



ECOVACS GOAT

RTK Reference Station

Instruction Manual

1. Original Instructions

IMPORTANT

READ CAREFULLY BEFORE USE KEEP FOR FUTURE REFERENCE

Read the instructions carefully. Make sure you understand the instructions and be familiar with the controls and the proper use of the appliance. Please understand that you can reduce the risk by following the instructions and warnings in this manual, but you cannot eliminate all the risks.

WARNING

Never allow children, persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge or people unfamiliar with these instructions to use the machine, local regulations may restrict the age of the operator.

To avoid using the machine and its peripherals in bad weather conditions especially when there is a risk of lightning.

Before each mowing session, check that all parts of the mower can function normally.

Periodically inspect the area where the machine is to be used and remove all stones, sticks, wires, bones, and other foreign objects.

WARNING

Before use, make sure mowing area has clear and enclosed boundaries, which can be a no-grass zone wider than 50 cm or a fence higher than 15 cm.

When ECOVACS GOAT is moved to a new area for the first time, it should be supervised by an intellectually unimpaired adult during initial mapping in case ECOVACS GOAT enters no-mowing zones.

To set a No-Entry Zone, enclose it with a no-grass zone wider than 50 cm or a fence higher than 15 cm.

Safe Usage:

Not to connect a damaged cord to the supply or touch a damaged cord before it is disconnected from the supply for the reason that damaged cords can lead to contact with live parts; keep extension cords away from moving hazardous parts to avoid damage to the cords which can lead to contact with live parts; to connect the machine and/or its peripherals only to a supply circuit protected by a residual current device (RCD) with a tripping current of not more than 30 mA.

Unplug the Power Supply from the power socket and then untangle when the power cord or the extension cable is damaged or entangled during use. During the operation, pull the body of the plug rather than the cord to avoid the hazard. Contact Customer Service and let the skilled professional to repair or replace the cord.

Please use the extension cable manufactured by ECOVACS. If you have any problem, contact

Customer Service.

If the SUPPLY CORD is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.



Before charging, read the instructions.

This Device Complies with DHHS Radiation Rules, 21CFR Chapter 1, Subchapter J.

Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) L'appareil ne doit pas produire de brouillage;

(2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement. Cet équipement est conforme aux limites d'exposition aux radiofréquences définies par la Innovation, Sciences et Développement économique Canada pour un environnement non contrôlé.

Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre le dispositif et l'utilisateur ou des tiers.

Ce dispositif ne doit pas être utilisé à proximité d'une autre antenne ou d'un autre émetteur.

RF exposure warning

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

This equipment complies with radio frequency exposure limits set forth by the Innovation, Science and Economic Development Canada for an uncontrolled environment.

This equipment should be installed and operated with a minimum distance of 20 cm between the device and the user or bystanders.

This device must not be co-located or operating in conjunction with any other antenna or transmitter.

To ensure compliance, operations at closer than this distance is not recommended.

SYMBOLS

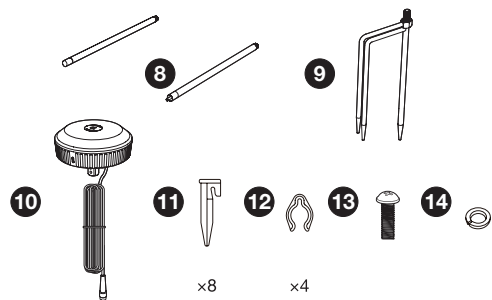


WARNING—

Read instruction manual before operating the machine.

2. Packaging Contents and Component Functions

2.1 What's in The Box



9 Tripod Peg

10 RTK Reference Station

11 Plastic Garden peg

8 Mounting Pole

13 Screw (For RTK Reference Station)

14 Spring Washer (For Tripod Peg)

12 Cord Tie

SENSORS

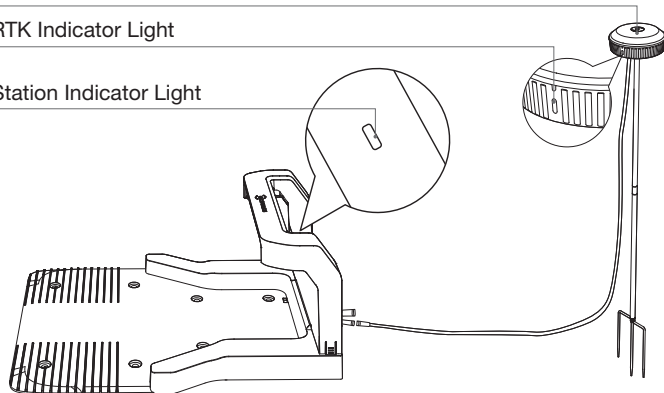
Name	Description
RTK Reference Station	Help the mobile robot obtain the relative distance between itself and the Locator Beacon, which assists the robot in building a home map. Range: With the Beacon as the center, the effective range of the signal is within a radius of 459.32 ft.

Station View

RTK Reference Station

RTK Indicator Light

Station Indicator Light



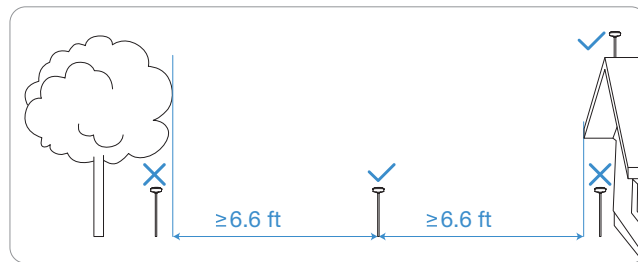
RTK Indicator Light

Solid blue : Charging and strong signal

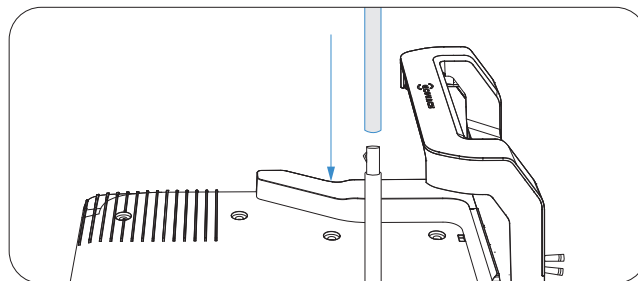
Flashing blue: Poor signal. Please select a new location for installation.

3 Assemble the RTK Reference Station

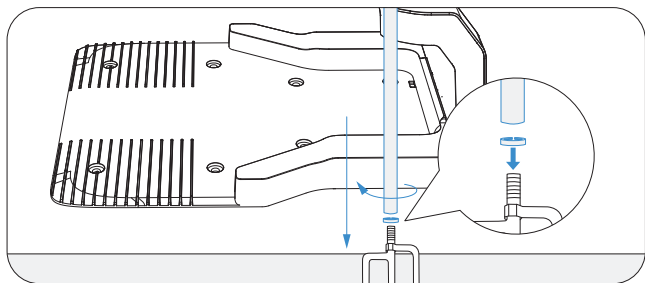
Choose an open area at least 6.6 ft away from buildings and trees to install the RTK base station.



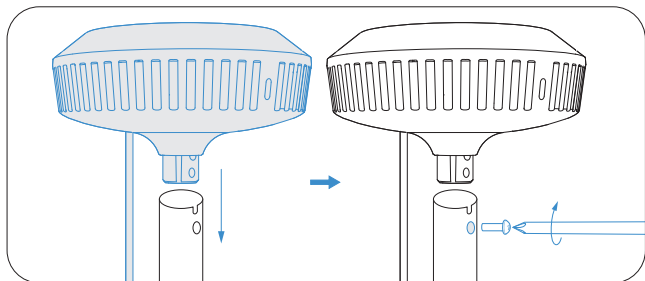
1. Connect the upper and lower mounting poles, ensuring the buckle clicks securely into place.



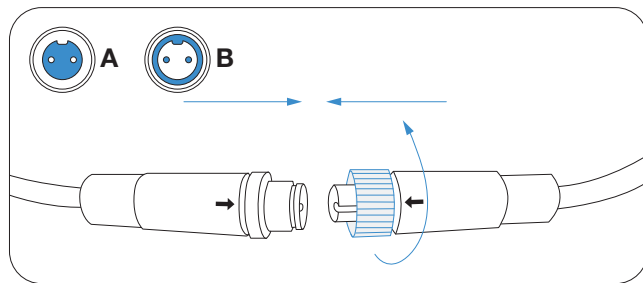
2. Insert the triangular peg into the mounting pole and tighten it securely.



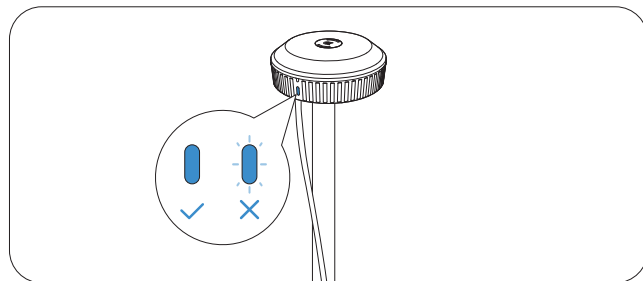
3. Attach the signal head by inserting its raised part into the mounting pole and tightening the screws with a tool.



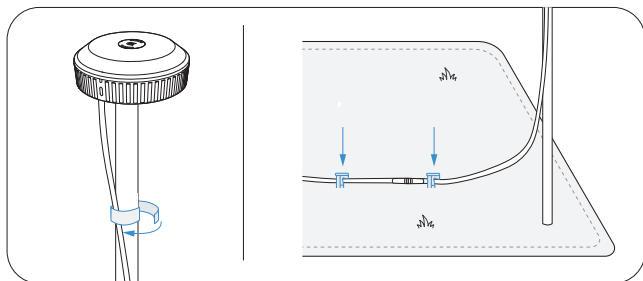
4. Connect the RTK power cable to the base station power cable and tighten the nut.



5. After powering on, if the RTK base station indicator remains steady, the location is correct; if it flashes, relocate the station.

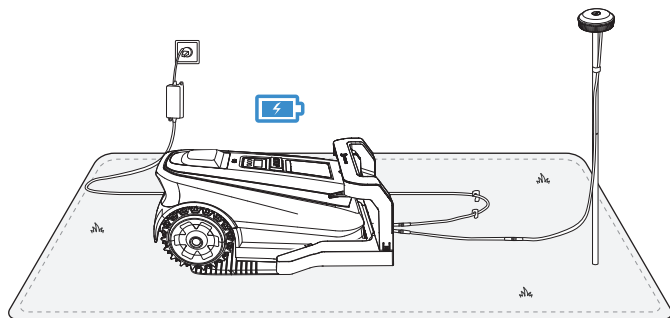


6. Cable Management: Secure the RTK power cable to the mounting pole with cord ties and use plastic garden pegs to secure other cables to the ground.



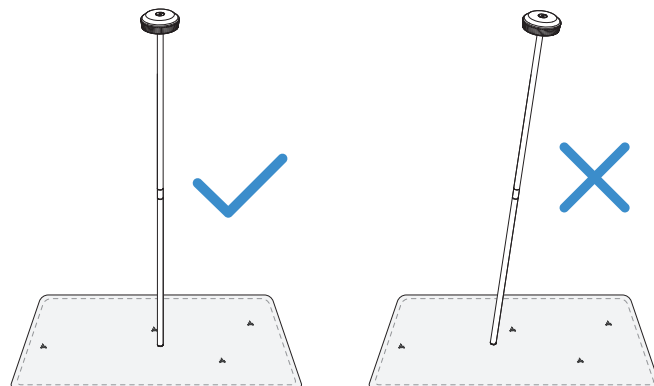
4 Charging the ECOVACS GOAT

Fully charge the ECOVACS GOAT before first use. Place it in the charging station and ensure the white indicator light is steady or flashing, indicating successful charging.



3 RTK Reference Station

If the RTK Reference Station, its mounting pole included, tilts, make sure it is set properly.



6.3 Seasonal Maintenance

① Storage Over the Winter

ECOVACS GOAT

- Power off your ECOVACS GOAT after it is fully charged.
- Clean it thoroughly.
- Store it with water-proof and dust-proof coverings in a cool, well-ventilated, and dry place indoors.

Station

- Unplug the Power Supply from the power socket.
- Disconnect Power Supply from the Station.
- Mark the spot where you set the Station for reference in the new working season.
- Store the Station and Power Supply in a cool, well-ventilated, and dry place away from direct sunlight.

Note: It is necessary to put the Station in the original position for working in a new season. Otherwise, it may lead to location fault and map invalidation.

② Restart in the Spring

- Remove all coverings from your ECOVACS GOAT and the Station.
- Assemble the Station, putting it back to where it was in the last working season.
- Check the cables for any damage or breaks and repair as needed. Connect the cables that are safe and qualified to use.
- Check the Blades for sharpness and replace them if necessary. Refer to the Maintenance section of this manual for detailed steps and tips.
- Power on your ECOVACS GOAT and test if it is connected to the app and works properly.

7. Technical Data

RTK Reference Station	Model	FM24A9				
	Usage Temperature	-40~75°C / -40~167°F				
	Storage Temperature	-55~75°C / -67~167°F				
	Input Voltage	5V ===				
	Input Current	1A				
Station	Model	CH2491	CH2491A	CH2492	CH2492B	GMA18-050100-1C
	Input Voltage	37.8V ===	37.8V ===	21V ===	21V ===	100-240V ~ 50/60Hz
	Input Current	3A	5A	1.8A	3A	1A
	Output Voltage for ECOVACS GOAT	37.8V ===	37.8V ===	21V ===	21V ===	/
	Output Current for ECOVACS GOAT	3A	5A	1.8A	3A	/
	Output Voltage for RTK	5V ===	5V ===	5V ===	5V ===	5V ===
	Output Current for RTK	1A	1A	1A	1A	1A
Connectivity Frequency Range	RTK(GNSS)	BDS: 1559 MHz -1610 MHz Galileo:1559MHz-1610MHz,1164MHz - 1215MHz,1215MHz - 1300MHz GLONASS:1559 MHz -1610 MHz, 1215MHz -1300MHz GPS:1559MHz - 1610MHz,1215MHz - 1300MHz, 1164MHz - 1215MHz SBAS: 1559 MHz - 1610 MHz				
	RTK(LoRa)	902-928MHz				