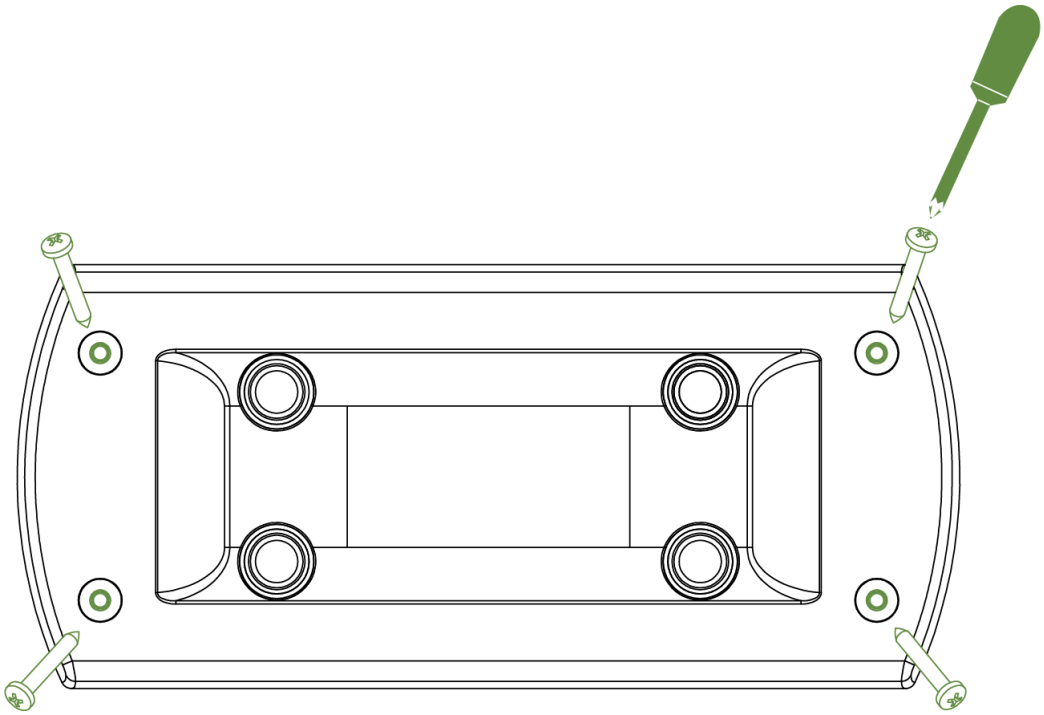


2. Take off 2 old AA batteries and discard them. Place 2 new AA batteries.



Robot Trolley – www.robot-trolley.com
Lammefjordsvej 5 – 6715 Esbjerg N – Denmark
Phone +45 7022 5840 – sales@robot-trolley.com
VAT No DK – 40193189
Version 02-08-2024

3. Re-mount the back cover with 4 screws.

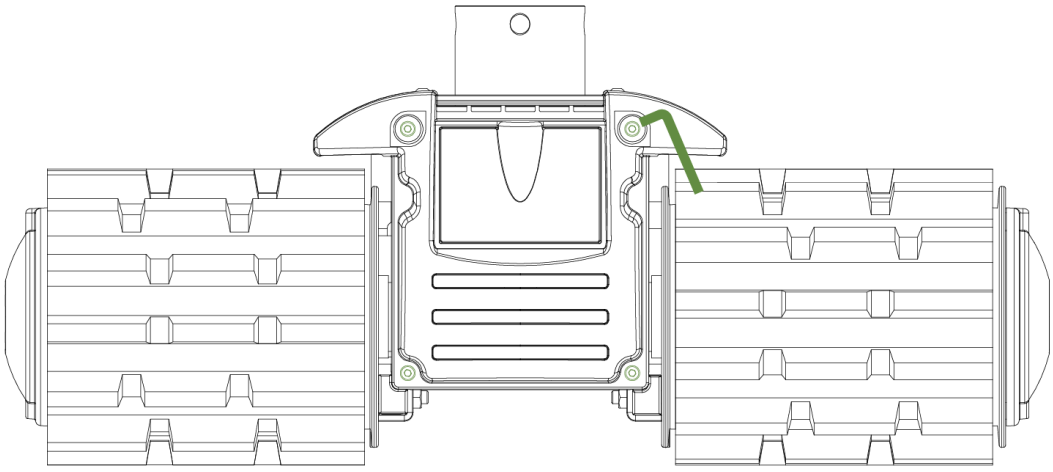


HOW TO REPLACE THE QUICK SWAP BATTERY

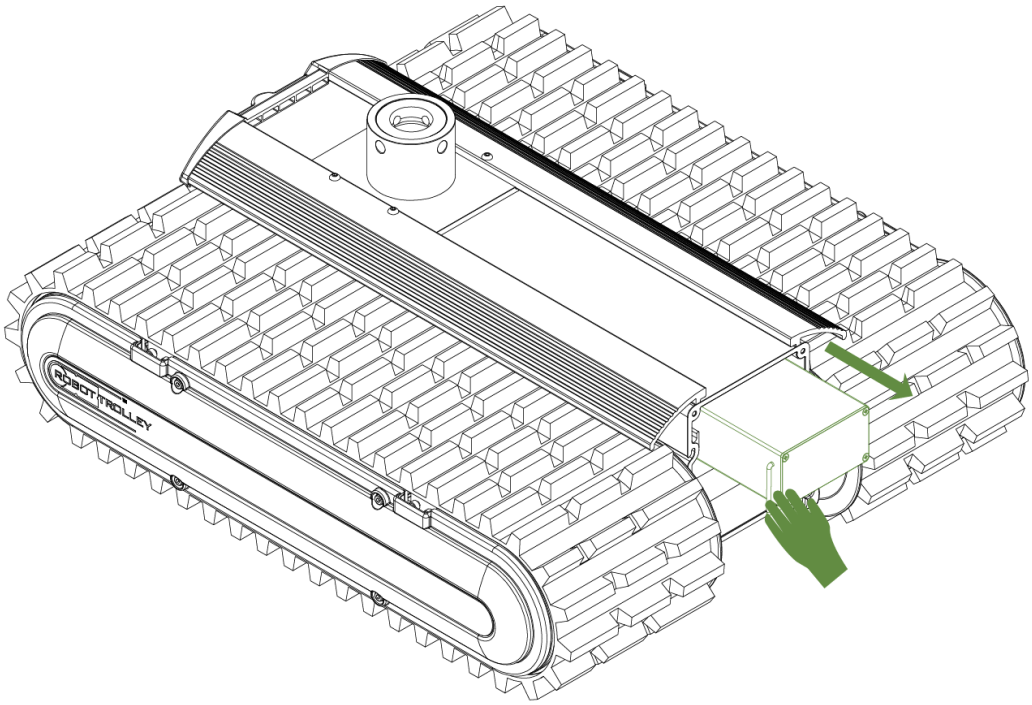
New generation Robot Trolley series have new features: Quick SWAP battery.

How to replace the battery quickly? Please see below

1. Unmount 4 HEX socket cap screws(M4x12) on the back cover with alley key and put them aside

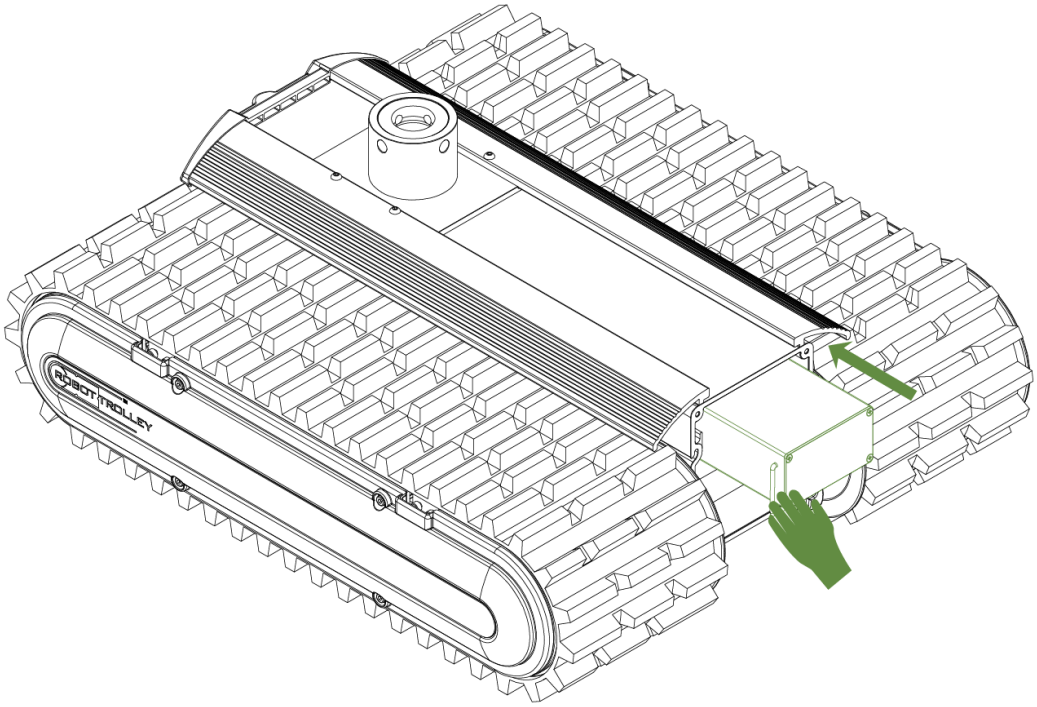


2. Hold pull-tab and pull the quick swap battery out

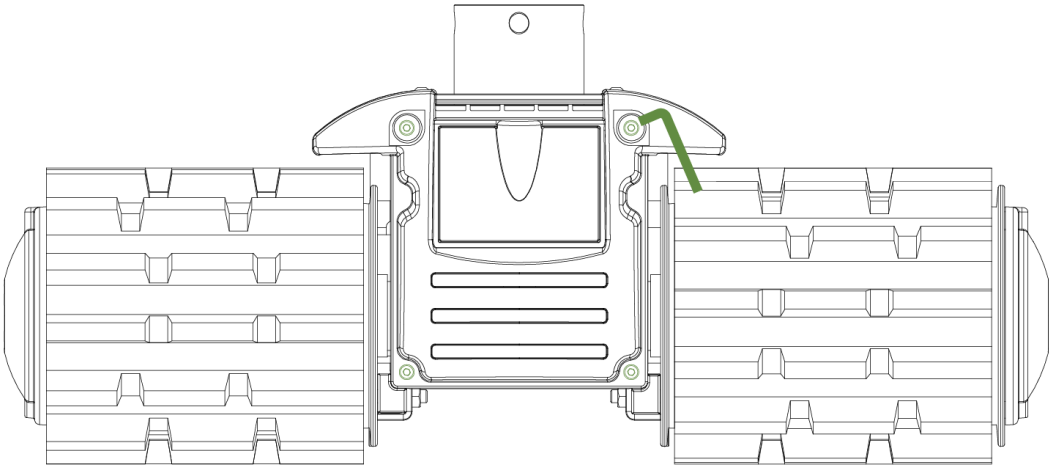


Robot Trolley – www.robot-trolley.com
Lammefjordsvej 5 – 6715 Esbjerg N – Denmark
Phone +45 7022 5840 – sales@robot-trolley.com
VAT No DK – 40193189
Version 02-08-2024

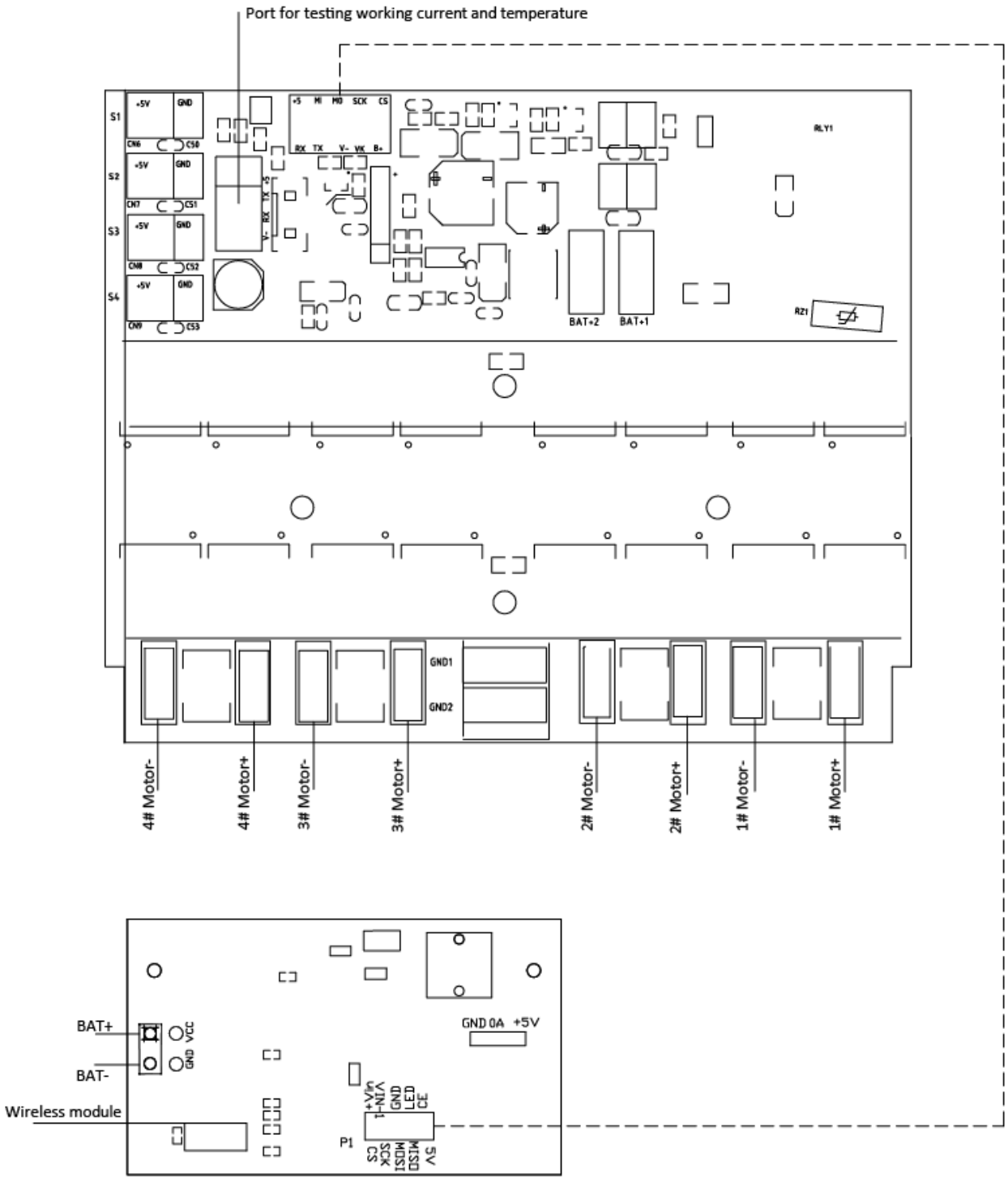
3. Insert the new quick swap battery. When you are feeling the battery connector buckled, the battery has been fixed.



4. Remount the back cover with 4 HEX socket cap screws



WIRE DIAGRAM



CARE AND MAINTENANCE

Detaching the Robot Trolley

Never leave the Robot Trolley mounted to the caravan while towing the caravan behind a car.

It is important that you always detach the Robot Trolley after use and place it in the storage box/bag together with the remote control.

When you have finished towing the caravan and you want to disconnect the Robot Trolley, pull the parking brake and adjust the nose/jockey wheel so that the caravan is slightly elevated. This takes the weight off the Robot Trolley.

Remove the cotter ring and use the remote control to move the Robot Trolley out of the lock fitting (or pull it out manually).

Cleaning

If you have used the Robot Trolley in wet or dirty conditions, you can clean it in the following manner:

Remove pebbles, clay, grass and the like from the belts. Then give it a gentle cleaning using a small amount of clean water and a brush or cloth. Do not use soap or cleansing agents or a high-pressure cleaner.

Storage

Put the Robot Trolley in the transport box/bag delivered from the factory. If the storage box/bag should become damaged, discard it. A new plastic storage box/bag may be obtained from your Robot Trolley distributor.

Store the Robot Trolley in dry, frost-free conditions.

Do not store the Robot Trolley in direct sunlight or at high temperatures. High temperatures may drain the battery quickly.

Maintenance

The Robot Trolley should be operated at least every second month in order to keep the battery healthy.

If the Robot Trolley goes unused for more than two months, it is highly recommended that you operate the Robot Trolley for a short while and then charge the battery until the LED on the charger turns green, in order to maintain maximum battery life and performance.

Repair

Please contact your local dealer for repair issues.

F A Q

- **What dimensions can the Robot Trolley handle?**
  - A Robot Trolley can handle any sized trailer provided it meets the weight limits of that particular model. We recommend inviting a second person to guide your trailer from the opposite end, especially in tight spaces, as turning requirements can vary widely according to the trailer's dimensions.
- **Will the Robot Trolley work on my double-axle trailer?**
  - Yes, as long as your trailer weight distribution is properly shifted toward the front of the trailer.
- **What vehicle types does the trailer valet support?**
  - The Robot Trolley supports recreational vehicles (RVs), boats, and other similarly sized towable vehicles.
- **Is the Trailer Valet motorized?**
  - The Robot Trolley is fully motorized with a lithium-ion battery and remote control.
- **What happens if you lose control of the trailer?**
  - The Robot Trolley has an integrated brake which will automatically engage when the motor is stopped. However, the brake works most reliably on flat surfaces. If the unit is at the lowest end of a slope with the nose pointed down, the brake will slow the trailer until the surface flattens out. Depending on trailer weight and slope incline, the RVR may or may not be capable of bringing the trailer to a complete stop until the trailer is on level ground.
- **The Robot Trolley treads are slipping on the ground and not gaining traction. What should I do?**
  - For heavy boats, this problem may occur when there is insufficient weight on the tongue and excess weight on the tail. Consider shifting more of the trailer's weight forward or cleaning debris from the surface.

CERTIFICATIONS

EC Declaration of conformity

Manufacturer:

Kronings Engineering
Manufacturing(Ningbo) Co., LTD

No. 85, Jinhe Road, Nordic Industrial Park,
Zhenhai Ningbo 315221, Zhejiang, China

Authorized Representative:

HeroCamper Aps
Lammefjordsvej 5, 6715 Esbjerg N.
45 7022 5840

Remote Control of Robot Trolley

RED: Directive 2014/53/EU

Product Range: CT1500, CT2500, CT4500, CT2500RS, CT5500, RT1500 Premium

Above is conformity with the applicable parts of the follow documents:
EN 301 489-1 V2.1.1
EN 300 220-1 V3.1.1
EN 300 220-2 V3.1.1

Hereby declare that the parts named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable electromagnetic compatibility of the directives

Signed by:
Name: Troels Nakel
Position: GM
Done at: Ningbo city
Date: June 5th 2022

EC Declaration of conformity

Manufacturer:

Kronings Engineering
Manufacturing(Ningbo) Co., LTD

No. 85, Jinhe Road, Nordic Industrial Park,
Zhenhai Ningbo 315221, Zhejiang, China

Authorized Representative:

HeroCamper Aps
Lammefjordsvej 5, 6715 Esbjerg N.
45 7022 5840

Robot Trolley

UMDNS-Code: 2014/30/EU

Product model: CT1500, CT2500, CT4500, RT2500RS, RT5500, RT1500 premium

Above is conformity with the applicable parts of the follow documents:

EN 55014-1:2006+A1+A2
EN 61000-3-2:2014
EN 61000-3-3:2013
EN 55014-2:1997+A1+A2

Hereby declare that the parts named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable electromagnetic compatibility of the directives

Signed by:
Name: Troels Nakel
Position: GM
Done at: Ningbo city
Date: June 5th 2020