Robomow®

Operating & Safety Manual

RL MODELS

Everything you need to know about Robomow is in this manual.

The instructions are simple and user-friendly.

The manual is to be used for:

1. Robomow RL2000

2. Robomow RL555 and Robomow RL855

Most instructions in this manual are for ALL models.

Some parts are intended for specific models or specific configurations.
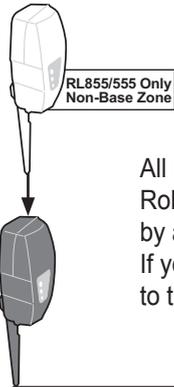
Model-specific paragraphs

All information by the "**RL2000 Only**" margin-line is for Robomow RL2000 only.
If your Robomow is NOT RL2000, please **skip** down to the end of this margined-line.

All information by the "**RL555 RL855 Only**" margin-line are for Robomow RL555 or RL855 only.
If your Robomow is NOT RL555 or RL855, please **skip** down to the end of this margined-line.

All information by the "**RL855/555 Only. Non-base zone**" margin-line is either for Robomow RL555/RL855 OR for
Robomow RL2000, when used in an area of the lawn controlled
by a Perimeter Switch (not Base Station controlled).
If you are using Robomow RL2000 in a Base Station controlled zone, please **skip** down
to the end of this margined-line.
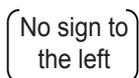
All information with no special sign is relevant to **ALL** models of Robomow.

Model specific short text

Short text next to this sign is relevant to Robomow RL2000 only.

Short text next to this sign is relevant to Robomow RL555 or RL855 only.

EU Declaration of Conformity

Manufacturer: F. Robotics Acquisitions Ltd.
Hatzabar St., Industrial Zone
P.O.Box 1412 Pardesiya,
42815 Israel

The products covered by this Declaration

24 Volt Battery operated Automatic Lawn Mower model RL2000 (with Base Station)

24 Volt Battery operated Automatic Lawn Mower model RL855/555 (with Perimeter Switch)

F. Robotics Acquisitions Ltd. declares under sole responsibility that the products identified above conforms with the protection requirements of the EMC directive and with the principal elements of the safety objectives of the Low Voltage Equipment directive, and that the following standards have been applied:

- **EMC**
  EN 55014-1:2006 & EN 55014-2:1997 + A1:2001 (Robomow)
  EN 55024:98 + A1:2001 + A2:2003 + EN 55022:1998 + A1:2000 + A2:2003 (Charging Station)

- **Electrical Safety**
  BS EN 60335-1:2002 *AMD1 15172, 2002 *AMD2 15626, 2005 *AMD4 15051,
  2004 *AMD5 15536, 2005 *AMD6 16671, 2007
  BS EN 50338: 2006 AMD1 16778, 2006

- **Machinery Directive**
  Directive 2006/42/EC
  Safety of Machinery – Risk Assessment ISO 14121-1/2

- **Noise Directive**
  To BS EN ISO 3744: 1995 and *ISO 11094: 1991. With reference to Outdoor noise directive 2000/14/EC: Amended by directive 2005/88/EC and the corrigenda table 1. Article 12: Test code of Annex III Part B Item 32.

  Sound level
  Measured sound power level: LwA = 76.6 dB
  Guaranteed sound power level: LwA = 80 dB

- **EMF**
  BS EN 50366: 2003 amd1 16426, 2006

EMC Competent Body	All Others Directives Competent Body
QualiTech 30, Hasivim Street P.O. Box 3083 Petah Tikva 49130 Israel	SGS UNITED KINGDOM LIMITED Rossmore Business Park ELLESMERE PORT CH65 3EN South Wirral Cheshire United Kingdom

The technical documentation kept by Mr. Dedy Gur, QA director. Address: Hatzabar St., Industrial Zone P.O.Box 1412 Pardesiya, 42815 Israel. And Mr. Lennert Van der Pols Friendly Robotics BV. Address: Expeditieweg 4-6 Andelst 6673 DV, Nethelands.

I hereby declare that the above product conforms to the requirements as specified above.

Shai Abramson – Senior VP R&D

F. Robotics Acquisitions Ltd.
1 October 2010

Robomow®

The products are manufactured by F. Robotics Acquisitions (Friendly Robotics).

CE approved.

Product, product specifications and this document are subject to change without notice. All other trademarks are property of their respective owners.

Welcome to the world of home robotics with the Friendly Robotics Robomow!

Thank you for purchasing our product. We know that you will enjoy the extra free time you will have while using Robomow to mow your lawn. When set up and used properly, Robomow will operate safely on your lawn and provide you with a quality of cut matched by a few mowers of any kind. You will be impressed with your lawn's appearance and best of all, Robomow did it for you.

IMPORTANT!

The following pages contain important safety and operating instructions.
Please read and follow all instructions in this manual. Carefully read and
review all safety instructions, warnings and cautions contained in this manual.
Failure to read and follow these instructions, warnings and cautionary statements
may result in severe injury or death to persons and pets or damage to personal property.
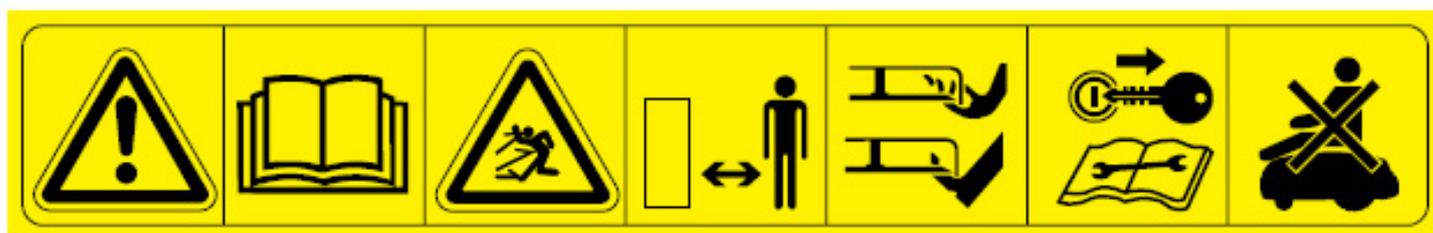
Warning Decal Definitions

These are the symbols on Robomow®; Read them carefully before operating Robomow®.

DANGER! Sharp rotating blades. Keep hands and feet away.
Serious injury can occur. Caution – Do not touch rotating blade(s)
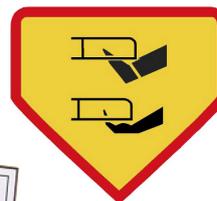
CAUTION! Remove Power Pack before
attempting to lift the mower for any reason.

1. Safety alerts symbol – WARNING - **this is a dangerous power tool. Use care when operating and follow all safety instructions and warnings.**
2. Read operator's manual – **Read user instructions before operating your Robomow®**
3. Hazard of Thrown or flying objects - **Whole body exposure, take caution.**
4. Keep a safe distance from the machine when operating
   Keep people in particular children, pets and bystanders away from the area in which Robomow is being used.
5. Severing of toes or fingers - Rotary mower blade
   Risk of injury from rotating cutting blade. Keep hands and feet away and do not attempt to lift Robomow from this area.
6. Remove the disabling device before working on or lifting Robomow®. **Remove the Power Pack before working on or lifting Robomow®.**
7. **Do not ride on Robomow®.**

Do not dispose Robomow® or any other part of it as unsorted municipal waste – it should be collected separately.

WARNING!

**This warning symbol will be found at several points throughout the pages of this manual.
It is intended to highlight an important safety, warning or cautionary message.
Please pay particular attention to these areas and be sure you fully understand the message before proceeding.**

Safety Warnings & Precautions

<u>**Use**</u>

1. **Read this Operating and Safety Manual** carefully and be familiar with the controls and the proper use of Robomow® before operating Robomow®.

2. Never allow children or people unfamiliar with these instructions to use Robomow®.

3. Never mow while people, especially children, or pets are nearby.

4. It is strongly recommended to use the *CHILD GUARD* or *ANTI THEFT* (4 PIN code) option in order to prevent operation by children or others who are not familiar with Robomow® operation.

5. **Never let Robomow® operate without supervision**.

6. The operator or user is responsible for accidents or hazards occurring to other people or their property.

7. Wear eyes protection and use gloves when installing the perimeter wire and driving the wire stakes/pegs. Firmly drive all pegs in order to keep the wire from becoming a tripping hazard.

8. Make sure to layout and install the perimeter wire according to the instructions.

9. Periodically inspect the area mowed by Robomow®, and remove stones, sticks, wires, bones and other objects. Objects struck by the blades may be thrown and cause severe injuries to people.

10. In case of abnormal vibrations, stop the mower, remove the power pack and visually check for any damage of the blade or mowing deck. Replace worn or damaged blades to preserve balance. If vibration continues, call for service.

11. Keep hands and feet away from the cutting blades and other moving parts.

12. **Always remove the Power Pack before lifting the mower** or attempting any adjustments. Do not to touch the blades before the blades have come to a complete stop.

13. Never attempt to service or adjust the mower while it is in operation.

14. When programming the automatic departure times and days, do not leave the machine to operate unattended if you know that there are pets, children or people in the vicinity.

15. Do not use Robomow® for any purpose other than for which it is intended.

16. Do not operate Robomow® if any safety feature or device is damaged or inoperable.

17. Never allow anyone to ride or sit on mower.

18. Warning! When there is a risk of a lightning storm, disconnect the perimeter wire from the Base Station/ Perimeter Switch and the Power Supply 230V/120V plug from the mains socket.

19. Keep all guards, shields, safety devices, and sensors in place. Repair or replace damaged parts, including decals. Do not operate Robomow® if any parts are damaged or worn.

20. Never pick up or carry this appliance while the motors are running.

21. <u>**Transport**</u> - to safely move from or within the working area:

    1. Use caution when lifting Robomow®, it is heavy! Before lifting it, always take out the battery.

    2. Use the Manual Controller to drive it from place to place.

    3. In case of different height level or stairs, remove the Power Pack from the mower and carry the mower by the carrying handle (See Introduction - 8).

<u>**Using Manual Controller**</u>

22. Mow only in daylight or in a good artificial light and avoid operating in wet grass;

23. Do not operate Robomow® when barefoot or wearing open sandals. Always wear substantial footwear and long trousers;

24. Always be sure of your footing on slopes;

25. Use extreme caution when reversing the appliance towards you;

26. Always switch on the motor according to instructions with feet well away from the **blades**;

27. Do not mow manually in slope greater than 15 degrees or where a firm footing is not possible;

<u>**Maintenance**</u>

28. **Always remove the Power Pack** from the Robomow® in the following cases: before clearing blockage/ checking/ cleaning/ working on Robomow® or replacing the blades.

29. **Always remove the Power Pack** from the Robomow® after striking a foreign object or whenever Robomow® starts vibrating abnormally.

30. Use heavy gloves when inspecting or servicing the blades.

31. Do not open or mutilate the power pack. Released electrolyte is corrosive and may damage the eyes or skin.

32. Replace worn or damaged parts for safety;

33. Use only the original equipment and accessories. It is not permitted to modify the original design of Robomow®. All modifications are made at your own risk.

34. Ensure that batteries are charged using the correct charger recommended by the manufacturer. Incorrect use may result in electric shock, overheating or leakage of corrosive liquid from the battery;

35. Maintenance/ Servicing of Robomow® should be according to manufacturer instructions;

36. A spark may be created when inserting the power pack or fuse to the robot. Therefore it is forbidden to perform these tasks close to flammable materials. It is also forbidden to use spray or any other cleaning materials for cleaning electronic contacts, due to this risk of inflammation when inserting the power pack or fuse.

Product end of use

37. Robomow® and its accessories should be collected separately at the end of their life to prevent waste electrical and electronic equipment from ending up in landfill sites, to promote the reuse, treatment and recovery of electrical and electronic equipment in purpose to preserve, protect and improve the quality of the environment, protect human health and utilize natural resources prudently and rationally.

38. Do not dispose Robomow® or any other part of it (including the Charger, Base Station and Perimeter Switch) as unsorted municipal waste – it should be collected separately.

39. Ask your local distributor/dealer about return and collection systems available.

40. Do not dispose of the battery pack in a fire and do not place used batteries in your household trash. The battery must be collected, recycled, or disposed of in an environmentally sound manner.

Robomow® - Safety Features

1. **Child Guard / Safety Guard**
   This menu option offers a safety feature to help prevent children or others not familiar with the safe operation of the mower to operate it freely.

2. **Lift Sensor**
   There is a sensor located on the front of the mower. In the event the mower is raised from its resting position on the ground during blade operation, the blades will stop rotating immediately (< 1 second).

3. **Sensor Equipped Bumpers**
   The front and rear bumpers are equipped with contacts that will activate when the mower strikes a solid, fixed object. When the bumper sensor is activated, the mower stops the blades immediately and reverses itself away from the obstacle.

4. **Emergency Stop Switch**
   The STOP button is located on the Manual Controller. Pressing this button at any time during operation will stop all mower movement and the rotation of the blades immediately.

5. **Two-Step Operator Presence Control**
   While in manual mode, it requires two independent finger actions in order to engage the mower blades. Once engaged, the mower blade button must remain depressed to continue blade operation. Once released, the two-step engagement process must be repeated.

6. **Sealed Batteries**
   The batteries that operate the Robomow® are completely sealed and will not leak any type of fluids, regardless of position.
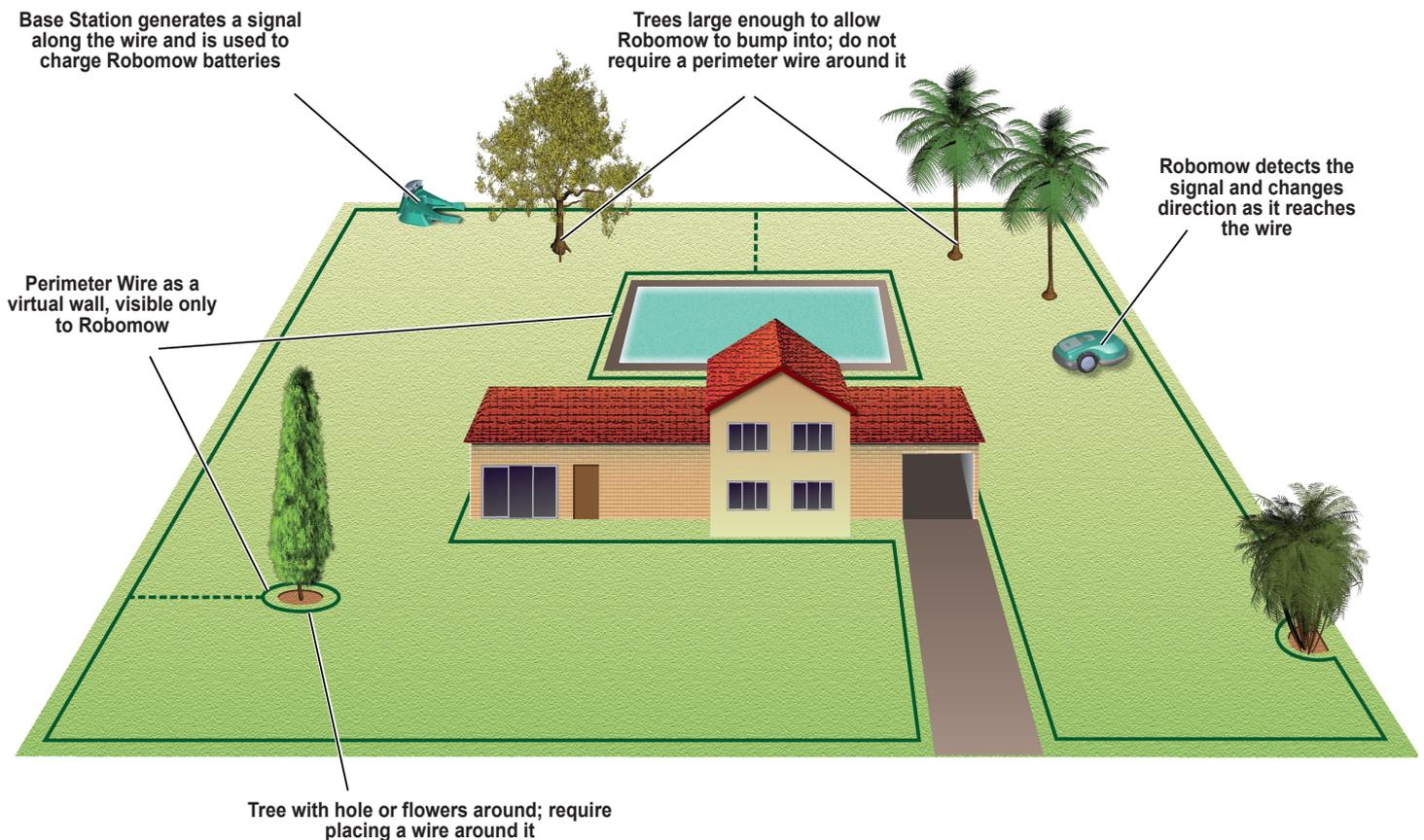
7. **Perimeter Switch and Perimeter Wire**
   The Robomow® cannot operate without a perimeter wire installed and activated through the Base Station/ Perimeter Switch. In the event the Perimeter Switch is turned off or otherwise fails to function, the Robomow® will stop operating.

8. **Automatic departure warning alert**
   When the mower is scheduled to depart the Base Station automatically per a scheduled time, a warning sound and the operating lamp will activate 5 minutes prior to departure. This is a warning notification to clear and inspect the area.
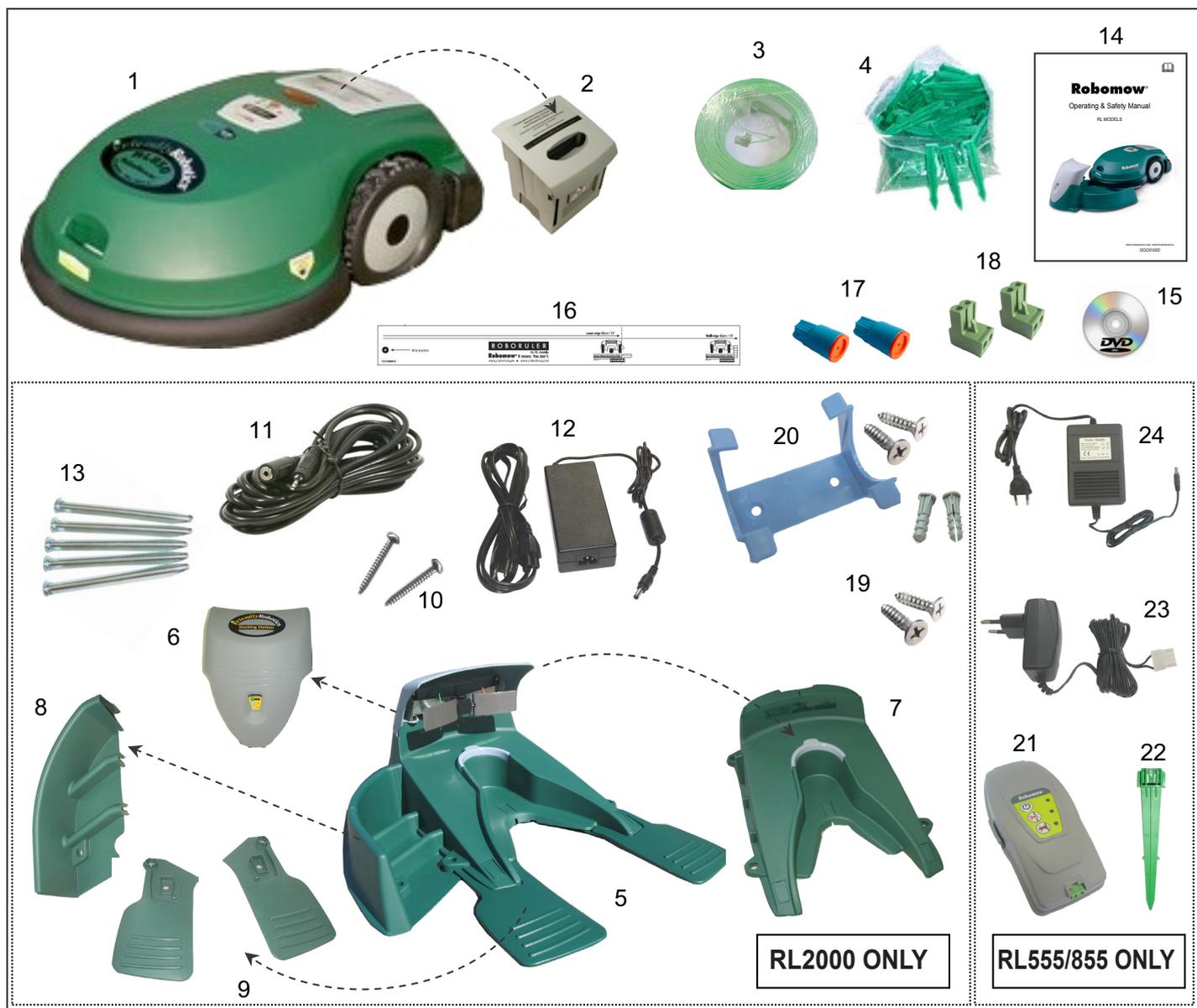
How It Works

- A one-time setup is required before operating Robomow; a small wire, called the perimeter wire, is placed around the edge of the lawn and any other areas where you do not want the mower to enter.
- Small pegs are supplied with Robomow and they are used to fasten and hold the perimeter wire to the ground, below grass level; the wire will soon disappear under the growth of new grass and will not visible.
- The Base Station is placed along the perimeter wire and it has two main functions:
    - To generate a small signal along the perimeter wire (very low voltage);
    - To charge Robomow batteries.
- After completing the one-time set-up of wire around the lawn including the Base Station set the weekly program and forgets about mowing for the entire season!
- Robomow will leave the Base Station on the day and time scheduled in the automatic weekly program; it will mow the lawn and will drive back for charging in the Base Station to be ready for the next operation.
- When Robomow leaves the Base Station it automatically starts the signal carried through the Base Station; the signal creates a virtual wall, which is visible only to the Robomow, keeping it inside the lawn preventing it to cross over area where you do not want it to enter.

Base Station generates a signal along the wire and is used to charge Robomow batteries

Trees large enough to allow Robomow to bump into; do not require a perimeter wire around it

Robomow detects the signal and changes direction as it reaches the wire

Perimeter Wire as a virtual wall, visible only to Robomow

Tree with hole or flowers around; require placing a wire around it

Robomow®

It mows. You don't.sm

What's in the Boxes

RL2000 ONLY

RL555/855 ONLY

1	**Robomow**®	9	**Base Station wheel supports** Used for supporting Robomow drive wheels when entering and departing the Base Station.	17	**Wire connectors** Used for splicing wires (as needed).

| No.	Item	No.	Item	No.	Item
1	**Robomow**®	9	**Base Station wheel supports** Used for supporting Robomow drive wheels when entering and departing the Base Station.	17	**Wire connectors** Used for splicing wires (as needed).
2	**Power Pack**	10	**Screws x2** Used for assembling the Base Station wheel supports to the Base Station.	18	**Plot connector** Used for connecting the completed perimeter wire set-up to the perimeter switch/Base Station.
3	**Perimeter Wire** Used to create a virtual wall for your Robomow.	11	**Extension cord** (15meters low voltage cable)	19	**Screws x2** Used for assembling the Base Station Cover to the Base.
4	**Pegs -** Used for securing the wire to the ground.	12	Indoor **Power Supply**	20	**Power Supply holder** (+ screws and dowels) Used for fixing the Power Supply to a wall.
5	Assembled **Base Station**.	13	**Base Station Stakes -** Used for securing the Base Station to the ground.	21	**Perimeter Switch**
6	**Base Station Cover** Used for recharging the Robomow Power Pack and activates the perimeter wire.	14	**Operating & Safety Manual**	22	**Perimeter Switch Stake -** Used to hold the perimeter switch vertical to the ground.
7	**Base -** Used for directing the Robomow to the charging contacts.	15	**DVD** – Setup and Operation video.	23	**Power Supply for Perimeter Switch** – Used for operating the perimeter switch. Batteries available as an accessory
8	**Charging Fence** Used for preventing the Robomow to climb on the Base Station during operation.	16	**RoboRuler** Used for setting the distance of the perimeter wire from the lawn edge.	24	**Power Supply (for charging Robomow)**

Name of the Parts

Robomow®

1. Charging Contact Pins
2. Carrying handle
3. Manual Controller
4. Operating Lamp
5. Power Pack
6. Bumpers with touch sensitive sensors

Manual Controller Panel
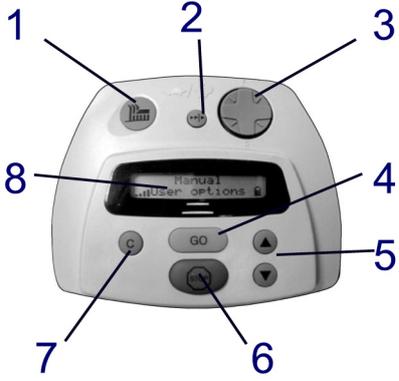
1. Manual blade engagement button
2. Manual drive speed control – fast/slow
3. Navigator button
4. GO button
5. Scroll arrows for menu selection
6. Stop button
7. Clear/cancel button
8. LCD display window

Base Station
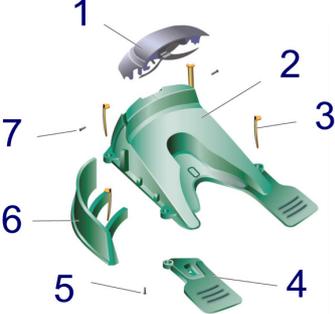
1. Cover
2. Base
3. Stakes (x5)
4. Drive wheels support
5. Screws (x2)
6. Fence
7. Screws (x2)

Perimeter Switch
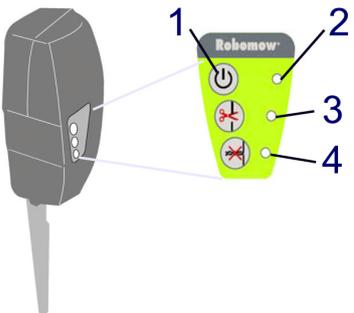
1. ON/OFF button
2. Flashing light indicates the system is on
3. Indicates a disconnected/broken wire
4. Indicates poor splicing of perimeter wires or perimeter wire, which is too long

Chapter 1   Planning

RL2000 Only

Before starting the setup, please read this chapter fully and watch the setup DVD. This will help you determine the best location for the Base Station [RL2000], for the perimeter wire layout, or for the perimeter switch.

1.1   Determine Base Station location

Robomow's Base Station is placed along the Perimeter Wire. This is where the wire "loop" starts and ends. The Base Station has two main functions:

- It generates a small signal along the perimeter wire (very low voltage), which serves as an "invisible wall" setting the lawn boundaries for Robomow.

- It charges Robomow's batteries.

> After completing the one-time set-up of the Perimeter Wire and the Base Station, a weekly program is set. That's when Robomow does your mowing for the entire season!

> Robomow leaves the Base Station on the day and time scheduled in the automatic weekly program. It mows the lawn and it returns to the Base Station for recharging.

First, you decide where the Base Station will be placed…

■ Inside the lawn area, along its outer edge.

Or:

■ Outside the lawn area

1.1.1   Consider the following in order to choose the best location:

- ❍ If the lawn has more than one zone, set the Base Station within the largest plot or zone.

- ❍ Make the Base Station invisible to the street.

- ❍ Prefer a shady spot.
  > This will extend battery lifetime

- ❍ Place the Base Station on a relatively level ground.

- ❍ Do NOT place it on a slope.

- ❍ Place the Base Station at least 1 meter from corners.

- ❍ Place the Base Station away from sprinkler heads.
  > Water or rain does not harm Robomow. However, we recommend a distance from sprinklers for maximum protection.

Option A - Internal setup
(Inside the lawn along the outer edge)
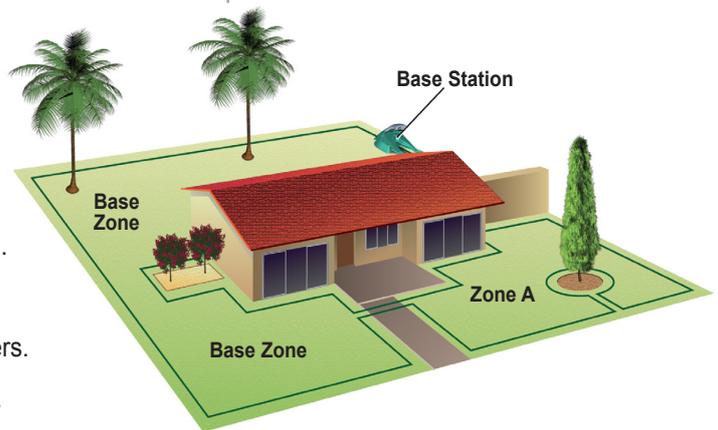
1.1.2   If Base Station is to be located outside the lawn area

External setup of the Base Station allows the Base Station to be located outside the lawn area, close to its edge.

Consider the following in order to choose the best **external** location:

- ❍ Choose a place close to the lawn edge.

- ❍ The passing between the lawn and the Base Station should be smooth, with no height differences.
  > This will enable Robomow to follow the wire smoothly to its Base Station.

- ❍ The surface of the external area should be hard (e.g. a sidewalk, firm ground). It should not be sandy or stony.
  > This will prevent Robomow from slipping or getting stuck.

Option B - External setup
(Outside the lawn)

RL2000 Only
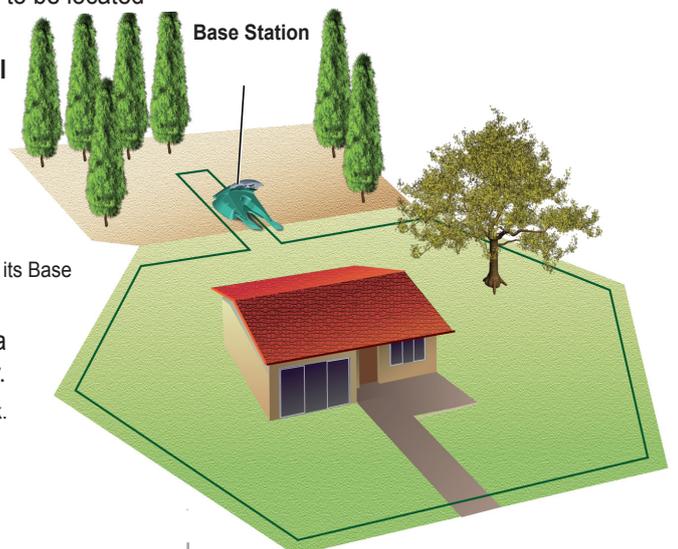
1.1.3 Determine location of Power Supply

❍ The Base Station should be close enough (15 m/50 ft) to a wall electrical socket (230V / 120V). The indoor Power Supply unit will be connected to it.

❍ Robomow's 15 m (50 ft) low voltage cable connects to the power supply unit. The length of the low voltage cable must NOT be changed.

❍ Select the right location for the power supply unit:
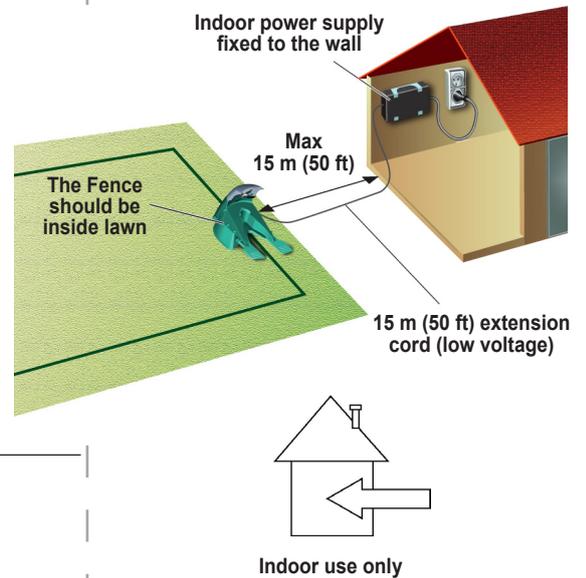
Indoor power supply fixed to the wall

Max 15 m (50 ft)

The Fence should be inside lawn

15 m (50 ft) extension cord (low voltage)

The power supply is suitable for indoor use only. Choose a sheltered, dry, well ventilated spot.
It should NOT be exposed to direct sunlight or rain.

Indoor use only

RL2000

1.2 Planning the Perimeter Wire's layout

The Perimeter Wire functions as an "invisible wall" for Robomow. It sets the boundaries of lawn zones and it surrounds specific areas where you do not want Robomow to enter.

The Perimeter wire is held to the ground with small pegs, supplied with Robomow. Soon after setting, the wire will become invisible under the growth of new grass.

As soon as Robomow starts operating, it turns on a signal that runs along the Perimeter Wire. This signal keeps Robomow within its working zones and away from preset demarcated areas.

1.2.1 Is your lawn a single contiguous area?

If grass areas are contiguous, Robomow will automatically mow all zones tracking the Perimeter Wire you set around the lawn.

Base Station

Min 1 m (3 ft)

Perimeter Switch

>1.5 m (4.9 ft)
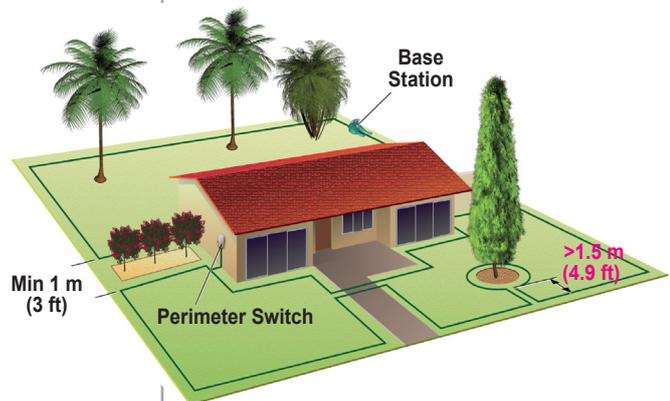
1.2.2 Does your lawn have more than one zone?

If your lawn areas are separated by fences, sidewalks or other objects, you may wish to set Robomow to work in more than one zone. Create separate zones in more than one way:

❍ You may use one Perimeter Switch or one Base Station **RL2000**: Connect all zones together in one long loop of the Perimeter Wire. The Perimeter wire can be as long as 500 meters (1650 ft) in one loop

Or:

❍ You may set **both** Base Station **RL2000** and a Perimeter Switch: Connect one or more zones to the Base Station. In addition, connect other zones to a Perimeter Switch available as an accessory for RL2000.
The Perimeter Switch may be moved from one zone to another.
To switch zones, Robomow will be driven or carried to the proper location.

Base Station

Base Zone

Zone B

Zone A

Maximum length of wire connected to the Base Station in one loop is 500 m (1650 ft)

While the picture shows two wires separate, they should be adjacent
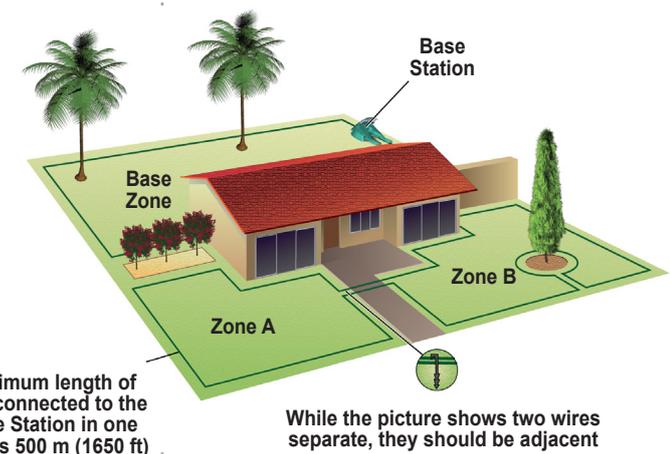
1.2.3 Will Robomow be driving through a narrow pass in order to move between two connected zones?

A narrow pass is part of the lawn that connects two larger zones. The width of this pass determines how it should be set-up.

If the pass…	Setup:
Is **walled** (fence, building, etc) and width is More than 2.00m (6.6 ft) OR Edge of pass is an **open area** and width is more than 1.70m (5.6 ft)	Regular setup, as Robomow can navigate between the areas while mowing. (Refer to paragraph 2.1.2).
Is **walled** (fence, building, etc) and width is 1.5m – 2.00m (4.9 – 6.6 ft) OR Edge of pass is **an open area** and width is 1.1m – 1.70m (3.6 – 5.6 ft)	Set as a "Narrow Pass": Robomow will drive through the pass, but will NOT get across while mowing each area. (Refer to paragraph 2.2.2).
Is **walled** (fence, building, etc) and width is smaller than 1.5m (4.9 ft) OR Edge of pass is **open area** and width is smaller than 1.1m (3.6 ft)	Pass is too narrow. Set the areas as 2 separate zones.

Pass wide enough. Robomow can effectively navigate between the two areas while mowing the lawn.

We want Robomow to enter the narrow pass in order to move between these zones.
But, we do not want it to cross the pass while mowing each one of them.

See Chapter 2, Base Station and Perimeter Wire Setup

Note: Narrow Passes require special setting of Entry Points in order to start mowing in the adjacent areas (see Chapter 7, Setting Robomow and using Advanced Features)
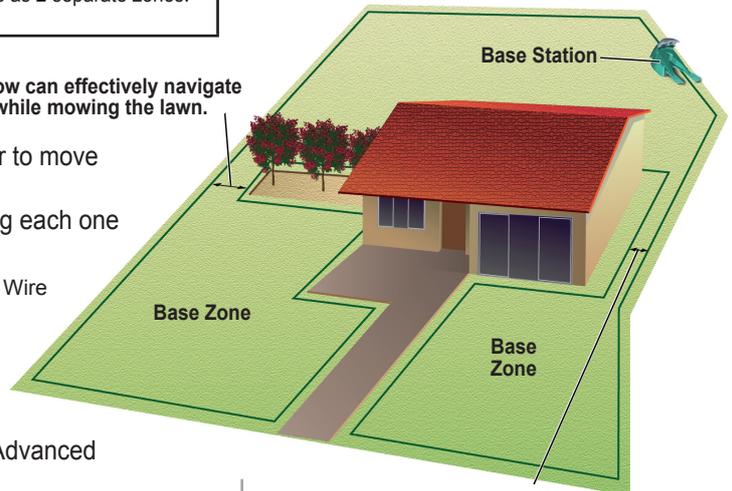
Narrow Pass: Robomow will drive through the pass, but will NOT get across while mowing each area.

1.2.4 Are there obstacles in Robomow's mowing path? (Setting "Perimeter Islands")

❍ Obstacles such as flowerbeds, ponds, or small trees can be protected from Robomow by setting "Perimeter Islands".

Perimeter Islands are demarcated areas of the lawn, where Robomow does not enter.

❍ Obstacles that are vertical, relatively rigid and higher than 15cm (6 inches), such as trees, phone or power poles, do NOT need boundaries. Robomow will turn when it collides with these obstacles.
However, for the gentlest and most silent operation, you may prefer to create Perimeter Islands around all fixed objects in the working area.

❍ If areas with obstacles are grouped closely together less than 1.5m (4.9 ft), they should be demarcated by a single, continuous, Perimeter Island.

Chapter 2   Base Station and Perimeter Wire Setup

Recommendation, before you start:

During setup, you will insert pegs into the ground. To make this task smoother, we recommend you mow your lawn and water it before starting.

Hammer   **Combination Pliers**

Small flat and Philips screwdrivers

Getting Ready

Confirm all parts needed for setup are within reach (refer to 'What's in the Box, Introduction).

In addition, you will use the following tools:
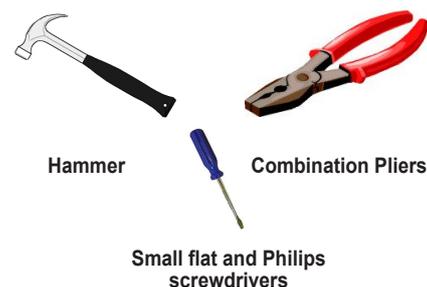
RL2000 Only

2.1   Perimeter Wire Setup

Before you start the setup, you should have a plan for the Perimeter Wire layout and for the location of the Base Station [RL2000].

Laying the Perimeter Wire for the Internal setting of the Base Station is different from the External setting.

2.1.1   Starting Point: Perimeter Wire at the Base Station area.

❍ [RL2000] Place the Base Station, according to your plan, with its fence facing the inner lawn area.
Pull the plot connector and the wire connected to it out of the plastic covering.

> **!** Do NOT remove the wire spool from its covering.
> The plastic covering is the dispenser
> for the wire.

❍ If setting of Base Station is Internal (inside lawn)

✦ Peg the beginning of the wire to the ground, where Base Station will be located.

✦ Pull out 30 cm (12 inches) of wire and leave it loose at the Base Station location.
Later, at the end of the setup this part of the wire will close the Perimeter Wire loop.

✦ Start laying the wire in a counter-clockwise direction.

✦ Continue to pull the Perimeter Wire out of its covering, laying it loosely as you walk along the lawn edge.

Perimeter Wire – do not remove the plastic covering

Leave 30 cm (12 inches) starting point

Counter-clockwise direction of wire layout

RL2000
Only
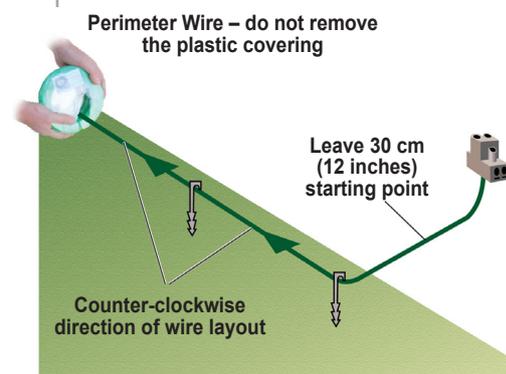
○ **If setting of Base Station is external (outside lawn)**

✦ Peg the beginning of the wire to the ground, at a distance of 1m (3.3 feet).

✦ Pull out 40 cm (16 inches) of wire and leave it loose at the Base Station location. This allows for later adjustments of the Base Station.

✦ Start laying the wire in a counter-clockwise direction at the external area of the Base Station.

● Continue laying the wire for at least 30 cm (12 inch) away from the lawn.

● Set a Narrow Pass, 20 cm (8 inches) wide, in the direction of the lawn, until the wire is 30 cm (12 inches) inside the lawn.

✦ Continue to pull the Perimeter Wire out of its covering, laying it loosely as you walk along the lawn edge.

③ **Continue for at least 30 cm (12") away from lawn.**

② **Leave 40 cm (16") of coil at starting point, for later adjustments.**

20 cm (8")

① **Starting point – 1 m (3.3 ft) from lawn's edge**

④ **Set a narrow pass of 20 cm (8") towards lawn. Continue until wire is 30 cm (12") inside lawn.**

30 cm (12")

⑤ **Continue laying the wire, using RoboRuler along edges.**

RL2000

RL2000 Only
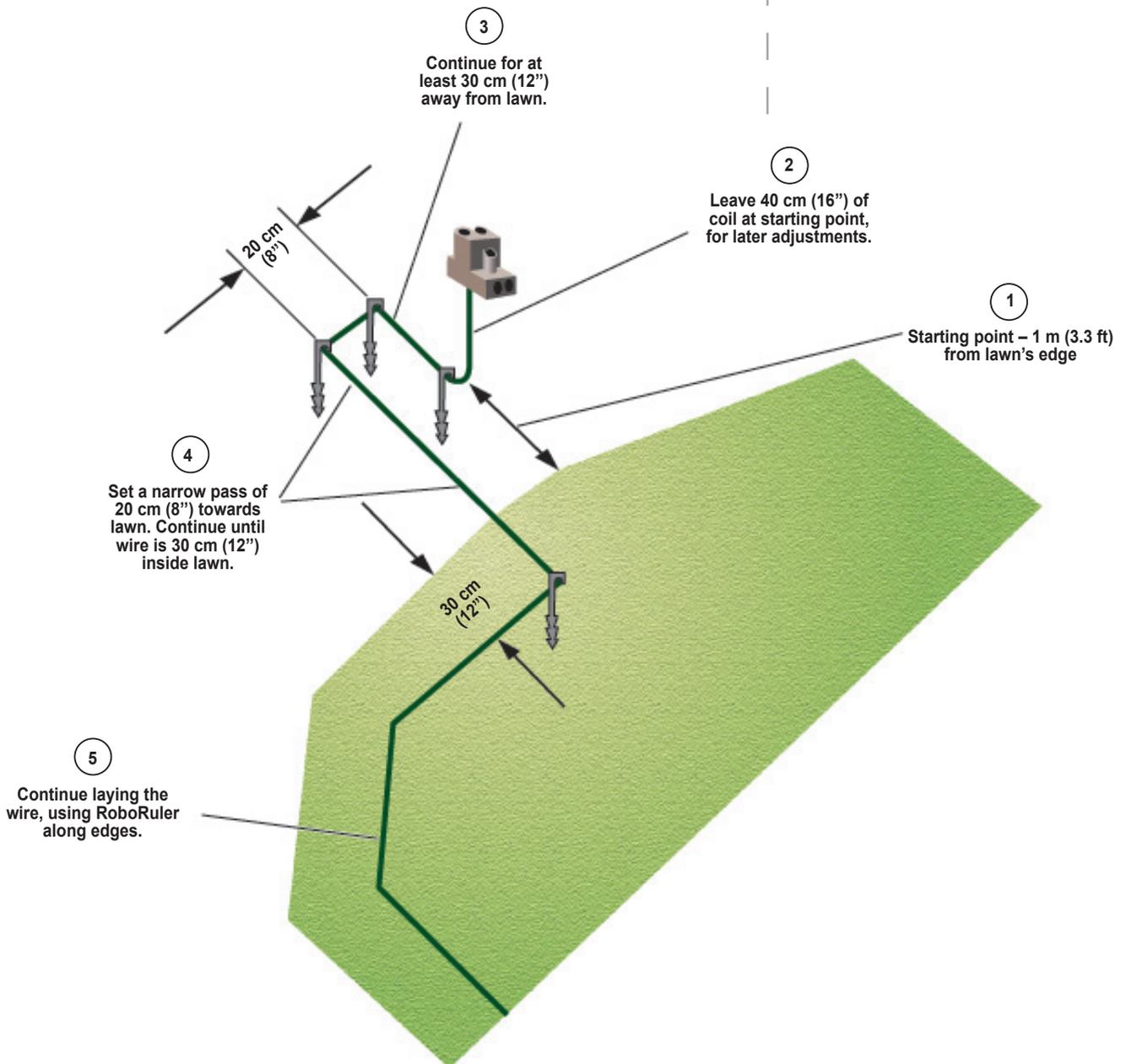
2.1.2   Laying the Perimeter Wire

❍ The Perimeter Wire is secured to the ground by the pegs supplied with Robomow. Insert pegs every few meters and at corners.
At this early stage set a minimum number of pegs. Later, after testing the wire setup, you will insert all necessary pegs.

❍ Continue laying the wire, according to your plan.
Gradually pull it out of its dispenser and lay it loosely as you are moving in a counterclockwise direction.

❍ After uncoiling sections of wire, before inserting pegs, use the RoboRuler to determine the distance of the wire from lawn edge or obstacles.

Area outside perimeter - same basic level and free of obstacles.

Short Distance

If Outer Area Adjacent To Lawn…	Distance Of Border From Wire
Is clear of obstacles. Is lower than lawn (OR of about the same height). (e.g. same level sidewalk, flowerbed)	Short Distance (30 cm / 12 inch)
Is an obstacle Or, is higher than the wire (e.g. wall, fence).	Long Distance (45 cm / 18 inch)

Area outside perimeter - has a wall as an obstacle.
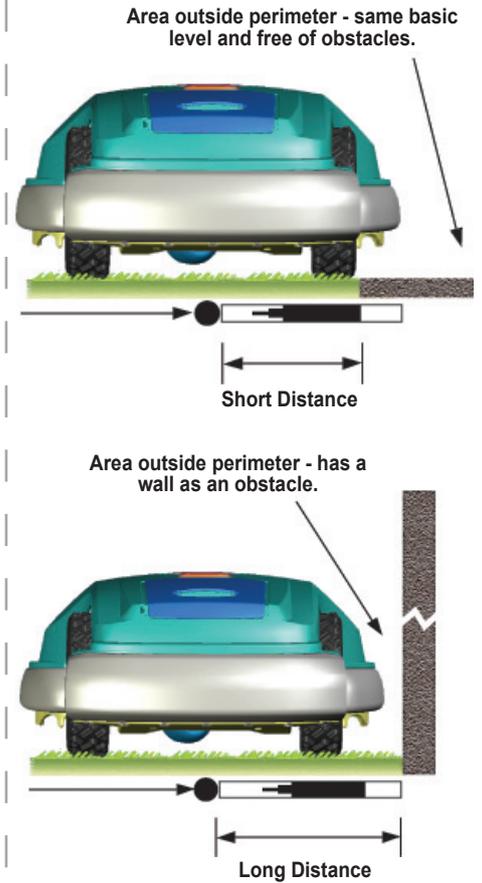
Long Distance

2.2   Special cases of Perimeter Wire setup

2.2.1   Perimeter Islands

Continue uncoiling the wire, moving from the edge towards the obstacle.

Apply RoboRuler's "Long Distance" to peg the Perimeter around the obstacle as shown in the drawing (clockwise direction).

Perimeter Switch

Perimeter Wire position

2 wires under same peg

Perimeter wire

Direction of setup: clockwise around obstacle

**Min. distance between islands: 1.5 m (4.9 ft).
Otherwise, demarcate jointly as one island.**
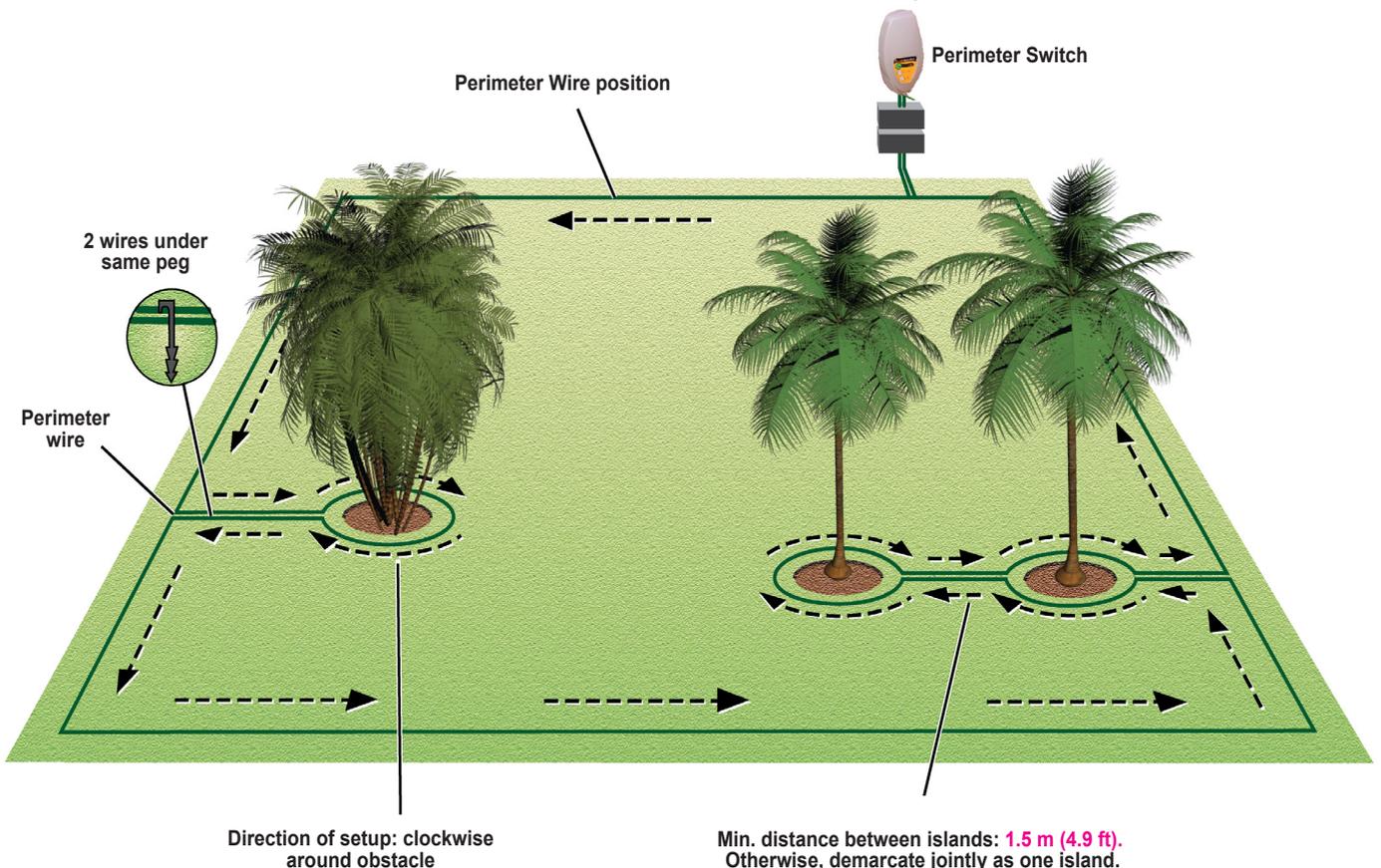
Caution! Setting the Perimeter Wire counter-clockwise around the obstacle will cause Robomow to drive into the island.
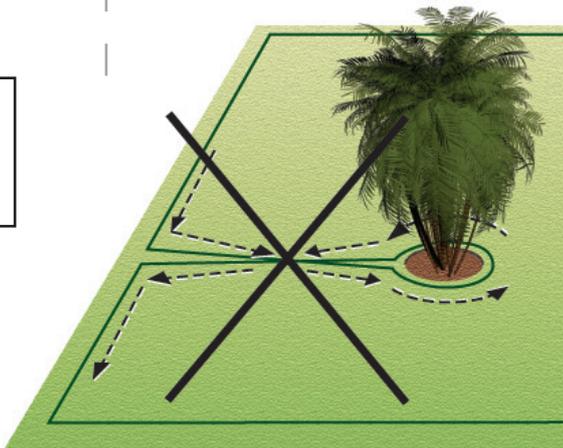
❍ Complete bordering the island and return to the spot that where you have left the lawn's edge.

❍ The wires leading to the Island and returning from it should be parallel and touching.
BUT DO NOT cross them!

❍ Peg both wires, to and from the island, together with the same peg.

> Robomow will not recognize these two wires.
> It will mow over them as if they do not exist.
>
> Robomow will recognize the single blocking wire around the Perimeter Island and will not enter this area.

If protected obstacles are grouped closely together, demarcate them by a single, continuous, Perimeter Island.

If obstacles are close to the edge, leave them out of the mowing area.

2.2.2 Narrow Passes

A narrow pass is part of the lawn which connects two larger zones. Following the Perimeter Wire, Robomow drives between these zones. But, it does not cross the pass while mowing each one of them.

❍ Set the two wires parallel along the pass at a fixed distance of 30 cm (12 inches) between them (Marked on RoboRuler).

> If the distance between the wires is smaller than that, the two areas should be set as 2 separate zones.

If wire lays near a wall or a fence, keep a distance of 65 cm (25") between wire and wall.

Distance of 30 cm (12") between wires. Especially important near pass' entrances

Base Zone

Base Zone

Base Zone
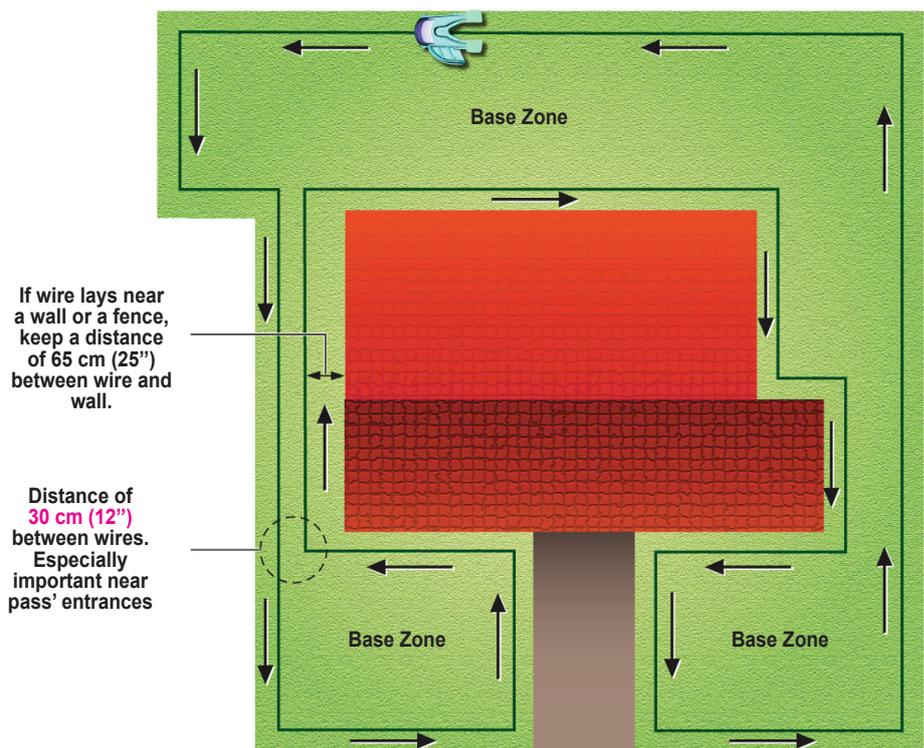
2.2.3 A pond, swimming pool, or watercourse at lawn's edge
OR:
Grass level more than 70 cm (2 ft) higher than outer area.

❍ Set the Perimeter Wire at least 1.2 m (4 ft) from the water (or chasm).

❍ You may provide a fence or another barrier along the lawn's edge by the water, so Robomow will surely detect it.

✦ The barrier should be at least 15 cm (6 inch) high. This will block Robomow, under all circumstances, from crossing over the Perimeter Wire into the water area.

✦ If such a barrier exists, you may set the Perimeter Wire at the Long Distance of 45 cm (18 inches) from the barrier.

At least 1.2 m (4 ft)

At least 45 cm (18")
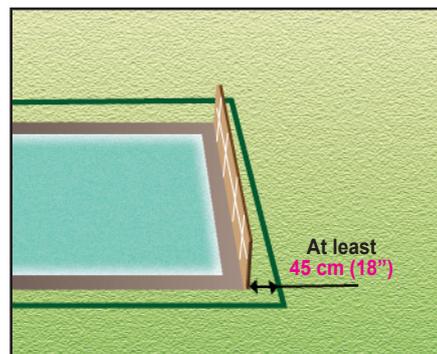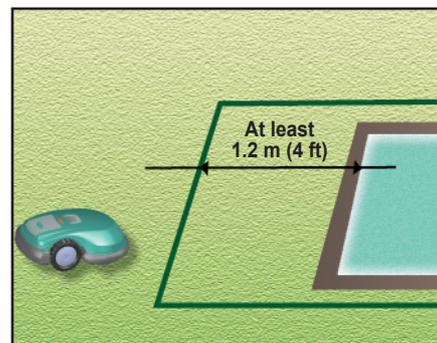
2.2.4 Slopes
Perimeter slope

❍ If a slope is steeper than 15 cm rise per 1 meter (0.5 ft rise per 3.3 ft), do NOT lay Perimeter Wire over it.

✦ However, if there is a barrier (e.g. fence, wall, or hedge) that can protect the mower from sliding off, the Perimeter Wire can be set on that slope.

In-lawn slopes

❍ Robomow can mow areas that have less than a 27% slope (roughly 27 cm per 1 meter / 0.9 ft rise per 3 ft).

❍ Tip: If Robomow tilts off the ground while climbing a slope, it is too steep.
Exclude this steep area from Robomow's cutting area.

1 meter (3.3 ft)
27 cm (0.9 ft)
Max 27% slope (15° degrees)
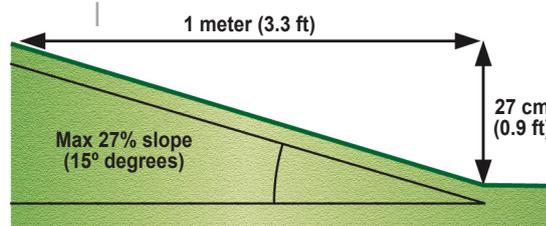
2.3 Fastening Perimeter Wire to the Ground

❍ It is not necessary to bury the perimeter wire, though you may do so, up to 10 cm (4 inches) deep.

❍ Upon hammering the peg to its final depth in the ground, pull the wire tight.
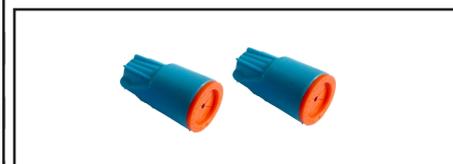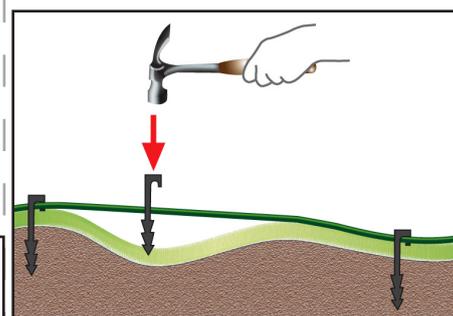
WARNING!
Protect your eyes!
Protect your hands!
Use proper eye protection and wear appropriate work gloves when hammering the pegs. Hard or dry ground may cause pegs to break when driving them in.
Watering the lawn where the pegs are to be inserted can make your work safer.

❍ Insert the pegs at distances that will keep the wire down below the grass level and prevent the wire from becoming a tripping hazard

❍ The wire and the pegs will soon become invisible under the growth of new grass.

❍ If additional wire is required in order to complete the setup, connect it using the water-proof wire connectors supplied with Robomow. (Refer to paragraph 10.7 – Splicing the Perimeter Wire).

🔩 IMPORTANT 🔩

Use only the wire connectors supplied with Robomow.

Neither Twisted cables, **nor** a screw terminal insulated with insulation tape are a satisfactory splice.

Soil moisture will cause such conductors to oxidize and which later leads to a broken circuit.

RL2000 Only

2.4 Back at Base Station – Completing the Perimeter Wire setup

Once the Perimeter Wire loop is completed and pegged to the ground, you complete the setup by attaching the beginning and end of the Perimeter Wire to the Base Station board.

❍ Hold both ends of the Perimeter Wire: the wire that started the loop is the one with an attached connector.

❍ Trim the end without the connector to make both of equal length. Remove any excess wire and Strip back 5 mm (0.2 inches) of insulation from the wire end.

❍ Peg the two perimeter wires down to the ground using the same peg leaving enough loose wire.
Twist together the two loose parts.

❍ Thread the two twisted wire ends through the center aperture in the Base Station.

❍ Insert the end of the wire without the connector into the hole of the other wire's connector. Use a small flat screwdriver to tighten and secure this wire into the connector.

RL2000 Only
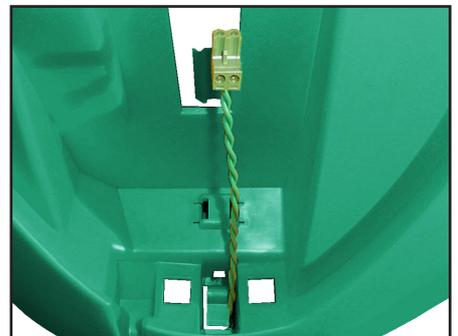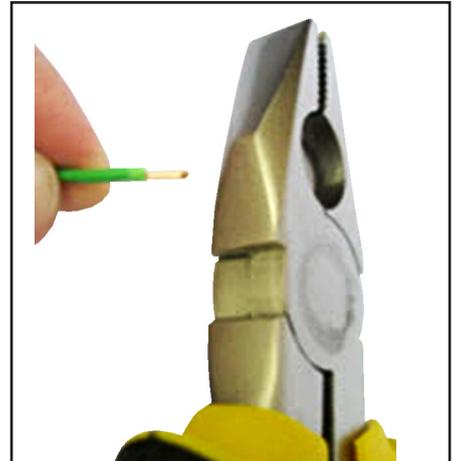
2.5 Assembling the Base Station

2.5.1 Laying and fastening power cord

Safety

Avoid injury!

The power cord should always be securely fastened to the ground!

It should never present a tripping hazard.

The power cord should cross over soft surfaces ONLY.

It should NOT cross over hard surfaces (e.g. sidewalk, driveway)

where it cannot be securely fastened.

Base Station assembly

Cover

Base

Stakes X5

Screws x2

Fence

Screws x2

Drive wheels support
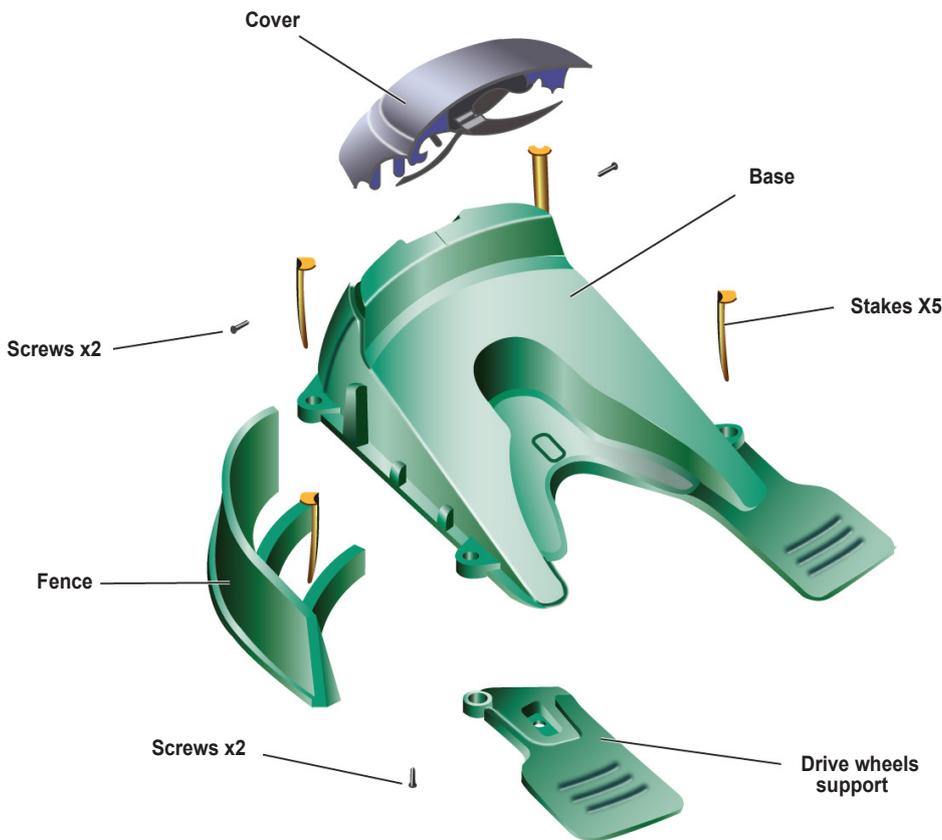
○ **Fence to Station base:**
Align the three slots on the fence with the three tabs on the base. Push the fence firmly down onto the base until it snaps into place.

Fence   Base

RL2000 Only
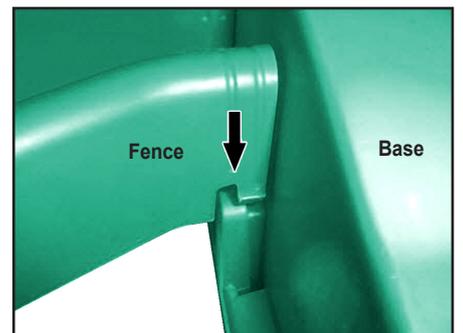
❍ **Drive Wheel Supports to Base:**
Align each Drive Wheel Supports with the Station base.
Push the base down until it snaps into place.

Flip them and drive the screw into the hole in each Drive Wheel Support.
Tighten lightly with a Phillips screwdriver.
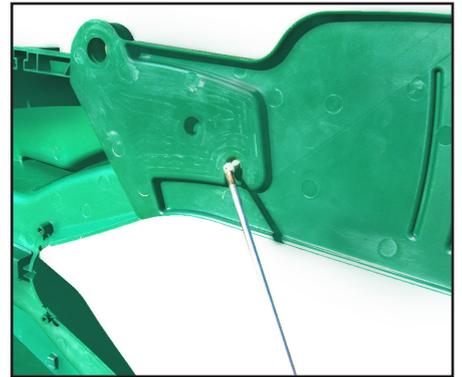
Base Station Cover and base:

❍ Align the two tabs on the lower part of the cover with the matching openings in the lower section of the base front.

❍ Push the cover's tabs carefully into the openings.

❍ At the same time, attach connectors of Perimeter Wire and Power Extension Cord onto the Base Station Board**.**

❍ **Pivot the cover towards the base.**
Verify that power supply cable extends through the notch in the base.

❍ Screw the top section of the cover, to each side of the Base Assembly.
Use the two supplied screws.
Tighten lightly with a Phillips screwdriver.
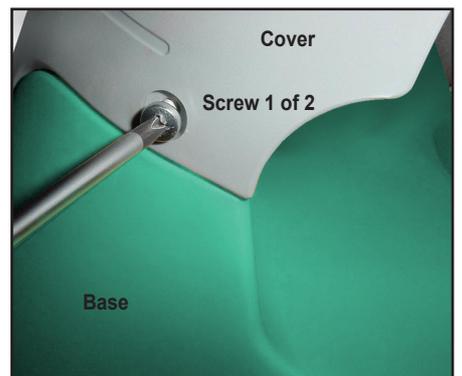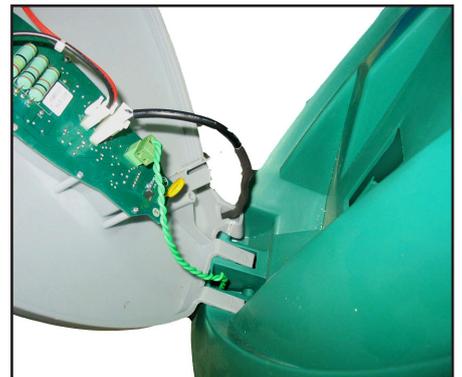
Carefully, spread the length of the power supply extension cord.
Start at Base Station leading to the main power supply.

RL2000 Only

2.6 Placing Base Station

Use RoboRuler to measure and place Base Station on the Perimeter Wire.

2.6.1 If Base Station is placed on the lawn – Internal Setup

❍ Use RoboRuler to place the Base Station on the Perimeter.

✦ **If** the area outside the perimeter is free of obstacles **or if it** is at the same relative height as the perimeter edge ⟩⟩ use the shorter distance of RoboRuler (30 cm/12 in)

✦ **If** the area outside the perimeter is walled (building, fence etc.) **or if** it is NOT at the same relative height as the perimeter edge ⟩⟩ use the longer distance of RoboRuler (45 cm/18 in).

❍ Position the Base Station by the lawn's edge, with its fence facing the lawn.

Area outside perimeter: Same basic level and free of obstacles.

RoboRuler Short Distance

Fence facing inside of lawn area

Area outside perimeter has a wall as an obstacle.

Fence facing inside of lawn area
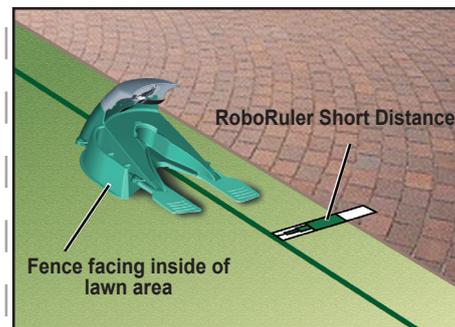
RoboRuler Long Distance
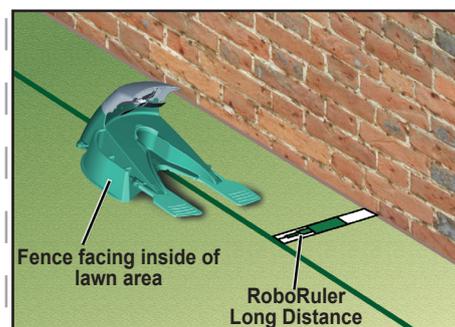
2.6.2 If Base Station is placed outside the lawn – External Setup

❍ Place the Base Station, so that the distance between the Drive Wheel Supports and the Perimeter Wire inside the lawn is 45cm (18 inches). This is the longest dimension of RoboRuler.

❍ Place the Base Station with a shift of 10-20 cm (4-8 inches) to the right.

> The two wires are very close. This has an effect on the wire sensors readings. Therefore, the Base Station should be shifted.
> The exact shift will be later adjusted during the final testing of the setup.

❍ It is recommended to place the Base Station at least 30 cm (12 inches) before the end of the external pass.

> This allows the mower a smooth entrance to the Base Station.

❍ Clear the pass of any obstacles. Verify that the pass is smooth, with no height differences, and its surface is firm.

Base Station placed in a right shift from the wire.

45 cm (18") – Long Distance of the RoboRuler

20 cm (8")

**RL2000
Only**
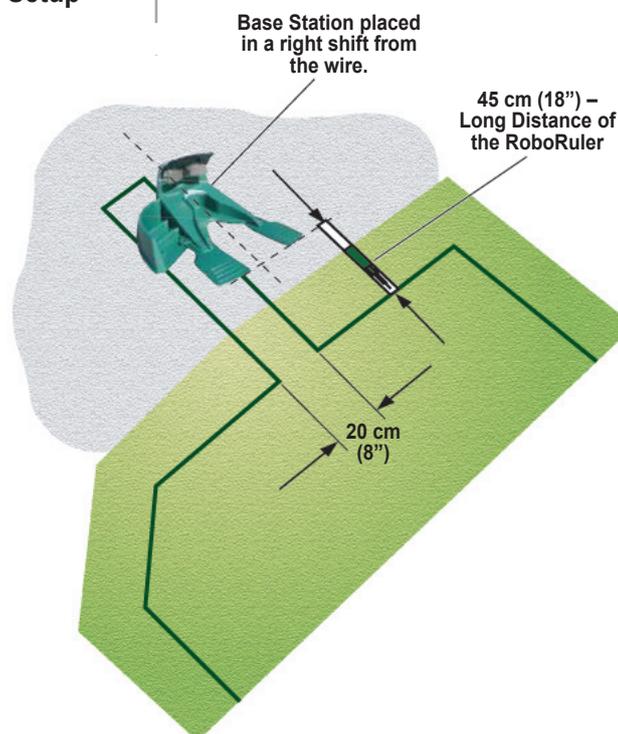
❍ Create a "narrow pass" of wires, leading from the external Base Station to the lawn and back.
The beginning (going) and the end (coming) sections of the Perimeter Wire create this pass.

2.7   Testing Base Station Setup

❍ Fasten the Base Station in place: Use a hammer to drive the 5 stakes in. start by placing the 2 rear stakes only part way into the ground.

> Later, after testing for charging, some small adjustments may be needed. Then, you will hammer the 5 stakes all the way down.

❍ Test as follows both Internal and External Base Station setups:

✦ Connect the extension cord (15 m low voltage cable) to the Power Supply plug.

✦ Connect the Power Supply to a regular household receptacle 230/120 Volts AC.

⚠ **IMPORTANT** ⚠ The power supply is suitable for indoor use only. It should be fixed to the wall, in a sheltered, dry, well ventilated spot. It should NOT be exposed to direct sunlight or rain.

☀ A small flashing green light next to the 'ON' button indicates the system is on and functioning correctly.

> The control panel has other indicators: a charging indicator and a "disconnected/broken Perimeter Wire" indicator.

The Base Station Board has an automatic shutoff feature, eliminating the need to turn it off after each use. It will shut itself off once the mower re-docks at the end of the operation.
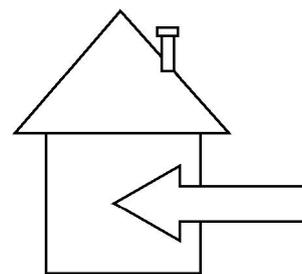
Indoor Use Only

RL2000

2.8   Setup in Non-Base Zones

**RL855/555 Only
Non-Base Zone**

A non-base zone is a lawn or an area of a lawn, that is NOT connected to a Base Station.

A Perimeter Switch should be installed in these areas. A Perimeter Switch is supplied with RL555/RL855 Robomows and is an optional accessory for RL2000.

When necessary, Perimeter Switch can be easily moved to other zones.

The Perimeter Switch MUST be Mounted vertically in order to maintain its' water resistance

Indoor Power Supply

Zone A

Wires leading from the perimeter to the Perimeter Switch are adjacent and touching.

RL855/555 Only Non-Base Zone
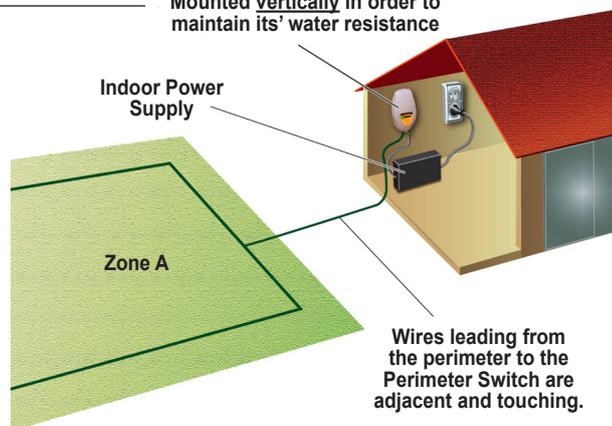
2.8.1   Determining Perimeter Switch Location

Consider the following in order to install the Perimeter Switch at its optimal location:

❍   Perimeter Switch is installed outside the perimeter of the non-Base zone.

❍   Select an easily accessed spot.

❍   Prefer a dry and sheltered location.

❍   The Perimeter Switch is to be mounted vertically.

>   The vertical mounting maintains Perimeter Switch water resistance qualities.

❍   The Perimeter Switch is supplied with an indoor power supply. Chose a location close to the electrical outlet.

2.9   Perimeter Switch placing options:

❍   The Perimeter Switch connector is easily mounted and dismounted. This allows for quick switching from one zone to another.

❍   You may use the large stake attached to the back of The Perimeter Switch to easily insert it and pull it out of the ground.

❍   You may mount the Perimeter Switch on a vertical surface, such as a wall or deck railing. Use the three small bosses on the back of the switch cover.

2.10   Laying Out the Perimeter Wire

The perimeter wire setups in a Base and non-Base zone are almost identical.

Still, there are some special instructions for connecting Perimeter Switch to the Perimeter Wire.

■   At Perimeter Switch' location:

❍   Peg/fix the beginning section of wire near the Perimeter Switch.

■   Lay the Perimeter Wire from the Perimeter Switch to the lawn.
Remember to leave some loose wire at the beginning, in order to close the loop later.

■   Start laying the wire in a counterclockwise direction.

Plot Connector

Counter-clockwise direction of wire layout
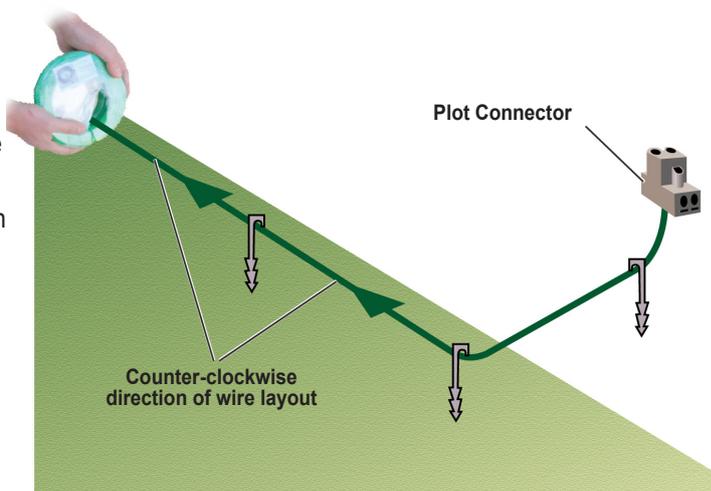
2.11 Completing and Testing the Setup

Once the Perimeter Wire loop is completed and pegged to the ground, you complete the setup by attaching the beginning and end of the Perimeter Wire to the Perimeter Switch.

❍ At the end of the Perimeter Wire's loop, you have now two wires: one at the beginning and one at the end of the loop. Lay the two loose wires in the direction of the Perimeter Switch location and peg them to the ground using a single peg for both.

Completing Perimeter Wire at Perimeter Switch
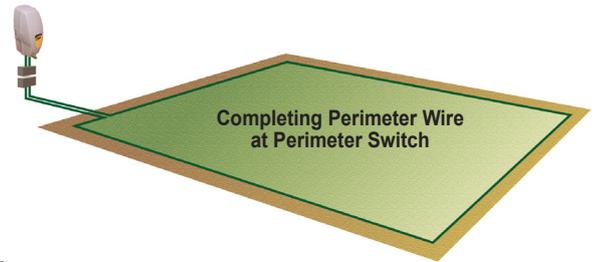
2.12 At the Perimeter Switch's location:

❍ Trim the ends of the loose wire (the one without the connector) to equal lengths and twist them together.

❍ Strip 5 mm (0.2 inches) of insulation from the wire that is not connected to the plot connector.

❍ Insert this wire's end into the free hole in the connector and tighten the screws.

❍ Plug the perimeter wire connector into the Perimeter Switch (see figure)

❍ Hold the Perimeter Switch and squeeze its side tabs to remove it from the back cover.

❍ Connect the power supply plug to the Perimeter Switch board. Replace the cover.

❍ Connect the power supply to a regular household receptacle 230/120 Volts AC.
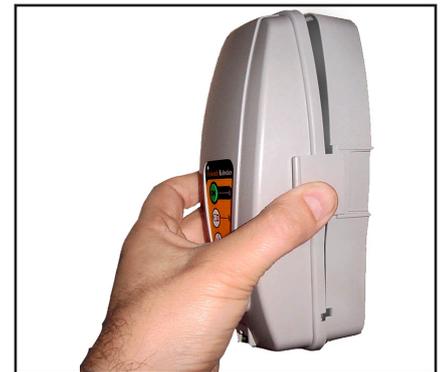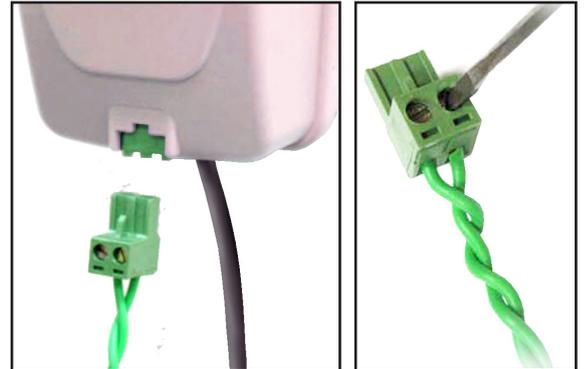
🔶 **IMPORTANT** 🔶 The Power Supply is for indoor use only.

Choose a sheltered, dry, well ventilated location that is NOT exposed to direct sunlight, water or rain.
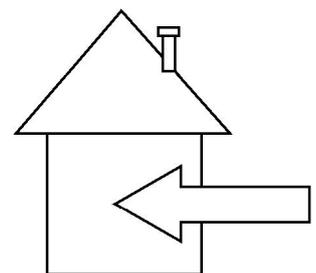
Indoor Use Only

❍ Press the ⏻ 'ON' button on the Perimeter Switch.
A small flashing green light next to the 'ON' button indicates the system is on and functioning correctly.

The control panel has other indicators: a disconnected/broken perimeter Wire and a poor splicing (connections) in the Perimeter Wire

ON button

Flashing light indicates the system is on

Indicates a disconnected/ broken wire

Indicates a problem in splicing or a perimeter wire that is too long.
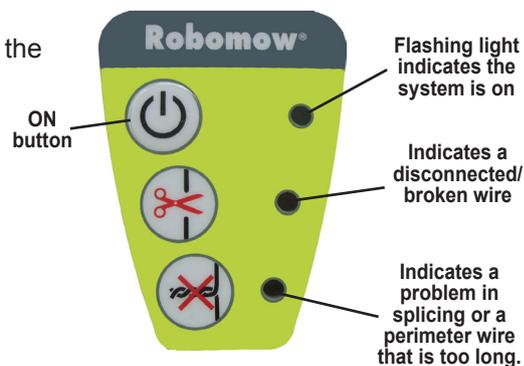
The Perimeter Switch has an automatic shutoff feature. There is no need to turn it off after each use. The Perimeter Switch will shut itself off after 12 hours of operation. You may manually turn it off by pressing the ⏻ 'ON' button and holding it for 3 seconds. Wait for a beep sound to indicate that the Perimeter Switch is off.

The Perimeter Switch can be operated by a rechargeable battery (available as an accessory).

Chapter 3   Preparing Robomow

Before using Robomow for the first time, you have to perform some simple preliminary settings. Once preparations are completed, your Robomow is set and ready to mow your lawn.

3.1   Inserting Power Pack Fuse

Your Robomow is shipped with the Power Pack fuse removed.
The fuse is packed in a plastic bag attached to the top of the Power Pack.

❍ Remove the fuse from the small plastic bag attached to the top of the Power Pack.

❍ Remove the Power Pack from Robomow.

❍ Insert the fuse into the fuse holder.
The fuse can be inserted in either direction.

❍ Carefully lower the Power Pack back into the Robomow

> The Robomow now will power up (wake up).
> The Power Pack is charged at the factory and has plenty of power to perform the initial setup and test run.

Contacts

Remove the Power Pack from Robomow

⚠ **Important** ⚠ After the initial set-up process is completed the Power Pack needs to be charged for a full 20 hours before the first operation.

See Chapter 6, Charging

3.2   Setting Country and first-time calibration

Robomow uses a sophisticated navigation system. An onboard compass-like device responds to earth' magnetic poles. In order to adjust to the variance in the magnetic North, it is necessary to calibrate Robomow to your geographic location.
This is a one-time procedure. It needs not be repeated unless the mower is moved several hundred kilometers away.

The calibration process is simple. Robomow will ask for it before the first time it is used in the automatic mode. It will lead you through the process.

❍ Remove the Manual Controller from its holder and grasp it with both hands.

> To remove Manual Controller: push it up with your finger inserted in the indentation to its left.

> As a safety feature, Robomow operates manually **only** when the Manual Controller is removed from its holder.
> Then, in order to return to Automatic mode, the Manual Controller has to be returned to its holder and adjusted until it is at level with top of Robomow.

❍ Use the Navigation Button ⊕ on Manual Controller to drive Robomow to an inner flat and smooth area of the lawn.

✦ Press the navigation button's arrows ⊕ in order to drive to the desired direction.

⚠ **Important** ⚠ Forward and reverse directions correspond to your position when standing behind Robomow.

○ **If the grass is extremely high**, adjust the height and ground clearance of Robomow to their highest position.

○ Reinsert Manual Controller in its holder.

> Adjust the controller and its coil until it is at level with top of Robomow.

○ In Base zone - confirm the Base Station is connected to the power.
In Non Base zone, press the ⏻ ON button on the Perimeter Switch to activate the Perimeter Wire.

○ Press Robomow's (GO) button and go through the following steps:

```
Base zone    MAX   🔲
Press GO         GO 👆
```

```
Set  country
Press GO         GO 👆
```

○ If during the calibration process, a message is displayed when pressing the (GO) button, refer to the troubleshooting table of this manual (Chapter 10).

> Such messages may be: "Check Signal", "Start Inside" or "No Wire signal"

Robomow will circle slowly throughout the calibration process.
Be patient until calibration is complete, it usually takes a few minutes.
For the duration of the process the display panel flashes a "wait" message.

Rarely, the first attempt to calibrate may fail. In such rare cases a "**retry elsewhere**" message is displayed. This usually is a result of interference such as nearby metal objects or even underground wires.

○ **If a "retry elsewhere"** message is displayed, move Robomow to another flat spot, at least 3 meters (10 feet) away and recalibrate.

> Once the process is successful, no further interference can effect Robomow's calibration.

```
Not set!      <-<-<-
Press GO            ▲ ▼
```
Scroll up or down to find your country. Keep the button pressed for fast scrolling

```
USA
Confirm          GO 👆
```
Press GO to confirm selction

```
Calibration req.
Press GO         GO 👆
```

```
Activate motors
Press GO         GO 👆
```
press GO. Process will begin and last 1-2 minutes

```
Test passed
Press C          C 👆
```
Press C button

```
Base zone    MAX   🔲
Press GO         GO 👆
```
Ready for mowing
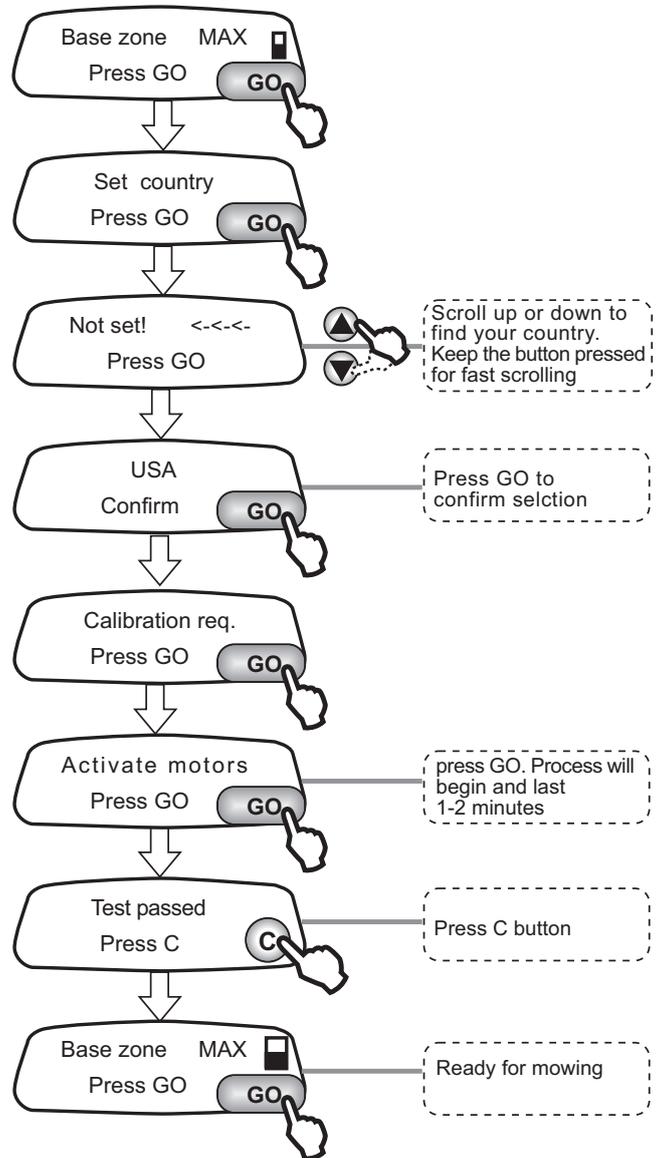
3.3   Setting The Cutting Height And Ground Clearance

> **Caution! Always remove the Power Pack before lifting mower off the ground or making any adjustments.**

3.3.1   Setting cutting height

Low cut blades: 26 – 63 mm (1 – 2.5 inches)
Low cut using small wheels (not available in US): 20 – 57 mm (0.75 – 2.25 inch)

High cut blades (US customers): 38 – 89 mm (1.5 – 3.5 inch)

✦   Turn the front wheel hub clockwise (for lower cut) or counterclockwise (for higher cut).
      Each click represents 6 mm (1/4 inch) of cutting height.

> This raises or lowers the front wheel.

Clockwise for lower cut

Counterclockwise for higher cut
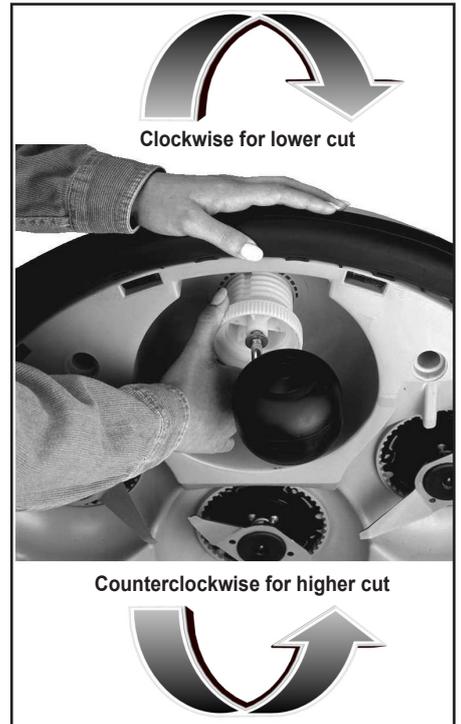
> **Warning**
>
> **Severe injury hazard!**
>
> **Never lift the mower or attempt to adjust the cutting height during operation. Blades are very sharp. They can cause severe cuts or lacerations.**
>
> **When working around or near the blades always wear heavy gloves.**

Rear ground height adjustment is located in the Power Pack compartment.

3.3.2   Setting rear ground clearance

○   Pull the height adjustment tab located in the Power Pack compartment.

○   Slide the tab to its upper position – for low ground clearance. Slide the tab down – for high level of ground clearance.

○   **If** your Robomow has small wheels (not available in the US) the tab has an additional lower position.

> It is recommended to set for maximum clearance – tab near base of Power Pack compartment.
> For European lawns and for lawns where grass is cut extremely low, less than 5 cm (2 inches): Setting to minimum level may work best.

To adjust ground clearance, pull out on tab as shown and slide tab up or down.

RL2000 Only

3.4 Testing Base Station and Perimeter Wire charging position

In order to ease adjusting Base Station's position, use just 2 stakes for the initial setting. After this test is completed, you will drive all 5 stakes in place.

❍ Remove the Manual Controller from its holder and grasp it with both hands.

❍ Use the Navigation Pad on Manual Controller to drive Robomow: position it on inner lawn, facing the Perimeter Wire, at least 3 m (10 feet) in front of Base Station,
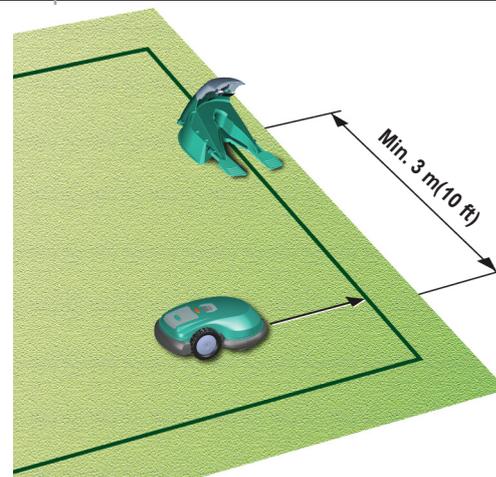
❍ Reinsert Manual Controller in its holder.

   Adjust the controller and its coil until it is at level with top of Robomow.

❍ Verify that the section of the Perimeter Wire leading to the Base Station is pegged and secured to the ground. Correct pegging if necessary.

❍ Verify that 'ON' led on the Base Station is blinking.

❍ Press the ▲ upper scroll arrow on the Manual Controller once for the message **'Go to base'** and then press GO .

Base zone   MAX

Press GO

Scroll up once to until 'Go to Base' screen displayed

Go to Base

Press GO   **GO**
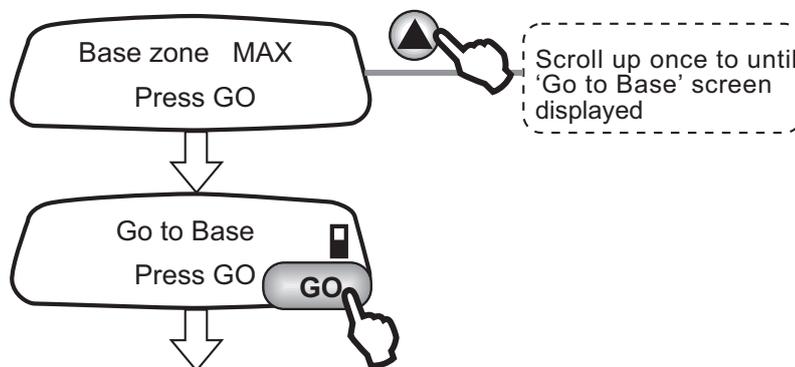
❍ Robomow starts moving towards Base Station.

Follow it and check if it docks properly into the Base Station: check that the two metal contacts on Robomow's front make full contact with the metal plate under the Base Station's cover.

✦ **If the plates are not in full contact**, slightly move the Base Station, for Robomow to get into the right position for charging.

❍ Once the test is completed, drive all 5 stakes into ground to fully secure the Base Station.

Min. 3 m(10 ft)

RL2000

3.5 Test the Perimeter Wire Position for Edge Mowing

Follow the instructions below to start the test:

This test determines if there are minor adjustments needed in Perimeter Wire positioning.

After the test is completed all pegs are driven in to secure the wire to the ground.

❍ Remove the Manual Controller from its holder and grasp it with both hands.

❍ Use the Navigation Pad on Manual Controller to drive Robomow: position it towards the Perimeter Wire.

✦ [RL2000] For RL2000: immediately after the Base Station.

✦ [RL555 RL855] For a non-base zone or RL555/RL855: Position Robomow by any edge on the lawn.
Make sure the Perimeter Switch is turned on.
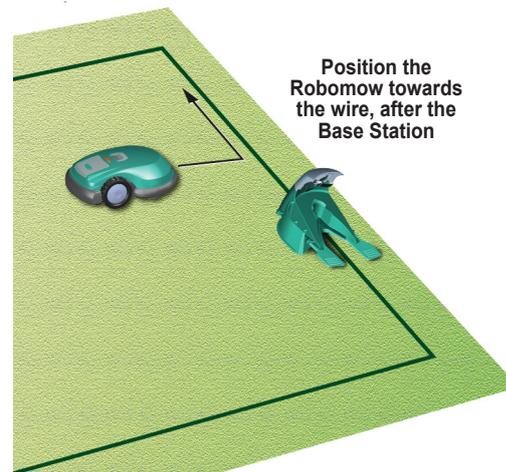
Position the Robomow towards the wire, after the Base Station

○ Reinsert Manual Controller.

  Adjust the controller and its coil until it is at level with top of Robomow.

RL2000 Only

○ For Robomow RL2000, follow the instructions below to start the test:

Base zone   MAX
Press GO

Scroll up once to until 'Go to Base' screen displayed

Go to Base
Press GO   **GO**

RL2000

RL555 RL855 Only
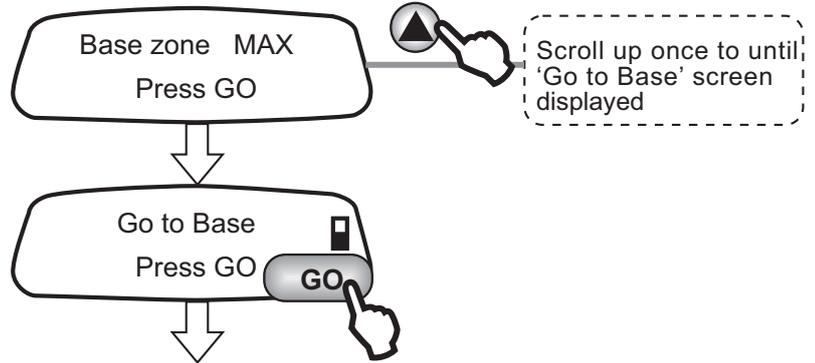
For Robomow RL555/855, press the ▼ down scroll arrow for the **'Manual User Options'** and follow Robomow's instructions.

Manual
User Options   **GO**

Settings
Press GO   **GO**

Zones setup
Press GO

Scroll down until "Wire position" is displayed

Wire position
Press GO   **GO**

Wire position
Press GO to test   **GO**

RL555 RL855
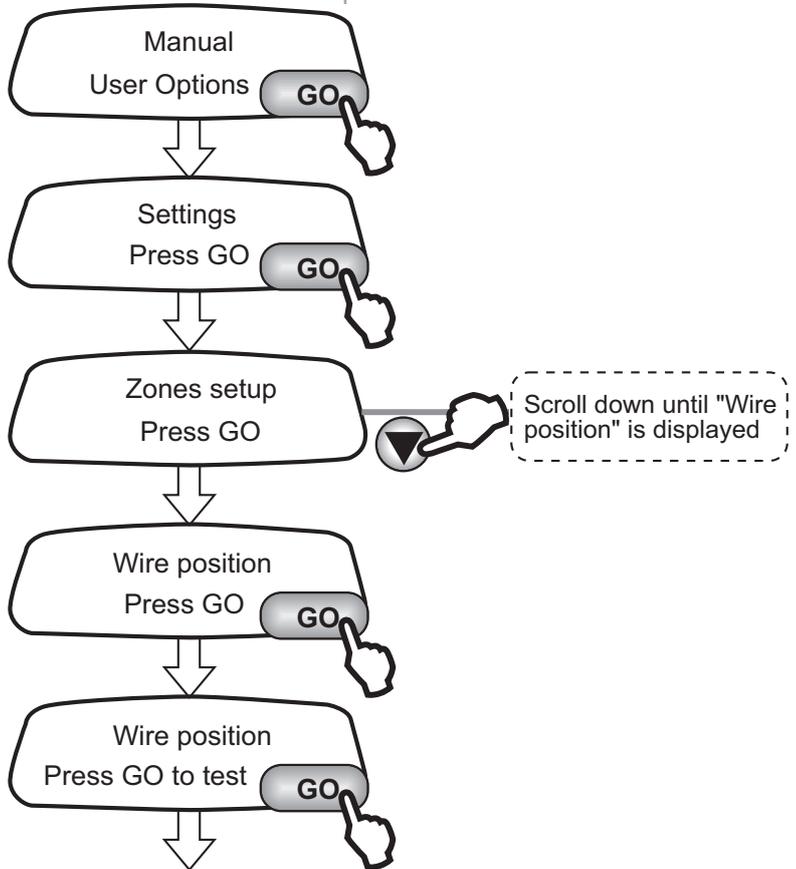
○ Walk along the side of Robomow while it is following the edge.

○ If, at any point the mower is too close to outer object (e.g. walls, fences), or the bumper hits such objects, move the wire slightly towards the interior, away from the obstacle.

○ Retest, until you are satisfied with the Perimeter Wire's layout.

○ Once complete, add pegs to all wire's sections that are above the level of grass tips or removed from ground level.

○ ▯ This is the time to inspect the whole wire installation for tripping hazard. Any raised or loose section of the wire should be tightened and pegged down with extra wire pegs.

  If needed, purchase extra pegs.

Chapter 4   The mowing process – automatic and manual operation

4.1   For added safety:

○ Manual operation is disabled when the Manual Controller is in the holder.

✦ For manual operation: Remove Manual Controller from its holder.

○ Automatic operation is disabled when the Manual Controller removed from the holder.

✦ For automatic operation reinsert Manual Controller in its holder.

Adjust the controller and its coil until it is at level with top of Robomow.

4.2   Driving Robomow – general instructions

Parts of the mowing process require driving Robomow to various locations in or out of the lawn.

○ Remove Manual Controller from its holder.

○ Hold the Manual Controller with both hands, with the (STOP) button side closer to you.

○ To maneuver Robomow, press ⊕ the navigator pad in the direction you wish Robomow to move.

Driving Robomow with the navigator pad takes very little pressure. Press gently. Lightly roll your finger in the right direction.

The pad is omni-directional. It allows for slight turns as well as sharp turns, all the way to a complete circle.

○ To change speed: press the Speed Button (▶▶|▶) to toggle between 🐇 fast and slow 🐢 movement.

○ To stop driving: just release the Navigator Pad.
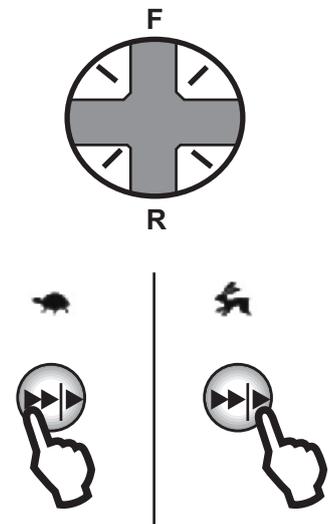
RL2000 Only

4.3   Depart

"Depart" is the starting step of the mowing sequence. At Depart the Perimeter Switch on the Base Station control panel is automatically switched on by Robomow.

4.3.1   (Auto) once you set a Weekly Program, (see Chapter 5), Robomow will automatically depart to start mowing your lawn at days and times you have scheduled.

RL2000 Only

4.3.2　[**Manual**] Manual depart

Manual depart is used when mowing the lawn at UNscheduled times, or when the lawn has to be cleared of people or debris before the scheduled mowing starts.

✦　To initiate manual start, press [GO] once.
If you prefer to skip edge mowing, press [GO] twice

If Entry Points have been previously set, Robomow will ask you to select a current entry point.

> Robomow departs from Base Station and starts edge mowing: automatically completes one loop around the Perimeter Wire and reaches back to Base Station.
> It will briefly start to dock, but then back up in order to mow the inner lawn.
>
> Robomow automatically determines the entry point from the perimeter wire into the lawn. A 'Searching entry' message is displayed on the Manual Controller while it is searching for the entry point into the lawn.

4.4　Returning to Base Station

4.4.1　[**Auto**] Robomow automatically returns to Base Station at the end of mowing.

4.4.2　[**Manual**] Manual "Go to Base" option

You can manually send Robomow to Base Station anytime and from anywhere on the lawn.

✦　Manual Controller should be in its holder.

✦　Make sure Base Station is turned on.

✦　Point Robomow toward any Perimeter Wire section (but NOT a Perimeter Island or excluded obstacle).

✦　Perform the following sequence:

Base zone　MAX
Press GO

Scroll up once to until 'Go to Base' screen displayed

Go to Base
Press GO　**GO**
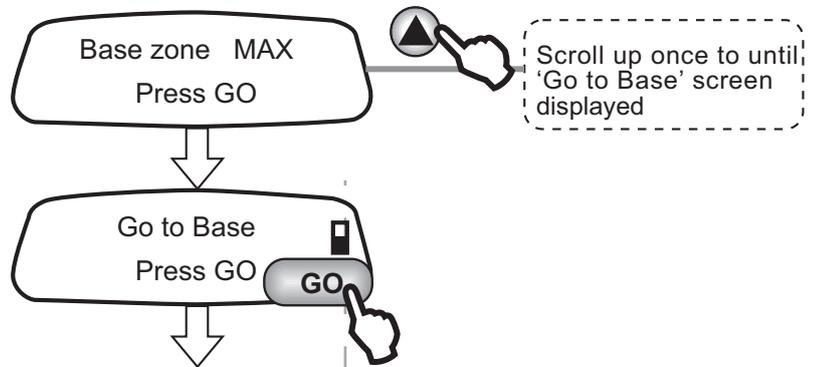
4.4.3　[**Manual**] Manual Charging of Robomow with the Manual Controller

○　Drive the Robomow manually into the Base Station using the navigation buttons on the Manual Controller.

○　Once in the station, reinsert Manual Controller

> Adjust the controller and its coil until it is at level with top of Robomow

○　Confirm the display changes to a battery charging icon, indicating a successful docking.

RL855/555 Only Non-Base Zone

4.5 Activating the Perimeter Switch (Non-Base Zone)

> ⚠ **Important!** ⚠ **Mowing in Non-Base Zone requires a prior setting of each such zones.**
> **If the zone to be mowed is not defined yet, do the setting now .**

In order for Robomow to operate in a Non-Base Zone: the Perimeter Switch has to be turned on and the mower should be inside the active perimeter area.

❍ Verify that a Perimeter Switch is connected to the zone to be mowed.

❍ Press the ⏻ '**ON**' button to turn on the Perimeter Switch.

A short beep sounds when the Perimeter Switch is turned on.

A green LED flashes to indicate proper operational state.

✦ If one of the red LED indicators flashes, there may be some malfunction.
For more details, please refer to the troubleshooting guide (Chapter 8).

✦ A "No Wire Signal" message on the Robomow's Display is an indication that Perimeter Switch is not turned on. Verify that you have properly connected the Switch to the Perimeter Wire, using the small green connector.

No Wire Signal!
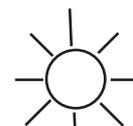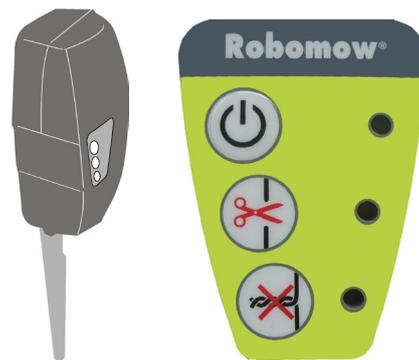
4.6 Positioning Robomow on the lawn.

> ⚠ **Serious injury or death hazard!**
> **This machine has sharp rotating blades.**
> **When operating in automatic mode, keep children, pets and bystanders away from mower. Do not leave mower unattended while operating .**
> **Never allow people or pets to ride on mower or block its path of movement.**

❍ Drive Robomow into the lawn area.

✦ Remove the Manual Controller from its holder.

✦ Use the Navigator Button to drive Robomow.

✦ Use the speed button to toggle between 🐇 fast and slow 🐗 speeds.

❍ Position Robomow at least 1 m (3 ft) from the Perimeter Wire.

F

R

**RL855/555 Only
Non-Base Zone**
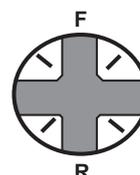
4.7　Edge Mowing (Non-Base Zone)

Robomow starts the mowing process by mowing the edges: along the Perimeter Wire. This creates a clean even cut around the perimeter. Edge mowing minimizes trimming along walls and other obstacles. Robomow will always mow the edge in a counter-clockwise direction. It will automatically find the edge (perimeter), mow it and then turn into the inner lawn area to complete the mowing.

❍　Verify that the zone to be mowed is already defined in Robomow. If the zone is not set yet, do it now (see section 7.4, Work Time).

❍　Reinsert Manual Controller in its holder.

　　　Adjust the controller and its coil until it is at level with top of Robomow.

❍　Scroll down (using the ⊙ DOWN arrow) to select the zone to be mowed and then press the (GO) once for Edge mowing.

Starting point

**Front pointed to
perimeter wire**

**1 m
(3 feet)**

Starting point
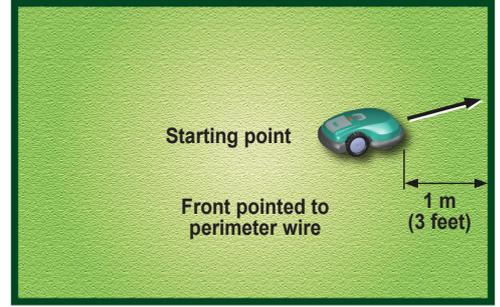
4.8　Scanning (mowing)

Robomow mows your lawn in a systematic scanning motion until all grass is cut. It runs for the default "MAX" time, or for the amount of time previously set (See chapter 6, operator settings and advanced features). "MAX" is typically
2-3 hours of mowing, according to grass type and condition.

4.9　To skip Edge Mowing

If your lawn requires more than two operations per week, it is recommended to skip edge mowing at the additional operations.

❍　Move Robomow to any point within the lawn which is at least 1 m (3 ft) from the Perimeter Wire.

Zone B:　　　1:40
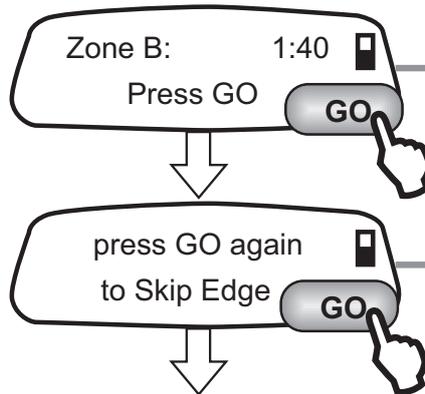
Press GO　　**GO**

Ready to start automatic mode display. Pressing GO will lead you to next screen

press GO again

to Skip Edge　**GO**

To skip the edge mowing, press GO once more, otherwise it will begin in edge mow.

4.10 Completing the mowing (Non-Base Zone)

When Robomow completes the mowing phase, it stays on the lawn.
You will drive it out to its storing/charging station.

Display upon completion:

**RL855/555 Only
Non-Base Zone**

Recharge Battery ▯ Press GO **GO**	Time Completed ▮ Press GO **GO**
When mowing in a MAX mode	When mowing in a Pre-set Time mode
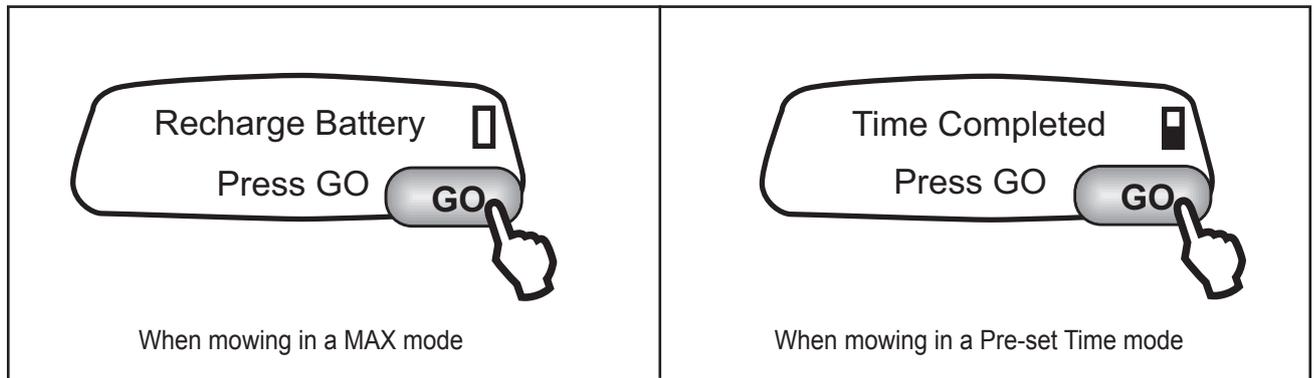
❍ If 20 minutes have passed after mowing is complete and if it was not moved yet:

✦ The display screen will be turned off.

✦ Robomow will turn off into a sleep mode

As an energy saving feature, Robomow always gets into a sleep mode after 20 minutes of inactivity.

❍ To wake Robomow up: either press (GO), or remove the Manual Controller from its holder.

4.11 Manual Mowing

Manual You can activate the blades manually in order for Robomow to trim small areas.

For added safety, in order to activate manual mowing you have to press 2 buttons simultaneously.

> This is a two-step OPC (Operator Presence Control) type system for your safety.

○ Use your right thumb to press and hold the Ⓒ button (Step 1)

○ While holding the Ⓒ button. Press the "MOW" button with your left thumb. (Step 2).

○ The blades start operating.

○ Release the Ⓒ button.

Keep pressing the MOW button. (Step 3)

○ Use the navigator pad to drive the mower.

○ To stop driving: release Navigator Pad.

○ Any activation of a bumper sensor, will automatically shut down the blades.

○ To stop mowing: release the MOW button.

○ To renew manual mowing: repeat steps 1-3 above.

Step 1

Step 2

Step 3

Chapter 5 Setting the Weekly Program (RL2000 only)

RL2000 Only

5.1 Setting the weekly mowing program

⚠ **Never let Robomow operate without supervision.**
Serious injury can occur.
If the current date and time are not set correctly or are failed to be set when prompted, the times scheduled for automatic departure will not be correct.
Incorrect departure times can be dangerous if children, pets or bystanders are present in the mowing area.

For best cutting results, set the weekly program, so the Robomow and the sprinklers do NOT run at the same time.

Remove the Manual Controller from its holder.

❍ Follow the following steps to set the Robomow's weekly mowing program.

❍ Press the ©️ button at any time to return one step backward.

Note: This option is displayed only after 'Set entry points' is done (refer to 7.4.1). You can set specific entry point or to set 'Cyclic'. which means that the mower uses all entry points set cyclic mode.

✦ Press (GO) within the 10 seconds time limit to display a shortcut to the Weekly Program setting.

Incorrect departure times can be dangerous if children, pets or bystanders are present in the mowing area.

Manual
User Option **GO**

⬇

Settings
Press GO **GO** ▲▼ Scroll up or down until "Docking option" is displayed and press 'GO'

⬇

Docking option
Press GO **GO**

⬇

Weekly program
Press GO **GO**

⬇

Set program
Press GO **GO**

⬇

M T W T F S S
Press GO **GO** ▲▼ Scroll to program the day of mowing and press 'GO'

⬇

Entry point: Cyclic
Confirm **GO** ▲▼ Scroll to set the entry point for the programmed day and press 'GO'

⬇

Work time: 2:00
Confirm **GO** ▲▼ Scroll to set the work time for the programmed day and press 'GO'

⬇

Depart 00:00
Confirm **GO** ▲▼ Scroll to set the depart time - and press GO after setting each digit.

⬇

Depart 12:30
Next digit **GO**

⬇

Mode Edge + Mow
Confirm **GO** ▲▼ Scroll to the required operation mode and press 'GO' ("Edge + mow" or "Mow" only. To clear an active day: "none")

⬇

M T W T F S S
Press GO **GO** ▲▼ Scroll to the next day you want to set and press 'GO'

RL2000 Only

5.2 Setting the current time

After setting the weekly program is completed, the system asks you automatically to set the current time.

🔼 **Important** 🔼 Robomow's clock works in a 24-hours time scale. For example, 2PM is 14:00, 7AM is 07:00 etc.

⚠️

Serious injury hazard!
The automatic departure times will be correct, only if the current date and time are set accurately. If the current time is inaccurate, or is not set at all, the times scheduled for automatic departure will not be correct.

❍ Follow the following steps to set current time and day of the week

Set time
Press GO   **GO**

M T W T F S S
Press GO   **GO**

Tuesday   00:00
Next digit   **GO**

▲
▼

Scroll to set the clock and press 'GO' for the next digit (C buttin is used to go back)

Tuesday   11:30
Next digit   **GO**
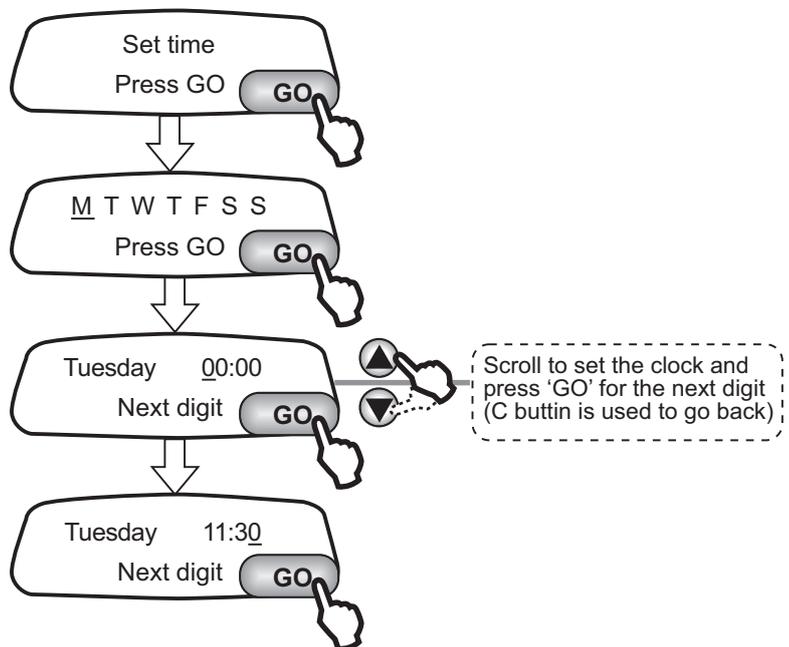
5.3 Canceling an active day

There are two ways to cancel an active day:

❍ Go to Weekly Program menu

❍ Scroll to the day you want to cancel and press   **GO** .

Option 1:

✦ Go to 'Mode'

✦ Select "None" to cancel.

Option 2:

✦ GO to "Depart"

✦ Change the time to 00:00

RL2000 Only

5.4 Weekly Program Display

You may wish to see the weekly program set for Robomow. There are two possible ways to do this. Remove the Manual Controller from its holder and follow the steps in the drawing:

Manual
User Option **GO**

Settings
Press GO **GO**

Scroll up or down until "Docking options" is displayed and press 'GO'

Docking options
Press GO **GO**

Weekly program
Press GO **GO**
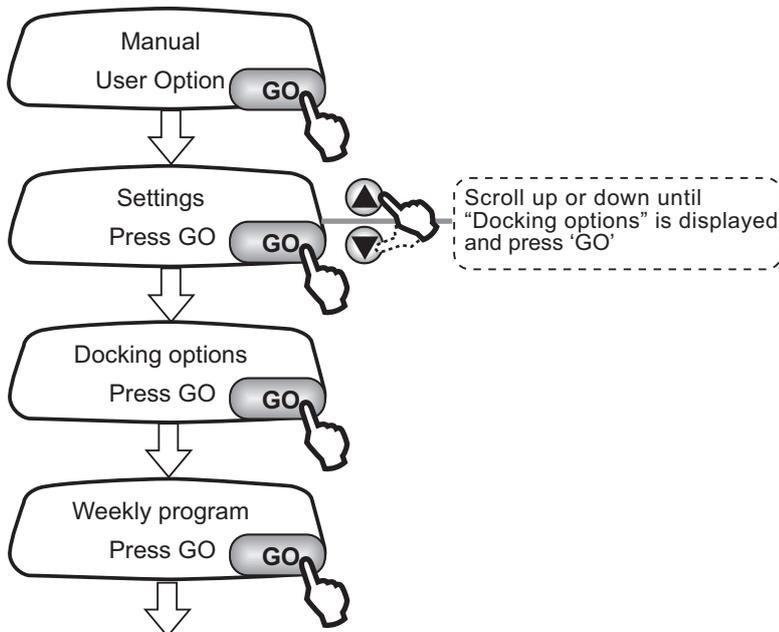
Option 1 – Using Manual Controller

✦ Remove the Manual Controller from its holder

✦ Follow the following steps to display the weekly program:

Weekly Program
Press GO **GO**

Set Program
Press GO

Scroll to next screen Display Program untill the Time is displayed

Displayed Program
Press GO **GO**

M T W T F S S
+ - + - - - +

This screen will display for 10 seconds and then disappear (+ means active day)
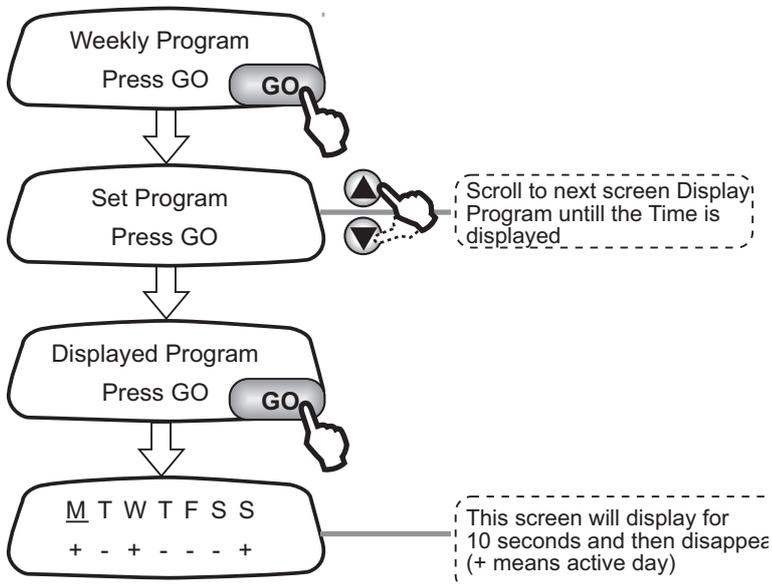
Option 2 – If Robomow is in Base Station:

✦ Scroll ▽/△ once for a 10 seconds display of the weekly program.

The + sign indicates an active day

TIP: Pressing the (GO) button again within the 10 seconds of the display is a shortcut to the 'Weekly program' setting display:

M T W T F S S
+ - + - - - +

This screen will display for 10 seconds and then disappear (+ means active day)

M T W T F S S
+ - + - - - + **GO**

Pressing the 'GO' button again within the 10 seconds on the display is a shortcut to the 'Weekly program' setting display:

M T W T F S S
Press GO

Chapter 5-3
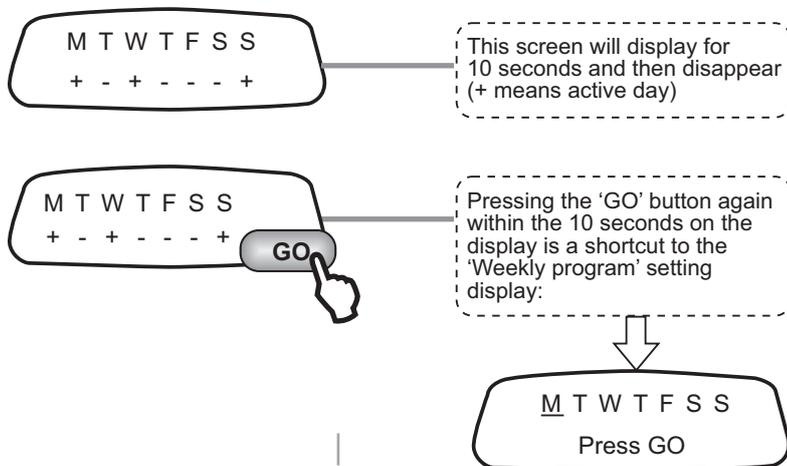
RL2000 Only

5.4.1 Special messages on Weekly Program display

The weekly program display provides important information about the last 7 days of Robomow's operation. Special characters under specific days provide this information.

Use the following table to interpret the information shown in this window:

Character shown	Meaning
+	Active day
B	Skipped due to low battery voltage Robomow did not depart from Base Station at the scheduled time due to low battery voltage.
b	If "working Time" has been set: Docked before time due to low battery voltage Robomow did not complete the operation. It drove back to Base Station due to low battery voltage.
D	Skipped due to no contact with Base Station or due to no charging voltage. Power break or mower placed out of the Base Station at the scheduled depart time.
U	Skipped due to user choice. For example, user chose the 'skip next depart' option or set the 'Auto depart' to 'off'.
C	Skipped due to no charging at the scheduled depart time, even though there was voltage. Typically, when Robomow is in Base Station, but the Manual Controller is not in its holder.
R	Skipped due to rain Robomow did not depart from the Docking Station at the scheduled time as it detected rain.
r	Docked before time due to rain Robomow did not complete its operation. It drove back to the Base Station as it detected rain while operating.

RL2000

Chapter 6   Charging

Proper charging of the Power Pack is of utmost importance!

Failure to follow the charging guidelines will result in poor performance and a short Power Pack life.
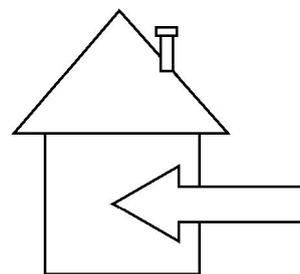
> **Shock, injury, electrocution hazard! Robomow Power Supply is designed for use in dry indoor locations only.**
> **Never use the Power Supply or charge the Robomow in areas where extreme dampness or wet contact is likely.**
> **Never use a Power Supply when the leads are damaged.**
> **Use only the recommended Power Supply for your Robomow.**

Indoor Use Only

⚠ **Important** ⚠ The power supply is suitable for INDOOR use only. It is required to place the power supply in a sheltered, dry location. It should be well ventilated and NOT exposed to any direct sunlight or to rain. Do NOT pack the Power Supply inside a plastic bag, as it will over-heat.

[RL2000] Robomow will be automatically recharged at its Base Station at the end of all mowing sessions. It is best for the Power Pack to remain plugged in at all times of non-use, throughout the mowing season. There is absolutely NO need for concern: no over-charging, no over-heating and no damaging the Power Pack.

[RL555 RL855] After completion of all daily cutting sessions it is very important to bring Robomow to its storage area and plug it into the charger. This should be done as soon as possible, preferably within 6 hours from the time it stopped.

Charging time is approximately 20 hours, depending on conditions.

6.1   Charging at the Base Station

The Base Station is the primary Charging Station when Robomow is docking

RL2000 Only

○ When the Power Pack is being charged at the Base Station one of the following screens is displayed:

✦ If Robomow is docked and a Weekly Program is set:

Operation Mode
(E stands for Edge + Mowing of the inner area and M stand for Mowing of the inner area only)

Next Scheduled Depart
(Day and Time)

Current Time

11:28   MO   10:30 E

Press GO

Battery Icon
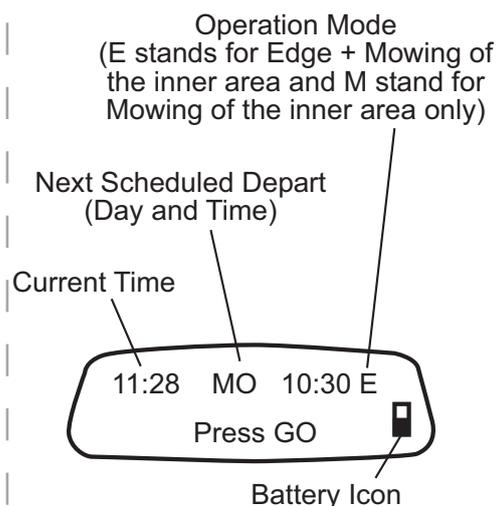
✦ If Robomow is docked and a Weekly Program is NOT set. Or: if Auto Depart is turned off:

Manual Depart

Press GO

RL2000

RL855/555 Only Non-Base Zone

6.2   Charging the Power Pack through an indoor power socket

The Power Pack may be re-charged with an indoor power supply connected directly to Robomow's charging socket.

❍ Before taking Robomow for operation, disconnect the charging plug from the Manual Controller holder.

✦ The following message displays as the plug is disconnected.

Keep Charging
If Not Used

✦ Press any button on the Manual Controller to go to Manual User Options screen.

❍ Connect the Power Supply to a regular household receptacle, 230/120 volts.

❍ Connect the output lead of the Power Supply into the charging socket on the bottom the Manual Controller.

❍ Lightly, put the Manual Controller down to rest on the charging cord.

🔒 **Important** 🔒 Do NOT attempt to push it all the way into its holder. It should just loosely rest there.

Battery Icon

✦ The Charging message is displayed as soon as charging starts:

The battery icon gets darker as charging continues

Charging

✦ Once the battery is full the message changes: reminding you to keep it connected to the Power Supply until the next use.

Ready
Keep Charging
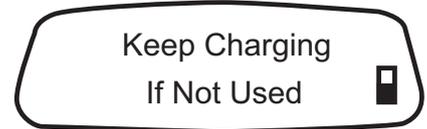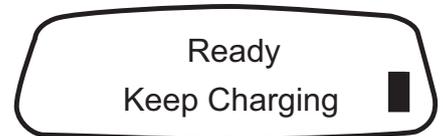
6.3 Power Management and Charging Alerts

6.3.1 The Power Pack should be fully charged before starting any operation.

❍ Verify that the Power Pack is fully charged before operating it.

❍ Check for any excessive energy consumers like: dull blades, or heavy grass accumulation around the blades.

> To even increase energy efficiency

6.3.2 Robomow operates under two run-time modes

Robomow's Power Management System helps protecting its battery.

❍ Robomow should always be either charging or in operation.

✦ If Robomow is neither charging nor operating, it will give a warning, reminding the user to charge it.

✦ If Robomow is not connected to the charging outlet within a specific period of time, it will enter a "deep sleep" mode in order to conserve power.

✦ In order to wake Robomow up from its deep sleep mode: remove the Power Pack for 10 seconds and then reinsert it.

6.4 Off-season storage

Preparing Robomow for off-season storage:

❍ Fully charge the Power Pack.

❍ Remove Power Pack from Robomow and store it in a dry location at room temperature.

> The Power Pack may be left in a garage or a shed if the temperature there will not drop below -20 ºC (-4ºF).

❍ Recharge the Power Pack every three months while in storage.

🗗 **Important** 🗗 For further details of winter storage, please refer to section 10.9.

Chapter 7 Setting Robomow and using Advanced Features

7.1 Manual User Options

○ Remove the Manual Controller from its holder.

> The display changes to Manual User Options

○ Press (GO) once to select Manual user options and get to the next screen: "Settings".

○ Use the ▼/▲ arrows to scroll through the other "Manual User options" menu.

Manual
User Option **GO**

> Press 'GO' to next screen Settings

Settings
Press GO

> Scroll up or down allow you to scroll through the menu items

Information
Press GO

Docking Options
Press GO
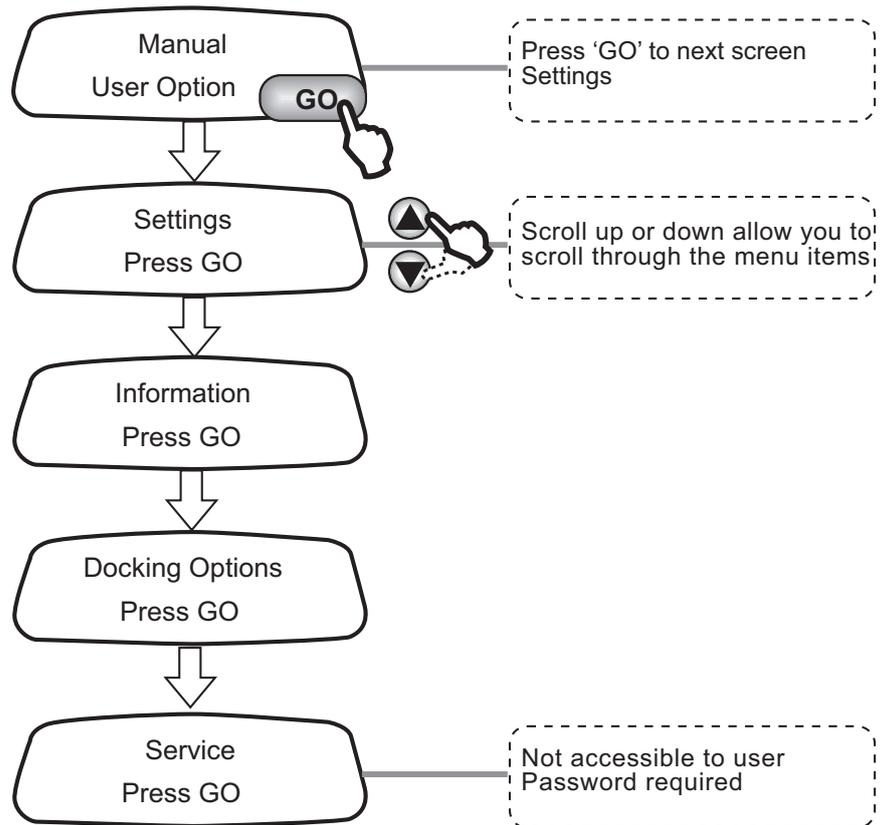
○ **General navigation rules**

✦ Use the (GO) button to select a menu item or confirm a selection.

Service
Press GO

> Not accessible to user Password required

✦ Use the ⓒ button at any time to return to the main menu

✦ Use the Up/Down ▼/▲ arrows to toggle between enable/disable options when appropriate.
When you get to the option to be selected, press (GO) to select it or to confirm.

7.2 Settings

Robomow offers several setting options. The Settings menu is the doorway to all those possibilities.

○ Get to the Settings menu.

○ Press (GO) to select "Settings" and start the list of Robomow's setting options

> "Zones setup" option is the first option to be displayed.

○ Use the ▼/▲ arrow keys to go through the list, until you get to the option you wish to set.

✦ Press (GO) at the display of that option, to select it and to start the process of setting it.

| Settings Press GO **GO** | → | Zones setup Press GO |

Press 'GO' to view the menu of 'Settings', beginning with 'Zones setup'

Scroll up or down allow you to scroll through these menu items.

GO

Pressing 'GO' will take you to these various settings.

Child guard   off
Press GO

Sound   on
Press GO

Wire Position
Press GO

Language
Press GO

Scan Type
Press GO

Scan Width
Press GO

Enable dock   on
Press GO

Eco mode
Press GO

Signal type
Press GO

Blades replaced
Press GO

Rain sensor
Press GO

7.2.1 ⌇ **Zones setup**

Use "Zones setup" to set specific operation options to specific zones of your lawn.

❍ When in "Zones Setup" Press (GO).

❍ Scroll ▼/▲ to choose the specific zone you want to set up.

❍ Press (GO).

```
        Work time
        Press GO
           ↓
        Learn Edge
        Press GO
           ↓
      Set default edge
        Press GO
```
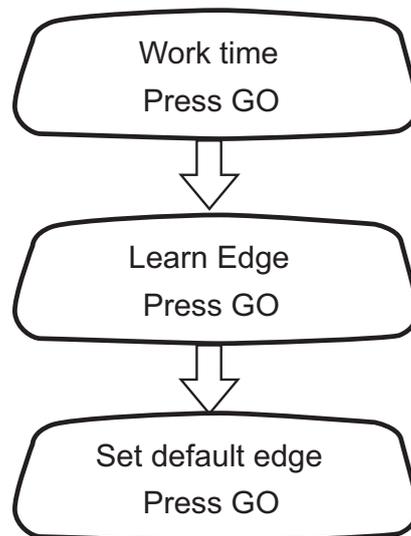
⌇ **Work Time**

Use the Work Time option to set an operating time different than the default MAX timing.

You may use the Work Time option for up to 3 different zones. Each of the selected zones may have a different work time. This is very helpful when the zones are different in size, thus requiring different mowing times.

RL2000
Only

✦ For the Base Station zone (only on RL2000), setting the "Work Time" sets the operating time used in Manual Depart from the Base Station.

> You may also set a specific work time per operation. This is set as part of setting the automatic weekly program (see Chapter 5).

RL2000

```
   Base zone:   MAX
                           ▲
   Press GO  ( GO )              Press GO and Scroll to select
                           ▼      different operating times.
                                 Times range from: 20minutes
                                 to 2:00 hours to MAX
           ↓
   Base zone:   2:00

   Press GO
           ↓
```
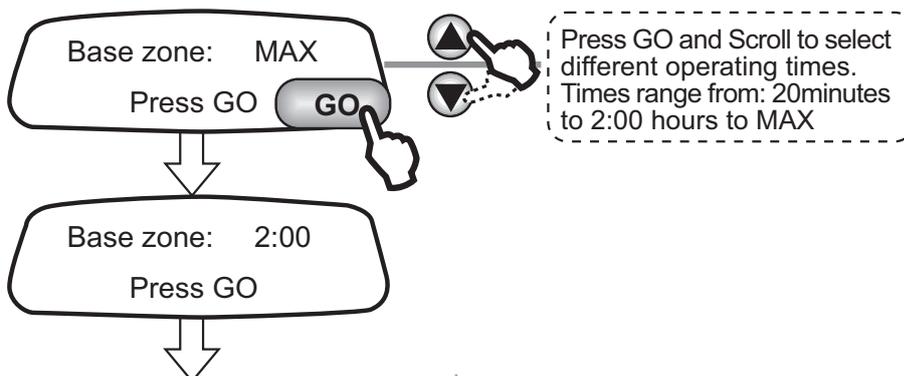
Learn Edge

For Non-Base Zones Only:
Use the "Learn Edge" option to set ("teach") a distance for edge mowing that is different from Robomow's default (1.5 to 2 rounds around the Perimeter Wire). For example, you may wish it to learn to do it at a distance of one full round.

This newly learnt distance will remain until edge mowing is learnt again or until you set it back to Robomow's default.

✦ Position Robomow to start edge mowing.
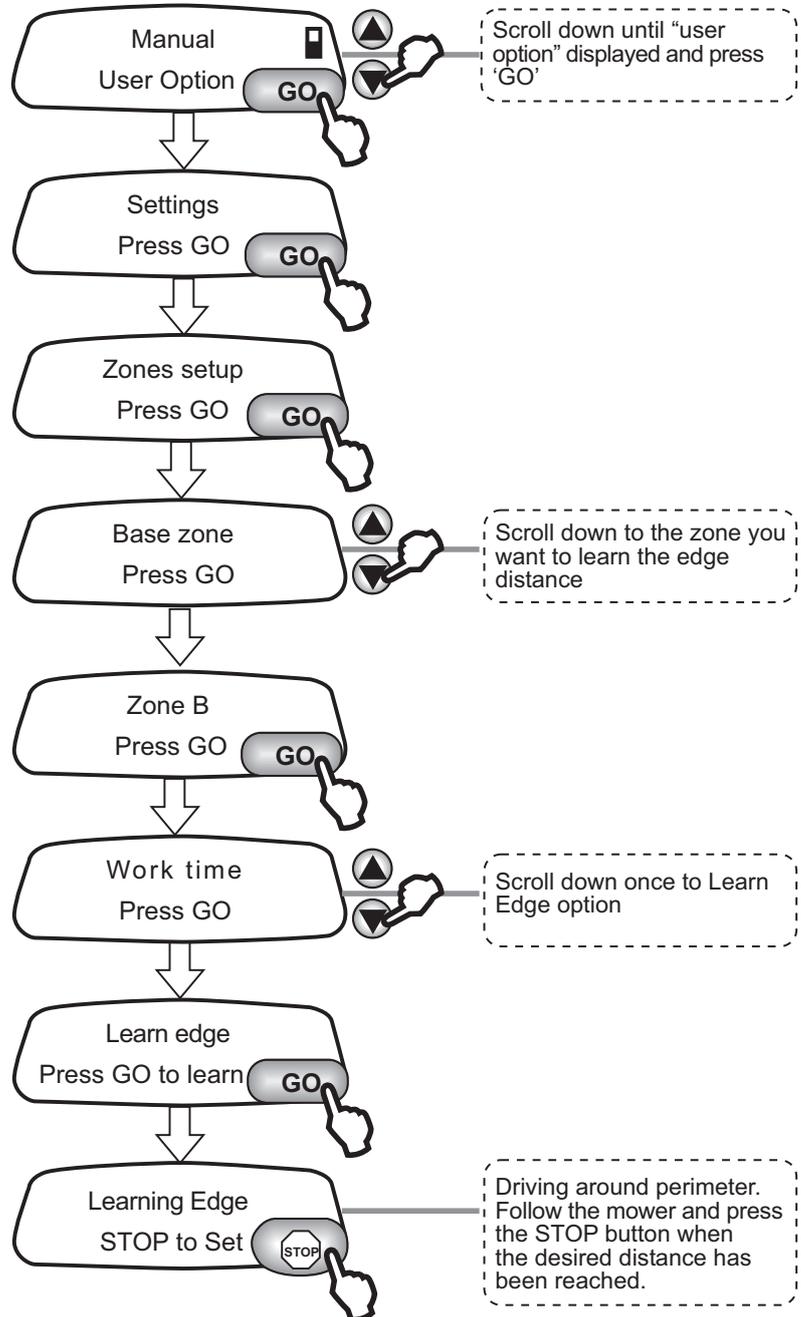
✦ Reinsert Manual Controller to its holder.
   Adjust the controller and its coil until it is at level with top of Robomow.

✦ Follow the steps described here to start the "Learn Edge" process.

✦ Robomow drives around the Perimeter Wire. Follow it and press the STOP button when the desired distance has been reached.

Manual User Option **GO**	Scroll down until "user option" displayed and press 'GO'
Settings Press GO **GO**	
Zones setup Press GO **GO**	
Base zone Press GO	Scroll down to the zone you want to learn the edge distance
Zone B Press GO **GO**	
Work time Press GO	Scroll down once to Learn Edge option
Learn edge Press GO to learn **GO**	
Learning Edge STOP to Set **STOP**	Driving around perimeter. Follow the mower and press the STOP button when the desired distance has been reached.

Set Default Edge

Use the Default Edge function to re-set edge mowing of a specific zone back to Robomow's defaults.

7.2.2 Child Guard

"Child Guard" is a safety feature that prevents young children or other unauthorized people from activating Robomow.

When Child Guard is set, Robomow will start operation ONLY after unlocking it.

IMPORTANT It Is strongly recommended to turn this feature on. This will prevent children or anyone unfamiliar with the mower, form activating it.

○ To unlock Robomow's Child Guard:

✦ Press the ▲ arrow and then press the Ⓒ key

7.2.3 Sound

Use the Sound option to turn all non-safety sounds off.
This option still KEEPS all safety sounds on.

7.2.4 Wire position

Use the Wire Position option to test the Perimeter Wire's position at "Edge" mode, and wish to do that with the mowing motors switched off.
This prevents damage to the Perimeter Wire after its initial setup has been completed.

7.2.5 Language

Use the Language option to view the display in other languages.

7.2.6 Scan Type

Use the Scan Type option when you wish the mower to move in a systematic parallel pattern. This type of mowing movement will replace Robomow's default Random operation with a systematic parallel motion, without using a compass (Wide Scan) or with a compass (Parallel).
In Random movement (default), Robomow's movement pattern is irregular so it opens a different angle whenever reaching the perimeter wire or an obstacle.

IMPORTANT It is recommended to change the settings from the default of Random, only if the Robomow is not covering all sections of the intended area. If the Parallel option causes Robomow to drive back and forth in the same direction, with no progress, use either the Wide Scan or Random options.

7.2.7 **Scan Width**

Use the Scan Width option to change the mowing movement of Robomow. This can be beneficial in some lawns.

○ If the mower is continuously moving back and forth along the same path, it is recommended to increase scan width.

RL2000 Only **7.2.8** **Enable Dock**

Use the Enable Dock to switch ON the docking options menu of the Base Station.

If Enable Dock is turned off, the docking options menus are hidden.

RL2000

7.2.9 **Eco mode**

Use ECO (Economic) option to operate Robomow with the minimum energy needed for cutting the grass and maintaining the lawn.

Operation in ECO mode reduces Robomow noise level during operation and allows longer operation periods.

[RL2000] For RL2000: As a default, the ECO mode is set 'On'.

ECO mode will turn 'Off' automatically, increasing the power of the mowing motors, for short periods of time, in areas or times when mowing of high and dense grass is detected. Robomow will revert back to ECO mode 'On' once this condition diminishes.

[RL555 RL855] For RL555/RL855: As a default, the ECO mode is set 'Off'.

ECO mode can be turned 'On' to reduce noise level or increase run time when MAX work time is selected.

Eco mode
Press GO **GO**

on
Press GO **GO**

off
Confirm **GO**
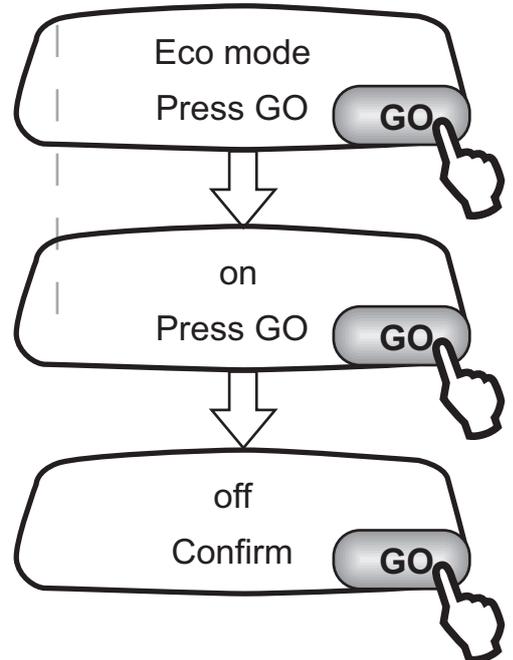
7.2.10   **Signal Type**

Use the "Signal Type" to change the frequency of the Perimeter Wires signal from type A (default) to type B.

Signal type

Press GO   **GO**

Type: A

Confirm   **GO**
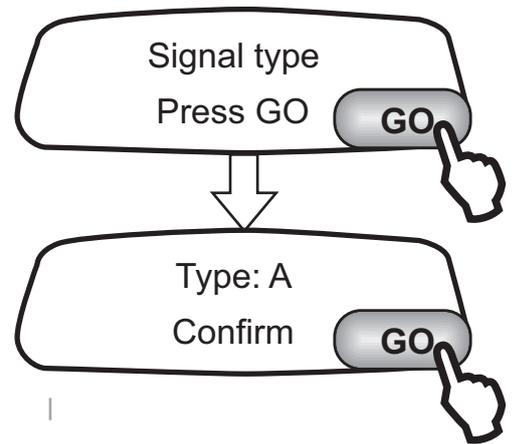
❍ In order to switch to type B signal, remove the signal jumper from Base Station/Perimeter Wires board (see picture).

> **IMPORTANT Keep the signal jumper in a safe place, in case you need to reinsert it in the future.**

❍ In order to return to the default type A signal, insert the signal jumper to Base Station/Perimeter Wires board.
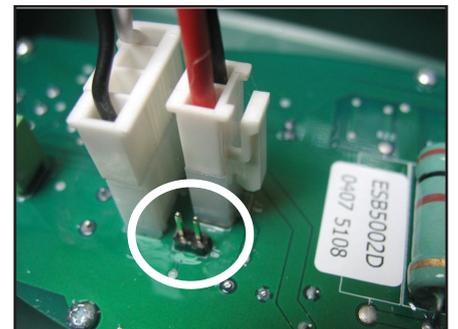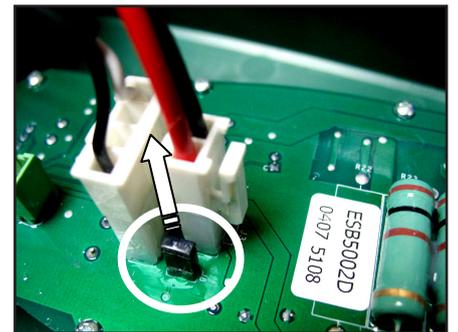
Changing the signal type is usually a result of interference to the Perimeter Wire signal. It may be caused by a signal from another wire in an adjacent lawn (neighbor uses a robotic mower), or by any other electrical appliance using the same frequency.

❍ Possible symptoms of interference:

✦ If mower is widely swinging when driving along the wire.

✦ If mower changes direction without reaching the wire.

✦ If mower crosses the Perimeter Wire outside of the designated area.

✦ If 'Start inside' message is displayed even when Robomow is inside the designated area and the Perimeter Wire is connected in the right polarity

7.2.11 ⎛ **Blades replaced** ⎞

Use the Blades Replaced option after having replaced the blades. This will restart the reminder counter, so it reminds you to replace the blades again after the next 200 hours of operation. (For details about replacing the blades, see 10.3).

7.2.12 ⎛ **Rain sensor** ⎞

The Rain sensor feature enables Robomow to detect rain and to skip or stop the operation when rain is detected.
There are three options under the Rain sensor menu:

○ **Rain sensor on/off** – to turn the rain sensor feature off, for Robomow to operate even in rain and in wet grass conditions.

○ **Reading** – to display the actual reading of the rain sensor.

○ **Set sensitivity** –to set the sensitivity of the rain sensor.
    The default sensitivity is set on 9. This means that any reading below 9 will cause Robomow to detect rain and stop operating.

7.2.13 ⎛ **Anti-Theft** ⎞

Use the anti-theft option to set a code that will have to be entered in order to activate Robomow.

You will be prompted to enter a four-digit code of your choice to use as your personal security code.

○ To change an existing password, you will first be prompted to enter your old password.

> **⚠ IMPORTANT ⚠ Be sure to record your code for future reference.**
> **You will find a place to record your personal security code in Chapter 9 of this manual.**

Anti theft
Press GO   **GO**

↓

Anti theft   off
Press GO   **GO**

↓

Change password
Press GO   **GO**
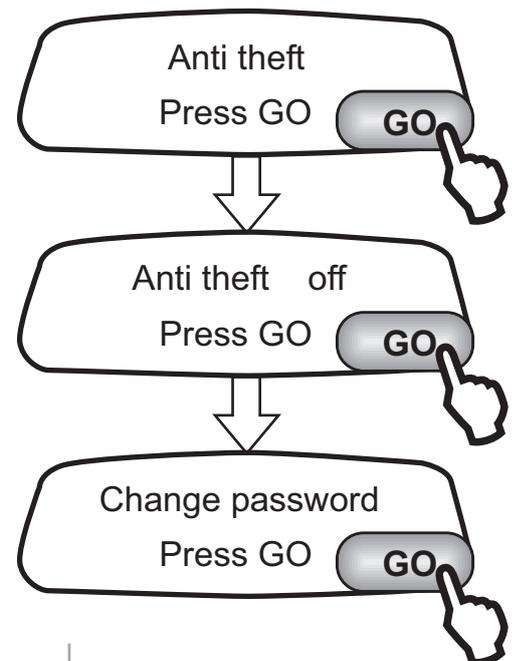
7.3 **Information**

○ Press (GO) at the Information display to open the Information feature and to scroll through the following sub-menus

Information
Press GO **GO**

Pressing 'GO' at the Information display will open the option to scroll between the following menus

Total time
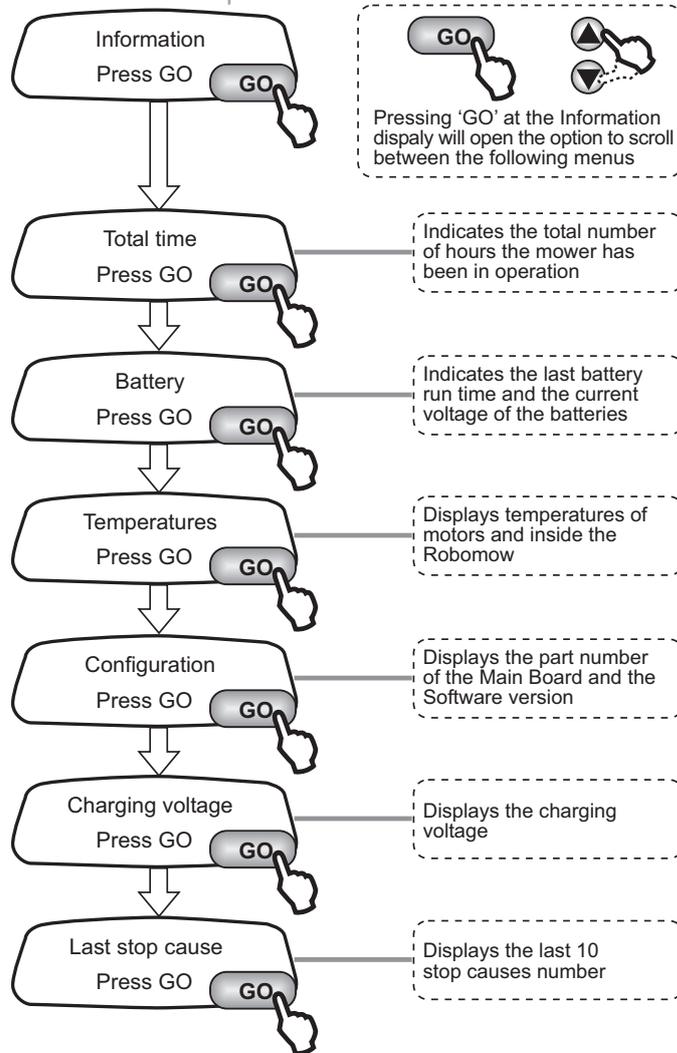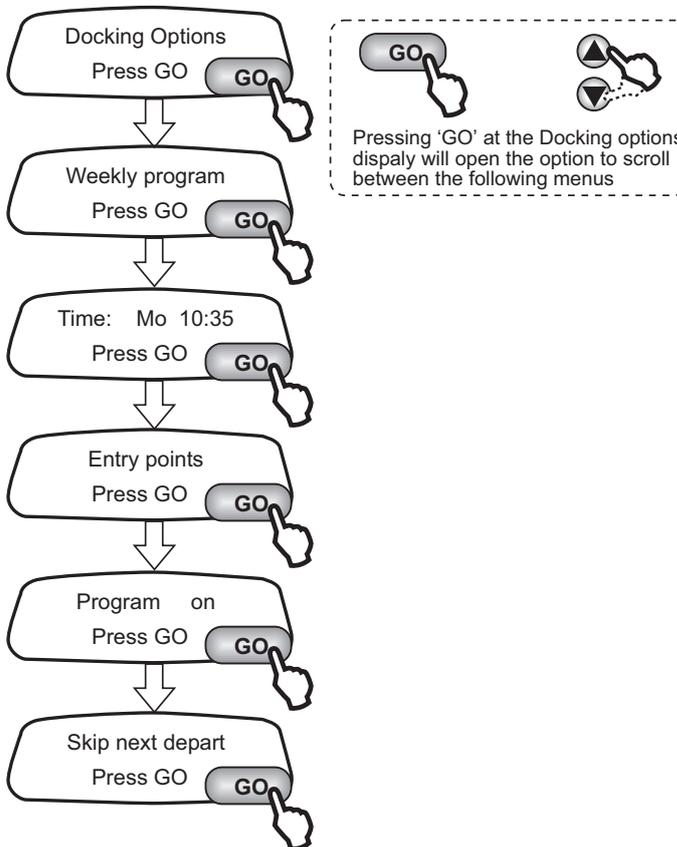Press GO **GO**

Indicates the total number of hours the mower has been in operation

Battery
Press GO **GO**

Indicates the last battery run time and the current voltage of the batteries

Temperatures
Press GO **GO**

Displays temperatures of motors and inside the Robomow

Configuration
Press GO **GO**

Displays the part number of the Main Board and the Software version

Charging voltage
Press GO **GO**

Displays the charging voltage

Last stop cause
Press GO **GO**

Displays the last 10 stop causes number

RL2000 Only

7.4 **Docking Options** **(Base Station only)**

○ Press (GO) at the Docking options display to open the options and to scroll through the following sub-menus

Docking Options
Press GO **GO**

Pressing 'GO' at the Docking options dispaly will open the option to scroll between the following menus

Weekly program
Press GO **GO**

Time: Mo 10:35
Press GO **GO**

Entry points
Press GO **GO**

Program   on
Press GO **GO**

Skip next depart
Press GO **GO**

RL2000

RL2000 Only

7.4.1 〔 **Entry Points** 〕

Entry points are specific points on the perimeter, where Robomow leaves the edge and turns into the lawn to mow the inner area.
Robomow is shipped with no 'entry points' set. For common shapes of lawns there is NO need to set specific entry points.

○ If your lawn shape is "special", you can turn the 'Entry Points' option ON.
This will improve your mowed area coverage.

> The Entry Points feature uses 3 default entry points: at the Base Station, at 30% and at 60% of the Perimeter Wires length. Robomow uses these 3 entry points in a cyclic order. You cannot set a specific entry point for a specific day.

○ If the default entry points are not suitable for your lawn, select the Set entry points option. This way, you are able to set alternative entry points and to appoint a scheduled day of your Weekly Program for each of these points.

Select the Entry points option to open this option and to scroll through the following sub-menus.

Entry points
Press GO **GO**
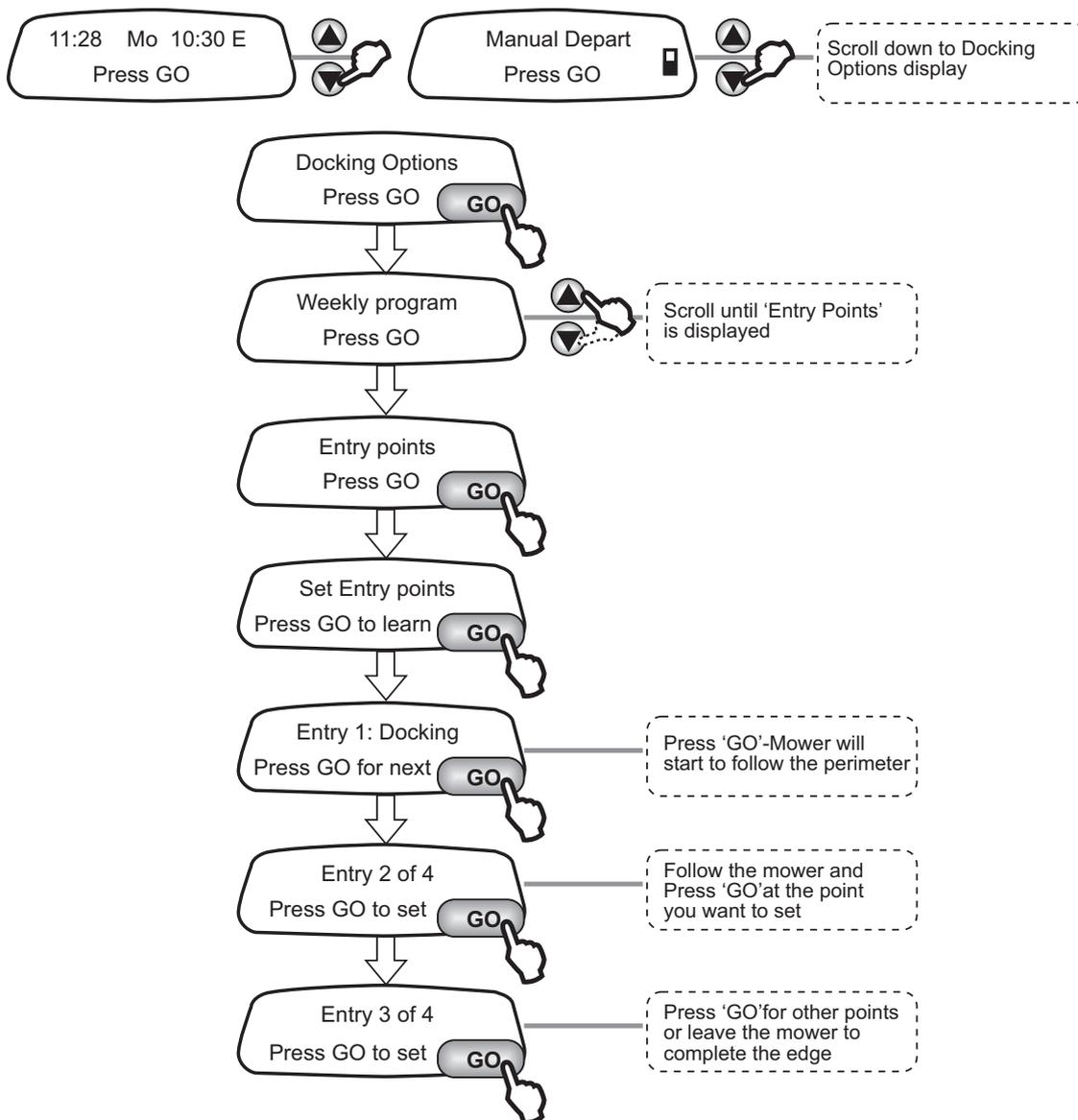
GO   ▲▼
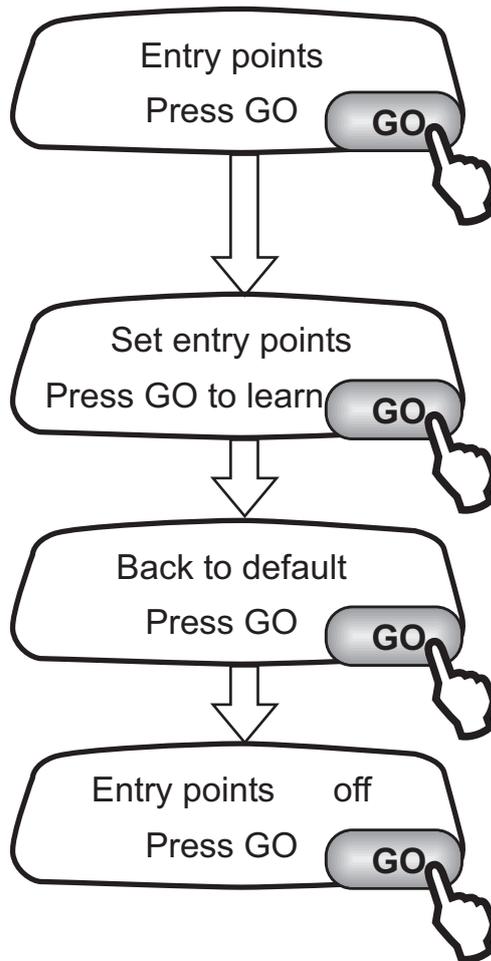
Pressing 'GO' at the Entry points dispaly will open the option to scroll between the following menus

Set entry points
Press GO to learn **GO**

Back to default
Press GO **GO**

Entry points   off
Press GO **GO**

RL2000

Set Entry Points

Up to four entry points are allowed. The Base Station is always included and is always defined as Entry Point number one.

✦ Place Robomow in the Base Station with the Manual Controller in its holder.

✦ Follow the steps below to set the entry points.

One of the following displays is appeared
when the mower is in the Docking Station

| 11:28 Mo 10:30 E | | Manual Depart | | Scroll down to Docking |
| Press GO | | Press GO | | Options display |

Docking Options
Press GO   **GO**

Weekly program
Press GO   Scroll until 'Entry Points' is displayed

Entry points
Press GO   **GO**

Set Entry points
Press GO to learn   **GO**

Entry 1: Docking
Press GO for next   **GO**   Press 'GO'-Mower will start to follow the perimeter

Entry 2 of 4
Press GO to set   **GO**   Follow the mower and Press 'GO' at the point you want to set

Entry 3 of 4
Press GO to set   **GO**   Press 'GO' for other points or leave the mower to complete the edge

✦ If you prefer to have just 2 or 3 entry points -> press **STOP** at any time in the process.

✦ If you prefer not to wait until Robomow completes its drive back to Base Station -> press **STOP** at any time in the process.

✦ If you start the process at the "Manual Depart" display, and if you have previously selected entry points -> you will be asked to select the entry point.

Back to default

Use Back to default to go back to factory default Entry Points.

Robomow will return to the default entry points of: Base Station, 30% and 60% of the perimeter length.

Entry Points - on/off

Use this option to start mowing directly from Base Station to the inner area: NO entry points.

Setting the entry points OFF is recommended if the lawn shape is square or rectangle with NO Narrow Passes.

7.4.2 ## Program on/off

Use this function to shut off the weekly program.

7.4.3 ## Skip next depart

Use this option to skip the next scheduled operation.

There are two ways to skip next depart:

✦ Shortcut – when the mower is in the Base Station press the ⓒ button to display the following:

> Skip next   on
> Confirm   **GO**

✦ Press (GO) to confirm.

OR

❍ Go to the Docking options menu and scroll to Skip next depart option.

✦ Press (GO) to confirm the skip.

❍ After turning Skip next depart ON, Robomow displays the next active depart time (after the one that has been skipped).
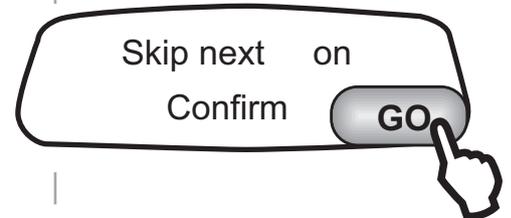
Chapter 8   Troubleshooting

8.1   Text error-messages

Robomow continuously monitors its operation. It produces text messages to assist you in smoothly running it: text messages in case of an operational fault as well as text messages that prompt the user to perform a certain action.

❍ Usually, if the mower stops, a message is displayed. This display stays on for 15 minutes.

❍ If you arrive later than those 15 minutes, the display will be blank.

❍ To wake Robomow up and see the last text message displayed prior to stopping, either press (GO) or lift the Manual Controller from its holder.

❍ The fault code is also displayed in the "Information" menu, under "Last stop code". This information may be required if you have to call service for help.

✦ Shortcut: To wake-up the mower and see the "Last stop cause", press the UP (▲) arrow once, when the stop message is displayed.

❍ If a problem re-occurs, it is recommended to write down the fault code before calling for service.

The following table displays all fault message displays and their most common causes. The next table will give details and possible causes of other faults, that do not provide fault messages.
If a fault cannot be dealt with using these tables, please call your service provider.

8.2   Messaging

Message Displayed	Probable Cause/Event	Corrective/User Action
B **Blocked path**	- Bumper pressed during warm up. - Bumper pressed for >2 sec during manual mowing. - Bumper pressed while departing from the Base Station	- Move mower away from obstacle pressing on bumper. - Manually drive mower away from obstacle.
C **Calibration Requirement**	- Displayed on first use only	- Follow prompts on LCD to calibrate mower
Charging Failure	- The charging process is not active	- Contact service provider
Check Mow Height	- Mowing motors have faced over-current for too long or some obstacle is stuck or wrapped around the blades. - Something is preventing a blade from rotating freely. Severe grass accumulation under the mowing deck; rope or similar object wrapped around mowing blade. - Object jammed under mower preventing blade from rotating.	<u>**CAUTION**</u> – Remove power pack before lifting the mower. - Inspect blades for foreign material or debris preventing rotation. - Clean out accumulated grass clippings using a wooden stick.
Check P. Switch	- Mower is trying to depart from Base Station and the perimeter switch is not responding - There is a perimeter wire disconnection detected at departure time	- Turn on the perimeter switch and check for broken wire warning.

Message Displayed	Probable Cause/Event	Corrective/User Action
Check Power	- Power supply/charger is not plugged properly into the main power supply - Charging plug is not fully inserted into the charging socket of the mower - The charging process has stopped due to a temporary power loss.	Disconnect the charging plug from the mower, confirm power supply is plugged into the main power receptacle and re-connect the plug to the mower to resume charging.
	- No power to receptacle or main power is shut off	- Turn power on to the main receptacle.
	- The mower contacts do not touch the Base Station contacts	- Make sure that both mower drive wheels are leveled with the Base Station base (if necessary fill the area underneath the drive wheels with dirt)
	- The mower or Base Station contacts are dirty	- Clean the contacts with a brush or piece of cloth
	- Charging is not detected, although there is physical contact between the mower and the Base Station contacts (mower is found in the Base Station entrance).	- Confirm a good connection of the cables to the Base Station contacts. - Check the Charging fuse 5A (remove the plastic cover below the Manual Controller).
	- Mower does not reach the Base Station within the time and distance limitations.	- Confirm the mower is operated in a Charging zone. - Confirm the mower is not slipping or stuck on its way to the Base Station.
Check signal Press Go	- There is no fitting between the 'Signal type' setting in the menu and the signal jumper on the Perimeter Switch; - Automatic operation is initiated while Robomow is placed out of the perimeter wire lope. - The perimeter wire is connected to the plot connector in the wrong polarity. - Robomow detects signal interferences from adjacent activated lawn or from other appliance activated near the zone;	- Set the 'Signal type' menu to 'A' and confirm the signal jumper is installed on the Perimeter Switch board; or alternatively set it to 'B' and remove the signal jumper from the board; - Place the mower inside the lawn and press the 'GO' button. - Change between the two wires ends that connected to the plot connector (the green connector that connected to the Base Station). - In case of signal interference call the service for help;
D **Docking problem**	- The mower contacts do not touch the Docking Station contacts	- Make sure that both mower drive wheels are leveled with the Docking Station base (if necessary fill the area underneath the drive wheels with dirt)
	- The mower or Docking Station contacts are dirty	- Clean the contacts with a brush or piece of cloth
	- Charging is not detected, although there is physical contact between the mower and the Docking Station contacts (mower is found in the Docking Station entrance).	- Turn on the Perimeter Switch - Confirm a good connection of the cables to the Docking Station contacts. - Check the Charging fuse 5A (remove the plastic cover below the Manual Controller).
	- Mower does not reach the Docking Station within the time and distance limitations.	- Confirm the mower is operated in a docking zone. - Confirm the mower is not slipping or stuck on its way to the Docking Station.
Drive Overload **Cooling Wait…**	- The drive motors have been working under a severe load for too long.	- There is no need to do anything – Robomow will renew automatically the operation, as the drive motor will cool down.
Drive problem	- Internal failure	- Contact service provider
E **Enter Code**	- The theft guard system is activated	- Enter the correct 4-digit code. '***Theft Guard'*** can be deactivated under '***User Preferences'***. Contact your service provider for assistance in a lost code situation.

Message Displayed	Probable Cause/Event	Corrective/User Action
F **Front/Rear bumper disc.**	- Internal bumper failure	- Contact service provider
Front/Rear bumper pressed	- Front or Rear Bumper is constantly being pressed	- Move mower away from object pressing against bumper.
Front Wheel Problem	- The Front Wheel has left the ground for more than 8 – 10 seconds.	**CAUTION** – Remove power pack before lifting the mower - The Robomow has driven onto an obstacle, raising the front end. Remove or exclude this object from the mowing area. - The Robomow is being used on a slope too steep for safe mowing. Exclude this from the mowing area. - High grass is preventing the front wheel from fully riding on the ground. Raise the cutting height. - The ground contains large holes or indentions where the front wheel can drop into when passing across. Fill these areas with dirt and level off.
H **High temp. Disc. charger**	- Robomow is charged through the plug and ambience temperature is out of range (above 158ºF / 70ºC)	- Robomow charging is not allowed when the ambience temperature is raised above 158ºF / 70ºC; Disconnect the charger plug and wait until the temperature will go down or take the Robomow to be charged in a cooler place.
High temp. Waiting…	- Robomow is charged through the Base Station and the ambience temperature is out of range (above 158ºF / 70ºC);	- Do not do anything, the charging is stopped and Robomow is waiting for temperature to change back to the allowed range; if temperature stays out of the range for more than 12 hours, the message is changed to 'High temp. Press GO .
K **Keep charging if not used**	- Message is displayed every time the charger plug is disconnected from the mower. - Displayed when the mower isn't in operation and not connected to the charger/Charging for a long time.	- Press any key to change the display back. - Send the mower back to the Base Station for charging / connect the charging plug or continue in operation
Keys locked	- Child lock feature has been activated	- Press the **Up** ▲ arrow key and then press the ' ⓒ ' button. Child lock can be deactivated under **User preferences**.
L **Low battery**	- Mower is searching for the Base Station but the battery voltage is too low to continue the searching process	- Drive the mower manually for charging in the Base Station
Low temp. Disc. charger	- Robomow is charged through the plug and ambience temperature is out of range (below 32 ºF / 0 ºC); disconnect the charger plug from the Robomow.	- Robomow charging is not allowed when the ambience temperature is going down below 32ºF / 0ºC; Disconnect the charger plug and wait until the temperature will go up or take the Robomow to be charged in a warmer place.
Low temp. Waiting…	- Robomow is charged through the Base Station and the ambience temperature is out of range (below 32ºF / 0ºC);	- Do not do anything, the charging is stopped and Robomow is waiting for temperature to change back to the allowed range; if temperature stays out of the range for more than 12 hours, the message is changed to 'Low temp. Press GO .
Left/Mid/Right mow problem	- Mowing motor is faulty or disconnected	- Contact service provider

Message Displayed	Probable Cause/Event	Corrective/User Action
M **Mowing Overload** **Cooling Wait**	- The mowing motors have been working under a severe load for too long of a time.	- There is no need to do anything – Robomow will renew automatically the operation, as the mowing motor will cool down.
N **No Wire Signal**	- Perimeter Switch is not turned on or not connected to the zone intended to mow	- Make sure the Perimeter Switch is connected to the correct zone and is turned on
R **Rain detected Go to ignore Enhanced Manual Controller only**	- Robomow detects rain upon GO pressing	- Do not operate Robomow in rainy weather and wet grass; If you choose to override, press the GO button; The overriding is valid for the current operation only
Ready **Keep Charging**	- The battery is fully charged	- Keep the charger (power supply) connected and operating
Recharge Battery	- The maximum operating time has been reached	- Connect the charger to the mower
Replace blades every 200 hours	- An automatic reminder to replace the blades is displayed every 200 hours	- Replace the blades and restart the counter of the blades replacement reminder by choosing the '**Blades replaced – Clear reminder'** option under the '**User Preferences'** menu
Retry elsewhere	- Calibration failure from interference in the immediate area	- Move the Robomow 10-12 feet (3-4m) from this spot and attempt calibration again.
S **Set Country**	- Displayed only on first use.	- Follow prompts on LCD screen to set country
Set Time	- Displayed every time the power pack is taken out of the mower (reset operation)	- Set real time clock (day and hour)
Skipped: Low bat	- Robomow has skipped the last depart due to low battery voltage	- Confirm there is enough time between the two adjacent departures so the battery can be charged prior the scheduled operation (min 16 hours between operations)
Skipped: Rain Only Enhanced Manual Controller	- Robomow has skipped the last depart due to rain detection	- It is not recommended to cut wet or damp grass, but if you choose to override the rain sensor, change the setting of the 'Rain sensor' to 'off' under the 'User preferences' menu.
Start Elsewhere	- An unknown fault has occurred and user help is required	- Manually drive the mower away from this particular area and restart operation
	- Wheel drive motors have been working under a severe load	- Check to insure the mower is not stuck, allowing the wheels to slip
Start Inside	- Automatic operation is initiated while Robomow is placed out of the perimeter wire lope.	- Place the mower inside the lawn and press the 'GO' button.
Thermistors fail	- Faulty / disconnected thermistors (overheat protection)	- Contact service provider
Time Completed	- The operating time set for that zone has been reached	- Connect to the charger if all mowing has been completed for the day.
Waiting for signal…	- Robomow has stopped the operation in Dock zone, because there is no signal received from the Base Station	- Check the power to the Base Station. - There is electrical power interruption. There is no need to do anything – Robomow will renew automatically the operation if the power will come back within an hour from the break.

8.3   Other Problems

Problem Encountered	Probable Cause/Event	Corrective/User Action
Base Station		
Robomow does not leave the Base Station for operation at the time set in the Weekly Program	- In general, the mower does not depart at the scheduled time, the cause is recorded under '***Weekly Program Display'*** (refer to section 5.2 for more details).	
	- Confirm the time in the mower is set correctly (day and hour)	- Set the time (See paragraph 5.1)
	- Low battery voltage	- Confirm there are minimum 16 hours of charging in the Base Station before the next scheduled depart
	- 'Auto depart' is set to 'off' ('Manual depart' is displayed when the mower is in the Base Station)	- Change the setting of the 'Auto depart' to 'on' (See paragraph 7.3)
Robomow does not detect the Base Station contacts and/or 'Front wheel problem' is displayed when the mower is in the Base Station	- Power supply/charger is not plugged into the main power supply	- Confirm power supply is plugged into the main power receptacle.
Robomow reached the Base Station when its contacts are above the Base Station contacts	- Height difference between the Base Station base and the lawn surface at the entrance to the Base Station	- Confirm the ground before the Base Station is leveled with the Base Station base – if necessary fill the area with dirt and level off
Robomow does not detect the Base Station contacts and/or 'Front wheel problem' is displayed when the mower is in the Base Station	- No power to receptacle or main power is shut off	- Check for power to this main receptacle by plugging in another appliance. - Turn power on to the main receptacle. - Disassemble the Base Station Cover by unscrewing the screws and check the connection of the power cable (black) and the wire connector (green). - Confirm the 'ON' light is blinking in the Base Station.
	- Base Station and/or Robomow have burnt signs and/or corrosion	- Periodically clean the Base Station and the Robomow contacts using only a damp cloth. - Contact your service provider if the contacts should be replaced
	- Poor or disconnection of the Base Station wires (red and green) to the contacts	- Confirm good contacts in the tabs (end of the red and green wires) to the Base Station contacts.
Robomow is operated in the zone with the Base Station but stopped with 'Recharge battery' or 'time completed' message	- The Robomow was operated from the lawn (not from the Base Station) when the main display showed 'Zone B'	- When operating the Robomow from inside the lawn, confirm the main display on 'Dock zone'
Robomow is searching for the Base Station in zone without Base Station	- The Robomow was operated from the lawn in 'Mowing' (without 'Edge') when the main display showed 'Dock zone'	- When operating the Robomow from in Non-Base Zone, confirm the main display on 'Zone B' or start the operation in 'Edge' mode.

Problem Encountered	Probable Cause/Event	Corrective/User Action
Perimeter Switch / Perimeter Switch		
'Cut wire' indicator flashing on Perimeter Switch or on Base Station	- Wire disconnected from switch	- Confirm wire is plugged in and wire leads are firmly attached
	- Perimeter wire cut	- Walk along perimeter, including islands and obstacles excluded with the perimeter wire and look for obvious cuts or breaks in the wire. Repair with Robomow wire splice connectors.
	- Poor connections	- Check and repair all loose/poor or corroded connections
'Poor connection' indicator flashing on Perimeter Switch **or** the Base Station beeps intermittently for poor wire splicing or too long	- Twisted cables, or a screw terminal, insulated with insulation tape is not a satisfactory splice. Soil moisture causes the conductors to oxidize and after a while result in broken circuit.	- Use the connectors supplied in the box. It is waterproof and gives a reliable electrical connection.
	- Perimeter wire is too long for one zone	- A maximum perimeter wire length of 500 m is recommended. Areas requiring longer lengths should be broken into separate zones.
Perimeter Switch will not activate when turned on.	- Power Supply is not connected	- Confirm power supply is plugged into the main power receptacle, re-connect the plug to the Perimeter Switch and confirm the ON is blinking.
	- Batteries are completely discharged.	- Install fresh alkaline C-cell batteries
	- Perimeter Switch not installed vertically and exposed to water/rain.	- Water/moisture protection of the Perimeter Switch can only be insured when mounted vertically. Replace Perimeter Switch.

Problem Encountered	Probable Cause/Event	Corrective/User Action
Operation		
Robomow will not operate and nothing will display on the LCD screen.	- Mower is in deep sleep.	- If not connected to the charger at all times when not in use, the Robomow will conserve power by entering into a deep sleep mode. Lift Power Pack from mower and re-insert it after 10 seconds.
	- Power Pack has been discharged from lack of charge maintenance.	- It is required for the charger to remain connected to the Robomow when not in use. Failure to do so can cause permanent Power Pack damage. Contact your service provider.
Robomow drives but blades will not mow.	- 'Mowing' has been turned to off.	- Change back on under 'User Preferences'
Short run time, operates less time than normal.	- Power Pack is not fully charged	- Connect the charger to the mower and keep it connected until the **'Ready – Keep Charging'** message displays in the LCD screen.
	- 'Work Time ' for that zone is set to stop at a pre-determined duration.	- Work time can be changed under 'User Preferences'
	- Grass is extremely over grown or very wet.	- Raise cutting height. Always mow the grass frequently enough to prevent over growth. Refrain from cutting wet grass.
	- Power Pack is reaching a normal end of life state.	- Replace Power Pack. Properly maintain Power Pack per instructions.
	- Manual Controller is not firmly pivoted down flush in holder, allowing it to bounce up and stop the mower.	- Confirm the coiled cord is fully placed into the holder below the Manual Controller and the Manual Controller closes flush with the top of the mower.
Robomow has crossed over wire during operation **CAUTION** The Robomow is designed to remain within an active perimeter of your lawn when properly installed. In the unlikely event that the mower does cross over the wire, **DO NOT** use the mower until the problem is corrected. If changing the perimeter wire placement does not correct this problem, contact you service provider.	- Improper perimeter wire setup OR adjacent zone (closer than 13 feet / 4 m) operated simultaneously.	- Refer to the setup rules for wire placement, particularly for corners. Do not operate adjacent plots simultaneously when closer than 13 feet (4 m).
Robomow does not complete the edge in a non-docking zone.	Peculiar geometry of perimeter	Perform '***Learn Edge'*** (refer to 7.2.1 Chapter 7-4).
The Robomow gets stuck frequently when traveling over less than optimal terrain.	Low ground clearance.	Raise ground clearance to the uppermost position.
	Cutting height too low.	Raise cutting height
	Terrain needs landscaping repairs.	Fill in all holes, cover or exclude all exposed roots etc in order to smooth the terrain.

Problem Encountered	Probable Cause/Event	Corrective/User Action
Display		
LCD display is in a foreign language.	The language setting was changed or not correctly set.	Remove the Manual Controller and follow the sequence listed; 1. Press 'Ⓒ' button several times 2. Press 'GO' button twice 3. Press '4x ▼/▲' arrow key (4 times) 4. Press 'GO' button once 5. Using the arrow, scroll to the correct language 6. Press 'GO' to confirm this selection

Problem Encountered	Probable Cause/Event	Corrective/User Action
Mowing		
Large patches of uncut grass remain after Robomow has completed mowing.	- Power Pack is not fully charged for operation.	- Connect the charger to the mower and keep it connected until the **'Ready–Keep Charging'** message displays in the LCD screen.
	- 'Work Time' not sufficient for zone size.	- Increase 'Work Time' under 'User Preferences' OR set 'Work Time' to 'MAX'
	- Power Pack nearing natural end of life	- Replace Power Pack and follow maintenance instructions in manual.
	- Grass is extremely overgrown or very wet.	- Raise cutting height. Always mow the grass frequently enough to prevent over growth. Refrain from cutting wet grass.
	- Power Pack capacity is damaged from poor maintenance.	- Replace Power Pack and follow maintenance instructions in manual.
Poor quality of mowing (grass clippings are left on the lawn)	- Grass is too high	- It is recommended to cut not more than a 1/3 of the green part of the grass. - Set the cutting height to a higher position - Use Robomow more frequently to maintain your lawn
The bumper does not activate when striking an obstacle.	- Grass is wet	- For best cut, operate Robomow when the grass is dry. It is recommended to mow grass early afternoon.
	- Blades are worn	- Replace blades.
	- The obstacle is less than 6 inches (15 cm) in height, is not rigid enough or is positioned at an angle relative to the ground preventing square contact with the outermost surface of the bumper.	- Remove the obstacle - Setup a wire around the obstacle (refer to 2.2.1/ Chapter 2-3) - Exclude it from the cutting area with the perimeter wire.

Chapter 9   Specifications

Dimensions

89 cm l x 66.5 cm w x 31.5 cm h (35" l x 26" w x 12.5" h)

Weight

23.7 kg (52 lb.) Unit

+ 14.1 kg (31 lb.) Power Pack

Noise level

Measured – 76.6 db (Guaranteed – 80 db)

Mowing Width

3 Blades and a total cutting width of 53 cm (21")

Cuts 1.5 cm (0.59 ") outside the wheels

Mowing Height

6 settings at the front and 2 at the rear

High Cut Blade: 38-89 mm (1.5"-3.5")

Low Cut Blade: 26-63 mm (1"-2.5")

Blade Motor RPM

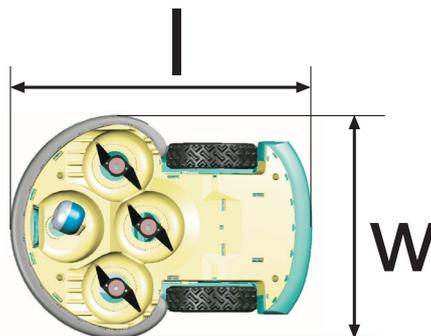5800 RPM

Equivalent Mowing Power*
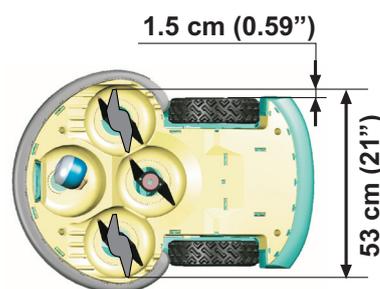
5 HP gas walk mulching mower

* Side by side comparison

SIDE

FRONT

BOTTOM

1.5 cm (0.59")

53 cm (21")

Theft Guard Code

Write down your 4-digit Theft Guard code.

Return here, if you ever forget the code.

___   ___   ___   ___

Robomow Serial Number

_____

Chapter 10   Maintenance and Storage

10.1 Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
Each Use	- Check and remove grass clippings and dirt from the mowing deck if necessary, particularly when mowing wet and damp grass. - Charge the Power Pack after every use.
50 Hours	Remove Power Pack and check for any damage on the blades.
150 – 200 Hours	- Replace the blades. - Replace more frequently if the edges are dull in rough or sandy conditions. **IMPORTANT** Remember to restart the automatic blades replacement reminder after every blades replacement.

10.2 Maintenance of the Mowing Deck

Robomow is a dedicated mulching mower. It may accumulate clippings under the mowing deck, particularly when mowing wet or damp grass.

Warning
Severe injury hazard!
Always remove the Power Pack before lifting the mower. Blades are very sharp. They can cause severe cuts or lacerations.
Always wear heavy work gloves when working with or around the blades.
**NEVER, use a damaged or a broken blade. Use only sharp blades.**

❍ Inspect the underside of the mowing between operations. Clean if necessary.

❍ Carefully scrape the collected grass debris from under the mowing deck.

Most grass accumulation can be removed using a small wooden stick or similar object.
You may remove the blades to gain better access to the mowing chambers.
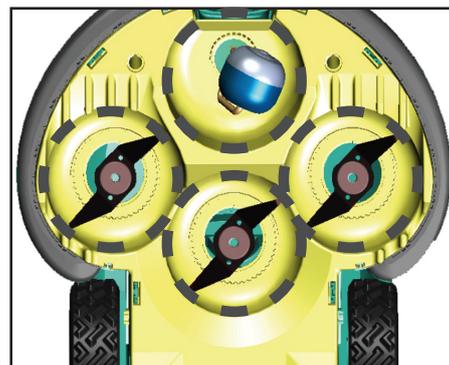
⚠ **IMPORTANT** ⚠ Do not place the mower upside down; this can damage the Manual Controller.

Instead, lean the mower against a surface to gain access to the mowing deck area.

⚠ **IMPORTANT** ⚠ NEVER use a water hose or any type of liquid to clean the underside of the mower. Liquids can damage components.
Use only damp or wet cloth to wipe the surface clean after scrapping.
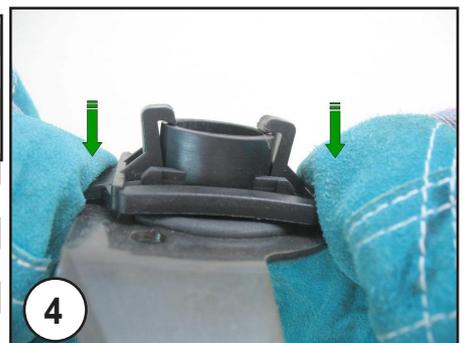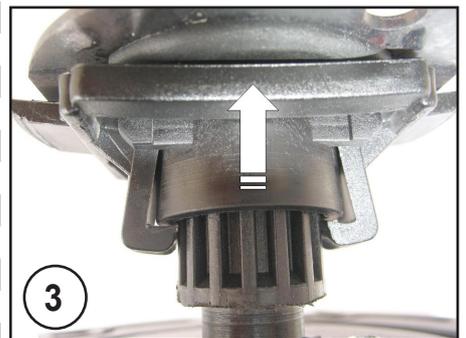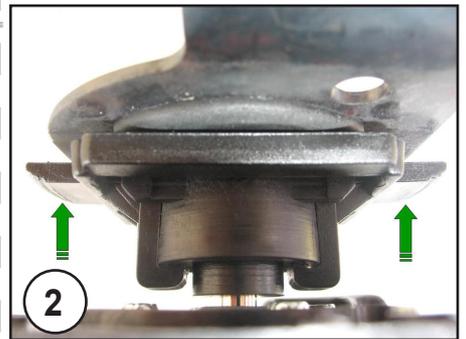
10.3 Maintenance of the Blades

❍ Examine the cutting blades for damage between operations.

❍ Use only sharp blades. Replace any damaged blade.

❍ Replace blades at least once per season, more often if they are severely dulled.

❍ **To remove the blades:**

✦ Squeeze locking tabs on each side of blade retainer (1).

✦ Pull blade assembly off, away from mower (2, and 3).

✦ When reinstalling the blade, line up the mating splines and push until a firm click is heard, indicating a proper seating of the blade onto the shaft (4)**.**
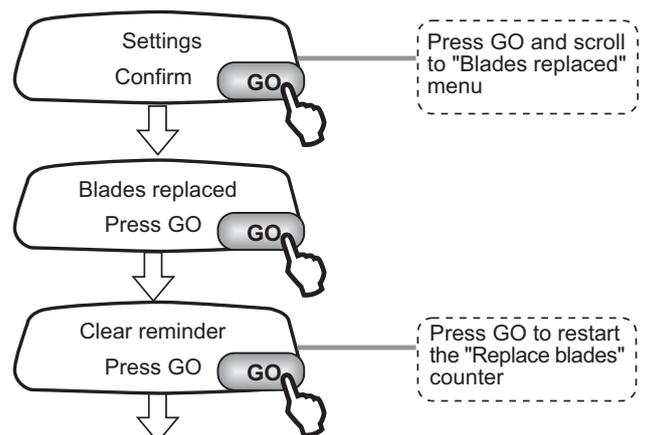

⚠ **CAUTION! ALWAYS REMOVE POWER PACK
BEFORE SERVICING BLADES!**

⚠ **IMPORTANT** ⚠ IT is recommended to replace **all three blades** for best performance. Machine sharpening is not recommended, as it may create difficulties in balancing.

Robomow automatically displays a reminder for blades replacement after every 200 hours of operation.

⚠ **IMPORTANT** ⚠ Remember to restart the "Replace Blades" counter after each blades replacement.

Settings
Confirm   **GO**

Press GO and scroll to "Blades replaced" menu

Blades replaced
Press GO   **GO**

Clear reminder
Press GO   **GO**

Press GO to restart the "Replace blades" counter

10.4 Maintenance of the Outer Housing

Use only a damp cloth and a dry brush to clean the outer surfaces of Robomow. A cloth may be soaked in a light detergent diluted with water, and then wringed dry for using on Robomow.

⚠ **IMPORTANT** ⚠ Never use harsh or abrasive cleaning solutions. Never spray with a garden hose or other type of liquid spray hose.
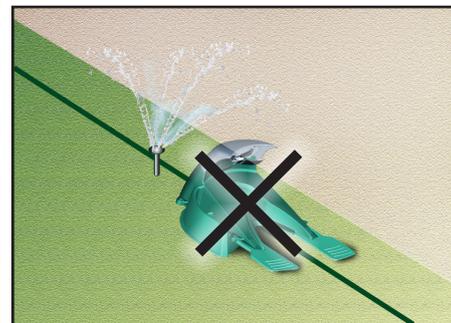
10.5 Maintenance of the Power Pack

Always follow the maintenance and charging instructions for the Power Pack (see chapter 6).

## 10.6 Disposing the Old Battery Pack

⚠ **IMPORTANT** ⚠ Do not place used batteries in your household trash. The battery must be collected, recycled, or disposed of in an environmentally sound manner. Return the old power pack to an approved sealed lead (acid) battery recycler.

10.7 Splicing the Perimeter Wire

If the perimeter wire needs to be spliced: Use the connectors supplied in Robomow's box. It is waterproof and gives a reliable electrical connection.

❍ Strip 1cm (0.5 inch) of each wire end together

❍ Twist the stripped ends together using pliers.

❍ Insert the twisted wires into the splicing connector.

❍ Screw the wire connector on the twisted wires; make sure it is tight.

⚠ IMPORTANT ⚠ **Neither** Twisted cables, **nor** a screw terminal insulated with insulation tape are a satisfactory splice.
Soil moisture will cause such conductors to oxidize and which later leads to a broken circuit.
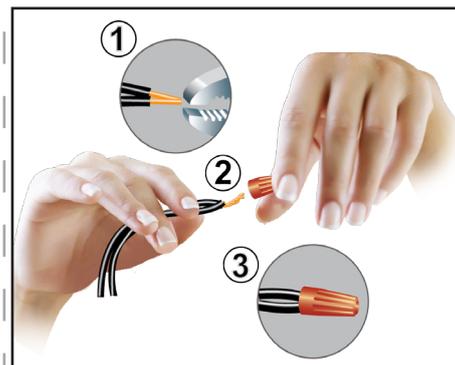
RL2000 Only

10.8 Maintenance of the Base Station area

❍ Keep the Base Station entrance and area clean of leaves, sticks, twigs or any other debris that usually accumulate in such areas.

❍ **NEVER** spray a water hose directly on the Base Station. Always use a damp cloth and brush to clean the surface and area under the charging cover (where the contacts are).

❍ Be careful when trimming around the Base Station with a powered weed trimmer as damage to the surface or power cord may occur.

❍ Treat any insect mounds with a locally recommended insecticide.

❍ In the event of damage to any part of the power cord, stop use of the Base Station, disconnect the power supply and replace the power cord.

RL2000

10.9 Winter Storage ❄

10.9.1 Storing the Power Pack

❍ Fully charge the Power Pack till 'Ready keep charging' is displayed.

❍ Separate the Power Pack from Robomow for storing.

❍ Store the Power Pack off the ground in a cool, dry place. Temperature should not be colder than -4 ºF (-20 ºC).

> A fully charged Power Pack may be stored for up to 3 months before recharging it, if stored in a cool, dry place.

❍ Charge the Power Pack before using the Robomow for the first time next season.

> Ready
> Keep Charging ▮

10.9.2 Storing Robomow

❍ Remove the Power Pack and clean Robomow

❍ Store Robomow in a clean dry place. Cover it to keep it clean and protected.

❍ Store Robomow standing on its wheels with a free space around the bumpers.

🛇 IMPORTANT 🛇 Do not store Robomow on its bumpers. Make sure nothing else presses against the bumpers.

❍ Check the condition of the blades. If necessary, replace the blades.

RL555
RL855
Only

10.9.3 Storing the Perimeter Switch

❍ Disconnect the Perimeter Switch, remove the batteries and store it in a dry place.

RL555
RL855

RL2000
Only

10.9.4 Storing the Base Station

It is recommended to remove the Base Station for the winter:

❍ Disconnect the power supply from the power receptacle.

❍ Disconnect the 15m extension cord from the Base Station Board.

❍ Remove the extension cord and place it in dry place.

> If it is not practical to remove the extension cord (15m cable): disconnect if from the board and protect it for the winter to prevent oxidation.

❍ Unscrew the two screws holding the Base Station Cover.

❍ Disconnect the green plot connector (between the perimeter wire and the Charging board).

❍ Disconnect the green plot connector and place a water proof wire connector over the two free perimeter wire ends.

> This prevents wire corrosion while not connected to the station.

❍ Store all other parts in a dry place.

❍ **Getting ready for the new season**

✦ Before the new mowing season starts, lightly polish the charge contacts on the Robomow and the Base Station with a small piece of fine sandpaper, 200 grit or higher or with steel wool of '00' or higher grade.

> This will remove any oxidation and allows optimal contact.

✦ Before the first operation of the new season, reconnect Base Station setup (see chapter 2).
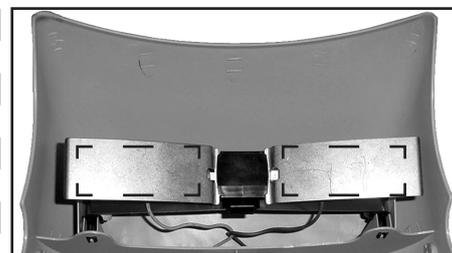
RL2000

Chapter 11   Accessories

Blade Set

Keep a spare blade set on hand. Sharp blades are important for safety and good cutting performance.

Power Pack

Convenience of increasing capacity with a second battery.

Peg Pack (50)

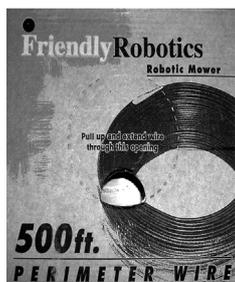**For larger lawns and additional zones.**

Perimeter Switch

Convenience of having a switch for each zone and not moving one switch from zone to zone.

Wire connector Used for repairing or splicing wires (as needed).

External Charger

Recharges the primary or additional Power Pack outside of the mower.

Perimeter Wire

For larger lawns and additional zones.

Batteries Pack for Perimeter Switch

Preferable for areas where electricity is not available or not close enough to the Perimeter Switch.

Plot connector

Used for connecting the completed perimeter wire set-up to the perimeter switch

Chapter 12   Tips for maintaining your lawn
Robomow®- Lawn care has never been so easy

Best time to mow
Mow your lawn when the grass is dry. This prevents the clippings from clumping and leaving piles on the lawn.

Mow it late in the day rather than during the heat of the day.

Mowing frequency
Mow often, producing short, small clippings. During the active growing season the mowing frequency should be increased to once every 3-5 days, before the grass is too long. Short clippings decompose quickly and will not cover the grass surface. If the grass gets too high, raise the cutting height, mow, then gradually lower it over several mowings.

Cutting Height
Follow the "1/3 rule:" mow no more than 1/3 of the length of the grass.
Proper mowing will produce short clippings that will not cover up the grass surface.
You may have to cut the lawn more frequently, or double cut, when the lawn is growing fast, such as in the spring.
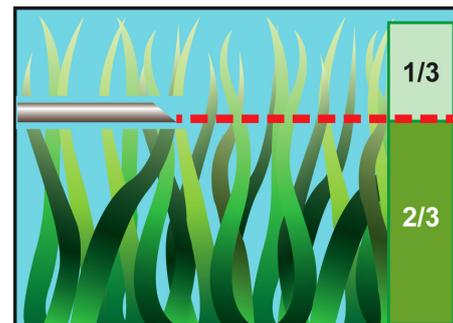
Water
Grasscycling reduces the amount of water needed by lawns since the clippings are about 80 - 85% water. Grasscycling slows evaporation losses from the soil surface, and conserves water. Most lawns need less water when Grasscycling.

Watering
Water your lawn between 4 a.m. and 8 a.m. in the morning, so water has time to soak into the soil before the heat of the sun causes evaporation.

Your lawn needs 1 to 1-1/2" (3-4cm) of water weekly. Deep watering allows grass to develop a deep root system, enabling the lawn to resist disease and drought.

Do not over water
Too much water is not only wasteful but can also increase turf growth, which requires more frequent mowing. Let the soil partially dry out between watering. Water when the top two inches of soil have dried out. Use an object such as a screwdriver to probe your soil and measure the depth of the moisture.

Fertilization
Grasscycling reduces the amount of lawn fertilizer needed because the clippings provide about 1/4 of a lawn's annual needs.

Blades
Keep your mower blades sharp. Sharp blades provide a clean, safe and efficient cut. Dull mower blades will tear and shred the tips of the grass, which can provide an entry point for disease organisms and weaken the grass plant. It is recommended to replace all three Robomow blades once a year.

Thatch
Clippings and thatch are simply <u>not</u> connected. As mentioned previously, grass clippings are approximately 80-85 percent water with only small amounts of lignin, and decompose rapidly.

When we stop and think about it, golf courses, sports fields, and parks have been mowing grass for years and recycling with no grass catchers.

A small amount of thatch (approximately 1/2 inch) is actually beneficial to a lawn. Grass clippings protect your lawn's root system from heat and water loss.

Robomow®
RL Series Limited Warranty

Friendly Robotics warrants to the original purchaser that the RL series 'Product' is free from defects in materials and workmanship when used under normal residential* purposes for a period of 24 months, 12 months for the batteries, beginning from the date of purchase. Product accessories, including replacement batteries, are warranted for a period of ninety days from the date of purchase. This warranty provides for the cost of parts and labor to repair covered defects when performed by an authorized Friendly Robotics service and warranty facility. A valid proof of purchase is required for warranty repairs.

The limited warranty does not cover transportation costs of any kind. The owner bears all responsibility for transportation costs to an authorized Friendly Robotics service and warranty facility.

*Normal residential purposes is defined as use of the product on the same lot as your primary home. Use at more than one location is considered commercial use, and this warranty would not apply.

Items and Conditions Not Covered

This express warranty does not cover the following:

- Cost of regular maintenance service parts or procedures, such as blades or blade sharpening.
- Any product or part that has been altered, misused, abused or requires replacement or repair due to accidents or lack of proper maintenance.
- Normal wear and tear, including fading of paint or plastic parts.
- Cost of installation or reinstallation, removal of installation or any costs or damages associated with improper installation or use of product.
- Any product that has been opened, repaired, modified or altered by anyone other than a Friendly Robotics authorized repair facility.
- Repairs necessary due to improper battery care and/or improper charging process such as charging in wet conditions, electrical supply irregularities, or failure to properly prepare the mower or battery prior to any period of non-use.
- Repairs necessary due to water damage, other than incidental rain exposure, repairs due to lighting or other acts of God.

Instructions for Obtaining Warranty Service
Should you feel your Friendly Robotics product contains a defect in materials or workmanship, contact the retailer who sold you the product.

Owner Responsibilities
You must maintain and care for your Friendly Robotics product by following the maintenance and care procedures described in the owner/operator manual. Routine maintenance, whether performed by a service provider or by you, is at your expense.

General Conditions
Repair by an authorized Friendly Robotics service and warranty repair facility is your sole remedy under this warranty. There is no other express or implied warranty. All implied warranties of merchantability and fitness for use are limited to the duration of this express warranty. Friendly Robotics is not liable for indirect, incidental or consequential damages in connection with the use of the Friendly Robotics Product covered by this warranty, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non-use pending completion of repairs under this warranty. Some states do not allow exclusions of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusion and limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Always follow the safety instructions specified in this Manual

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