

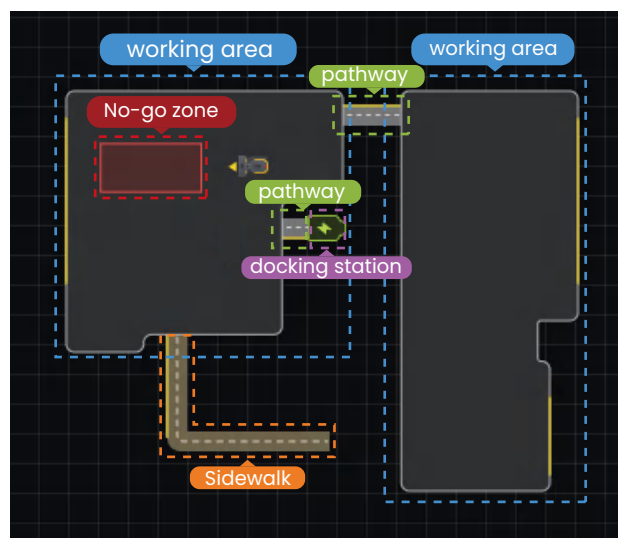


4. Yarbo APP Features

Before you embark on your journey with our app, we encourage you to take a few moments to read through this user manual since Yarbo App serves as an important tool for the operation. As a result, understanding the features and acknowledging how it works is essential for maximizing your experience. If you haven't downloaded the app yet, please refer to section 2.2.

1.Mapping

The mapping function is tailored for users to create a detailed map of the area where Yarbo to operate. Normally, A map encompass the docking station, pathways, woking areas, no-go zones. With the map, Yarbo can design its blowing route and execute the work plan depending on the personal schedule. The provided picture serves as an example of the map, showing two designated working areas, one No-go Zone, two Pathways and docking station. In addition, the yellow line of each area represents the snow blowing direction.



4. Yarbo APP Features

- ① **Docking Station:** The docking station for Yarbo serves a dual purpose: it acts as the charging station, indicated by a green battery symbol on the map, and it also serves as the designated starting point for the execution of the work plan. In the event that the docking station needs to be relocated, it is imperative that the new position should be updated on the map by clicking to reinstall the docking station.
- ② **Pathway:** A pathway is designed to be a narrow lane that connects the two elements. A pathway can connect the docking station and the working area. At the same time, it can also connect two working areas as shown in the map.
- ③ **Working Area:** The working area refers to the specific zone where you intend Yarbo to perform snow blowing operations. This area must be fully enclosed and cannot exist independently without a pathway connecting it to the docking station. As a user, you don't need to specify the route for Yarbo when it is in operation. The only step required is to mark the boundary of the working area by driving the Yarbo along the perimeter.
- ④ **No-go Zone:** The "No-go zone" refers to enclosed areas within the working area where you do not want Yarbo to enter. Typically, these areas include the swimming pool, flowerbeds, restricted areas, and large obstacles that may obstruct Yarbo's normal operation.
- ⑤ **Sidewalk:** A sidewalk refers to a narrow path that is as wide as the vehicle itself. Unlike a pathway, a sidewalk does not need to connect to other map elements at both ends. One end of the sidewalk can remain unconnected, terminating in an empty space.

4. Yarbo APP Features

2. Work plan

The Work Plan feature is designed to help users create their own snow blowing schedules. Each work plan can be customized by choosing one or more elements on the map. In other words, users can create different work plans that include different elements on the same map. The purpose of creating different work plans is to ensure that different elements can have different working schedules.

3. Schedule

The Schedule feature empowers users to establish precise working time slots and work frequencies for the created work plan. Each schedule can only be linked with one work plan at a time, ensuring clarity and efficiency in task management. By utilizing schedules, users can enjoy 100% hands-free activities in alignment with their specific requirements.

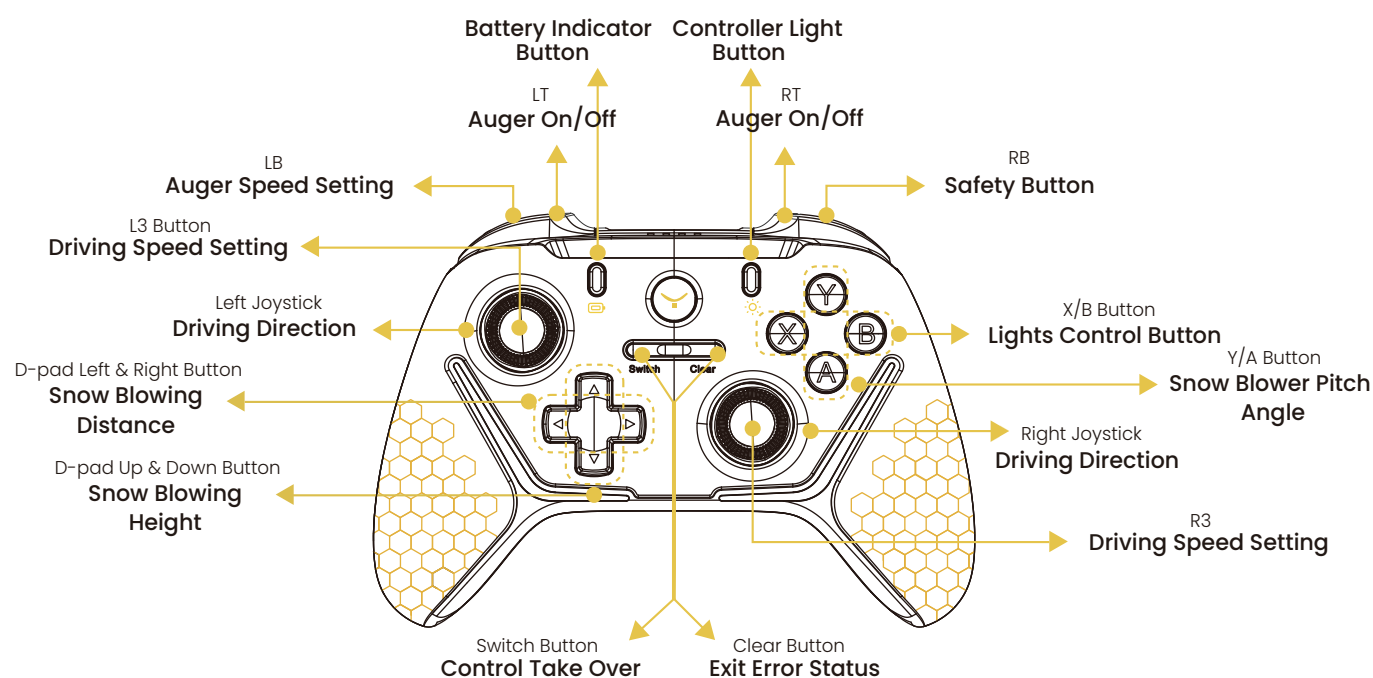


5. Physical Controller Instruction

5. Physical Controller Instruction

Physical controller is an alternative method for controlling Yarbo. This section aims to provide basic instructions for operating the Yarbo using the physical controller.

5.1 Button Introduction:



WARNING

- DO NOT operate Yarbo when the controller is exposed to an ambient temperature higher than 45°C or lower than -25°C.

Yarbo Logo Button:

Logo button can be used to power on or off the controller. To power on the controller, short press the **Logo button for 1 second**. To power off, press the **Logo buttons for 3 seconds**. If the controller is not in use, it will automatically power off after 5 minutes.

Battery Level

Press the Battery Indicator Button (refer to the picture on the next page) to check the battery level of the controller. The four LED lights on the top of the controller indicate the battery status.

Light 1 stays on indicates battery level is 1%-25%.

Lights 1 and 2 stay on indicates battery level is 26%-50%.

Lights 1, 2, and 3 stay on indicates battery level is 51%-75%.

All lights (1, 2, 3, and 4) stay on indicates handle battery level is 76%-100%

Switch & Clear Button:

Long press the switch button for seconds to take over the control authority. Once the physical controller gains authority, the users can operate the snow blower.

Short press the switch or clear button to exit the error mode. When Yarbo encounters the dangers or stuck by any obstacles, it will stop and enters the error mode. After the dangers are cleared, pressed the start or clear button to exit the error mode.

RB (Safety button):

RB are designed as safety button, which means that one of the buttons should be pressed throughout most of the operation that may cause dangerous result. Except for the X/A/B/Y buttons and D-pads, the rest of the function buttons must be pressed with the safety button to execute their own functions.

5. Physical Controller Instruction

Left Joystick and Right Joystick:

These two joysticks control the direction of movement and speed of the robot. Press the safety button LB and rotate the stick around to control Yarbo's movement in any direction. Press the left and right stick vertically down to switch between two-speed settings (L3, R3 button).

LT or RT button:

LT and RT at the same time press 3s to turn on the auger, LT and RT at the same time release to turn off the auger



WARNING

- Always ensure that the surrounding environment is safe for auger operations. Make sure you are at least 17 feet away from Yarbo before you turn on the auger.

LB button:

Short press the LB button to control the speed of the auger. There are two modes of speed that users can choose, but the slow mode is set by default. By default, it starts at the lowest speed.



WARNING

- To toggle the auger speed, the auger must be turned on first, which means that this button is not functioning when the auger is not in operation.

Directional Pad (D-pad):

Press the left and right buttons to control the snow discharging direction. Press the up and down button to control the snow blowing direction.

5.Physical Controller Instruction

Y Button:

This button controls the snow blower module to pitch up. Press and hold the button to continuously pitch up the snow blower module until it reaches the highest position. Release the button to stop at the current angle.

A Button:

This button controls the snow blower module to pitch down. Press and hold the button to continuously pitch down the Snow Blower Module until it reaches the lowest position. Release the button to stop at the current angle.

B Button:

Press this button to turn on and off the front lights (default setting is on).

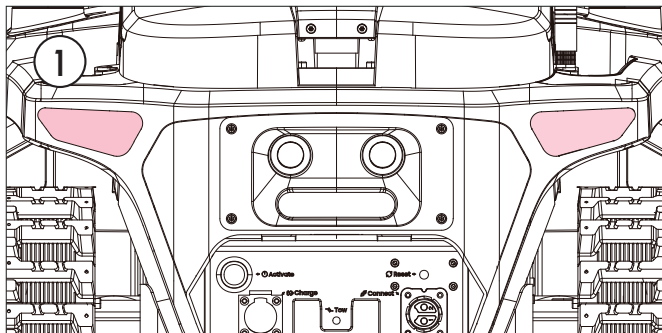
X Button:

Press this button to turn on and off all the lights (default setting is on).

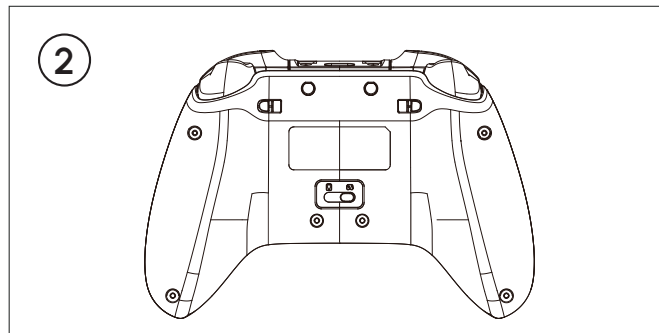
5. Physical Controller Instruction

5.2 Connecting Yarbo Controller

5.2.1 Connecting physical controller to Yarbo



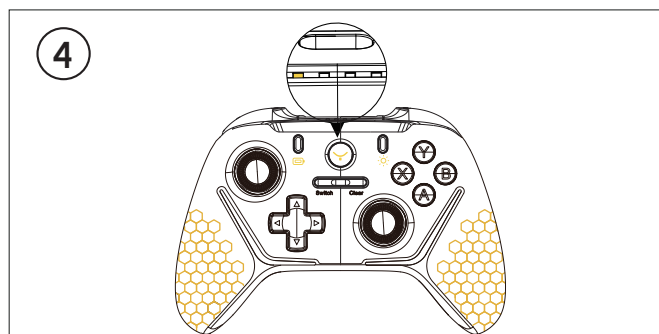
Before proceeding, ensure that Yarbo is powered on. A solid white light on the Yarbo (shown on following figure) indicates that Yarbo is powered on and ready for the controller setup.



Make sure the slide switch is slid to the right side.



Short press the Yarbo Logo Button to power on the physical controller.



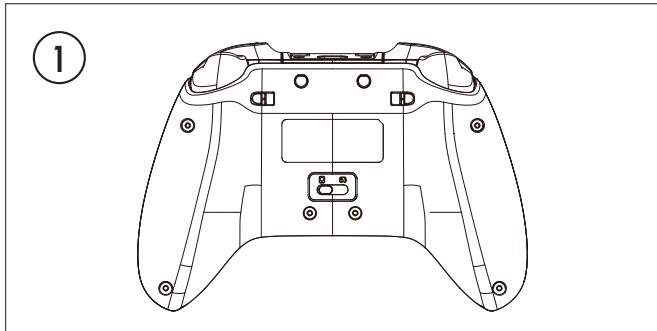
Observe the LED light on the top of Yarbo Controller. If the yellow light is on steadily, it indicates that the physical controller has been successfully connected.



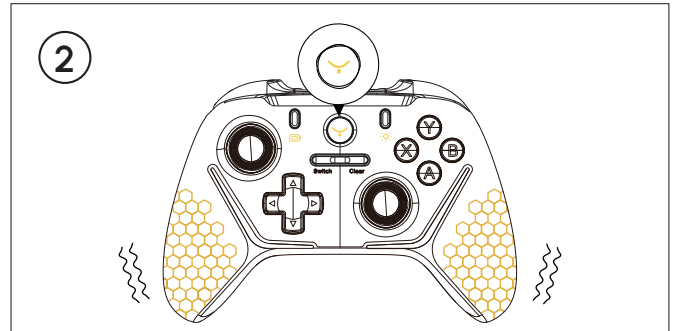
To gain the authority of physical controller, hold the Switch button for 2-3s to gain the authority. Once Yarbo gains authority, you can control the yarbo now.

5.Physical Controller Instruction

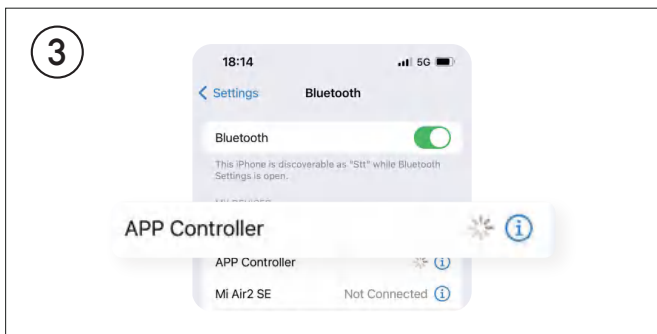
5.2.2 Connecting physical controller to mobile phone



Make sure that the slide switch is slid to the left side.



Press for one second to pair the controller with the phone if the controller is on. Press and hold for about 5 seconds to start and pair the controller with the phone if the controller is off.



Open the phone setting page and turn on Bluetooth. Click the '**APP Controller**' to pair the Yarbo physical controller.

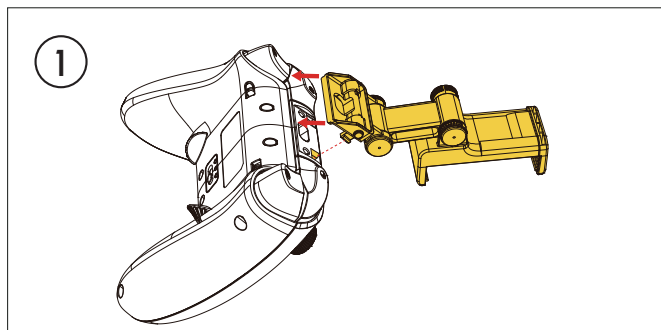


Observe the LED light on the top of Yarbo Controller. If the left yellow light is on steadily, it indicates that connected with the phone.

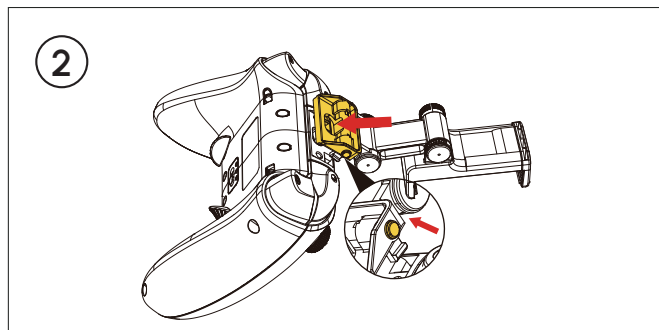
5.3 Yarbo Controller Holder Installation Guide

We offer an additional controller holder for our users, allowing them to conveniently place their mobile phones on the holder to see the camera view on-time.

5. Physical Controller Instruction



Locate the Physical Controller Holder provided in the Yarbo Core package and locate the side button on the Holder.



Locate the shafts and holes and press the buttons on both sides of the Holder, and then press the middle part as shown in the picture.



WARNING

- Never place the controller in the reach of children.
- Never allow unauthorized nor untrained persons to use the controller.



CAUTION

- DO NOT expose the controller to freezing temperatures for an extended duration.
- DO NOT spill water or snow on the surface of the controller. If any water or snow comes into contact with the controller, wipe it immediately.



NOTICE

- Please note that any damage or malfunction caused by or misuse of the controller will not be covered by the warranty.

5. Physical Controller Instruction

5.4 LED Indicator Description

Yarbo connecting mode

LED Indicator	Description
Two lights steady on	Controller and the Yarbo are connected successfully
Two lights flash slowly	Controller is connecting to the Yarbo
Two lights flash rapidly	Initiate the pairing of the Controller with the Yarbo

Phone connecting mode

LED Indicator	Description
One light steady on	App and Controller are connected successfully
One light flash slowly	The Controller is connecting to the App
One light	Initiating the pairing of the controller with the App

Additional Notes

Four lights flash during the charging process till fully charged.

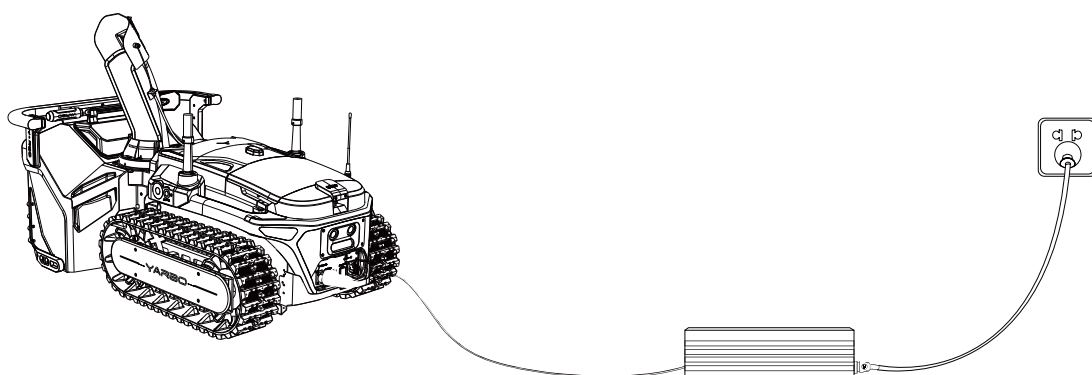
Two flash lights indicate the battery level is low during use.

6. Maintenance

6. Maintenance

6.1 Charging

6.1.1 Charging Yarbo With a Wired Charger



- To begin charging Yarbo, plug the wired charger into an electrical outlet, and then connect it to the charging port located at the rear of Yarbo.

WARNING

- Inspect the charging cable for any signs of damage or fraying. A damaged cable should be replaced to ensure safe and efficient charging. Also, please ensure that the connectors are clean and free from debris or dirt, as this can affect the charging process.
- When connecting the charger to Yarbo, please ensure a secure and snug connection. A loose connection may result in slow or interrupted charging. Double-check that the charger is firmly plugged into both Yarbo and the power source.
- Please ensure that the wired charger you are using is compatible with Yarbo. Check the charger's specifications and ensure it provides the appropriate voltage and current for charging Yarbo. Wrong voltage setting will damage the wired charger and Yarbo's battery pack, may lead to fire and explosion.

6.1.2 Charging Yarbo with Docking Station

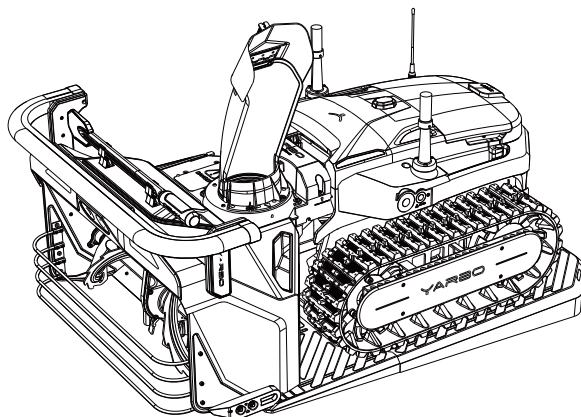
Autonomous Recharge

- Before using autonomous recharge, you need to:
 - ① Make sure you have already set up a map for Yarbo.
 - ② Yarbo is located within your area.
 - ③ Make sure the RTK Signal is strong.
- Normally, Yarbo will automatically return to charge when it detects low battery level (<20%). You can also manually send Yarbo to the docking station to recharge by:

Tapping the "Recharge" button on the Yarbo app's virtual controller page

Or

Tapping the "Recharge" button on the Yarbo app's autonomous plan page.



- ① Once the Yarbo is placed at the **center of the docking station**, automatic charging will commence without user intervention for 5 minutes.
- ② Click the **Charge** button on the APP home page if you want Yarbo initiate the charging process right now.

Manual Recharge

- Use the physical/virtual controller, manually drive Yarbo onto the docking station. Ensure that the Yarbo is positioned directly at the center of the docking station and parked in the correct orientation.



Maintenance Video

6. Maintenance

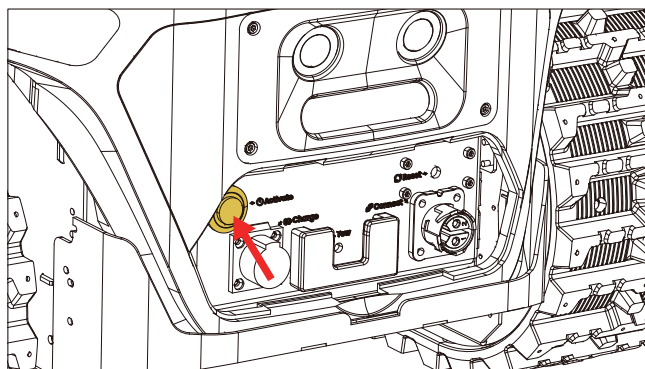
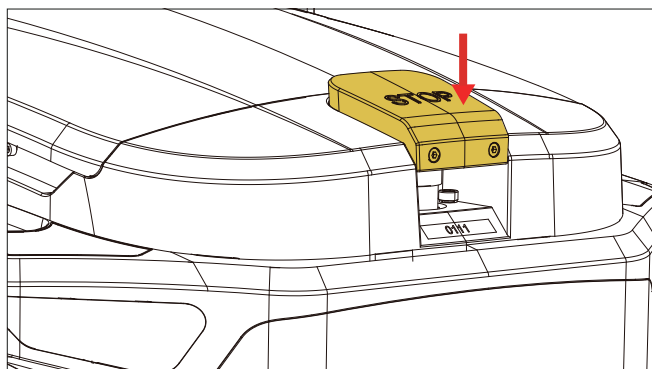
6.2 Before Conducting Any Maintenance

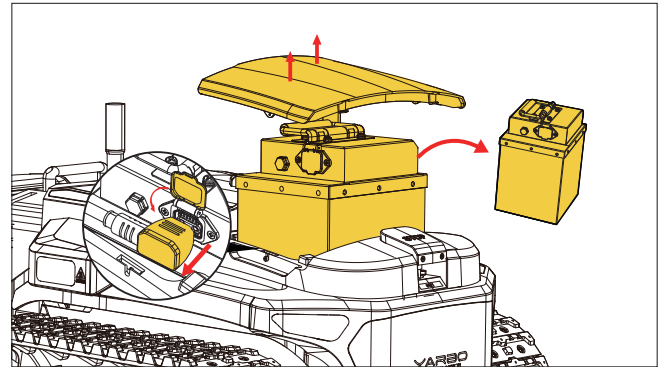
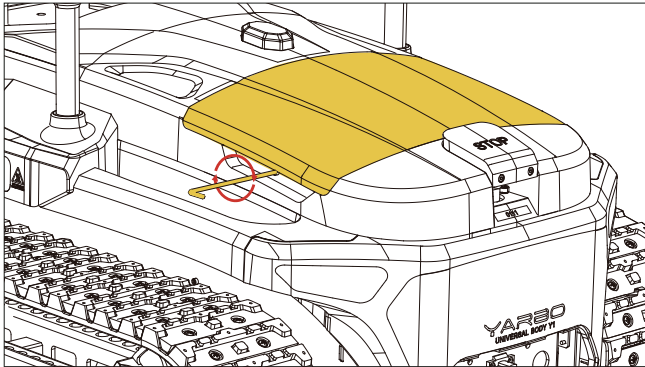
WARNING

- Please ensure that you do not wear open-toed shoes or go barefoot when performing the following maintenance tasks.
- Always use appropriate Personal Protective Equipment (PPE). Wear protective gloves and goggles whenever performing maintenance tasks or when needed.
- Ensure that Yarbo is switched OFF and disconnects the battery when performing the following maintenance tasks.

Disconnecting Battery from Yarbo

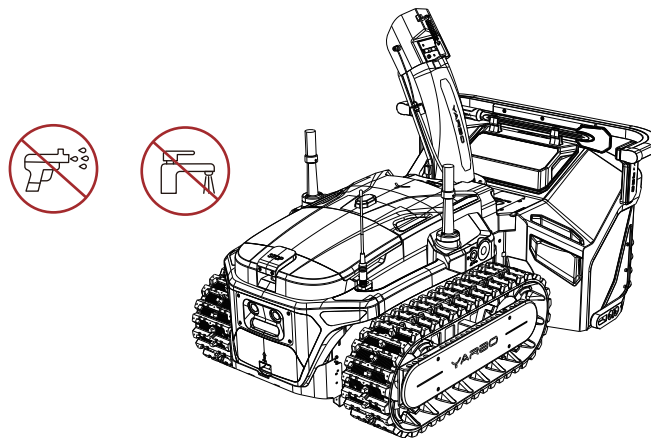
- ① **Press** the Emergency Stop Button.
- ② **Confirm** that Yarbo is turned off by checking if all the lights are switched off. Unscrew the bolts on the side of the battery cover.
- ③ **Remove** the battery cover and unplug the cable connecting Yarbo and battery pack.
- ④ **Remove** the battery pack and safely secure it.





6.3 Cleaning Yarbo Core

Please avoid using solvents or large amount of liquid on plastic components, as commercial solvents can potentially harm the appearance and integrity of your Yarbo. Instead, use a clean and gentle cloth or a brush to remove debris, mud, and other particles. Please avoid using the high-pressure water hose or any high pressure cleaning methods to clean the Yarbo Core.

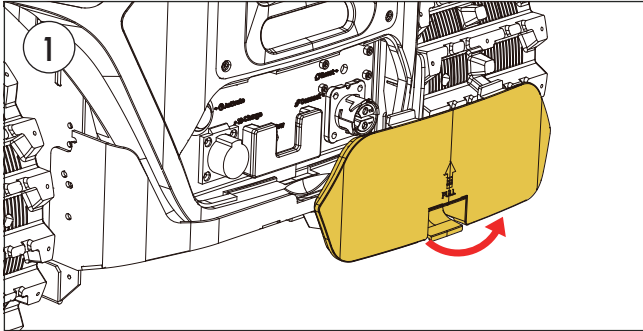


WARNING

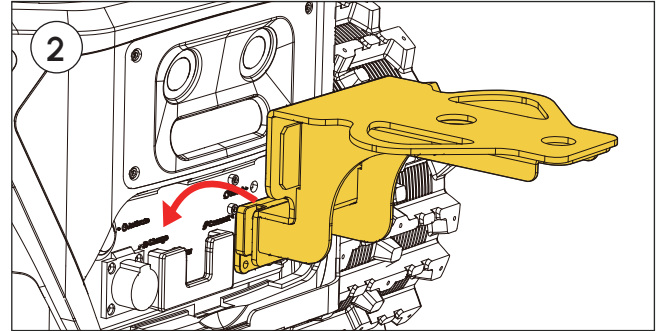
- This statement advises that if the cameras used for obstacle avoidance is covered, dirty, or unclear, it may lead to confusion about the visual algorithms that rely on these cameras. It suggests cleaning the cameras with a soft cloth to ensure they are clear and functioning properly.
- Ensure that the power socket does not come into contact with anything wet.

6. Maintenance

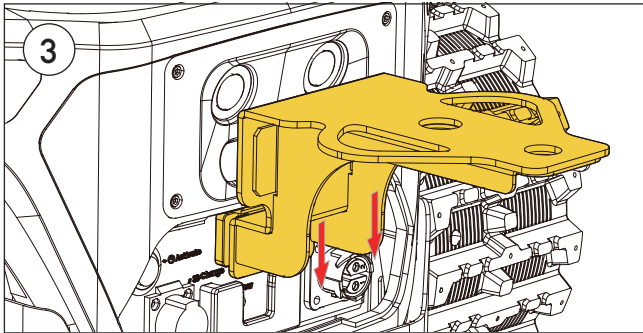
6.4 Installing Tow Hitch



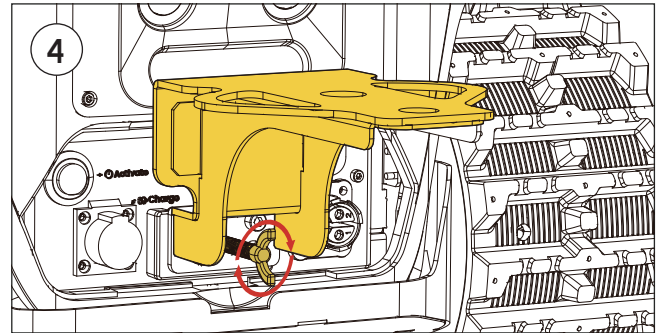
Remove the rear cover.



Locate the tow hitch provided in the package. Align the connection part of the tow hitch to the mount .



Slide the tow hitch down to the bottom of the mount.



Locate the tow hitch bolt provided in the package and tighten the tow hitch by screwing the bolt. Ensure that the bolt is securely fastened to prevent any loosening while towing.

6.5 Applying Grease on the Tracks

It is crucial to apply grease regularly on the tracks to maintain smooth rotation of the drive wheel and road wheels. This is especially important during the machine's first year of use. Over time, grease may degrade and diminish, making regular refills essential. We advise applying grease every two weeks throughout the snow season. While various grease types are suitable, we recommend opting for high-vacuum grease for optimal performance. Below are the situations when immediate application of grease is needed.

- **Motion Hampered:** When you sense that your Yarbo has not been greased for a while and its motion might be hampered due to this.
- **Noisy Operation:** Unusual noise coming from the tracks indicates possible friction or wear. Applying grease can help reduce this noise by lubricating the moving parts and reducing friction.
- **Track Disengagement:** If you notice the track becoming detached from the main body during inspection, it could be due to inadequate lubrication. Greasing the tracks can help maintain a secure connection between the tracks and the main body of the machine.



NOTICE

- The presence of debris or mud on the rubber tracks can negatively impact Yarbo's driving performance. To maintain optimal performance, make sure to clean debris and mud from the rubber tracks on a regular basis.

6. Maintenance

6.6 Updating Firmware

Ensuring optimal performance of Yarbo at the hardware level is crucial, but it's equally vital to maintain the firmware up-to-date. Regular firmware updates notification will be made available through the Yarbo App. We highly recommend utilizing the built-in Over-The-Air (OTA) technology within the Yarbo App to update the firmware as soon as new versions are released. These updates consistently enhance the capabilities of the product.

Before proceeding to update firmware, please ensure that the following conditions are met:

- ① The battery level is at least 30%.
- ② Yarbo is connected to the internet.
- ③ No working schedules are active within the next hour to prevent interruptions during the update process.

6.7 Keeping Battery at its Best Performance

Extended periods of inactivity can significantly diminish the performance of the battery pack. To minimize this degradation, it's important not to leave the battery pack inactive for more than three months. Lithium-ion battery packs experience slight self-discharge over time. Charging the battery pack for at least 15 minutes once every three months will suffice to maintain its activity level.

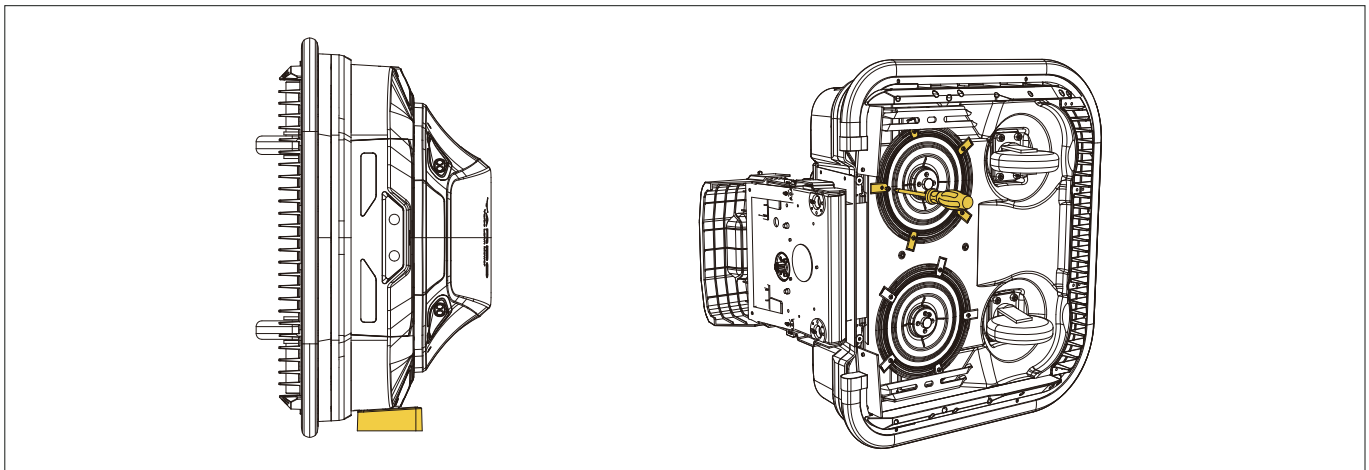


NOTICE

- The battery pack lifespan is influenced by operation frequency and total working hours. If the operating time per full charge noticeably decreases, it might be the time to consider replacing the battery pack.

6.8 Replacing Cutting Blade (only for Lawn Mower)

1. **Detach** the lawn mower module from Yarbo Core.
2. **Raise** the lawn mower module from the side and place it on the Vertical Stand for Module, please refer to the picture shown before.
3. **Unscrew the** Cutting Blades Bolts using Phillips-Head Screwdriver provided in the lawn mower module box Box content.
4. **Install** the new blades by tightening the cutting blade bolts.



NOTICE

- It is recommended to replace all cutting blades simultaneously if the mowing results are not as satisfactory as before.
- The blades are advised to be replaced every three months. However, in the case of thick grass or more frequent use, blade replacements may be needed more often.

WARNING

- Stabilize the blade disc when fastening the cutting blade bolts.
- Ensure the safety of individuals by taking necessary precautions, such as wearing gloves, while performing this procedure.