



## OPERATOR'S MANUAL

A Division of Snow Joe®, LLC

# CORDLESS LAWN MOWER – TOOL ONLY

48 VOLT MAX\* | 17-INCH

**Model 24V-X2-17LM-CT**

Form No. SJ-24V-X2-17LM-CT-880E-M

## IMPORTANT! Safety Instructions

### All Operators Must Read These Instructions Before Use

Always follow these safety guidelines. Failure to do so may result in serious bodily injury or death.

### General Safety WARNINGS!

When using this cordless lawn mower, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury.

These precautions include:

**⚠️ WARNING!** Do not operate without the entire grass collection bag, discharge guard, rear guard or other safety protective devices in place and in proper working order.

**⚠️ WARNING!** The use of any other accessory or attachment might increase the risk of injury.

**⚠️ WARNING!** To reduce the risk of injury, inspect the grass collection bag assembly frequently and replace with recommended replacement if there are signs of wear or deterioration.

Before using the mower, take the time to familiarize yourself with the controls, especially how to stop the mower in an emergency. The only individuals who should use the mower are those who have a thorough understanding of the instructions and who know how to operate the machine. Children should never be allowed access to the mower.

Retain this manual for future reference and reread it at the start of each mowing season.

**⚠️ WARNING!** Contact with moving parts may cause entanglement, dismemberment or other serious bodily injury. Always keep body parts (i.e. hands, feet) a safe distance away from moving parts. Ensure all covers and guards are securely in place before use.

Hot surfaces (i.e. the motor) may ignite flammable or combustible items and cause a fire or explosion, which can result in serious bodily injury. Keep the mower a safe distance away from flammable or combustible items until surfaces that are hot have completely cooled. Do not store the mower near flammable or combustible items.

A damaged blade or worn blade nut may break off the mower assembly and cause serious injury. Replace the damaged blade or blade nut before using the mower.

1. **Avoid dangerous conditions** – Do not use the mower in the rain or when the grass is damp or wet.
2. **Keep children, bystanders and pets away** – Always keep children and spectators a safe distance away from the mower during operation and as the machine cools.
3. **Dress properly** – Always wear personal safety gear (i.e. glasses, rubber gloves, protective footwear and dust masks) and proper clothing when using the mower. Loose clothing, long hair or jewelry may get caught in the moving parts.
4. **Use the right appliance** – Do not use the lawn mower for any applications other than those for which it was intended.
5. **Do not force the lawn mower** – It will perform better with less likelihood of personal or mechanical injury if it is used at the rate for which it was designed.
6. **Do not overreach** – Keep proper footing and balance at all times.
7. **Stay alert** – Always be alert and watch what you are doing. Use common sense. Do not operate the lawn mower when you are tired or under the influence of alcohol or drugs.
8. **Disconnect the lawn mower** – Turn OFF and remove the batteries and the safety key when the mower is not in use, before servicing it, when changing accessories and when performing any other maintenance task.
9. **Store idle lawn mower indoors** – When not in use, the lawn mower should be stored indoors in a dry, locked place out of the reach of children.
10. **Maintain the lawn mower with care** – Keep cutting edges sharp and clean for best and safest performance.
11. **Use personal protective equipment. Always wear eye protection** – Protective equipment such as safety glasses, a dusk mask, non-skid safety shoes, a hard hat, and hearing protection, when used for appropriate conditions, will reduce the possibility of personal injuries.
12. **Avoid unintentional starting** – Ensure the switch is in the OFF position before insert the batteries or the safety key, or before picking up or carrying the tool. Carrying power tools with your finger on the switch or charging power tools with the switch ON can lead to accidents.
13. **Remove any adjusting key or wrench before starting the power tool** – A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

**14. Keep cutting blade sharp and clean –**

Properly maintained cutting blades with sharp edges are less likely to bind and are easier to control.

**15. Keep all parts of the body away from the cutting blade**

– Do not remove cut material or hold material to be cut when blade is moving. Make sure the switch is off when clearing jammed material. A moment of inattention while operating the product may result in serious personal injury.

**16. If the lawn mower strikes a foreign object, follow these steps:**

- i) Stop the lawn mower by releasing the switch lever.
- ii) Remove the batteries and the safety key.
- iii) Inspect for damage.
- iv) Repair any damage before restarting and operating the lawn mower.

**17. Only use identical replacement blades and other genuine parts.**

**18. Keep guards in place and in proper working order.**

## Electrical Safety

- 1. If the battery charger cable is damaged, please call the Snow Joe® + Sun Joe® customer service center at 1-866-SNOWJOE (1-866-766-9563).
- 2. If charging the power tool in a damp location is unavoidable, use a residual current device (RCD) protected power supply. The using of an RCD reduces the risk of electric shock.
- 3. 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.
- 4. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- 5. **Do not abuse the cord.** Never use the cord for carrying, pulling or unplugging the charger. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- 6. Battery charger is for indoor use only. Do not charge batteries in rain, or in wet locations.


## Battery + Charger Safety Instructions


**NOTE:** This unit is the tool only. The battery and the charger are not included. They must be purchased separately. Model 24V-X2-17LM-CT is compatible with the iON+ 24V System batteries and chargers. See page 17 for more information.

We pay a great deal of attention to the design of every battery pack to ensure that we supply you with batteries that are safe, durable and have a high energy density. The battery cells have a wide range of safety devices. Each individual cell is initially formatted and its electrical characteristic curves are recorded. This data is then used exclusively to be able to assemble the best possible battery packs.

Despite all the safety precautions, caution must always be exercised when handling batteries. The following points must be obeyed at all times to ensure safe use. Safe use can only be guaranteed if undamaged cells are used. Incorrect handling of the battery pack can cause cell damage.

**IMPORTANT!** Analyses confirm that incorrect use and poor care of high-performance batteries are the main factors responsible for personal and/or product damage.

 **WARNING!** Use only approved replacement batteries; other batteries may damage the lawn mower and cause it to malfunction, which can lead to serious personal injury.


 **CAUTION!** To reduce the risk of injury, charge the iON+ 24V lithium-ion battery packs only in the designated iON+ 24V lithium-ion charger. Other types of chargers present risk of fire, personal injury and damage. Do not wire the battery packs to a power supply plug or car cigarette lighter. Such misuse will permanently disable or damage the battery packs.

- **Avoid dangerous environments –** Do not charge the battery packs in rain, snow or in damp or wet locations. Do not use the battery packs or charger in the presence of explosive atmospheres (gaseous fumes, dust or flammable materials) because sparks may be generated when inserting or removing the battery packs, which could lead to a fire.
- **Charge in a well-ventilated area –** Do not block the charger vents. Keep them clear to allow for proper ventilation. Do not allow smoking or open flames near a charging battery packs. Vented gases may explode.

**NOTE:** The safe temperature range for the batteries are 41°F (5°C) to 104°F (40.5°C). Do not charge the batteries outside in freezing weather; charge it at room temperature.

- **Maintain charger cord –** When unplugging the charger, pull the plug, not the cord, from the receptacle to reduce the risk of damage to the electrical plug and cord. Never carry the charger by its cord or yank it by the cord to disconnect it from the receptacle. Keep the cord away from heat, oil and sharp edges. Make sure the cord will not be stepped on, tripped over or subjected to damage or stress when the charger is in use. Do not use the charger with a damaged cord or plug. Replace a damaged charger immediately.

- **Do not use an extension cord unless it is absolutely necessary** – Using the wrong, damaged or improperly wired extension cord poses a risk of fire and electric shock. If an extension cord must be used, plug the charger into a properly wired 18 AWG or larger extension cord with the female plug matching the male plug on the charger. Make sure that the extension cord is in good electrical condition.
- **Charger 24VCHRG-DPC is rated for 120 volt AC only** – The charger must be plugged into an appropriate receptacle.
- **Use only recommended attachments** – Use of an attachment not recommended or sold by the battery charger or battery pack manufacturer may result in risk of fire, electric shock or personal injury.
- **Unplug charger when not in use** – Make sure to remove battery packs from unplugged chargers.

 **WARNING!** To reduce the risk of electric shock, always unplug the charger before performing any cleaning or maintenance. Do not allow water to flow into the charger. Use a Ground Fault Circuit Interrupter (GFCI) to reduce shock hazards.

- **Do not burn or incinerate battery packs** – Battery packs may explode, causing personal injury or damage. Toxic fumes and materials are created when battery packs are burned.
- **Do not crush, drop or damage battery packs** – Do not use the battery packs or charger if they have sustained a sharp blow, been dropped, run over or have been damaged in any way (i.e. pierced with a nail, hit with a hammer, stepped on, etc.).
- **Do not disassemble** – Incorrect reassembly may pose a serious risk of electric shock, fire or exposure to toxic battery chemicals. If the batteries or charger are damaged, please contact an authorized Snow Joe® + Sun Joe® dealer or call the Snow Joe® + Sun Joe® customer service center at 1-866-SNOWJOE (1-866-766-9563).
- **Battery chemicals cause serious burns** – Never let a damaged battery pack contact the skin, eyes or mouth. If a damaged battery pack leaks battery chemicals, use rubber or neoprene gloves to safely dispose of it. If skin is exposed to battery fluids, wash the affected area with soap and water and rinse with vinegar. If eyes are exposed to battery chemicals, immediately flush with water for 20 minutes and seek medical attention. Remove and dispose of contaminated clothing.
- **Do not short circuit** – A battery pack will short circuit if a metal object makes a connection between the positive and negative contacts on the battery pack. Do not place a battery pack near anything that may cause a short circuit, such as paper clips, coins, keys, screws, nails and other metallic objects. A short-circuited battery pack poses a risk of fire and severe personal injury.
- **Store your battery packs and charger in a cool, dry place** – Do not store the battery packs or charger where temperatures may exceed 105°F (40.5°C), such as in direct sunlight or inside a vehicle or metal building during the summer.

## Protection from environmental influences

1. Wear suitable work clothes. Wear safety goggles.
2. Protect your cordless tool and the battery charger from moisture and rain. Moisture and rain can cause dangerous cell damage.
3. Do not use the cordless tool or the battery charger near vapors and flammable liquids.
4. Use the battery charger and cordless tools only in dry conditions and at an ambient temperature of 41°F – 105°F (5°C – 40.5°C).
5. Do not keep the battery charger in places where the temperature is liable to reach over 105°F (40.5°C). In particular, do not leave the battery charger in a car that is parked in the sunshine.
6. Protect batteries from overheating. Overloads, overcharging and exposure to direct sunlight will result in overheating and cell damage. Never charge or work with batteries that have been overheated – replace them immediately, if possible.
7. Store the charger and your cordless tool only in dry locations with an ambient temperature of 41°F – 105°F (5°C – 40.5°C). Store your lithium-ion battery packs in a cool, dry place at a temperature of 77°F (25°C). Protect the battery packs, charger and cordless tool from humidity and direct sunlight. Only place fully charged batteries in storage (charged to at least 40%).
8. Prevent the lithium-ion battery packs from freezing. Battery packs that were stored below 32°F (0°C) for more than 60 minutes must be discarded.
9. When handling batteries, be wary of electrostatic charge. Electrostatic discharges can damage the electronic protection system and the battery cells. Avoid electrostatic charging and never touch the battery poles.

## Information about the batteries

1. The battery packs supplied with your cordless lawn mower are only partially charged. The battery packs have to be charged completely before you use the tool for the first time.
2. For optimum battery performance, avoid low discharge cycles by charging the battery packs frequently.
3. Store the battery packs in a cool place, ideally at 77°F (25°C) and charged to at least 40%.
4. Lithium-ion batteries are subject to a natural aging process. The battery packs must be replaced at the latest when its capacity falls to just 80% of its capacity when new. Weakened cells in aged battery packs are no longer capable of meeting the high power requirements needed for the proper operation of your cordless lawn mower, and therefore pose a safety risk.
5. Do not throw battery packs into an open fire as this poses a risk of explosion.
6. Do not ignite the battery packs or expose them to fire.

7. Do not exhaustively discharge batteries. Exhaustive discharge will damage the battery cells. The most common cause of exhaustive discharge is lengthy storage or non-use of partially discharged batteries. Stop working as soon as the performance of the batteries falls noticeably or the electronic protection system triggers. Place the battery packs in long-term storage only after they have been fully charged.
8. Protect batteries and the tool from overloads. Overloads will quickly result in overheating and cell damage inside the battery housing even if this overheating is not apparent externally.
9. Avoid damage and shocks. Immediately replace batteries that have been dropped from a height of more than one meter or those that have been exposed to violent shocks, even if the housing of the battery packs appear to be undamaged. The battery cells inside the battery may have suffered serious damage. In such instances, please read the waste disposal information for proper battery disposal.
10. If the battery packs suffer overloading and overheating, the integrated protective cutoff will switch off the equipment for safety reasons. If this situation happens, stop the tool and let the batteries cool down for a few minutes before restarting.
11. Use only original battery packs. The use of other batteries poses a fire risk and may result in injuries or an explosion.
7. Do not overcharge batteries. Do not exceed the maximum charging times. These charging times only apply to discharged batteries. Frequent insertion of charged or partially charged battery packs will result in overcharging and cell damage. Do not leave batteries in the charger for days on end.
8. Never use or charge batteries if you suspect that it has been more than 12 months since the last time they were charged. There is a high probability that the battery packs have already suffered dangerous damage (exhaustive discharge).
9. Charging batteries at a temperature below 41°F (5°C) will cause chemical damage to the cells and may cause a fire.
10. Do not use batteries that have been exposed to heat during the charging process, as the battery cells may have suffered dangerous damage.
11. Do not use batteries that have suffered curvature or deformation during the charging process or those that exhibit other atypical symptoms (gassing, hissing, cracking, etc.)
12. Never fully discharge the battery packs (maximum recommended depth of discharge is 80%). A complete discharge of the battery packs will lead to premature aging of the battery cells.

## Information about the charger and the charging process

1. Please check the data marked on the rating plate of the battery charger. Be sure to connect the battery charger to a power supply with the voltage marked on the rating plate. Never connect it to a different mains voltage.
2. Protect the battery charger and its cord from damage. Keep the charger and its cord away from heat, oil and sharp edges. Have damaged cords repaired without delay by a qualified technician at an authorized Snow Joe® + Sun Joe® dealer or call the Snow Joe® + Sun Joe® customer service center at 1-866-SNOWJOE (1-866-766-9563).
3. Electrical plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with grounded appliances. Unmodified plugs and matching outlets will reduce the risk of electric shock.
4. Keep the battery charger, battery packs and the cordless tool out of the reach of children.
5. Do not use the battery charger to charge other cordless tools.
6. During periods of heavy use, the battery packs will become warm. Allow the battery packs to cool to room temperature before inserting them into the charger to recharge.

## IMPORTANT!

## Safety Instructions for Walk-Behind Mowers

### General Operation

- Read, understand and follow all instructions on the machine and in the manual(s) before starting.
- Do not put hands or feet near or under the machine. Always stay clear of the discharge opening.
- Only responsible adults who are familiar with the instructions should be allowed to operate this machine.
- Clear the mowing area of foreign objects such as rocks, wire, toys and other miscellaneous articles, which could be picked up and thrown by the blade. Stay behind the handle when the engine (motor) is running.
- Make sure that the mowing area is clear of bystanders before starting the machine. Stop the machine if anyone enters the area.
- Do not operate the machine barefooted or while wearing sandals. Always wear substantial footwear.
- Always look down and behind before and while moving backward with the mower.
- Never direct discharged material toward anyone. Avoid discharging material against a wall or other obstruction.



- Do not operate the machine without the entire grass catcher, discharge guard, rear guard or other safety protective devices in place and in proper working order.
- Never leave a running machine unattended.
- Stop the engine (motor) and wait until the blade comes to a complete stop before cleaning the machine, removing the grass catcher or unclogging the discharge guard.
- Operate the machine only in daylight or in good artificial light.
- Do not operate the machine when you are tired or under the influence of alcohol or drugs.
- Never operate the mower in wet grass. Always be sure of your footing; walk, never run, with the mower.
- If the machine should start to vibrate abnormally, stop the engine (motor) and immediately check the machine to ascertain the cause. Vibration is generally a signal of trouble.
- Keep the blade sharp.
- Keep hands and feet away from the cutting area.
- Always wear eye protection when operating the machine.
- Objects struck by the lawn mower blade can cause severe injuries. The mowing area should always be carefully examined and cleared of all objects prior to each mowing.
- Follow instructions for lubricating and changing accessories.
- Inspect lawn mower cord (interconnection cord) periodically and if damaged, have it repaired by an authorized service facility. Keep handles dry, clean and free from oil and grease.

## Slope Operation

Slopes are major factors related to slip and fall accidents, which can result in severe injury. Operation on all slopes requires extra caution. If you feel uneasy on a slope, do not mow it.

- Mow across the face of slopes; never mow slopes following an up and down traverse. Exercise extreme caution when changing direction on a slope.
- Watch for holes, ruts, bumps, rocks or other hidden objects. These may cause an unexpected slip or fall.
- Do not mow on wet grass or excessively steep slopes. Poor footing could cause a slip and fall accident.
- Do not mow near drop offs, ditches or embankments. You could lose your footing or balance.

## Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. Never assume that children will remain where you last saw them.
















- Keep children out of the mowing area and under the watchful care of a responsible adult other than the operator.
- Stay alert and turn the mower off if a child enters the area.
- Never let children operate the machine.
- Use extra care when approaching blind corners, shrubs, trees or other objects that may block your view of a child.

## Service

- Stop the machine and remove the batteries before servicing, cleaning, or removing grass from the lawn mower.
- Keep all nuts and bolts tight.
- Never tamper with safety devices. Regularly check to ensure these devices are in place and in proper working order.
- Keep the mower free from grass, leaves or other debris buildup.
- If you strike a foreign object, stop and inspect the machine. Repair, if necessary, before restarting.
- Never make any adjustments or repairs with the engine (motor) running. Always remove the batteries before adjusting, cleaning or repairing.
- Check the grass bag components and the discharge guard frequently and replace with manufacturer's recommended parts when necessary.
- Mower blade is sharp. Wrap the blade or wear gloves, and use extra caution when servicing it.
- Maintain or replace safety and instruction labels, as necessary.
- If your power tool requires service, contact an authorized Snow Joe® + Sun Joe® dealer or call the Snow Joe® + Sun Joe® customer service center at 1-866-SNOWJOE (1-866-766-9563). Only identical replacement parts should be utilized for repairs. This will ensure that the safety of the power tool is maintained.
- If the battery charger cable is damaged, it must be immediately replaced to avoid a hazard. Contact the Snow Joe® + Sun Joe® customer service center at 1-866-SNOWJOE (1-866-766-9563) for assistance.

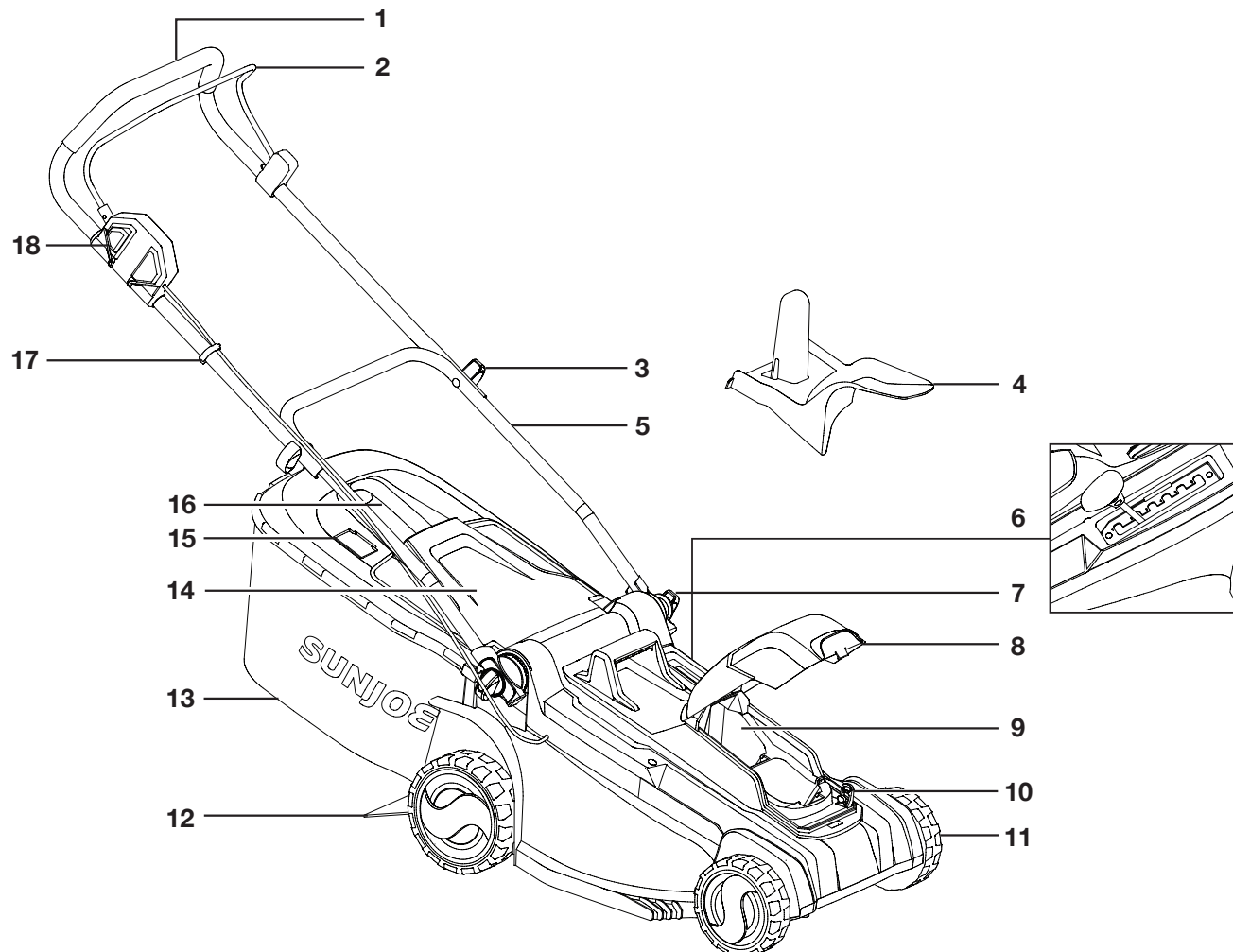
# Safety Symbols

The following table depicts and describes safety symbols that may appear on this product. Read, understand and follow all instructions on the machine before attempting to assemble and operate.

Symbols	Descriptions	Symbols	Descriptions
	<b>DANGER!</b> Rotating blades. Keep hands and feet away.		Keep bystanders and children a safe distance away.
	Safety Alert. Caution. To reduce the risk of injury, user must read instruction manual.		Wear eye and hearing protection. For protection against injury, wear ear defenders and safety goggles.
	<b>WARNING!</b> Do not expose or operate the unit in rain or wet conditions. Keep dry.		Wear protective gloves and non-slip footwear when using the machine and handling debris.
	Slip on slope hazard – Use extra caution when mowing on slopes to prevent slip and fall accidents.		Severing of toes or fingers by rotary mower blade.
	Thrown objects and rotating blade can cause severe injury.		Keep bystanders a safe distance away from the work area.
	Blade continue to rotate after machine is switched off.		<b>WARNING!</b> Always turn the machine OFF and remove the batteries and safety key before conducting inspection, cleaning and maintenance.
	Rotating blade, keep hands and feet away from the opening while the machine is running.		Look behind when backing up with the lawn mower.
	Indoor use only. Only use battery charger indoors.		

# Know Your Cordless Lawn Mower

Read the owner's manual and safety instructions carefully before operating the mower. Compare the illustration below to the mower in order to become familiar with the location of the various controls and adjustments. Save this manual for future reference.



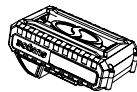
- |                                 |   |                                 |
|---------------------------------|---|---------------------------------|
| 1. Upper handle                 | 7. Quick lock wheel + knob assembly (2) | 13. Grass collection bag        |
| 2. Switch bar lever             | 8. Battery compartment cover            | 14. Ejector flap                |
| 3. Upper handle knob + bolt (2) | 9. Battery compartment                  | 15. Grass indicator window      |
| 4. Mulching plug                | 10. Safety key                          | 16. Grass collection bag handle |
| 5. Lower handle frame           | 11. Wheel (4)                           | 17. Cable clip                  |
| 6. Height adjustment lever      | 12. Rear Shield                         | 18. Safety lock button          |

**SOLD SEPARATELY**

Battery + Charger options available at [sunjoe.com](http://sunjoe.com)



24VBAT-LTE



24VBAT-LT



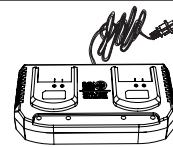
24VBAT



24VBAT-XR



24VCHRG-QC



24VCHRG-DPC

## Technical Data

Battery Voltage Max*	2 x 24 V D.C.
Battery Capacity	See page 17 for battery options and specifications
Battery Runtime Max	See page 17 for battery options and specifications
Charge Time Max	See page 17 for battery options and specifications
Motor	670 W Brushless
Cutting Width Max	17 in. (43 cm)
Cutting Height	1 in. to 3 in. (25 mm to 75 mm)
Grass Bag Capacity	11 Gal (40 L)
No Load Speed	3700 ± 5% rpm
Weight (without batteries)	30.2 lbs (13.7 kg)

\*Generates 48 V max with two 24 V lithium-ion batteries. Initial no-load voltage, per fully charged battery, peaks at 24 V. Nominal voltage under typical load is 21.6 V.

## Unpacking

### Carton Contents

- Cordless lawn mower + lower handle assembly
- Grass collection bag
- Cable clip
- Safety key
- Upper handle assembly
- Knobs and bolts (2)
- Mulching plug (inserted in rear discharge opening)
- Manuals with registration card

**NOTE:** In order to operate this cordless lawn mower you will need iON+ 24V System batteries and chargers. See page 17 for battery options and specifications, or visit [sunjoe.com](http://sunjoe.com).

1. Carefully remove the lawn mower and check to see that all of the above items are supplied.
2. Inspect the product carefully to make sure no breakage or damage occurred during shipping.

**NOTE:** Do not discard the shipping carton and packaging material until you are ready to use your new cordless lawn mower. The packaging is made of recyclable materials. Properly dispose of these materials in accordance with local regulations.

**IMPORTANT!** The equipment and packaging material are not toys. Do not let children play with plastic bags, foils, or small parts. These items can be swallowed and pose a suffocation risk!

## Battery Pack Operation

The equipment is powered by a lithium-ion battery. The battery pack is completely sealed and maintenance free.





### TOOL ONLY BATTERY + CHARGER SOLD SEPARATELY

In order to operate this cordless lawn mower you will need an iON+ 24V System battery and charger. See page 17 for battery and charger options and specifications, or for more information visit [sunjoe.com](http://sunjoe.com).

### Battery Charge Level Indicator

The battery pack is equipped with a push button for checking the charge level. Simply press the push button to read off the battery charge level from the LEDs of the battery indicator:

- All 3 level monitoring LEDs are lit: Battery charge level is high.
- 2 level monitoring LEDs are lit: Battery charge level is decreasing. Stop work as soon as possible.
- 1 level monitoring LED is lit: Battery is flat. Stop work IMMEDIATELY and charge the battery. Otherwise the battery's service life will be greatly shortened.

Lights	Light Indicators
	Charge level button
	The battery is at 30% capacity and requires charging
	The battery is at 60% capacity and requires charging soon
	The battery is at full capacity

**NOTE:** If the charge level button does not appear to be working, place the battery pack on the charger and charge as needed.

Immediately after using the battery pack, the charge level button may display a lower charge than it will if checked a few minutes later. The battery cells "recover" some of their charge after resting.



# Charger Operation

**⚠ WARNING!** Charge only iON+ 24V lithium-ion battery packs with its compatible iON+ 24V lithium-ion quick charger. Other types of batteries may cause personal injury and damage. To reduce the risk of electric shock, do not allow water to flow into the charger's AC/DC plug.

## TOOL ONLY BATTERY + CHARGER SOLD SEPARATELY

In order to operate this cordless lawn mower you will need an iON+ 24V System battery and charger. See page 17 for battery and charger options and specifications, or for more information visit [sunjoe.com](http://sunjoe.com).

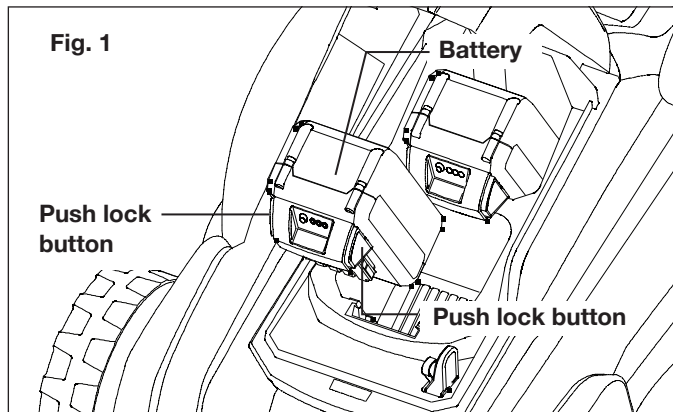
## When to Charge the iON+ 24V Lithium-iON Batteries

**NOTE:** The iON+ 24V lithium-ion battery packs do not develop a "memory" when charged after only a partial discharge. Therefore, it is not necessary to run down the battery pack before inserting the charger plug.

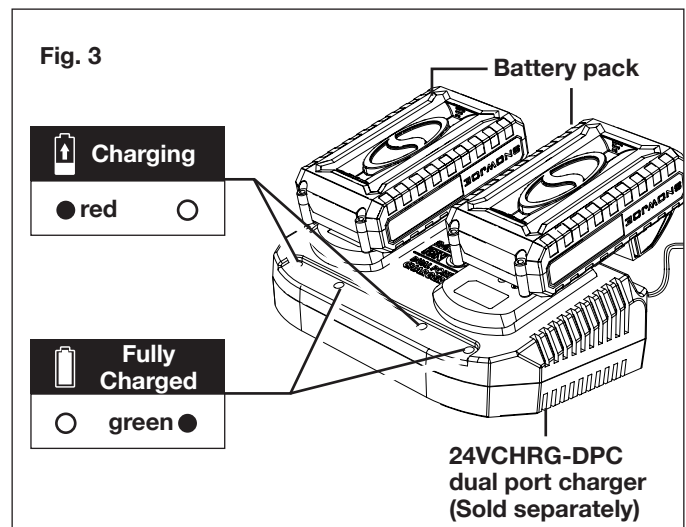
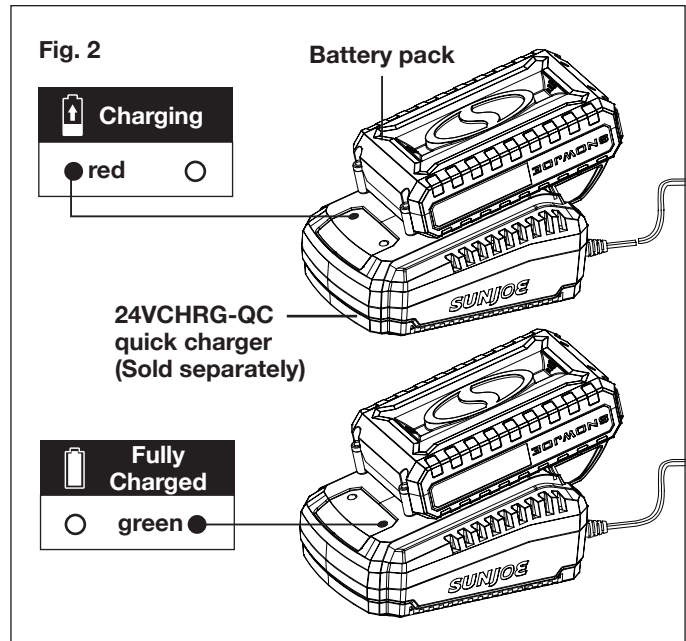
- Use the battery charge indicator lights to determine when to charge your iON+ 24V lithium-ion battery pack.
- You can "top-off" your battery pack's charge before starting a big job or after a long day of use.

## Charging the Battery

1. Push the push lock buttons on the battery to pull the battery pack out from the battery compartment (Fig. 1).



2. Depending on your Snow Joe® + Sun Joe® charger model, how to recharge your lithium-ion batteries will vary. You may either insert your 24-volt batteries into the 24VCHRG-QC Quick Charger (sold separately) or the 24VCHRG-DPC Dual Port Charger (sold separately) (Figs. 2 – 3).



3. The battery indicator LEDs will illuminate one by one during the charging process. Unplug the charger immediately when the 3 LEDs are all illuminated.
4. The 24VCHRG-QC Quick Charger (sold separately) and the 24VCHRG-DPC Dual Port Charger (sold separately) are also equipped with additional charging indicating lights which will indicate the charging status (Figs. 2 – 3).

**⚠ CAUTION!** FIRE HAZARD. When remove the batteries from the charger, be sure to unplug the charger from the outlet first, then remove the batteries from the charger.

**⚠ WARNING!** This charger does not automatically turn off when the batteries are fully charged. Please take care not to leave the batteries in the charger. Switch off or unplug the charger at the mains when charging is complete.

5. Timely recharging of the batteries will help prolong the batteries' life. You must recharge the battery packs when you notice a drop in the equipment's power.

**IMPORTANT!** Never allow the battery packs to become fully discharged as this will cause irreversible damage to the batteries.

6. When charging is complete, remove the batteries from the charger by pulling the push lock button and sliding the batteries backward to unlock it from the charger.

## Assembly

**⚠ WARNING!** Do not insert the batteries until assembly is complete. Failure to comply could result in accidental starting and serious personal injury.

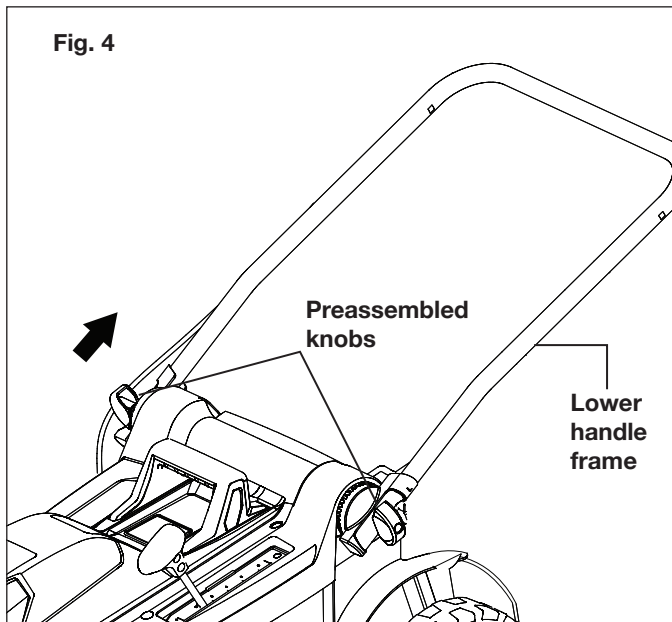
**⚠ WARNING!** Before performing any maintenance, make sure the batteries and the safety key are removed from the unit. Failure to heed this warning could result in serious personal injury.

**⚠ WARNING!** The product must be fully assembled before operation. Do not use a product that is only partially assembled or assembled with damaged parts.

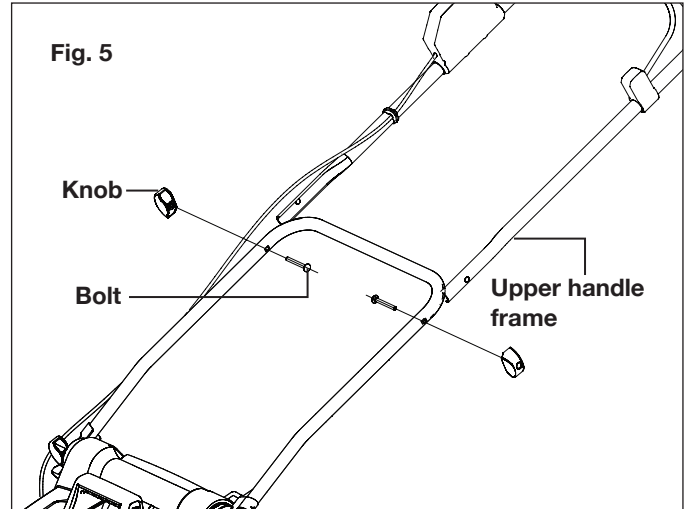
**NOTE:** Before using the mower, follow these instructions to assemble the handle and grass bag.

### Handle Assembly

1. The unit arrives with the lower handle in the storage position and the upper handle detached. Lift the lower handle to the desired height and tighten the preassembled knobs. (Fig. 4).

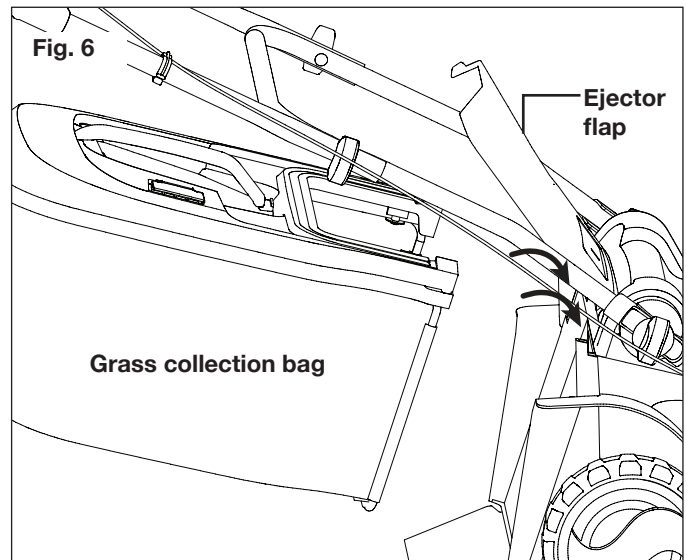


2. Fit the upper handle onto the lower handle. Insert the provided bolts into the aligned holes on the handles and secure the knobs onto the bolts (Fig. 5).

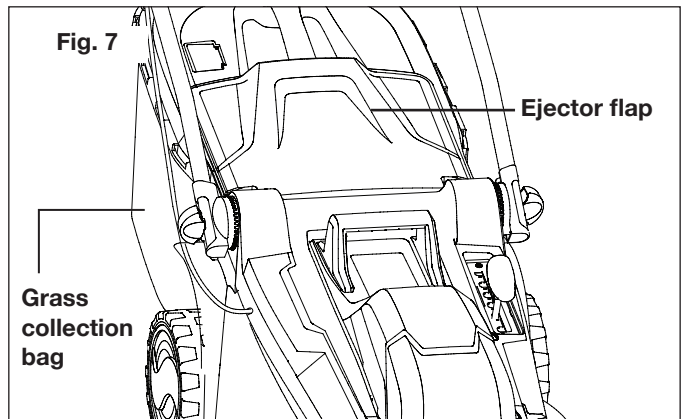


### Grass Collection Bag Fitting

1. Lift the ejector flap up, and remove the mulching plug inserted in the rear discharge opening.
2. With the ejector flap lifted up, hold the grass collection bag by the handle and hook it in from above onto the hooks on both sides (Fig. 6).



3. Release the ejector flap so that it rests on the grass bag. (Fig. 7).



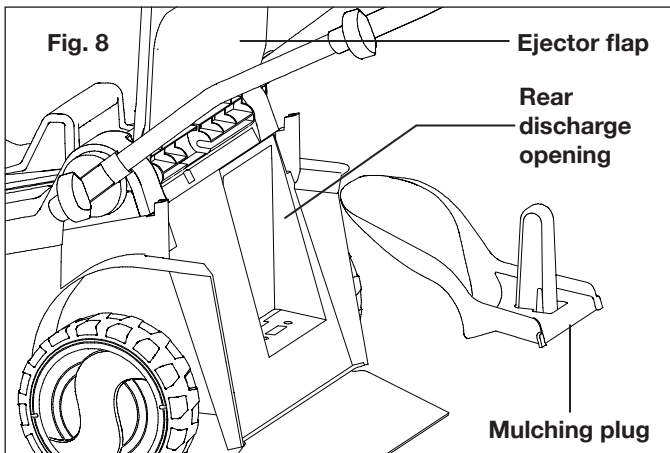
## Mulching Plug Assembly + Fitting

Your mower is equipped with a mulching plug to allow the blade to cut and recut the grass for finer clippings.

**NOTE:** When using the mulching plug, do not assemble the grass collection bag.

**NOTE:** When the grass collection bag is not attached, the mulching plug must be inserted in the rear discharge opening.

1. Lift up the ejector flap.
2. Insert the mulching plug fully into the rear discharge opening and make sure it's seated securely (Fig. 8).



3. Release the ejector flap.

## Operation

This lawn mower is intended for private residential use to cut grass in small lawns and gardens. This lawn mower is not intended to cut grass in public parks, playing fields, farms or forests. Do not use this lawn mower for any application other than that for which it is intended.

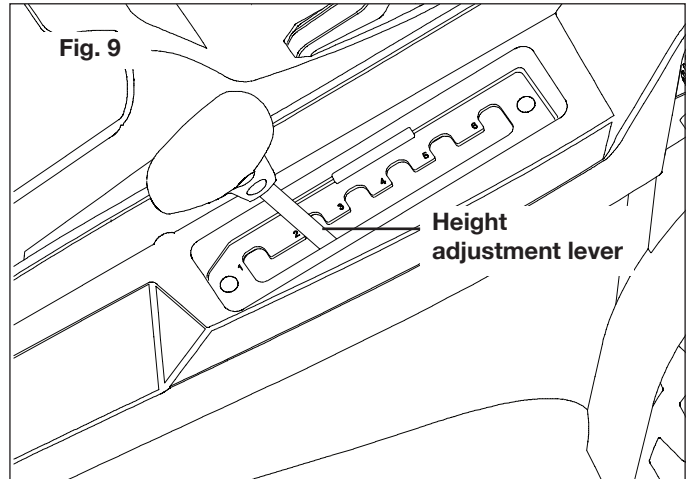
### Adjusting the Cutting Height

This cordless lawn mower is equipped with a 6-position height adjustment lever to tailor grass cutting heights from 1 in. to 3 in. (25 mm to 75 mm). To change the cutting height of the grass, follow the instructions below.

**⚠ WARNING!** Before making these adjustments, remove the batteries and the safety key from the lawn mower and wait until the rotating blade has come to a complete standstill.

**ALWAYS FOLLOW ALL SAFETY PRECAUTIONS AND RECOMMENDATIONS LISTED PREVIOUSLY IN THIS MANUAL.**

1. Power off the lawn mower and remove the batteries and the safety key.
2. Push the cutting height adjustment lever to the outside of the original slot (Fig. 9).



3. Insert the lever into the desired slot.

#### 6-Position Height Adjustment (From front to rear):

- (1) 1 in. (25 mm)
- (2) 1.4 in. (35 mm)
- (3) 1.8 in. (45 mm)
- (4) 2.2 in. (55 mm)
- (5) 2.6 in. (65 mm)
- (6) 3 in. (75 mm)

4. Reinsert the batteries and the safety key to the lawn mower and resume normal use.

## Starting + Stopping

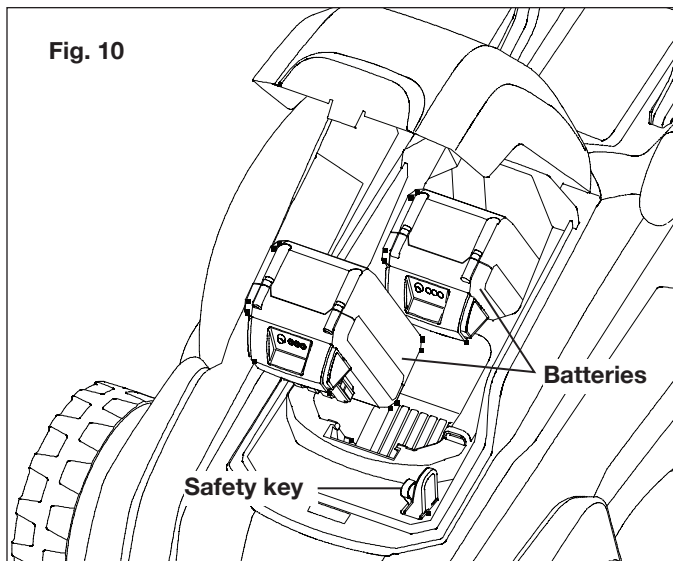
### TOOL ONLY BATTERY + CHARGER SOLD SEPARATELY

In order to operate this cordless lawn mower you will need an iON+ 24V System battery and charger. See page 17 for battery and charger options and specifications, or for more information visit [sunjoe.com](http://sunjoe.com).

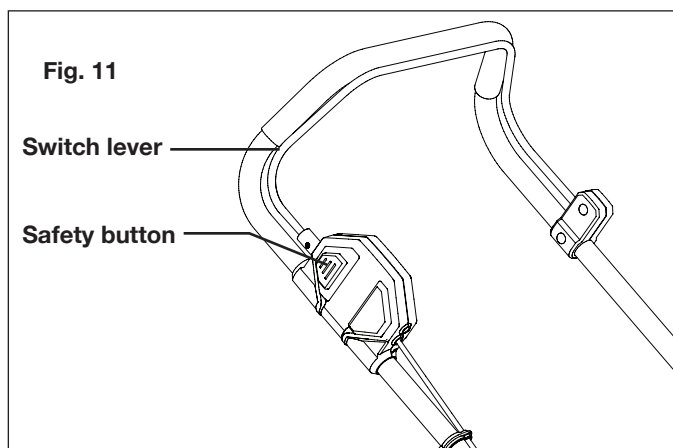
**⚠ WARNING!** Before switching on the mower, make sure that it is not in contact with any foreign objects. Keep your hands and feet a safe distance away from the rotating mower blade and the ejector opening. Failure to comply with these warnings can result in severe personal injury.

**IMPORTANT:** Do not start the mower in tall grass.

1. Make sure the unit's switch lever is not squeezed on. Insert the batteries and the safety key in their slots (Fig. 10). Close the battery compartment cover.



2. To start the machine, press and hold the safety lock button while pulling the switch lever toward you (Fig. 11).

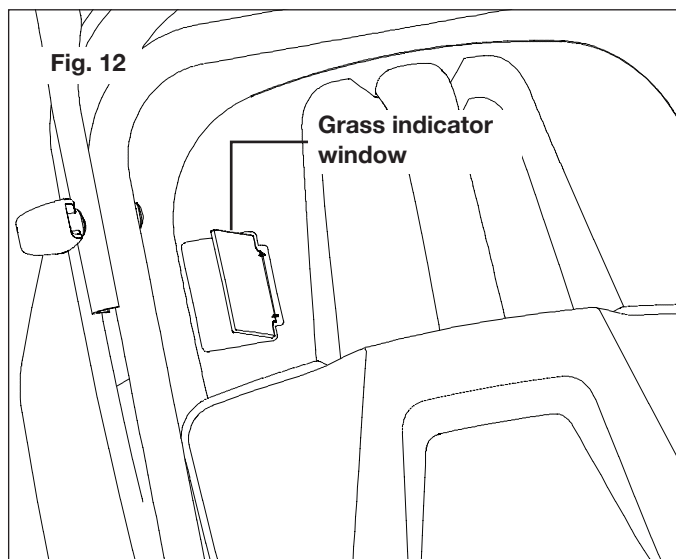


3. Once the machine powers on, release the safety lock button and proceed with operation.
4. To stop the mower, release the switch lever.

**⚠ WARNING!** The mower blade will continue to rotate for a brief period after the unit has been switched off. Do not tilt or carry the unit while the motor is still running and do not touch the blade while it is still rotating. Failure to comply could result in severe personal injury.

## Grass Bag Filling Level Indicator

1. The grass bag is equipped with a filling level indicator window that is opened by the airflow that the lawn mower generates during operation (Fig. 12).
2. If the flap closes during mowing, this indicates that the grass bag is full and must be emptied (Fig. 12).



**NOTE:** To ensure that the filling level indicator functions properly, keep the holes under the flap clean and permeable.

## Mowing Tips

**⚠ WARNING!** Inspect the area prior to mowing and remove all the stones, sticks, wires and other foreign objects that could be picked up and thrown by the rotating blade. Failure to comply not only will damage the mower blade, but can also lead to serious personal injury.

- Be sure to check the mowing blade periodically for signs of wear and replace as needed, as described in the maintenance section.

**NOTE:** A sharp blade will greatly enhance the performance of the mower, especially when cutting tall blades of grass.

- When cutting thick grass, reduce your walking speed/self-propelled speed in order to allow for a more effective cut and a proper discharge of the clippings. For a healthy lawn, always cut off one-third or less from the total length of the grass. The average lawn should be approximately 1.5 in. to 2 in. (3.8 cm to 5 cm) long during cool months, and more than 2 in. (5 cm) long during hot months. If there is growth, the lawn should be cut in the fall.
- The lawn will look better if it is always cut to the same height and in alternate directions.
- When crossing any gravelled surfaces, release the switch bar lever to turn off the mower. The stones can be picked up and thrown by the rotating blade.
- Set the mower to the highest cutting height when mowing on uneven ground or in tall weeds.

**⚠ WARNING!** If you strike a foreign object, stop the motor and remove the safety key and batteries. Thoroughly inspect the mower and repair any damage before resuming work.



- **IMPORTANT!** Never open the ejector flap when the grass collection bag has been detached (to be emptied) and the motor is still running. A rotating blade can cause serious injuries!
- Always carefully fasten the ejector flap and grass collection bag. Switch off the motor before emptying the grass collection bag. Always ensure that a safe distance (provided by the length of the long handles) is maintained between the user and the mower housing. Be especially careful when mowing and changing direction on slopes and inclines.
- Maintain a solid footing and wear sturdy, non-slip footwear and long trousers. Always mow across an incline (not up and down).
- For safety reasons, the lawn mower may not be used to mow inclines with gradients exceeding 15 degrees.
- Use special caution when backing up and pulling the lawn mower towards you as such maneuvering of the machine poses a tripping hazard.
- For effective mulching, do not cut wet grass; it tends to stick to the underside of the deck, preventing the proper mulching of grass clippings. The best time to mow grass is in the late afternoon, when the grass is dry and the newly cut area will not be exposed to direct sunlight.
- For the best mulching performance, set the cutting height to remove approximately one third of the grass length, ideally no more than 1.5 in. at one time. If the grass is overgrown, it may be necessary to increase the cut height to make it easier to mow and to prevent overloading the motor. Slow your cutting pace in tall or thick grass conditions. For mulching extremely thick or tall grass, it is advisable to first cut at a high cut-height setting, and then re-cut to the final cut height. Otherwise, make narrower cuts and mow slowly. ALWAYS MAKE SURE THAT THE BLADE IS SHARP.
- Do not clean the lawn mower with running water, particularly with high-pressure water.
- Check all nuts, bolts and screws for proper tightness before each use.
- Frequently inspect the grass collection bag assembly for signs of wear and replace immediately with a genuine part if damage is found.
- Replace excessively worn or damaged parts immediately.
- To maximize your mower's longevity, all screwed parts, including the wheels and axles, should be cleaned and lubricated. There are no parts inside the equipment which require additional maintenance or lubrication.

## Blade Maintenance

**IMPORTANT:** The mower blade is sharp and can cause severe personal injury if handled incorrectly. Wrap the blade or wear protective gloves, and use extra caution when handling.

The steel blade is designed to provide a fine cut in long or tough grass. Deterioration in the quality of cut indicates blade wear or damage. Follow these steps to determine if the blade needs to be resharpened or replaced:

1. Disconnect the power supply to the mower by removing the batteries and the safety key.
2. Turn the mower on its side to expose the underside of the blade housing.
3. Check the blade.
  - a. If the blade is blunt or has minor wear, then resharpen.
  - b. If the blade shows signs of major wear or damage (i.e. gouged, bent), replace.

**⚠ WARNING!** An excessively vibrating mower indicates that the blade is not properly balanced or has become deformed from striking an object. In this case, the blade must be repaired or replaced. Please follow the proper maintenance procedures for blade care.

## Maintenance + Care

**⚠ WARNING!** Before cleaning, repairing or inspecting the mower, stop the machine, remove the batteries and the safety key. Verify that all moving parts have come to a complete stop.

### General

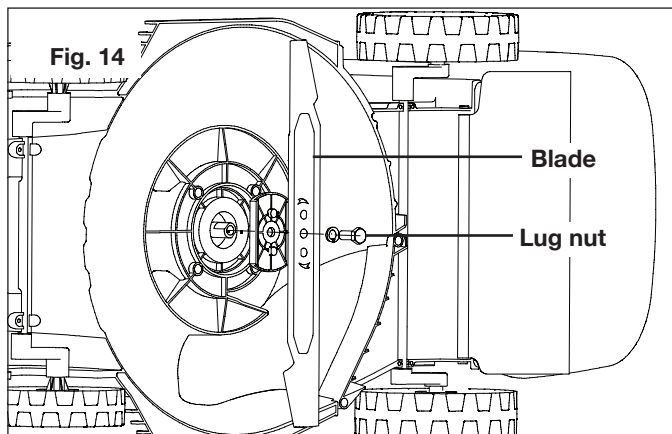
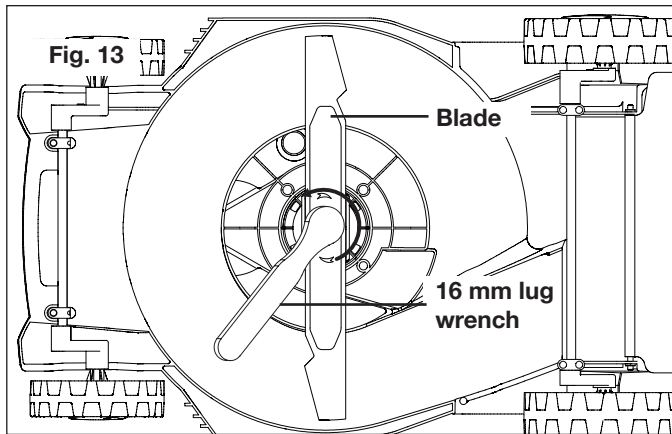
- Always keep the mower clean and free of grass, dirt or other debris.
- Keep the handles dry, clean and free of oil and grease.
- After each cutting session, remove accumulated grass clippings and debris using either a dry cloth or handbrush. You may also clean the equipment with a damp cloth and some soft, non-abrasive soap. Do not use cleaning agents or harsh solvents as they may damage the equipment's plastic components. Make sure that no water penetrates the equipment's interior as intake of water can destroy the switch mechanism and the electric motor.

## Blade Replacement

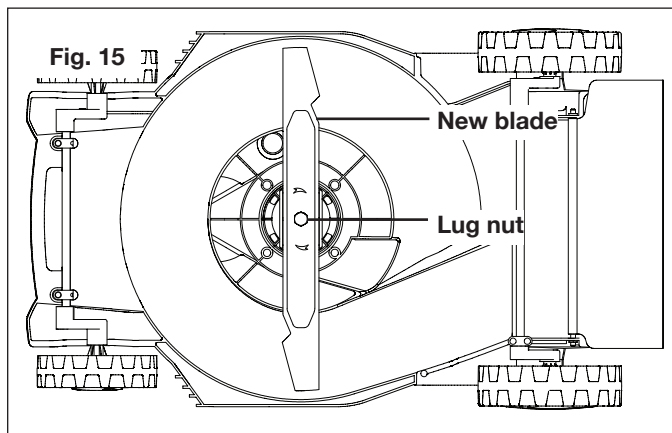
**IMPORTANT:** Only use original replacement parts specified for this mower. The use of parts that do not meet the original equipment specifications may lead to improper performance of the lawn mower, may compromise operator safety.

1. Remove the batteries and the safety key from the mower.
2. Turn the mower on its side to expose the underside of the blade housing.
3. Use a cloth to grip the blade or wear heavy-duty gloves.
4. Using a 16 mm lug wrench (not provided), remove the lug nut securing the blade by turning the lug nut counterclockwise, then carefully remove the blade (Figs. 13 to 14).





5. Fit the new blade on the same position and secure with the original lug nut (Fig. 15).

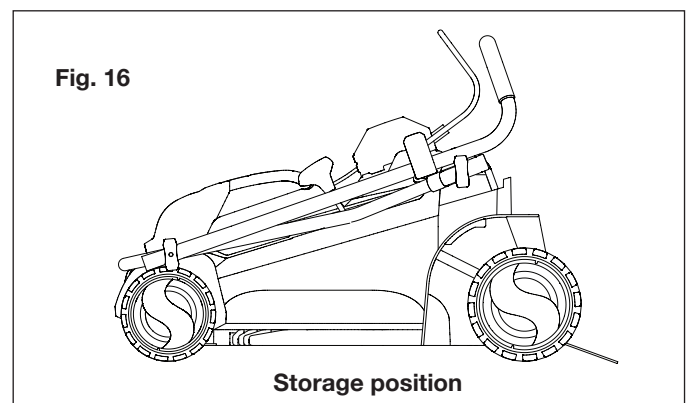


## Storage

Follow the steps below to prepare the lawn mower for storage:

1. Remove the batteries and the safety key from the battery compartment.
2. Remove the grass collection bag. Engage the height adjustment lever in the lowest cutting height slot.
3. Clean the mower with a damp cloth or hand brush.

4. Inspect the mower carefully for worn, loose or damaged parts. Check connections and screws and tighten if necessary. Pay special attention to the mower blade and replace/sharpen if it shows signs of wear. Refer to the Maintenance and Care section.
5. Store the mower indoors in a dry, clean and cool area out of the reach of children. Do not store the unit next to corrosive materials, such as fertilizer and rock salt.
6. Do not cover the lawn mower with a solid plastic sheet. Plastic coverings trap moisture around the mower, which can damage the unit.
7. The handle on your lawn mower can be completely folded for compact storage. Start by loosening all of the handle knobs of the upper handle and fold down the upper handle. Then lower the lower handle completely (Fig. 16).



## Disposal

### Recycling + Disposal

The product comes in a package that protects it against damage during shipping. Keep the package until you are sure that all parts have been delivered and the product is functioning properly. Recycle the package afterwards or keep it for long-term storage.



WEEE symbol. Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or local store for recycling regulations.

### Battery Caution + Disposal

Always dispose of your battery packs according to federal, state, and local regulations. Contact a recycling agency in your area for recycling locations.



**CAUTION!** Even discharged battery packs contain some energy. Before disposing, use electrical tape to cover the terminals to prevent the battery pack from shorting, which could cause a fire or explosion.

**⚠ WARNING!** To reduce the risk of injury or explosion, never burn or incinerate a battery pack even if it is damaged, dead or completely discharged. When burned, toxic fumes and materials are emitted into the surrounding atmosphere.

1. Batteries vary according to device. Consult your manual for specific information.
2. Install only new batteries of the same type in your product (where applicable).
3. Failure to insert batteries in the correct polarity, as indicated in the battery compartment or manual, may shorten the life of the batteries or cause batteries to leak.
4. Do not mix old and new batteries.
5. Do not mix Alkaline, Standard (Carbon-Zinc) or Rechargeable (Nickel Cadmium, Nickel Metal Hydride, or Lithium-Ion) batteries.
6. Do not dispose of batteries in fire.
7. Batteries should be recycled or disposed of as per state and local guidelines.

## Service + Support

If your Sun Joe® 24V-X2-17LM-CT cordless lawn mower requires service or maintenance, please call 1-866-SNOWJOE (1-866-766-9563) for assistance.

## Model + Serial Numbers

When contacting the company or reordering parts, you will need to provide the model and serial numbers of your product. These are found on the decal affixed to the housing or handle of your mower. Copy these numbers into the space provided below.

Record the following numbers from the housing or handle of your new product:																			
															Model #:				
2	4	V	-	X	2	-	1	7	L	M	-	C	T						
															Serial #:				

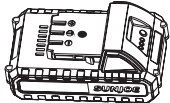
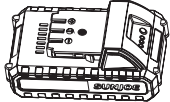
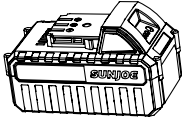

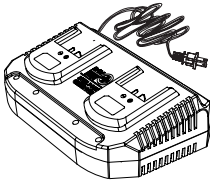
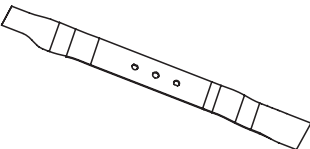
# Troubleshooting

- Remove the batteries and the safety key before carrying out maintenance on the machine or when checking that its parts are in proper working order.
- To avoid unnecessary hassles, consult the following table before contacting a qualified repair person with any mechanical issues.

<b>Fault</b>	<b>Possible Cause</b>	<b>Remedy</b>
Mower fails to start	<b>a)</b> The safety key is not inserted. <b>b)</b> The batteries are flat. <b>c)</b> The batteries are not inserted securely. <b>d)</b> The motor/blade control is disengaged. <b>e)</b> The mower deck is clogged with grass or debris. <b>f)</b> The grass is too tall.	<b>a)</b> Insert the safety key. <b>b)</b> Charge the batteries. <b>c)</b> Attach the battery packs to the mower; press them until you hear a click. <b>d)</b> Press safety lock button first, then the switch lever. <b>e)</b> Clean the mower deck. Make sure the blade is free to move. <b>f)</b> Set the mower to a high cutting height. Lift the front wheels slightly by pressing down on the handle bar.
Mower stops while mowing	<b>a)</b> The batteries are flat. <b>b)</b> The grass is too tall. <b>c)</b> The mower deck is clogged with grass or debris. <b>d)</b> The batteries or the mower circuit is too hot.	<b>a)</b> Charge the batteries. <b>b)</b> Reset the cutting height. <b>c)</b> Clean the mower deck. Make sure the blade is free to move. <b>d)</b> Cool down the batteries and the machine.
The mower cannot cut grass evenly	<b>a)</b> The lawn is rough or uneven. <b>b)</b> The blade is not sharp enough.	<b>a)</b> Adjust cutting height. <b>b)</b> Sharpen or replace the blade.
The mower cannot mulch properly	<b>a)</b> The mower deck is clogged with grass or debris. <b>b)</b> The grass is too wet. <b>c)</b> The grass is too tall. <b>d)</b> The blade is not sharp enough.	<b>a)</b> Clean the mower deck. Make sure the blade is free to move. <b>b)</b> Wait until the grass is dry. <b>c)</b> Adjust the cutting height to the high position to mow for the first time, and mow again at the desired height setting. <b>d)</b> Sharpen or replace the blade.
The mower is difficult to push	<b>a)</b> The grass is too tall to cut. <b>b)</b> The blade or the mower rear is dragged by heavy grass.	<b>a)</b> Adjust cutting height higher.
The mower is vibrating at high speed	<b>a)</b> The motor shaft is bent. <b>b)</b> The blade is unbalanced. <b>c)</b> The blade lug nut is loose.	<b>a)</b> Stop the motor, remove the batteries, and inspect the damage. Contact with a qualified repair person. <b>b)</b> Balance the blade by grinding each cutting edge equally or replace a new one. <b>c)</b> Tighten the blade lug nut.

## Optional Accessories

**⚠ WARNING!** ALWAYS use only authorized Snow Joe® + Sun Joe® replacement parts and accessories. NEVER use replacement parts or accessories that are not intended for use with this tool. Contact Snow Joe® + Sun Joe® if you are unsure whether it is safe to use a particular replacement part or accessory with your tool. The use of any other attachment or accessory can be dangerous and could cause injury or mechanical damage.

Accessories	Item	Model
	iON+ 24V 2.0 Ah Lithium-Ion Battery Battery Charge Time Max: 24VCHRG-QC: 55 min   24VCHRG-DPC: 55 min Battery Runtime Max: 30 min	24VBAT-LTE
	iON+ 24V 2.5 Ah Lithium-Ion Battery Battery Charge Time Max: 24VCHRG-QC: 1 hr 10 min   24VCHRG-DPC: 1 hr 10 min Battery Runtime Max: 37 min	24VBAT-LT
	iON+ 24V 4.0 Ah Lithium-Ion Battery Battery Charge Time Max: 24VCHRG-QC: 1 hr 50 min   24VCHRG-DPC: 1 hr 50 min Battery Runtime Max: 1 hr 5 min	24VBAT
	iON+ 24V 5.0 Ah Lithium-Ion Battery Battery Charge Time Max: 24VCHRG-QC: 2 hr 20 min   24VCHRG-DPC: 2 hr 20 min Battery Runtime Max: 1 hr 15 min	24VBAT-XR
	iON+ 24V Lithium-Ion Dual-Port Battery Charger	24VCHRG-DPC
	Cutting blade replacement	24V-X2-17LM-BLD

**NOTE:** Accessories are subject to change without any obligation on the part of Snow Joe® + Sun Joe® to provide notice of such changes. Accessories can be ordered online at [sunjoe.com](http://sunjoe.com) or via phone by contacting the Snow Joe® + Sun Joe® customer service center at 1-866-SNOWJOE (1-866-766-9563).

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## SNOW JOE® + SUN JOE® CUSTOMER PROMISE

**ABOVE ALL ELSE,** Snow Joe® + Sun Joe® are dedicated to you, our customer. We strive to make your experience as pleasant as possible. Unfortunately, there are times when a product does not work or breaks under normal operating conditions. We think it's important that you know what you can expect from us. That's why we created the Snow Joe® + Sun Joe® promise.

**OUR PROMISE:** Snow Joe® + Sun Joe® warrant new products for two years from the date of purchase. If your product does not work, or there's an issue with a specific part, we will fix this by either sending you a free replacement part or by sending you a new or comparable product at no charge. How cool is that! Before you know it, you'll be back in action cutting, sawing, mowing, washing and...?

### PRODUCT REGISTRATION:

Snow Joe®, LLC ("Snow Joe® + Sun Joe®") strongly encourages you to register your purchase. You can register online at [snowjoe.com/register](http://snowjoe.com/register), or by printing and mailing in a registration card available online from our website, or calling our Customer Service Department at **1-866-SNOWJOE (1-866-766-9563)**, or by e-mailing us at [help@snowjoe.com](mailto:help@snowjoe.com). Failure to register your product purchase will not diminish your warranty rights. However, registering your purchase will allow Snow Joe® + Sun Joe® to better serve you with any of your customer service needs.

### WHO CAN SEEK WARRANTY COVERAGE?

This Warranty is extended by Snow Joe® + Sun Joe® to the owner of this Machine (a "Machine" consists of a product powered by a motor) for residential and personal household use only. This Warranty does not apply to products used for commercial, rental or re-sale purposes. Should ownership of this machine change during the 2-year period, please update the Machine's owner information at [snowjoe.com/register](http://snowjoe.com/register).

### WHAT IS COVERED?

Snow Joe® + Sun Joe® warrants to the owner that if this Machine fails within 2 years from the date of purchase due to a defect in material or workmanship or as a result of normal wear and tear from ordinary household use, Snow Joe® + Sun Joe® will send a replacement part or product, as needed, free of charge and with free shipping to the original purchaser.

If, in Snow Joe® + Sun Joe®'s sole discretion, the failed Machine cannot be repaired with a part, Snow Joe® + Sun Joe® will elect to either (A) send a new Machine at no charge and with free shipping or (B) refund the full purchase price to the owner.

### WHAT IS NOT COVERED?

This Warranty does not apply to the Machines that have been used commercially or in non-household applications. This Warranty does not cover cosmetic changes that do not affect performance. This Warranty is only valid if the Machine is used and maintained in accordance with the instructions, warnings and safeguards contained in the owner's manual. Snow Joe® + Sun Joe® will not be responsible for the cost of any unauthorized warranty repairs. This warranty does not cover any cost or expense incurred by the purchaser in providing substitute equipment or service during reasonable periods of malfunction or non-use of this product while waiting for a replacement part or unit under this warranty.

Wearing parts like belts, augers, chains and tines are not covered under this warranty, and can be purchased at [snowjoe.com](http://snowjoe.com) or by calling **1-866-SNOWJOE (1-866-766-9563)**. Batteries are covered in full for 2 years from the date of purchase.

Repair, replacement or refund of the purchase price are the exclusive remedies of purchaser and the sole liability of Snow Joe® + Sun Joe® under this warranty. No employee or representative of Snow Joe® + Sun Joe® is authorized to make any additional warranty or any modification to this warranty which may be binding upon Snow Joe® + Sun Joe®. Accordingly, purchaser should not rely upon any additional statements made by any employee or representative of Snow Joe® + Sun Joe®. In no event, whether based on contract, indemnity, warranty, tort (including negligence), strict liability or otherwise, shall Snow Joe® + Sun Joe® be liable for any special, indirect, incidental, or consequential damages, including, without limitation, loss of profit or revenue.

Some states do not allow limits on warranties. In such states, the above limitations may not apply to you.

Outside the USA, other warranties may apply.



[sunjoe.com](http://sunjoe.com)