



Count on it.

Form No. 3437-688 Rev B

Operator's Manual

Flex-Force Power System™ 60V MAX Snowthrower

Model No. 31853—Serial No. 400000000 and Up

Model No. 31853T—Serial No. 400000000 and Up





For assistance, please see www.Toro.com/support for instructional videos or contact your Authorized Service Dealer before returning this product.

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 lithium-ion battery pack Model 81875 (provided with Model 31853), 81860, 81850, or 81825. 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 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.

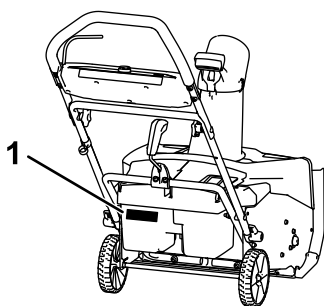


Figure 1

g288478

1. Model and serial number location

Safety

READ ALL INSTRUCTIONS

WARNING—When using an electrical machine, basic safety precautions should always be followed to reduce the risk of fire, electric shock, or injury, including the following:

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 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.
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 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. Do not use non-rechargeable batteries.
10. 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.
11. Charge the battery pack in a well-ventilated area only.
12. Do not expose a battery pack or battery charger to fire or to temperatures higher than 68°C (154°F).
13. 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.
14. Dress properly—Wear appropriate clothing, including eye protection; long pants; and rubber boots. Tie back long hair and do not wear loose jewelry that can get caught in moving parts.
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. Do not direct the discharge material toward anyone. Avoid discharging material against a wall or obstruction; material may ricochet toward you. Stop the machine when crossing gravel surfaces.
14. 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.

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. Using this machine for purposes other than its intended use could prove dangerous to you and bystanders.
3. Prevent unintentional starting—Ensure that the electric-start button is removed from the ignition before connecting the battery pack and handling the machine.
4. Use your full attention while operating the machine. Do not engage in any activity that causes distractions; otherwise, injury or property damage may occur.
5. 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.
6. Do not use the machine on a gravel surface.
7. Remove the battery pack and electric-start button from the machine whenever you leave it unattended or before changing accessories.
15. Shut off the machine whenever you leave the operating position for any reason.
16. Shut off the machine before unclogging the machine and always use a stick or a cleanout tool to remove the clog.
17. Stop the machine and remove the electric-start button before loading the machine for hauling.
18. 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.

IV. Maintenance and Storage

1. Stop the machine, remove the electric-start button, remove the battery pack from the machine, and wait for all movement to stop before adjusting, servicing, cleaning, or storing the machine.
2. Do not attempt to repair the machine except as indicated in the instructions. Have an Authorized Service Dealer perform service on the machine using identical replacement parts.
3. Wear gloves and eye protection when servicing the machine.

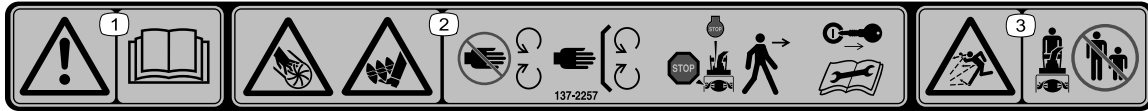
4. When servicing the rotor, be aware that the rotor can still move even though the power source is off.
5. For best performance, use only genuine Toro replacement parts and accessories. Other replacement parts and accessories could be dangerous, and such use could void the product warranty.
6. Maintain 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 hardware 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. 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.
12. Do not dispose of the battery in a fire. The cell may explode. Check with local codes for possible special disposal instructions.

SAVE THESE INSTRUCTIONS

Safety and Instructional Decals



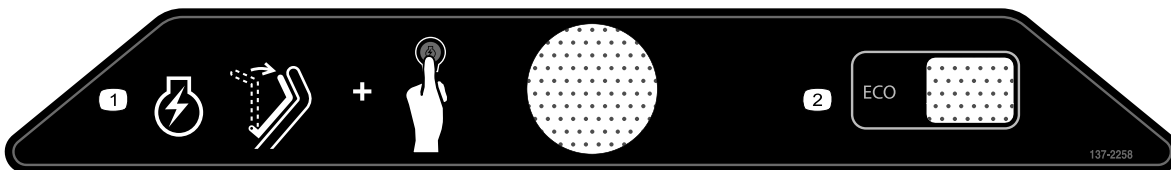
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



137-2257

decal137-2257

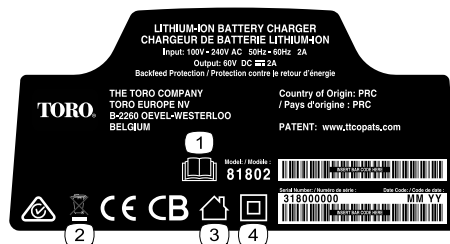
1. Warning—read the *Operator's Manual*.
2. Cutting/dismemberment of hand hazard, impeller; cutting/entanglement of foot hazard, auger—stay away from moving parts; keep all guards and shields in place; shut off the engine and remove the key before leaving the machine; read the *Operator's Manual* before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



137-2258

decal137-2258

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



137-9495

decal137-9495

1. Read the *Operator's Manual*.
2. Do not discard.
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



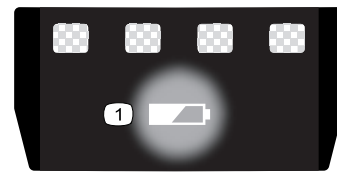
137-9489

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.



137-9490

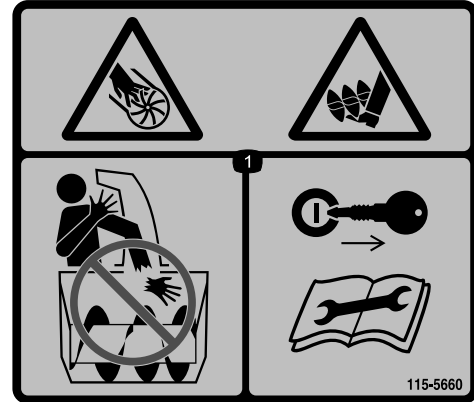
1. Read the *Operator's Manual*.
2. Recycle
3. Contains lithium ions; do not discard.
4. Keep away from open flames.
5. Do not expose to rain.



137-9461

decal137-9461

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.

Setup

Loose Parts

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

Procedure	Description	Qty.	Use
1	No parts required	–	Mount the battery charger (optional).
2	No parts required	–	Unfold the handle.
3	Chute deflector	1	Install the chute deflector.
4	Chute-control rod	1	Install the chute-control rod.

Note: The battery pack is not fully charged when you purchase it. Before using the machine for the first time, refer to [Charging the Battery Pack \(page 13\)](#).

1

Mounting the Battery Charger (Optional)

No Parts Required

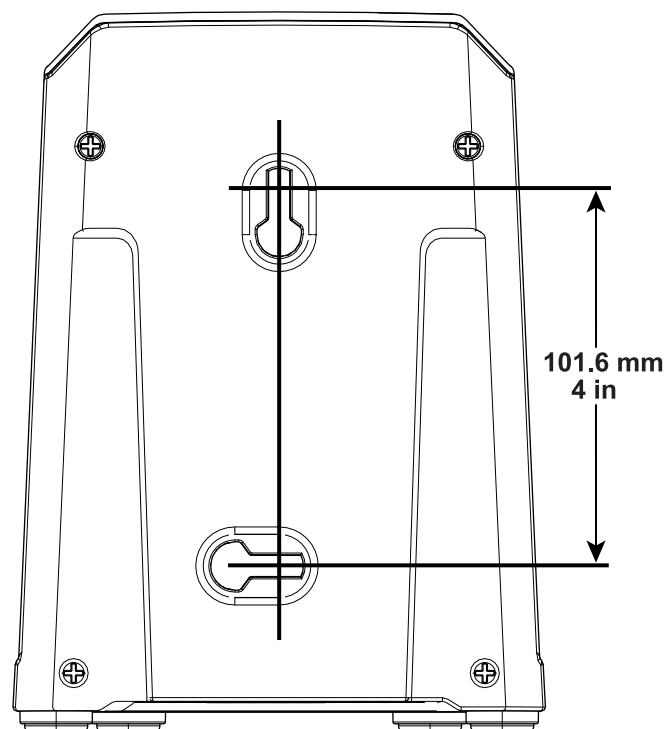
Procedure

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 2](#) for assistance in mounting the charger.

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



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Figure 2

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 3](#)).
3. Tighten the handle knobs (B of [Figure 3](#)).

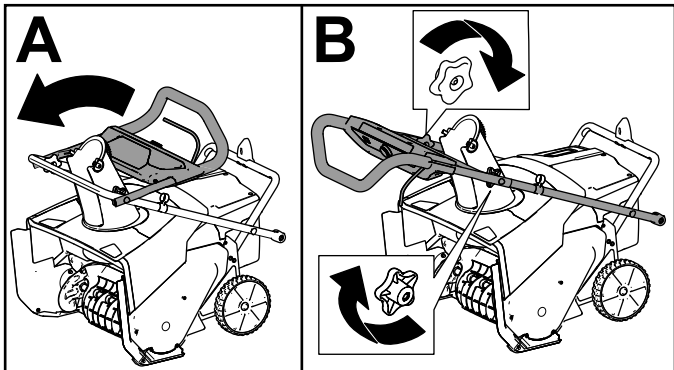


Figure 3

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

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

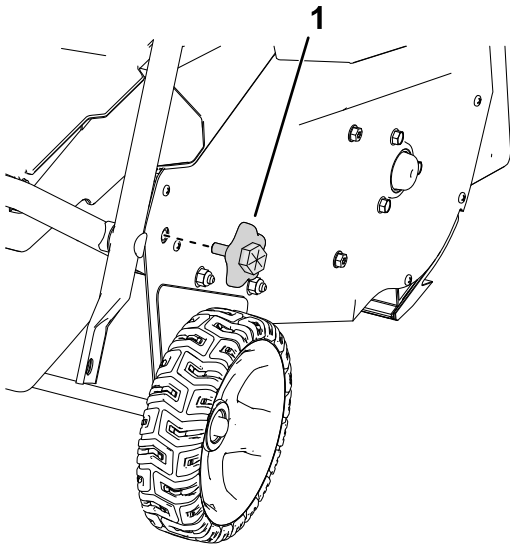


Figure 4

Right side shown

1. Lower handle knob

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

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.

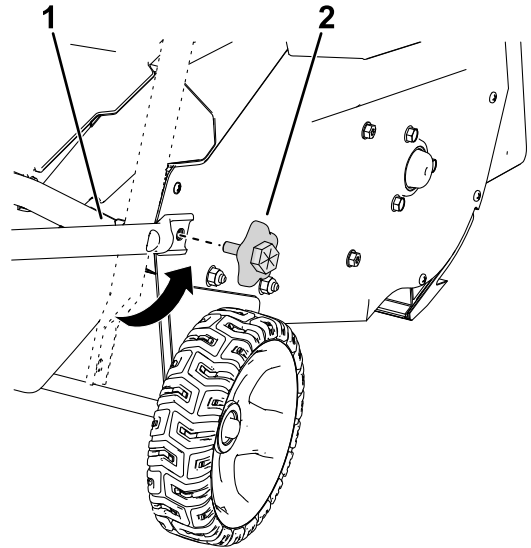


Figure 5

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

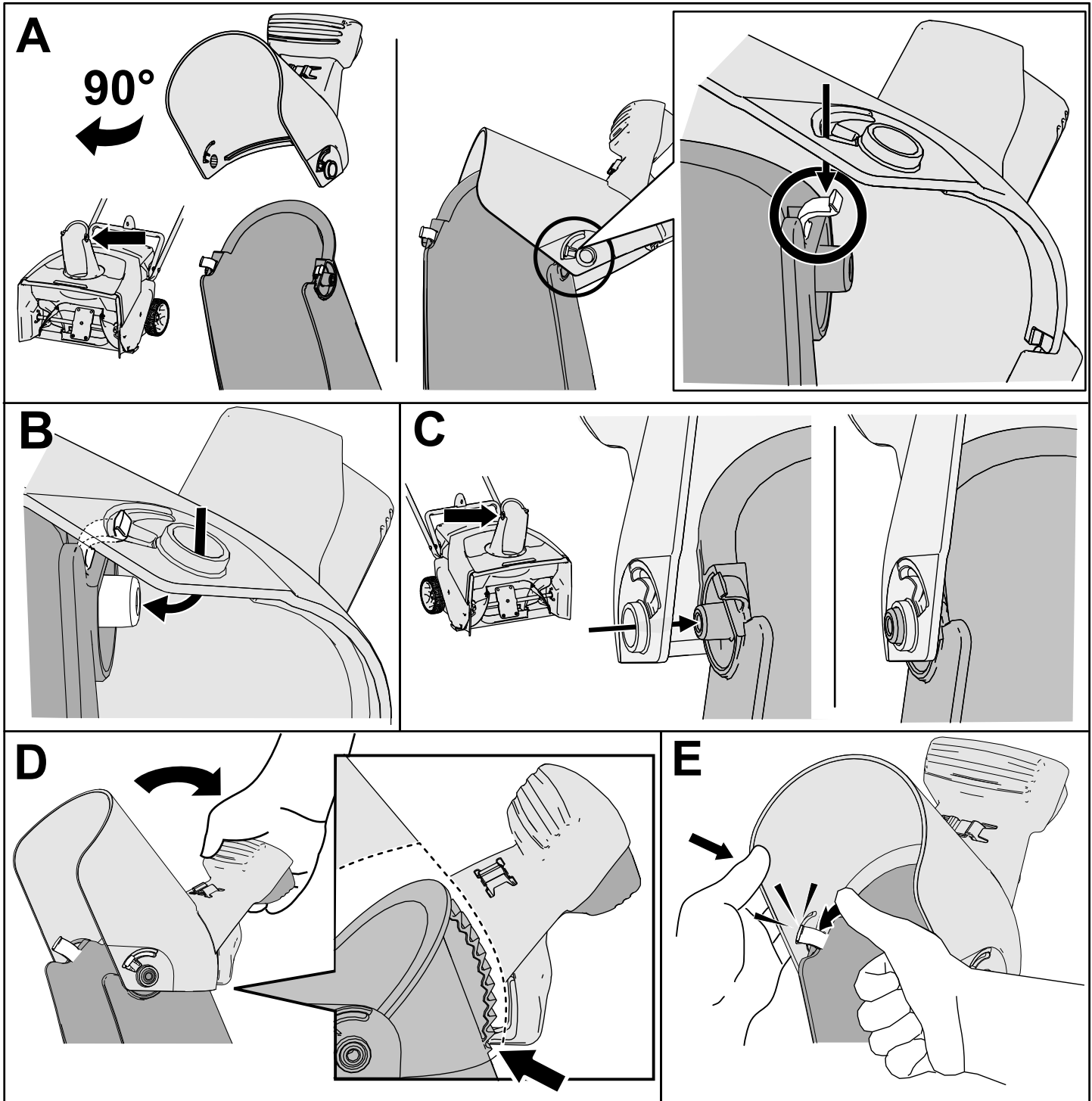


Figure 6

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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 7).
2. With the handle facing forward, install the chute-control rod into the guide and push it down until it snaps into place (Figure 7).

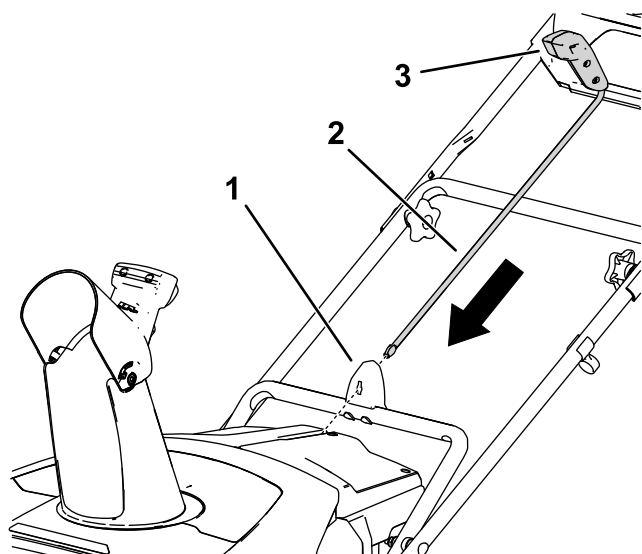


Figure 7

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

Product Overview

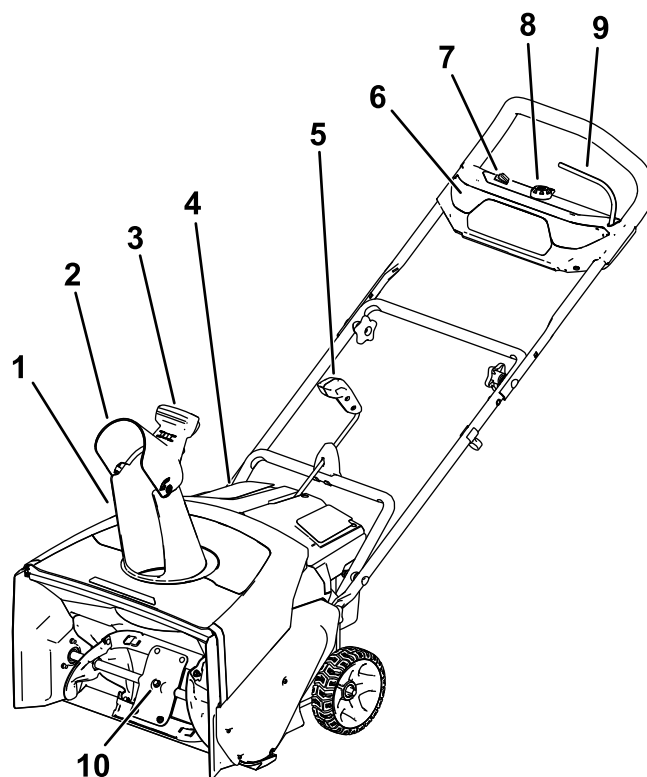


Figure 8

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

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 9](#)).
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 9](#)).
4. Close the battery-compartment lid (C of [Figure 9](#)).

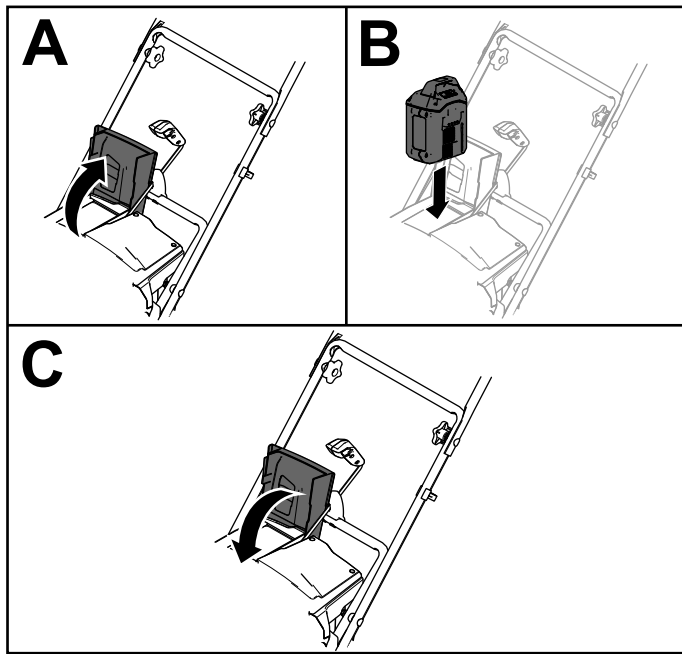


Figure 9

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Starting the Machine

1. Ensure that the battery pack is installed in the machine; refer to [Installing the Battery Pack](#) (page 11).
2. Insert the electric-start button into the electric starter (A of [Figure 10](#)).
3. Squeeze the bail and hold it to the handle (B and C of [Figure 10](#)).

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 10](#)).

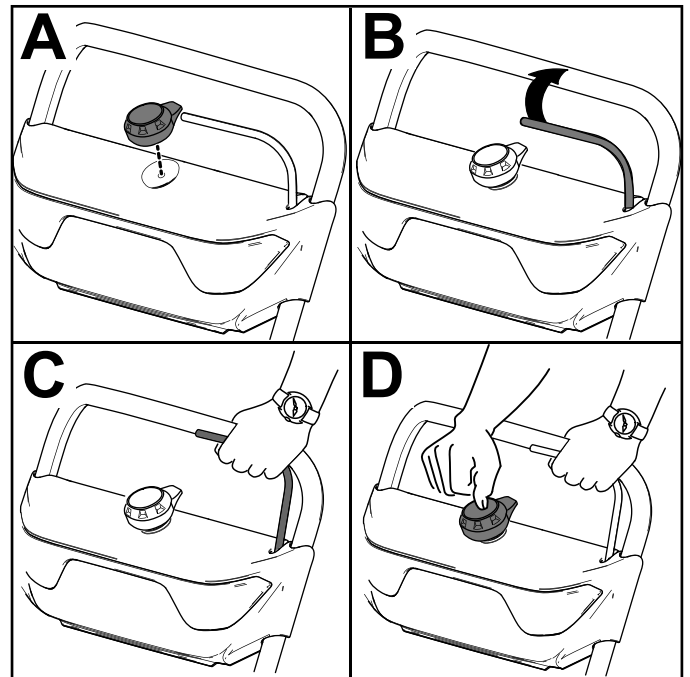


Figure 10

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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 8](#).

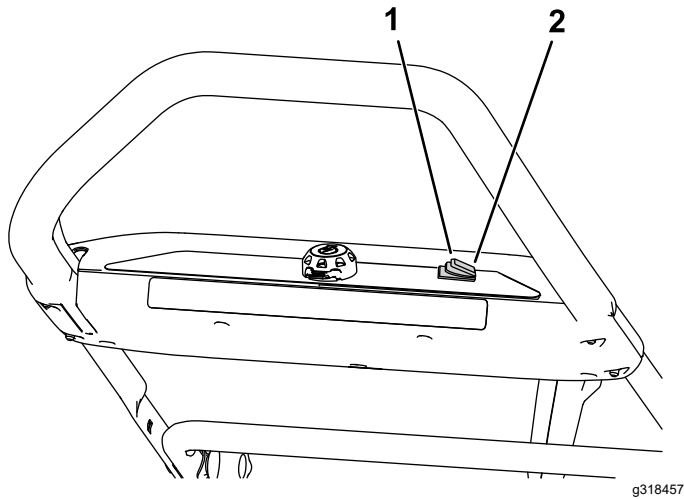


Figure 11

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 12](#)).
2. Remove the electric-start button from the electric starter (B of [Figure 12](#)).
3. Remove the battery pack; refer to [Removing the Battery Pack from the Machine](#) (page 12).

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

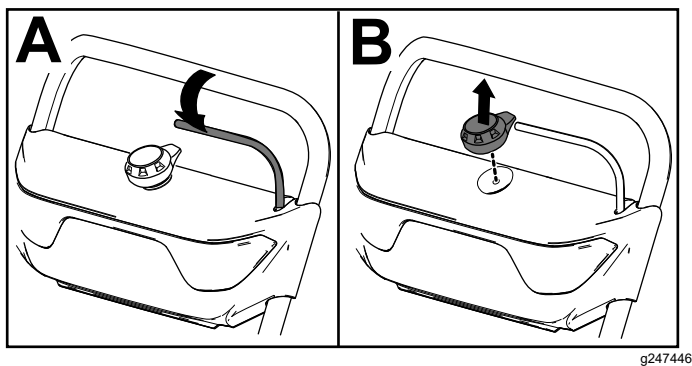


Figure 12

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 \(page 10\)](#).

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

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

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 \(page 17\)](#) for more information.

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

If the battery will not be used for longer periods, remove the battery from the charger; refer to [Storage \(page 16\)](#).

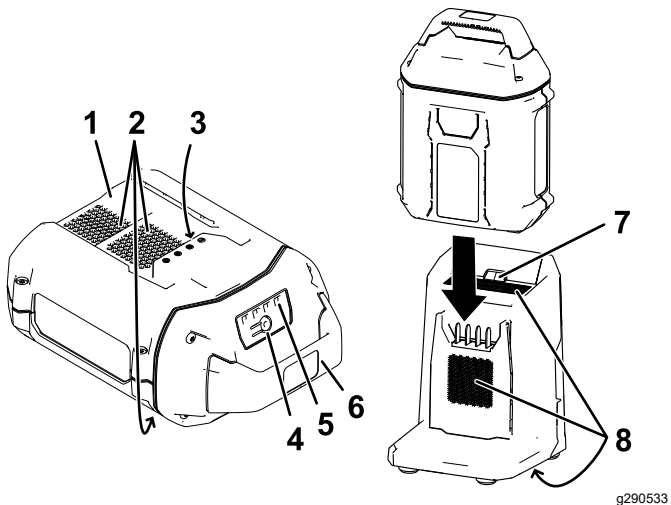


Figure 13

1. Battery pack cavity

2. Battery pack venting areas

3. Battery pack terminals

4. Battery-charge-indicator button

5. LED indicators (current charge)

6. Handle

7. Charger LED indicator light

8. Charger venting areas
- 2. Line up the cavity in the battery pack ([Figure 13](#)) with the tongue on the charger.
 - 3. Slide the battery pack into the charger until it is fully seated ([Figure 13](#)).
 - 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

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).

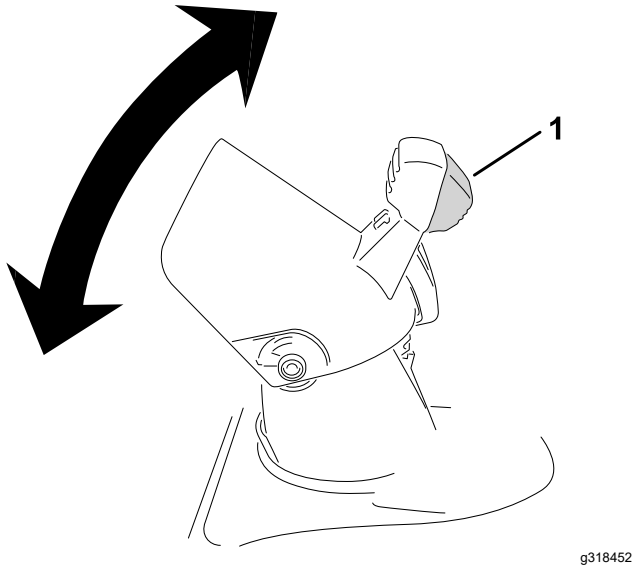


Figure 14

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

- Let the motor run for a few minutes to prevent moving parts from freezing. Shut off the machine, wait for all moving parts to stop, and remove 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.
- In snowy and cold conditions, some controls and moving parts may freeze. Do not use excessive force when trying to operate frozen controls. If you have difficulty operating any control or part, start the machine and let it run for a few minutes.

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](#).

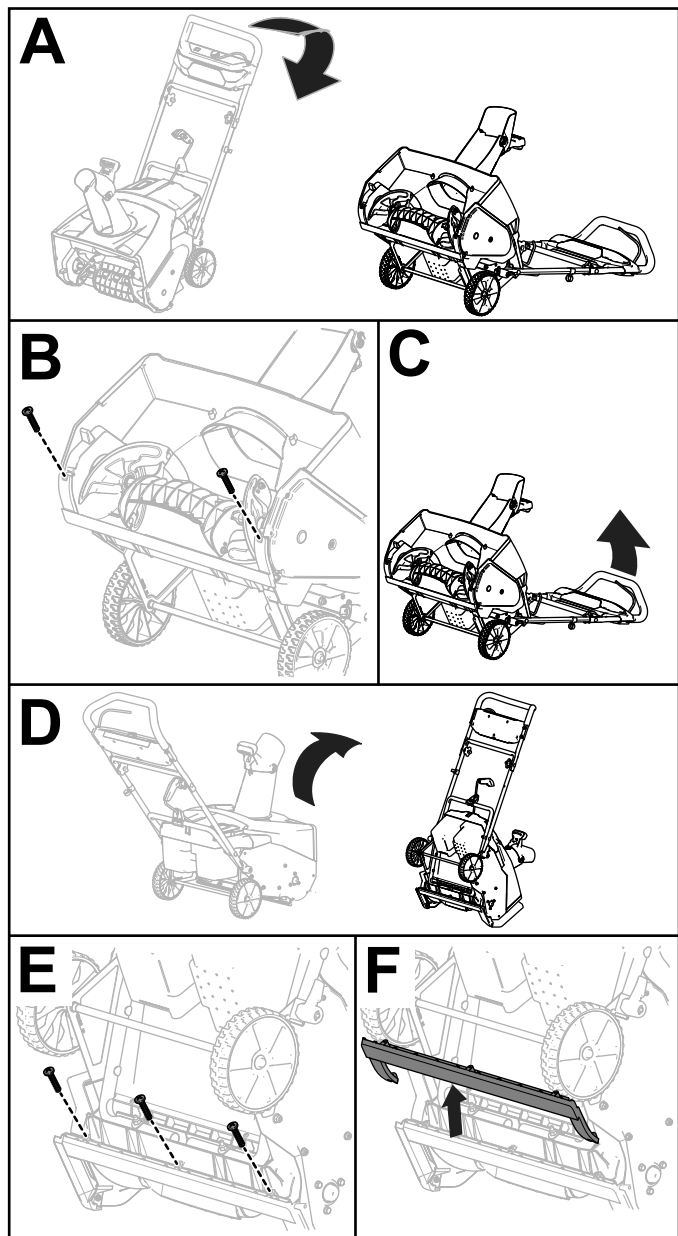


Figure 15

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Storage

Important: Store the machine, battery pack, and charger only in temperatures that are within the appropriate range; refer to [Specifications \(page 10\)](#).

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

- 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.

Problem	Possible Cause	Corrective Action
The machine does not run or does not run continuously.	1. The battery pack is low on charge. 2. The battery pack is not fully seated. 3. The battery pack is over or under the appropriate temperature range. 4. The battery pack has exceeded high amperage limits. 5. There is moisture on the leads of the battery pack. 6. The battery pack is damaged. 7. There is another electrical problem with the machine.	1. Charge the battery pack. 2. Ensure that the battery pack is inserted all the way into the housing. 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). 4. Release the trigger, then press the trigger switch. 5. Allow the battery pack to dry or wipe it dry. 6. Replace the battery pack. 7. Contact an Authorized Service Dealer.
The machine does not reach full power.	1. The battery pack charge capacity is too low. 2. The air vents are blocked.	1. Remove the battery pack from the machine and fully charge the battery pack. 2. Clean the air vents.
The battery pack loses charge quickly.	1. The battery pack is over or under the appropriate temperature range. 2. The machine is overloaded.	1. Move the battery pack to a place where it is dry and the temperature is between 5°C (41°F) and 40°C (104°F). 2. Push the machine with less force.
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 service dealer if the battery is in warranty, or properly dispose of the battery pack at a battery recycling facility.

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.

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. 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.



Count on it.