



# PRO SERIES 21-INCH CORDLESS SNOW BLOWER

Model iON21SB-PRO

Form No. SJ-iON21SB-PRO-880E-M

A Division of Snow Joe®, LLC

## OPERATOR'S MANUAL

## IMPORTANT! Safety Instructions

### All Operators Must Read These Instructions Before Use

Read all instructions before using this cordless snow blower. Basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.

### General Safety Rules

Notice the personal safety alert symbol  used in this manual to draw your attention to a **WARNING** given along with the particular operating instruction. This means that the operation requires special **ATTENTION, CAUTION, and AWARENESS**.

- **Keep work area clean and well lit** – Cluttered, dark areas invite accidents.
- **Keep bystanders away** – All bystanders and pets should be kept a safe distance away from the work area.
- **Dress properly** – Do not wear loose clothing or jewelry. They can get caught in moving parts. Protective rubber gloves and non-slip footwear are recommended when working outdoors.
- **Use the right product** – Do not use this machine for any job except that for which it is intended.
-  **CAUTION!** – Exercise caution to avoid slipping or falling. Wear protective footwear that will protect your feet and improve your footing on slippery surfaces.
- **Use safety glasses** – Also use safety footwear, snug-fitting clothing, protective gloves, hearing, and head protection.
- **Do not force the snow blower** – Use the snow blower at the rate for which it was designed to ensure optimal performance and safe operation.
- **Stay alert** – Watch what you are doing. Use common sense. Do not operate the snow blower when you are tired or under the influence of alcohol or drugs.
- **Do not overreach** – Keep proper footing and balance at all times.
- **Store indoors** – When not in use, the snow blower should be kept dry and stored out of the reach of children in a high or locked place.
- **Maintain snow blower with care** – Follow instructions for lubricating and changing accessories.

 **WARNING!** Turn off the power switch and disconnect the battery before making any adjustments, inspecting, servicing, changing accessories, cleaning the snow blower, or when any other dangerous conditions present. Any such operation should be performed after revolving parts inside the snow blower stop completely. Such preventive safety measures reduce the risk of starting the power tool accidentally.

 **WARNING!** When replacing any parts, you must strictly observe the instructions and procedures described in this user manual. Special care should be paid to any rubber parts, since these parts may increase the engine load and decrease its mechanical power if damaged.

 **WARNING!** If you notice that the snow blower is not running properly or hear abnormal sounds from the engine when it is in use, immediately stop the machine, disconnect the battery, and contact your authorized Snow Joe® + Sun Joe® dealer or the Snow Joe® + Sun Joe® customer service center at 1-866-SNOWJOE (1-866-766-9563).

- **Surfaces** – This snow blower is intended for use on paved surfaces. Do not use on gravel, stone, or other unpaved surfaces unless the snow blower is adjusted for such surfaces according to the instructions given in this manual.
- **Moving parts present risks** – Keep your face, hair, clothing, hands, and feet away from moving parts. All guards and safety attachments must be installed properly before using the unit. Shut off and disconnect the battery before touching any parts other than the handles and switch.
- **Avoid unintentional starting** – Make sure the safety switch and the switch bar lever are in the off position before inserting the battery in the unit. Do not carry the snow blower with the safety switch and the switch bar lever engaged.
- **Do not overreach** – Maintain proper footing and balance at all times. Place heels firmly on the ground and tightly grasp the handle bar. Watch for uneven surfaces and do not overreach. In case you fall or collide with the snow blower, inspect the unit for any damages or cracks. When stepping backwards, be careful to avoid obstacles beneath your feet or behind you to avoid falling.

 **WARNING!** If the snow blower strikes any object, follow these steps:

- i) Stop the snow blower. Remove the battery.
- ii) Inspect for damage.
- iii) Repair any damage before restarting and operating the snow blower.

# Battery & Charger

## Safety Instructions

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 cordless snow blower and cause it to malfunction, which can lead to serious personal injury.

**⚠ CAUTION!** To reduce the risk of injury, charge the EcoSharp® PRO iBAT40XR lithium-ion battery pack only in its designated lithium-ion charger, the iCHRG40. Other types of chargers present risk of fire, personal injury, and damage. Do not wire a battery pack to a power supply plug or car cigarette lighter. Such misuse will permanently disable or damage the battery pack.

- **Avoid dangerous environments** – Do not charge the battery pack in rain, snow, or in damp or wet locations. Do not use the battery pack 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 pack, 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 pack. Vented gases may explode.

**NOTE:** The safe temperature range for the battery is -4°F (-20°C) to 113°F (45°C). Do not charge the battery 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 16 gauge 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 iCHRG40 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 pack or charger if either one of these components has sustained a sharp blow, been dropped, run over, or 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 battery or charger are damaged, 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) for assistance.
- **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 pack and charger in a cool, dry place** – Do not store the battery pack or charger where temperatures may exceed 104°F (40°C), such as in direct sunlight or inside a vehicle or metal building during the summer.

## Information about the battery

1. The battery pack supplied with your cordless snow blower is only partially charged. The battery pack has 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 pack frequently.
3. Store the battery pack in a cool place, ideally at 59°F (15°C) and charged to at least 40%.
4. Lithium-ion batteries are subject to a natural aging process. The battery pack must be replaced at the latest when its capacity falls to just 80% of its capacity when new. Weakened cells in an aged battery pack are no longer capable of meeting the high power requirements needed for the proper operation of your snow blower, 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 pack or expose it 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 battery falls noticeably or the electronic protection system triggers. Place the battery pack in storage only after it has 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 pack appears 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 pack suffers overloading and overheating, the integrated protective cutoff will switch off the equipment for safety reasons.

**IMPORTANT!** Do not press the ON/OFF switch any more if the protective cut-off has been activated. This may damage the battery pack.

11. Use only original battery packs. The use of other batteries poses a fire risk and may result in injuries or an explosion.

## 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 pack(s), and the cordless tool out of the reach of children.
5. Do not use the supplied battery charger to charge other cordless tools.
6. During periods of heavy use, the battery pack will become warm. Allow the battery pack to cool to room temperature before inserting it into the charger to recharge.
7. Do not overcharge batteries. Do not exceed the maximum charging times. These charging times only apply to discharged batteries. Frequent insertion of a charged or partially charged battery pack 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 pack has already suffered dangerous damage (exhaustive discharge).
9. Charging batteries at a temperature below 50°F (10°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 pack (maximum recommended depth of discharge is 80%). A complete discharge of the battery pack will lead to premature aging of the battery cells.

## 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 50-104°F (10-40°C).
5. Do not keep the battery charger in places where the temperature is liable to reach over 104°F (40°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 50-104°F (10-40°C). Store your lithium-ion battery pack in a cool, dry place at a temperature of 50-68°F (10-20°C). Protect the battery pack, 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 pack 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.

## Additional Safety Instructions

### Safety Instructions for Walk-Behind Snow Blowers

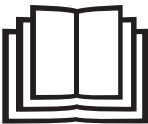
- **Read the operator's manual carefully** – Learn your snow blower's applications and limitations as well as the specific potential hazards related to this machine. Do not use this machine for any purpose other than the one for which it was designed. Failure to adhere to these precautions may cause mechanical defaults, serious damage, or personal injury.
- **Preliminary unit inspection** – Thoroughly inspect the unit before use. Make sure all the parts are secure and installed correctly. If you notice any abnormalities, do not use the machine until it has been properly repaired. Always perform a test run the first time you use the snow blower or after replacing parts to ensure that the unit is functioning properly.
- **Preliminary area inspection** – Clear the area to be plowed before each use. Remove all objects such as rocks, broken glass, nails, wire, or string, which can be thrown by or become entangled in the snow blower. Keep the area of operation clear of all persons, children, and pets.
- **Excessive force** – The snow blower was designed to respond at a certain rate for various snow conditions for optimal safety and performance. Do not force it; keep the applied pressure constant throughout its operation.
- **Malfunctioning switch** – Do not use the snow blower if the switch does not turn it on and off. Any appliance that cannot be controlled by the switch is not safe to use and must be repaired.
- **Hitting an object** – If the snow blower accidentally strikes an object, first stop the snow blower and remove the battery; next, inspect for damage; finally, repair or replace any damaged part before restarting and operating the snow blower.
- **Discharge chute safety** – Never direct the snow discharge chute at the operator, at bystanders, at vehicles, or at windows. The discharged snow, which may contain foreign objects accidentally picked up by the snow blower, can cause serious damage and personal injury. Do not use your hands to unclog the discharge chute. Stop the motor before removing debris.
- **Hand-held operating position** – Operation of the snow blower in the hand-held position is unsafe.
- **Abnormal operation** – If you find that the snow blower is not running properly or hear abnormal sounds from the engine, immediately stop the machine, remove the battery, and 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) for assistance.
- **Noise control** – When using the snow blower, respect the local laws and regulations regarding noise control and environmental protection. To avoid noise disturbance, you should carefully decide upon an appropriate operation time and consider the surrounding conditions.
- **When work is completed** – Disconnect the snow blower from the power source when not in use, when changing accessories, and before performing any maintenance task.
- **Store safely** – Store the snow blower indoors in a dry area between uses. Keep in a locked area, where children and unauthorized users cannot gain access. Do not store the machine while it is still connected to the power source. It may cause damage and injury.
- **Maintain for safety and longevity** – Check for misalignment or binding of moving parts, breakage of parts, and any other conditions that may affect the unit's operation. If damaged, repair or replace the damaged part before use. Use only those replacement parts made for your model. When replacing any parts, you must strictly observe the instructions and procedures described in this manual. Special care should be paid to any rubber parts, since these parts may increase the engine load and decrease its mechanical power if damaged.

## Electrical Safety

- **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.
- **Avoid accidental starting** – Make sure the safety switch and the switch bar lever are in the OFF position before inserting the battery pack into the unit. Do not carry the snow blower with the safety switch and switch bar lever engaged.

## Safety Symbols

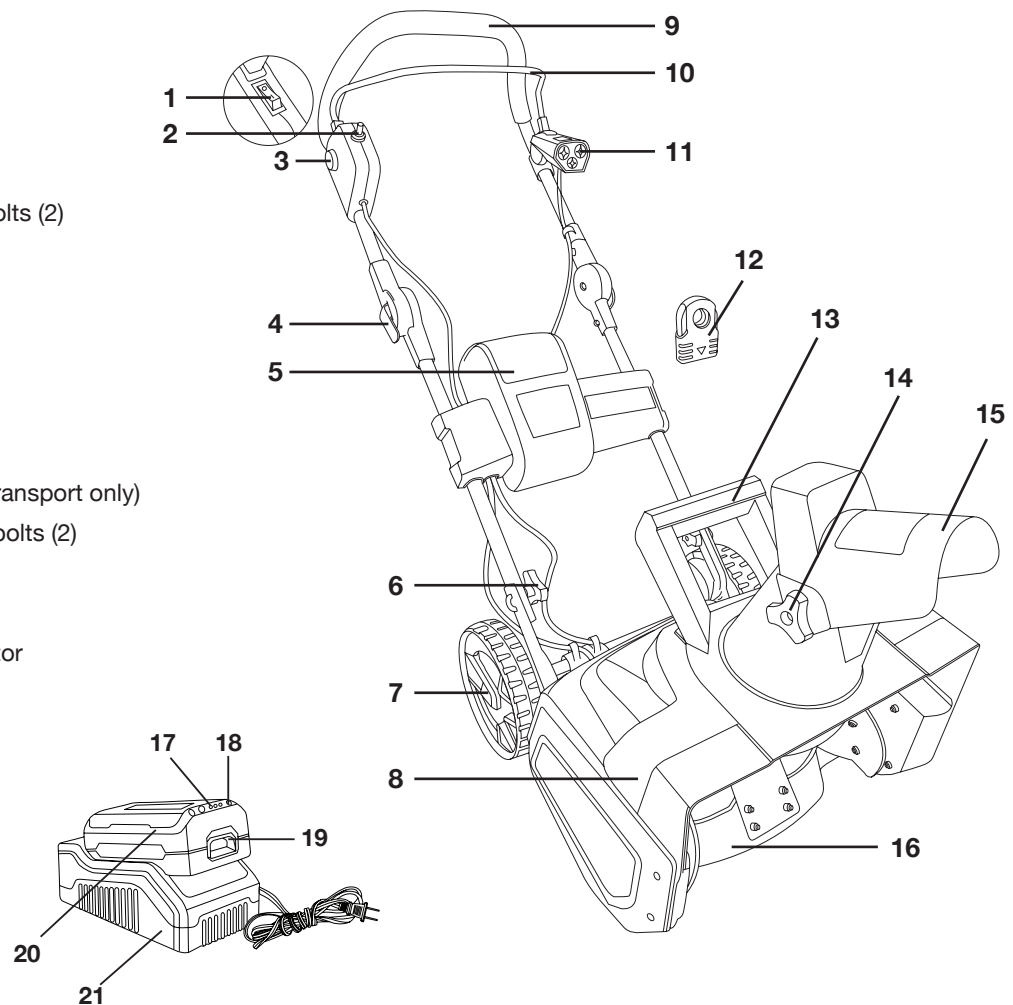
The following table depicts and describes safety symbols that may appear on this product. Read, understand and follow all instructions on the machine before attempting to assemble and operate.

| Symbols                                                                             | Descriptions                                                                                                                                         | Symbols                                                                              | Descriptions                                                                                                                                                        |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>READ THE OPERATOR'S MANUAL(S)</b> – Read, understand and follow all instructions in the user manual(s) before attempting to assemble and operate. |    | <b>WARNING!</b> Do not expose the unit to rain or wet conditions. Keep dry.                                                                                         |
|    | <b>SAFETY ALERT</b> – Indicates a precaution, a warning or a danger.                                                                                 |    | <b>DANGER!</b> Cutting/dismemberment hazard - Keep feet away from the rotating auger.                                                                               |
|   | Wear hearing protection.<br>Wear eye protection.<br>Wear breathing protection.                                                                       |   | <b>CAUTION!</b> Beware of stones and other foreign objects that could be thrown from the appliance.                                                                 |
|  | Keep hands, feet, and clothing away from the rotating auger to avoid injury.                                                                         |  | The rotating part will continuously run for several seconds after you turn off the machine.                                                                         |
|  | Wear protective gloves and non-slip footwear when using the machine and handling debris.                                                             |  | Keep bystanders and children a safe distance (at least 33 ft/10 m) away from the work area.                                                                         |
|  | Do not use hands to unclog chute.                                                                                                                    |  | <b>DANGER!</b> Cutting/dismemberment hazard – Keep hands away from the rotating auger. Do not use hands to unclog rotor housing. Stop motor before removing debris. |
|  | <b>WARNING!</b> Always turn the machine OFF and remove the safety key before conducting inspection, cleaning, and maintenance.                       |  | Indoor use only. Only use battery charger indoors.                                                                                                                  |

# Know Your Cordless Snow Blower

Read the owner's manual and safety rules carefully before operating your cordless snow blower. Compare the illustration below to the actual unit in order to familiarize yourself with the location of the various controls and adjustments. Save this manual for future reference.

1. LED light switch
2. Chute remote switch
3. Safety switch button
4. Handle lock/release clips
5. Battery compartment
6. Handle knobs and square J-bolts (2)
7. Wheels
8. Main cover
9. Handle bar
10. ON/OFF switch bar lever
11. LED light
12. Safety key
13. Carrying or lifting handle (for transport only)
14. Deflector knobs and carriage bolts (2)
15. Chute deflector
16. Auger
17. Push button for battery indicator
18. Battery indicator
19. Push lock button
20. EcoSharp® PRO lithium-ion battery (IBAT40XR)
21. EcoSharp® battery charger (iCHRG40)



## Technical Data

|                        |                                  |                                             |                          |
|------------------------|----------------------------------|---------------------------------------------|--------------------------|
| Battery Voltage*       | 40 V D.C.                        | Depth of Snow Cut                           | 8 in. (20 cm)            |
| Battery Capacity       | 5.0 Ah                           | Throw Distance (Max)                        | 20 ft (6 m)              |
| Charging Time          | 3 – 3.5 hours (for full charge)  | Plowing Capacity (Max)                      | 660 lbs/min (300 kg/min) |
| Battery Run Time (Max) | 65 min                           | Directional Control                         | 180° auto-rotate chute   |
| No Load Speed          | 1750 ± 10% rpm                   | LED Light                                   | 3 watt                   |
| Rotor                  | Steel auger with 2 rubber blades | Weight (snow blower alone)                  | 33.4 lbs (15.1 kg)       |
| Motor                  | Brushless                        | Weight (snow blower with battery installed) | 36 lbs (16.3 kg)         |
| Clearing Width         | 21 in. (53 cm)                   |                                             |                          |

\*Initial no-load voltage, when fully charged, peaks at 40 volts; nominal voltage under typical load is 36 volts.

# Unpacking

## Carton Contents:

- Cordless snow blower
- EcoSharp® PRO 40 V 5.0 Ah battery
- EcoSharp® 40 V battery charger
- Safety key
- Handle knobs/Deflector knobs (4)
- Square J-bolts (2)
- Carriage bolts (2)
- Rubber washers (2)
- Manual with registration card

1. Carefully remove the cordless snow blower 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. If you find damaged or missing parts, DO NOT return the unit to the store. Please call the Snow Joe® + Sun Joe® customer service center at 1-866-SNOWJOE (1-866-766-9563).

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

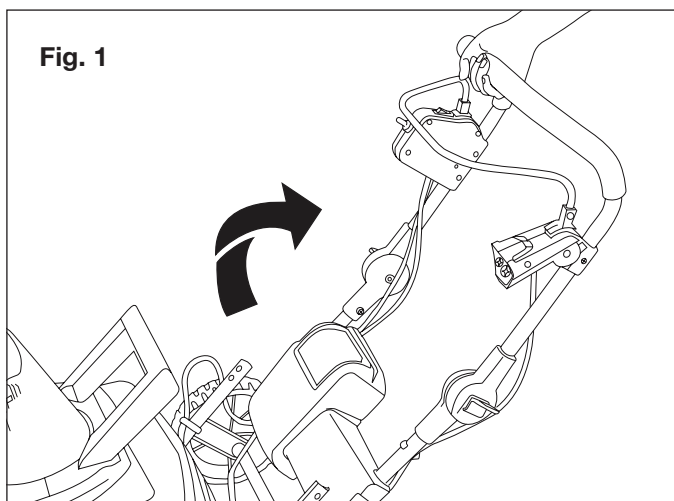
**IMPORTANT!** The equipment and packaging material are not toys. Do not let children play with plastic bags, foils, or small parts. These items can be swallowed and pose a suffocation risk!

## Assembly

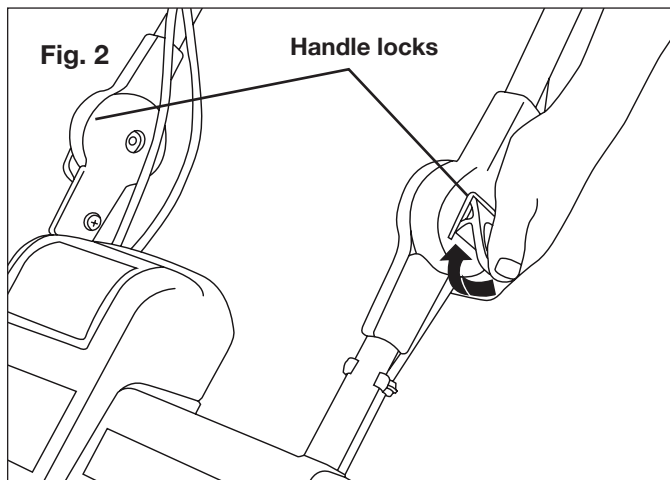
### Assembling the handles

For easy assembly, your snow blower comes equipped with most of its parts already connected. In just a few simple steps, your snow blower will be ready for use.

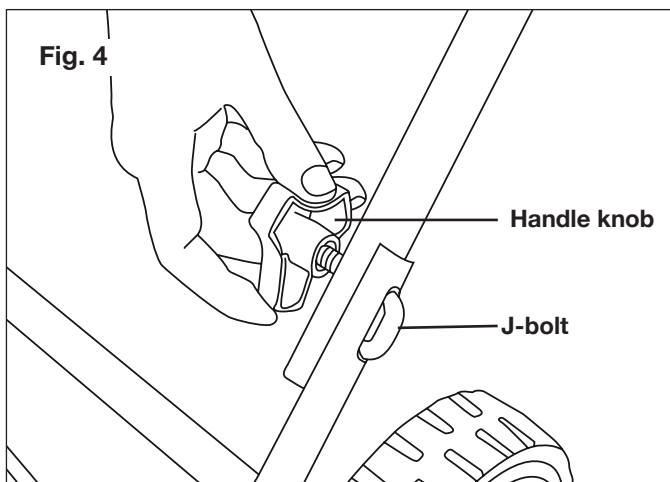
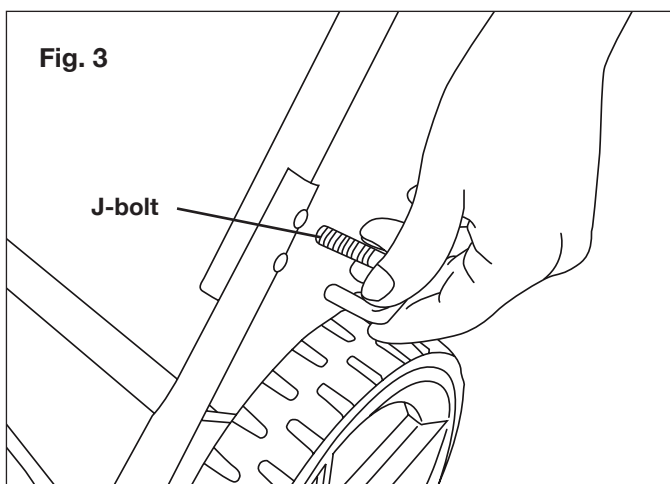
1. To engage the handle, pull up on the upper frame (Fig. 1).



2. Secure the connection of the middle frame to the upper frame by fastening the handle locks on each side (Fig. 2).

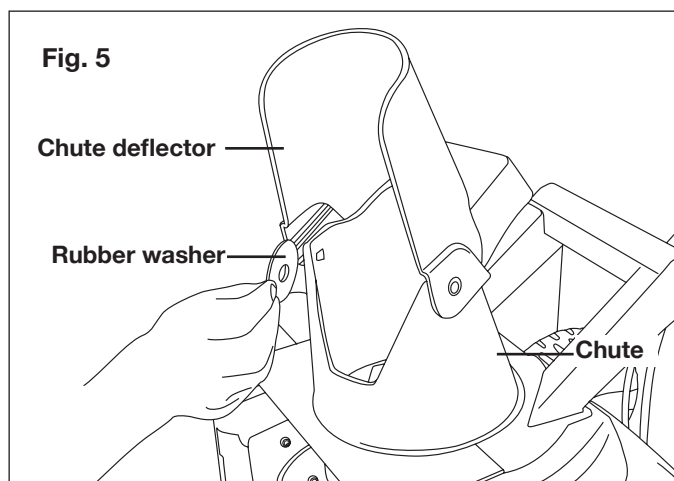


3. Secure the connection of the lower frame to the middle frame by installing the J-bolts and fastening the handle knobs on each side (Figs. 3 & 4).



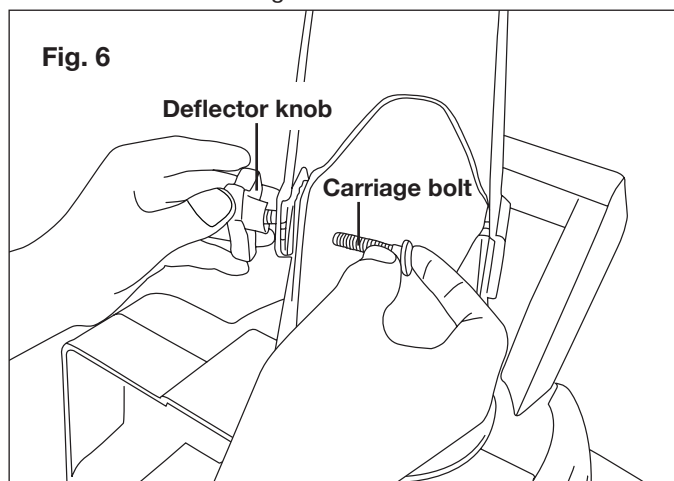
## Discharge Chute Assembly

1. Lift the chute deflector onto the discharge chute until it locks securely into place.
2. Insert the rubber washers between the chute and the chute deflector on each side (Fig. 5).



3. Install the carriage bolts through the inside of the chute, and fasten with the deflector knobs on each side (Fig. 6)

**NOTE:** Do not overtighten the knobs.



4. Raise or lower the chute deflector by loosening and tightening the deflector knobs to achieve the desired snow stream height.

## Battery Pack Operation

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

### 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.

**NOTE:** 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 EcoSharp® PRO iBAT40XR lithium-ion battery packs in compatible EcoSharp® iCHRG40 lithium-ion battery chargers. 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.

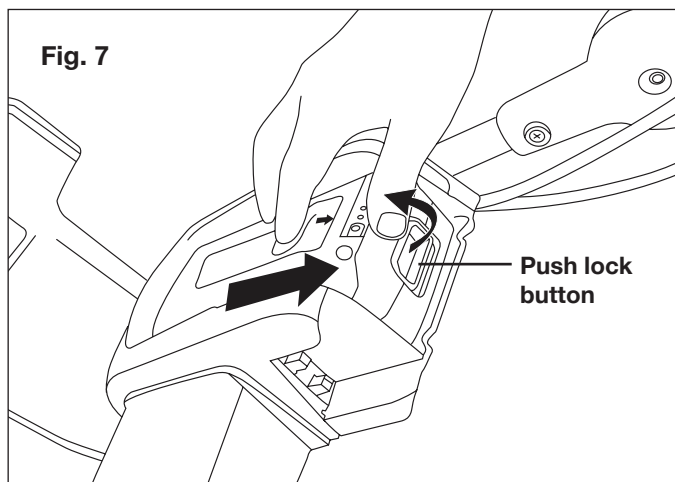
### When to Charge the EcoSharp® PRO iBAT40XR Lithium-Ion Battery

**NOTE:** The EcoSharp® PRO iBAT40XR 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 placing it into the charger.

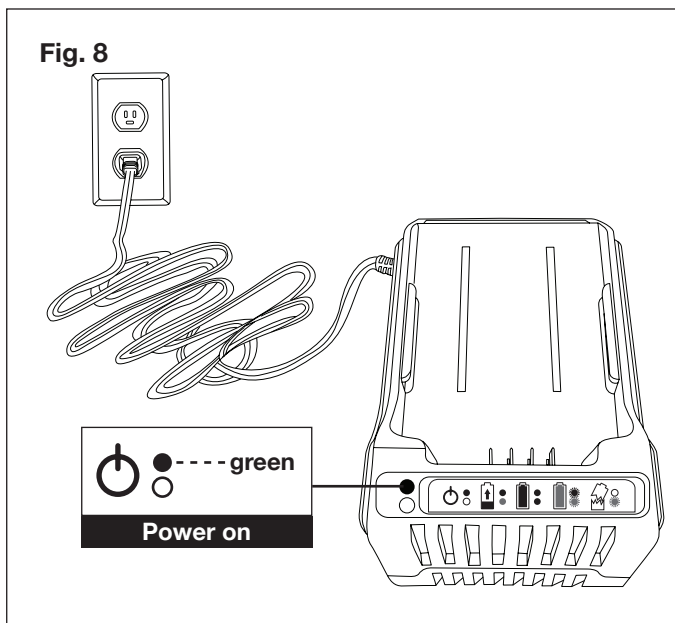
- Use the battery charge indicator lights to determine when to charge your EcoSharp® PRO iBAT40XR lithium-ion battery pack.
- You can "top-off" your battery pack's charge before starting a big job or after a long day of use.

## Charging the Battery

1. Pull the push lock button on the battery to pull the battery pack up and out of the equipment (Fig. 7).

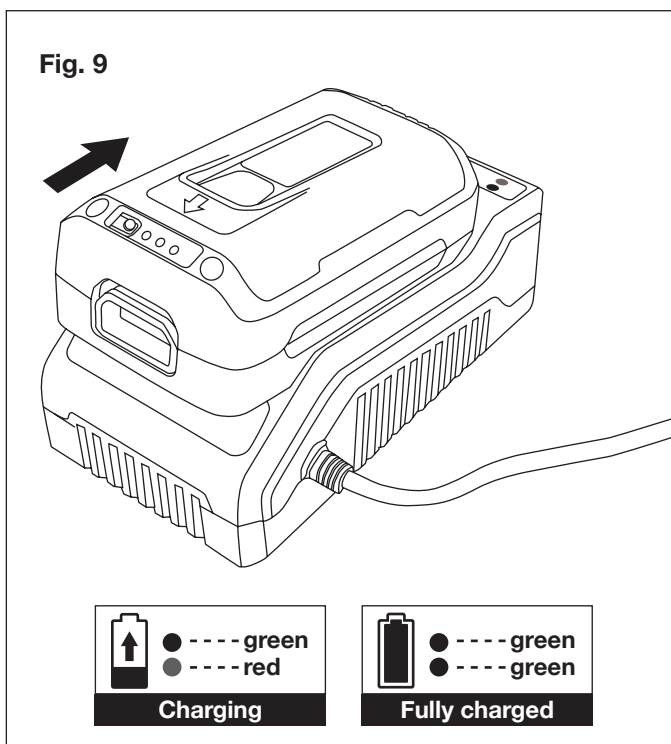


2. Check that the mains voltage is the same as that marked on the rating plate of the battery charger. Then, insert the charger's plug into the electrical wall outlet. When you plug in the charger, the top green light will illuminate and stay green (Fig. 8).



3. Place the battery pack into the charger by sliding the pack as shown to lock it into position. When you insert the battery into the charger, the bottom red light will illuminate to indicate that the battery is charging (Fig. 9).

4. When the bottom light turns green, the battery is fully charged (Fig. 9).

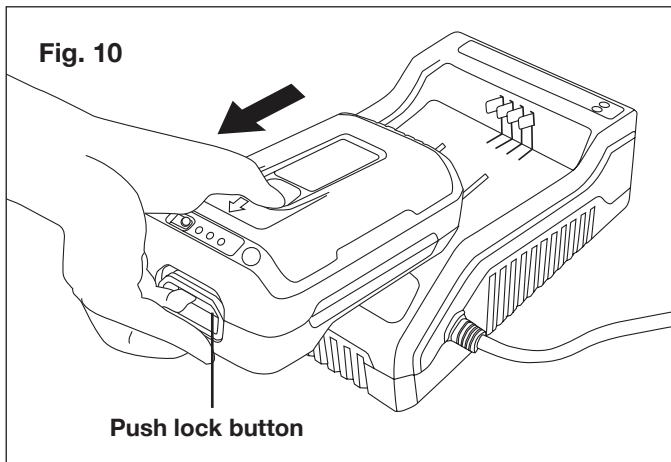


**NOTE:** If the top light remains green while the bottom light alternately flashes red and green, this indicates a temperature abnormality (i.e. that the battery pack is either too hot or too cold). If there is only a red blinking light, this indicates that something is wrong with the battery. Contact the Snow Joe® + Sun Joe® customer service center at 1-866-SNOW-JOE (1-866-766-9563) for assistance.

|                                                                        |                                                      |
|------------------------------------------------------------------------|------------------------------------------------------|
| ● --- Green<br>● --- Flashing red/green<br><b>Temperature abnormal</b> | ● --- Flashing red only<br><b>Something is wrong</b> |
|------------------------------------------------------------------------|------------------------------------------------------|

5. A fully discharged iBAT40XR battery pack with an internal temperature in the normal range will fully charge in 3 to 3.5 hours (between 32°F/0°C and 113°F/45°C). Heavily cycled battery packs may take longer to charge completely.
6. If the charging light indicator alternately blinks red and green or the light indicator does not come on at all, check that the battery pack is fully seated into the bay. Remove the pack and reinsert. If the problem persists, contact the Snow Joe® + Sun Joe® customer service center at 1-866-SNOWJOE (1-866-766-9563) for assistance.

- When charging is complete, remove the battery from the charger by pulling the push lock button and sliding the battery backward to unlock it from the charger (Fig. 10).



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

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

## Charging a Hot or Cold Battery Pack

A red and green flashing indicator light on the charger indicates that the battery pack temperature is outside the charging range. Once the pack is within the acceptable range, normal charging will take place and the red light will be continuous. Hot or cold battery packs may take longer to charge.

| Lithium-Ion Charging Status |                             |                 |
|-----------------------------|-----------------------------|-----------------|
| Battery Pack Temperature    | Red Charger Indicator Light | Charging Status |
| Too hot                     | Flashing                    | Not charging    |
| Normal range                | Continuous                  | Normal charging |
| Too cold                    | Flashing                    | Not charging    |

## Operation

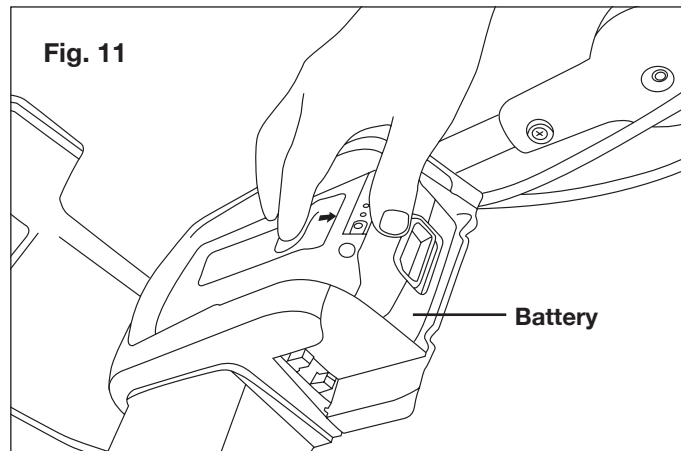
**⚠ WARNING!** Keep the area to be cleared free of stones, toys, or other foreign objects that the rotor blades might pick up and throw. Such items could be covered by snow and are easy to overlook, so be sure to conduct a thorough inspection of the area before beginning work.

**NOTE:** Before using this machine, make sure that the snow blower's auger and rubber plates are firmly secured with screws, and that the rubber plates are facing the correct direction. Perform a test run to ensure that the auger turns freely.

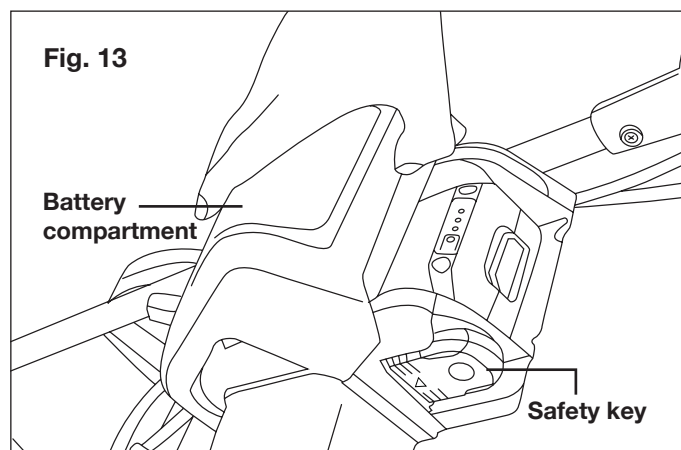
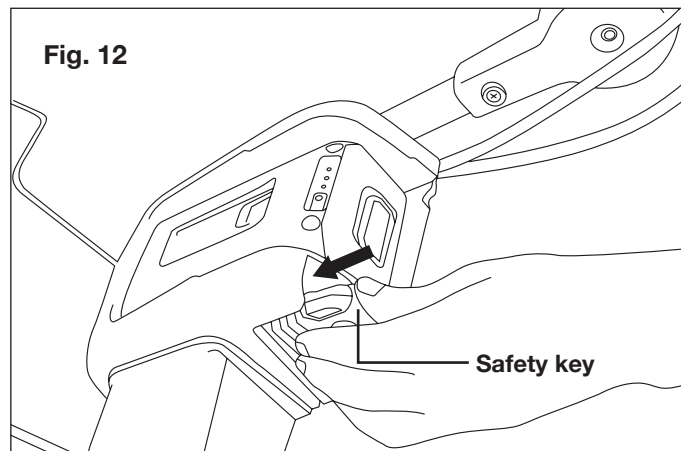
## Starting the Machine

**NOTE:** While it is recommended to use the supplied EcoSharp® PRO iBAT40XR battery pack with the iON PRO snow blower for optimal performance, the iON PRO is also compatible with the EcoSharp® iBAT40 battery pack should you wish to use this battery with this machine.

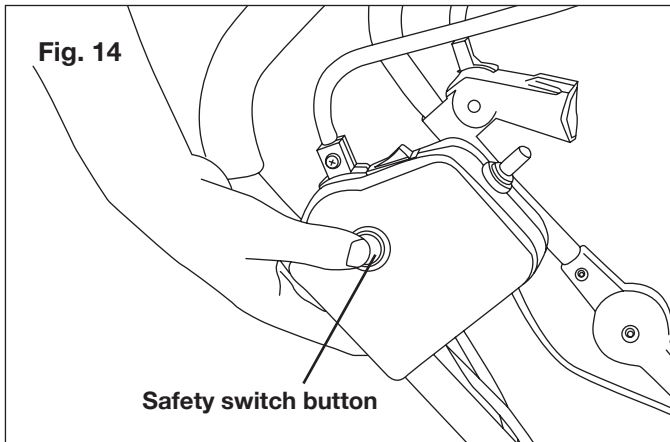
- Open the battery compartment cover and slide the battery down until it clicks to lock it into position (Fig. 11).



- Insert the safety key into the slot and close the battery compartment cover (Figs. 12 & 13).

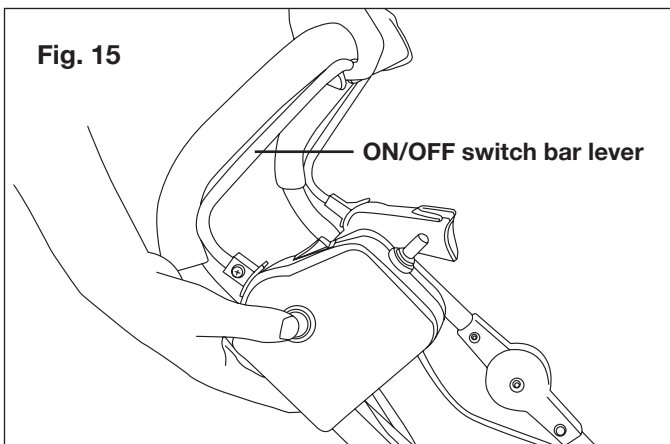


3. To start the cordless snow blower, first press the safety switch button found alongside the switch housing (Fig. 14).



4. While depressing the safety switch button, pull the ON/OFF switch bar lever toward you. Once the machine powers on, release the safety switch button and proceed with operation (Fig. 15).

**NOTE:** The machine can only be started by depressing the safety switch button first, followed by squeezing the ON/OFF switch lever; reverse operation will not start the machine.



5. To power off, release your grip on the ON/OFF switch bar lever.

## Operating Tips

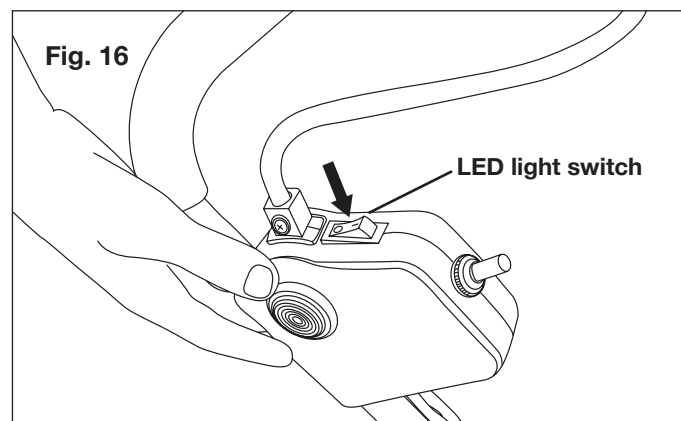
**⚠ WARNING!** Foreign objects, such as rocks, broken glass, nails, wire, or string, can be picked up and thrown by the snow blower, causing serious personal injury. Remove all foreign objects from the area to be plowed before operating the snow blower.

1. Keep the area of operation free of foreign objects that can become thrown by the rotor blades. Perform a thorough inspection of the area since some objects may be hidden from view by surrounding snow. If the snow blower hits an

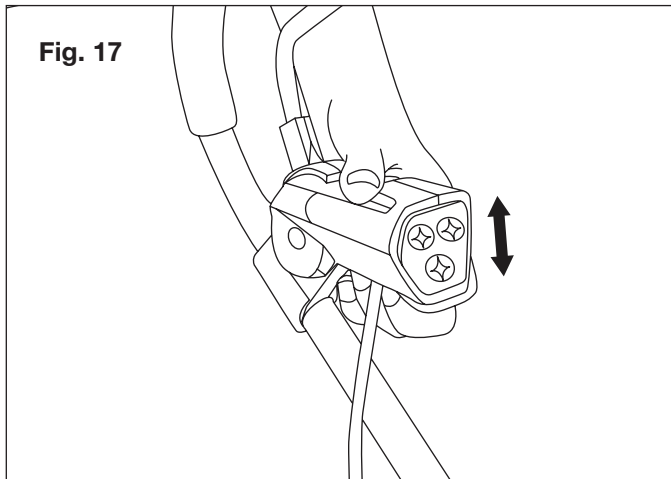
obstruction or picks up a foreign object during use, stop the snow blower, remove the battery, remove the obstruction, and inspect the unit for damage. Repair or replace any damaged part before restarting and operating the unit.

2. Keep children, pets, and bystanders away from the area of operation. Be aware that the normal noise of the machine when turned on may make it difficult for you to hear approaching people.
3. When moving the snow blower, use the wheels as the pivot point. Slightly tilt the snow blower on this pivot point to move it forward or backward.
4. Start your clearing path outward, throwing snow in a back and forth motion. To clear in the opposite direction, pivot the snow blower on its wheels. Make sure to overlap clearing paths.
5. Note the wind direction. If possible, move in the same direction as the wind so that the snow is not thrown against the wind (and thus back into your face and onto the just-cleared path).
6. Do not push the snow blower with excessive force. You should push the machine gently and evenly in accordance with the unit's throw rate.
7. Do not apply additional man-made load to the motor since this may cause motor damage.
8. Some parts of the snow blower may freeze under extreme temperature conditions. Do not attempt to operate the snow blower with frozen parts. If the parts freeze while the snow blower is in use, stop the snow blower, remove the battery, and inspect for frozen parts. Free all parts before restarting or operating the snow blower. Never force controls that have frozen.
9. When working on pebbles, gravel, or unpaved surfaces, avoid throwing loose surface material along with the snow by pushing down on the handle to raise the scraper at the base of the unit above the pebbles or gravel.
10. To utilize the LED light for nighttime snow removal, activate the LED light switch located on the switch bar harness (Fig. 16).

**NOTE:** After you have finished using your snow blower, remember to turn OFF the light switch.



11. The LED light can be adjusted by moving it up and down as depicted (Fig. 17).

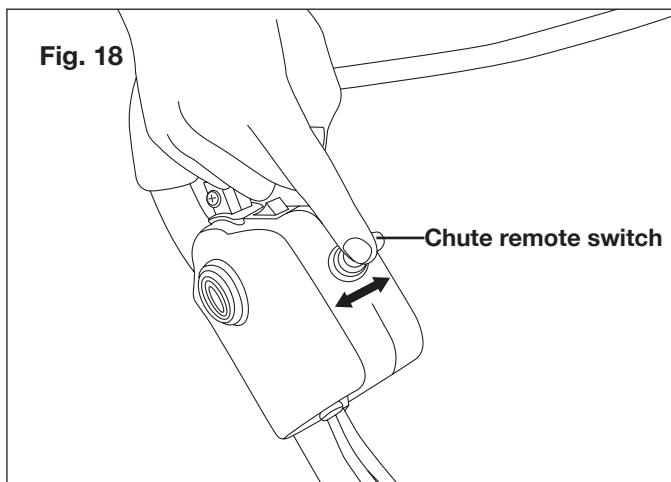


## Changing Throw Direction and Throw Height

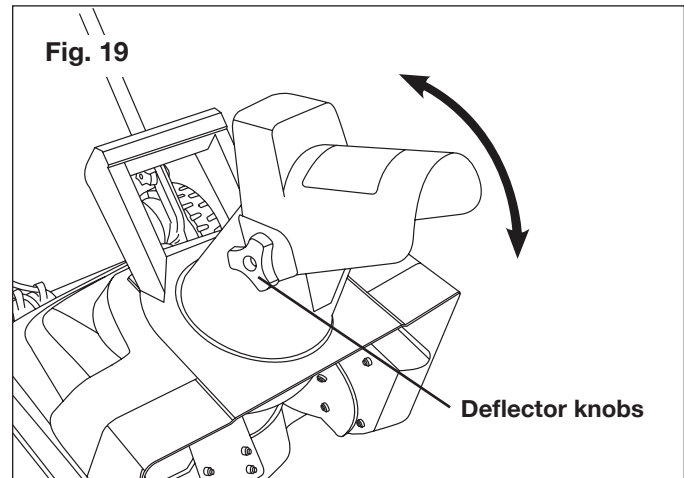
**⚠️ WARNING!** Never direct the snow discharge chute at the operator, at bystanders, at vehicles, or at nearby windows. The discharged snow and foreign objects accidentally picked up and thrown by the snow blower can cause serious damage and personal injury.

Always orient the discharge chute in the opposite direction from where the operator, bystanders, surrounding vehicles, or windows are located.

1. The discharge chute can be controlled 180 degrees by rotating the chute with the remote switch (Fig. 18).



2. The chute deflector on the top of the discharge chute controls the height of the snow stream. Loosen the knobs to raise or lower the deflector to the desired height of snow you wish to throw. Tighten the knobs to secure the deflector (Fig. 19).



**⚠️ WARNING!** Make sure that the chute deflector locks completely onto the discharge chute. An opening between the discharge chute and the chute deflector may allow foreign objects picked up by the snow blower to be thrown in the direction of the operator, which can cause serious bodily injury.

- Do not advance the chute deflector too far forward as this can cause an opening to appear between the deflector and discharge chute.
- Do not overtighten the knobs on the chute deflector (Fig. 19).

## Maintenance

To order genuine replacement parts or accessories for the Snow Joe® iON21SB-PRO cordless snow blower, please visit [snowjoe.com](http://snowjoe.com) or contact the Snow Joe® + Sun Joe® customer service center at 1-866-SNOWJOE (1-866-766-9563).

**⚠️ WARNING!** Make sure to turn off the switch and remove the battery before performing any maintenance task on your snow blower.

### Lifetime Lubrication (Motor and Auger)

Lubrication is not necessary and may damage the unit. The snow blower is lubricated for lifetime use at the factory before shipment.

### General Maintenance Tips

1. Do not attempt to repair the machine unless you have the proper tools and instructions for disassembly and repair of the machine.
2. Check bolts and screws at frequent intervals for proper tightness to ensure that the equipment is in safe working condition.
3. After each snow removal session, run the snow blower for a few minutes to prevent the collector/impeller from freezing. Shut off the motor, wait for all revolving parts to stop completely, and wipe residual ice and snow off the unit. Using the remote switch, rotate the discharge chute several times to remove any excess snow.

## Proper Care for Battery/Charger

**⚠ WARNING!** To reduce the risk of injury, always unplug the charger and remove the battery pack from the charger before performing any maintenance task. Never disassemble the battery pack or charger. Contact your Snow Joe® + Sun Joe® dealer or the Snow Joe® + Sun Joe® customer service center for ALL repairs.

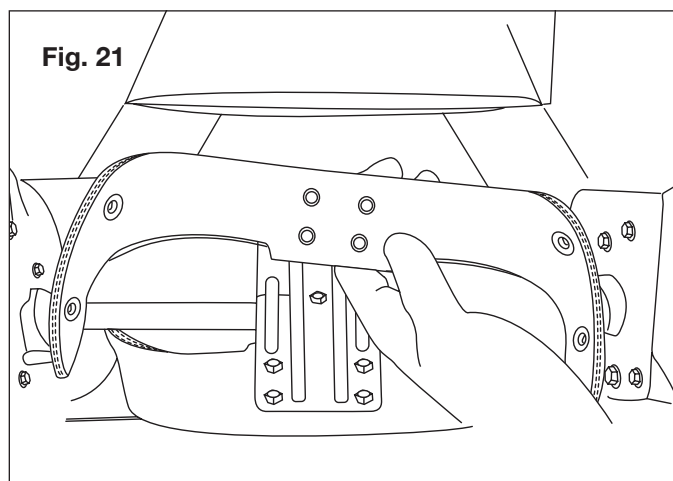
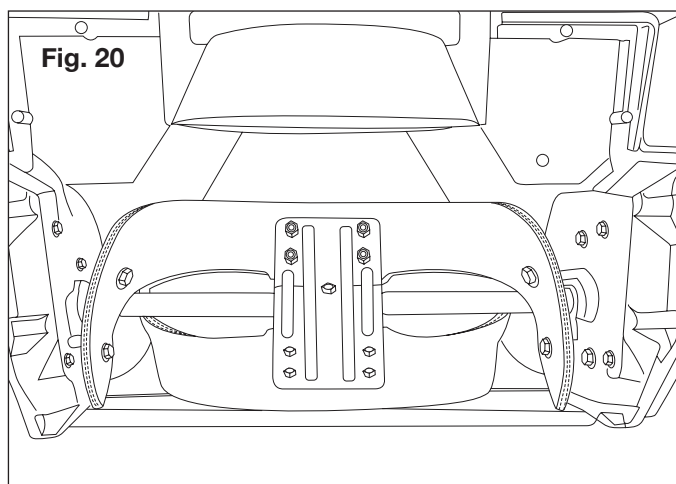
1. To reduce the risk of injury and damage, never immerse your battery pack or charger in liquid or allow any liquid to flow inside these components.
2. Clean out dust and debris from charger vents and electrical contacts by blowing with compressed air.
3. Use only mild soap on a damp cloth to clean the battery pack and charger, and keep away from all electrical contacts. Certain cleaning agents and solvents are harmful to plastics and other insulated parts. Some of these include gasoline, turpentine, lacquer thinner, paint thinner, chlorinated cleaning solvents, ammonia, and household detergents containing ammonia. Never use flammable or combustible solvents around battery packs, battery chargers, or tools.
4. The EcoSharp® iCHRG40 lithium-ion battery charger has no serviceable parts.

## Replacing the Rubber Plates

**⚠ WARNING!** Make sure to turn off the switch and remove the battery before performing any maintenance task on your cordless snow blower.

**NOTE:** When replacing worn rubber plates, pay close attention to the order in which you remove the plates. Insert the new plates in the reverse order.

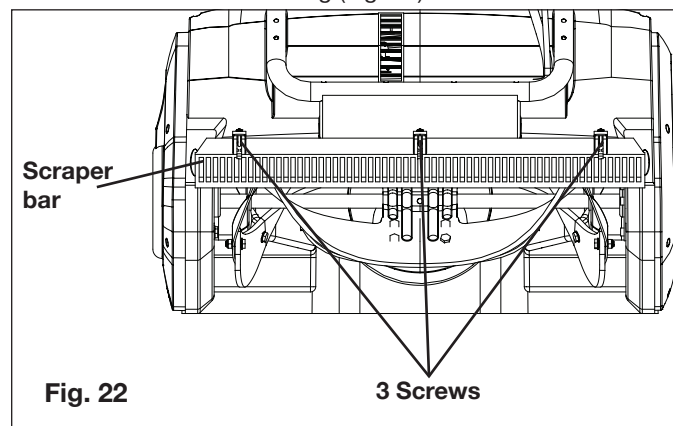
1. Detach the worn rubber plate assembly by removing the 8 sets of nuts and bolts used to secure it (Figs. 20 & 21).



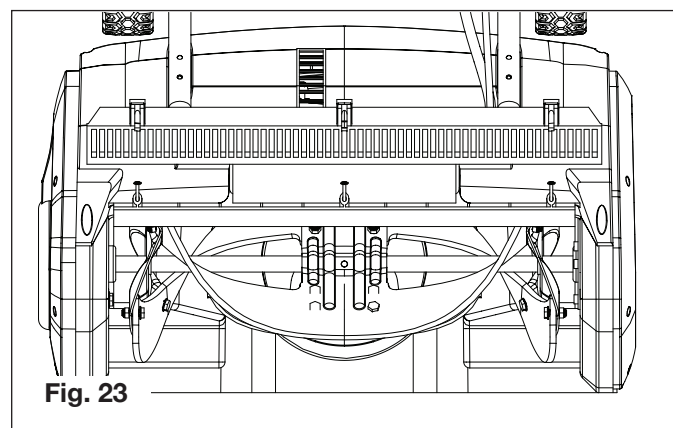
2. Install the new rubber plate assembly by tightening the 8 sets of nuts and bolts on both sides (Fig. 20).

## Replacing the Scraper Bar

1. The scraper bar is located at the base of the snow blower beneath the rotor housing (Fig. 22).



2. Detach the worn scraper bar from the snow blower by removing the 3 screws that hold it in place (Fig. 23).



3. Install the new scraper bar and fasten it securely to the snow blower with the 3 screws (Fig. 22).

## Storage

1. Examine the cordless snow blower thoroughly for worn, loose, or damaged parts. Should you need to repair or replace a part, 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) for assistance.
2. Clean the snow blower before storing or transporting. Be sure to secure the unit during transport.
3. Remove the battery and the safety key from the cordless snow blower before storing.
4. Store the cordless snow blower indoors in a locked, dry place out of the reach of children to prevent unauthorized use or damage.

## Battery/Charger Off-Season Storage

1. Do not expose your battery pack or charger to water, rain, or allow these components to get wet. This could permanently damage the charger and the battery pack. Do not use oil or solvents to clean or lubricate your battery pack as the plastic casing can become brittle and crack, causing a serious risk of injury.
2. Store the battery pack and charger at room temperature away from moisture. Do not store in damp locations where corrosion of terminals may occur. As with other battery pack types, permanent capacity loss can result if the pack is stored for long periods of time at high temperatures (over 120°F/49°C).
3. EcoSharp® PRO iBAT40XR lithium-ion battery packs maintain their charge during storage longer than other battery pack types. As a general practice, it is best to unplug the battery charger and remove the battery pack when they are not in use. Recharge the battery pack every 6 months to 50% capacity (2 lights on) during off-season storage to maintain optimal battery performance.

## Battery Disposal

Always dispose of your battery pack 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.

## Service and Support

If your Snow Joe® iON21SB-PRO cordless snow blower requires service or maintenance, please call the Snow Joe® + Sun Joe® customer service center at 1-866-SNOWJOE (1-866-766-9563).

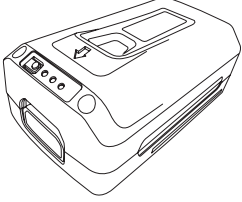
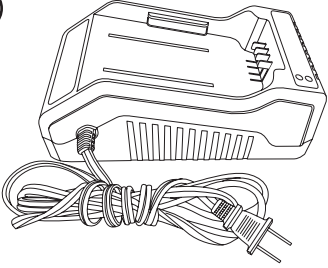
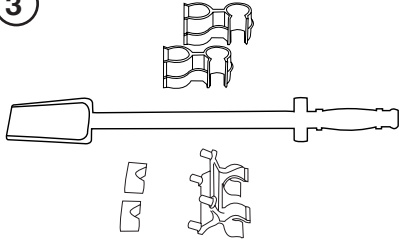
## Model and Serial Numbers

When contacting the company, reordering parts, or arranging service from an authorized dealer, you will need to provide the model and serial numbers, which can be found on the decal located on the housing of the unit. Copy these numbers into the space provided below.

|                                                                              |                                           |
|------------------------------------------------------------------------------|-------------------------------------------|
| Record the following numbers from the housing or handle of your new product: |                                           |
| Model #:                                                                     |                                           |
|                                                                              | i   O   N   2   1   S   B   -   P   R   O |
| Serial #:                                                                    |                                           |
|                                                                              |                                           |

## 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 cordless snow blower. Contact Snow Joe® + Sun Joe® if you are unsure whether it is safe to use a particular replacement part or accessory with your cordless snow blower. The use of any other attachment or accessory can be dangerous and could cause injury or mechanical damage.

| Accessories                                                                                  | Item                                             | Model    |
|----------------------------------------------------------------------------------------------|--------------------------------------------------|----------|
| <b>1</b>    | EcoSharp® PRO 40 V 5.0 Ah<br>Lithium-Ion Battery | iBAT40XR |
| <b>2</b>   | EcoSharp® 40 V Lithium-Ion Battery Charger       | iCHRG40  |
| <b>3</b>  | Universal Snow Thrower Chute<br>Clean Out Tool   | SJCOT    |

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

## NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## NOTES

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## NOTES

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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...?

### GENERAL CONDITIONS:

Snow Joe® + Sun Joe® operating under Snow Joe®, LLC warrants this new product to the original purchaser for two years against defects in material or workmanship when used for normal residential purposes. If a replacement part or product is needed, it will be sent free of charge to the original purchaser except as noted below.

The duration of this warranty applies only if the product is put to personal use around the household. If the product is put to any business, commercial or industrial use or is rented or leased, then the duration of this warranty is 90 days from the date of original purchase. It is the owner's responsibility to correctly perform all maintenance and minor adjustments explained in the owner's manual.

### HOW TO OBTAIN YOUR REPLACEMENT PART OR PRODUCT:

To obtain a replacement part or product, please visit [snowjoe.com/help](http://snowjoe.com/help) or email us at [help@snowjoe.com](mailto:help@snowjoe.com) for instructions. Please be sure to register your unit beforehand to speed up this process. Certain products may require a serial number, typically found on the decal affixed to the housing or guard of your product. All products require a valid proof of purchase.

### EXCLUSIONS:

- Wearing parts like belts, augers, chains and tines are not covered under this warranty. Wearing parts 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 90-days from the date of purchase.

Snow Joe® + Sun Joe® may from time to time change the design of its products. Nothing contained in this warranty shall be construed as obligating Snow Joe® + Sun Joe® to incorporate such design changes into previously manufactured products, nor shall such changes be construed as an admission that previous designs were defective.

This warranty is intended to cover product defects only. Snow Joe®, LLC is not liable for indirect, incidental or consequential damages in connection with the use or misuse of the Snow Joe® + Sun Joe® products covered by this warranty. 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. Some states do not allow exclusions of incidental or consequential damages so the above exclusions may not apply in all states. This warranty may give you specific legal rights in your state.

### HOW TO REACH US:

We're here to help Monday through Friday from 9AM to 6PM EST. You can reach us at 1-866-SNOWJOE (1-866-766-9563), online at [snowjoe.com](http://snowjoe.com), via email at [help@snowjoe.com](mailto:help@snowjoe.com) or tweet us @snowjoe.

### EXPORTS:

Customers who have purchased Snow Joe® + Sun Joe® products exported from the United States and Canada should contact their Snow Joe® + Sun Joe® distributor (dealer) to obtain information applicable to your country, province or state. If for any reason, you are not satisfied with the distributor's service, or if you have difficulty obtaining warranty information, contact your Snow Joe® + Sun Joe® seller. If in the event your efforts are unsatisfactory, please reach out to us directly.



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