Form No. 3463-300 Rev A

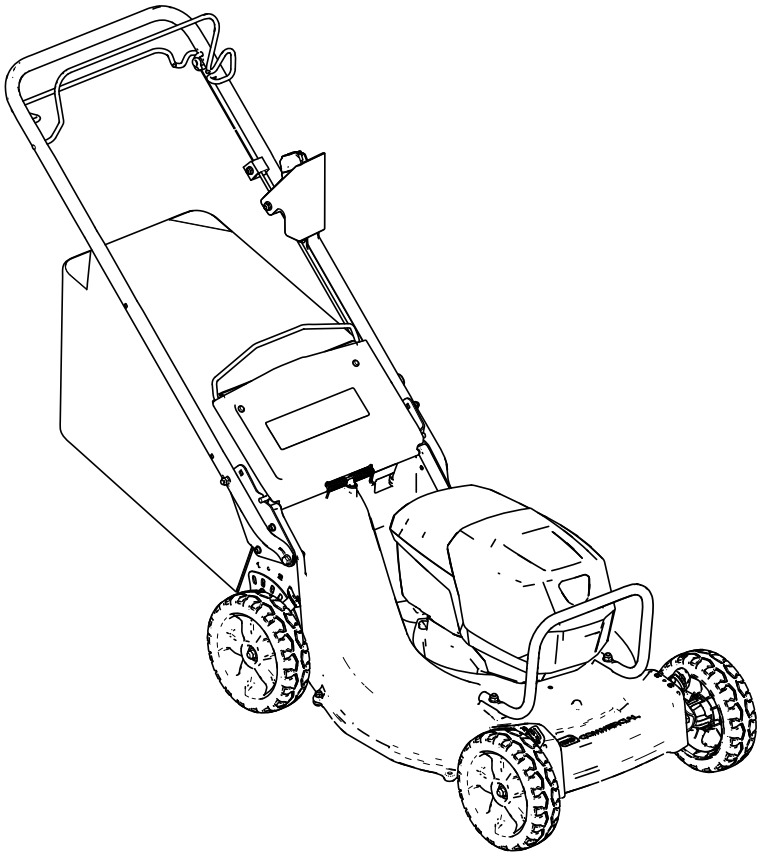
TORO®

Count on it.

Operator's Manual

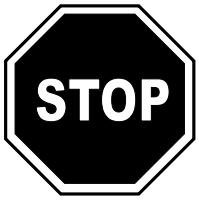
Heavy-Duty 60V 21in Recycler®/Rear Bagger Lawn Mower

Model No. 22284—Serial No. 400000000 and Up



Register at www.Toro.com.
Original Instructions (EN)

3463-300



For assistance, please see www.Toro.com/support for instructional videos or contact 1-888-384-9939 before returning this product.

⚠ WARNING

CALIFORNIA
Proposition 65 Warning

The power cord on this product contains lead, a chemical known to the State of California to cause birth defects or other reproductive harm. Wash hands after handling.

Use of this product may cause exposure to chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Introduction

This rotary-blade, walk-behind lawn mower is intended to be used by professional, hired operators. It is designed primarily for cutting grass on well-maintained lawns on residential or commercial properties. It is designed to use Toro 60V lithium-ion battery packs. These battery packs are designed to be charged only by Toro 60V lithium-ion battery chargers.

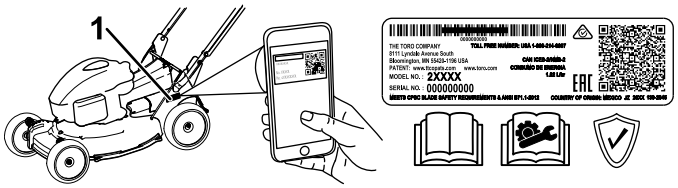
Using these products for purposes other than their intended use could prove dangerous to you and bystanders.

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage. You are responsible for operating the product properly and safely.

Visit www.Toro.com for more information, including safety tips, training materials, accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine Toro parts, or additional information, contact an Authorized Service Dealer or Toro Customer Service and have the model and serial numbers of your product ready. Figure 1 identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.

Important: **With your mobile device, you can scan the QR code on the serial number decal (if equipped) to access warranty, parts, and other product information**



g226623

Figure 1

1. Model and serial number location

Model No. _____

Serial No. _____

Safety-Alert Symbol

The safety-alert symbol (Figure 2) shown in this manual and on the machine identifies important safety messages that you must follow to prevent accidents.



g000502

Figure 2
Safety-alert symbol

The safety-alert symbol appears above information that alerts you to unsafe actions or situations and is followed by the word **DANGER**, **WARNING**, or **CAUTION**.

DANGER indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury.

WARNING indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

CAUTION indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury.

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.

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8111 Lyndale Avenue South
Bloomington, MN 55420

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Safety

IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING

When using electric lawn mowers, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury, including the following:

Read All Instructions

I. Training

1. The operator of the machine is responsible for any accidents or hazards occurring to others or their property.
2. Do not allow children to use or play with the machine, battery pack, or the battery charger; local regulations may restrict the age of the operator.
3. Do not allow children or untrained people to operate or service this device. Allow only people who are responsible, trained, familiar with the instructions, and physically capable to operate or service the device.
4. Before using the machine, battery pack, and battery charger, read all the instructions and cautionary markings on these products.
5. Become familiar with the controls and proper use of the machine, battery pack, and battery charger.

II. Preparation

1. Keep bystanders, especially children and pets, out of the operating area.
2. Do not operate the machine without all guards and safety devices, such as deflectors and grass catchers, in place and functioning properly on the machine.
3. Inspect the area where you will use the machine and remove all objects that could interfere with the operation of the machine or that the machine could throw.
4. Before using the machine, ensure that the blade, blade bolt, and blade assembly are not worn or damaged. Replace any damaged or unreadable labels.
5. Use only the battery pack specified by Toro. Using other accessories and attachments may increase the risk of injury and fire.
6. Plugging the battery charger into an outlet that is not 120V can cause a fire or electric shock. Do

not plug the battery charger into an outlet other than 120V. For a different style of connection, use an attachment plug adapter of the proper configuration for the power outlet if needed.

7. Do not use a damaged or modified battery pack or battery charger, which may exhibit unpredictable behavior that results in fire, explosion, or risk of injury.
8. If the supply cord to the battery charger is damaged, contact your authorized Toro distributor to replace it.
9. Charge the battery pack with only the battery charger specified by Toro. A charger suitable for 1 type of battery pack may create a risk of fire when used with another battery pack.
10. Charge the battery pack in a well-ventilated area only.
11. Follow all charging instructions and do not charge the battery pack outside of the temperature range specified in the instructions. Otherwise, you may damage the battery pack and increase the risk of fire.
12. Dress properly—Wear appropriate clothing, including eye protection; long pants; substantial, slip-resistant footwear (not barefoot or wearing sandals); and hearing protection. Tie back long hair and do not wear loose clothing or loose jewelry that can get caught in moving parts. Wear a dust mask in dusty operating conditions. Use of rubber gloves is recommended.

III. Operation

1. Contact with the moving blade will cause serious injury. Keep your hands and feet away from the cutting area and all moving parts of the machine. Keep clear of any discharge opening.
2. Using this machine for purposes other than its intended use could prove dangerous to you and bystanders.
3. Disengage the self-propel drive (if equipped) before starting the machine.
4. Do not tilt the machine when starting the motor.
5. Prevent unintentional starting—Ensure that the electric-start button is removed from the electric-start switch before connecting the battery pack and handling the machine.
6. Use your full attention while operating the machine. Do not engage in any activity that causes distractions; otherwise, injury or property damage may occur.
7. Stop the machine, remove the electric-start button, remove the battery pack from the machine, and wait for all movement to stop before adjusting, servicing, cleaning, or storing the machine.
8. Remove the battery pack and electric-start button from the machine whenever you leave it unattended or before changing accessories.
9. Do not force the machine—Allow the machine to do the job better and safer at the rate for which it was designed.
10. Stay alert—Watch what you are doing and use common sense when operating the machine. Do not use the machine while ill, tired, or under the influence of alcohol or drugs.
11. Do not use a battery-operated lawn mower in rain.
12. Operate the machine only in good visibility and appropriate weather conditions. Do not operate the machine when there is the risk of lightning.
13. Use extreme caution when reversing or pulling the machine toward you.
14. Keep proper footing and balance at all times, especially on slopes. Mow across the face of slopes, never up and down. Use extreme caution when changing directions on slopes. Do not mow exceedingly steep slopes. Walk, never run with the machine.
15. Do not direct the discharge material toward anyone. Avoid discharging material against a wall or obstruction; material may ricochet toward you. Stop the blade(s) when crossing surfaces other than grass.
16. Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could cause you to lose your balance or footing.
17. Wet grass or leaves can cause serious injury if you slip and contact the blade. Do not mow in wet conditions. Do not mow when it is raining.
18. If the machine strikes an object or starts to vibrate, immediately shut off the machine, remove the electric-start button, remove the battery pack, and wait for all movement to stop before examining the machine for damage. Make all necessary repairs before resuming operation.
19. Stop the machine and remove the electric-start button before loading the machine for hauling.
20. Under abusive conditions, the battery pack may eject liquid; avoid contact. If you accidently come into contact with the liquid, flush with water. If the liquid contacts your eyes, seek medical help. Liquid ejected from the battery pack may cause irritation or burns.

IV. Maintenance and Storage

1. Stop the machine, remove the electric-start button, remove the battery pack from the machine, and wait for all movement to stop before adjusting, servicing, cleaning, or storing the machine.
2. Do not attempt to repair the machine except as indicated in the instructions. Have your authorized Toro distributor perform service on the machine using identical replacement parts.
3. Wear gloves and eye protection when servicing the machine.
4. Sharpen a dull blade on both edges to maintain balance. Clean the blade and ensure that it is balanced.
5. Replace the blade if it is bent, worn, or cracked. An unbalanced blade causes vibration, which could damage the motor or cause personal injury.
6. When servicing the blade, be aware that the blade can still move even though the power source is off.
7. Check the grass collection bag frequently for deterioration or wear, and replace a worn bag with a Toro [replacement] bag.
8. For best performance, use only genuine Toro replacement parts and accessories. Other replacement parts and accessories could be dangerous, and such use could void the product warranty.
9. Maintain the machine—Keep cutting edges sharp and clean for the best and safest performance. Keep handles dry, clean, and free from oil and grease. Keep guards in place and in working order. Keep blades sharp. Use identical replacement blades only.
10. Check the machine for damaged parts—If there are damaged guards or other parts, determine whether the machine will operate properly. Check for misaligned and binding moving parts, broken parts, mounting, and any other condition that may affect its operation. Unless indicated in the instructions, have your authorized Toro distributor repair or replace a damaged guard or part.
11. When the battery pack is not in use, keep it away from metal objects such as paper clips, coins, keys, nails, and screws that can make a connection from 1 terminal to another. Shorting the battery terminals may cause burns or a fire.
12. Check the blade and motor mounting bolts frequently for tightness.
13. When you are not using the machine, store it indoors in a dry, secure place out of the reach of children.
14. Do not expose a battery pack or machine to fire or excessive temperature. Exposure to fire or temperature above 130°C (265°F) may cause explosion.
15. CAUTION—A mistreated battery pack may present a risk of fire, explosion, or chemical burn.
    - Do not disassemble the battery pack.
    - Replace the battery pack with a genuine Toro battery pack only; using another type of battery pack may cause a fire or risk of injury.
    - Keep battery packs out of the reach of children and in the original packaging until you are ready to use them.

SAVE THESE INSTRUCTIONS

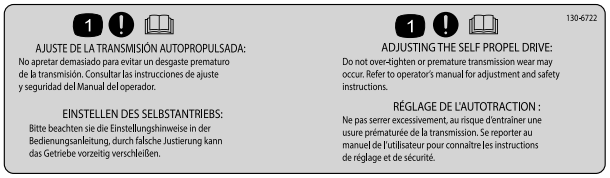
Safety and Instructional Decals

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



decal94-8072

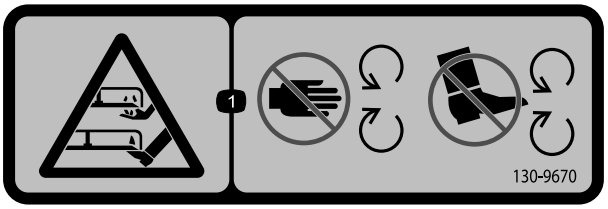
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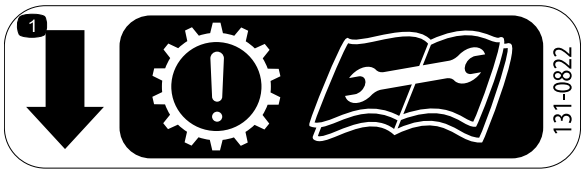
1. Attention—read the *Operator's Manual*.



decal130-9670

130-9670

1. Severing hazard of hand or foot; mower blade—keep away from moving parts.



decal131-0822

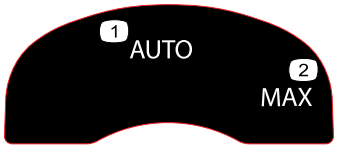
131-0822

1. Self-propel drive—Attention; premature wear of the transmission may occur if the belt is over-tightened; before servicing or performing maintenance, read the *Operator's Manual*.



decal133-8054

133-8054



decal134-4691

134-4691

1. Auto speed
2. Max speed



decal139-8986

139-8986



decal140-8471

140-8471



decal144-3175

144-3175

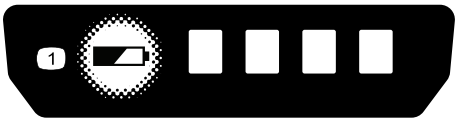
1. Read the *Operator's Manual*.
2. To start the machine, squeeze the bar to the handle and press the button.
3. To shut off the machine, release the bar.



decal145-8260

145-8260

1. Read the *Operator's Manual*.
2. Keep away from open fire or flames.
3. Do not expose to rain.



decal145-8265

145-8265

1. Battery charge status



decal116-7583

116-7583

1. Warning—read the *Operator's Manual*; do not operate this machine unless you are trained.
2. Thrown object hazard—keep bystanders away.
3. Thrown object hazard—do not operate the mower without the rear discharge plug or bag in place.
4. Cutting/dismemberment hazard of hand or foot, mower blade—stay away from moving parts; keep all guards in place.
5. Warning—wear hearing protection.
6. Cutting/dismemberment hazard of hand or foot, mower blade—do not operate up and down slopes; operate side to side on slopes; shut off the motor before leaving the machine; pick up any debris before mowing; look behind you when moving in reverse.



decal137-9463

137-9463

1. The battery pack is charging.
2. The battery pack is fully charged.
3. The battery pack is over or under the appropriate temperature range.
4. Battery pack charging fault

Setup

Important: **Remove and discard the protective plastic sheet that covers the motor and any other plastic or wrapping on the machine.**

Important: **The battery pack is not fully charged when you purchase it. Before using the machine for the first time, refer to Charging the Battery Pack (page 21).**

1

Mounting the Battery Charger (Optional)

Parts needed for this procedure:

2	Mounting hardware (not included)

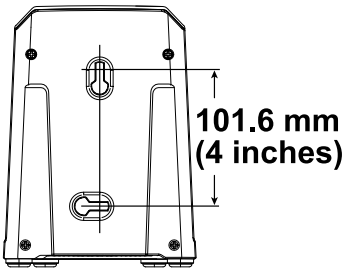
Procedure

If desired, mount the battery charger securely on a wall using the wall-mount key holes on the back of the charger.

Mount it indoors (such as a garage or other dry place), near a power outlet, and out of the reach of children.

Refer to Figure 3 for assistance in mounting the charger.

Slide the charger over the appropriately positioned hardware to secure the charger in place (hardware not included).



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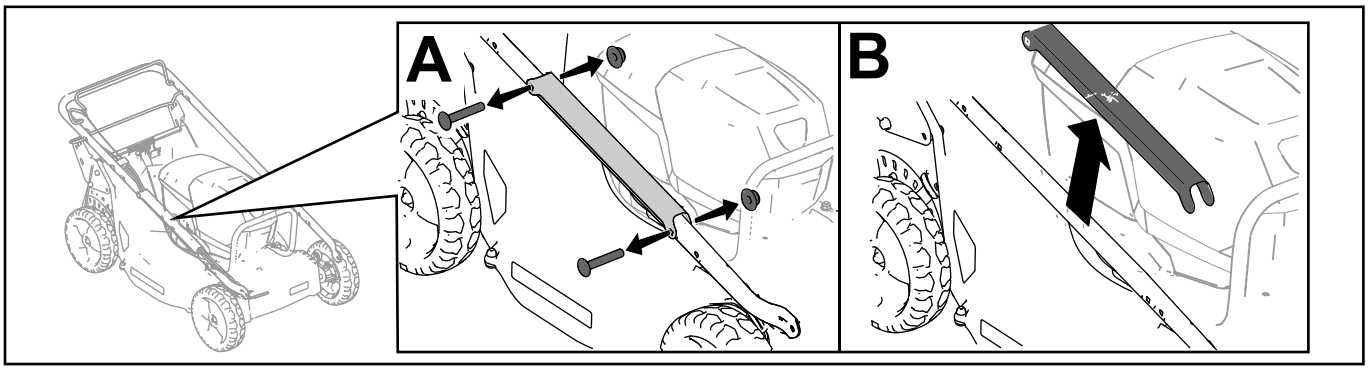
Figure 3

2

Removing the Cable Guard

No Parts Required

Procedure



g328502

Figure 4

3

Installing the Handle

No Parts Required

Procedure

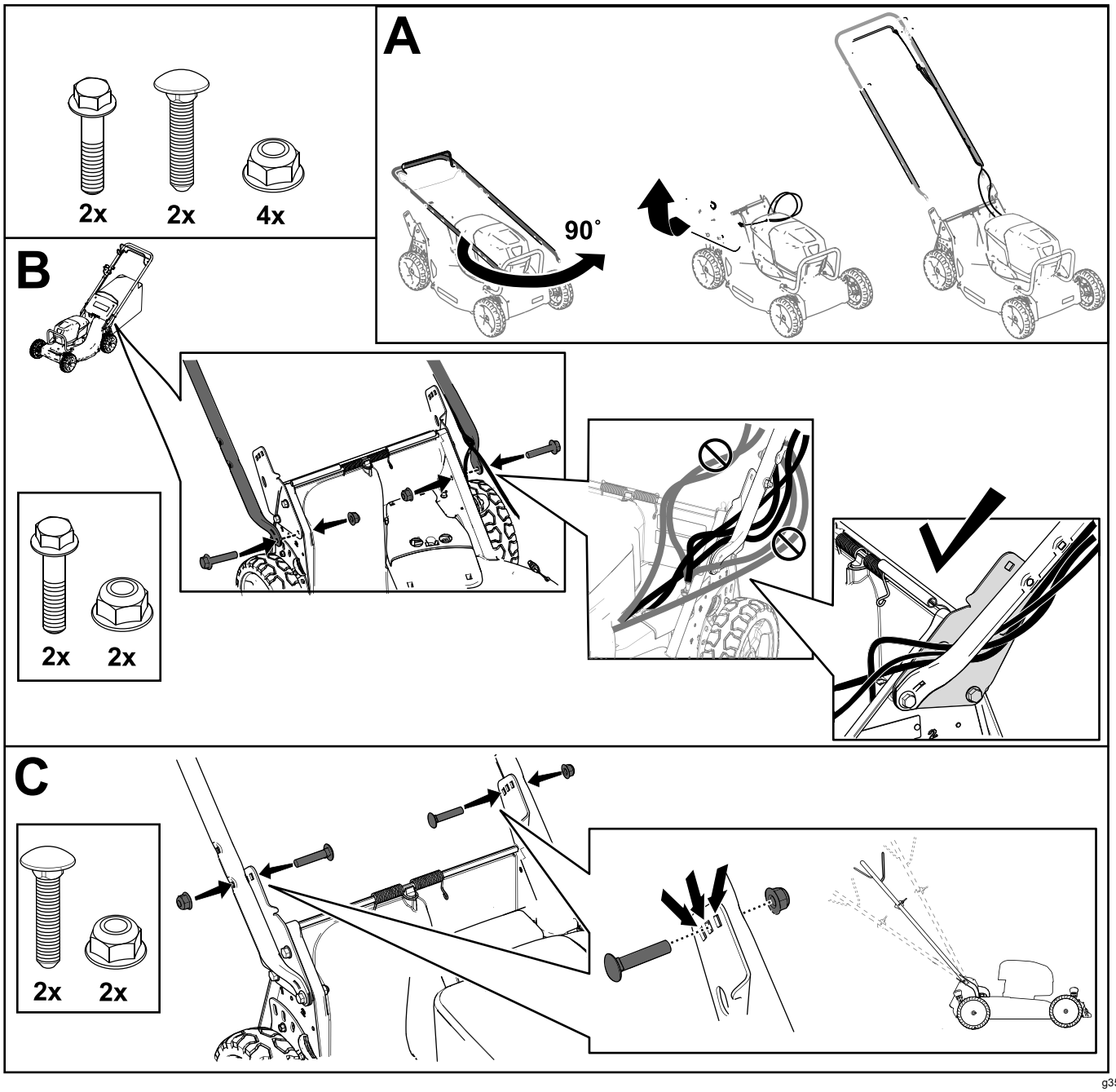


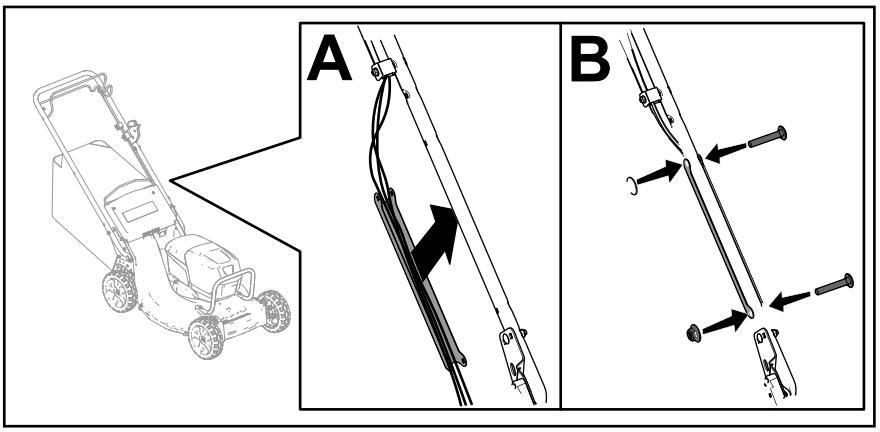
Figure 5

4

Installing the Cable Guard

No Parts Required

Procedure



g350107

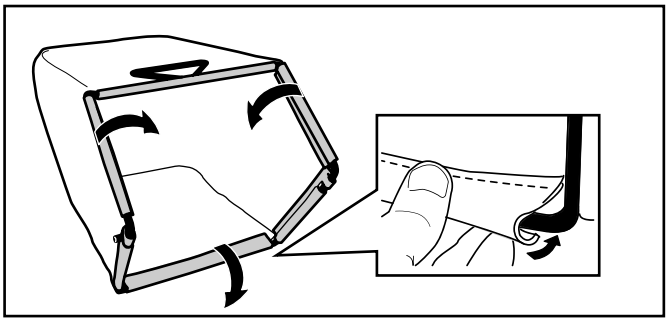
Figure 6

5

Assembling the Grass Bag

No Parts Required

Procedure



g238450

Figure 7

6

Adjusting the Self-Propel Drive

No Parts Required

Procedure

Important: **You must adjust the self-propel-drive cable before you operate the machine for the first time. Refer to Adjusting the Self-Propel Drive (page 23).**

Product Overview

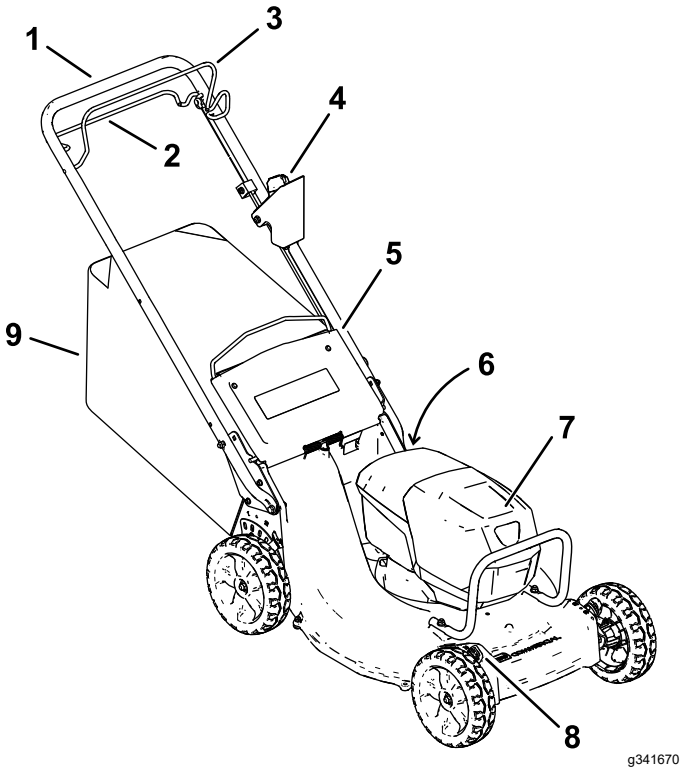


Figure 8

1. Handle
2. Self-propel drive bar
3. Blade-control bar
4. Electric-start button
5. Rear deflector
6. Wheel-drive-control knob (not shown)
7. Battery compartment
8. Cutting-height lever (4)
9. Grass bag

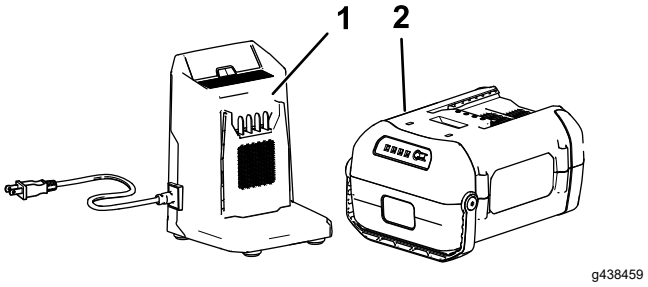


Figure 9

1. Battery charger Model 88605
2. Battery pack Model 66810

Specifications

Battery Pack

Model	**66810**
Battery pack capacity	10.0 Ah
	540 Wh
Battery manufacturer rating = 60V maximum and 54V nominal. Actual voltage varies with load.	

Battery Charger

Model	**88605**
Type	60V MAX Lithium-Ion Battery Rapid Charger
Input	120V AC 50/60Hz Max 5.0A
Output	60V MAX DC 5.5A

Appropriate Temperature Ranges

Charge/store the battery pack at	5°C (41°F) to 40°C (104°F)*
Use the battery pack at	-30°C (-22°F) to 49°C (120°F)*
Use the machine at	0°C (32°F) to 49°C (120°F)*

*Charging time will increase if you do not charge the battery pack within this range.

Store the machine, battery pack, and battery charger in an enclosed clean, dry area.

Attachments/Accessories

A selection of Toro approved attachments and accessories may be available for use with the machine to enhance and expand its capabilities. Contact your Authorized Service Dealer or authorized Toro distributor or go to www.Toro.com for a list of all approved attachments and accessories.

To ensure optimum performance and continued safety certification of the machine, use only genuine Toro replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous, and such use could void the product warranty.

Operation

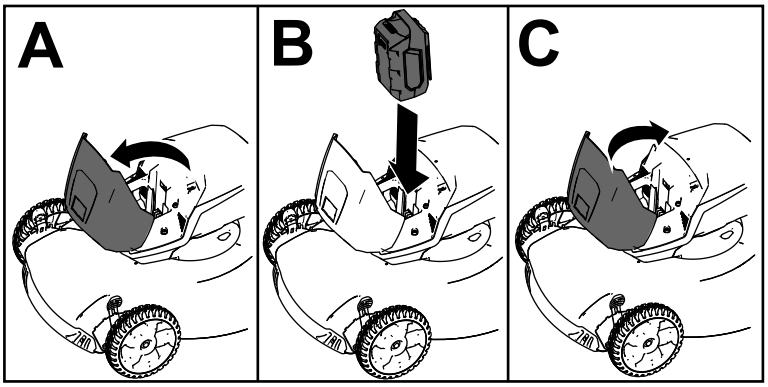
Before Operation

Installing the Battery Pack

Important: **Use the battery pack only in temperatures that are within the appropriate range; refer to Specifications (page 13).**

1. Make sure that the vents on the battery are clear of any dust and debris.
2. Lift up the battery-compartment lid (A of Figure 10).
3. Line up the cavity in the battery pack with the tongue on the machine and slide the battery pack into the compartment until it locks into place (B of Figure 10).
4. Close the battery-compartment lid (C of Figure 10).

   Note: If the battery-compartment lid does not close completely, the battery is not fully installed.



g303151

Figure 10

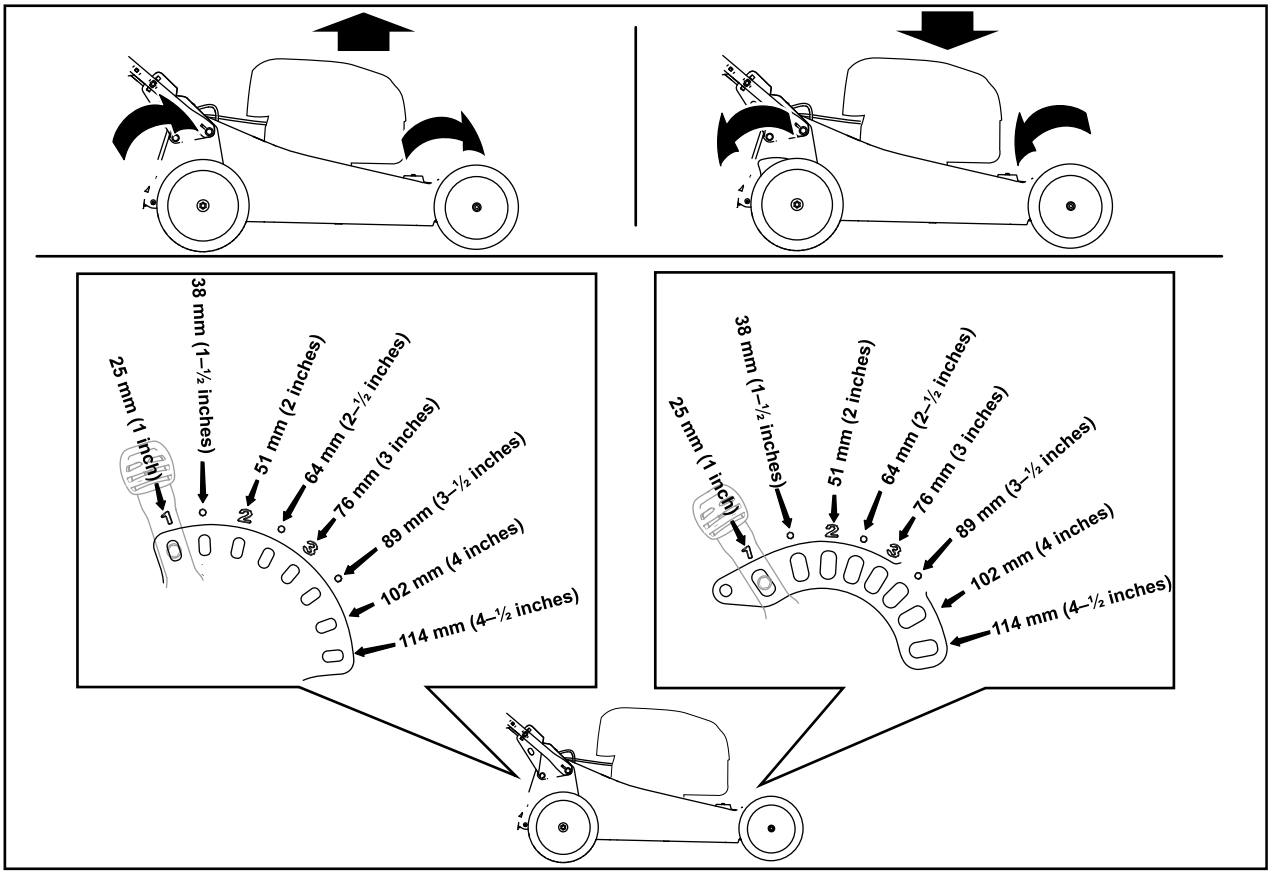
Adjusting the Cutting Height

⚠ WARNING

Adjusting the height-of-cut could bring your hands into contact with a moving blade and result in serious injury.

- **Shut off the motor, remove the battery, and wait for all moving parts to stop before adjusting the cutting height.**
- **Do not put your fingers under the housing when adjusting the cutting height.**

Adjust the cutting height as desired. Set all wheels to the same cutting height (Figure 11).

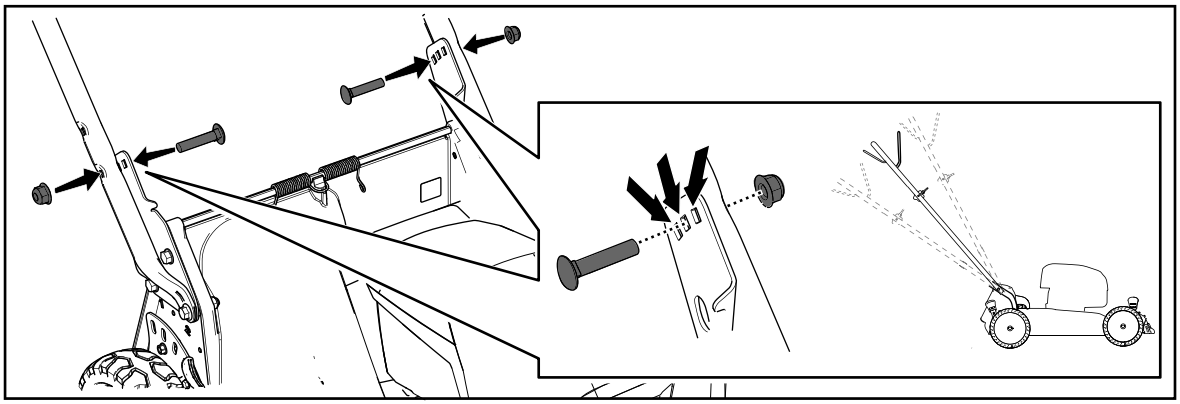


g303150

Figure 11

Adjusting the Handle Height

You can raise or lower the handle in 1 of 3 positions that is more comfortable for you (Figure 12).



g331956

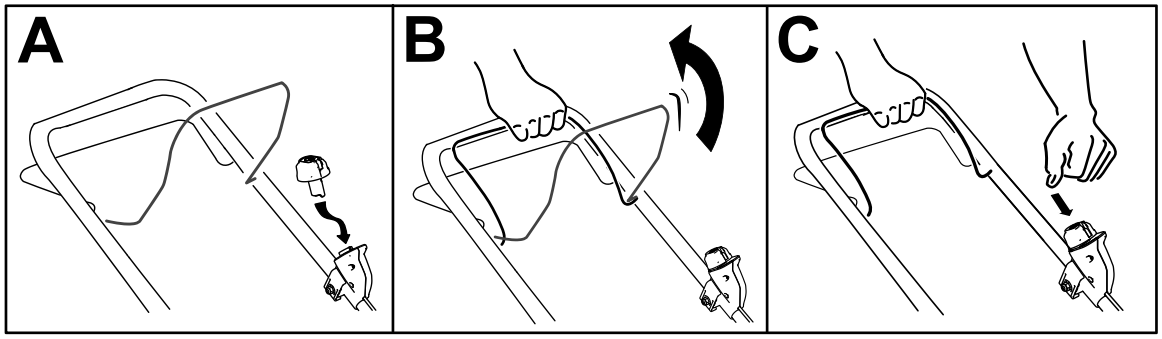
Figure 12

1. Remove both handle bolts and corresponding nuts.
2. Move the handle to the desired height position.
3. Secure the handle with the previously removed bolts and corresponding nuts.

During Operation

Starting the Machine

1. Ensure that the battery pack is installed in the machine; refer to Installing the Battery Pack (page 14).
2. Insert the electric-start button into the electric starter switch (A of Figure 13).
3. Squeeze the blade-control bar and hold it to the handle (B of Figure 13).
4. Press the electric-start button and keep it pressed until the motor starts (C of Figure 13).

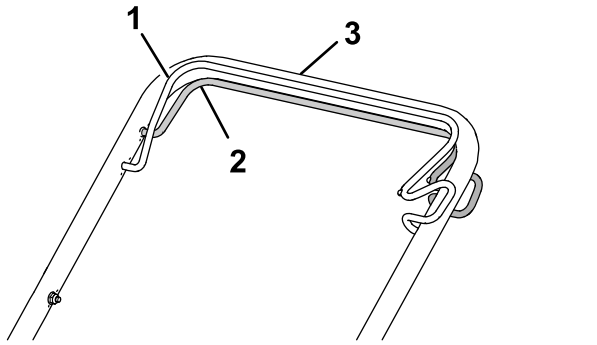


g303152

Figure 13

Operating the Self-Propel Drive

- **To engage the self-propel-drive:** Move the self-propel-drive lever to the desired ground speed and pull the self-propel-drive bar to the handle and hold it (Figure 14).



g331945

Figure 14

1. Blade-control bar (shown engaged)
2. Self-propel-drive bar
3. Upper handle

Note: The maximum self-propel-drive speed is fixed. To reduce the speed, increase the space between the self-propel-drive bar and the handle or adjust the self-propel-drive lever.

- **To disengage the self-propel drive:** Release the self-propel-drive bar.

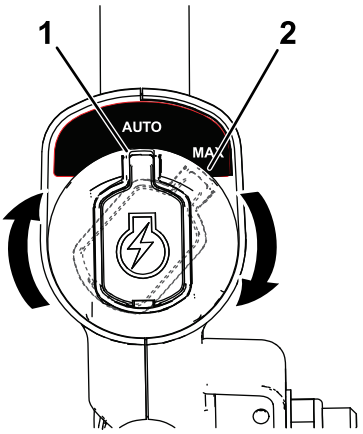
Note: The machine comes with freewheeling clutches that make it easier to pull the machine rearward. To disengage the clutches, you may need to push the machine forward about 2.5 cm (1 inch) or more after you release the self-propel-drive bar.

Adjusting the Blade Speed

This machine has 2 blade-speed settings: AUTO and MAX.

- In the AUTO position, the blade speed adjusts automatically for greater efficiency. The machine detects changes in the cutting conditions and increases the blade speed as needed to maintain the quality of cut.
- In the MAX position, the blade speed remains at the maximum speed at all times.

Turn the key in the key switch to either position to adjust the blade speed setting (Figure 15).



g337279

Figure 15

1. AUTO position
2. MAX position

Recycling the Clippings

Your machine comes from the factory ready to recycle the grass and leaf clippings back into the lawn.

If the grass bag is on the machine, remove it before recycling the clippings. Refer to Removing the Grass Bag (page 19).

Bagging the Clippings

Use the grass bag when you want to collect grass and leaf clippings from the lawn.

⚠ WARNING

A worn grass bag could allow small stones and other similar debris to be thrown toward you or bystanders, resulting in serious personal injury or death.

Check the grass bag frequently. If it is damaged, install a new Toro replacement bag.

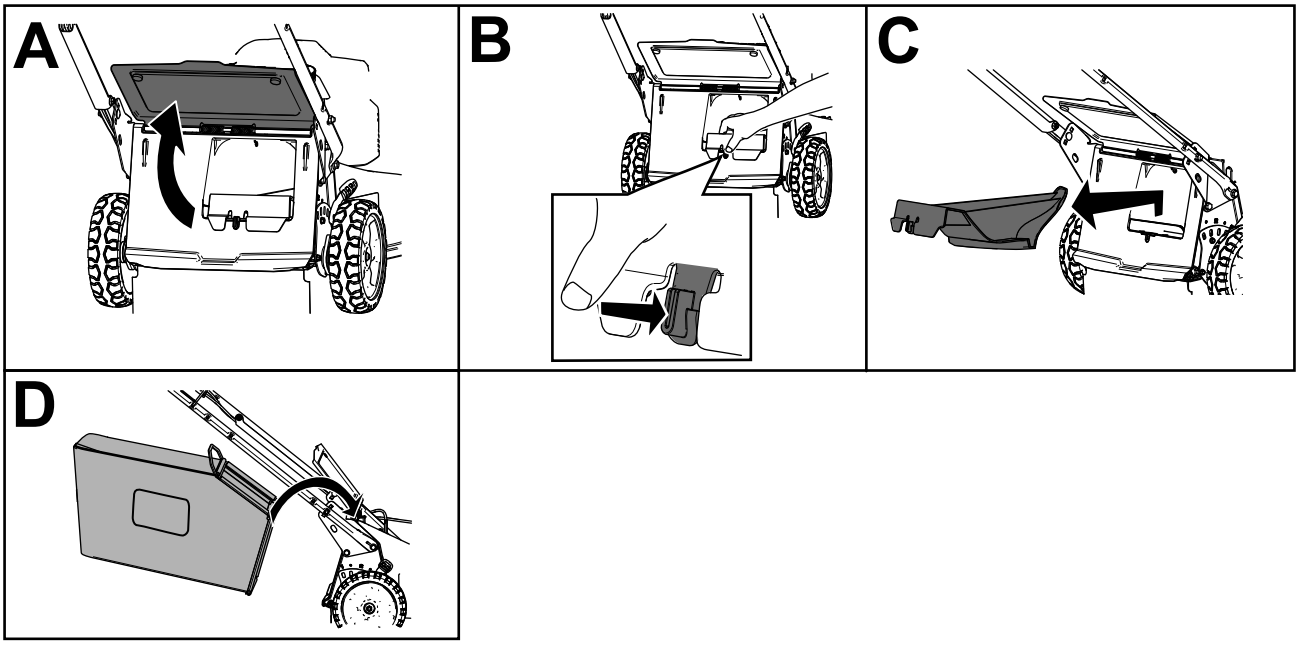
⚠ WARNING

The blades are sharp; contacting the blades can result in serious personal injury.

Shut off the machine and wait for all moving parts to stop before leaving the operating position.

Installing the Grass Bag

1. Shut off the machine and wait for all moving parts to stop.
2. Raise and hold up the rear deflector (A of Figure 16).
3. Remove the rear-discharge plug by pushing in the latch with your thumb and pulling the plug out from the machine (B and C of Figure 16).
4. Install the bag-rod ends into the notches at the base of the handle, and rock the bag back and forth to ensure that the bag-rod ends are seated at the bottom of both notches (D of Figure 16).
5. Lower the rear deflector until it rests on the grass bag.



g303153

Figure 16

Removing the Grass Bag

⚠ DANGER

The machine can throw grass clippings and other objects through an opening in the machine housing. Objects thrown with enough force could cause serious personal injury or death to you or to bystanders.

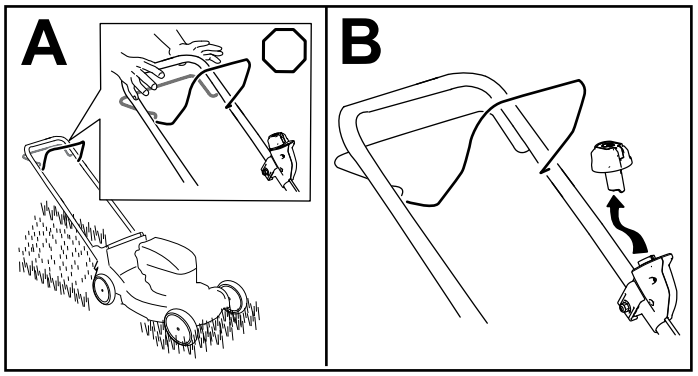
- **Never remove the grass bag and then start the machine without the discharge plug installed on the machine.**
- **Never open the rear deflector on the machine when the machine is running.**

1. Shut off the machine and wait for all moving parts to stop.
2. Raise the rear deflector.
3. Remove the bag rod on the grass bag from the notches at the base of the handle (A of Figure 16).
4. Install the discharge plug (B of Figure 16).
5. Lower the rear deflector (C of Figure 16).

Shutting Off the Machine

1. Release the blade-control bar (A of Figure 17).
2. Remove the electric-start button from the electric starter (B of Figure 17).
3. Remove the battery pack; refer to Removing the Battery Pack from the Machine (page 20).

   Note: Whenever you are not using the machine, remove the battery pack.



g303233

Figure 17

Removing the Battery Pack from the Machine

1. Lift up the battery-compartment lid.
2. Press the battery-pack latch to release the battery pack and remove the battery pack.
3. Close the battery-compartment lid.

Operating Tips

General Mowing Tips

- Avoid striking solid objects with the blade. Never deliberately mow over any object.
- For best performance, install a new blade before the cutting season begins.
- Replace the blade when necessary with a Toro replacement blade.

Cutting Grass

- Grass grows at different rates at different times of the year. In the summer heat, it is best to cut grass at the 64 mm (2-1/2 inch), 76 mm (3 inch), or 89 mm (3-1/2 inch) cutting-height settings. Cut only about a third of the grass blade at a time. Do not cut below the 64 mm (2-1/2 inch) setting unless the grass is sparse or it is late fall when grass growth begins to slow down. For improved runtime, cut grass at a higher height of cut.
- When cutting grass over 15 cm (6 inches) tall, first mow at the highest cutting-height setting and a slower speed; then mow again at a lower setting for the best lawn appearance. If the grass is too long and the leaves clump on top of the lawn, the machine may plug and cause the motor to stall.
- Wet grass and leaves tend to clump on the yard and can cause the machine to plug or the motor to stall. Avoid mowing in wet conditions.
- Be aware of a potential fire hazard in very dry conditions, follow all local fire warnings, and keep the machine free of dry grass and leaf debris.
- Alternate the mowing direction. This helps disperse the clippings over the lawn for even fertilization.

If the finished lawn appearance is unsatisfactory, try 1 or more of the following:

- Sharpen the blade.
- Mow at a slower pace.
- Raise the cutting height on your machine.
- Cut the grass more frequently.
- Overlap cutting swaths instead of cutting a full swath with each pass.

Cutting Leaves

- After cutting the lawn, ensure that half of the lawn shows through the cut leaf cover. You may need to make more than a single pass over the leaves.
- If there are more than 13 cm (5 inches) of leaves on the lawn, mow at a higher cutting height and then again at the desired cutting height.
- Slow down your mowing speed if the machine does not cut the leaves finely enough.

After Operation

Charging the Battery Pack

Important: **The battery pack is not fully charged when you purchase it. Before using the tool for the first time, place the battery pack in the charger and charge it until the LED display indicates the battery pack is fully charged. Read all safety precautions.**

Important: **Charge the battery pack only in temperatures that are within the appropriate range; refer to Specifications (page 13).**

Note: At any time, press the battery-charge-indicator button on the battery pack to display the current charge (LED indicators).

1. Ensure that the vents on the battery and charger are clear of any dust and debris.

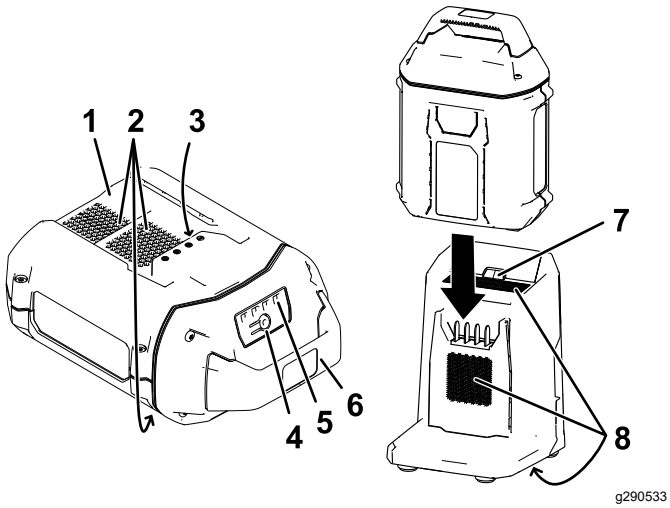


Figure 18

1. Battery pack cavity
2. Battery pack venting areas
3. Battery pack terminals
4. Battery-charge-indicator button
5. LED indicators (current charge)
6. Handle
7. Charger LED indicator light
8. Charger venting areas

2. Line up the cavity in the battery pack (Figure 18) with the tongue on the charger.
3. Slide the battery pack into the charger until it is fully seated (Figure 18).
4. To remove the battery pack, slide the battery backward out of the charger.
5. Refer to the following table to interpret the LED indicator light on the battery charger.

Indicator light	Indicates
Off	No battery pack inserted
Green blinking	Battery pack is charging
Green	Battery pack is charged
Red	Battery pack and/or battery charger is over or under the appropriate temperature range
Red blinking	Battery pack charging fault*

*Refer to Troubleshooting (page 27) for more information.

Important: **The battery can be left on the charger for short periods between uses.**

If the battery will not be used for longer periods, remove the battery from the charger; refer to Storage (page 26).

Cleaning under the Machine

Service Interval: After each use

To ensure the best performance, keep the underside of the machine clean and clean under the machine soon after you have completed mowing. Be especially careful to keep the kickers free of debris (Figure 19).

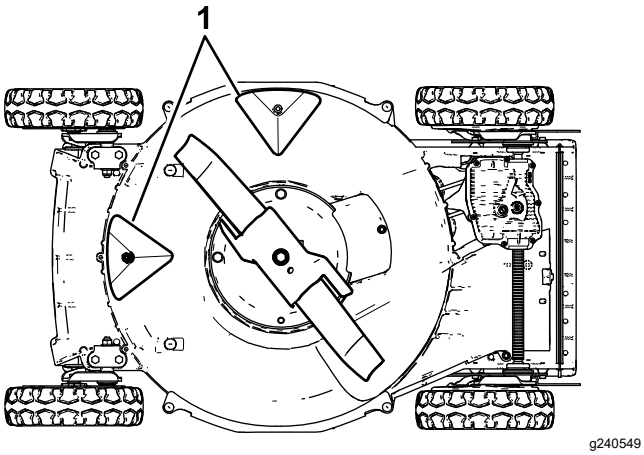


Figure 19

1. Kickers

Washing Method

Service Interval: After each use

⚠ WARNING

The machine may dislodge material from under the machine.

- **Wear eye protection.**
- **Stay in the operating position (behind the handle) while the machine is running.**
- **Do not allow bystanders in the area.**

1. Lower the machine to its lowest cutting-height setting.
2. Move the machine to a paved level surface.
3. Turn on the machine and engage the blade.
4. Hold a garden hose at handle level and spray a stream of water in front of the **right**, rear wheel (Figure 20).

   Note: The water will splash into the path of the blade, cleaning out the clippings.

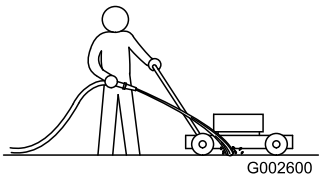


Figure 20

1. Right, rear wheel

5. When no more clippings come out, stop the water and move the machine to a dry area.
6. Run the motor for a few minutes to dry the underside of the machine.

Scraping Method

If washing does not remove all debris from under the machine, scrape it clean.

1. Shut off the machine and wait for all moving parts to stop.
2. Remove the electric-start button and the battery from the machine.
3. Tip the machine onto its side.
4. Remove the dirt and grass clippings with a scraper. Avoid contacting any burrs or sharp edges.
5. Return the machine to the operating position.

Maintenance

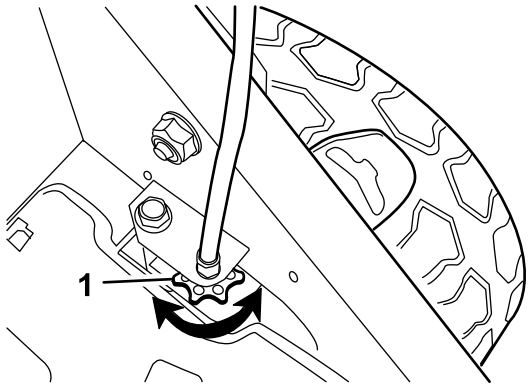
Adjusting the Self-Propel Drive

If the machine is new, does not self-propel, or it tends to creep forward, adjust the drive cable.

1. Move the machine outside and onto a paved surface near a solid wall to safely prevent the machine from moving forward while the motor is turned on.
2. Position the machine with the front tires against the wall.

   Note: Ensure that the area is well ventilated and clear of debris that could be thrown by the machine.
3. Start the motor; refer to Starting the Machine (page 16).
4. Pull the self-propel-drive bar to the handle.

   Note: The wheels should start to turn as the self-propel-drive bar just touches the handle.
5. Shut off the motor.
6. If you must adjust the machine, do the following:
   - If the wheels do not spin when you engage the self-propel-drive bar, the traction belt is too loose. Rotate the wheel-drive-control knob (Figure 21) clockwise 1 turn and repeat steps 3 through 5.



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g024465

Figure 21

1. Wheel-drive-control knob

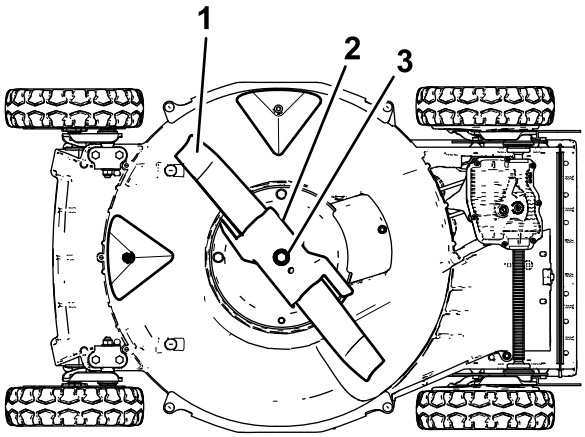
   - If the wheels spin before you fully engage the self-propel-drive bar, the traction belt is too tight. Rotate the wheel-drive-control knob (Figure 21) counterclockwise 1 turn and repeat steps 3 through 5.
7. For a new traction belt, rotate the drive-cable-adjustment knob clockwise 1 additional turn to allow for the normal stretching of the belt during the break-in period.

   Note: You can skip this step if you are adjusting a used belt.

Maintaining the Blade

Always mow with a sharp blade. A sharp blade cuts cleanly and without tearing or shredding the grass blades.

1. Shut off the machine and wait for all moving parts to stop.
2. Remove the battery pack; refer to Removing the Battery Pack from the Machine (page 20).
3. Tip the machine onto its side as shown in Figure 22.



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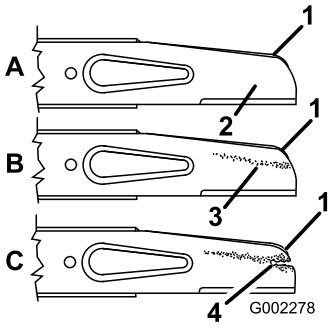
Figure 22

1. Blade
2. Accelerator
3. Blade bolt and lock washer

Inspecting the Blade

Service Interval: Before each use or daily—Inspect the mower blades for wear or damage.

Carefully examine the blade for sharpness and wear, especially where the flat and the curved parts meet (Figure 23A). Because sand and abrasive material can wear away the metal that connects the flat and curved parts of the blade, check the blade before using the machine. If you notice a slot or wear (Figure 23B and Figure 23C), replace the blade; refer to Removing the Blade (page 24).



g002278

Figure 23

1. Sail
2. Flat part of the blade
3. Wear
4. Slot formed

Note: For the best performance, install a new blade before the mowing season begins. During the year, file down any small nicks to maintain the cutting edge.

⚠ DANGER

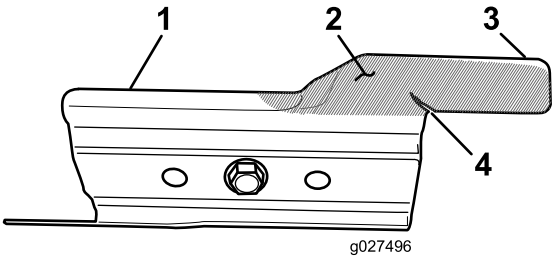
A worn or damaged blade can break, and a piece of the blade could be thrown toward you or bystanders, resulting in serious personal injury or death.

- **Inspect the blade periodically for wear or damage.**
- **Replace a worn or damaged blade.**

Inspecting the Accelerator

Service Interval: Before each use or daily—Inspect the accelerator for wear or damage.

Carefully examine the accelerator for excessive wear (Figure 24). Because sand and abrasive material can wear away the metal (especially in the area shown as item 2 in Figure 24), check the accelerator before using the machine. If you notice that a tab on the accelerator has been worn down to a sharp edge or there is a crack, replace the accelerator.



g027496

Figure 24

1. Accelerator
2. Wear area
3. Tab
4. Crack formed

⚠ WARNING

A worn or damaged accelerator can break, and a piece of the accelerator could be thrown at you or bystanders, resulting in serious personal injury or death.

- **Inspect the accelerator periodically for wear or damage.**
- **Replace a worn or damaged accelerator.**

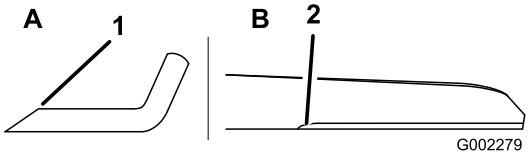
Removing the Blade

1. Grasp the end of the blade using a rag or a thickly padded glove.
2. Remove the blade bolt, the lock washer, the accelerator, and the blade (Figure 23).

Sharpening the Blade

Service Interval: Every 50 hours—Sharpen or replace the blade. Maintain it more frequently if the edge dulls quickly in rough or in sandy conditions.

File the top side of the blade to maintain its original cutting angle (Figure 25A) and inner cutting edge radius (Figure 25B). The blade will remain balanced if you remove the same amount of material from both cutting edges.



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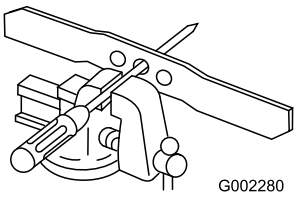
Figure 25

1. Sharpen the blade at this angle only.
2. Maintain the original radius here.

Balancing the Blade

1. Check the balance of the blade by placing the center hole of the blade over a nail or

screwdriver shank clamped horizontally in a vise (Figure 26).



g002280

Figure 26

Note: You can also check the balance using a commercially manufactured blade balancer.

2. If either end of the blade rotates downward, file that end (not the cutting edge or the end near the cutting edge) until neither end of the blade drops.

Installing the Blade

1. Install a sharp, balanced Toro blade, the accelerator, the lock washer, and the blade bolt. The sail of the blade must point toward the top of the mower housing for proper installation.

   Note: Torque the blade bolt to 82 N·m (60 ft-lb).

   ⚠ WARNING

   Operating the machine without the accelerator in place can cause the blade to flex, bend, or break, resulting in serious injury or death to you or to bystanders.

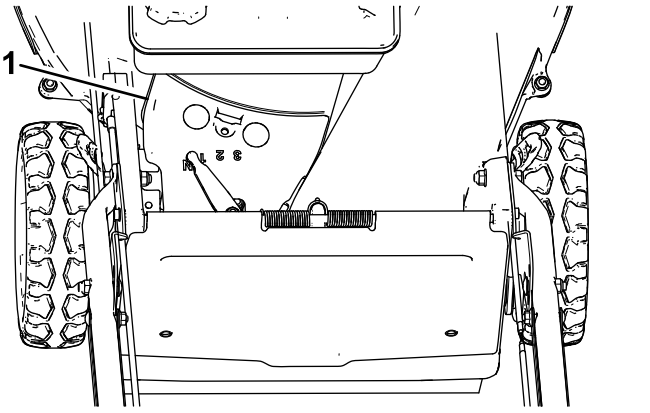
   Do not operate the machine without the accelerator in place.

2. Return the machine to the operating position.

Cleaning under the Belt Cover

Service Interval: Every 50 hours—Remove grass clippings and debris from under the belt cover.

1. Shut off the machine and wait for all moving parts to stop.
2. Remove the battery pack; refer to Removing the Battery Pack from the Machine (page 20).
3. Remove the belt cover (Figure 27) from the mower housing.



g024255

Figure 27

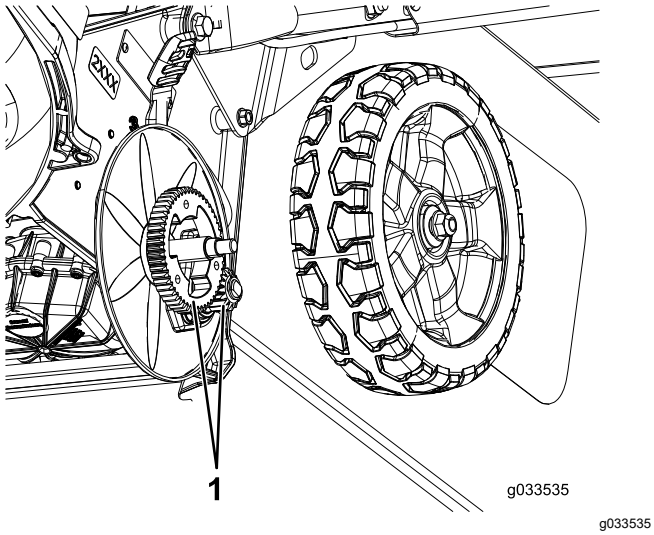
1. Belt cover

4. Lift off the cover and brush out all the debris around the belt area.
5. Install the belt cover.

Cleaning the Wheels

Service Interval: Every 40 hours

1. Remove the rear wheels and clean any debris from the wheel-gear area.



g033535

Figure 28

1. Gears

2. After cleaning, apply a small amount of anti-seize compound to the gears.

Note: If you operate the machine in extreme conditions, cleaning the wheels more frequently than recommended will increase gear life.

Note: To prevent damage to the bearing seals, do not use a high-pressure water spray on the bearings.

Preparing the Battery Pack for Recycling

Important: **Upon removal, cover the terminals of the battery pack with heavy-duty adhesive tape. Do not attempt to destroy or disassemble the battery pack or remove any of its components.**

RECYCLE RBRC Li-ion 1.800.822.8837	Lithium-ion battery packs labeled with the Call2Recycle seal can be recycled at any participating retailer or battery recycling facility in the Call2Recycle program (US and Canada only). To locate a participating retailer or facility closest to you, please call 1-800-822-8837 or visit www.call2recycle.org. If you cannot locate a participating retailer or facility nearby, or if your rechargeable battery is not labeled with the Call2Recycle seal, please contact your local municipality for more information on how to responsibly recycle the battery. If you are located outside of the US and Canada, please contact your authorized Toro distributor.

Storage

To prepare the machine for off-season storage, perform the recommended maintenance procedures; refer to Maintenance (page 23).

Always shut off the machine, remove the battery pack, and wait for all moving parts to stop before adjusting, servicing, cleaning, or storing it.

Store the machine in a cool, clean, dry place. Cover the machine to keep it clean and protected.

Important: **Store the machine, battery pack, and charger only in temperatures that are within the appropriate range; refer to Specifications (page 13).**

Important: **If you are storing the battery pack for the off-season, charge it until 2 or 3 LED indicators turn green on the battery. Do not store a fully charged or fully depleted battery. When you are ready to use the machine again, charge the battery pack until the left indicator light turns green on the charger or all 4 LED indicators turn green on the battery.**

1. Disconnect the machine from the power supply (i.e., remove the battery pack) and check for damage after use.
2. Do not store the machine with the battery pack installed.
3. Store the machine, battery pack, and battery charger in an enclosed, clean, dry well-ventilated place that is inaccessible to children.
4. Keep the machine, battery pack, and battery charger away from corrosive agents such as garden chemicals and de-icing salts.
5. To reduce the risk of serious personal injury, do not store the battery pack outside or in vehicles.
6. Remove grass clippings, dirt, and grime from the external parts of the motor, the shrouding, and the top of the mower housing.
7. Clean under the machine; refer to Cleaning under the Machine (page 22).
8. Check the condition of the blade; refer to Inspecting the Blade (page 24).
9. Check the condition of the accelerator; refer to Inspecting the Accelerator (page 24).
10. Tighten all nuts, bolts, and screws.
11. Touch up all rusted or chipped paint surfaces with paint available from an Authorized Service Dealer.

Troubleshooting

Perform only the steps described in these instructions. All further inspection, maintenance, and repair work must be performed by an authorized service center or a similarly qualified specialist if you cannot solve the problem yourself.

Problem	Possible Cause	Corrective Action
The machine does not start.	1. The battery is not fully installed in the machine. 2. The battery pack is not charged. 3. The battery pack is damaged. 4. There is another electrical problem with the machine.	1. Remove and then replace the battery into the machine, making sure that it is fully installed and latched. 2. Remove the battery pack from the machine and charge it. 3. Replace the battery pack. 4. Contact an Authorized Service Dealer.
The machine does not run or does not run continuously.	1. There is moisture on the leads of the battery pack. 2. The battery is not fully installed into the tool.	1. Allow the battery pack to dry or wipe it dry. 2. Remove and then replace the battery into the tool making sure that it is fully installed and latched.
The machine does not reach full power.	1. The battery pack charge capacity is too low. 2. The battery air vents are blocked.	1. Remove the battery pack from the machine and fully charge the battery pack. 2. Clean the air vents.
The battery pack loses charge quickly.	1. The battery pack is over or under the appropriate temperature range. 2. The machine is overloaded	1. Move the battery pack to a place where it is dry and the temperature is between 5°C (41°F) and 40°C (104°F). 2. Cut the grass at a higher height of cut or walk at a slower pace while mowing.
The battery charger is not working.	1. The battery charger is over or under the appropriate temperature range. 2. The outlet that the battery charger is plugged into does not have power.	1. Unplug the battery charger and move it to a place where it is dry and the temperature is between 5°C (41°F) and 40°C (104°F). 2. Contact your licensed electrician to repair the outlet.
The machine does not self-propel.	1. The self-propel drive cable is out of adjustment or is damaged.	1. Adjust the self-propel drive cable. Replace the cable if necessary.
The LED indicator light on the battery charger is red.	1. The battery charger and/or battery pack is over or under the appropriate temperature range.	1. Unplug the battery charger and move the battery charger and battery pack to a place where it is dry and the temperature is between 5°C (41°F) and 40°C (104°F).

Problem	Possible Cause	Corrective Action
The LED indicator light on the battery charger is blinking red.	1. There is an error in the communication between the battery pack and the charger.	1. Remove the battery pack from the battery charger, unplug the battery charger from the outlet, and wait 10 seconds. Plug the battery charger into the outlet again and place the battery pack on the battery charger. If the LED indicator light on the battery charger is still blinking red, repeat this procedure again. If the LED indicator light on the battery charger is still blinking red after 2 attempts, properly dispose of the battery pack at a battery recycling facility.
	2. The battery pack is weak.	2. Contact your Authorized Service Dealer if the battery is in warranty, or properly dispose of the battery pack at a battery recycling facility.
The machine is producing a beeping sound.	1. The battery pack is not charged.	1. Remove the battery pack from the machine and charge it.
	2. The machine is in an unsafe position for operation.	2. Ensure that the machine is not at an extreme angle while operating.
	3. The machine is overloaded.	3. Cut the grass at a higher height of cut or walk at a slower pace while mowing.
	4. There is another electrical problem with the machine.	4. Attempt the other troubleshooting actions, if the alarm still sounds, contact an Authorized Service Dealer.
The quality of cut is decreased or unsatisfactory.	1. The blade is dull.	1. Have the blade sharpened or replaced.
	2. The cutting deck has debris buildup.	2. Clean under the machine.
The bagging is decreased or unsatisfactory.	1. The machine is overloaded.	1. Cut the grass at a higher height of cut.
	2. The bag has debris buildup.	2. Clean the inside of the bag of any dust or debris.
The machine is cutting unevenly.	1. The blade is dull.	1. Have the blade sharpened or replaced.
	2. The cutting deck is damaged.	2. Contact an Authorized Service Dealer.
The machine is vibrating.	1. The blade is bent or damaged.	1. Inspect the blade and replace if necessary.

Notes:

Notes:

California Proposition 65 Warning Information

What is this warning?

You may see a product for sale that has a warning label like the following:



WARNING: Cancer and Reproductive Harm—www.p65Warnings.ca.gov.

What is Prop 65?

Prop 65 applies to any company operating in California, selling products in California, or manufacturing products that may be sold in or brought into California. It mandates that the Governor of California maintain and publish a list of chemicals known to cause cancer, birth defects, and/or other reproductive harm. The list, which is updated annually, includes hundreds of chemicals found in many everyday items. The purpose of Prop 65 is to inform the public about exposure to these chemicals.

Prop 65 does not ban the sale of products containing these chemicals but instead requires warnings on any product, product packaging, or literature with the product. Moreover, a Prop 65 warning does not mean that a product is in violation of any product safety standards or requirements. In fact, the California government has clarified that a Prop 65 warning "is not the same as a regulatory decision that a product is 'safe' or 'unsafe.'" Many of these chemicals have been used in everyday products for years without documented harm. For more information, go to https://oag.ca.gov/prop65/faqs-view-all.

A Prop 65 warning means that a company has either (1) evaluated the exposure and has concluded that it exceeds the "no significant risk level"; or (2) has chosen to provide a warning based on its understanding about the presence of a listed chemical without attempting to evaluate the exposure.

Does this law apply everywhere?

Prop 65 warnings are required under California law only. These warnings are seen throughout California in a wide range of settings, including but not limited to restaurants, grocery stores, hotels, schools, and hospitals, and on a wide variety of products. Additionally, some online and mail order retailers provide Prop 65 warnings on their websites or in catalogs.

How do the California warnings compare to federal limits?

Prop 65 standards are often more stringent than federal and international standards. There are various substances that require a Prop 65 warning at levels that are far lower than federal action limits. For example, the Prop 65 standard for warnings for lead is 0.5 µg/day, which is well below the federal and international standards.

Why don't all similar products carry the warning?

- Products sold in California require Prop 65 labelling while similar products sold elsewhere do not.
- A company involved in a Prop 65 lawsuit reaching a settlement may be required to use Prop 65 warnings for its products, but other companies making similar products may have no such requirement.
- The enforcement of Prop 65 is inconsistent.
- Companies may elect not to provide warnings because they conclude that they are not required to do so under Prop 65; a lack of warnings for a product does not mean that the product is free of listed chemicals at similar levels.

Why does Toro include this warning?

Toro has chosen to provide consumers with as much information as possible so that they can make informed decisions about the products they buy and use. Toro provides warnings in certain cases based on its knowledge of the presence of one or more listed chemicals without evaluating the level of exposure, as not all the listed chemicals provide exposure limit requirements. While the exposure from Toro products may be negligible or well within the "no significant risk" range, out of an abundance of caution, Toro has elected to provide the Prop 65 warnings. Moreover, if Toro does not provide these warnings, it could be sued by the State of California or by private parties seeking to enforce Prop 65 and subject to substantial penalties.



Count on it.