



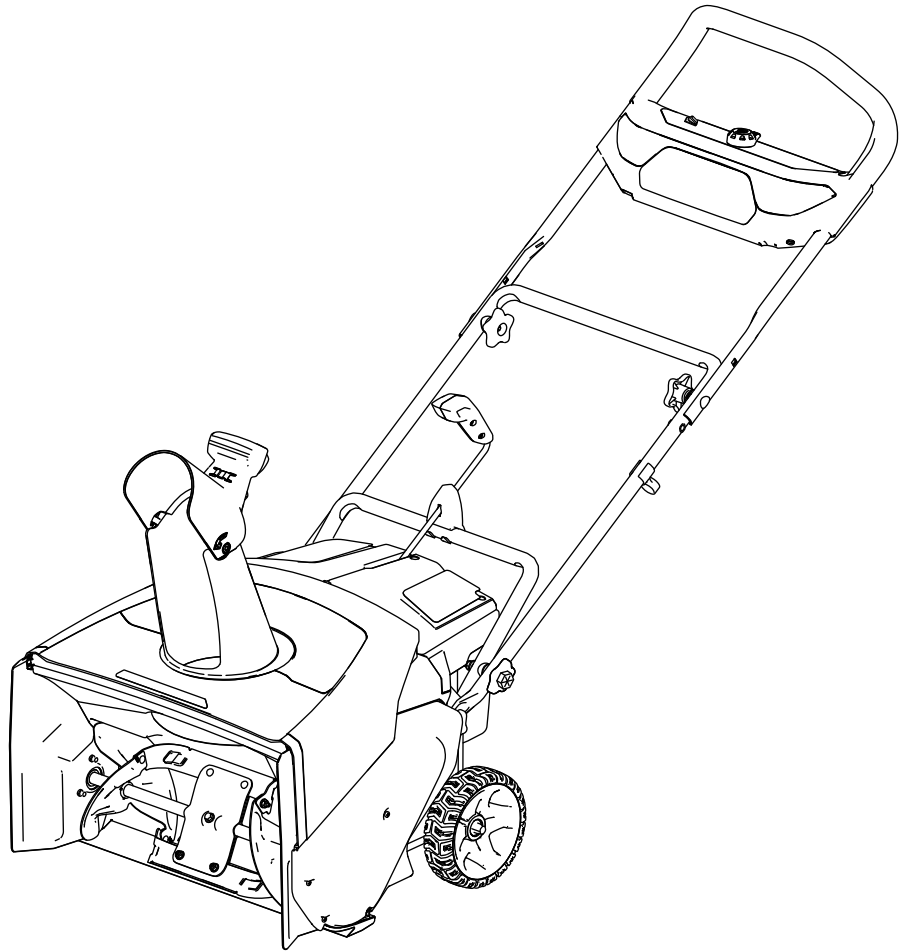
**Count on it.**

**Operator's Manual**

# Flex-Force Power System® 60V MAX Snowthrower

Model No. 31853—Serial No. 40000000 and Up

Model No. 31853T—Serial No. 41430000 and Up





**For assistance, please see [www.Toro.com/support](http://www.Toro.com/support) for instructional videos or contact your Authorized Service Dealer before returning this 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 (if equipped) on the serial number plate to access warranty, parts, and other product information.

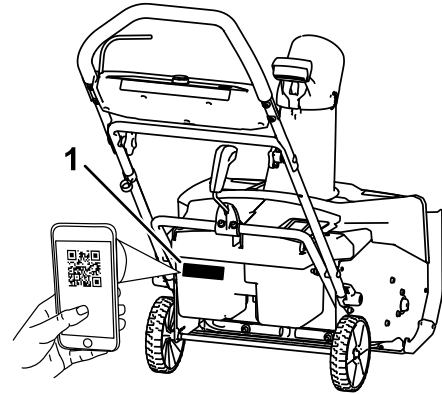
# Introduction

This machine is intended to be used by residential homeowners. It is designed for removing up to 30 cm (12 inches) of snow from patios, sidewalks, and small driveways. It is not designed for removing materials other than snow, nor is it designed for clearing off gravel surfaces. It is designed to use Flex-Force 60V lithium-ion battery packs. These battery packs are designed to be charged only by Flex-Force 60V lithium-ion battery chargers. Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

**Model 31853T does not include a battery or a charger.**

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](http://www.Toro.com) for more information, including safety tips, training materials, accessory information, help finding a dealer, or to register your product.



g427629

**Figure 1**

1. Model number, serial number, and QR code location

<p><b>Model No.</b> _____</p> <p><b>Serial No.</b> _____</p>
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# 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.



Figure 2  
Safety-alert symbol

g000502

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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.

# Safety

## IMPORTANT SAFETY INSTRUCTIONS

### **⚠ WARNING**

When using an electric machine, always read and follow basic safety warnings and instructions to reduce the risk of fire, electric shock, or 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. Read and understand the contents of this *Operator's Manual* before you start the machine. Ensure that everyone using this machine knows how to use it, knows how to shut it off quickly, and understands the warnings.
3. 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.
4. 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.
5. Before using the machine, battery pack, and battery charger, read all the instructions and cautionary markings on these products.
6. Become familiar with the controls and proper use of the machine, battery pack, and battery charger.

## II. Preparation

1. Keep bystanders and children out of the operating area.
2. Never allow children to operate the machine.
3. Do not operate the machine without all guards and other safety devices in place and functioning properly on the machine.
4. 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.
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 100 to 240 V can cause a fire or electric shock. Do not plug the battery charger into an outlet other than 100 to 240 V.
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 an Authorized Service Dealer 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 or trousers; substantial, slip-resistant footwear; and hearing protection. Tie back long hair and do not wear loose clothing or loose jewelry that can get caught in moving parts.

## III. Operation

1. Contact with the moving rotor will cause serious injury. Keep your hands and feet away from all moving parts of the machine. Keep clear of any discharge opening.
2. Stay behind the handles and away from the discharge opening while operating the machine.
3. Using this machine for purposes other than its intended use could prove dangerous to you and bystanders.
4. Prevent unintentional starting—Ensure that the electric-start button is removed from the machine before connecting the battery pack and handling the machine.
5. Use your full attention while operating the machine. Do not engage in any activity that causes distractions; otherwise, injury or property damage may occur.
6. Shut off 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.
7. Remove the battery pack and electric-start button from the machine whenever you leave it unattended or before changing accessories.
8. Do not force the machine—Allow the machine to do the job better and safer at the rate for which it was designed.
9. 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.
10. Operate the machine only in good visibility and appropriate weather conditions.
11. Use extreme caution when reversing or pulling the machine toward you.
12. Keep proper footing and balance at all times, especially on slopes. Use extreme caution when changing directions on slopes. Do not operate the machine on exceedingly steep slopes. Walk, never run with the machine.
13. When not actively clearing snow, disengage power to the auger.
14. Do not use the machine on a gravel surface.
15. Do not direct the discharge material toward anyone. Avoid discharging material against a wall or obstruction; material may ricochet toward you. Shut off the machine when crossing gravel surfaces.
16. Exercise extreme caution when operating the machine on or crossing drives, walks, or roads. Stay alert for hidden hazards or traffic.

17. 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.
18. Shut off the machine whenever you leave the operating position for any reason.
19. Shut off the machine and remove the electric-start button before unclogging the machine and always use a stick or a cleanout tool to remove the clog.
20. Shut off the machine and remove the electric-start button before loading the machine for hauling.
21. Never operate the machine at high transport speeds on slippery surfaces.
22. Under abusive conditions, the battery pack may eject liquid; avoid contact. If you accidentally 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.
23. Do not expose a battery pack or tool to fire or excessive temperature. Exposure to fire or temperature above 130°C (265°F) may cause explosion.
24. 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.

#### IV. Maintenance and Storage

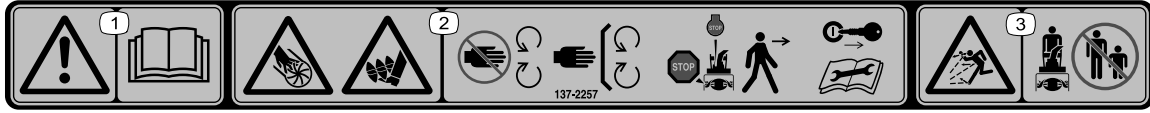
1. Shut off the machine, wait for all movement to stop, remove the electric-start button, and remove the battery pack(s) from the machine before adjusting, servicing, cleaning, or storing the machine.
2. Do not attempt to repair the machine except as indicated in the instructions. Have an Authorized Service Dealer perform service on the machine using identical replacement parts.
3. Wear gloves and eye protection when servicing the machine.
4. When servicing the rotor, be aware that the rotor can still move even though the power source is off.
5. 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.
6. Maintain the machine—Keep handles dry, clean, and free from oil and grease. Keep guards in place and in working order. Use identical replacement parts only.
7. Check all fasteners at frequent intervals for proper tightness to ensure that the machine is in safe working condition.
8. Check the machine for damaged parts. 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 an Authorized Service Dealer repair or replace a damaged guard or part.
9. 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.
10. When you are not using the machine, store it indoors in a dry, secure place out of the reach of children.
11. When storing the machine for more than 30 days, refer to [Storage \(page 17\)](#) for important information.

## SAVE THESE INSTRUCTIONS

# Safety and Instructional Decals



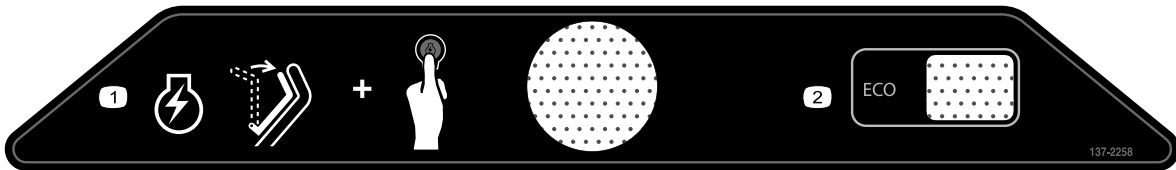
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



137-2257

decal137-2257

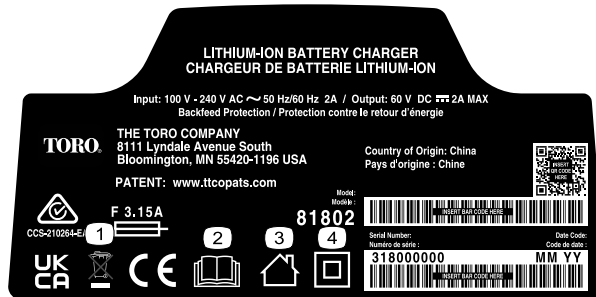
1. Warning—read the *Operator's Manual*.
2. Cutting/dismemberment of hand hazard, impeller; cutting/entanglement of foot hazard, auger—stay away from moving parts; keep all guards and shields in place; shut off the engine and remove the key before leaving the machine; read the *Operator's Manual* before performing maintenance.
3. Thrown object hazard—keep bystanders away.



137-2258

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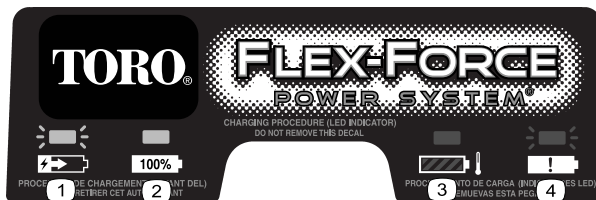
1. To start the motor, bring the bail to the handle and press the ignition button.
2. ECO



144-6028

decal144-6028

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



137-9463

decal137-9463

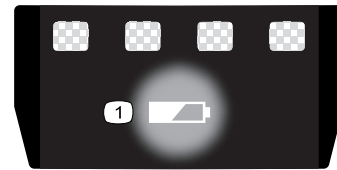
1. The battery pack is charging.
2. The battery pack is fully charged.
3. The battery pack is over or under the appropriate temperature range.
4. Battery pack charging fault



140-8490

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.

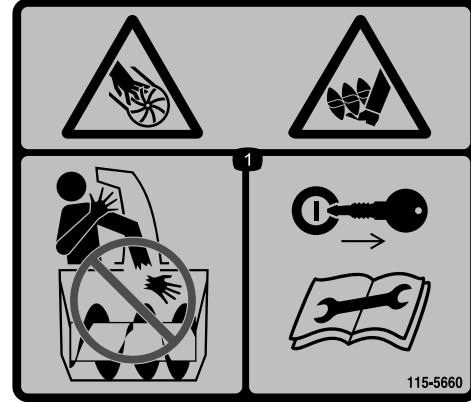
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137-9461

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1. Battery charge status



115-5660

decal115-5660

1. Cutting/dismemberment hazards of hand or foot, impeller and auger—do not place your hand in the chute; remove the ignition key and read the instructions before servicing or performing maintenance.



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.

decal140-8492

# Setup

## Loose Parts

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

Procedure	Description	Qty.	Use
<b>1</b>	Mounting hardware (not included)	2	Mount the battery charger (optional).
<b>2</b>	No parts required	–	Unfold the handle.
<b>3</b>	Chute deflector	1	Install the chute deflector.
<b>4</b>	Chute-control rod	1	Install the chute-control rod.

# 1

## Mounting the Battery Charger (Optional)

Parts needed for this procedure:

2	Mounting hardware (not included)
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## 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).

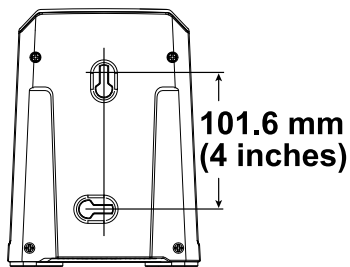


Figure 3

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# 2

## Unfolding the Handle

No Parts Required

### Procedure

1. Remove the machine from the box.
2. Unfold the upper handle and allow the upper handle knobs to snap into place (A of [Figure 4](#)).
3. Tighten the handle knobs (B of [Figure 4](#)).

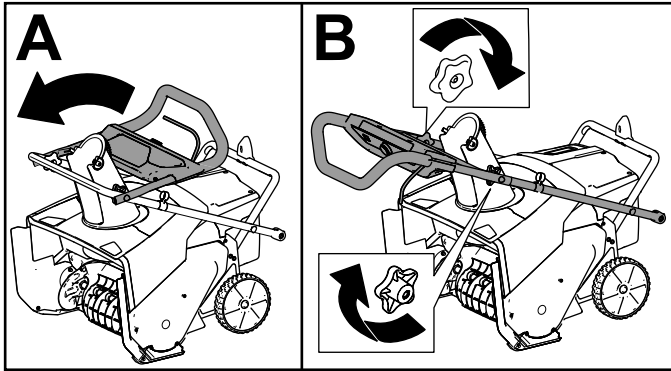


Figure 4

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4. Remove the lower handle knobs from both sides of the machine ([Figure 5](#)).

**Note:** The lower knobs are installed to a weld nut in the side of the machine.

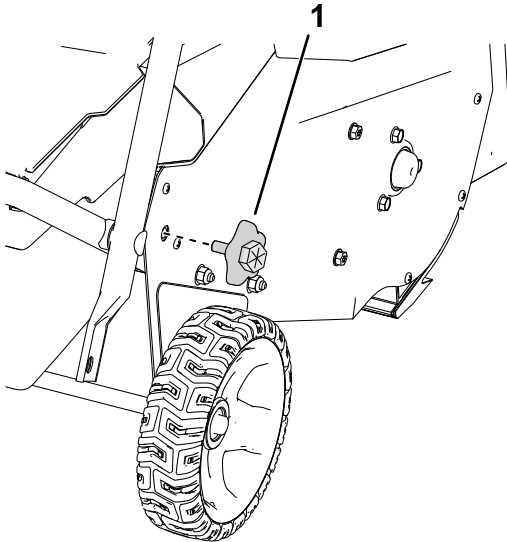


Figure 5

Right side shown

g303594

1. Lower handle knob

5. Move the lower handle into place and install the lower handle knobs as shown in [Figure 6](#).

**Note:** You may use a wrench on the hex on the outside of the knob to tighten the knob.

**Important:** Tighten the knobs until the handlebar touches the side plate with no gap.

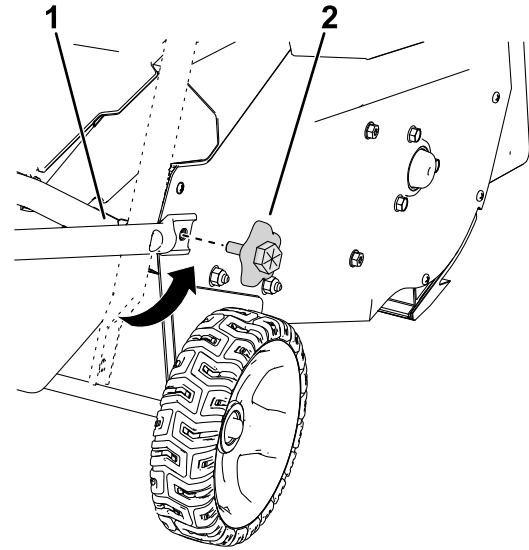


Figure 6

g303595

1. Align the lower handle with the weld nuts.
2. Install the lower handle knobs.

# 3

## Installing the Chute Deflector

Parts needed for this procedure:

1	Chute deflector
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### Procedure

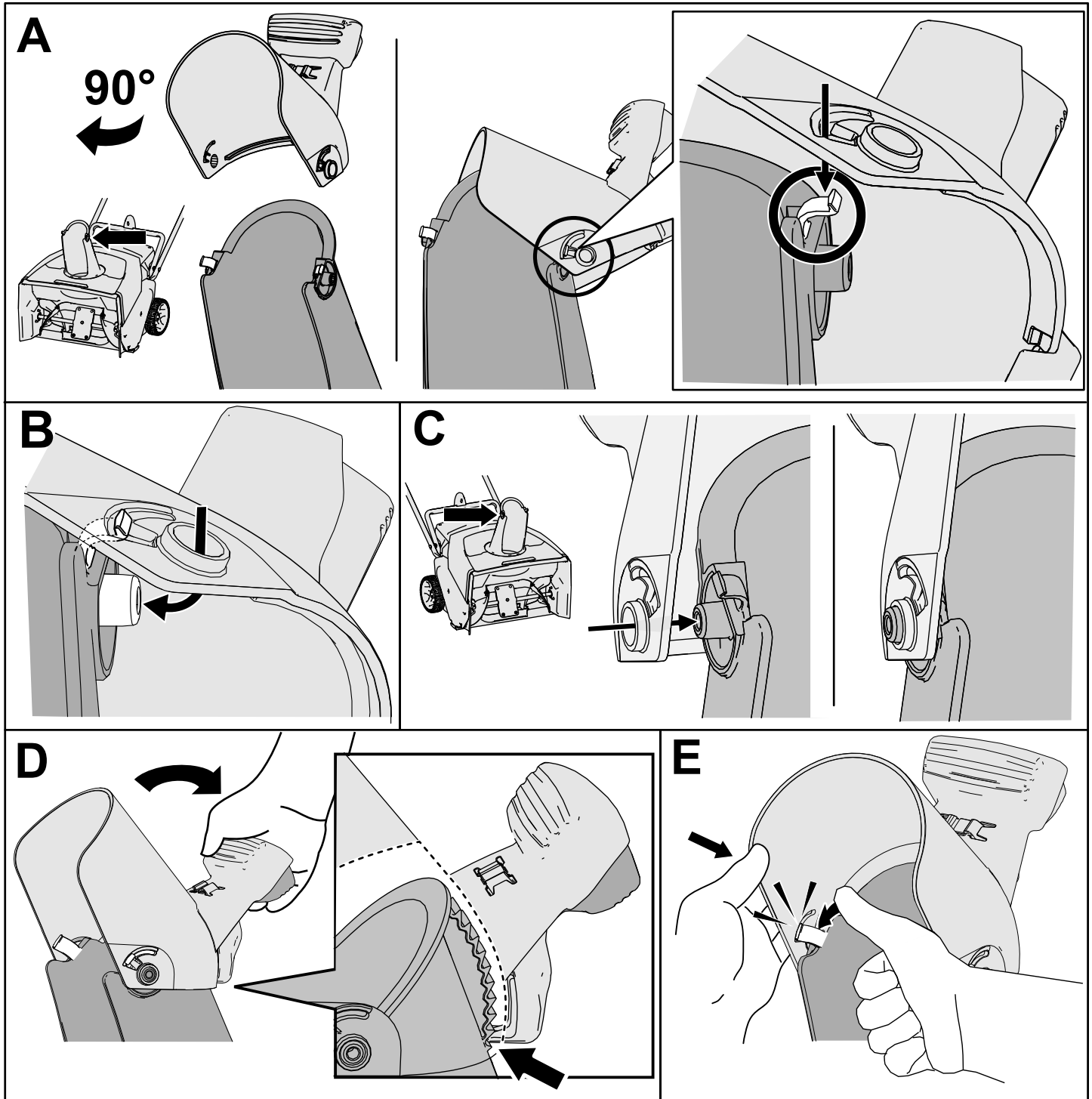


Figure 7

g316999

# 4

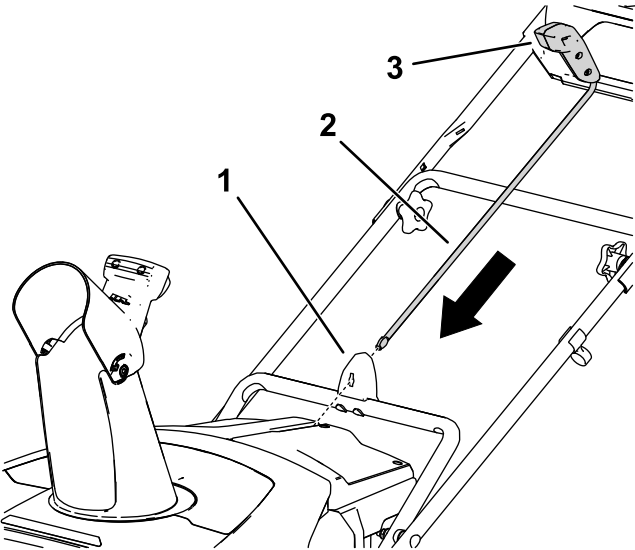
## Installing the Chute-Control Rod

Parts needed for this procedure:

1	Chute-control rod
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### Procedure

1. Ensure that the chute is facing forward (Figure 8).
2. With the handle facing forward, install the chute-control rod into the guide and push it down until it snaps into place (Figure 8).

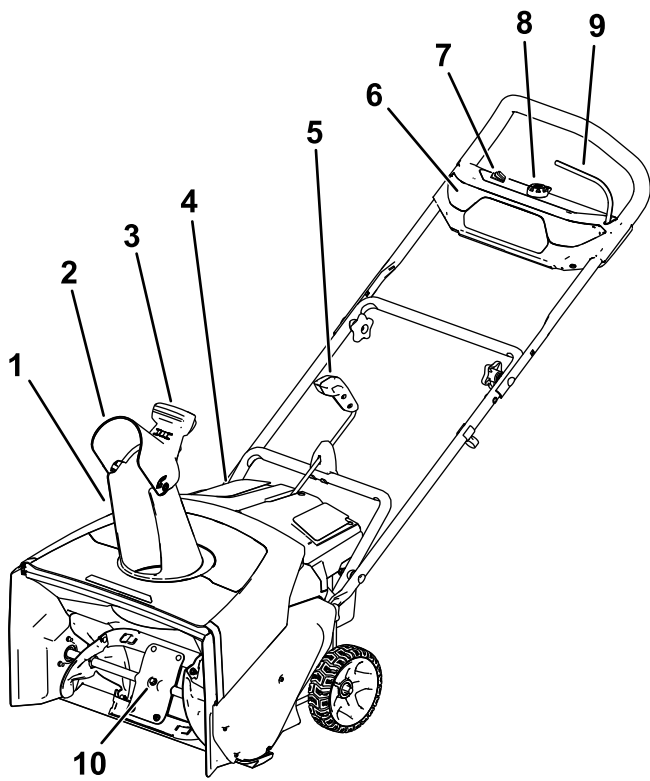


g282249

Figure 8

- 1. Chute-control guide
- 2. Chute-control rod
- 3. Chute-control handle

# Product Overview



**Figure 9**

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- 1. Discharge chute
- 2. Chute deflector
- 3. Chute-deflector handle
- 4. Battery-compartment lid
- 5. Chute-control rod
- 6. Headlight
- 7. ECO switch
- 8. Electric-start button
- 9. Bail
- 10. Rotor blades

# Specifications

## 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	-30°C (-22°F) to 49°C (120°F)*

\*Charging time will increase if you do not charge the battery 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](http://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

## Installing the Battery Pack

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 lock into place (B of [Figure 10](#)).
4. Close the battery-compartment lid (C of [Figure 10](#)).

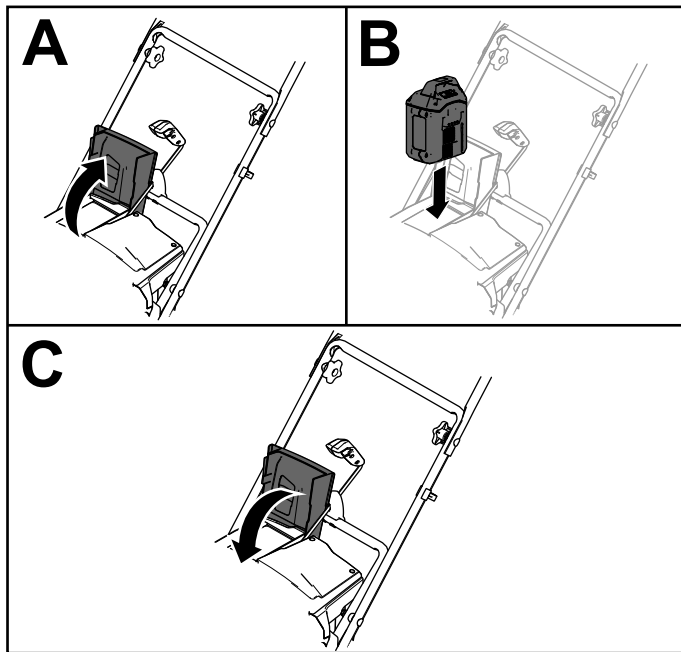


Figure 10

g282250

## Starting the Machine

1. Ensure that the battery pack is installed in the machine; refer to [Installing the Battery Pack](#) (page 13).
2. Insert the electric-start button into the electric starter (A of [Figure 11](#)).
3. Squeeze the bail and hold it to the handle (B and C of [Figure 11](#)).

**Note:** When you squeeze the bail, the lights turn on and the battery-charge indicator lights on the battery illuminate.

4. Press the electric-start button until the motor starts (D of [Figure 11](#)).

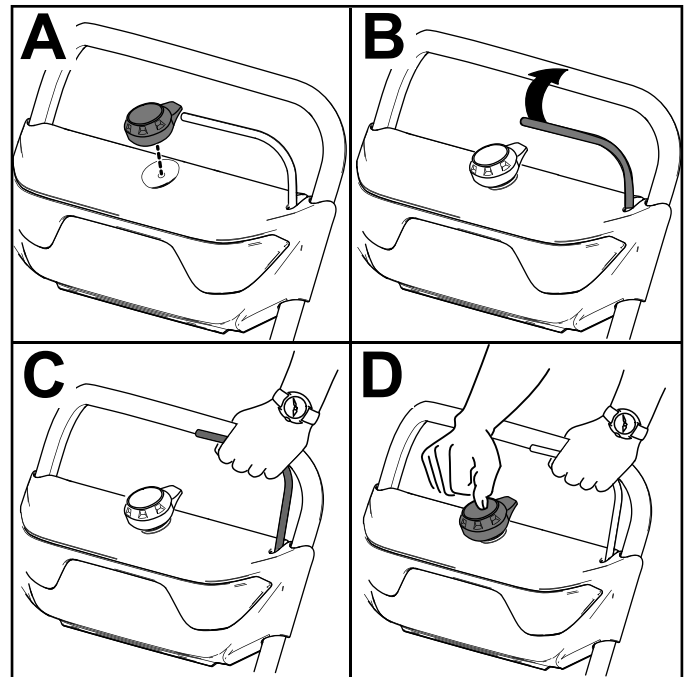


Figure 11

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## Activating ECO Mode

Using ECO mode may extend battery life by reducing rotor speed; use ECO mode whenever you are moving snow a short distance. Activate ECO mode using the ECO switch as shown in [Figure 9](#).

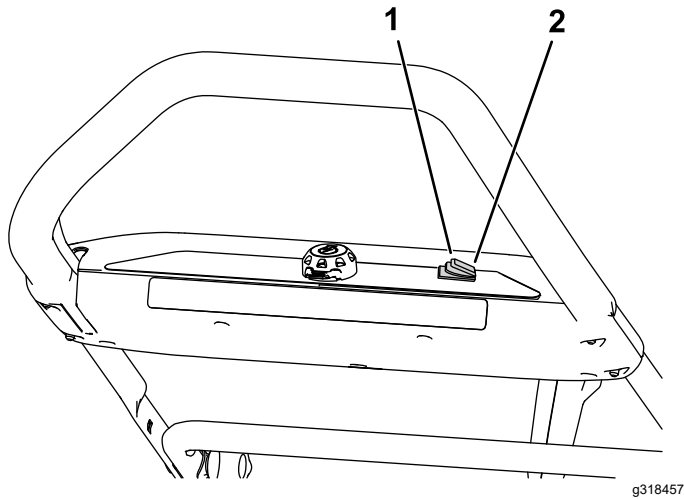


Figure 12

1. Turn ECO mode on
2. Turn ECO mode off

## 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.

## Shutting Off the Machine

1. Release the bail (A of [Figure 13](#)).
2. Remove the electric-start button from the electric starter (B of [Figure 13](#)).
3. Remove the battery pack; refer to [Removing the Battery Pack from the Machine](#) (page 14).

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

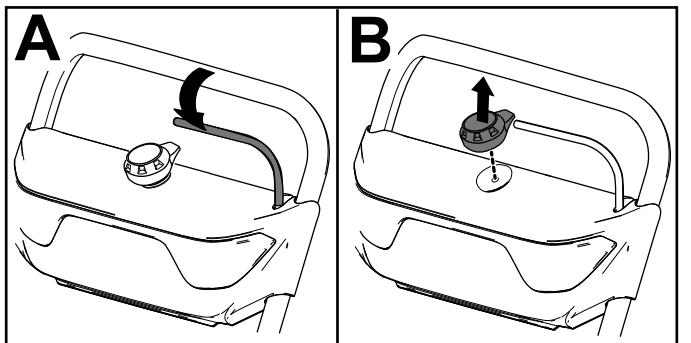


Figure 13

# Adjusting the Discharge Chute and Chute Deflector

To adjust the discharge chute, move the handle on the chute-control rod in the direction that you wish to direct the snow stream.

To adjust the chute deflector (and therefore the height of the snow stream), squeeze the trigger and raise or lower the chute deflector (Figure 14).

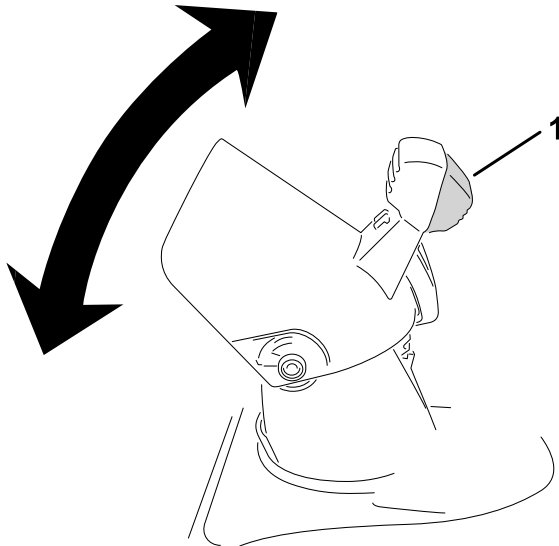


Figure 14

g318452

1. Chute deflector trigger

## ⚠ WARNING

A gap between the discharge chute and the chute deflector may allow the machine to throw snow and objects in the direction of the operator. Thrown objects could cause serious personal injury.

- Do not force the chute deflector too far forward so that a gap appears between the discharge chute and chute deflector.
- Do not adjust the chute deflector with the power control bar engaged. Release the power control bar before adjusting the chute deflector.

# Clearing a Clogged Discharge Chute

## ⚠ WARNING

Contacting a rotating rotor with your hands inside the discharge chute could cause serious personal injury.

Never use your hands to clean out the discharge chute.

1. Shut off the motor, remove the electric-start button, and remove the battery pack.
2. Wait 10 seconds to ensure that the rotor blades have stopped rotating.
3. Always use a clean-out tool, not your hands, to clear the chute.

## Operating Tips

## ⚠ WARNING

The rotor can throw stones, toys, and other foreign objects and cause serious personal injury to you or bystanders.

- Keep the area to be cleared free of all objects that the rotor blades could pick up and throw.
- Keep all children and pets away from the area of operation.
- Remove the snow as soon as possible after it falls.
- Push the machine forward, but allow it to work at its own pace.
- Overlap each swath to ensure complete snow removal.
- Discharge the snow downwind whenever possible.

# Preventing Freeze-up after Use

- In snowy and cold conditions, some controls and moving parts may freeze. Do not use excessive force when trying to operate frozen controls.
- After using the machine, engage the auger to clear any remaining snow from inside the housing. Shut off the machine, wait for all moving parts to stop, remove the key and battery, and remove all ice and snow from the machine.
- Clean off any snow and ice from the base of the chute.
- Rotate the discharge chute left and right to free it from any ice buildup.



# Maintenance

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.

## Replacing the Scraper

**Service Interval:** Every 20 hours

Replace the scraper blade if it is damaged or if scraping performance is greatly reduced.

When needed, remove and replace the scraper as shown in [Figure 15](#).

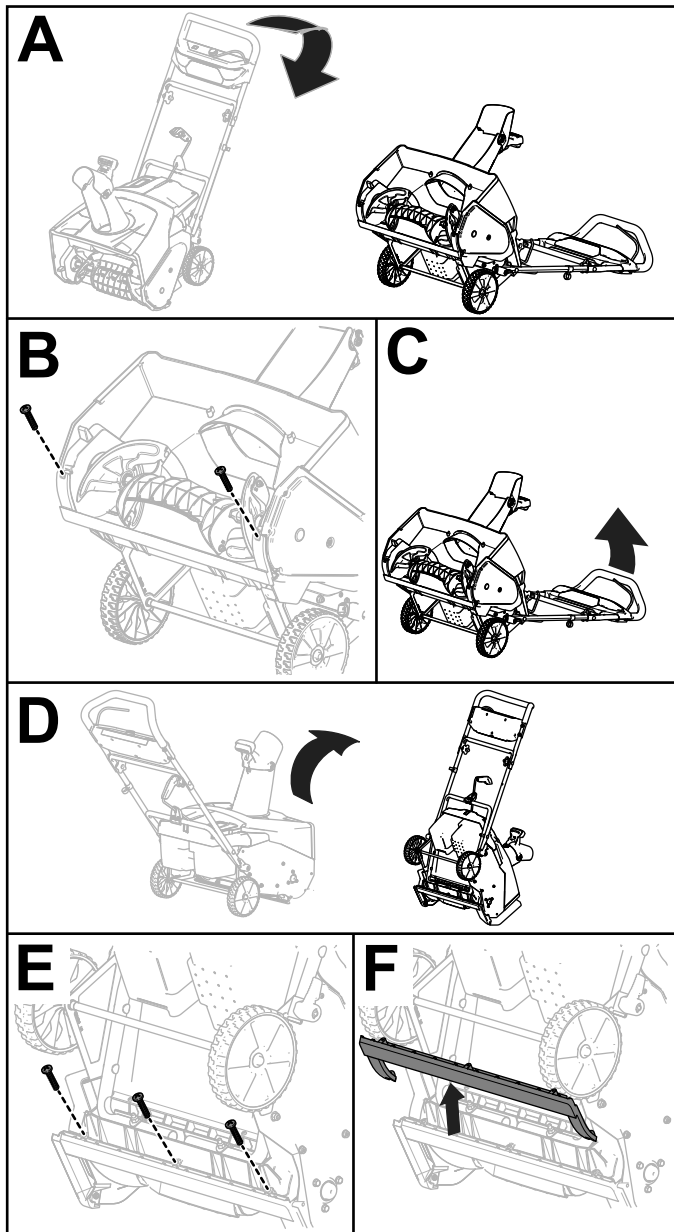


Figure 15

g248009

# Storage

**Important:** Store the machine, battery pack, and charger only in temperatures that are within the appropriate range; refer to [Specifications \(page 12\)](#).

**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.

- Disconnect the product from the power supply (i.e., remove the plug from the power supply or the battery pack) and check for damage after use.
- Clean all foreign material from the product.
- Do not store the tool with the battery pack installed.
- When not in use, store the machine, battery pack, and battery charger out of the reach of children.
- Keep the machine, battery pack, and battery charger away from corrosive agents, such as garden chemicals and de-icing salts.
- To reduce the risk of serious personal injury, do not store the battery pack outside or in vehicles.
- Store the machine, battery pack, and battery charger in an enclosed clean, dry area.

## 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.

# 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.

Always remove all batteries from the machine when troubleshooting, inspecting, maintaining, or cleaning the machine.

Problem	Possible Cause	Corrective Action
The machine does not run or does not run continuously.	<ol style="list-style-type: none"> <li>1. The battery pack is low on charge.</li> <li>2. The battery is not fully installed in the machine.</li> <li>3. The battery pack is over or under the appropriate temperature range.</li> <li>4. The battery pack has exceeded high amperage limits.</li> <li>5. There is moisture on the leads of the battery pack.</li> <li>6. The battery pack is damaged.</li> <li>7. There is another electrical problem with the machine.</li> </ol>	<ol style="list-style-type: none"> <li>1. Charge the battery pack.</li> <li>2. Remove and then reseat the battery into the machine, making sure that it is fully installed and latched.</li> <li>3. 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).</li> <li>4. Release the trigger, then press the trigger switch.</li> <li>5. Allow the battery pack to dry or wipe it dry.</li> <li>6. Replace the battery pack.</li> <li>7. Contact your Authorized Service Dealer.</li> </ol>
The machine does not reach full power.	<ol style="list-style-type: none"> <li>1. The battery pack charge capacity is too low.</li> <li>2. The air vents are blocked.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove the battery pack from the machine and fully charge the battery pack.</li> <li>2. Clean the air vents.</li> </ol>
The machine runs, but the machine discharges snow poorly or not at all.	<ol style="list-style-type: none"> <li>1. The machine is overloaded.</li> <li>2. You are trying to remove too much snow per swath.</li> <li>3. You are trying to remove extremely heavy or wet snow.</li> <li>4. The discharge chute is plugged.</li> <li>5. The auger/impeller drive belt is loose or is off the pulley.</li> <li>6. The auger/impeller drive belt is worn or broken.</li> </ol>	<ol style="list-style-type: none"> <li>1. Push the machine with less force, or at a slower pace.</li> <li>2. Reduce the amount of snow removed per swath.</li> <li>3. Do not overload the machine with extremely heavy or wet snow.</li> <li>4. Unclog the discharge chute.</li> <li>5. Install and/or adjust the auger/impeller drive belt; refer to <a href="http://www.Toro.com">www.Toro.com</a> for servicing information or take the machine to an Authorized Service Dealer.</li> <li>6. Replace the auger/impeller drive belt; refer to <a href="http://www.Toro.com">www.Toro.com</a> for servicing information or take the machine to an Authorized Service Dealer.</li> </ol>
The battery pack loses charge quickly.	<ol style="list-style-type: none"> <li>1. The battery pack is over or under the appropriate temperature range.</li> <li>2. The machine is overloaded.</li> </ol>	<ol style="list-style-type: none"> <li>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).</li> <li>2. Push the machine with less force.</li> </ol>

# Notes:

## EEA/UK Privacy Notice

### **Toro's Use of Your Personal Information**

The Toro Company ("Toro") respects your privacy. When you purchase our products, we may collect certain personal information about you, either directly from you or through your local Toro company or dealer. Toro uses this information to fulfil contractual obligations - such as to register your warranty, process your warranty claim or to contact you in the event of a product recall - and for legitimate business purposes - such as to gauge customer satisfaction, improve our products or provide you with product information which may be of interest. Toro may share your information with our subsidiaries, affiliates, dealers or other business partners in connection these activities. We may also disclose personal information when required by law or in connection with the sale, purchase or merger of a business. We will never sell your personal information to any other company for marketing purposes.

### **Retention of your Personal Information**

Toro will keep your personal information as long as it is relevant for the above purposes and in accordance with legal requirements. For more information about applicable retention periods please contact [legal@toro.com](mailto:legal@toro.com).

### **Toro's Commitment to Security**

Your personal information may be processed in the US or another country which may have less strict data protection laws than your country of residence. Whenever we transfer your information outside of your country of residence, we will take legally required steps to ensure that appropriate safeguards are in place to protect your information and to make sure it is treated securely.

### **Access and Correction**

You may have the right to correct or review your personal data, or object to or restrict the processing of your data. To do so, please contact us by email at [legal@toro.com](mailto:legal@toro.com). If you have concerns about the way in which Toro has handled your information, we encourage you to raise this directly with us. Please note that European residents have the right to complain to your Data Protection Authority.