

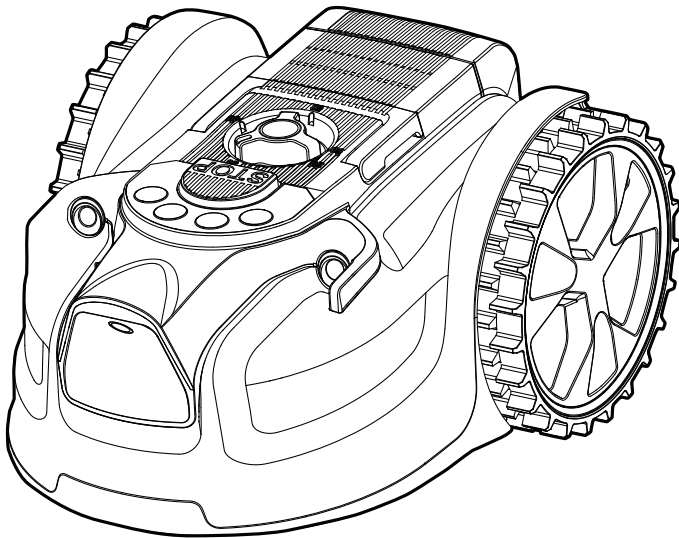
# LawnMaster<sup>®</sup>

## Operator's Manual

### MX 24V Lithium-Ion Robotic Lawn Mower VBRM601YCM

Save this manual for future reference

\* Maximum initial battery workload voltage (measured without a workload) is 24 volts.  
Nominal voltage is 21.6 volts.



Battery Model Number is 24LB4005-CN  
Charger Model Number is 24LFC14-ETL



Read all safety rules and instructions carefully before operating this tool.

Distributed By: Suzhou Cleve Electric Appliance Co., Ltd.

NO.8 Ting Rong Street 215122 Suzhou - China

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# SPECIFICATIONS

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## DIMENSIONS

Length	16.73" (42.5 cm)
Width	13.78" (35 cm)
Height	8.66" (22 cm)
Weight (Without 4.0Ah Battery)	13.4 lbs (6.1 kg)

## MOWING

Voltage	24 V D.C.
No-load Speed	3500 RPM
Cutting System	3 Pivoting Cutting Blades
Cutting Width	6" (15.5 cm)
Cutting Height Adjustment	1"-2.5" (25-65 mm)
Power Consumption during Cutting	40 W±20%
Maximum Incline	20°
IP-Classification	IPX4

## BATTERY PACK

Model Number	24LB4005-CN
Rated Voltage of Battery	24 V Max* D.C.
Capacity of Battery	4.0 Ah
Battery Type	Lithium-ion

## BATTERY CHARGER

Model Number	24LFC14-ETL
Charger Input	120 V ~ 60 Hz 70 W
Charger Output	24 V D.C. 2.5 A
Charging Time	100 minutes (For 24LB4005-CN)

\* Maximum initial battery workload voltage (measured without a workload) is 24 volts.  
Nominal voltage is 21.6 volts.

# SPECIFICATIONS

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## NOISE EMISSIONS MEASURED IN THE ENVIRONMENT AS SOUND POWER

Sound Power Level ( $L_{WA}$ ) Measured	64 dB(A)
Noise Emissions Uncertainties $K_{WA}$	3 dB(A)
Sound Power Level ( $L_{WA}$ ) Guaranteed	68 dB(A)
Sound Pressure Level ( $L_{PA}$ ) at the Operator's Ear	57 dB(A)

The noise emission declarations conforms to EN 50636-2-107:2015

Noise emissions in the environment measured as sound power ( $L_{WA}$ ) in conformity with EC directive 2000/14/EC. The guaranteed sound power level includes variation in production as well as variation from the test code with 1-3 dB(A).

Sound pressure noise uncertainties KpA, 2-4 dB (A)

## ABOUT THIS PRODUCT

Thank you for choosing the LawnMaster® VBRM601YCM robotic lawn mower. This mower will independently mow the lawn in a random pattern without the use of a boundary wire and charging station and will operate during daylight hours only. The mower detects grass in order to know where to mow, and is also equipped with ultrasonic sensors which detect higher obstacles such as shrubs and fences. For successful operation, the lawn must be defined with flat borders such as paving, or raised edges. When the mower does not detect grass or encounters an obstacle, it changes route in a random manner and starts mowing again in a new direction. The mower can be moved around to different lawn areas provided that they are defined as described in this instruction manual.

The mower uses a detachable MX 24V battery which is compatible with all products in the LawnMaster® 24V range. It is designed to be used once or twice a week for several hours, and then stored away in a garage or shed until it is needed again. It will mow approximately 1076 sq. ft / 0.025 acres (100 m<sup>2</sup>) on a single charge depending on lawn conditions. Excessively long or wet grass may impact performance, it is therefore important to maintain a regular mowing schedule to keep on top of growth and develop a neat lawn finish.

## FIRST OPERATION

The VBRM601YCM is designed to detect grass and move into areas it identifies as grass. If it cannot see a clear boundary it will continue to move into areas off the lawn and into plants that it may identify as grass. Trimming the lawn edge with a grass trimmer before use will help define a better lawn edge. During first operation on a new lawn it is important to monitor the robot as it detects edges to see where the boundary definition needs to be improved. Please do read the instructions fully; our instructions have been written to help you to get the best results and also provides useful ideas for temporary boundaries as well as examples of how to define a better lawn edge in all seasons.

## FOR YOUR SAFETY: CAREFULLY READ AND UNDERSTAND ALL INSTRUCTIONS.

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# IMPORTANT SAFETY INSTRUCTIONS

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## IMPORTANT!

READ CAREFULLY BEFORE USE. KEEP FOR FUTURE REFERENCE.

### TRAINING

- Read the instructions carefully. Be familiar with the controls and the proper use of the machine.
  - Never allow people unfamiliar with these instructions or children to use the machine. Local regulations may restrict the age of the operator.
  - The operator or user is responsible for accidents or hazards occurring to other people or their property.
  - The operator or user is responsible for informing neighbors about the risks. Keep a safe distance from the machine when operating.
  - If your lawn is open to the street and/or your neighbors, you must be present during the mower's operation to prevent others from accessing your lawn. Alternatively, you must protect/fence your lawn so that others do not access the mower during operation.
  - This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- 



## WARNING

The robotic lawn mower can be dangerous if used incorrectly.

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## WARNING

Never use the robotic lawn mower when people, especially children or pets, are in the cutting area.

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### PREPARATION

- Ensure that the lawn area is defined as described in the section Preparing the Mowing Area and Defining the Mowing Area.
- Periodically inspect the area where the machine is to be used and remove all stones, sticks, wires, pet toys, and other foreign objects.
- Periodically visually inspect to see that the blades, blade bolts and cutting assembly are not worn or damaged. Replace worn or damaged blades and bolts in sets to preserve balance.
- On multi-spindle machines, take care as rotating one blade can cause other blades to rotate.

### OPERATION

- Do not not leave the machine to operate unattended if you know that there are pets, children or people in the vicinity.
  - Never operate the machine with defective guards, or without safety devices, for example deflectors in place.
  - Do not put hands or feet near or under rotating parts. Do not touch moving hazardous parts before these have come to a complete stop.
-

# IMPORTANT SAFETY INSTRUCTIONS

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- Never pick up or carry a machine while the motor is running.
- Always remove the safety key:
  - Before clearing a blockage.
  - Before checking, cleaning or working on the machine.
- It is not permitted to modify the original design of the mower. All modifications are made at your own risk.
- Avoid using the mower and its peripherals in bad weather conditions especially when there is a risk of lightning.
- Do not use the mower for any purpose other than cutting lawn.
- In the event of accident or breakdown while the mower is operating, immediately press the STOP button.
- Do not put anything on top of the mower. Never allow people or animals to sit on the mower.
- Do not use the mower if the On/Off switch does not work.
- Do not use the mower when a sprinkler system is running. Ensure that the mower and the sprinkler system do not operate at the same time. Do not wash the mower with running water and do not immerse it in water. This product is not waterproof.
- Always switch off the mower by removing the safety key when the mower is not in use.
- The robotic lawn mower must never be stored, operated or charged in temperatures below 32°F (0°C) or above 122°F (50°C). This might cause damage to the product or battery.
- Mow only in daylight or in good artificial light. The mower requires good light to correctly identify the lawn area.
- Avoid operating the machine in very long or wet grass.
- Never use the machine in explosive and/or flammable environments.
- Do not operate the machine when barefoot or wearing open sandals. Always wear substantial footwear and long pants.
- Always be sure of your footing on slopes.
- Always switch on the motor according to instructions keeping feet away from the blade(s).
- Warning signs shall be placed around the working area of the robotic lawn mower if it is used in public areas. The signs shall have the following text:  
Warning! Automatic lawn mower! Keep away from the machine! Supervise children!

## MAINTENANCE AND STORAGE

- Keep all nuts, bolts, and screws tight to be sure the machine is in safe working condition.
- Replace worn or damaged parts for safety.
- Only use replacement blades recommended by the manufacturer.
- In the event of coming into contact with electrolytes cause by battery leakage, flush the affected area with water/neutralizing agent for several minutes. Seek medical attention if ingested, or if it comes into contact with your eyes, or if skin irritation persists.
- Servicing of the machine should be according to manufacturers' instructions.
- In case of abnormal vibrations, stop the mower, remove the safety key and the battery pack and check for any damage to the blade. Replace a worn or damaged blade to preserve balance. If the vibration continues, contact Customer Service.
- Use heavy gloves when inspecting or servicing blades.
- Cleaning and maintenance must not be performed by unsupervised children.
- Do not use the mower when the cutting blade is damaged. Replace the cutting blade.
- Use only original equipment and accessories. It is not permitted to modify the original design of the mower. All modifications are made at your own risk.
- Always remove the battery pack before storing the mower.

# IMPORTANT SAFETY INSTRUCTIONS

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## TRANSPORTATION

Within the working area:

- Press the STOP button to stop the mower. Use both hands to carry the mower at the front and rear sections under the mower. Alternatively, you can carry the mower using the transport handle on the top of the mower deck. Carry the mower with the blade disc away from the body.

Long distances:

- When transporting your mower over long distances, press the STOP button and remove the safety key and the battery pack.
- **IMPORTANT!** It is recommended to keep the original packaging to avoid damage during transportation over long distances.

## BATTERY PACK

- The battery pack is only compatible with LawnMaster® 24LFC14-ETL, 24LFC02-ETL or 24LSC01-ETL chargers.
- Recharge only with the charger specified by the manufacturer and listed in this manual. A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- Do not charge battery in a damp or wet location. Following this rule will reduce the risk of electric shock.
- Do not place battery powered lawn mowers or their batteries near fire or heat. This will reduce the risk of explosion and possibly injury.
- Do not open or mutilate the battery. Released electrolyte is corrosive and may cause damage to the eyes or skin. It may be toxic if swallowed. Fumes may be emitted. In such situations, move to a well ventilated area, preferably outdoors and seek medical assistance in the event of discomfort.
- Do not dispose of battery packs in fire. They will explode or leak and cause injury. Liquid ejected from the battery may cause irritation or burns.
- Do not crush, drop or damage the battery pack. Do not use a battery pack or charger that has been dropped or received a sharp blow. A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- Batteries can explode in the presence of a source of ignition, such as a pilot light. To reduce the risk of serious personal injury, never use any cordless product in the presence of open flame. An exploded battery can propel debris and chemicals. If exposed, flush with water immediately.
- Under extreme usage or temperature conditions, battery leakage may occur. If liquid comes in contact with your skin, wash immediately with soap and water. If liquid gets into your eyes, flush them with clean water for at least 10 minutes, then seek immediate medical attention. Following this rule will reduce the risk of serious personal injury.
- When the battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws, or other small metal objects, that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- Do not expose a battery pack or lawn mower to fire or excessive temperature. Exposure to fire or temperature above 265°F (130°C) may cause an explosion.
- Do not modify or attempt to repair the lawn mower or the battery pack (as applicable) except as indicated in the instructions for use and care.
- Follow all charging instructions and do not charge the battery pack or lawn mower outside of the temperature range specified in the instructions. Charging improperly or at temperatures outside of the specified range may damage the battery and increase the risk of fire.
- All tool services should be performed by a qualified repair person using only identical replacement parts. This will ensure that the safety of the product is maintained.

# IMPORTANT SAFETY INSTRUCTIONS

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## BATTERY CHARGER

- This charger is only compatible with LawnMaster® 24LB4005-CN, 24LB4005-C, 24LB1304, 24LB2004, 24LB2605, or 24LB4005 lithium-ion batteries.
- To reduce the risk of injury, charge only the specified lithium-ion rechargeable batteries. Other types of batteries may burst, causing personal injury or damage.
- Keep cord and charger away from heat to prevent damage to housing or internal parts.
- Do not operate charger with a damaged cord or plug, which could cause shorting and electric shock. If damaged, immediately discontinue use. Replace the charger with the identical unit as listed in the Parts List of this manual.
- Do not use a charger that has been dropped or received a sharp blow.
- Do not disassemble charger. Take it to a qualified service center for check or replacement. Incorrect reassembly may result in a risk of electric shock or fire.
- Do not abuse the charger cord. Never use the cord for carrying, pulling or unplugging.
- Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock. If the charger cord is damaged, replace the charger with an identical model as listed in this manual.
- A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- Charge the battery at the normal charging temperature between 40°F (4°C) and 100°F (38°C).

## PRODUCT END OF USE

- The mower and its accessories should be recycled correctly at the end of their life to prevent waste electrical and electronic equipment from ending up in landfill sites, and to protect and improve the quality of the environment.
- Do not dispose of the mower or any other of its parts as unsorted municipal waste - they should be collected separately.
- Do not dispose of the battery pack in a fire, and do not place used batteries in your household waste.
- Dispose of batteries in accordance with the local regulations where they will be recycled in an environmentally friendly manner.

## FCC COMPLIANCE

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
  - This device may not cause harmful interference, and
  - This device must accept any interference received, including interference that may cause undesired operation.
- **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:

# **IMPORTANT SAFETY INSTRUCTIONS**

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- 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 of the receiver.
- Consult the dealer or an experienced radio/ TV technician for help.

## **SAVE THESE INSTRUCTIONS**

Refer to them frequently and use them to instruct others who may use this appliance. If you loan someone this appliance, loan them these instructions also.








# SYMBOLS

Some of the following symbols may be used on this product. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the product better and safer.

SYMBOL	DESIGNATION/EXPLANATION
	WARNING - The robotic lawnmower can be dangerous if used incorrectly.
	Read instruction manual before operating the machine.
	Keep bystanders away.
	Remove the safety key before working on or lifting the machine.
	Operate the safety key before working on or lifting the machine.
	Do not ride on the machine.
	Wait until all moving parts have stopped completely before touching them. The blade may continue to rotate after the machine is switched off, a rotating blade can cause injury.
	Do not wash or immerse the machine in water.
	WARNING! Beware of electric shocks.
	Protection class II (Double insulation)
	Class III machines.

# SYMBOLS




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SYMBOL	DESIGNATION/EXPLANATION
	Only recharge battery packs with the supplied charger indoors.
	Electrical appliances must not be disposed of with the domestic waste.
	Batteries contain Lithium-ion. Do not dispose of batteries in household waste.
	Do not dispose of battery packs in rivers or immerse in water.
	Do not dispose of battery packs in explode or leak and cause injury.
	Do not expose battery packs to heat in excess of 140°F (60°C).
	Recycle electrical waste products in an environmentally safe way where facilities exist.

# SYMBOLS

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The following signal words and meanings are intended to explain the levels of risk associated with this product.

SYMBOL	SIGNAL	MEANING
	<b>DANGER</b>	Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.
	<b>WARNING</b>	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.
	<b>CAUTION</b>	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.
	<b>NOTICE</b>	(Without Safety Alert Symbol) Indicates a situation that may result in property damage.

## SERVICE

Service requires extreme care and knowledge and should be performed only by a qualified service technician. When servicing, use only identical replacement parts.

For troubleshooting or replacement, please call Customer Service for assistance (Toll free number 866-384-8432).

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## **WARNING**

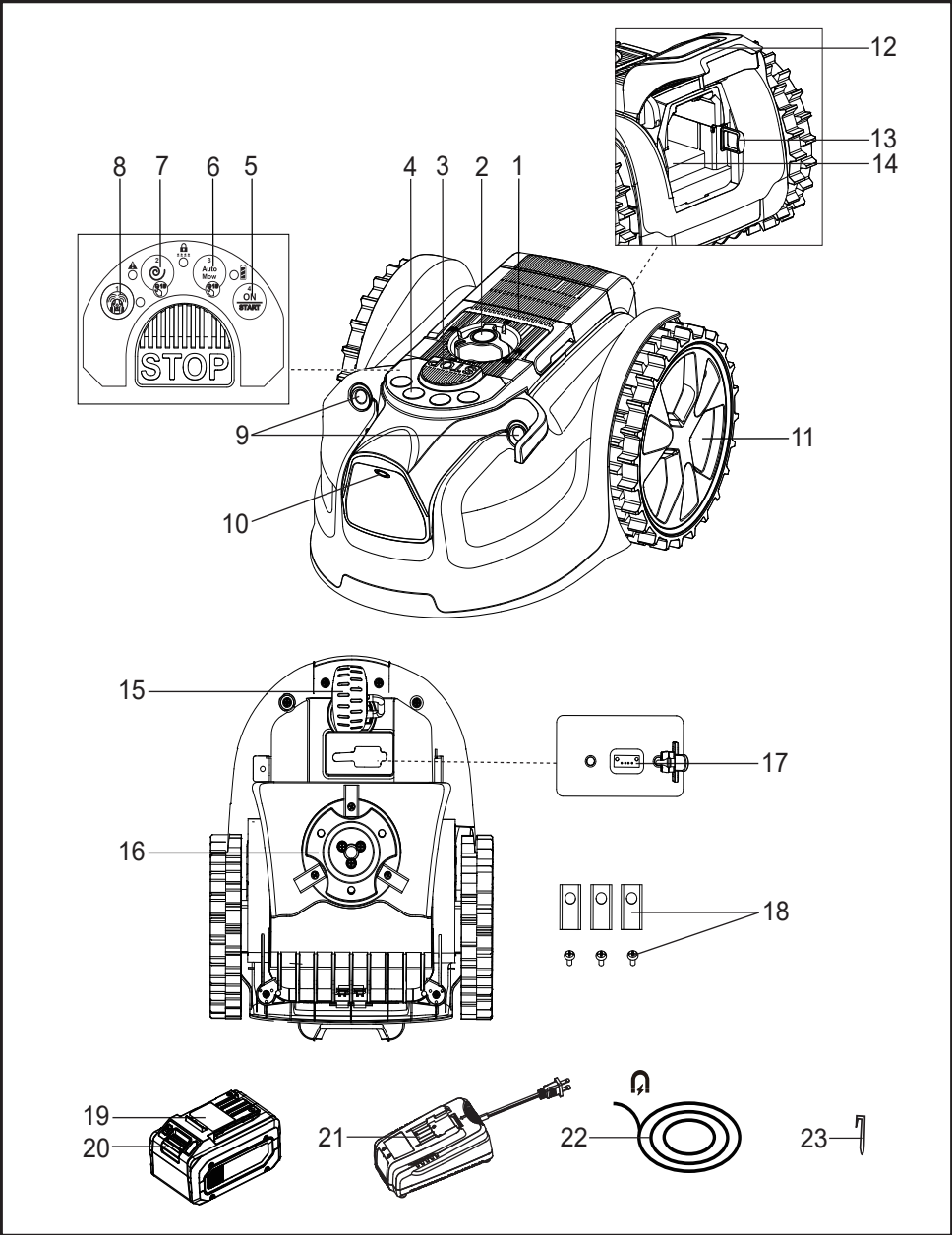
To avoid serious personal injury, do not attempt to use this product until you read thoroughly and understand completely the Operator's Manual.

If you do not understand the warnings and instructions in the Operator's Manual, do not use this product. Call Customer Service for assistance (Toll free number 866-384-8432).

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# KNOW YOUR ROBOTIC MOWER



# KNOW YOUR ROBOTIC MOWER

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## Components

- |                                      |   |   |
|--------------------------------------|---|---|
| 1. Carry Handle                      | 10. Lawn Detection Camera               | 18. Blade and Screw (X6,<br>3 Pre-installed on<br>Blade Disc) |
| 2. Cutting Height<br>Adjustment Knob | 11. Rear Wheel                          | 19. Battery Pack  |
| 3. STOP Button                       | 12. Battery Compartment Cover           | 20. Battery Release Button                                    |
| 4. Control Panel                     | 13. Safety Key                          | 21. Battery Charger   |
| 5. START/ON Button                   | 14. Battery Compartment                 | 22. Magnetic Strip  |
| 6. Auto Mow Button                   | 15. Front Wheel                         | 23. Magnetic Strip Peg<br>(X12)                               |
| 7. Spiral Mow Button                 | 16. Blade Disc                          |   |
| 8. Ultrasonic On/Off Button          | 17. USB Port (Covered by<br>Rubber Cap) |   |
| 9. Ultrasonic Object Sensors         |   |   |

## KNOW YOUR ROBOTIC MOWER

The safe use of this product requires an understanding of the information on the product and in this Operator's Manual as well as a knowledge of the project you are attempting. Before use of this product, familiarize yourself with all operating features and safety rules.

# ASSEMBLY

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## UNPACKING

This product has been shipped completely assembled.

- Carefully remove the product and any accessories from the box. Make sure that all items listed in the packing list are included.
- Inspect the product carefully to make sure no breakage or damage occurred during shipping.
- Do not discard the packing material until you have carefully inspected and satisfactorily operated the product.
- If any parts are damaged or missing, do not operate the product. Please call Customer Service (Toll free number 866-384-8432).



## WARNING

Do not use this product if any parts on the Packing List are already assembled to your product when you unpack it. Parts on the packing list are not assembled to the product and require customer installation. Use of a product that may have been improperly assembled could result in serious personal injury.

Ensure the safety key is not fitted before installing the battery.

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## PACKING LIST

- (1) Robotic Mower
- (1) Safety Key (Attached inside the Battery Pack Compartment of Mower)
- (1) Magnetic Strip (32.8 ft /10 m)
- (12) Magnetic Strip Pegs
- (6) Blades and Screws (3 Pre-installed on Blade Disc)
- (1) 24V Max\* 4.0 Ah Lithium-Ion Battery
- (1) 24V Max\* Battery Charger
- (1) Operator's Manual

## INSTALLING / REMOVING THE BATTERY PACK

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## WARNING

IMPORTANT! The battery pack is not charged when it is purchased. Before using the mower, read all safety precautions, and follow the instructions in the Battery Pack and Charger section. With regular use, it will need shorter charging time. If storing for a prolonged period of time, remove the battery. When ready to use again, charge the battery pack.

---

# ASSEMBLY

## To install the battery pack:

1. Lift the battery compartment cover.
2. Align the support rails located within the battery compartment with the guides in the battery pack, and then insert the battery pack into the compartment (Fig. 1).
3. Push the battery pack until you hear a “click”.
4. Insert the safety key into the keyholes located near the battery compartment (Fig. 2).

**NOTE:** The safety key only fits into the keyholes in one direction. Do not force it.

5. Close the battery compartment cover.

**NOTE:** Make sure that battery pack firmly snaps into place and is secured to the mower before starting operation.

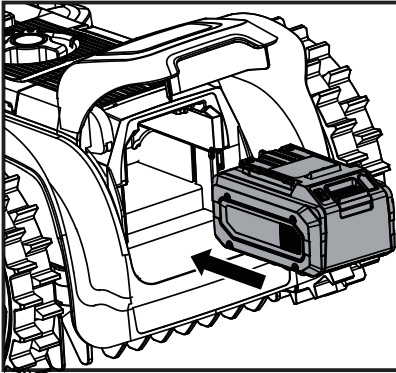


Fig. 1

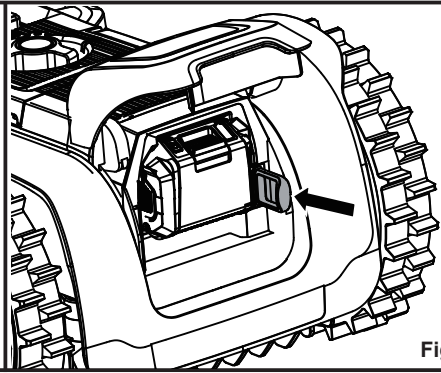


Fig. 2

## To remove the battery pack:

1. Stop the lawn mower. Lift the battery compartment cover and remove the safety key.
2. Press and hold the release button on the battery pack (1), grasp the battery pack firmly and pull out (2) of the battery compartment (Fig. 3).
3. Close the battery compartment cover.

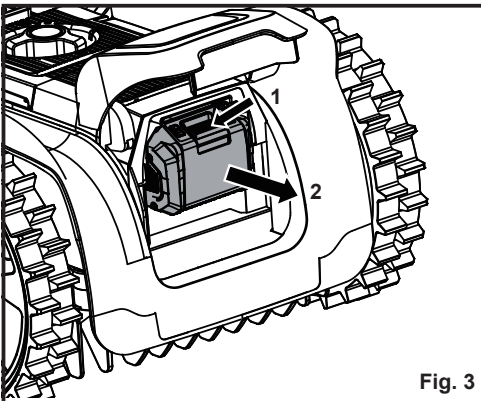


Fig. 3

# BATTERY PACK AND CHARGER




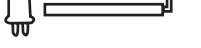




## BATTERY CHARGING

1. Use only with 24V LawnMaster® battery chargers. The battery charger supplied is specifically designed for the lithium-Ion battery used in this garden appliance.
2. Check the power voltage! Battery chargers operate on 120 V.
3. The battery is charged between 40°F (4°C) and 100°F (38°C). This ensures an optimum battery service life.
4. Protect the battery from heat, from continuous exposure to sun and keep away from radiation or other heat sources. Do not leave the battery in the mower in direct sunlight over long periods.
5. The battery is supplied partially charged. To ensure full capacity of the battery, charge the battery before using your appliance for the first time. The lithium-ion battery can be charged at any time without reducing its service life. Interrupting the charging procedure does not affect the battery.

## LED CHARGER STATUS

1. If the battery is not inserted into the charger, a **continuous red LED light** indicates that the charger is plugged into a power supply socket and is now ready to begin charging.
2. Charging: A **flashing green LED** on the charger indicates that the battery is charging normally.
3. Charged: **Continuous green LED** on the charger indicates that the battery is ready for use.

The indicator lights on the charger show the charger status:

SYMBOL	INDICATOR LIGHTS	STATUS	
		Red, blinking	Charging paused. See Technical Issue.
		Red, continuous	Connected to power supply.
		Green, blinking	Charging.
		Green, continuous	Fully charged.

4. The intelligent charger ensures maximum battery life, because it measures the existing charge level of the battery and then charges with the required current and voltage. Charge battery fully before storage.
5. **Technical Issue: A flashing red LED** light on the charger indicates that battery pack has a charging problem or might be defective.
  - a) One possible condition is the battery temperature is not within the charging temperature range of 40°F (4°C) and 104°F (40°C). As soon as the permitted temperature is reached, the battery charger will automatically switch to charging.

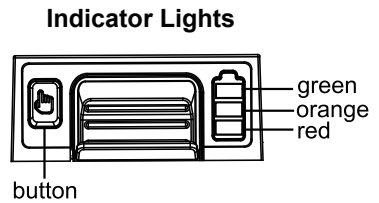
# BATTERY PACK AND CHARGER

- b) If the temperature range is correct and flashing red LED light continues, then remove and reinstall the battery pack. If the LED status repeats a second time, try to charge another identical battery. If the battery charges normally, dispose of the defective battery pack (see Environmental Safe Battery Disposal section).
  - c) If the flashing red light continues after installing the second battery (ensure the battery temperature is normal), the charger may be defective. Replace with a new one.
6. After continuous or repeated charging cycles without interruption, the charger may warm up. This is normal and does not indicate a technical defect of the battery charger.

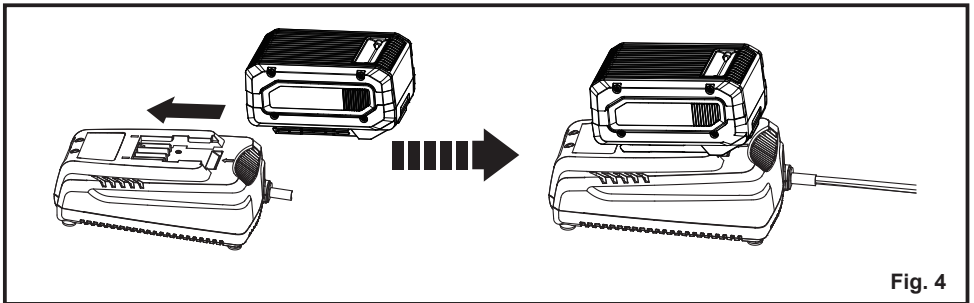
## BATTERY LED PANEL

- 1. The panel consists of 3 LEDs on the battery. Press and hold the button, then release it, the LEDs will show you the charge levels.
- 2. The battery's charge level can be checked either when the battery is attached on the mower/charger or removed from the mower/charger.

LEDs on Battery (Continuous Lighting)	Battery Capacity
3 LEDs (inc 2 green)	Fully charged.
2 LEDs (orange & red)	≥40%
1 LED (red only)	<40% (Recharge required).



## CHARGING THE BATTERY PACK



# BATTERY PACK AND CHARGER

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## WARNING

If any part of the charger is missing or damaged, do not operate it! Replace the charger with a new one. Failure to heed this warning could result in possible serious injury. Check the voltage! The voltage must comply with the information on the rating label.

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1. Align the slot of the battery pack with the rail on the charger. Slide the battery onto the rail until the battery pack secures into place (Fig. 4).
2. Connect the charger to the power supply.
3. Allow sufficient charging time (see Specifications), and then disconnect the charger from the power supply.
4. Press the release button on the battery pack and remove it from the charger.

**NOTE:** It is normal for the battery pack and the charger to become warm (but not hot) during charging process. If the battery does not charge properly, check to make sure the electrical outlet is operational. Always charge the battery before storage!

# OPERATION

## PREPARING THE MOWING AREA

### Lawn Surface

1. The lawn surface should be as uniform as possible. Bare patches and leaves can disrupt the operation of the mower. Clear leaves at regular intervals and repair dead patches with grass seed.
2. Inspect the lawn for holes or hollows. Fill them with topsoil to prevent rainwater from forming pools of water on the lawn and to prevent mower from becoming stuck. The mower may be damaged if it is operated in pools of water (Fig. 5).
3. If there are stones on the lawn that may damage the mower, they should be removed or excluded from the working area (Fig. 6).

**NOTE:** This mower is not designed to cut excessively long or overgrown and neglected areas. For best performance mow or trim grass down to 2.36" (60 mm) before use. Do not allow grass to grow excessively long between uses.

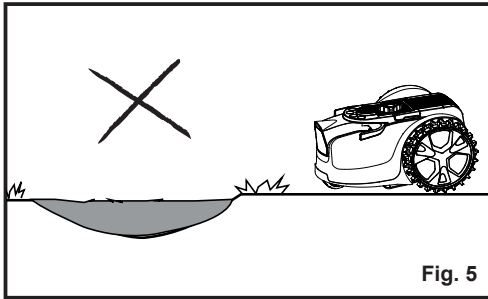


Fig. 5

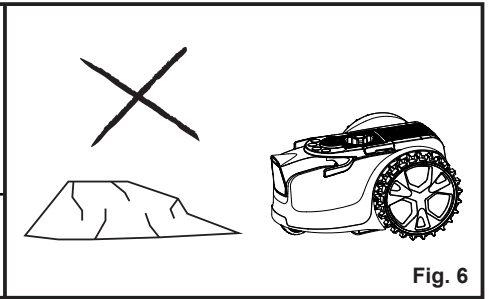


Fig. 6

## DEFINING THE MOWING AREA

Lawn edges must be clearly defined by flat edging or raised barriers in order for this mower to function properly.

1. Visual boundaries need to look different from lawn, therefore changes in color and texture are very effective.
2. Physical boundaries help stop the mower, when a visual boundary is not possible.
3. Temporary physical boundaries can be used while the lawn boundary definition is improved.

The robotic mower is equipped with the following devices which allow it to detect the edges and know where to mow:

- The lawn detection camera: for recognizing changes in surface type, e.g., from lawn to paving.
- Two ultrasonic object sensors: for detecting the obstacles higher than 9.84" (25 cm). They are turned on by default setting and will sense plants, shrubs and other obstacles in and around the edges of the lawn. For a consistent cut, long grass must be cut down before mowing, or the ultrasonic sensors must be turned off.

The ultrasonic sensors can be turned off when the lawn to be mowed is clear of obstacles. In this case, hedges, walls, or other similar barriers in the lawn can be used as the border of the working area.

When the robotic mower detects that there is no lawn or encounters an obstacle, it changes route in a random manner and starts mowing again in a new direction. To allow the robotic mower to move freely inside the lawn, the lawn must be properly checked and adjusted so that the robotic mower has enough space for recognizing when there is no grass. Carefully follow instructions listed as below for types of borders/protections that can/cannot be used for defining the working area.



# OPERATION

## Paving

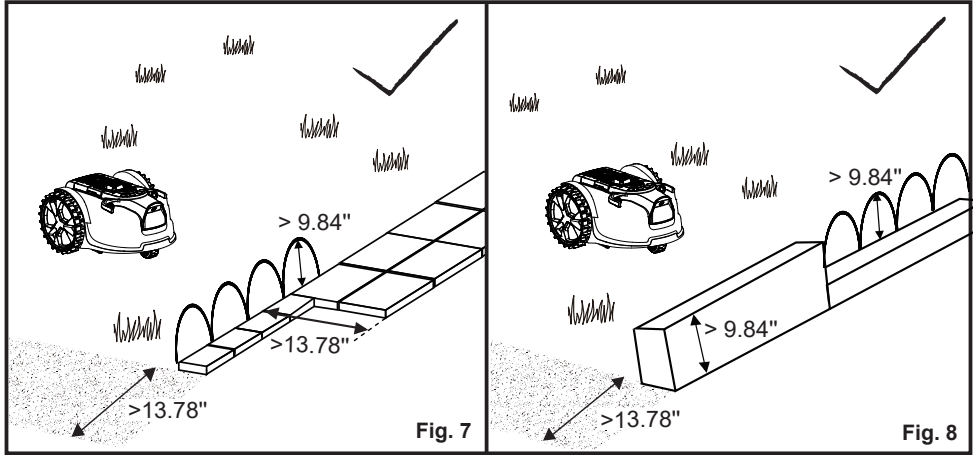
The lawn requires a paved or wooden edge of at least 13.78" (35 cm) wide for it to stop safely and change direction.

Paving or wooden edge less than 13.78" (35 cm) wide must be widened, or can be used in conjunction with a barrier. See Raised Barrier section below (Fig. 7).

## Raised Barrier

With the ultrasonic sensors on, a perimeter barrier at a height above 9.84" (25 cm) can be used to define the border of the working area.

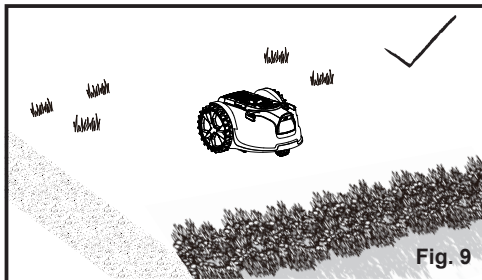
If an existing barrier is shorter than 9.84" (25 cm), replace or raise the barrier or add additional paving (Fig. 8).



## Hedging

With the ultrasonic sensors on, hedges can be used to define working area (Fig. 9).

**NOTE:** Foliage is usually recognized as grass by the robotic mower. Therefore, ultrasonic sensors must be always kept on when using hedges as the border of the working area.

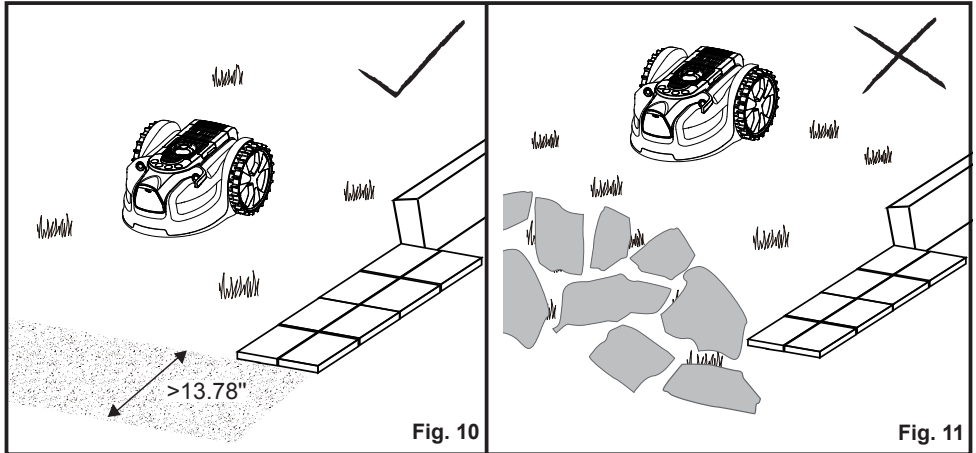


# OPERATION

## Fine gravel

If fine gravel or small stones are used to border the lawn, make sure the width of the border is more than 13.78" (35 cm) wide and has clear edges (Fig. 10).

**NOTE:** Never use gravel, stones or similar materials with irregular edges for defining the working area (Fig. 11). Failure to provide clear edges will result in the mower leaving the mowing area and blade damage.



## Physical Bump Barriers

A border that physically obstructs the movement of the mower can also be used. This boundary could be lower than 9.84" (25 cm) so undetectable by the ultrasonic object sensors, and also narrower than 13.78" (35 cm). When the robot meets this physical barrier, it will bump off, reverse and turn. This type of boundary may suit your lawn in some areas.

## Temporary Physical Bump Barriers

During first use, while lawn patches are being seeded or with seasonal lawn flowers, it may be desirable to use a temporary method to protect or define the lawn area for the mower to cut. In this case, garden canes are particularly effective and do not detract from the look of the lawn. In spring, you can protect flower bulbs in the lawn from the mower by sinking short canes vertically into the lawn around the area spaced at 7.87" (20 cm). The mower will be physically prevented from entering any protected areas.

## Magnetic Strip

The magnetic strip serves as a mobile and temporary boundary for creating areas where the robotic mower is not allowed to mow.

The robotic mower is equipped with a magnetic strip sensor for recognizing a magnetic strip lying on the ground. When the robotic mower comes across a magnetic strip, it will stop and begin to mow again in a random direction.

1. Lay the magnetic strip a few centimeters away from the area or object in question.
2. Keep a distance of at least 47.24" (120 cm) between two independent boundary areas made up of

# OPERATION

magnetic strips, so that the robotic mower can travel through without difficulty (Fig. 12).

3. Make sure that the outer boundary of the mowing area is defined by an optical or physical separation.

4. Fasten the magnetic strip to the ground with the supplied magnetic strip pegs spaced  $39.37''$  (1 m) apart.

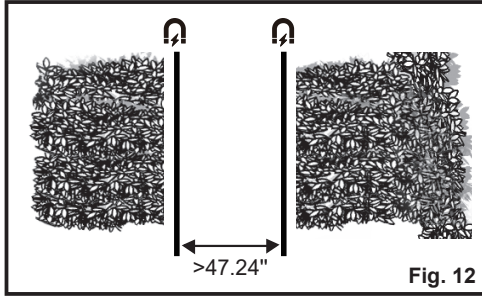


Fig. 12

## Obstacles in the Mowing Area

With the ultrasonic sensors on, objects which do not impede the robotic mower's normal functioning, such as trees (without raised roots), vertical poles, etc., do not require excluding from the mowing area (Fig. 13).

When objects, such as exposed tree roots, exposed wires, irrigation systems, drains, etc., are present on the surface of the lawn, it is required to protect these objects with paving, walls or barriers to prevent the damage to them and to the robotic mower (Fig. 14).

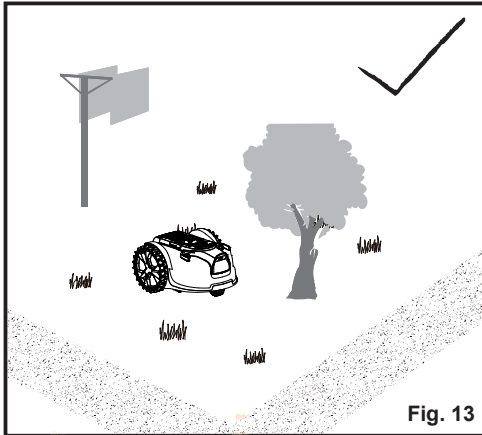


Fig. 13

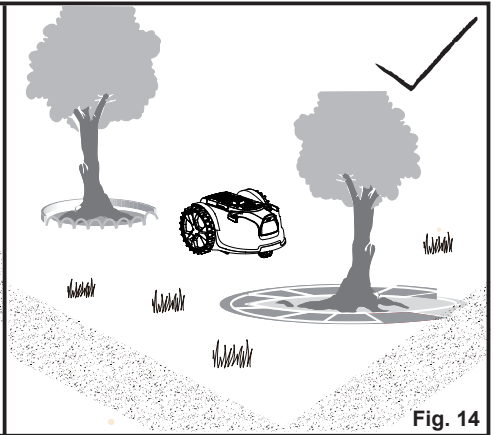


Fig. 14

The working area cannot be defined by holes or ditches. Ensure that there are no objects such as toys, work tools, small stones, branches, or sprinklers, etc., on the lawn or protruding from the ground which could impede the mower or cause damage to the blade (Fig. 15).

**NOTE:** Avoid leaves accumulating on the lawn, as they may not be detected correctly by the robotic mower. Remove leaves at regular intervals.

# OPERATION

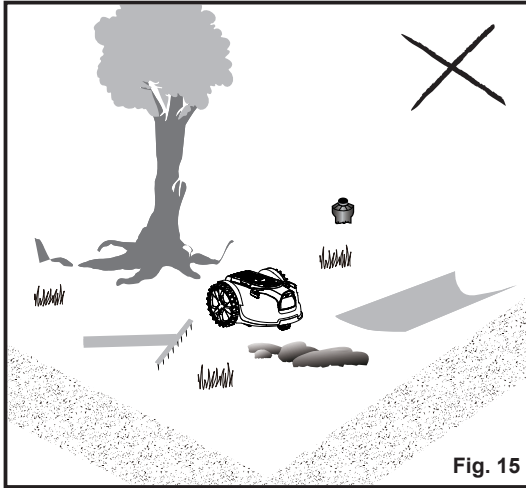


Fig. 15

## Slopes

The robotic mower has the ability to safely climb slopes of 35% or 20° inclines, and areas that are steeper than this should be excluded (Fig. 16).

To calculate the slope of your lawn, see Fig. 16. The slope would be:

$$\frac{13.78'' \text{ (35 cm) (Elevation)}}{39.37'' \text{ (100cm) (Length)}} = 35\% \text{ (slope)}$$

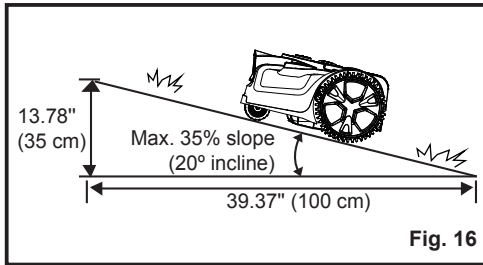


Fig. 16

## Pools and Ponds

If there is a pool or pond in the mowing area, create appropriate borders to protect it.

- Raised barriers higher than 7.87'' (20 cm).
- Flat edging (paving, gravel or wooden boards wider than 27.56'' (70 cm)).

The illustration shows a correctly defined working area for the correct functioning of the mower (Fig. 17). **It is very important to make visual boundaries around ponds wide and obvious for the mower. Pond plants and algae could be interpreted as grass. Physical boundaries around ponds are highly recommended and will prevent any accidental water damage to your mower which is not covered by the manufacturers warranty.**

# OPERATION

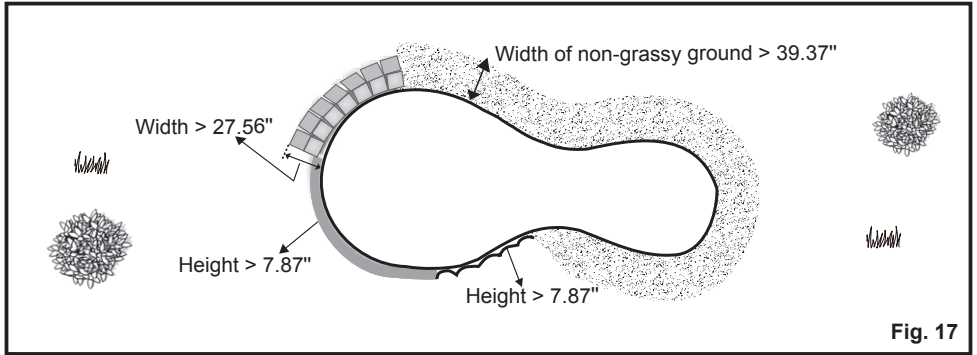


Fig. 17

## CONTROL PANEL (FIG. 18)

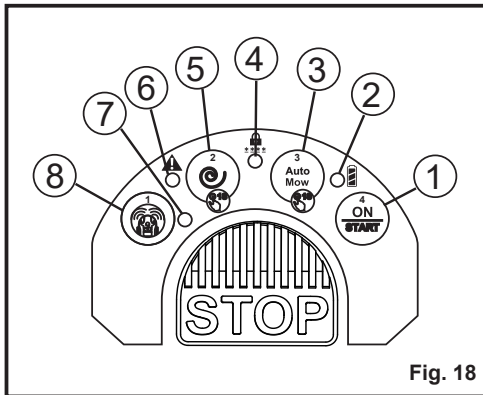


Fig. 18

- ① **START/ON (Security Setting Button 4)**  
Press and hold down the START/ON button for 3 seconds to power the mower. Select the preferred cut mode (Auto or Spiral) and press the START/ON button again to start moving.

- ② **Battery Indicator**

Battery Indicator	Status
Green, Continuous	Sufficient power for mowing/ ready for mowing.
Red, Continuous	Recharge required.
Red, Flashing	The temperature of battery pack is abnormal, or the electric core fault.

- ③ **Auto Mow Button (Security Setting Button 3)**  
Press the Auto mow button for 1 second to select random auto cutting mode followed by the START/ON button.

# OPERATION

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## ④ UNLOCK Indicator

UNLOCK Indicator	Status
Off	The mower hasn't been set with a security code.
Green, Continuous	The mower is unlocked. The mower can be manually operated.
Red, Continuous	The mower is locked.
Red, Flashing	The mower is locked. Input the 4-digit security code to operate.

## ⑤ Spiral Mow Button (Security Setting Button 2)

Press the Spiral mow button for 1 second to select spiral cutting mode followed by the START/ON button.

## ⑥ Error Indicator

Error Indicator	Status
Off	The mower is in normal operation.
Yellow, Continuous	The lift sensor is activated. / The obstruction sensor is activated. / The mower is tilted. / The rear wheels are lifted (slipping) due to an obstacle. / The mower has fallen over. / STOP button is pressed. / The mower cannot see grass.
Red, Continuous	Sensor error. / Motor fault. / Operation system error.

## ⑦ Ultrasonic Indicator

Ultrasonic Indicator	Status
Green, Continuous	The ultrasonic function is on.
Off	The ultrasonic function is turned off.
Yellow, Flashing	The mower has a communication issue with camera.

## ⑧ Ultrasonic On/Off Button (Security Setting Button 1)

Single press to turn off/turn on the ultrasonic function.

## LOCKING THE MOWER WITH A SECURITY CODE

This mower is allowed to be locked with a security code. Once the security code is set, the mower will be locked in the following two situations: 1) the mower is powered off; 2) the mower is in the error state. You are required to enter the correct security code to re-start the mower.

**NOTE: The mower is not set with a security code by default.**

### To set a security code:

1. Press and hold down the Spiral Mow Button (Security Setting Button 2) and START/ON button (Security Setting Button 4) simultaneously for 3 seconds. You will hear two beeps and the UNLOCK Indicator is red continuous.

# OPERATION

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2. Within 10 seconds, enter a four-digit number of your choice with the 1-4 Buttons to use as your personal security code. Press the STOP button to confirm. The UNLOCK Indicator is green flashing.
3. Within 10 seconds, enter the four-digit number of your security code again. Press the STOP button to confirm. The UNLOCK Indicator is green continuous. The security code is set successfully.

**NOTE:** If more than four digits are entered, you will hear five beeps. The mower returns to the no security code state. The UNLOCK Indicator is turned off. Re-start from the first step to set the security code.

**NOTE:** When the control panel is not operated for 10 seconds during the security code setting, the mower will return to the no security code state automatically.

## To turn off the security code function:

1. Unlock the mower by entering the correct security code and pressing the STOP button to confirm. You will hear two beeps and the UNLOCK Indicator is green continuous.
2. Press and hold down the Spiral Mow Button (Security Setting Button 2) and START/ON button (Security Setting Button 4) simultaneously for 3 seconds. The UNLOCK Indicator is turned off. The security code function is turned off successfully.

## To change the security code:

1. Unlock the mower by entering the correct security code and pressing the STOP button to confirm.
2. Press and hold down the Auto Mow Button (Security Setting Button 3) and START/ON button (Security Setting Button 4) simultaneously for 3 seconds. You will hear two beeps and the UNLOCK Indicator is red continuous. The mower is ready for changing the security code.
3. Within 10 seconds, enter a new security code. Press the STOP button to confirm. The UNLOCK Indicator is green flashing.
4. Within 10 seconds, enter the new security code again. Press the STOP button to confirm. The UNLOCK Indicator is green continuous. The new security code is set successfully.

**NOTE:** If more than four digits are entered, you will hear five beeps. The mower returns to the locked state. The UNLOCK Indicator is red flashing. Re-start from the first step to change the security code.

## SWITCHING ON/OFF

1. To switch on, press the START/ON button for 1 second. The battery indicator, error indicator, ultrasonic indicator will flash consecutively. The camera system will take approximately 15 seconds to start up.



**NOTE:** Please wait while the mower starts up, attempting to start the mower in this time will cause an error warning and the start-up process will need to be repeated.

2. The mower is ready to mow when the battery indicator is illuminated green continuously and the mower beeps.
3. To switch off the mower, lift the battery compartment cover and remove the safety key.

## STARTING/STOPPING THE MOWER

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# WARNING

Do not allow familiarity with products to make you careless. Remember that a careless fraction of a second is sufficient to inflict serious injury.

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# OPERATION

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## WARNING

Read the safety instructions carefully before you start your robotic lawn mower.

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## WARNING

Keep your hands and feet away from the rotating blades. Never put your hands or feet close to or under the mower when the motor is running.

---



## WARNING

Never use the robotic lawn mower when people, especially children, or pets, are in the cutting area.

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1. Make sure the fully charged battery pack and the safety key are installed into the robotic mower properly.
2. Put the robotic mower in the defined mowing area.
3. Unlock the mower if the mower is locked. Enter the correct security code and press the STOP button to confirm. You will hear two beeps and the UNLOCK Indicator is green continuous. The mower is unlocked.
4. Press the START/ON button for 1 second. The battery indicator, error indicator, ultrasonic indicator will flash consecutively. The camera system will take approximately 15 seconds to start up. The mower is ready to mow when the battery indicator is illuminated green continuously and the mower beeps.
5. Select the desired cutting mode by pressing either the Auto or Spiral mode buttons for 1 second to select the cut mode, then press the START/ON button to start mowing.
6. To stop the mower during operation, press the STOP button.
7. To turn off the mower, lift the battery compartment cover and remove the safety key.



**NOTE:** If the mower is temporarily stopped by pressing the STOP button, to re-start the mower, it is not required to enter the security code.

**NOTE:** If the mower is stuck or has been stopped for more than 20-25 minutes, it will automatically go into Stand By (power off). To turn on the mower again, follow the instructions above.

## CUTTING MODES

### 1. Auto Cutting

In Auto cutting mode, the robotic mower will mow the lawn in a random pattern.

After the robotic mower is powered on, press the Auto button for 1 second, followed by the START/ON button. After 5 seconds of continuous running, you will hear beeps to indicate the blades have started to spin. The robotic mower will automatically search for a suitable working area. If the robotic mower does not find grass within 5 seconds, it will change direction and start running again in a new direction. The blades will not spin until the mower can run for continuously for at least 5 seconds.

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# OPERATION

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## 2. Spiral Cutting

In Spiral cutting mode, the robotic mower will mow in a spiral outwards from where it is placed on the lawn. This is best used to tidy up any areas that may not have been mowed during a random mowing session.

After the robotic mower is powered on, press the Spiral button for 1 second followed by the START/ON button. The mower will first move forward about 3.94" (10 cm) to 7.87" (20 cm), then start Spiral cutting covering approximately 21.53 sq. ft (2 m<sup>2</sup>). After the Spiral cut is finished, the robotic mower will start to mow in a random pattern automatically.

If the area to be mowed is too narrow for the robotic mower to carry out the spiral cut, after continuous searching, the mower will mow in a random pattern automatically.

**NOTE:** Spiral cutting is also a great feature to use before random mowing to systematically and efficiently cut the main areas of the lawn, by doing this it reduces the amount of random cutting time needed to complete the lawn. You also get a better lawn finish.

## SETTING THE CUTTING HEIGHT

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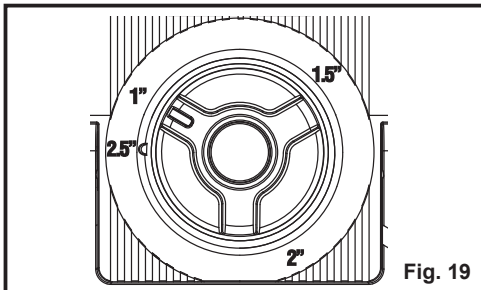
# WARNING

Do not make any adjustment to the robotic mower without first stopping the motor. Keep your feet away from the blade disc when adjusting its height.

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The cutting height of the mower can be adjusted from MIN 1" (25 mm) to MAX 2.5" (65 mm) (Fig. 19). During the first weeks of mowing, always select the higher cutting height 1.5" (40 mm). After this, the cutting height can be lowered step by step every week until the desired cutting height has been reached.

1. Press the STOP button to stop the robotic mower.
2. Turn the cutting height adjustment knob to set the cutting height.
  - Turn clockwise to raise the cutting height.
  - Turn counter clockwise to lower the cutting height.
3. For the first cut each season, a higher cutting setting should be selected. **USING A CUTTING HEIGHT THAT IS TOO LOW IN LONGER GRASS WILL USE MORE POWER AND REDUCE BATTERY RUN TIME.**
4. Before you begin to mow, check to ensure that the blade is not blunt and that none of the fasteners are damaged. To prevent any imbalance, replace blunt and/or damaged blades. To carry out this check, first switch off the mower by removing the safety key.



# MAINTENANCE

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## **WARNING**

Always switch the product off, remove the safety key and the battery pack and let the product cool down before performing inspection, maintenance and cleaning work.

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## **WARNING**

If a part becomes worn or damaged, use manufacturers recommended replacement parts. Use of any other parts may create a hazard or cause product damage.

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## **WARNING**

Do not use any attachments or accessories not recommended by the manufacturer of this product. The use of attachments or accessories not recommended can result in serious personal injury.

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## **GENERAL MAINTENANCE**

1. Keep all safety devices and the motor housing free of dirt and dust. Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean, dry cloths to remove dirt, dust, oil, grease, etc.
2. Periodically check all nuts and bolts for proper tightness to ensure safe operation of the mower.
3. Remove any buildup of grass and leaves on or around the mower. Wipe the mower clean with a dry cloth occasionally. Do not use water.

## **REPLACING THE MOWER BLADES**

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## **WARNING**

Always wear protective, heavy gloves when performing blade maintenance. Failure to heed this warning could result in serious personal injury.

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## **WARNING**

Before performing any maintenance, make sure the safety key and the battery have been removed. Failure to heed this warning could result in serious personal injury.

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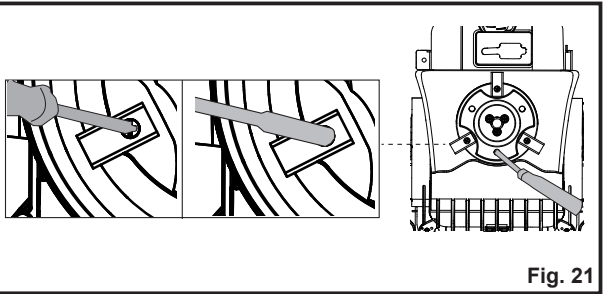
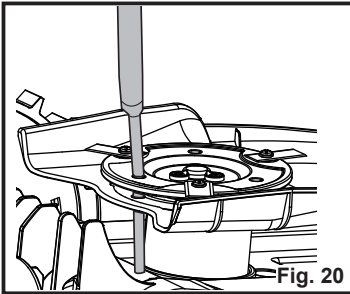
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# MAINTENANCE

Always check to see if the blades are in good condition. If the blades are blunt, damaged or showing signs of imbalance, they must be replaced. Only use recommended replacement blades. Make certain **ALL** 3 blades and screws are replaced at the same time to keep a balanced cutting system. Replacement blades can be purchased by contacting Customer Service.

## Replacing the Blades:

1. Press the STOP button and allow the blade to come to a complete stop.
2. Lift the battery compartment cover. Remove the safety key and the battery.
3. Slowly turn the mower over. Place it on a soft and clean surface.
4. Use a suitable tool (e.g., a screwdriver) to insert into one of three holes in the blade disc to fix it in place (Fig. 20). This ensures the blade disc is not turning when replacing the blades to avoid personal injury.
5. Wear protective gloves and use a screwdriver or hexagonal socket wrench to remove all three screws and blades (Fig. 21).
6. Secure the new blades with new screws.
7. Make sure all blades can spin freely.



## CLEANING THE UNDERSIDE THE BLADE

It is recommended to check and clean the underside of the robotic mower regularly.

1. Press the STOP button and allow the blade to come to a complete stop.
2. Lift the battery compartment cover. Remove the safety key and the battery.
3. Slowly turn the mower over. Place it on a soft and clean surface.
4. Use a soft brush or damp cloth to remove dirt, dust, oil, grease, etc. from the underside of the mower.



## CAUTION

Do not wash the mower with running water.

5. Wear safety gloves to clean the blade disc, the chassis, and the front and rear wheels thoroughly with a soft brush or damp cloth. Remove any lodged debris around them.
6. Make sure the blade disc can rotate freely and all blades can spin freely.

# MAINTENANCE

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## STORING THE MOWER

It is recommended to store the robotic mower indoors between uses.

1. Before storing your mower, remove the safety key and the battery pack.
2. Clean the mower thoroughly.
3. Use the carry handle to carry the mower. Carry the mower with the blade disc away from the body (Fig. 22).
4. Store the mower indoors in a clean, dry place out of the reach of children.

**IMPORTANT:** Protect the underside of mower from standing water. NEVER store the mower upside down outdoors.

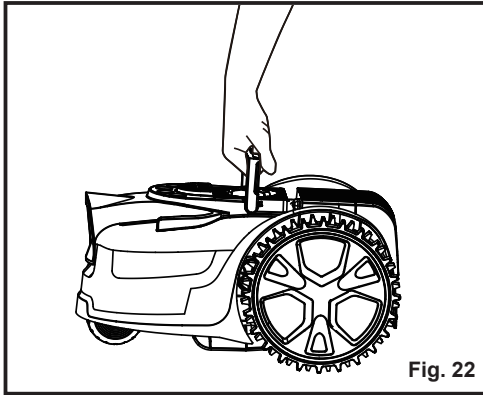


Fig. 22

## BATTERY PACK MAINTENANCE

1. Fully charge the battery before placing in storage.
2. Recharge the battery pack whenever there is a noticeable reduction in the performance. Do not allow the battery pack to become completely discharged.
3. Do not recharge a battery pack that is already fully charged. Overcharging shortens battery life.
4. Once the battery pack is fully charged, remove the battery from the charger and disconnect charger from the outlet.
5. Do not store the battery pack on the tool or on the charger.
6. If the battery pack is hot, allow it to cool down before recharging.

## CHARGER MAINTENANCE

1. Keep the charger clean and clear of debris. Do not allow foreign material into the recessed cavity or on the contacts. Wipe with a dry cloth. Do not use solvents, water, or place in wet conditions.
2. Always unplug the charger when the battery pack is not installed on the charger.
3. Do not store the charger in excessive heat. Do not use in direct sunlight.
4. Disconnect the charger from the AC power outlet when not in use and once battery has reached a full charge.

# MAINTENANCE

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## UPDATING THE SOFTWARE

The mower may require periodic software updates to improve functionality. Check our website every few months to see if a new software is available to download.

**NOTE:** Make sure the USB flash drive works normally and the robotic mower is switched on by pressing the START/ON button for 1 second before updating.

**NOTE:** Make sure the battery indicator is green and the mower has sufficient power for updating the software.

1. Download the robotic mower's latest software from our support website onto a blank USB flash drive device.
2. Stop the mower and remove the safety key.
3. Turn the mower upside-down. Wear protective gloves and open the USB port rubber cap to reveal the USB port (Fig. 23).
4. Insert the safety key. Unlock the mower if the mower is locked.
5. Press the START/ON Button for 1 second, and wait for 15 seconds until the robotic mower is powered on completely indicated by a green battery light and beep. Insert the USB flash drive into the USB port, then you will hear four beeps. The software is updating when three indicators (battery indicator, unlock indicator and error indicator) are flashing.
6. After the software update is complete, you will hear continuous beeping and the battery indicator will be green continuous.
7. Remove the USB flash drive. Replace the USB port rubber cap. To complete the software update, restart the machine by removing and reinserting the safety key.

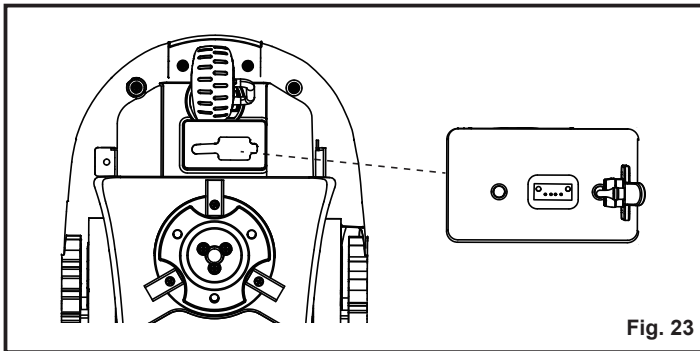


Fig. 23

# ENVIRONMENTAL SAFE BATTERY DISPOSAL

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The following toxic and corrosive materials are in the batteries used in this battery pack:  
**lithium-ion, a toxic material.**

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## WARNING

All toxic materials must be disposed of in a specific manner to prevent contamination of the environment. Before disposing of damaged or worn-out lithium-ion battery packs, contact your local waste disposal agency, or the local Environment Protection Agency for information and specific instructions.

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## WARNING

If the battery pack cracks or breaks, with or without leaks, do not recharge it and do not use it. Dispose of it and replace with a new battery pack.

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### DO NOT ATTEMPT TO REPAIR IT!

**To avoid injury and risk of fire, explosion, or electric shock, and to avoid damage to the environment:**

- Cover the battery terminals with heavy-duty adhesive tape.
- **DO NOT** attempt to remove or destroy any of the battery pack components.
- **DO NOT** attempt to open the battery pack.
- If a leak develops, the released electrolytes are corrosive and toxic. **DO NOT** get the solution in eyes or on skin, and do not swallow it.
- **DO NOT** place damaged or defective batteries in your regular household trash.
- **DO NOT** incinerate.
- **DO NOT** place batteries where they will become part of any waste landfill or municipal solid waste stream.
- Take batteries to a certified recycling or disposal center.

# TROUBLESHOOTING

Suspected malfunctions are often due to causes that the user can fix themselves.

Therefore, check the product using this section. In most cases the problem can be solved quickly.

## **WARNING**

Only perform the steps described within these instructions!

All further inspection, maintenance and repair work must be performed by an authorized service center or a similarly qualified specialist if you cannot solve the problem yourself!

Gloves and appropriate protective clothing must be worn when performing these instructions. Always turn off the mower before making any adjustment.

PROBLEM	POSSIBLE CAUSE	SOLUTION
The robotic lawn mower is stuck during mowing.	Grass or other debris is wrapped around the wheels.	Check wheels and remove the grass or objects.
	Grass or other debris is wrapped around the blade disc.	Check the blade disc and remove the grass or objects (always wear gloves).
	The blade disc is submerged in water.	Move the robotic mower and prevent the collection of water in the working area.
	The robotic mower has got caught in something.	Free the mower and remove the obstacle.
	The robotic mower is stuck behind a number of obstacles.	Check if there are any obstacles which make it hard for the robotic mower to move on from this location. Remove the obstacles.
	The mower is stuck in an uneven dip or hole in the lawn.	Ensure that dips and holes in the lawn are leveled with topsoil and over-seeded with grass seed.
	The lift sensor has been activated as the mower has become trapped.	Free the mower.
The robotic lawn mower fails to start.	The safety key is not installed correctly/fully.	Install the safety key correctly.
	The battery is not installed correctly.	Ensure the battery is correctly installed.
	The battery is not fully charged.	Charge the battery.
	Possible clogging.	Remove the safety key and battery. Check underneath the mower and clear as necessary (always wear gloves).

# TROUBLESHOOTING

	The grass is too long.	Set a higher cutting height. If grass length is taller than highest cutting height, trim grass down to a manageable height.
	The battery is defective.	Replace the battery.
	Defective START/ON Button.	Contact Customer Service.
The robotic lawn mower runs outside working area.	Incorrect barriers are used for defining the working area.	Check the borders/barriers for correct setting for defining the working area. Make improvements or temporary barriers if necessary. Refer to the Defining the Mowing Area on page 20-25.
	The ultrasonic sensors are turned off.	Turn on the ultrasonic sensors.
	The working area is steeper than 20°.	Reduce mower access to areas that are steeper than 20°.
The robotic lawn mower is upside down.	The robotic mower is leaning too much or has turned over.	Turn the robotic mower the right way up and rectify the reason for it getting turned over.
Unknown problem with control or function.	Temporary electronic or software related issue in the mower.	Remove and re-insert the safety key. Restart the mower. Download and install the latest software update. If the problem remains, contact Customer Service.
The robotic lawn mower runs on the lawn, but the blade disc does not rotate.	The robotic mower searches for correct working area.	This is normal. The mower needs to work in a suitably wide area. The blade disc does not rotate while it is searching for the proper working area automatically.
The robotic lawn mower vibrates.	Cutting blades are damaged.	Replace the blades. Refer to Replacing the Mower Blade section on page 30-31. Replacement blades can be purchased by contacting Customer Service.
	Too many blades in the same position lead to imbalance in the cutting system.	Check that only one blade is fitted at each screw and that blades are not stuck.
	Different versions (thickness) of blades are used.	Check if the blades are of different versions (thickness).
	The blade screw is loose.	Tighten the blade screws.



# TROUBLESHOOTING

Grass is being cut unevenly.	Working area is too big.	Adjust the borders/protections to decrease the size of the mowing area. Recharge the battery to mow the area twice or purchase an additional battery to increase the size of the cut area.
	Blades are dull.	Replace all the blades and screws. Refer to Replacing the Mower Blade section on page 30-31. Replacement blades can be purchased by contacting Customer Service.
	Height of cut is too low, or the grass is too high.	Increase the height of cut.
	There is grass wrapped around the blade disc.	Check underneath the mower and clear as necessary (always wear gloves).
Area of cut (battery duration) is not large enough.	Height of cut is too low, or the grass is too high.	Increase the height of cut.
	The grass is wet or damp.	Wait until the grass is dry.
	The grass is dense.	Increase the height of cut and cut more frequently.
	The battery is not fully charged.	Charge the battery.
	The lawn area is too large.	Recharge the battery and mow again or purchase an additional battery for extended mowing of larger areas.
The cutting blade is not rotating while the mower is switched on.	The cutting blade is obstructed.	Remove the safety key and the battery pack. Clear obstruction (always wear gloves).
	The blade screw is loose.	Tighten the blade screws.
Error indicator is yellow continuous.	The lift sensor is activated for 10 seconds.	Remove and re-insert the safety key. Check the working area for obstacles taller than 3.94" (10 cm) and remove them. Restart the mower.
	The obstruction sensor has tripped 10 times within one minute.	Remove and re-insert the safety key. Remove any obstacles. Check whether the grass is too tall. If necessary, mow the grass to below 2.36" (60 mm) with a conventional lawn mower. Restart the mower.

# TROUBLESHOOTING

Error indicator is yellow continuous.	The robotic mower has been tilted for a prolonged time in one direction.	Remove and re-insert the safety key. Remove any obstacles. Restart the mower.
	The rear wheels have been lifted due to an obstacle.	
	The mower has fallen over.	
	STOP button is pressed.	Remove and re-insert the safety key. Restart the mower.
	The robotic mower cannot see grass.	Move the robotic mower to the lawn and restart it.
Error indicator is red continuous.	Sensor error.	Remove and re-insert the safety key. Restart the mower. If the problem remains, contact Customer Service.
	Overcurrent in the motor or motor fault.	Remove and re-insert the safety key. Check for and remove any obstacles around the rear wheels and the blade disc. Increase the cutting height. Check whether the grass is too tall. If necessary, mow the grass to below 2.36" (60 mm) with a conventional lawn mower. Restart the mower. If the problem remains, contact Customer Service.
	Operation system error.	Remove and re-insert the safety key. Restart the mower. If the problem remains, contact Customer Service.
Ultrasonic indicator is yellow flashing.	The mower has a communication issue with camera.	It is too dark for camera to work. Operate the mower during daylight hours only. Remove and re-insert the safety key. Restart the mower.
The battery indicator is red flashing.	The temperature of battery pack is abnormal.	Allow the machine to cool down to reach a normal temperature. Then restart the mower. If the problem remains, contact Customer Service.
	Electric core fault. (The error indicator is red continuous at the same time.)	Remove and re-insert the safety key. Restart the mower. If the problem remains, contact Customer Service.

# TROUBLESHOOTING

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No charging procedure possible.	The battery contacts are contaminated.	Clean the battery contacts (e.g. by inserting and removing the battery several times) or replace the battery.
	Socket outlet, mains cable or battery charger are defective.	Check the mains voltage. If necessary, contact Customer Service.
	The battery has a fault.	Replace the battery.
The charge control LEDs do not light up after inserting the mains plug into the socket.	Mains plug of the battery charger is not plugged in properly.	Insert mains plug fully into the socket outlet.
	Socket outlet, mains cable or battery charger are defective.	Check the mains voltage and if necessary, contact Customer Service.

**For more status of the indicator lights on battery & charger, refer to page 17 & 18.**

# LAWNMASTER® WARRANTY

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We take pride in producing a high quality, durable product. This LawnMaster® product carries a limited two (2) year warranty against defects in workmanship and materials from date of purchase under normal household use. If product is to be used for commercial, industrial or rental use, a 30 day limited warranty will apply. **Batteries carry a one-year warranty against defects in workmanship and materials.** Batteries must be charged in accordance with the operator's manual directions and regulations in order to be valid. Warranty does not apply to defects due to direct or indirect abuse, negligence, misuse, accidents, repairs or alterations and lack of maintenance. Please keep your receipt/packing list as proof of purchase. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state. For product service call Customer Service at 1-866-384-8432.

Items not covered by warranty :

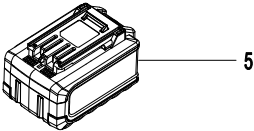
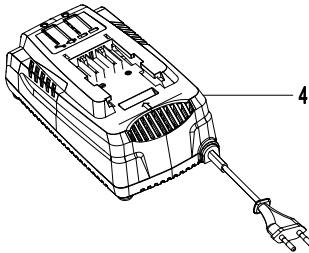
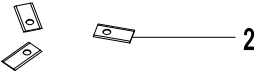
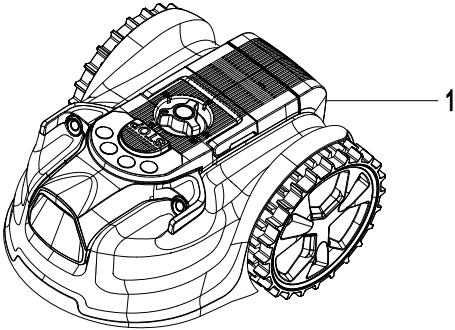
1. Any part that has become inoperative due to misuse, commercial use, abuse, neglect, accident, improper maintenance, or alteration;
2. The unit, if it has not been operated and/or maintained in accordance with the owner's manual;
3. Normal wear, except as noted below;
4. Routine maintenance items such as lubricants;
5. Normal deterioration of the exterior finish due to use or exposure;

Transportation Charges : Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser. It is the purchaser's responsibility to pay transportation charges for any part submitted for replacement under this warranty unless such return is requested in writing by LawnMaster®.

**SAVE YOUR RECEIPTS. THIS WARRANTY IS VOID WITHOUT THEM.**

# EXPLODED VIEW

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# PARTS LIST

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Key Number	Part Number	Description	Quantity
1		Mower Assembly	1
2	631001160	Blade	3
3	631018101	Screw for Blade	3
4	631007133	Charger	1
5	631007134	Battery	1

Replacement parts highlighted in grey are available for after sales purchase. Replacement of repair or internal parts should only be done by a qualified service professional. Please contact your authorized service dealer or Customer Service at 866-384-8432.



