Form No. 3326-456

iMow™

Robotic Lawn Mower

Model No. 30050

Operator’s Manual

Domestic English (EN)

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Introduction

Read this manual carefully to learn how to operate and maintain your product properly. Also, review the instructional video that comes with the lawn mower. The information in this manual and in the video can help you and others avoid injury and product damage. Although Toro designs and produces safe products, you are responsible for operating the product properly and safely.

Whenever you call 1-877-636-iMow (1-877-636-4669) for help with service, genuine Toro parts, or additional information, have the model and serial numbers of your product ready. Figure 1 illustrates the location of the model and serial numbers on the product.

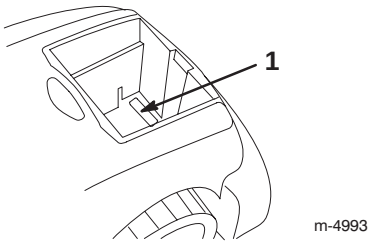


Figure 1

1. Location of the model and serial numbers decal (in the battery pack compartment)

Write the product model and serial numbers in the space below:

Model No. _____

Serial No. _____

RoboScan Friendly Robotics TECHNOLOGY

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This manual identifies potential hazards and has special safety messages that help you and others avoid personal injury and even death. ***Danger***, ***Warning***, and ***Caution*** are words used to identify the level of hazard.

Danger signals an extreme hazard that will cause serious injury or death if you do not follow the recommended precautions.

Warning signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.

Caution signals a hazard that may cause minor or moderate injury if you do not follow the recommended precautions.

This manual uses two other words to highlight information. **Important** calls attention to special mechanical information and Note**:** emphasizes general information worthy of special attention.

Important Safety Instructions

To ensure maximum safety and best performance, and to gain knowledge of the product, it is essential that you and any other operator of the robotic lawn mower read and understand the contents of this manual before the robotic lawn mower is ever started.

⚠ This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

Improperly using or maintaining this robotic lawn mower could result in injury or death. To reduce this potential, comply with the following safety instructions.

Read all the instructions before using this lawn mower.

Safe Operating Practices

This product is capable of amputating hands and feet and of throwing objects. Always follow all safety instructions to avoid serious injury or death.

This lawn mower is designed for cutting and mulching grass. Any use for purposes other than these could prove dangerous to the user or bystanders.

Training

- Read this manual carefully before operating the lawn mower. Become familiar with the controls and the proper use of the lawn mower.
- Do not use the lawn mower for any purpose except that for which it is intended.
- Never allow children or people unfamiliar with these instructions to operate the lawn mower. Local regulations may restrict the age of the operator.
- Never operate the lawn mower while people (especially children) and pets are in or near the area of operation.
- The operator is responsible for accidents or hazards occurring to other people or their property.

Preparation

- Make sure that you layout and install the perimeter wire according the instructions. Refer to Laying the Perimeter Wire on page 10.
- Always wear long pants and substantial shoes when operating the lawn mower in the manual mode.
- When operating in the manual mode, wear safety glasses or eye shields during operation to protect eyes from foreign objects that the lawn mower may throw. (Regular eyeglasses are *not* safety glasses.)
- Thoroughly inspect the area where you will use the lawn mower, and remove stones, sticks, wires, bones, and other foreign objects. Objects struck by the blades can be thrown and cause severe injuries to people.
- Before using the lawn mower, always remove the battery pack and visually inspect the blades for wear or damage. Replace any worn or damaged blades.
- Only use accessories and attachments designed for this product. Using any accessory or attachment not designed for this product may increase the risk of injury.
- We recommend that you construct a low fence or other physical barrier as a precaution to prevent the lawn mower from accidently entering areas outside the perimeter plot.

Operation

- Mow only in daylight or in good artificial light.
- Do not operate the lawn mower in the manual mode while wearing open-toed shoes, jewelry, loose clothing, or when barefoot; always wear long pants and substantial shoes.
- Do not start the lawn mower in automatic mode outside the plot bounded by the perimeter wire.
- Avoid dangerous environments. Avoid operating the lawn mower in wet grass or damp locations. Do not use the lawn mower in the rain.

- Use extreme caution when moving the lawn mower toward you.
- Keep all guards, shields, safety devices, and sensors in place. Repair or replace damaged parts, including decals. Do not operate the lawn mower if any parts are damaged or worn. Never tamper with safety devices. Check their proper operation regularly.
- Keep your face, hands, and feet away from the lawn mower housing and the cutting blades when the lawn mower is running. The blades can cause injury to hands and feet.
- Always be sure of your footing on slopes when using the lawn mower in the manual mode.
- Do not use the lawn mower to mow steep slopes.
- Never leave the lawn mower unattended while it is running.
- Stop the lawn mower, wait for all moving parts to stop, and remove the battery pack before cleaning, inspecting, or adjusting the lawn mower.
- Be alert and turn off the lawn mower if children enter the area.
- Never allow anyone to ride on the lawn mower.
- When operating the lawn mower in manual mode, keep a safe distance (at least one foot (0.3 meters) away) from the lawn mower.
- Do not operate the lawn mower in gaseous, explosive atmospheres. Normal sparking of the motor could ignite fumes.
- When operating in manual mode, start the lawn mower carefully according to the instructions and with feet well away from the blades.
- Do not mow near drop-offs, ditches, or embankments.
- Do not operate the lawn mower if it has been dropped or damaged in any way. Repair any damage before operating the lawn mower.
- Do not operate the lawn mower if you hear an unusual sound coming from it (such as unbalanced blades).
- If you must lift the lawn mower to transport it, stop the lawn mower, wait for all moving parts to stop, and remove the battery pack.
- Stop the blades when moving the lawn mower outside the lawn area.
- Electronic devices that use radio signals may interfere with the normal operation of the lawn mower.

Maintenance and Storage

- Maintain, service, and store the lawn mower according to the instructions.
- For best performance and safety, replace worn or damaged parts with genuine Toro replacement parts and accessories. Replacement parts and accessories made by other manufacturers may result in non-conformance with the safety standards, and that could be dangerous.
- Stop the lawn mower, wait for all moving parts to stop, and remove the battery pack before cleaning, inspecting, adjusting, or servicing on the lawn mower.
- Perform only those maintenance instructions described in this manual. **If the lawn mower needs major repairs or if you need assistance, call 1-877-636-iMow (1-877-636-4669).**
- Do not charge the battery pack in the rain or in wet locations.
- Do not charge the battery pack at temperatures above 140°F (60°C) or below –4°F (–20°C). Do not store the battery pack at temperatures below –4°F (–20°C).
- To prevent an electric shock while charging, repair or replace a damaged charging cord immediately.
- Do not abuse the charging cord while charging. Do not yank the cord to remove it from the plug receptacle. Keep the cord away from heat, oil, and sharp edges.
- Make sure that you charge the battery pack using the charger supplied with the lawn mower. Incorrect use may result in electric shock, overheating, or leakage of corrosive liquid from the battery pack.
- Use only a Toro replacement battery pack.
- Do not dispose of the battery pack in a fire. Check with local codes for special disposal instructions.
- Do not open or mutilate the battery pack. Released electrolyte is corrosive and may damage the eyes or skin. It may be toxic if swallowed.
- Exercise care in handling the battery pack to avoid shorting it out (contacting both the positive and negative battery posts) with conducting materials such as rings, bracelets, and keys. The battery pack or conductor may overheat and cause burns.
- Always keep sharp blades on your lawn mower. When servicing the blades, refer to the blade maintenance section for the proper installation and servicing procedures. Use identical replacement blades only.
- Use only a wet cloth or a soft brush to remove grass clippings and debris from the underside, the blades, and the wheels. Do not use a water hose on the lawn

mower when cleaning; the water can damage the electronics. Ensure that the drainage holes are not blocked.

Safety Features of the Lawn Mower

The robotic lawn mower comes with the following safety features:

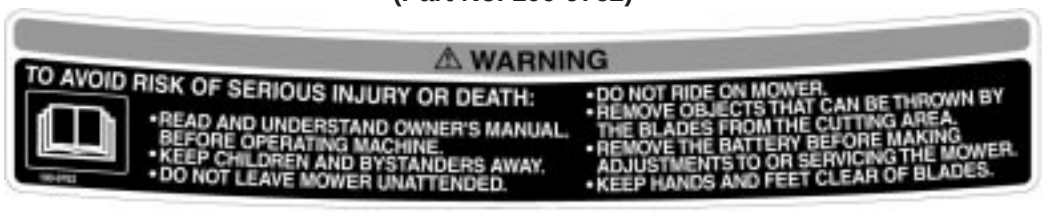
- Child Guard—This feature prevents young children from operating the lawn mower. Refer to Setting the Child Guard On/Off on page 17.
- Automatic Blade Shut-off Mechanism—The blades stop immediately when you lift the front end of the lawn mower during operation.
- Crossing the Perimeter Wire—The blades and the rear wheel drive stop immediately if the lawn mower is forced outside the perimeter wire.
- Perimeter Switch Power Loss—The lawn mower does not operate in the automatic mode if the perimeter wire is cut or the perimeter switch is in the *Off* position.

Save these instructions for future reference.

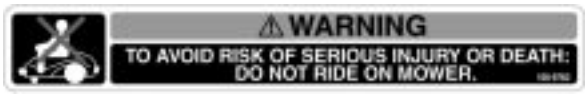
Safety and Instruction Decals

Safety and instruction decals are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.

On Mower Housing
(Part No. 100-9762)



On Mower Housing
(Part No. 100-9763)



On Mower Housing
(Part No. 100-9766)



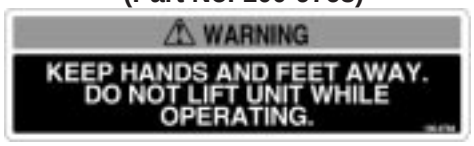
On Mower Housing
(Part No. 100-9767)



On Mower Housing
(Part No. 100-9764)



On Mower Housing
(Part No. 100-9768)



Overview

The robotic lawn mower can operate automatically or manually. In the automatic mode, it cuts grass within an area surrounded by an energized perimeter wire that creates a virtual boundary around the mowing area. As the lawn mower approaches the perimeter wire, it senses the wire signal and stays within the mowing area defined by the boundary.

The Lawn Mower

Figure 2 illustrates the features of the robotic lawn mower:

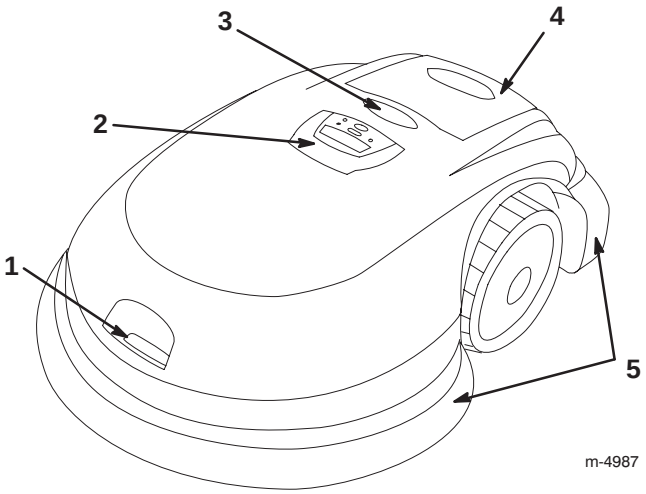


Figure 2

1. Front handle
2. Controller
3. Operation/Warning light
4. Battery pack
5. Bumpers

- Front Handle—The handle allows you to move the lawn mower easily.
- Controller—A device containing software that allows you to control the lawn mower operations in both automatic and manual modes.
- Operation/Warning Light—A blinking light that indicates when the lawn mower is in operation.
- Battery Pack—A rechargeable maintenance-free battery that powers the lawn mower.
- Bumpers—A protective ring around the lawn mower that contains sensors for protecting both the lawn mower and objects in or near the lawn from damage.

The Perimeter Wire

The perimeter wire transmits a low-voltage signal that the lawn mower detects as it approaches the wire. The lawn mower stays within the mowing area boundary created by the perimeter wire.

The Perimeter Switch

The perimeter switch controls the low-voltage signal transmitted through the perimeter wire. Figure 3 illustrates the functions of the perimeter switch:

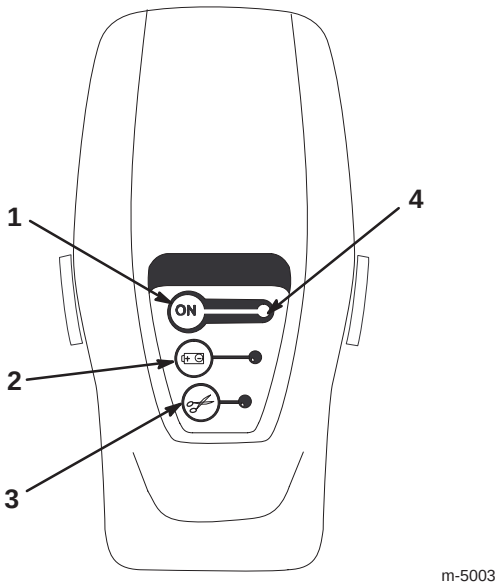


Figure 3

1. On button
2. Replace Batteries indicator
3. Wire Disconnected indicator
4. On light

- On Button—Pressing this button activates the perimeter wire. Pressing it and holding it in for at least three seconds deactivates the perimeter wire.
- Replace Batteries Indicator—A light that tells you to replace the batteries in the perimeter switch.
- Wire Disconnected Indicator—A light that blinks when there is a break in the perimeter wire or when there is a bad connection.
- On Light—Blinks when the perimeter switch is on.

You can either temporarily or permanently mount the perimeter switch on a building wall, a fence, a post, or a perimeter mounting stake (included).

Note: The perimeter switch automatically shuts off after approximately five hours.

Setup

Planning the Mowing Area Layout

Before using the robotic lawn mower for the first time, plan out how you want the lawn mower to mow your lawn. Figure 4 shows the top view of a typical lawn.

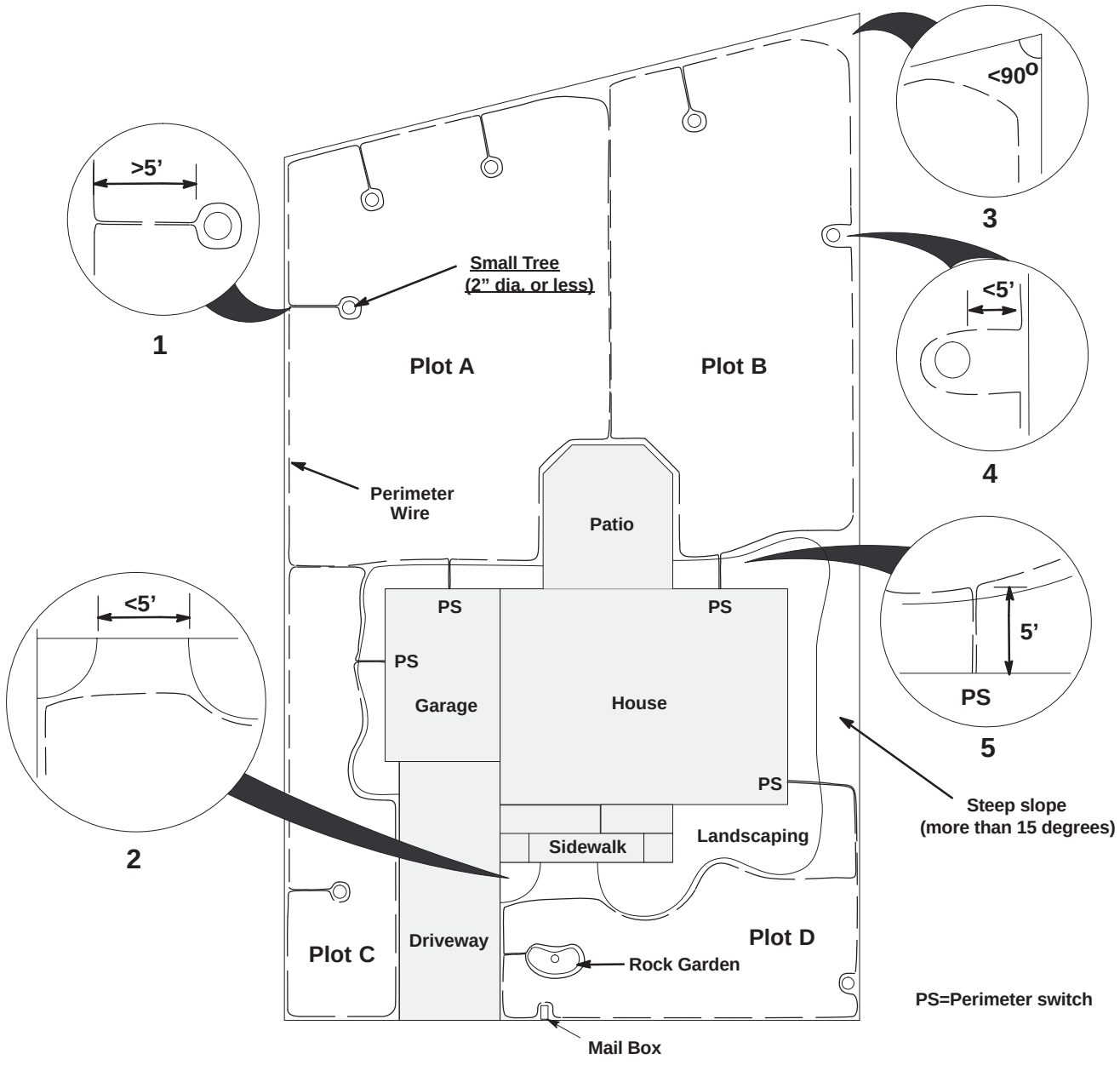


Figure 4

1. Perimeter island (more than 5 ft. (1.5 m) from the lawn edge)
2. Indentation along the edge (less than 5 ft. (1.5 m))
3. Sharp corner (avoid laying perimeter wire in a corner less than 90°)
4. Obstacle near the edge (less than 5 ft. (1.5 m) from the lawn edge)
5. Perimeter switch area

When you are planning your mowing plot(s), think about the following characteristics of your lawn:

- Overall size (in square feet or square meters)
- Steep slopes
- Obstacles (fences, young trees, gardens, ponds, rocks, etc.)
- Small, confined areas

Overall Size

The lawn mower can mow up to 2500 square feet (230 square meters) before the battery pack needs recharging. If your lawn is larger than 2500 square feet (230 square meters) or if you have an area to mow that is isolated from the rest of your lawn, you will need more than one mowing plot. For laying out multiple plots, refer to Laying out Multiple Mowing Plots on page 8 and to Plots A, B, C, and D in Figure 4.

Steep Slopes

Do not use the lawn mower on slopes steeper than 15 degrees. Leave slopes greater than 15 degrees outside the perimeter wire area; mow these slopes manually.

Obstacles

Fences, ditches, young trees, gardens, flowers, exposed roots, and rocks in your yard not protected by a fence at least six inches (15 cm) high pose as obstacles to your lawn mower. You must take these obstacles into account when you lay your perimeter wire. Obstacles are classified as either perimeter islands or as edge obstacles depending on how far they are from the lawn edge.

Perimeter Islands

If an obstacle is greater than five feet (1.5 m) from the lawn edge or wall, create a perimeter island by laying the perimeter wire around the obstacle (Inset 1 in Fig. 4). This creates a double wire, with one wire leading from the edge and the other wire going to the edge. The sides of the double wire should be parallel and touching so that there is no gap between them. Unlike a single wire, the lawn mower does not detect a double wire and will travel over it, effectively creating a separate perimeter around the obstacle.

Note: For the purpose of illustration, Inset 1 in Figure 4 shows the wires leading to and from the perimeter island having a space between them. These wires must be parallel and touch each other for the lawn mower to function properly. Secure both wires with the same pegs.

Important Do not cross the wires. Crossed wires may cause the lawn mower to lose track of the perimeter wire.

Edge Obstacles

If an obstacle is less than five feet (1.5 m) from the lawn edge or wall, leave it outside the wired area (Inset 4 in Fig. 4).

Small, Confined Areas

Small, confined areas are classified under two types: sharp corners and indentations along the lawn edge. You must manually mow the area outside the perimeter wire.

Sharp Corners

When you lay out the perimeter wire, avoid creating corners less than 90 degrees (Inset 3 in Fig. 4). The lawn mower cannot enter small, confined areas and may lose track of the perimeter wire. You must manually mow the sharp corner areas.

Indentations along the Edge

Do not wire the indentations along the edge of the lawn that are less than five feet (1.5 m) wide. Instead, lay the perimeter wire straight across the opening of the indentation (Inset 2 in Fig. 4). You must manually mow the indentations along the edge.

Laying out Multiple Mowing Plots

Two basic methods for laying out multiple mowing plots include the following:

- One Perimeter Switch Location—Splice two wires with a wire connector to connect one mowing plot to another to form a continuous loop that terminates at one perimeter switch location (Fig. 5).

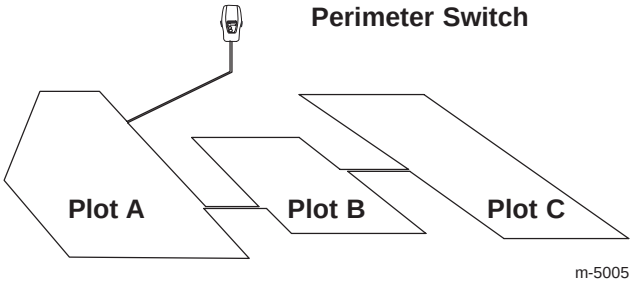


Figure 5

Note: The distance between two adjacent mowing plots should be at least five feet (1.5 meters).

Note: When there is not a direct approach from the perimeter switch, use concrete expansion joints in driveways, sidewalks, flower beds, or steps to hide the perimeter wire. Ensure that the wire is securely attached to the surface to keep the lawn mower from cutting it and to prevent a tripping hazard.

- Multiple Perimeter Switch Locations—Install each mowing plot separately, with multiple perimeter switch locations (Fig. 4). Wire each mowing plot and move the perimeter switch from mowing plot to

mowing plot, temporarily mounting it on a wall, a fence, a post, or a perimeter mounting stake mounted vertically at least five feet (1.5 meters) from the from the perimeter wire plot edge.

Loose Parts

DESCRIPTION	QTY.	USE
Perimeter switch	1	Installing the Perimeter Switch
1.5V C-cell batteries	3	
Perimeter mounting stake	1	
Ruler	1	Laying the Perimeter Wire
Pegs	100*	
Perimeter wire—500 ft. (152 m)	1*	
Wire connectors	5	
Switch connectors	4	Connecting the Perimeter Wire to the Perimeter Switch
Fuse	1	Installing the Fuse
Battery Charger	1	Charging the Battery Pack
Instructional Video	1	Learning how to use the robotic lawn mower

*****Additional pegs and perimeter wire are available. For assistance, call 1-877-636-iMow (1-877-636-4669).

Installing the Perimeter Switch

1. Open the perimeter switch case by squeezing the front part of the tabs to the case (Fig. 6).

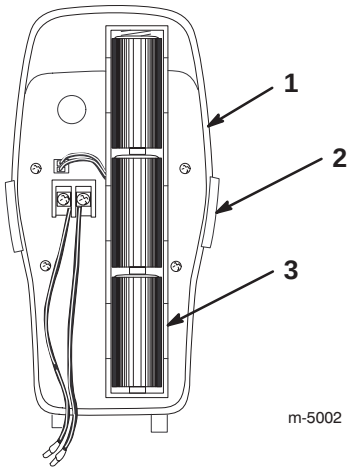


Figure 6

1. Perimeter switch case
2. Tab (2)
3. 1.5V C-cell battery (3)

2. Insert three 1.5V C-cell batteries (Fig. 6).

3. Close the perimeter switch case.

4. Mount the perimeter switch in a location out of the reach of children by using one of the following methods:

- Mount the perimeter switch permanently with three screws (Fig. 7).

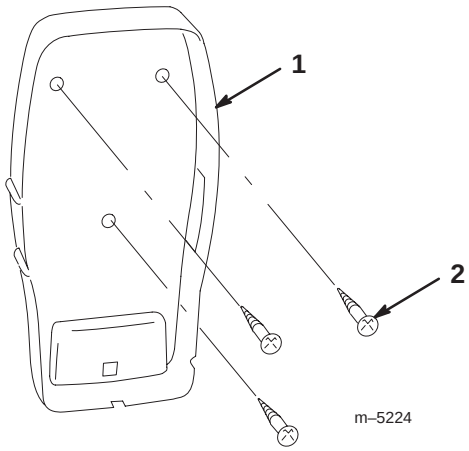


Figure 7

1. Perimeter switch case
2. Screw (3)

- Mount the switch onto a perimeter mounting stake that you can move from plot to plot (Fig. 8).

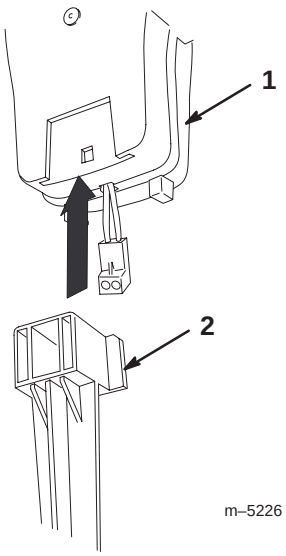


Figure 8

1. Perimeter switch case
2. Perimeter mounting stake

Warning

If the perimeter switch is mounted too close to the perimeter wire edge, the lawn mower may go off the perimeter and mow several feet (meters) uncontrolled.

Whichever mounting method you use, ensure that the perimeter switch is at least five feet (1.5 meters) from the perimeter wire so that the lawn mower cannot touch it (Inset 5 of Fig. 4).

Note: If you temporarily mount the perimeter switch, disconnect the perimeter wire connector from the perimeter switch (Fig. 13) after the lawn mower has completed mowing, and store the perimeter switch indoors in a safe place out of the reach of children.

Laying the Perimeter Wire

1. Starting at the perimeter switch, uncoil the perimeter wire and lay it out on the lawn.

Note: Allow about six feet (two meters) at the beginning of the perimeter wire for installing and adjusting the perimeter switch.

2. Lay down the perimeter wire 10-1/2 inches (27 centimeters) from the edge of the lawn, where the edge is in a relatively flat area without obstacles (Fig. 9).

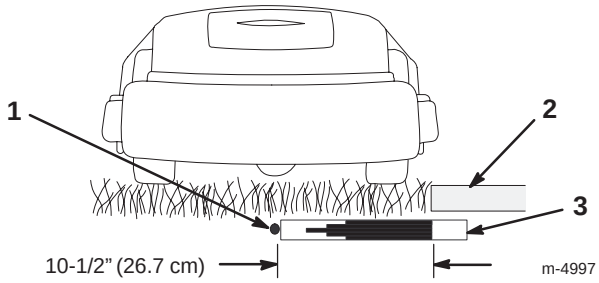


Figure 9

1. Perimeter wire
2. Edge
3. Ruler

Lay down the perimeter wire 15-1/2 inches (40 centimeters) from the edge of the lawn near walls, fences, rocks, or where there is a difference in height between the lawn’s edge and the surrounding terrain (Fig. 10).

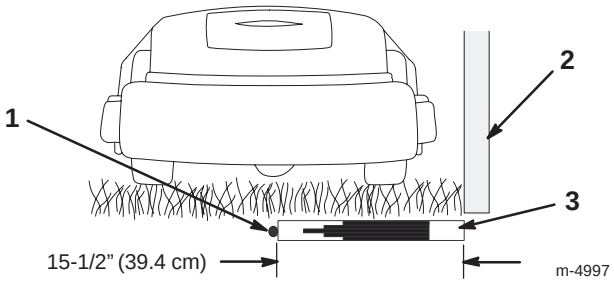


Figure 10

1. Perimeter wire
2. Obstacle or Wall
3. Ruler

Note: Use the ruler provided to easily measure these distances.

3. If the ground is hard, lightly water the area.

4. Secure the perimeter wire along the boundary of the plot to the ground with the pegs (Fig. 11) set about three feet (one meter) apart. Keep the wire taut as you go.

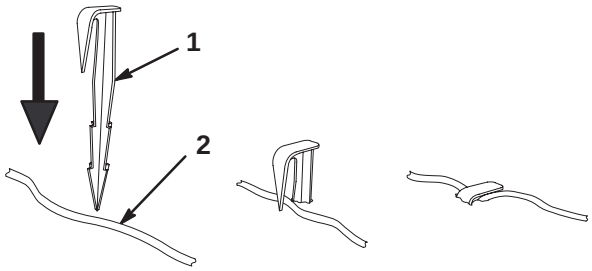
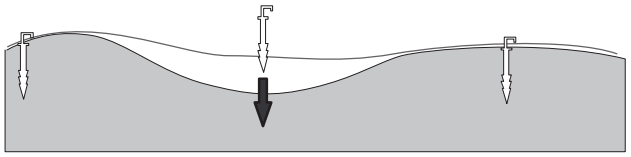


Figure 11

1. Peg
2. Wire

Note: There is no need to bury the wire. The grass will grow over the wire and cover it.

Note: Use additional pegs where the ground dips to hold the perimeter wire to the ground (Fig. 12).



m–5223

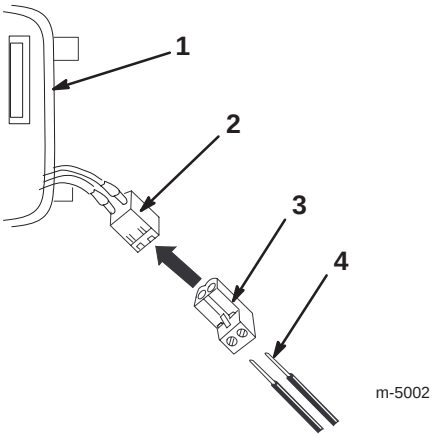
Figure 12

5. Attach the perimeter wire that leads to the perimeter switch securely to the ground. **Do not cross the wires.**

Connecting the Perimeter Wire to the Perimeter Switch

Complete the perimeter wire loop by attaching the two wire ends together with a wire connector.

1. Strip 1/4 inch (6 mm) of insulation from each wire end (Fig. 13).



m-5002

Figure 13

1. Perimeter switch case
2. Switch connector
3. Wire connector
4. Wire end (2)

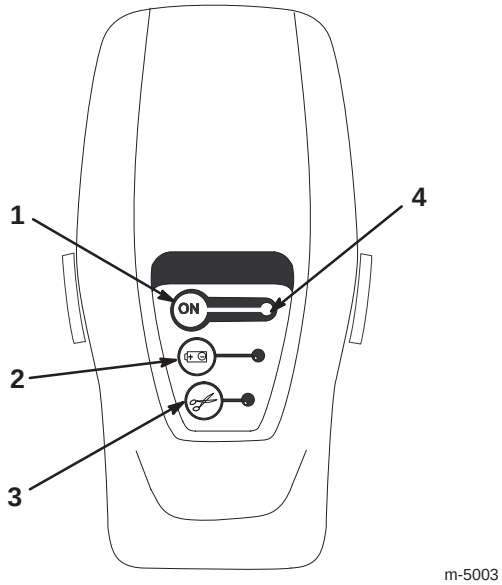
2. Insert one end of each perimeter wire into each hole of the wire connector (Fig. 13).

3. Tighten the screws.

4. Connect the wire connector to the switch connector (Fig. 13), making sure that the perimeter wire from the perimeter switch to the ground is taut and at least five feet (1.5 meters) away from the lawn edge (Inset 5 in Fig. 4).

Note: If you have multiple mowing plots, do not leave the wire connectors loose and lying on the ground; attach them to a building wall, a fence, a post, or a perimeter mounting stake.

5. Check the connections by pressing the *On* button of the perimeter switch (Refer to Operating the Perimeter Switch on page 15). The *On* light blinks when all the connections are good. The *Wire Disconnected* light blinks and an audio signal “beeps” when there are any breaks in the perimeter wire or when there is a bad connection (Fig. 14).



m-5003

Figure 14

1. On button
2. Replace Batteries indicator
3. Wire Disconnected indicator
4. On light

6. Repair any breaks and check the connections again.

Installing the Fuse

1. Remove the fuse from under the decal located on top of the battery pack.

2. Install the fuse into the front of the battery pack as shown in Figure 15.

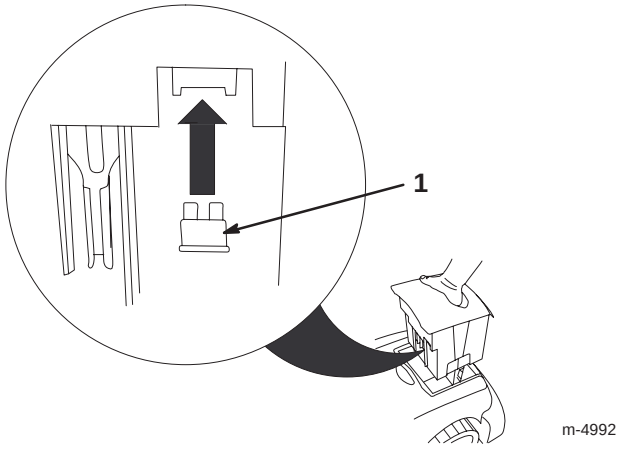


Figure 15

1. Fuse

Handling the Battery Pack

Insert the battery pack into the battery pack compartment (Fig. 16). The lawn mower immediately turns on and activates the display.

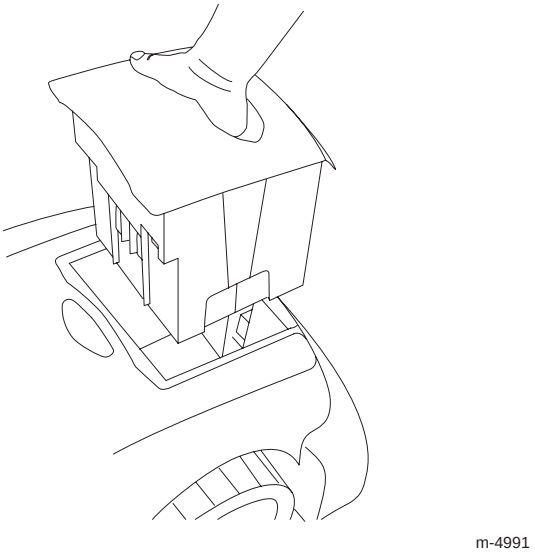


Figure 16

Note: If the sound is on, the following audio message says: “Always follow the safety instructions when operating the Toro iMow robotic mower.”

To remove the battery pack, lift it out of the battery pack compartment.

Important Charge the battery for at least 24 hours before you use the lawn mower for the first time. Refer to Charging the Battery Pack on page 21.

Adjusting the Cutting Height

Note: The lawn mower comes with a cutting-height level set at three inches (7.6 centimeters).

Danger

Adjusting the cutting height improperly could bring your hands into contact with a moving blade and result in serious injury.

Stop the lawn mower, wait for all moving parts to stop, and remove the battery pack before changing the cutting height.

The front wheel has six cutting-height levels and the rear wheel has two cutting-height levels. Each rear cutting-height level corresponds with three equivalent front cutting-height levels.

Note: If the grass is tall, spongy (deeply thatched), or uneven, set the cutting height to its highest level.

Note: Unless the terrain of your lawn is level, operate your lawn mower with the cutting height at the highest level for maximum maneuverability.

Adjusting the Front Cutting Height

1. Remove the battery pack (Fig. 16).
2. Raise the front end of the lawn mower.
3. Rotate the wheel base (Fig. 17) counterclockwise to raise the cutting height or clockwise to lower the cutting height.

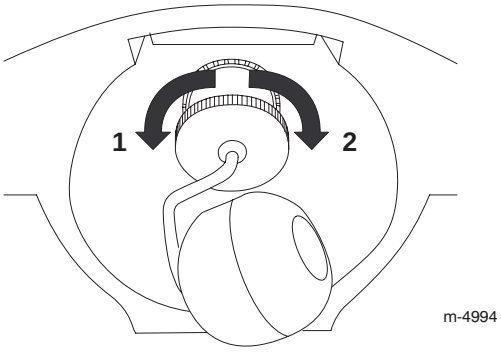


Figure 17

1. Raising the cutting height
2. Lowering the cutting height

Note: Each *click* represents approximately a 1/4 in. (6 mm) adjustment.

Adjusting the Rear Cutting Height

1. Remove the battery pack (Fig. 16).

2. Pull the flexible handle (located inside the battery pack) out (Fig. 18).

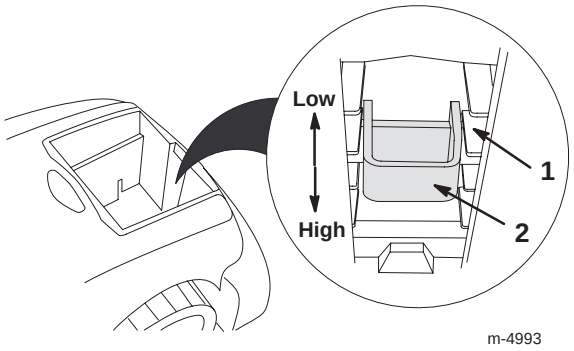


Figure 18

1. Slot
2. Flexible handle

3. Move the flexible handle into the desired slot to change the rear cutting height (Fig. 18).

Note: Each *click* represents approximately a 1/2 in. (13 mm) adjustment.

Calibrating the Lawn Mower

The lawn mower has a geographic compass orientation that is accurate to within a 100-mile radius of your area. You need to calibrate the compass only once within that 100-mile radius; *you do not need to calibrate the compass for every operation or every mowing plot.*

1. Move the lawn mower to a smooth and level surface such as a driveway or a sidewalk.

2. Press the Go button on the controller. Refer to Controls on page 14.

The following screen displays:

```
Set Geo Location
    Location
```

3. Press the Go button.

The following screen displays:

```
Not set!
```

4. Using the scroll arrows, find your country name.

Note: The default is *USA*.

5. To select the country, press the Go button.

6. Press the Cancel button to return to the main menu.

If the geographical location is not accurate enough for your yard, the following screen displays:

```
Calibration req.
    calibrate
```

1. Press the Go button.

The following screen displays:

```
Activate Motors
    Confirm
```

2. Press the Go button to calibrate the lawn mower.

Note: The lawn mower will rotate during calibration to orient the compass to your yard. It will then stop and display a number between 60 and 100 in the display window of the controller (refer to *Controls* on page 14). The number is the score of the calibration (any score is good). If the calibration is unsuccessful, the following message displays:

```
Re-try elsewhere
```

Move the lawn mower to another location on your lot and repeat the steps 5 through 2 above until the calibration is successful.

Note: An uneven surface can make calibration difficult and result in *Re-try elsewhere* messages.

Operation

Note: The lawn mower is intended for residential use only.

Important Do not operate the lawn mower in temperatures above 104°F (40°C) or below 41°F (5°C).

Controls

Figure 19 illustrates the features on the controller. For an explanation of the controller menu option settings, refer to Reviewing the Controller Menu Option Settings on page 16.

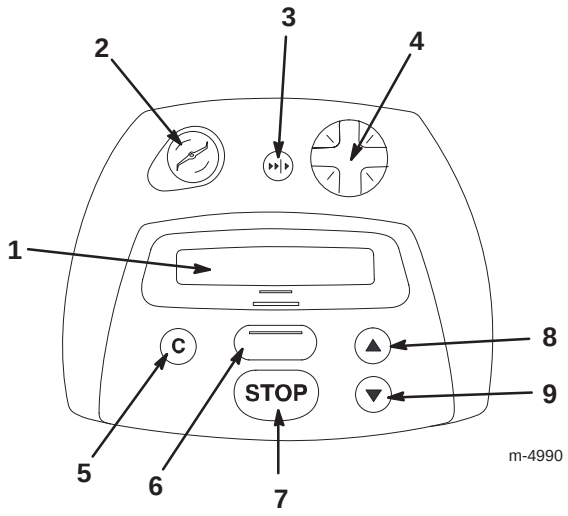


Figure 19

1. Display window
2. Mow button
3. Drive Speed button
4. Steering button
5. Cancel button
6. Go button
7. Stop button
8. Scroll up arrow
9. Scroll down arrow

- Display window—displays the operating messages and menu option settings.
- Mow button—a button that manually activates the lawn mower blades when pressed together with the Cancel button.
- Drive Speed button—changes the drive speed to one of two speed settings (manual mode only).
- Steering button—guides the direction that the lawn mower moves in the manual mode.
- Cancel button—allows you to back up to a previous menu level, and, when it is pressed together with the Mow button, activates the lawn mower blades.
- Go button—the green button that operates the lawn mower in the automatic mode, and allows you to select the menu settings shown on the second line of the display window.
- Stop button—stops the lawn mower at any stage of operation.
- Scroll up and down arrows—allows you to review the menu items shown in the display window.

Operating the Lawn Mower Manually

1. Place your finger on the controller indentation and tilt the controller drawer up (Fig. 20).

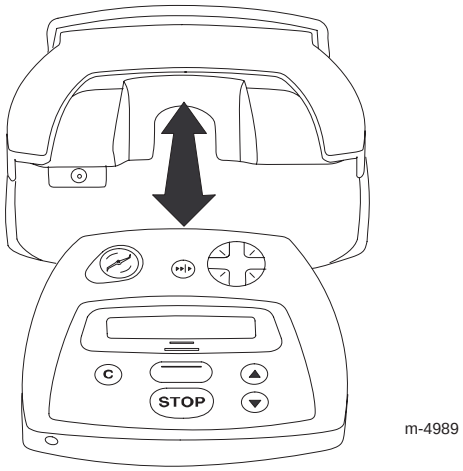


Figure 20

2. Lift the controller out of the drawer and hold it in your hands.

The following screen displays:

```
Manual
     Settings
```

Maneuvering the Lawn Mower

While staying behind the lawn mower, use the Steering button to move the lawn mower in the direction as shown in Figure 21.

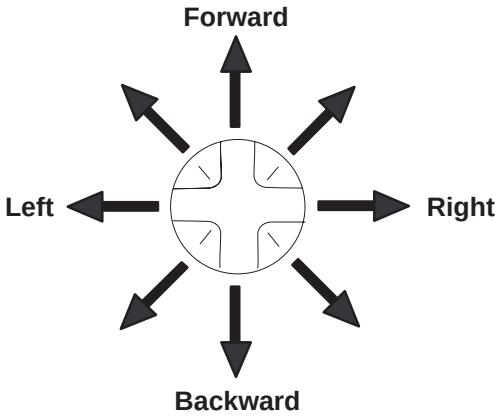


Figure 21

Note: Practice maneuvering the lawn mower before operating the blades.

Mowing Manually

1. Press and hold down the Cancel button.
2. Press and hold down the Mow button while holding the Cancel button.

   Note: The lawn mower blades start.
3. Release the Cancel button.
4. To stop the blades, release the mow button. The lawn mower blades stop immediately.
5. Move the lawn mower using the Steering button.

Warning

Moving the lawn mower improperly could bring your feet into contact with a moving blade and result in serious injury.

Always walk behind the lawn mower and stay at least one foot (30 centimeters) behind the rear bumper.

Switching from Manual to Automatic Mode

Insert the controller in the drawer (Fig. 20) and close the drawer until it is flush with the top of the lawn mower surface. Once the controller is in place, the lawn mower switches from manual to automatic mode.

Operating the Perimeter Switch

To activate the perimeter switch, press the On/Off button on the perimeter switch (Fig. 14); to deactivate, press the On/Off button for at least three seconds.

Operating the Lawn Mower Automatically

Warning

Children, adults, and pets may be attracted to the lawn mower and may get in its path or attempt to ride on it. The lawn mower blades can cut or amputate hands and feet.

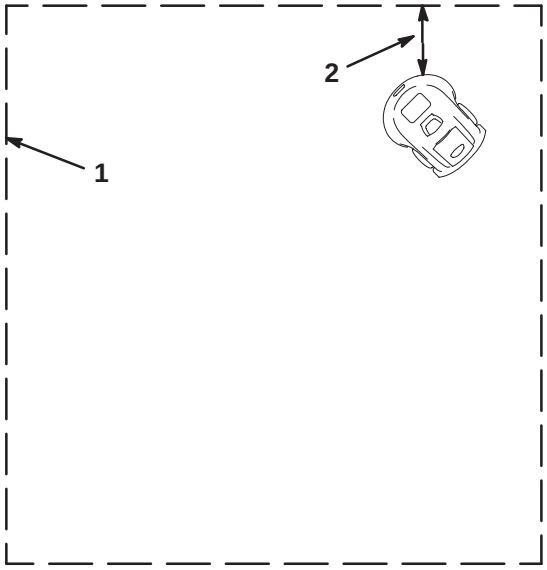
- **Never leave the lawn mower unattended.**
- **Do not allow riders.**
- **Keep bystanders away from the area being mowed.**

Warning

Operating the lawn mower outside the plot bounded by the perimeter wire can cause the lawn mower to operate uncontrolled, possibly resulting in serious injury or property damage.

Do not start the lawn mower in automatic mode outside the plot bounded by the perimeter wire.

1. Manually drive the lawn mower to your lawn and position it three feet (one meter) inside the perimeter wire, along a straight section of the wire, and aimed to the left (counterclockwise) and away from a corner (Fig. 22).



m–5222

Figure 22

1. Perimeter wire 2. 3 ft. (1 m)

2. Press the Go button on the control panel.

The following message displays for a few seconds:

```
Warming up...
    Skip Edge?
```

The lawn mower then begins to move forward toward the perimeter wire. After positioning itself on the perimeter wire, the lawn mower then mows the edge one to two times.

During this time the following message displays:

```
     Edge
```

The lawn mower then turns left into the lawn and begins to mow inside the perimeter wire until the end of its designated work time.

During this time the following screen displays:

```
1:59 Roboscan2
```

Note: If you want to change the work time (the default is set to two hours), refer to Setting the Work Time on page 18.

Note: To bypass mowing the edge of the lawn and go straight to mowing the main area inside the wire, simply press the Go button while the *Skip Edge?* message is still in the display window.

Stopping the Lawn Mower

Press the Stop button on the control panel.

Reviewing the Controller Menu Option Settings

The controller in the lawn mower comes with the following menu option settings:

- Sound On/Off

  The lawn mower can operate with or without sound. However, important audible safety messages cannot be turned off.

- Child Guard On/Off

  This option, when turned on, prevents children from operating the lawn mower. The display shows the message *Keys Locked* when the option is activated.

- Mowing On/Off

  This option allows the lawn mower to move with or without cutting the grass. You can use the off mode when you lay a perimeter wire to check its distance from the lawn edge. If the wire is loose or is raised above the grass, the blades will not cut it.

- Geo Location

  You must set your country location; otherwise, the lawn mower will display *Set GEO Location* and will not move in the automatic mode.

- Language

  This option allows you to set one of the languages in the system for the display. When you select a language, the menu then appears in that language.

- Work Time

  You can set the amount of time you want the lawn mower to mow your lawn nearly up to the duration of the charge life of the battery pack.

  Note: When you set the work time to *MAX* (the duration of the charge life of the battery pack), the lawn mower will mow until it reaches a set reserve

charge in the battery pack that allows you to walk the lawn mower off the plot before the battery pack is fully discharged.

- Service

  Use this option when you call 1-877-636-iMow (1-877-636-4669) for service to diagnose any problem in your lawn mower.

- Diagnostics

  Use this option to reach the lower menu levels of items that you can diagnose. The items to diagnose include the following:

  - DK (Direction Keeper) Calibration
  - Wire Sensors
  - Direction Keeper
  - Front Wheel Sensor
  - Bumpers
  - Software Version
  - Total Time
  - Buttons
  - Miscellaneous

Entering the Setting Mode

1. Lift the controller out of the drawer.

   The following screen displays:

   ```
   Manual
        Settings
   ```

2. Press the Go button.

   The following screen displays:

   ```
   Sound          off
        set
   ```

   You are in the *Settings* menu.

Setting the Sound On/Off

To set the sound either on or off, do the following steps:

1. From the *Settings* menu, use the scroll arrows until you see the following display:

   ```
   Sound          off
        set
   ```

2. Press the Go button.
3. Use the scroll arrows to view the on or off option.
4. To select the desired option, press the Go button.
5. To go up a menu level, press the Cancel button.

Setting the Child Guard On/Off

To set the Child Guard feature either on or off, do the following steps:

1. From the *Settings* menu, use the scroll arrows until you see the following display:

   ```
   Child guard  off
        set
   ```

2. Press the Go button.
3. Use the scroll arrows to view the on or off option.
4. To select the desired option, press the Go button.
5. To go up a menu level, press the Cancel button.

Note: If you select *on*, the following message displays:

```
Keys locked
```

To go up a menu level, press the up arrow and the Cancel button.

Note: To operate the lawn mower with the Child Guard feature activated, do the following steps:

1. Press the up arrow.
2. Press the Cancel button.
3. Press the Go button.
4. Operate the lawn mower as you normally would.

When you stop operating the lawn mower, the Child Guard will again activate, and you will need to repeat steps 1 through 3 above to operate the lawn mower again.

Setting the Mowing On/Off

To set the mowing mode to either on or off, do the following steps:

1. From the *Settings* menu, use the scroll arrows until you see the following display:

   ```
   Mowing   off
        set
   ```

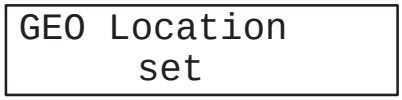
2. Press the Go button.
3. Use the scroll arrows to view the on or off option.

4. To select the desired option, press the Go button.
5. To go up a menu level, press the Cancel button.

Setting the Geo Location

To set the Geo location, do the following steps:

1. From the *Settings* menu, use the scroll arrows until you see the following display:



2. Press the Go button.
3. Use the scroll arrows to view the desired location in the menu.
4. To select the desired location, press the Go button.
5. To go up a menu level, press the Cancel button.

Setting the Language

The default language is English. To set the language, do the following steps:

1. From the *Settings* menu, use the scroll arrows until you see the following display:



2. Press the Go button.
3. Use the scroll arrows to view the desired language in the menu.
4. To select the desired language, press the Go button.
5. To go up a menu level, press the Cancel button.

Setting the Work Time

To set the work time, do the following steps:

1. From the *Settings* menu, use the scroll arrows until you see the following display:



2. Press the Go button.

   The following screen displays:



3. Use the scroll arrows to view the desired zone.
4. To select the desired zone, press the Go button.
5. Use the scroll arrows to find the amount of work time you desire.



Note: You can set the time in 20-minute increments up to two hours and 40 minutes; the final display in the menu shows *MAX*, the battery time available until it needs recharging.

6. To select the new work time, press the Go button.
7. Press the Cancel button to exit the set work time display.

Note: You can set the work time on your lawn mower for up to four different mowing plots (refer to Plots A, B, C, and D in Fig. 4).

Note: The lawn mower can mow approximately 1000 square feet (100 square meters)—roughly about the size of a tennis court—per hour.

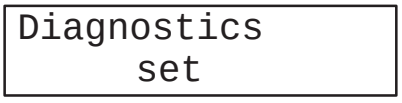
Note: If you do not set the work time, the lawn mower will use the work time default setting of two hours. The perimeter switch turns off automatically after approximately five hours.

Service

This menu item is for a certified technician only.

Diagnostics

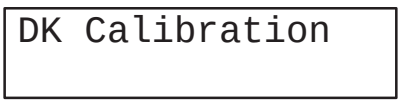
1. From the *Settings* menu, use the scroll arrows until you see the following display:



DK (Direction Keeper) Calibration

This feature allows you to calibrate the direction keeper during the initial setup of the lawn mower.

1. From the *Diagnostics* menu, use the scroll arrows until you see the following display:



2. Press the Go button.

   The following screen displays:

```
Activate Motors
    Confirm
```

Note: Call 1–877–iMow (4469) if you can't find the line or you have moved over 100 miles from where you first calibrated the lawn mower.

3. Calibrate the lawn mower. Refer to Calibrating the Lawn Mower on page 13.

Wire Sensors

This feature is to help a certified technician to diagnose and service problems with the wire sensors.

Direction Keeper

This feature is to help a certified technician to diagnose and service problems with the direction keeper.

Front Wheel Sensor

Refer to Checking the Lift-off Switch on page 23.

Bumpers

Refer to Checking the Bumpers on page 22.

Software Version

This feature displays the software version of the controller for the lawn mower.

1. From the *Diagnostics* menu, use the scroll arrows until you see the following display:

```
S.W. Version:
    V.3.19T
```

2. Press the Cancel button to exit the software version menu.

Total Time

The total time feature shows the accumulated time that the lawn mower has operated in the automatic mode.

1. From the *Diagnostics* menu, use the scroll arrows until you see the following display:

```
Total time:
    00 hr 00 m
```

2. Press the Cancel button to exit the total time.

Buttons

This feature is to help a certified technician to test the response of the buttons on the controller.

Miscellaneous

This feature displays the voltage of the battery pack and the temperature inside the lawn mower.

1. From the *Diagnostics* menu, use the scroll arrows until you see the following display:

```
Miscellaneous
    ok
```

2. Press the Go button.

   The following screen displays:

```
Batt V: 25.1
Temp:+36c +96F
```

   Note: This display shows the battery pack voltage and the temperature (in Celsius and Fahrenheit) of the inside of the lawn mower.

3. Press the Cancel button to exit the miscellaneous menu.

Exiting the Setting Mode

Press the Cancel button to return to a higher menu level. Continue to press the Cancel button, going up a menu level each time until you reach the *Manual Settings* message in the display.

Lawn Mowing Tips

For the best cutting results and lawn appearance, follow these instructions:

- To keep the lawn well groomed, operate the lawn mower a few times a week. A larger mowing plot may require three consecutive cuttings with a follow-up every other day to achieve a uniform length of cut.
- Mow only dry grass and leaves. Wet grass and leaves tend to clump on the yard and may cause the lawn mower to plug and stall.
- Grass grows at different rates at different times of the year. In the heat of summer, it is generally best to cut the grass at a higher cutting-height setting. Cut only about a third of the grass blade at one time.

- When changing the cutting height from an established setting to a lower setting, the grass may appear ragged or uneven until the grass adjusts to the new established cutting height and regains its normal appearance.
- When cutting grass over six inches (15 cm) tall, use a conventional lawn mower first, then mow again with the robotic lawn mower at the desired setting for the best lawn appearance. If the grass is too long, the robotic lawn mower may leave clumps on top of the lawn or even plug and stall.
- When mowing a large plot (greater than 2500 sq. ft. (250 sq. m), an extra battery pack is helpful, effectively doubling the work time of the lawn mower. Remember to activate the perimeter switch because it shuts off automatically after approximately five hours.

For a battery-powered lawn mower, the condition of the grass will affect the how long the battery pack will run on a single charge at each mowing. The following are some things that affect the battery pack run time:

- **Moisture content of the grass**—The more moisture there is in the grass, the faster the battery pack will run down.
- **Cutting height**—If the battery pack is running down too fast, raise the cutting height one level.
- **Blade Sharpness**—Maintain sharp blades throughout the cutting season. Periodically file down any nicks on the blade. To remove the blades, refer to Replacing the Blades on page 23.

If the finished cut lawn appearance is unsatisfactory, try one or more of the following:

- Replace the blades.
- Raise the cutting height.
- Cut the grass more frequently.
- Set the cutting height on the front wheels one notch lower than that of the rear wheels.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
Each Use	• Remove grass clippings and dirt on the housing. • Charge the battery pack after every use and before and after storage. • Check the bumpers to ensure that they are operating properly.
50 Hours	• Check the lift-off switch. If it does not operate properly, call 1-877-636-iMow (1-877-636-4669) for repair.
150 Hours	• Replace the blades; replace them more frequently if the edges dull quickly in rough or sandy conditions.

Important Do not attempt to open or modify your lawn mower; doing so will invalidate your warranty.

Cleaning the Lawn Mower Housing

Clean the lawn mower housing after every use.

1. Stop the lawn mower and wait for all moving parts to stop.
2. Remove the battery pack (Fig. 16).
3. Pull the front handle upward to lift the lawn mower to an upright position.
4. Use a wet cloth or a soft brush to remove grass clippings and debris from the underside, the blades, and the wheels.

Note: Do not set the lawn mower upside down because that can damage the controller.

5. Inspect the drainage holes and ensure that they are not blocked (Fig. 23).

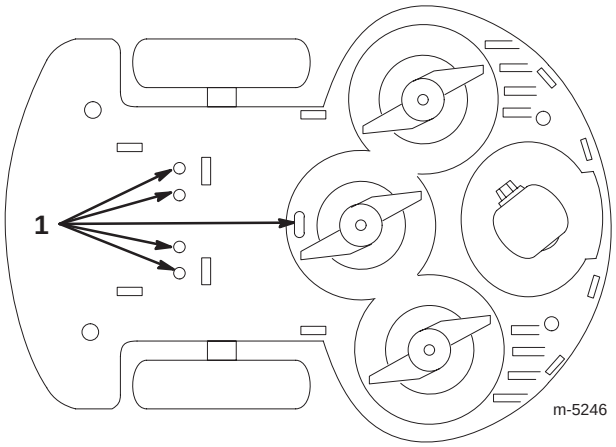


Figure 23

1. Drainage holes

Important Do not use a water hose on the lawn mower when cleaning; the water can damage the electronics.

Important Do not use metal objects to clean around the battery pack. If metal objects contact the positive and negative posts at the same time, this could short out the battery pack. The battery pack or conductor may overheat and cause burns.

Charging the Battery Pack

Charge the battery pack after every time you use the lawn mower.

Important The charger is for indoor use only. Do not expose the charger to moisture, and do not charge the battery pack in or near water.

Important You can charge the battery pack when the temperature is between –4°F (–20°C) and 140°F (60°C).

1. Plug the charger into a standard 110 V household outlet.
2. Pivot the controller up on its hinges.
3. Plug the charger into the charging socket under the controller drawer (Fig. 24).

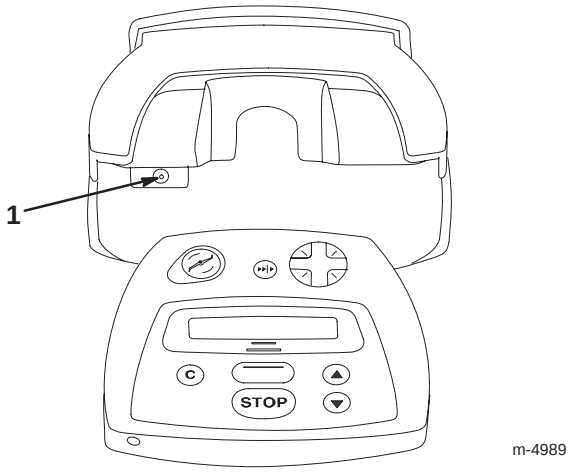
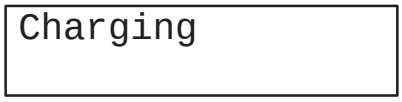


Figure 24

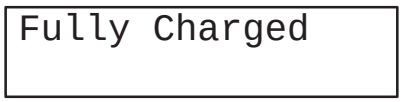
1. Charging socket

4. Pivot the controller back to lie flush with the top of the lawn mower surface.

   The following screen displays:



5. When the lawn mower is fully charged and ready to operate, the screen displays:



Note: Operating the lawn mower before it is fully charged reduces the battery life.

Note: The lawn mower should be charging at all times when it is not in use. Continuous charging does not harm the battery pack. **The battery pack is fully charged after approximately 24 hours.**

Replacing the Battery Pack

1. Stop the lawn mower and wait for all moving parts to stop.
2. Remove the battery pack by pulling it out of the battery pack compartment (Fig. 25).

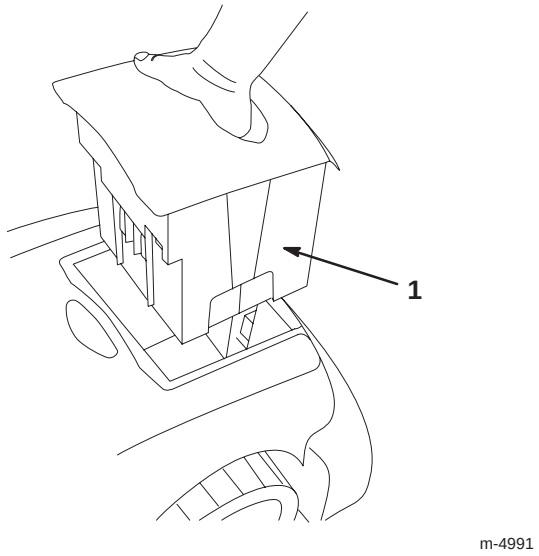


Figure 25

1. Battery pack

3. Install a new battery pack in its place.

Disposing of the Old Battery Pack

Warning

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. *Wash hands after handling.*

Important Do not place used batteries in your household trash!

Important The battery pack must be collected, recycled, or disposed of in an environmentally sound manner.

Incinerating, landfilling, or mixing sealed lead (acid) batteries with the municipal solid waste stream is *prohibited by law* in most areas.

Return the old battery pack to an approved sealed lead (acid) battery recycler.

Contact your local waste management officials for other information regarding the environmentally sound collection, recycling, and disposal of the battery pack.

Checking the Bumpers

Check the bumpers to ensure that they can detect a hard and solid obstacle at least six inches (15 centimeters) high and tree trunks at least one inch (2.5 centimeters) in diameter.

1. Take the controller out of the drawer.

The following screen displays:

```
Manual
     Settings
```

2. Press the Go button.

The following screen displays:

```
Sound          off
     set
```

3. Use the scroll arrows until you see the following display:

```
     Bumpers
```

4. Press the Go button.

The following screen displays:

```
Lt:– Rt:– Rr:–
```

Note: *Lt* is the left bumper; *Rt* is the right bumper; and *Rr* is the rear bumper. Figure 26 shows the location of the bumpers on the lawn mower.

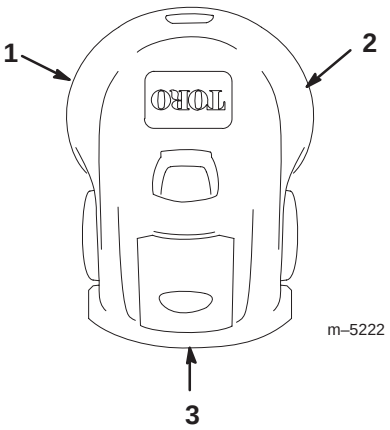


Figure 26

1. Left bumper
2. Right bumper
3. Rear bumper

5. Press and hold the rear bumper area and check for a star in the display as shown in the following display:

```
Lt:– Rt:– Rr:*
```

6. Repeat step 5 for the left and right bumper areas.

Important If the bumper does not respond (the star does not appear), call 1-877-636-iMow (1-877-636-4669) for service.

7. Press the Cancel button to return to the menu display.

Note: If the sound is activated, you will hear an electronic sound when you press the bumper.

Checking the Lift-off Switch

The lift-off switch stops the blades if you raise the front end of the lawn mower during operation. Check the lift-off switch after every 50 operating hours.

1. Take the controller out of the drawer.

   The following screen displays:

```
Manual
     Settings
```

2. Press the Go button.

   The following screen displays:

```
Sound          off
     set
```

3. Use the scroll arrows until you see the following display:

```
    Diagnostics
```

4. Press the Go button.

   The following screen displays:

```
Front Wheel Snsr
```

5. Press the Go button.

   The following screen displays:

```
Front Wheel:
On the ground
```

6. Lift the front end of the lawn mower a few inches (centimeters).

   The following screen displays:

```
Front Wheel:
Lifted
```

Note: After two or three seconds an audio message says, “Please remove battery pack before lifting.”

Important If the display is different from that shown above, call 1-877-636-iMow (1-877-636-4669) for service.

Replacing the Blades

Always mow with sharp blades. Sharp blades cut cleanly without tearing or shredding the grass.

Warning

The blade is sharp; contacting the blade can result in serious personal injury.

Use extreme care when replacing or cleaning the blades.

1. Stop the lawn mower and wait for all moving parts to stop.
2. Remove the battery pack (Fig. 16).
3. Tip the lawn mower over.
4. Squeeze the black plastic tabs at the base of the blade and pull the blade toward you (Figs. 27 and 28).

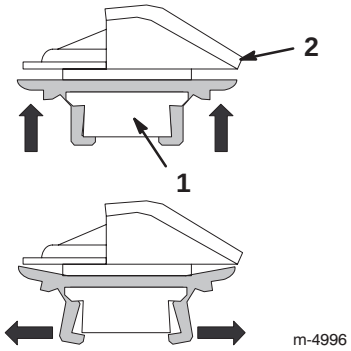


Figure 27

1. Blade base
2. Blade

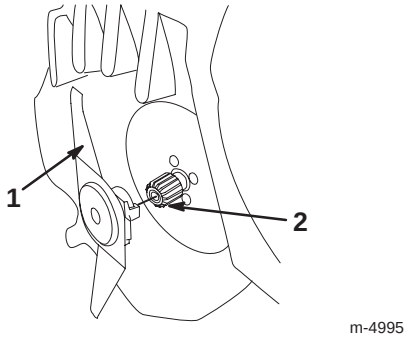


Figure 28

1. Blade (3)
2. Spindle

5. Hold the new blade by its base and push it onto the spindle until you hear and feel a positive click.

Replacing the Batteries in the Perimeter Switch

1. Open the perimeter switch case by squeezing the front part of the tabs to the case (Fig. 6).

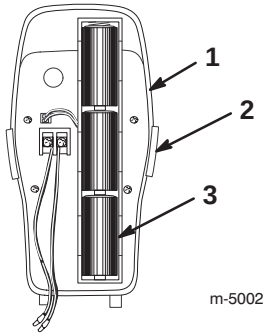


Figure 29

1. Perimeter switch case
2. Tab (2)
3. 1.5V C-cell battery (3)

2. Remove the old batteries from the battery compartment.

3. Insert three 1.5V C-cell batteries (Fig. 6).

4. Close the perimeter switch case.

Storage

Store the lawn mower in a cool, clean, and dry place such as an unheated garage. Cover the lawn mower to keep it clean and protected. Do not store the lawn mower on its bumpers or with anything pressing on the bumpers.

1. Clean the lawn mower housing. Refer to Cleaning the Lawn Mower Housing on page 21.

2. Remove grass clippings, dirt, and grime from external parts of the shrouding and from the top of the lawn mower housing.

3. Check the condition of the blades; if necessary, replace the blades. Refer to Replacing the Blades on page 23.

Important Toro designed your lawn mower with a built-in battery pack charger that checks the charging status and charges the battery pack only when necessary. Therefore, leave the battery pack plugged in whenever you are not using the lawn mower during the mowing season.

Important During the off-season, keep the battery pack fully charged, remove it from the lawn mower, and store it in a cool place no colder than –4°F (–20°C). You can store a fully charged battery pack for up to six months before recharging if it is stored in a cool, dry place. Charge the battery pack before using the lawn mower for the first time of the season.

Accessories

- Replacement Blades
- Replacement Battery Pack
- Battery Charger
- Perimeter Switch
- Pegs
- Wire

Troubleshooting

Toro designed and built your lawn mower for trouble-free operation. Check the following components and items carefully. If a problem continues, call 1-877-636-iMow (1-877-636-4669) for service.

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
Lawn mower does not start (*No Wire Signal* display)	1. The perimeter switch is not turned on or is not properly connected. 2. The perimeter wire is damaged or cut. 3. The lawn mower is directly on the perimeter wire.	1. Make sure that the perimeter switch is turned on and properly connected. 2. Look at the perimeter switch (Wire Disconnected Indicator) and check for a broken or cut perimeter wire; repair the wire if necessary. 3. Move the lawn mower off the perimeter wire and press the Go button.
Lawn mower does not start (*Path Blocked* display)	1. The lawn mower bumps into an obstacle at the beginning of its motion.	1. Move the lawn mower away from the obstacle and press the Go button.
Lawn mower does not start (*Wire Too Close* display)	1. The lawn mower is initiated over or too close to the perimeter wire.	1. Move the lawn mower away from the perimeter wire.
Lawn mower strikes an object while mowing the edge	1. The perimeter wire is too close to the object.	1. Set the wire at a greater distance from the obstacle.
Lawn mower stops (*Recharge Battery* display)	1. The battery pack is not charged.	1. Charge the battery pack for 24 hours.
Lawn mower stops (*User Help Needed* display)	1. The lawn mower is stuck. 2. The lawn mower is trapped between two obstacles.	1. Move the lawn mower. 2. Set the lawn mower away from the obstacles.
Lawn mower does not cut the grass (*Mowing Problem* display)	1. The cutting height is too low. 2. The grass is wet. 3. The underside of lawn mower deck is clogged with clippings. 4. The grass is too tall for the lawn mower.	1. Raise the cutting height. 2. Allow the grass to dry before mowing. 3. Clean the underside of the lawn mower deck. 4. Cut the grass with a conventional lawn mower, then mow again with the robotic lawn mower to the final height.
Lawn mower moves but does not mow (*Normal* display)	1. The lawn mower is set to *Mowing Off*.	1. If so, change to *Mowing On* in the preferences menu.

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
Lawn mower does not completely mow the edge (*User Help Needed* display)	1. The perimeter wire is too close to an obstacle at the lawn edge.	1. Set the wire farther away from the obstacle.
The charger does not charge (*Charging Problem* display)	1. The charger is not plugged in.	1. Plug the charger into a standard 110 V household outlet.
	2. The charger is plugged in, but is not charging.	2. Unplug the charger and plug it in again.
	3. The charger is faulty.	3. Replace the charger.

Robotic Mowers

The Toro Total Coverage Guarantee

A Three-Year Limited Warranty

Conditions and Products Covered

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly promise to correct any defect in materials or workmanship on any iMow™ Robotic Product used for normal residential purposes.* At our option, we will repair the unit or replace it with either a new or refurbished unit. The following time periods apply from the date of purchase:

Products	Warranty Period
• All Products	3 year limited warranty
• All Batteries	1 year limited warranty

This warranty includes the cost of parts, labor, and product return freight to Toro. You must pay transportation costs to a local service provider or retailer, if required.

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

Instructions for Obtaining Warranty Service

Should you feel your Toro Product contains a defect in materials or workmanship, contact The Toro Company for assistance. You may need proof of purchase (copy of registration card, sales receipt, etc.) for warranty validation. Contact us at:

iMow Toro Customer Service Department
1414 West Walnut Hill Lane
Irving, TX 75038
1-877-636-imow or 1-877-636-4669

60 Day Satisfaction Guarantee

If for any reason you are not satisfied with your Toro Product within the first 60 days of residential use, please contact The Toro Company for a refund or replacement unit at 1-877-636-imow or 1-877-636-4669. Do not return the Toro Product to your retailer.

Owner Responsibilities

You must maintain your Toro Product by following the maintenance procedures described in the operator's manual. Such routine maintenance, whether performed by a service provider or by you, is at your expense.

Items and Conditions Not Covered

This express warranty does not cover the following:

- Cost of regular maintenance service or parts, such as blade sharpening
- Any product or part which has been altered or misused or required replacement or repair due to accidents or lack of proper maintenance
- Repairs necessary due to improper battery care, electrical supply irregularities, or failure to properly prepare the mower prior to any period of non-use
- Pickup and delivery charges

All repairs covered by this warranty must be performed by an Authorized Service Provider using Toro approved replacement parts.

General Conditions

There is no other express warranty. All implied warranties of merchantability and fitness for use are limited to the duration of this express warranty.

Neither The Toro Company nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of the Toro Products 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 exclusions 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.

Countries Other than the United States or Canada

Customers who have purchased Toro products exported from the United States or Canada should contact their Toro Distributor (Dealer) to obtain guarantee policies for your country, province, or state. If for any reason you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact the Toro importer. If all other remedies fail, you may contact us.

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