Form No. 3474-670 Rev B

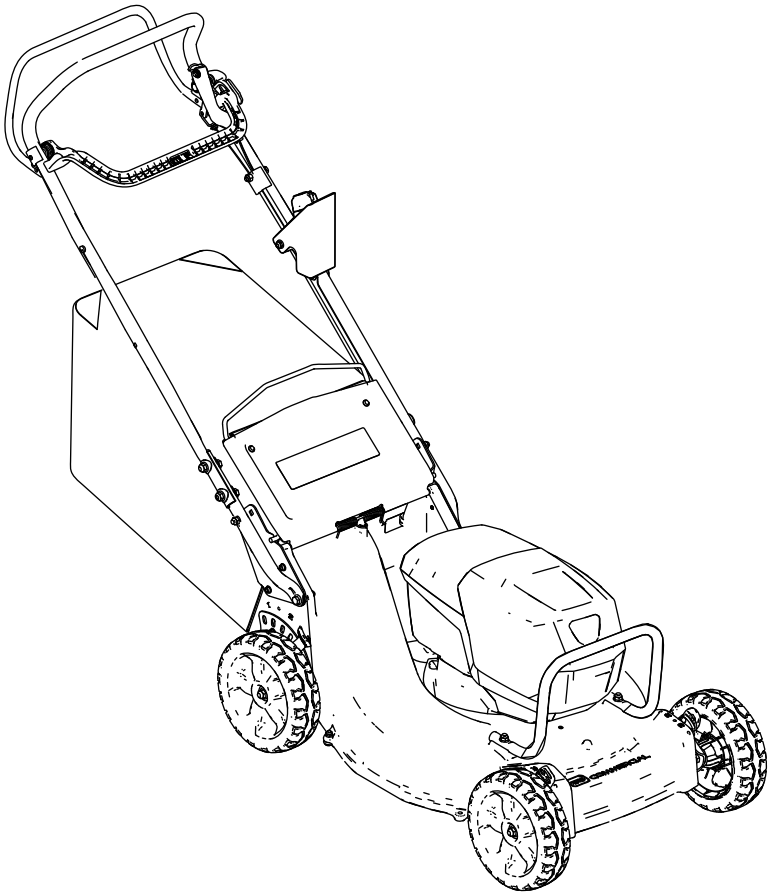
TORO®

Count on it.

Operator's Manual

53cm Heavy-Duty 60V Recycler®/Rear Bagger Lawn Mower

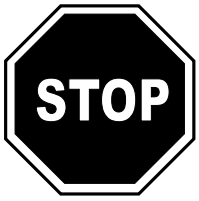
Model No. 22276—Serial No. 415200000 and Up



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

CE UK CA

3474-670

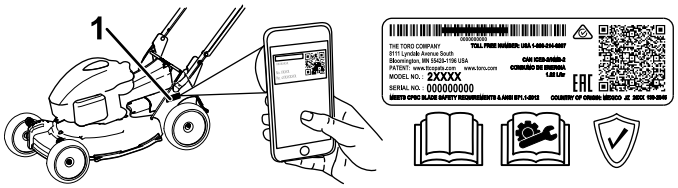


For assistance, please see www.Toro.com/support for instructional resources or contact your authorized Toro distributor before returning this product.

Do not tamper with or disable safety devices on the machine, and check their proper operation regularly. Do not attempt to adjust or tamper with the motor speed control; doing so may create an unsafe operating condition, resulting in personal injury.

This product complies with all relevant European directives; for details, please see the separate product specific Declaration of Conformity (DOC) sheet.

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. _____

Introduction

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

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

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 the manufacturer parts, or additional information, contact an Authorized Service Dealer or the manufacturer 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.

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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Safety

General Machine Safety Warnings

⚠ WARNING

Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) tool.

1. **Work area safety**
   - A. **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
   - B. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gasses or dust.** Power tools create sparks which may ignite the dust or fumes.
   - C. **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.
2. **Electrical safety**
   - A. **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
   - B. **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
   - C. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
   - D. **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
   - E. **When operating a power tool outdoors, use an extension cord suitable for**

outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

F. **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

3. **Personal safety**

A. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.

B. **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or, or hearing protection used for appropriate conditions will reduce personal injuries.

C. **Prevent unintentional starting. Ensure the switch is in the OFF position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.

D. **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

E. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.

F. **Dress properly. Do not wear loose clothing or jewelry. Keep your hair and clothing away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.

G. **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

H. **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

4. **Power tool use and care**

A. **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.

B. **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

C. **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventative safety measures reduce the risk of starting the power tool accidentally.

D. **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.

E. **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.

F. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

G. **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

H. **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

5. **Battery tool use and care**

   A. **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.

   B. **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.

   C. **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.

   D. **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.

   E. **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.

   F. **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire temperature above 130°C (265°F) may cause an explosion.

   G. **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

6. **Service**

   A. **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

   B. **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.

Lawn Mower Safety Warnings

- **Do not operate the lawn mower in rain or wet conditions.** This may increase the risk of electric shock.
- **Do not use the lawn mower in bad weather conditions, especially when there is a risk of lightning.** This decreases the risk of being struck by lightning.
- **Thoroughly inspect the area for wildlife where the lawn mower is to be used.** Wildlife may be injured by the lawn mower during operation.
- **Thoroughly inspect the area where the lawn mower is to be used and remove all stones, sticks, wires, bones, and other foreign objects.** Thrown objects can cause personal injury.
- **Before using the lawn mower, always visually inspect to see that the blade and the blade assembly are not worn or damaged.** Worn or damaged parts increase the risk of injury.
- **Check the grass catcher frequently for wear or deterioration.** A worn or damaged grass collector may increase the risk of personal injury.
- **Keep guards in place. Guards must be in working order and be properly mounted.** A guard that is loose, damaged, or is not functioning correctly may result in personal injury.
- **Keep all cooling air inlets clear of debris.** Blocked air inlets and debris may result in overheating or risk of fire.
- **While operating the lawn mower, always wear non-slip and protective footwear. Do not operate the lawn mower when barefoot or wearing open sandals.** This reduces the chance of injury to the feet from contact with the moving blade.
- **While operating the lawn mower, always wear long trousers.** Exposed skin increases the likelihood of injury from thrown objects.
- **Do not operate the lawn mower in wet grass. Walk, never run.** This reduces the risk of slipping and falling which may result in personal injury.
- **Do not operate the lawn mower on excessively steep slopes.** This reduces the risk of loss of control, slipping and falling which may result in personal injury.
- **When working on slopes, always be sure of your footing, always work across the face of slopes, never up or down and exercise extreme caution when changing direction.** This reduces the risk of loss of control, slipping and falling which may result in personal injury.
- **Use extreme caution when reversing or pulling the lawn mower towards you. Always be aware**

of your surroundings. This reduces the risk of tripping during operation.

- **Do not touch blades and other hazardous moving parts while they are still in motion.** This reduces the risk of injury from moving parts.
- **When clearing jammed material or cleaning the lawn mower, make sure all power switches are off and the battery pack is disconnected.** Unexpected operation of the lawn mower may result in serious personal injury.

Additional Safety Warnings

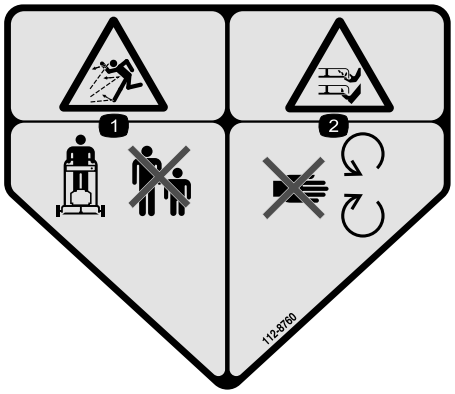
1. **Training**
   - The operator of the machine is responsible for any accidents or hazards occurring to others or their property.
   - Do not allow children to use or play with the machine, battery pack, or the battery charger; local regulations may restrict the age of the operator.
   - Do not allow people with reduced physical, sensory, or mental capabilities or without experience and knowledge to use the machine, battery pack, or battery charger unless they receive instruction or supervision on using it safely and understand the hazards involved while using it.
   - Before using the battery pack and battery charger, read all the instructions and cautionary markings on these products.
2. **Preparation**
   - Replace any damaged or unreadable labels.
   - Use only the battery pack specified by Toro. Using other accessories and attachments may increase the risk of injury and fire.
   - Plugging the battery charger into an outlet that is not of the proper voltage can cause a fire or electric shock. For a different style of connection, use an attachment plug adapter of the proper configuration for the power outlet if needed.
   - 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.
   - If the supply cord to the battery charger is damaged, contact an Authorized Service Dealer to replace it.
   - Do not use non-rechargeable batteries.
   - Charge the battery pack with only the battery charger specified by Toro. A charger suitable for one type of battery pack may create a risk of fire when used with another battery pack.
   - Charge the battery pack in a well-ventilated area only.
   - Do not expose a battery pack or battery charger to fire or to temperatures higher than 68°C (154°F).
   - 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.
3. **Operation**
   - Keep clear of any discharge opening.
   - Disengage the self-propel drive (if equipped) before starting the machine.
   - Prevent unintentional starting—Ensure that the electric-start button is removed from the ignition before connecting the battery pack and handling the machine.
   - Stop the machine, remove the electric-start button, remove the battery pack from the machine, and wait for all movement to stop before servicing or cleaning the machine.
   - Remove the battery pack and electric-start button from the machine whenever you leave it unattended or before changing accessories.
   - 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 gravel surfaces.
   - Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could cause you to lose your balance or footing.
   - 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.
   - Stop the machine and remove the electric-start button before loading the machine for hauling.
   - 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.
4. **Maintenance and Storage**
   - Stop the machine, remove the electric-start button, remove the battery pack from the

machine, and wait for all movement to stop before servicing or cleaning the machine.

- Do not attempt to repair the machine except as indicated in the instructions. Have an Authorized Service Dealer perform service on the machine using identical replacement parts.
- Sharpen a dull blade on both sides to maintain balance. Clean the blade and ensure that it is balanced.
- When servicing the blade, be aware that the blade can still move even though the power source is off.
- 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.
- 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.
- Unless indicated in the instructions, have an Authorized Service Dealer repair or replace a damaged guard or part.
- 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 one terminal to another. Shorting the battery terminals may cause burns or a fire.
- Check the blade and motor mounting bolts frequently for tightness.
- **CAUTION**—A mistreated battery pack may present a risk of fire or chemical burn. Do not disassemble the battery pack. Do not heat the battery pack above 68°C (154°F) or incinerate it. Replace the battery pack with a genuine Toro battery pack only; using another type of battery pack may cause a fire or explosion. Keep battery packs out of the reach of children and in the original packaging until you are ready to use them.
- Do not dispose of the battery in a fire. The cell may explode. Check with local codes for possible special disposal instructions.

Safety and Instructional Decals

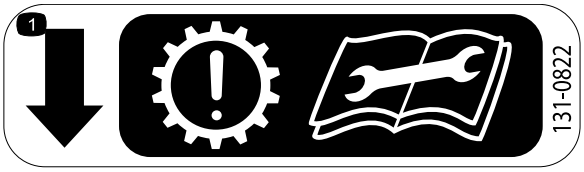
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



decal112-8760

112-8760

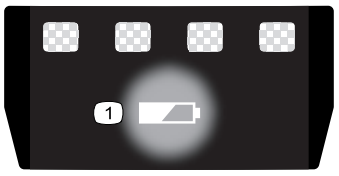
1. Thrown object hazard—keep bystanders away.
2. Cutting/dismemberment hazard of hand or foot, mower blade—stay away from moving parts.



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*.



decal137-9461

137-9461

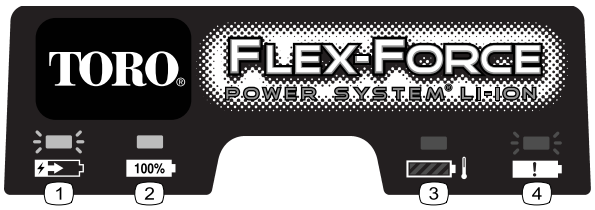
1. Battery charge status



decal140-8492

140-8492

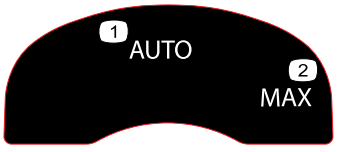
1. Keep away from open fire or flames.
2. Do not expose to rain.
3. Read the *Operator's Manual*.
4. Recycle the battery properly.
5. Contains lithium ions; do not dispose improperly.



decal145-3129

145-3129

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



decal134-4691

134-4691

1. Auto speed
2. Max speed

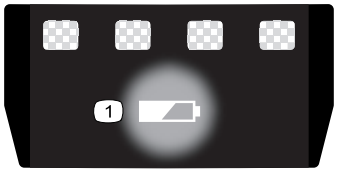
Model 81875



decal137-9490

137-9490

1. Read the *Operator's Manual*.
2. Recycle
3. Contains lithium ions; do not discard.
4. Keep away from open flames.
5. Do not expose to rain.



decal137-9461

137-9461

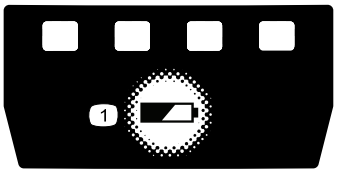
1. Battery charge status



decal161-3784

161-3784

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



decal161-3764

161-3764

1. Battery charge status



decal161-3763

161-3763

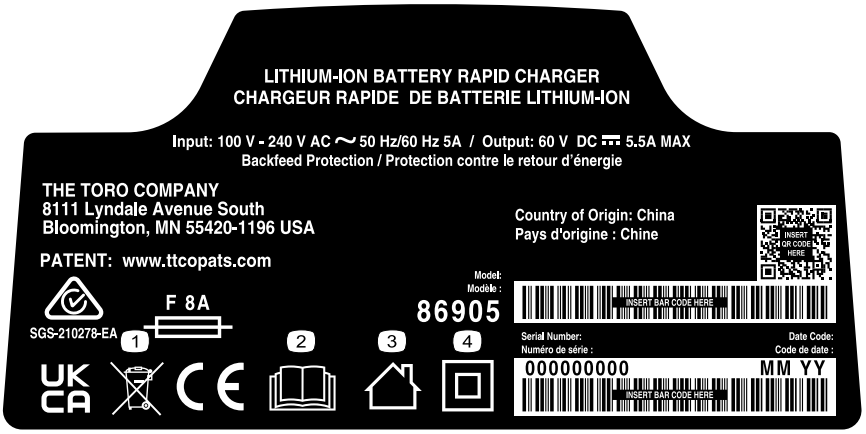
1. Battery charge status



decal145-8299

145-8299

1. Read the *Operator's Manual* .
2. High Energy Battery recycling program
3. Recycle the battery
4. Do not dispose improperly
5. Keep away from open fire or flames
6. Do not expose to rain
7. Electrical shock hazard



decal161-3783

161-3783

1. Do not dispose improperly
2. Read the *Operator's Manual*.
3. For indoor use
4. Double insulated



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.



decal116-7583

116-7583

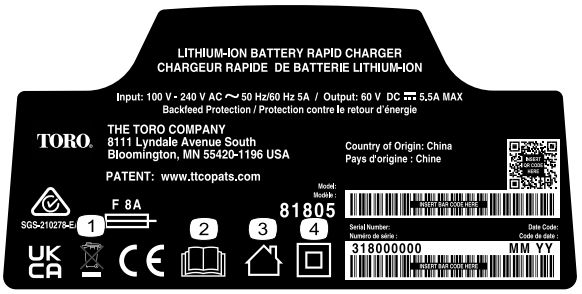
1. Warning—read the *Operator's Manual*; do not operate this machine unless you are trained.
2. Thrown object hazard—keep bystanders away.
3. Thrown object hazard—do not operate the mower without the rear discharge plug or bag in place.
4. Cutting/dismemberment hazard of hand or foot, mower blade—stay 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 engine before leaving the machine; pick up any debris before mowing; look behind you when moving in reverse.



decal137-9496

137-9496

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



decal144-6035

144-6035

1. Do not dispose improperly
2. Read the *Operator's Manual*.
3. For indoor use
4. Double insulated



decal161-3755

161-3755

1. Read the *Operator's Manual* .
2. High Energy Battery recycling program
3. Recycle the battery
4. Do not dispose improperly
5. Keep away from open fire or flames
6. Do not expose to rain
7. Electrical shock hazard

Setup

Loose Parts

Use the chart below to verify that all parts have been shipped.

Procedure	Description	Qty.	Use
1	Mounting hardware (not included)	2	Mount the battery charger (optional).
2	No parts required	–	Remove the cable guard.
3	Upper handle assembly Lower handle Bolt (5/16 x 1-3/4 inches) Flange locknut (5/16 inch) Curved washer	1 2 4 4 8	Assemble the lower handle.
4	No parts required	–	Install the handle.
5	No parts required	–	Install the cable guard.
6	No parts required	–	Assemble the grass bag.

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 it is purchased. Before using the machine for the first time, refer to Charging the Battery Pack (page 26).**

1

Mounting the Battery Charger (Optional)

Parts needed for this procedure:

2	Mounting hardware (not included)

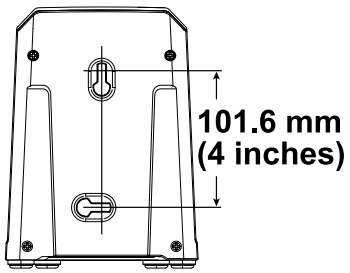
Procedure

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).



g290534

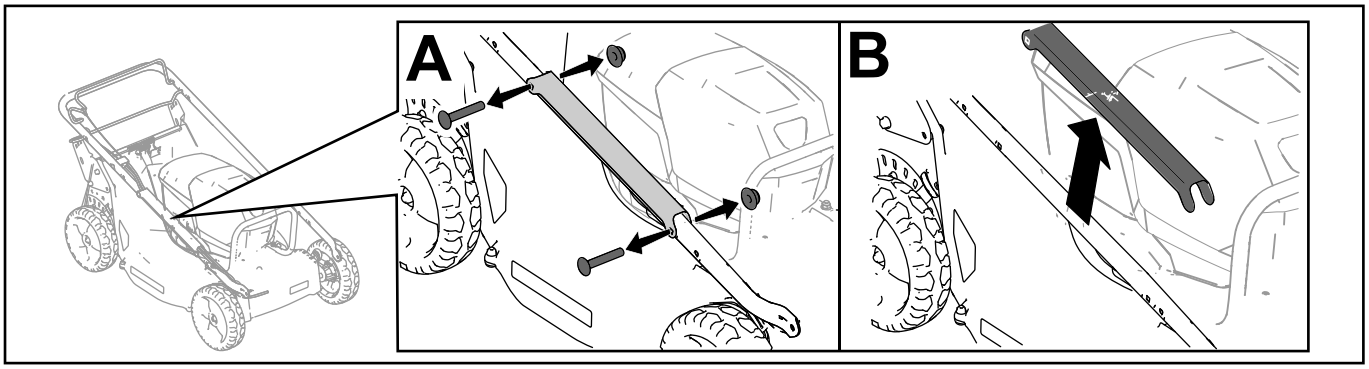
Figure 3

2

Removing the Cable Guard

No Parts Required

Procedure



g328502

Figure 4

3

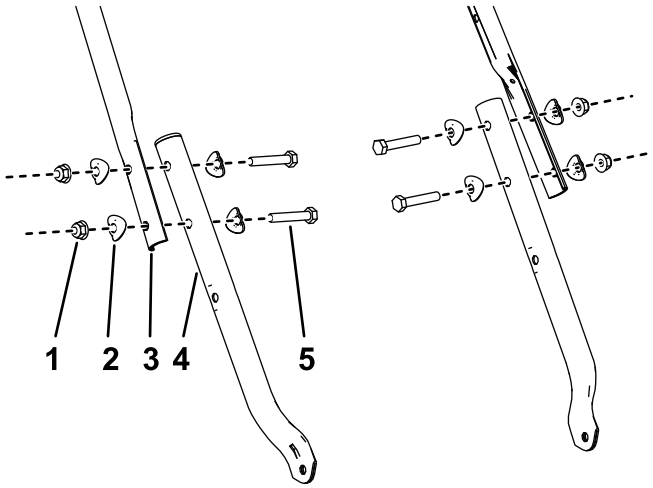
Assembling the Lower Handle

Parts needed for this procedure:

1	Upper handle assembly
2	Lower handle
4	Bolt (5/16 x 1-3/4 inches)
4	Flange locknut (5/16 inch)
8	Curved washer

Procedure

Assemble the lower handle as shown in Figure 5.



g340673

Figure 5

1. Flange locknut (5/16 inch)
2. Curved washer
3. Upper handle assembly
4. Lower handle
5. Bolt (5/16 x 1-3/4 inches)

4

Installing the Handle

No Parts Required

Procedure

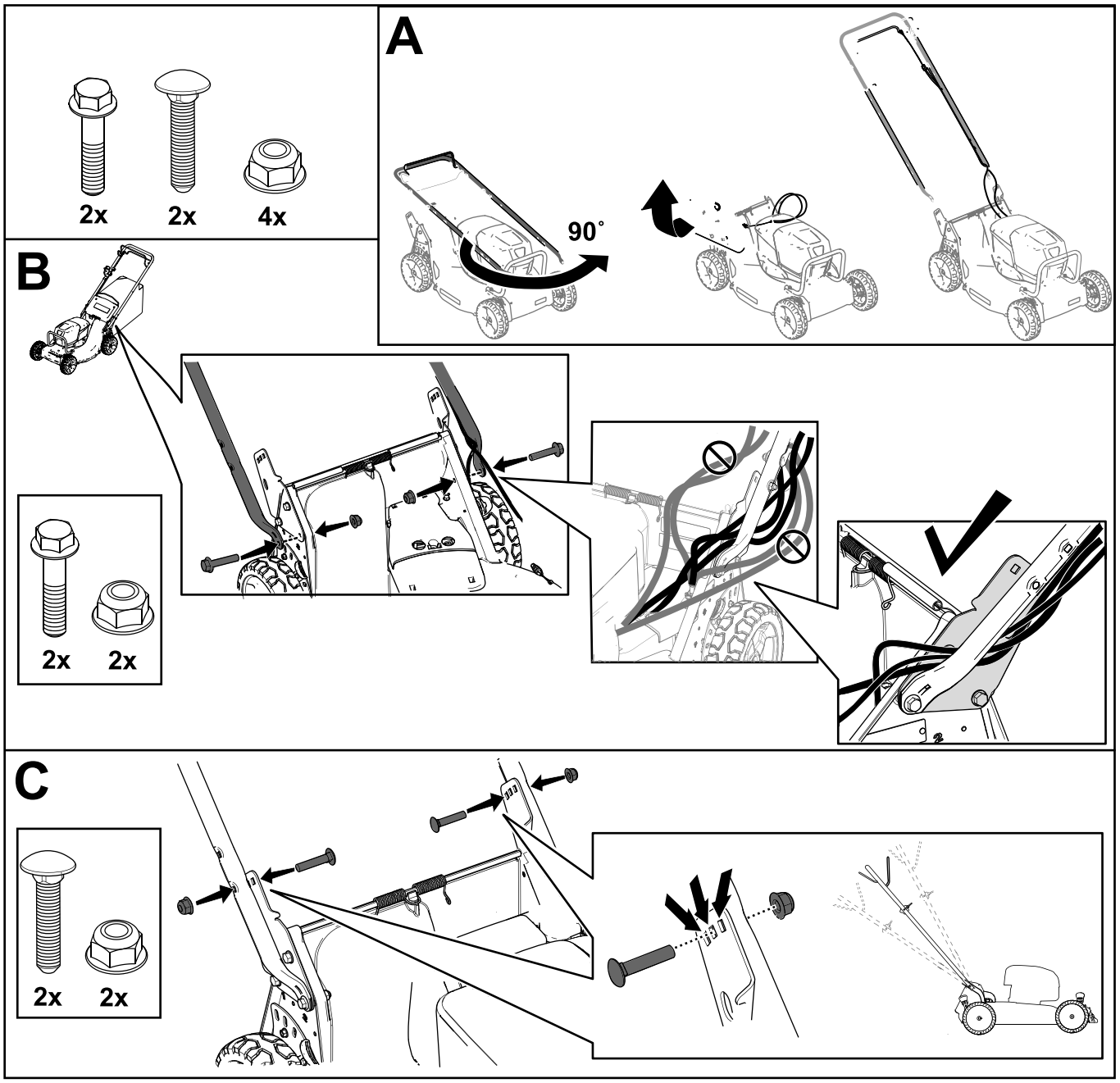


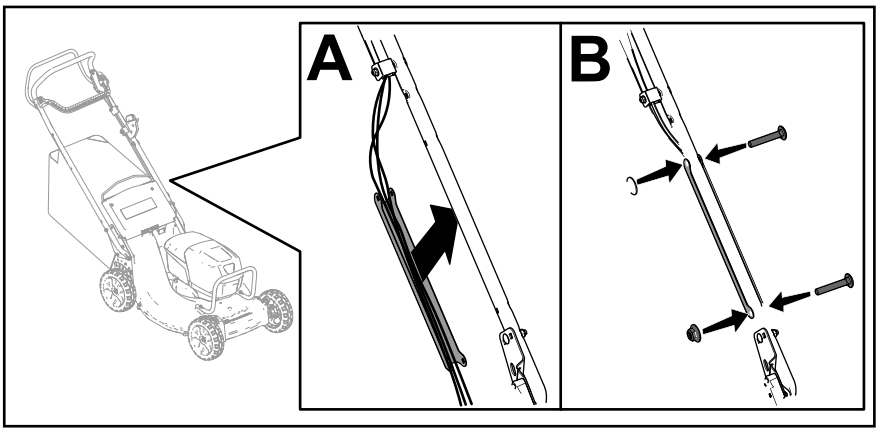
Figure 6

5

Installing the Cable Guard

No Parts Required

Procedure



g350108

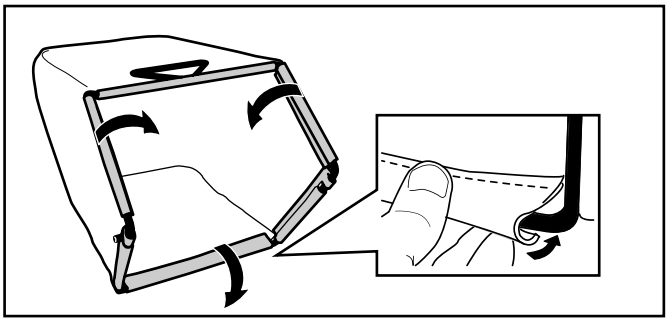
Figure 7

6

Assembling the Grass Bag

No Parts Required

Procedure



g238450

Figure 8

Product Overview

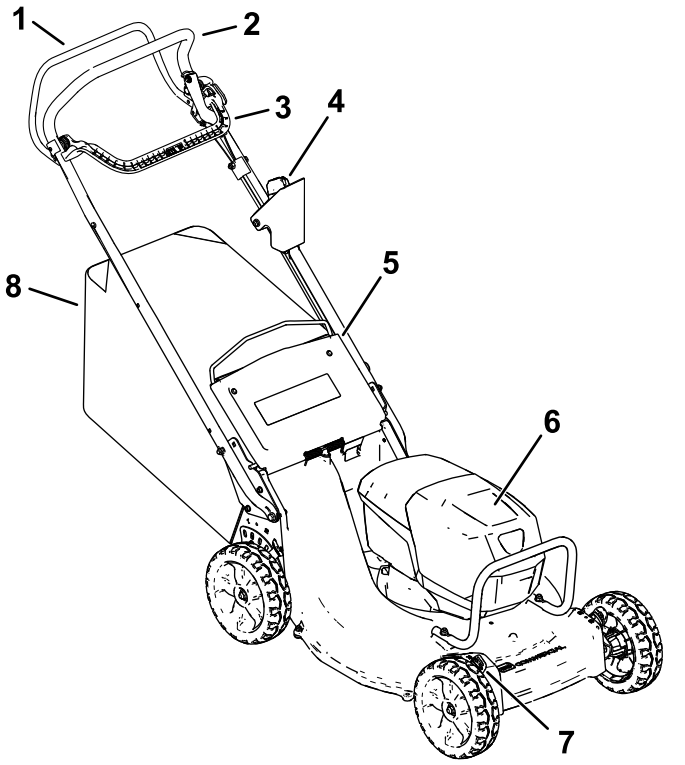


Figure 9

1. Self-propel drive bar
2. Handle
3. Blade-control bar
4. Electric-start button
5. Rear deflector
6. Battery compartment
7. Cutting-height lever (4)
8. Grass bag

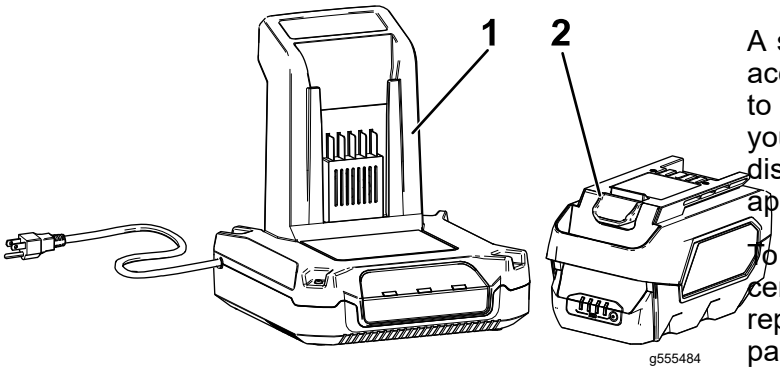


Figure 10

1. Battery charger Model 81805
2. Battery pack Model 68810 (2)

Specifications

Battery Pack

Model	**68810**
Battery pack capacity	10.0 Ah 540 Wh
Battery manufacturer rating = 60V maximum and 54V nominal. Actual voltage varies with load.	

Battery Charger

Model	**81805**
Type	60V MAX Lithium-Ion Battery Rapid Charger
Input	100 to 240V AC ~5.0A, 50/60Hz
Output	60V DC ⎓ 5.5A MAX

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 is 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.

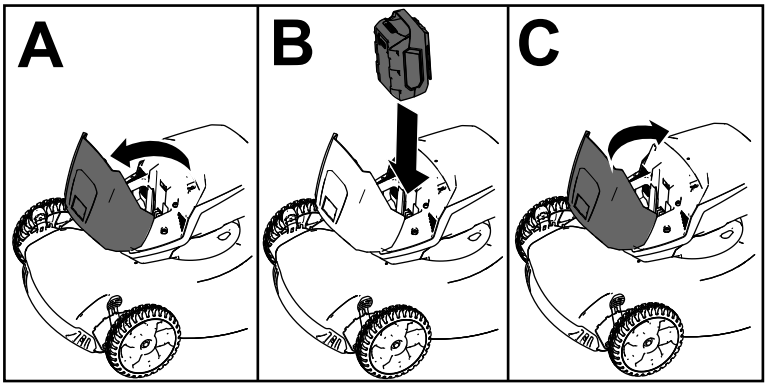
Operation

Before Operation

Installing the Battery Pack

Important: **Use the battery pack only in temperatures that are within the appropriate range; refer to Specifications (page 18).**

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 11).
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 11).
4. Close the battery-compartment lid (C of Figure 11).



g303151

Figure 11

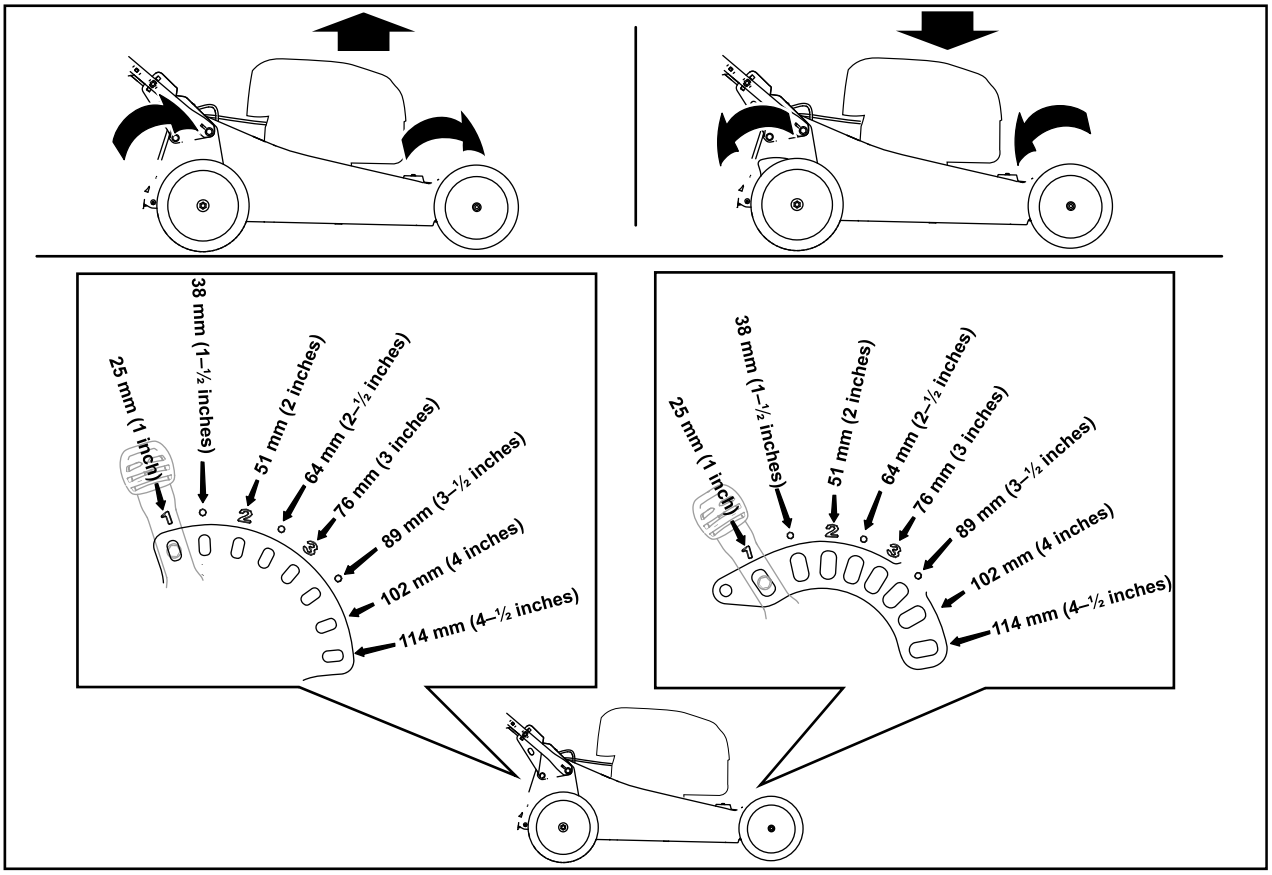
Adjusting the Cutting Height

⚠ WARNING

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

- **Shut off the motor, remove the electric-start button, 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 12).

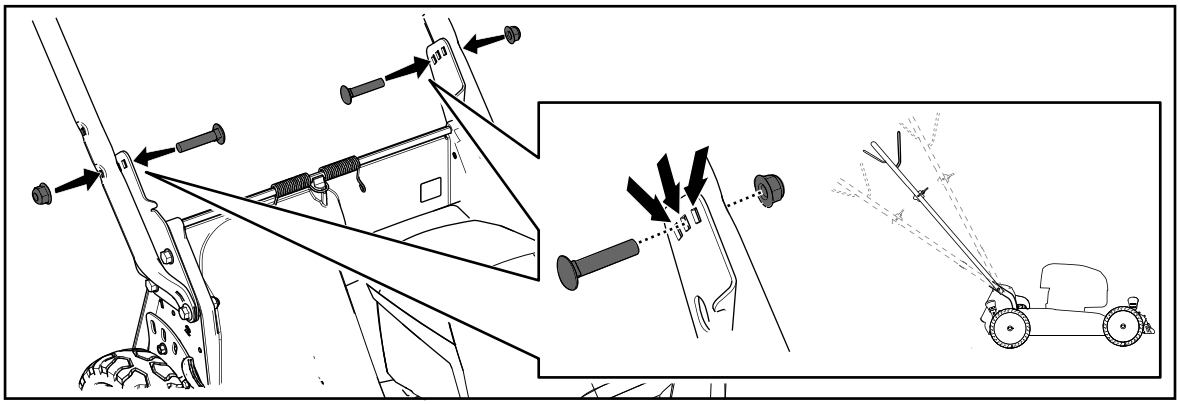


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Figure 12

Adjusting the Handle Height

You can raise or lower the handle in 1 of 3 positions that is more comfortable for you (Figure 13).



g331956

Figure 13

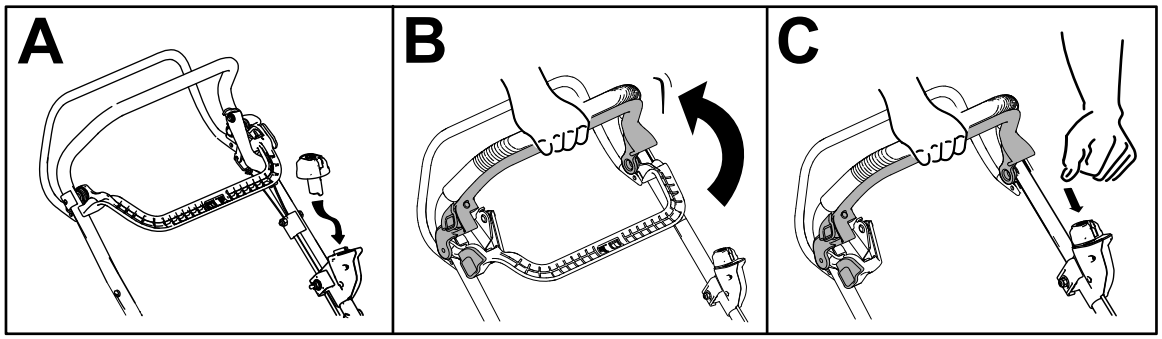
1. Remove both handle bolts and corresponding nuts.
2. Move the handle to the desired height position.
3. Secure the handle with the previously removed bolts and corresponding nuts.

During Operation

Starting the Machine

1. Ensure that the battery pack is installed in the machine; refer to Installing the Battery Pack (page 19).

   Note: If the battery-compartment lid does not close completely, the battery is not fully installed.
2. Insert the electric-start button into the electric-start switch (A of Figure 14).
3. Squeeze the blade-control bar and hold it to the handle (B of Figure 14).
4. Press the electric-start button and keep it pressed until the motor starts (C of Figure 14).



g331970

Figure 14

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 23).

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 the manufacturer replacement bag.

⚠ WARNING

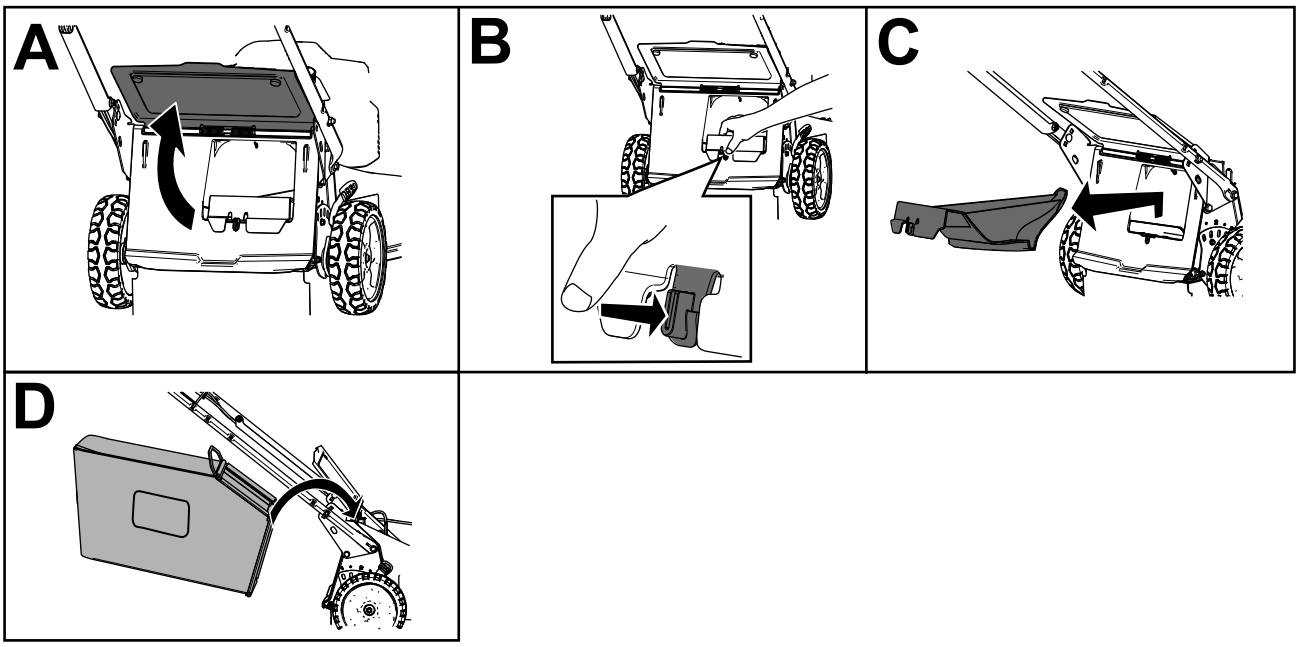
The blades are sharp; contacting the blades can result in serious personal injury.

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 15).
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 15).
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 15).

5. Lower the rear deflector until it rests on the grass bag.



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Figure 15

Removing the Grass Bag

⚠ DANGER

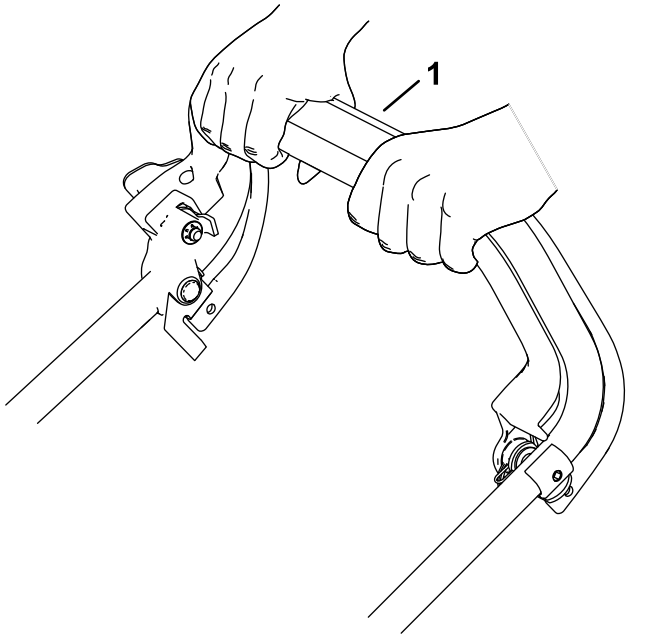
The machine can throw grass clippings and other objects through an opening in the machine housing. Objects thrown with enough force could cause serious personal injury or death to you or to bystanders.

- **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 15).
4. Install the discharge plug (B of Figure 15).
5. Lower the rear deflector (C of Figure 15).

Operating the Self-Propel Drive

To operate the self-propel drive, squeeze the self-propel drive bar toward the handle and hold it in place (Figure 16).



g331972

Figure 16

1. Self-propel-drive bar

To disengage the self-propel drive, release the self-propel-drive bar.

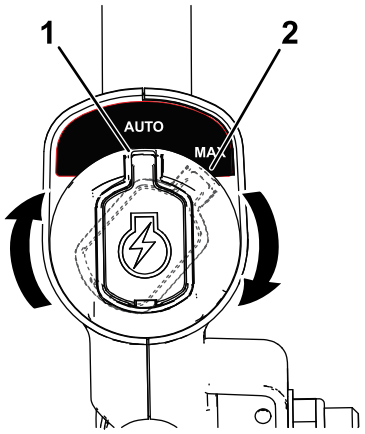
Note: The machine comes with freewheeling clutches that make it easier to pull the machine rearward. To disengage the clutches, you may need to push the machine forward about 2.5 cm (1 inch) or more after you release the self-propel-drive bar.

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 17).



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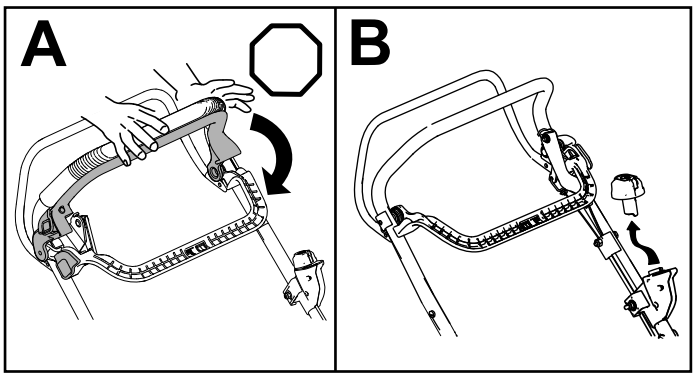
Figure 17

1. AUTO position
2. MAX position

Shutting Off the Machine

1. Release the blade-control bar (A of Figure 18).
2. Remove the electric-start button from the electric-start switch (B of Figure 18).
3. Remove the battery pack; refer to Removing the Battery Pack from the Machine (page 24).

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



g331971

Figure 18

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

- Inspect the area where you will use the machine and remove all objects that the machine could throw.
- Avoid striking solid objects with the blade. Never deliberately mow over any object.
- If the machine strikes an object or starts to vibrate, immediately shut off the motor, wait for all moving parts to stop, remove
- 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 18).**

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 and charging terminals on the battery pack and charger are clear of any dust and debris.

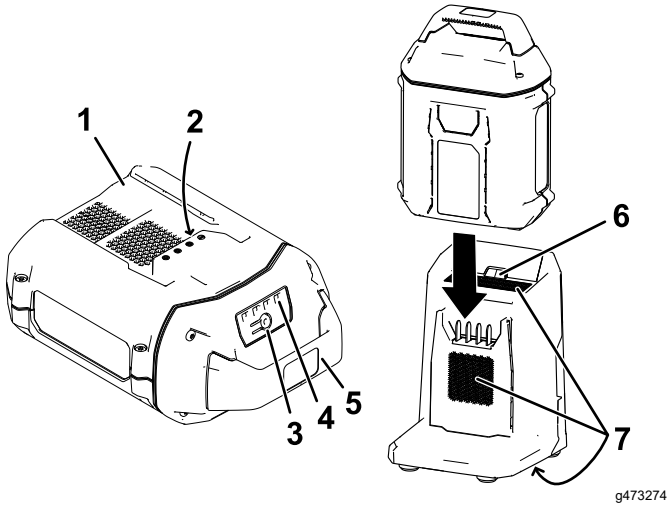


Figure 19

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

2. Line up the cavity in the battery pack (Figure 19) with the tongue on the charger.
3. Slide the battery pack into the charger until it is fully seated (Figure 19).
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 33) for more information.

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

If the battery pack will not be used for longer periods, remove the battery pack from the charger; refer to Storage (page 32).

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 20).

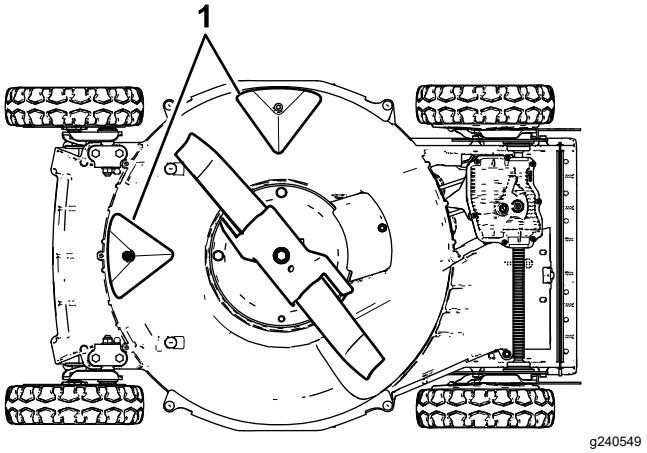


Figure 20

1. Kickers

Washing Method

⚠ 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 21).

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



g002600

Figure 21

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 any burrs or sharp edges.
5. Return the machine to the operating position.

Maintenance

Remove the electric-start button and battery pack from the machine before maintaining or cleaning the machine.

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

Use only the manufacturer's recommended replacement parts and accessories.

Inspect and maintain the machine regularly. Have the machine repaired only by an Authorized Service Dealer.

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

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 25 hours	• Tighten any loose fasteners.
Before each use or daily	• Inspect the mower blades for wear or damage. • Inspect the accelerator for wear or damage. • Check the stopping time of the blade brake. The blade must stop within 3 seconds of releasing the blade-control bar; if it does not, contact an Authorized Service Dealer for repair.
After each use	• Clean the underside of the machine.
Every 40 hours	• Clean the wheels and gears.
Every 50 hours	• Sharpen or replace the blade. Maintain it more frequently if the edge dulls quickly in rough or in sandy conditions.
Every 100 hours	• Tighten any loose fasteners.

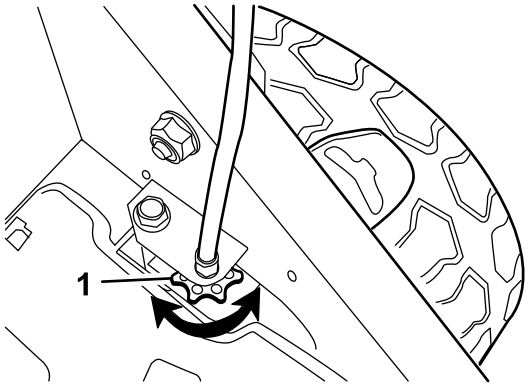
Adjusting the Self-Propel Drive

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 22).
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 22) clockwise 1 turn and repeat steps 3 through 5.



g024465

Figure 22

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 22) 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 24).
3. Tip the machine onto its side as shown in Figure 23.

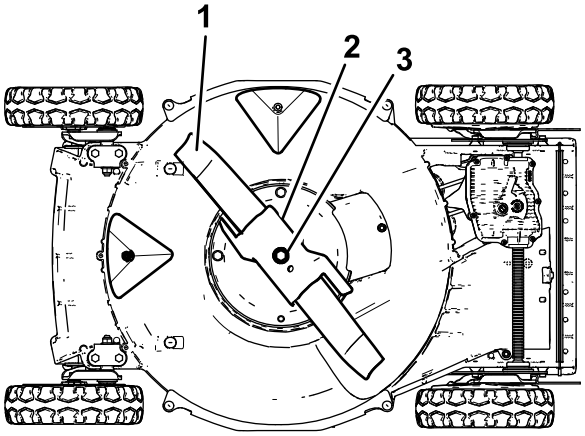


Figure 23

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 24A). 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 24B and Figure 24C), replace the blade; refer to Removing the Blade (page 30).

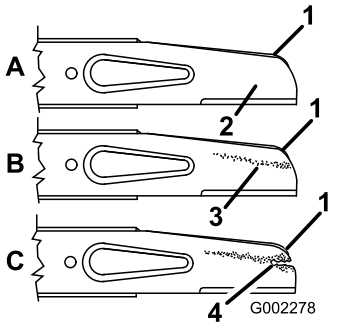


Figure 24

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 25). Because sand and abrasive material can wear away the metal (especially in the area shown as item 2 in Figure 25), 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.

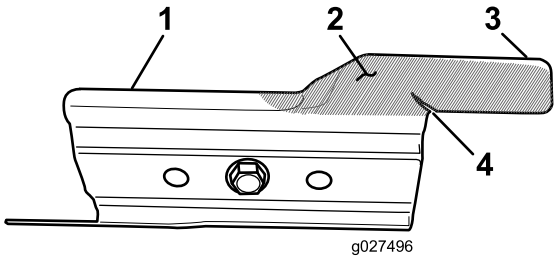


Figure 25

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 24).

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 26A) and inner cutting edge radius (Figure 26B). The blade will remain balanced if you remove the same amount of material from both cutting edges.

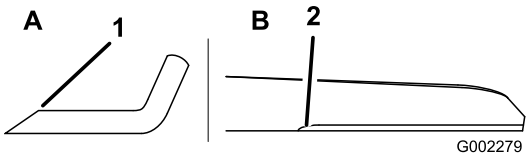


Figure 26

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 27).

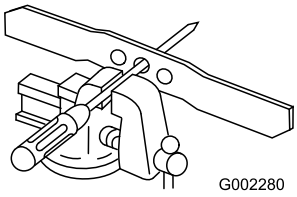


Figure 27

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.

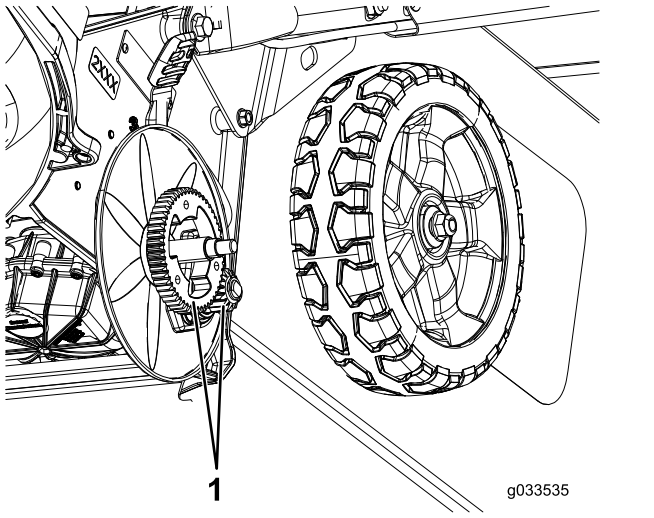
   Do not operate the machine without the accelerator in place.

2. Return the machine to the operating position.

Cleaning 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.**

Contact your local municipality or your authorized Toro distributor for more information on how to responsibly recycle the battery.

Storage

To prepare the machine for off-season storage, perform the recommended maintenance procedures; refer to Maintenance (page 28).

Always shut off the machine, wait for all moving parts to stop, and allow the machine to cool 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 18).**

Important: **If you are storing the battery pack for the off-season, charge it until 1 or 2 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 26).
8. Check the condition of the blade; refer to Inspecting the Blade (page 29).
9. Check the condition of the accelerator; refer to Inspecting the Accelerator (page 29).
10. Tighten all nuts, bolts, and screws.
11. Touch up all rusted or chipped paint surfaces with paint available from an authorized Toro distributor.

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 packs are not fully installed in the machine. 2. The battery packs are not charged. 3. The battery packs are damaged. 4. There is another electrical problem with the machine.	1. Remove and then replace the battery packs into the machine, making sure that they are fully installed and latched. 2. Remove the battery packs from the machine and charge them. 3. Replace the battery packs. 4. Contact an authorized Toro distributor.
The machine does not run or does not run continuously.	1. There is moisture on the leads of the battery packs. 2. The battery packs are not fully installed into the machine.	1. Allow the battery packs to dry or wipe them dry. 2. Remove and then replace the battery packs into the machine, making sure that they are fully installed and latched.
The machine does not reach full power.	1. The battery pack charge capacity is too low. 2. The battery pack air vents are blocked.	1. Remove the battery packs from the machine and fully charge the battery packs. 2. Clean the air vents.
The battery pack(s) lose charge quickly.	1. The battery packs are over or under the appropriate temperature range. 2. The machine is overloaded.	1. Move the battery packs 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 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).
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. 2. The battery pack is weak.	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. Contact your authorized Toro distributor if the battery is in warranty, or properly dispose of the battery pack at a battery recycling facility.

Problem	Possible Cause	Corrective Action
The machine is producing a beeping sound.	1. The battery pack is not charged. 2. The machine is in an unsafe position for operation. 3. The machine is overloaded. 4. There is another electrical problem with the machine.	1. Remove the battery pack from the machine and charge it. 2. Ensure that the machine is not at an extreme angle while operating. 3. Cut the grass at a higher height of cut or walk at a slower pace while mowing. 4. Attempt the other troubleshooting actions, if the alarm still sounds, contact an authorized Toro distributor.
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 machine or blade motor is producing excessive vibration or noise.	1. The blade is bent or is out of balance. 2. The blade mounting nuts are loose. 3. The cutting deck has debris buildup. 4. The motor mounting bolts are loose.	1. Balance the blade. If the blade is bent, replace it. 2. Tighten the blade mounting nuts. 3. Clean under the machine. 4. Tighten the motor mounting bolts.
The quality of cut is decreased or unsatisfactory.	1. The blade is dull. 2. The cutting deck has debris buildup.	1. Have the blade sharpened or replaced. 2. Clean under the machine.
The bagging is decreased or unsatisfactory.	1. The machine is overloaded. 2. The bag has debris buildup.	1. Cut the grass at a higher height of cut. 2. Clean the inside of the bag of any dust or debris.
The machine is cutting unevenly.	1. The blade is dull. 2. You are mowing in the same pattern repeatedly. 3. The cutting deck is damaged.	1. Have the blade sharpened or replaced. 2. Change the mowing pattern. 3. Contact an authorized Toro distributor.

Notes:



Count on it.