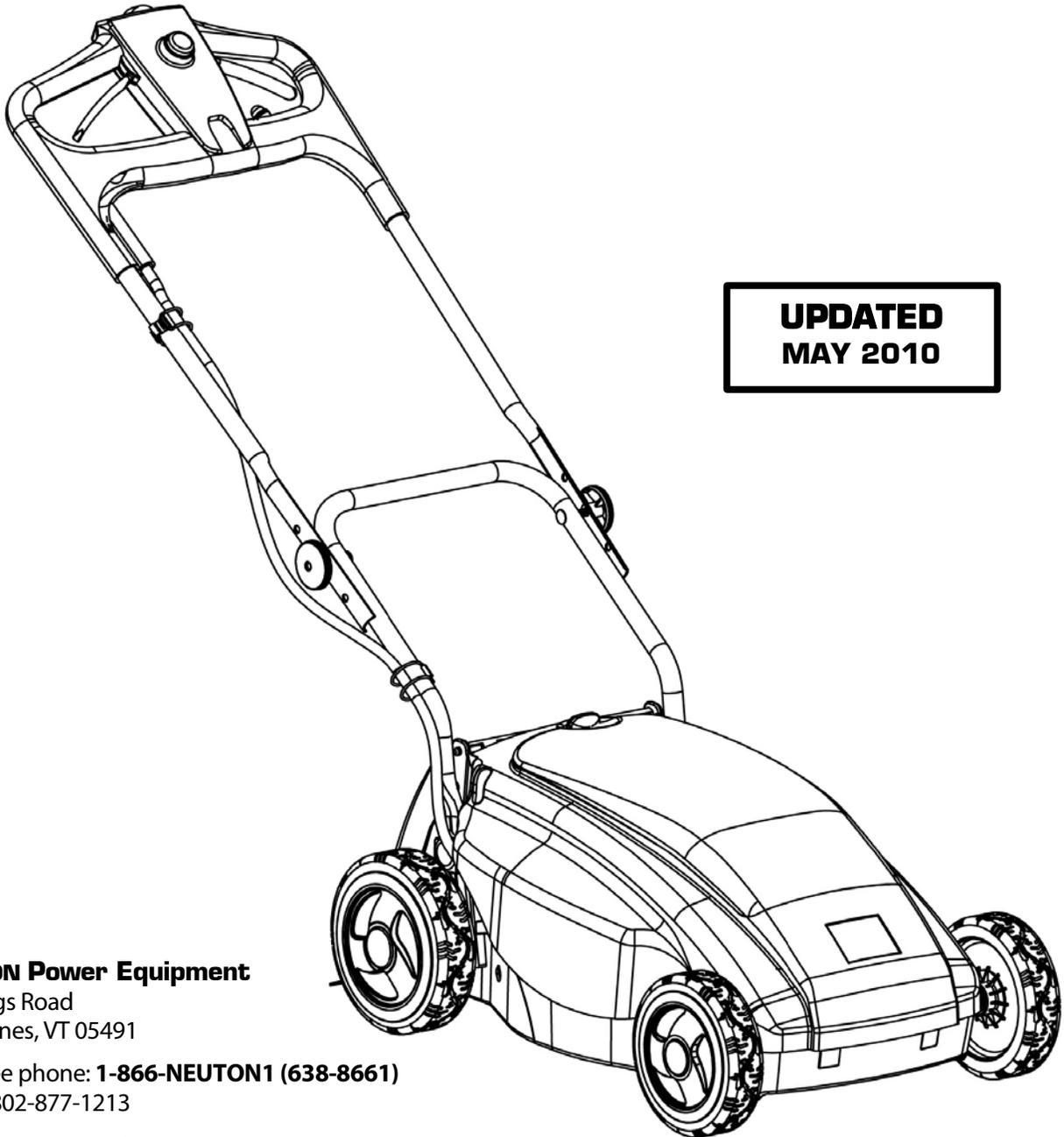




Battery-Powered Mower

Safety & Operating Instructions

Model: CE5.4



**UPDATED
MAY 2010**

NEUTON Power Equipment

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⚠ WARNING!

Read and understand this manual and all instructions before operating this Mower.

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Conventions used in this Manual

WARNING!

This indicates a hazardous situation, which, if not avoided, *could result in death or serious injury.*

CAUTION!

This indicates a hazardous situation, which, if not avoided, *could result in minor or moderate injury.*

NOTICE

This information is important in the proper use of your mower. Failure to follow this instruction could result in damage to your machine or property.

 **TIP** This is a helpful hint to guide you in getting the most out of your NEUTON Mower.

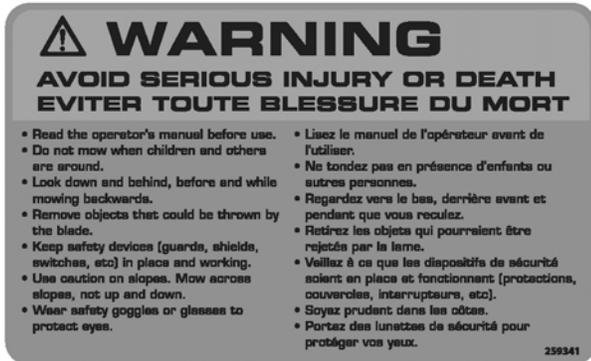
NOTE: *This information may be helpful to you in using your Mower.*

Tools Needed: This indicates you will need a special tool to perform a maintenance function on your Mower.

Neuton Power Equipment reserves the right to discontinue, change, and improve its products at any time without notice or obligation to the purchaser. The descriptions and specifications contained in this manual were in effect at the end of printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your machine.

Chapter 1: Important Safety Considerations

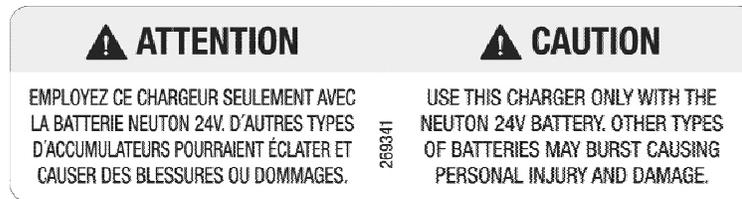
We want you to enjoy years of safe and productive use from your NEUTON Battery-Powered Mower. Please take time to read the following instructions for safely operating your new Machine.



WARNING Label (259931)



Danger Label (268971)



Battery Charger WARNING Label (269341)

Protecting Yourself and Those around You

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

⚠ WARNING!

This cutting machine is capable of amputating hands and feet, and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

- Be sure the area is clear of other people before mowing. Never allow children, other bystanders, or pets in your work area when operating the Mower. Stop the machine if anyone enters the area.
- Only allow responsible individuals who have a thorough understanding of these instructions to operate the Mower. Never allow children to operate the machine.
- Before and while pulling the machine backwards, look behind and down for small children and for secure footing. Be sure to shut off the motor before pulling the machine backwards.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure your vision.
- If you are ever unsure about an action you are about to take, please do not do it.

Dressing Appropriately

⚠ WARNING!

- Always wear protective goggles or safety glasses with side shields when using your NEUTON Mower to protect your eyes from possible thrown objects. Use a face or dust mask when operating in dusty conditions.
- Wear shoes with non-slip treads when using your machine. If you have safety shoes, wear them. Do not use the Mower while barefoot or wearing open sandals.
- Wear long pants while mowing.

Preparing to Use Your Mower

WARNING!

- Read, understand, and follow all instructions on the machine and in the manual. Be thoroughly familiar with the controls and the proper use of the Mower before starting.
- Never operate the NEUTON Mower without the proper guards, or other safety and protective devices in place and properly connected. Inspect the machine and cutting blade to determine proper installation of these devices to determine they are in good repair, and they operate properly. If the condition or operation of these devices is questionable, you must repair them or replace them before using the machine.
- Follow the instructions for the proper installation and operation of accessories. Use only accessories approved by the manufacturer. Do not alter any aspect of the Mower, Attachments, or Accessories in any way. Modifying or changing your Mower or its Attachments and Accessories in any way could cause personal injuries and property damage, and will void your warranty.
- Thoroughly inspect the area where you will be using the Mower, and remove all stones, lawn toys, wire, bones, sticks, pet supplies, and any other foreign objects which could be picked up and thrown by the Mower blade. Objects struck by the Mower Blade can cause severe injuries. Also, note the location of holes, ruts, bumps, stumps, and other possible hazards to avoid.
- Never turn the Mower over while the motor is running. The Blade may throw objects or come loose and cause injury.
- Mow only in daylight or in an area well lit by artificial light.
- Do not charge the Mower battery in wet or rainy conditions.

Operating Your Mower Safely

Your Mower can operate as a Discharging, Mulching, or Bagger Mower. Learn how to use the Side Discharge Chute (sold separately), Mulching Plug, and Rear Bagger as appropriate.

WARNING!

- Always stop the Motor and wait for the Blade to stop moving whenever you leave the operating position (behind the handlebar) for any reason. In addition, remove the Battery when inspecting and cleaning the machine, performing routine maintenance, clearing grass, making adjustments, and attaching or removing accessories.
- The Cutting Blade always turns when the Motor is running. To quickly stop the machine's Motor – simply release the orange Control Lever(s). Remember that the Blade will continue to rotate for up to three (3) seconds after you release the Control Lever(s).
- Always allow the Motor to come to a complete stop before inserting, or removing the optional Neuton Trimmer/Edger Attachment.
- Do not put your hands or feet near or under the Deck or the rotating Blade. Keep clear of the discharge area at all times.
- Never operate the Mower in the rain or when the grass is wet. Always be sure of your footing.
- Keep a firm hold on the Handlebar, and walk – never run.
- Stay alert and watch what you are doing.
- Watch out for traffic when mowing near roadways.
- Stop the Motor when crossing over loose materials such as gravel drives, walks, or roads, as objects discharged by the Mower can be hazardous.
- Do not operate the machine when you are tired or under the influence of medication, drugs, or alcohol.

CAUTION!

- Keep the Blade cutting edges sharp and clean for the best and safest performance. To be sure the Mower is in safe operating condition, keep all nuts, bolts, and screws tight. Follow the instructions in this manual for changing accessories.
 - Never pull the Mower toward you while cutting grass. By design, you should only push the NEUTON Mower forward while cutting.
 - Use extreme caution when maneuvering backwards. Always stop the Motor, look first to check your footing, look down and behind you before moving backwards.
 - If you strike a foreign object, or if the Mower vibrates abnormally, stop the motor, remove the Battery, and inspect the machine for any damage. Repair the damage before restarting and operating the machine. Striking an object may loosen the blade. **Note:** *Excessive vibration is generally a sign of trouble.*
 - Do not use your NEUTON Mower for any job other than the intended use.
 - Do not operate the machine if it does not start normally or stop normally when you release the Control Lever(s).
 - Empty the rear Bagger of all debris following each use. The fabric will wear and deteriorate under normal usage. Before each use, check the Bagger for wear and replace if it is torn or worn.
-

Handling the Battery Safely

WARNING!

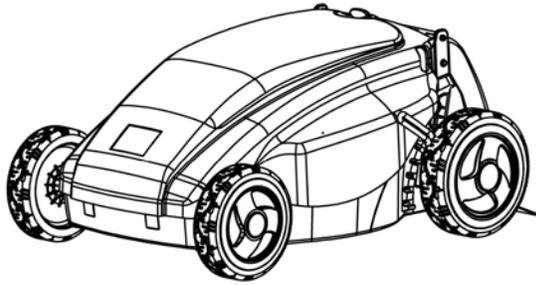
- Never charge the lawn mower Battery in the rain or in wet conditions.
 - Use only an approved 24-Volt NEUTON Charger to charge the Battery. Make sure that the NEUTON Charger output voltage printed on the Charger label matches the voltage of your Battery. Use of a different Charger may not allow the Battery to fully recharge and may cause a fire or explosion. Use of a non-approved NEUTON Charger will void your warranty.
 - Exercise care in handling the Battery in order not to short-circuit it with conducting materials such as rings, bracelets, and keys. When short-circuited, the Battery or conductor may overheat and cause burns.
 - Never attempt to alter or open the Battery. Opening your Battery will void your warranty and could result in an unsafe condition or risk of personal injury. Use normal household voltage (110 Volts) when charging the Battery. Plug the Charger directly into the electrical outlet.
 - Never attempt to replace the individual Battery cells inside the Battery. Mixing fresh and discharged Batteries could increase internal cell pressure and rupture the discharged Battery. Improper wiring within the Battery could result in leakage or explosion.
 - Never dispose of Batteries in a fire, as the Battery cells may explode. Never open or mutilate the Battery. Released electrolyte (battery acid) is corrosive and will cause damage to eyes, skin, or clothes. Battery acid is toxic if swallowed or if you inhale the fumes.
 - Never throw away used Batteries in your household trash. Bring them to a recycling center or household hazardous waste depot for proper disposal. Please refer to "Recycling your used Battery" on page 15 for more information.
-

NOTE: See additional details on Battery care in "Chapter 4: Charging and Caring for the Battery".

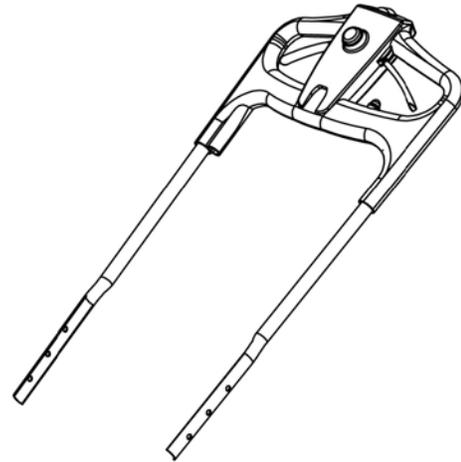
No list of Warnings and Cautions can be all-inclusive. If situations occur not covered by this manual, the operator must apply common sense and operate the NEUTON Mower in a safe manner. Visit our website at www.neutonpower.com or call Toll Free: **1-866-NEUTON1 (638-8661)** for assistance.

Chapter 2: Setting Up Your NEUTON Mower

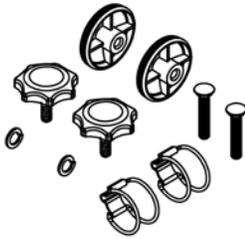
NEUTON Mower Package Contents



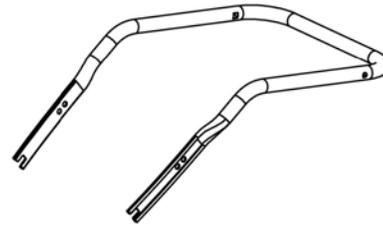
NEUTON CE5.4 Mower Body Assembly (269011)



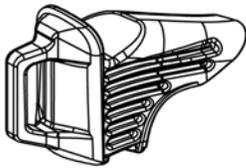
Upper Handlebar Assembly (272131)



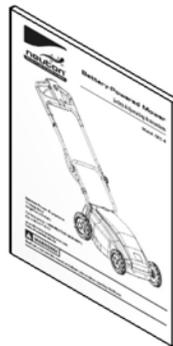
- (2) Handlebar Connector Knobs (175791)
- (2) Upper Handlebar Carriage Bolts (175781)
- (2) Green Quick-Connect Knobs (175771)
- (2) Lock Washers (200061)
- (2) Main Cable Retainers (272041)



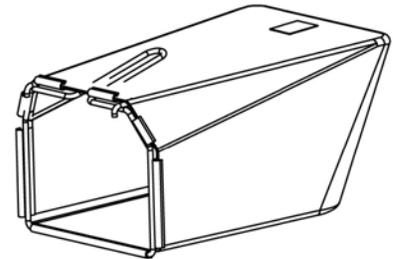
Lower Handlebar (268801)



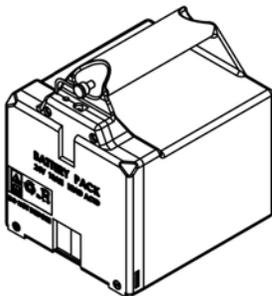
Mulching Plug (203831)



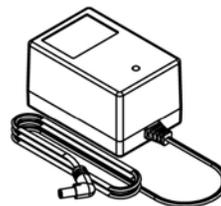
Safety & Operating Instructions Manual (268001)



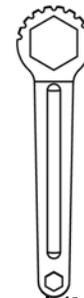
Bagger (208921)



Battery (268611)



Battery Charger (268591)



36mm Wrench (259211)

Figure 1

Assembling Your NEUTON Mower

To allow you to quickly begin using your NEUTON Mower, it was shipped to you partially assembled. The assembly process is easy and does not require any special tools, knowledge, or strength.

Assembling your NEUTON Mower takes just a few steps:

Step 1: Read the *Safety & Operating Instructions* before proceeding.

Step 2: Remove the Battery.

Step 3: Charge the Battery before your first use.

Step 4: Attach the Lower Handlebar.

Step 5: Attach the Upper Handlebar Assembly.

Step 6: Attach the Mulching Plug, Rear Bagger, or the Side Discharge Chute (sold separately).

Step 7: Insert the Battery after being fully charged.

Step 8: Adjust the Cutting Height.

NOTE: See **Figure 18** on page 11 for a photograph of the fully assembled Mower.

WARNING!

Remove the Battery during assembly, cleaning, Blade replacement, or when the Mower is not in use. Removing the Battery will prevent accidental starting, and help avoid serious personal injury.

Step 1: Read the *Safety & Operating Instructions* before proceeding.

The NEUTON Mower is a motorized cutting machine that uses a sharp Blade. For your safety, and for best results, it is important to read the information in “Chapter 1: Important Safety Considerations” before you assemble or use the Mower.

To familiarize yourself with the assembly, features, and operation of your Mower, please read the remainder of this manual before proceeding.

NOTE: Do not discard the shipping box and packaging material until you are fully satisfied with your new NEUTON Battery-Powered Mower.

Step 2: Remove the Battery.

You can quickly and easily remove the Battery from your Mower.

1. Push the Cover Latch (**Figure 2**) back and open the Access Cover.

TIP → Push the Cover Latch back with one hand and open the Cover with the other.

2. Turn the Battery Retainer Arm until it is no longer blocking the Battery (**Figure 2**).

TIP → To help keep the Mower from rolling while removing the Battery, put one foot behind a wheel for stability.

3. Pull the Battery straight up and remove it.

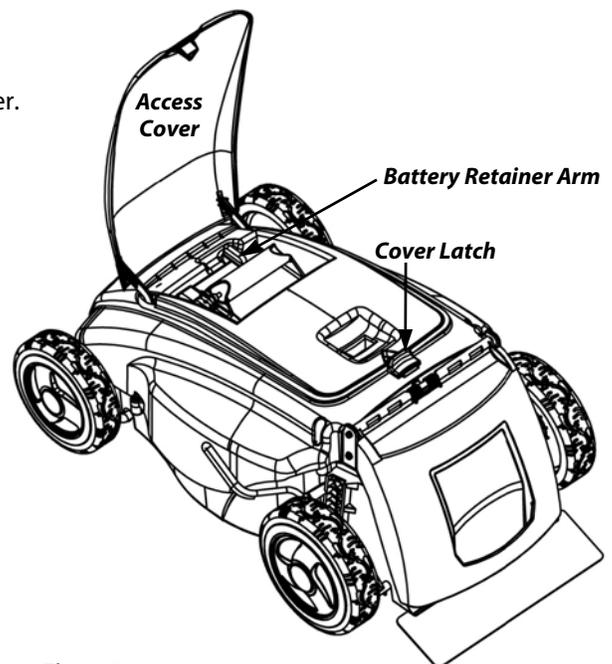


Figure 2

Step 3: Charge the Battery before your first use.

! WARNING!

Use the NEUTON 24V Charger only with the NEUTON 24V Battery. Use of other Chargers or the NEUTON 24V Charger with other Batteries may result in bursting of the Battery, which could cause personal injury and property damage.

You **MUST** charge the Battery before you use the Mower for the first time. If you do not charge it before using the Mower, the Battery's charging capacity may decrease.

NOTE: Always charge the Battery while it is out of the Mower.

1. Remove the Protective Plug from the Charger Receptacle on the Battery and plug in the round Charger Connector (**Figure 3**).
2. Plug the Charger into a standard 110V wall outlet. The RED light on the Battery will illuminate indicating a connection between the Battery and the Charger. The LED light on the Charger will quickly change from GREEN to RED indicating that the Battery is charging.
3. The design of the NEUTON Charger is to automatically turn itself OFF when charging is complete, which will be between eight (8) and fourteen (14) hours for a completely discharged Battery. A Battery that may not be completely discharged may take a shorter amount of time to completely charge. Once charging is complete, the LED on the Charger will change from RED to GREEN and the RED LED on the Battery will turn OFF indicating that the Battery is fully charged and is ready for use.
4. **Once charging is complete, you must remove the Charger from the outlet and store it in a DRY environment until you need to charge the Battery again. You must unplug the Charger and wait at least 30 seconds to reset it before charging another Battery.**

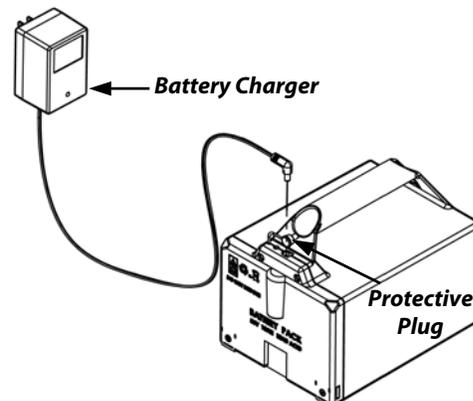


Figure 3

NOTE: For the first five (5) hours, the Charger will be warm to the touch. This is normal and does not indicate a problem.

Step 4: Attach the Lower Handlebar

TIP To keep the Mower from moving while you assemble it, place your foot behind one of the wheels.
NOTE: You will use the green Quick-Connect Knobs to attach the Lower Handlebar to the Mower.

1. Set the Cutting Height Lever (**Figure 4**) to the highest adjustment (position 6 – Lever all the way down). This makes it easier to reach the slots on the Mower frame.
2. Position the Lower Handlebar with the smooth side against the frame of the Mower. Slide it down fully into the slot on the frame until the holes line up (**Figure 4**).

NOTE: Be sure you slide the Handlebar all the way down to the bottom of the slot. When you do this, the cutout notch on the end of the Handlebar aligns with the base of the channel in the Mower's frame.

3. Insert a green Quick-Connect Knob with a Lock Washer through the lined-up holes on the Handlebar and Mower Frame. Turn the Knob clockwise until firmly snug. Repeat this step for the other side.

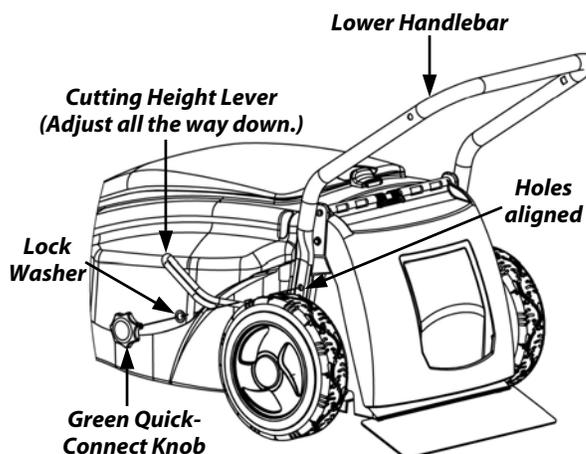


Figure 4

NOTICE

Be sure to tighten the green Quick-Connect Knobs by hand. Do not use a tool to tighten them; you could easily over tighten them and damage the parts.

Step 5: Attach the Upper Handlebar Assembly

NOTE: You will use the black Connector Knobs and Bolts to connect the Upper and Lower Handlebars together.

1. Remove the black Connector Knobs and Connector Bolts from the NEUTON Product Pack included with your Mower.

TIP Let the Upper Handlebar Assembly lean on the ground during this process (**Figure 5**). It is easier to start with the Upper Assembly in this position, so you don't have to hold and balance it while connecting the sections.

2. Line up the holes of the Upper Handlebar Assembly with the holes in the Lower Handlebar.

NOTE: There are three (3) height positions (holes in the Upper Handlebar) for the Upper Handlebar Assembly. Connect the Upper and Lower Handlebars together using the appropriate holes at a height that is most comfortable for you.

3. Slide the Connector Bolts (from the inside of the Handlebars, outward) through the predetermined holes in the Upper and Lower Handlebars on each side of the Mower and lightly screw on the black Connector Knobs just enough to hold the Upper and Lower Handlebar sections together (**Figure 5**).
4. Swing the Upper Handlebar Assembly into an upright position so that the Upper and Lower Handlebars line up and slide into place (**Figure 6**). Tighten the black Connector Knobs by hand until they are snug.
5. Check the length of the Handlebar for comfort. If necessary, reconnect the Upper and Lower (up or down) to a height that is best for you.
6. Position the Main Cable along the Handlebars (**Figure 6**) and secure it in place by holding the two (2) Main Cable Retainers in place while stretching the rubber strap around the Cable, and securing it into the Hook on the Retainer (**Figure 7**).

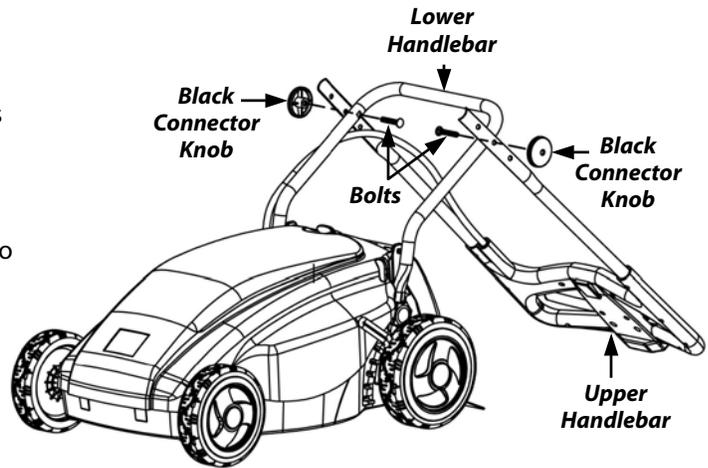


Figure 5

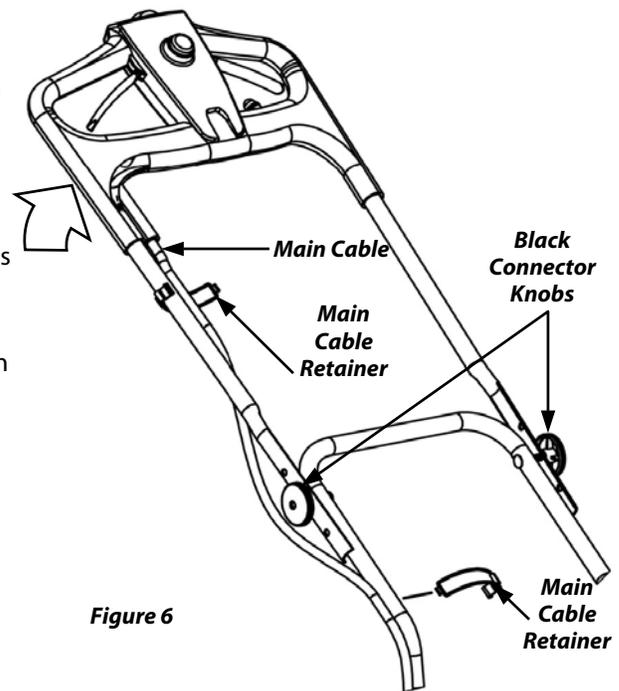


Figure 6

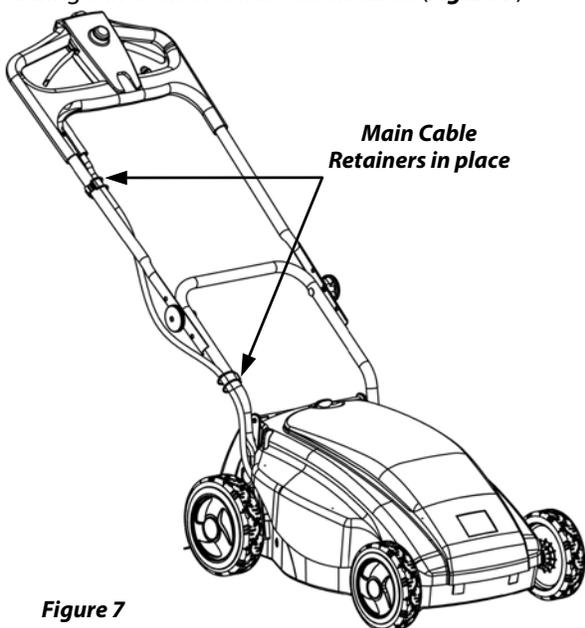


Figure 7

Step 6: Attach the Mulching Plug, Rear Bagger, or the Side Discharge Chute (sold separately)

Mulching Plug

To mulch your grass, install the Mulching Plug.

1. If necessary, remove the Rear Bagger or Side Discharge Chute from the Mower.
2. Install the Mulching Plug (**Figure 8**). Be sure to push the Plug all the way in until the Notch in its bottom is engaged.

- TIP** There's a slight knack to installing the Plug; push the Plug in with a slightly arcing motion as follows:
- Align the Plug in the Mower.
 - Start to push the top of the Plug in first.
 - Then put pressure towards the bottom and slide in the Plug.

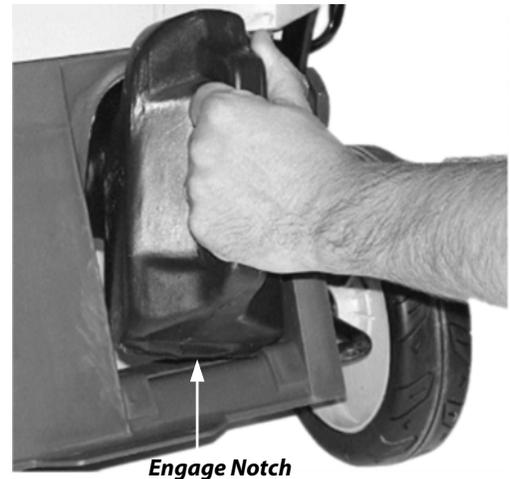


Figure 8

Rear Bagger

The NEUTON Rear Bagger lets you cut and catch your grass clippings, eliminating the need to rake. The Rear Bagger easily attaches to the rear of the Mower (**Figure 9**). The Bagger shipped unassembled. The following instructions outline the steps necessary to assemble, install, and remove the Bagger.

Assembling the Bag to the Bag Frame

1. With the Bottom Stiffener Board facing down, insert the Frame into the Bag (**Figure 10**).
2. Snap the Bag Clips around the Frame top, sides and bottom (**Figure 11**) to secure the Bag to the Frame.

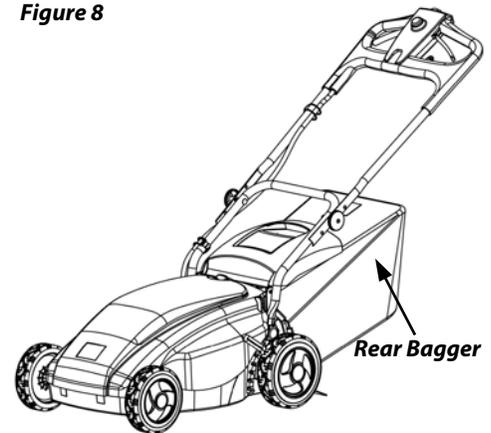


Figure 9

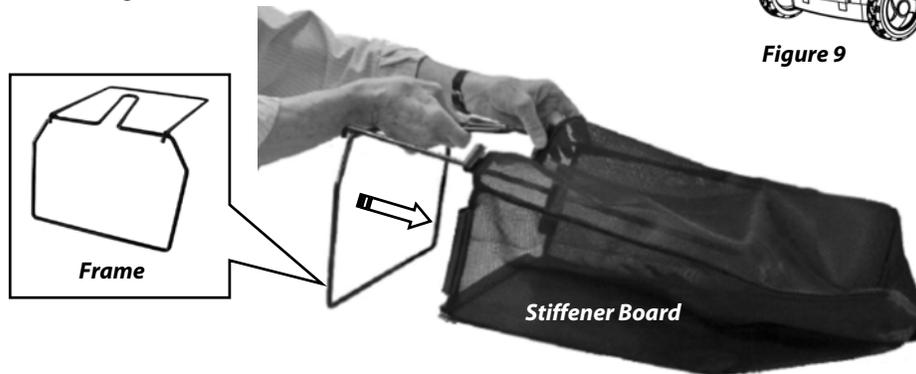


Figure 10



Figure 11

Installing the Bagger

1. Raise the Discharge Guard on your Mower (**Figure 12**) and note the metal Support Rod at the rear of the Mower.
2. Grasp the Bagger by the Top Handle and center it at the back of the Mower.
3. Align the Metal Latch Hooks (**Figure 13**) over the Support Rod and lower the Bagger in place until the Wire Frame at the bottom of the Bagger rests on the Mower.
4. Lower the Discharge Guard.

Removing and Emptying the Bagger

1. Raise the Discharge Guard.
2. Using the Top Handle of the Bagger, lift the Bagger off the Support Rod and away from the Mower.
3. Lower the Discharge Guard.
4. To empty the Bagger, tilt the Top Handle forward. Use the Cloth Handle (**Figure 14**) at the rear of the Bagger to move the contents toward the front as you empty the Bagger.

Step 7: Insert the Battery after being fully charged.

1. Orient the Battery with the indentations on the bottom of the Battery lining up with the metal tabs in the bottom of the Battery compartment.
2. After confirming the correct orientation of the Battery, insert the Battery fully into the Battery compartment.
3. Turn the Battery Retainer Arm back over on top of the Battery to secure it in place (**Figure 2** on page 5).

NOTE: If the Battery is not oriented correctly, it will not fully depress into the opening. If this happens, remove the Battery, recheck the orientation, and try again.

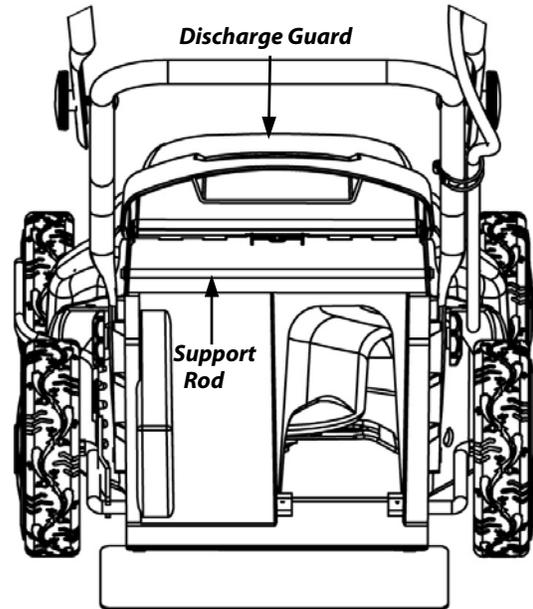


Figure 12

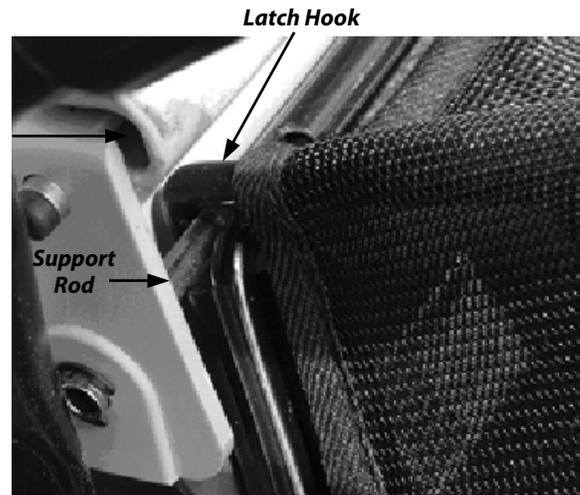


Figure 13

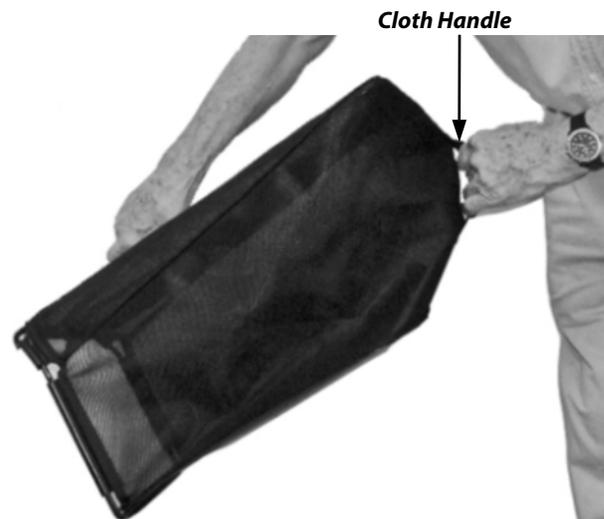


Figure 14

Side Discharge Chute (sold separately)

The Side Discharge Chute (**Figure 15**) allows for proper discharge of the grass, which prevents clogging.

1. Raise the hinged Discharge Guard on the back of the Mower (**Figure 12** on the previous page).
2. Position the Top Front Groove (**Figure 16**) of the Chute over the Support Rod (**Figure 12**) and lower the Chute into place (**Figure 15**).
3. Lower the hinged Discharge Guard.

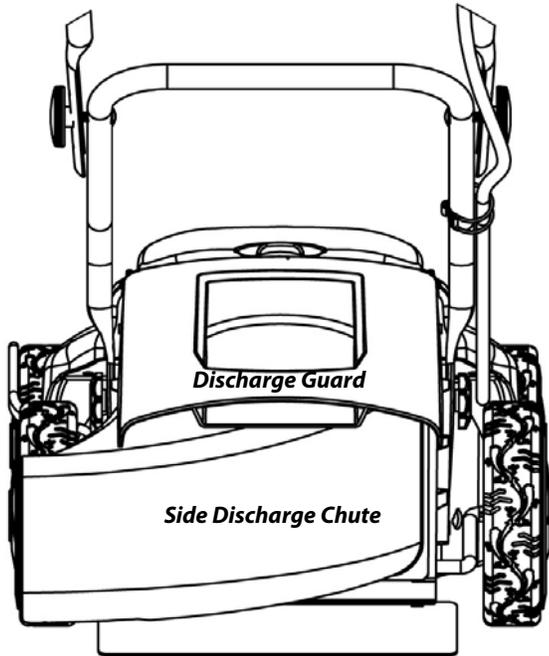


Figure 15

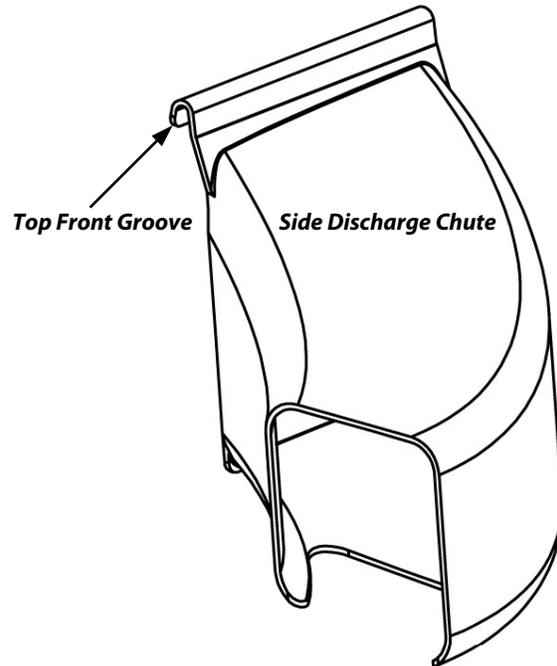


Figure 16

Step 8: Adjust the Cutting Height.

Using the Cutting Height Lever (**Figure 17**), adjust the Cutting Height so that you cut off only one (1) to two (2) inches of grass at a time.

1. Make sure all four (4) Wheels are level.
2. Pull the Lever out of its present notched position and rotate the Lever up or down to the desired level. When you reach the desired level, simply release the Lever into the notch.

NOTE: Each position adjusts the Mower's Blade level to a different Cutting Height. Rotating the Cutting Height Lever towards Position 6 (down) cuts less grass (which leaves your grass longer); rotating the Lever towards Position 1 (up) cuts more grass (leaving your grass shorter).

The following table lists the final cut grass heights.

Lever Position	Cut Height
1	1.2" (30 mm)
2	1.5" (38 mm)
3	1.9" (47 mm)
4	2.2" (56 mm)
5	2.6" (65 mm)
6	3.0" (75 mm)

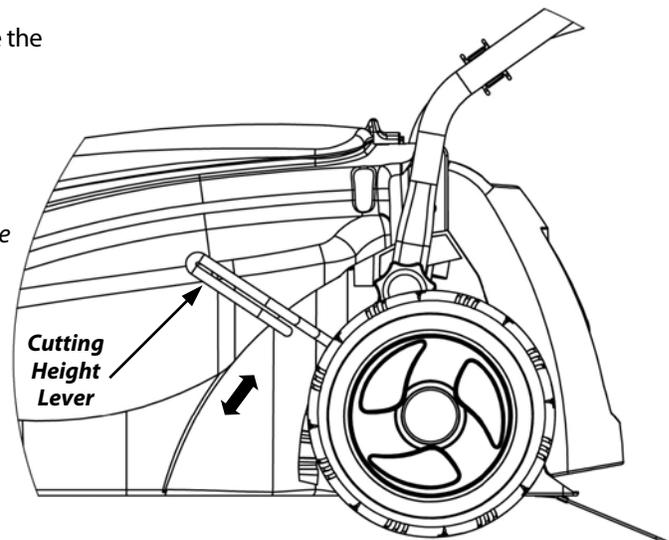


Figure 17

Your Fully Assembled NEUTON Mower

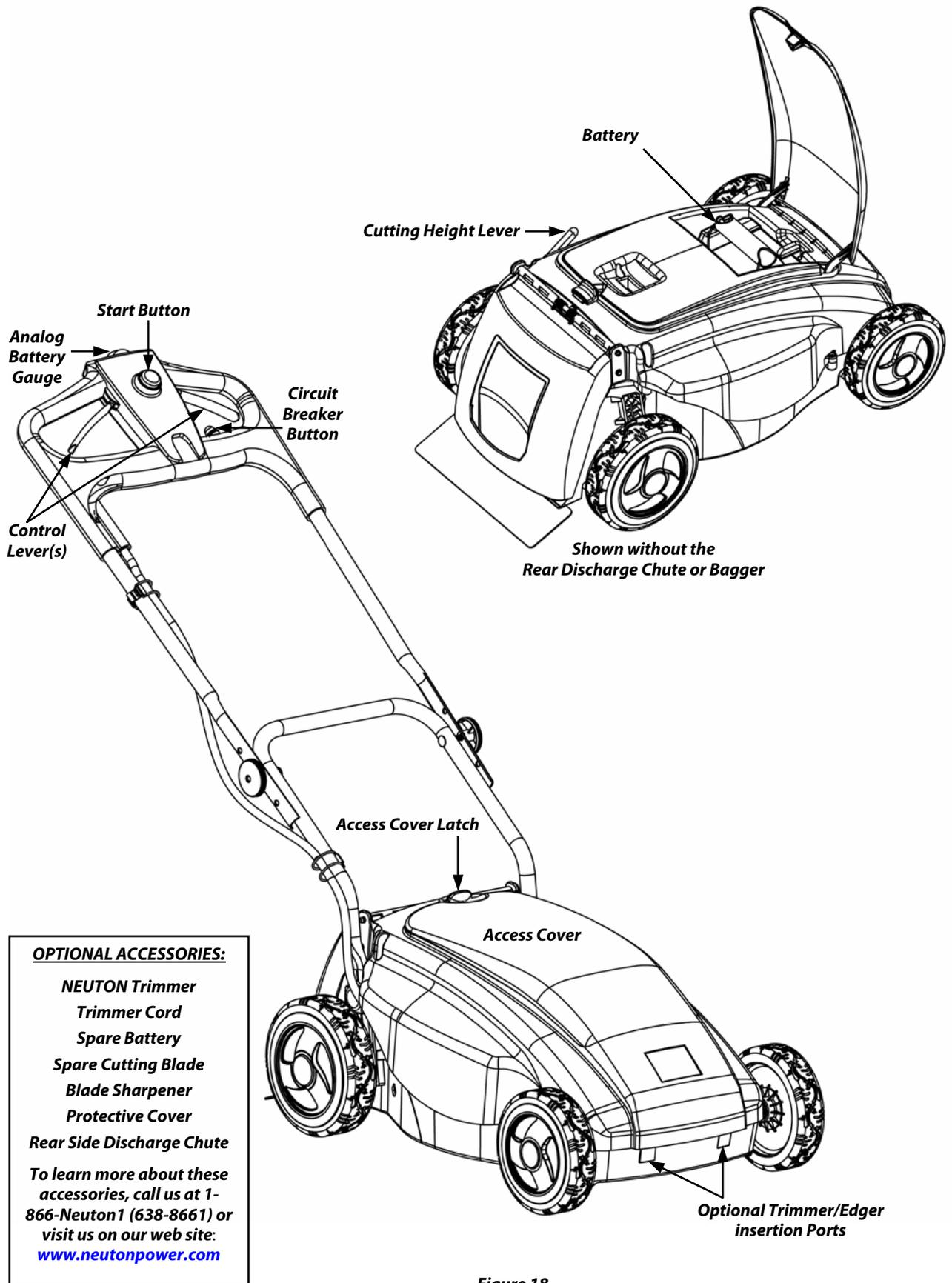


Figure 18

Feature:

Analog Voltage Gauge

The Analog Voltage Gauge (**Figure 19**) indicates the amount of Battery life remaining. The yellow area indicates acceptable voltage whereas the red area indicates low voltage. You should raise the Cutting Height or mow slower if the gauge momentarily drops into the red area. Recharge the Battery if the Gauge stays in the red area.

NOTE: *The Analog Voltage Gauge will only show the Battery's voltage when the Battery is correctly inserted in the machine and the machine has been turned on as described in Chapter 3: Operating your Neuton Mower.*

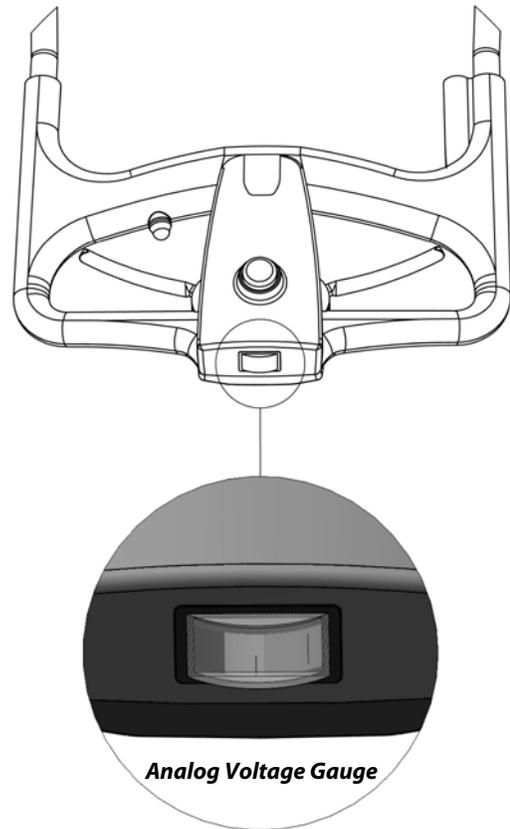


Figure 19

Neuton CE5.4 Product Specifications

Motor

RPM	4300
Tip Speed	16,000 ft./min.
AMP Idle	4 – 5
AMP Cutting	8 – 10
Size	500W, 24V DC/32 Amp
Noise	Under 80 Decibels

Controls

Start/Stop	Safety Control Lever(s), Start and Stop
Shape	Comfortable, Ergonomically Designed Housing
User Interface	Battery Voltage Level Indicator

Housing

Material	Injected Polypropylene
Handlebar Height Adjustment	34.6" – 37.5" (at lowest Housing height)
Wheels, Front	7" x 1.6", Molded Rubber Tread
Wheels, Rear	8" x 1.9", Molded Rubber Tread
Weight	50 lbs. (including Battery) 35 lbs. (without Battery)
Housing Length	30"
Housing Width	18"
Housing Height	12.5"

Cutting

Cutting Deck Width	14.2
Blade	14" Steel Aero Blade (extra Blades available)
Mulching Blade	optional
Blade Nut Torque	16.6 ft.-lbs.
Blade Function	Cutting and Mulching
Cutting Height	Easily Adjustable from 1.2 – 3.0 inches
Discharge	Rear Discharge Chute (sold separately)
Bagger	Rear Bagger Included
Bagger Capacity	1 Bushel (1.26 cubic ft.)
Mulching	Mulching Plug Included
Trimming	Optional Trimmer/Edger Attachment
Lawn Size	Up to 1/4 acre on a single Battery charge

Lever Position	Cut Height
1	1.2" (30 mm)
2	1.5" (38 mm)
3	1.9" (47 mm)
4	2.2" (56 mm)
5	2.6" (65 mm)
6	3.0" (75 mm)

Battery

Voltage	24V DC
AMP	10 Amp-Hour
Type	Sealed, Lead/Acid
Weight	15 lbs. 5 oz.
Approximate Run Time	45 - 60 minutes for fully charged Battery
Battery Charger	Included. 24V Charger, plugs into standard electrical outlet
Charge Time	8-14 Hours
Replacement	Easy to lift out and replace with optional spare Battery

Optional Accessories

Trimmer	Plug-in Trimmer/Edger w/2 extra spools
Trimmer Cord	80 MIL/2.0mm Diameter x 14.6 Feet/Spool
Blade Sharpener	Hand-Held Sharpener
Protective Cover	Fits machine with Handlebars up or down
Rear Side Discharge Chute	Attaches to back of Mower
Spare Battery	24V DC, 10 Amp-Hour
Spare Cutting Blade	

Meets CPSC Mower Safety Standards

Chapter 3: Operating Your NEUTON Mower

NOTE: If the Mower Battery is not fully charged or if you are unpacking a new Mower for the first time, read “Chapter 2, Step 3: Charge the Battery before your first use” before operating the Mower. You **MUST** charge the Battery before use.

Starting the Motor and Engaging the Blade

NOTICE

- Starting, stopping, and restarting an electric Motor repeatedly within a few seconds can generate a great deal of heat and damage the Motor. To protect the life of your NEUTON Mower, always wait at least five (5) seconds after stopping before restarting the Mower.
- The cutting Blade always turns when the Motor is running; there is no clutch to allow the Blade to stop rotating while the Motor is running.
- Perform the Daily Checks listed on the back cover of this manual.

Starting the Mower

- Depress the orange Start Button (**Figure 20**).

NOTE: Once the machine has started, you may release the orange Start Button.

- Squeeze and hold the orange Control Lever(s) (**Figure 21**).
- Continue to hold the Control Lever(s) against the Handlebar for as long as you want the Motor to run.

If the Mower does not start, first check for simple solutions:

- Make sure that you correctly installed the Battery.
- Make sure the optional NEUTON Trimmer/Edger Accessory is not in the Trimmer/Edger ports if you are intending to cut with the Blade.
- Make sure the black Circuit Breaker Button on the Handlebar is depressed (**Figure 20**).
- Did you follow the two (2)-step Start sequence: depress the orange Start Button, then squeeze and hold the Control Lever(s)?

NOTE: If the Mower still does not start, follow the steps in “Chapter 6: Troubleshooting Tips”.

! WARNING!

The orange Start Button and Control Lever(s) are safety devices; do not tamper with them.

Stopping the Motor and Blade

Simply releasing the orange Control Lever(s) stops the Motor and Blade.

! WARNING!

The Blade continues to rotate for a few seconds after you shut off the Motor.

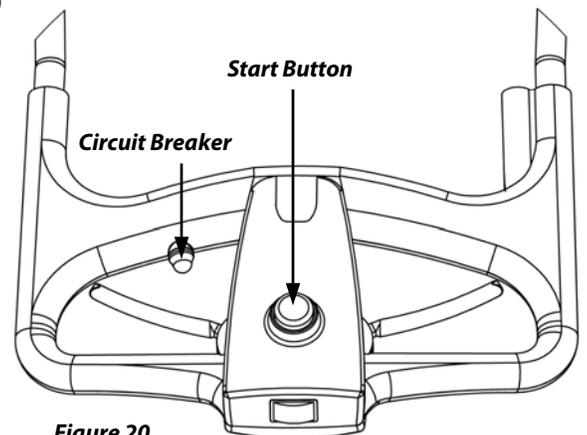


Figure 20

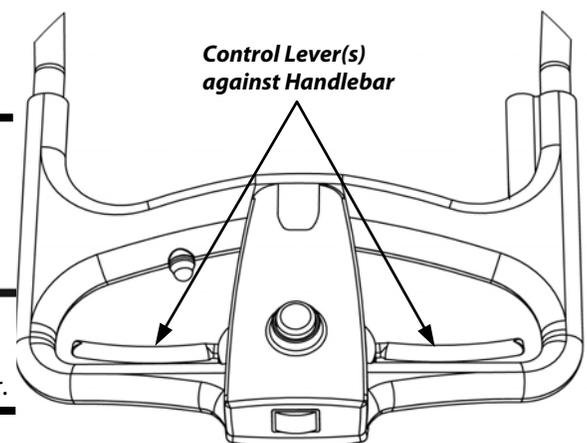


Figure 21

Chapter 4: Charging and Caring for the Battery

CAUTION!

Before charging the Battery, read all instructions and cautionary markings in this manual and on your Mower. Do not operate your Mower until you have read and understand all instructions and the Battery is fully charged.

The Battery

The NEUTON Mower comes with a sealed, lead acid Battery already installed at the factory. The Battery is 24 volts and rated at 10 amp-hours. The Battery should not leak, regardless of the position in which it is stored. Read “Handling the Battery Safely” in Chapter 1 for additional information. The Battery is completely maintenance free. You never need to add water. With all rechargeable Batteries, after years of use, they will eventually need replacement. With proper care, the Battery can last up to three (3) to five (5) years.

WARNING!

- Never attempt to alter or open the Battery. Use normal household voltage (110 volts) when charging the Battery. Plug the Charger directly into the electrical outlet.
 - Use the NEUTON 24-Volt Charger only with the NEUTON 24-Volt Battery. Use of other Chargers or the NEUTON 24-Volt Charger with other Batteries may result in bursting of the Battery, which could cause personal injury and property damage.
-

TIPS

- Under normal conditions, the Battery charge should last for approximately forty-five (45) to sixty (60) minutes per use with a fully charged Battery. The length of time depends on the length, density, and dampness of the grass, cutting height setting, current Battery charge level, and ongoing Battery care/charging. If the Battery does not provide a forty-five (45) minute run time, it does not mean that your Battery is defective. If you generally intend to use your Mower for a longer duration, Neuton Power Equipment recommends that you purchase an extra Battery. Whereby, you could have a second fully charged Battery ready so you can continue mowing.
 - The optimal ambient temperature for charging of the Battery is between +32°F (0°C) and +104°F (+40°C). Make sure the charging temperatures will never be outside these limits.
 - It may take up to five (5) charging and discharging cycles before your Battery provides maximum life.
 - A Battery may last much longer if you charge it as soon as it starts to lose power and not let it completely discharge. You should not try to coax a little more power out of your Battery. Recharge the Battery as soon as possible after each use and remove it from the Charger after charging is complete. A Battery that is completely discharged will fully charge in eight (8) to fourteen (14) hours. A Battery that may not be completely discharged may take a shorter amount of time to completely charge. Once charging is complete, the LED on the Charger will change from RED to GREEN and the RED LED on the Battery will turn OFF indicating that the Battery is fully charged and is ready for use.
 - Your Charger is designed to automatically shut itself off after fourteen (14) hours, however avoid leaving the Battery on the charger for a period of more than a week.
 - For superior Battery performance, always store the Battery in a **DRY** environment with temperatures between +5°F (-15°C) and +104°F (+40°C). Make sure the storage temperatures will never be outside these limits. The lower the storage temperature is within the specified range, the better. The Battery will discharge more slowly at low temperatures. Charge the Battery for eight (8) to fourteen (14) hours prior to storage and then every one (1) to two (2) months; and then again prior to the first use of the season. Be sure to remove the Charger from the Battery after charging. Also, do not store the Battery near children or pets or close to a source of heat, sparks, open flame or on the floor as it may be damp or subject to accidental flooding. In addition, never expose the Battery to abnormal shaking or shocks. Regularly observe the external appearance of the Battery. Never use a Battery that shows cracks, changes shape, leaks, or is obviously damaged.
-

NOTICE

Periodically inspect the Cord on the Charger unit for damage. If damage occurs, discontinue use of the Charger immediately and visit our website at www.neutonpower.com or call Neuton Power

Equipment Toll Free at: **1-866-NEUTON1 (638-8661)** for a replacement Charger. Do not abuse the Cord. Never carry the Charger by the Cord. Always pull the Charger – and not the Cord – when disconnecting the Charger from the electrical outlet (wall outlet). Always pull the Charger Connector – and not the Cord – when disconnecting the Charger from the Charging Receptacle on the Battery after charging. When using an extension Cord with your Charger, use a heavy-duty extension Cord of a type “suitable for outdoor use” (although you should never charge the Battery in the open outdoors).

Recycling your Used Battery

WARNING!

Never attempt to dispose of your Battery in a fire; the cells may explode.

NOTICE

Please dispose of used batteries responsibly, according to your local hazardous materials regulations. Never throw away used batteries in your household trash.

Please dispose of your used Batteries responsibly by recycling them. We have partnered with East Penn Manufacturing, one of the leading producers of lead-acid batteries in the U.S., to recycle your Battery when it reaches the end of its life. East Penn has nearly 100 distribution centers throughout the U.S. and Canada that will accept your Battery for recycling. East Penn will separate and reuse everything in your old Battery: the plastic cover, the lead, and even the Battery acid using a patented process. To find the location of the East Penn distribution center nearest you, visit <http://www.dekabatteries.com>.

You can also visit the Web site of Earth 911 for more information [www.earth911.org]. Once there, click the Household tab at the top of the page and then enter your zip code. The site lists recycling centers located near you. You can also visit our website www.neutonpower.com and click on "Customer Service" to find distribution centers across the country that will accept your Battery for 100% recycling of the plastic, lead, and acid.

For a fee, you can recycle your Batteries with the International Metals Reclamation Company. Visit them at www.inmetco.com and click Services; or contact them at:
INMETCO, P.O. Box 720, 245 Portersville Road, Ellwood City, PA 16117, (724) 758-2825; fax (724) 758-2845

To learn more about hazardous waste recycling, visit the Web site for Battery Council International [www.batterycouncil.org] or for the Environmental Protection Agency [www.epa.gov].

Chapter 5: Servicing Your NEUTON Mower

This chapter explains how to clean your Mower, and change and sharpen the Blade.

Servicing Your Mower

WARNING!

- Never make adjustments or repairs with the Motor running. Always stop the Motor, wait for the Blade to stop moving, and remove the Battery to prevent accidental starting.
 - Never tamper with safety devices. Check their proper operation regularly.
 - Never attempt to make wheel-height adjustments while the Motor is running.
 - Grass catcher components are subject to wear, damage, and deterioration, which could expose moving parts or allow the Blade to throw objects. Check components frequently, and replace them with the manufacturers recommended parts when necessary.
 - Check the Blade and Motor mounting bolts at frequent intervals for proper tightness. Use only authorized NEUTON replacement parts.
-

CAUTION!

- Keep your Mower free of grass, leaves, or other debris build-up.
 - Allow the Mower to cool for at least five (5) minutes before servicing or storing.
 - The Mower Blade is sharp, it can and will cut. Wrap the Blade or wear gloves, and use extra caution when working on it.
-

Removing and Attaching the Blade

NOTICE

- You must remove the Blade to sharpen it.
- Always check the Blade for sharpness, damage, and tightness before and after each use. If the Blade is bent or damaged, replace the Blade promptly.
- Replace the Blade when worn, damaged, or at least every five (5) years.

Tools and Supplies Needed:

- 36mm Wrench (supplied with Mower)
- 3/4" Wrench or Socket
- Torque Wrench (optional)
- Heavy Gloves

CAUTION!

Wear heavy gloves to protect your hands when removing and attaching the Blade.

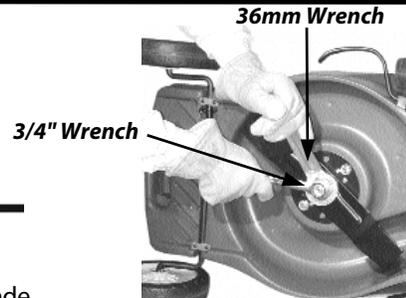


Figure 22

1. Place the 36mm Wrench over the Steel Hex Adapter (the large metal piece that holds the Blade in position) and place a 3/4" Wrench or Socket over the Blade Nut (**Figure 22**).
2. While holding the Hex Adapter in place, loosen the Blade Nut by turning counterclockwise. Be careful, hold the Hex Adapter firmly in place so that the Blade does not spin and strike your hand. The safest way to keep the Blade from spinning is to block it with a piece of 2" x 4" wood against the Mower frame.
3. Remove the Blade Nut, Steel Hex Adapter, Blade, and Steel Blade Adapter in that order (**Figure 23**).
4. To install a sharpened Blade or a new Blade, reverse the order of step 3. Be sure to replace all parts exactly as you removed them (**Figure 23**) and make sure to properly seat the Blade.

NOTE: Be sure that the stamping on the Blade "THIS SIDE TOWARDS MOWER" is facing the Mower. Also, if replacing the Blade with a new one, use the new Nut supplied. If you assemble the Blade more than ten (10) times, replace the Blade Nut with a new one.

5. Place the 36mm Wrench over the Steel Hex Adapter, then place a 3/4" Wrench (or optional Torque Wrench with a 3/4" Socket) over the Blade Nut (**Figure 22**) and while holding the Hex Adapter in place; tighten the Blade Nut securely (16.6 Ft-Lbs) by turning clockwise. Again, be careful, hold the Hex Adapter firmly in place so that the Blade does not spin and strike your hand.

Sharpening the Blade

When the Blade is dull, the cut ends of the grass end up ragged and may turn brown soon after mowing. A dull blade also causes the Battery to discharge faster. When this occurs, sharpen the Blade (assuming the Blade is otherwise in good condition).

Tools and Supplies Needed:

- Fine-Toothed File or NEUTON Blade Sharpener (optional)
- Safety Glasses
- Vise

1. Remove the Blade (see "Removing and Attaching the Blade").
2. Secure the Blade in a sturdy Vise and while wearing Safety Glasses, carefully file the Cutting Edges of the Blade using even strokes. Be sure to file both sides and both ends equally.

TIP → Simply counting the number of strokes per edge will help to keep the sharpening equal.

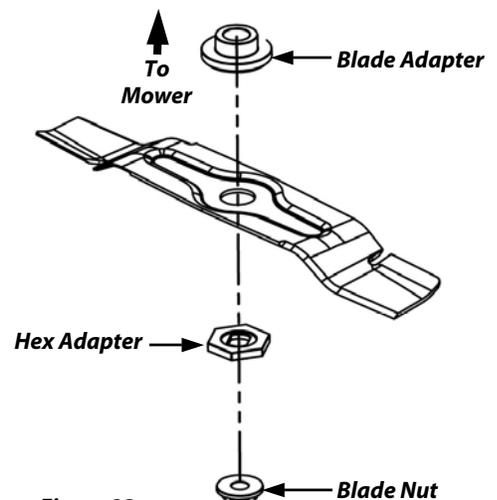


Figure 23

Chapter 6: Troubleshooting Tips

Most difficulties are easy to fix. Consult the Troubleshooting Table for common problems and their solutions. If you continue to experience problems or need repairs beyond these minor adjustments, visit our website at www.neutonpower.com or call Neuton Power Equipment Toll Free at: **1-866-NEUTON1 (638-8661)** for assistance.

WARNING!

Always remove the Battery before performing any adjustments, maintenance, or repairs to your Mower.

Troubleshooting Table

PROBLEM	CORRECTIVE ACTION
<i>The Motor fails to start with the Battery inserted, and the Control Lever(s) depressed.</i>	<ul style="list-style-type: none"> ⇒ Check to see if the black button of the Circuit Breaker on the Upper Handlebar Assembly has popped up; if it has, then depress the Button to reset it. ⇒ Check that you installed the Battery correctly and that the Battery is fully charged. If not, replace with a fully charged Battery or recharge the Battery. ⇒ Make sure you follow the correct starting sequence of depressing the orange Start Button and squeezing the orange Control Lever(s). ⇒ Possibly the Blade is obstructed. Remove the Battery, turn the Mower over, and check the Blade.
<i>The Mower stops while mowing (for reasons other than releasing the Control Lever(s)).</i>	<ul style="list-style-type: none"> ⇒ The Battery has completely depleted its charge. Recharge the Battery fully or replace it with a fully charged Battery. ⇒ The Mower was probably overloaded. The Circuit Breaker on the Upper Handlebar Assembly has tripped to protect the Motor. Reset the Breaker by pushing in the black Button on the Circuit Breaker and restart the Motor. ⇒ The grass may be too high for the cutting height. Raise the cutting height or narrow your cutting swath and try again. ⇒ The Blade, Mower Deck, or Side Discharge Chute probably clogged with debris. Remove the Battery, turn the Mower over, and clean if necessary. ⇒ If the Mower bogs down or stalls in heavy grass, raise the cutting height, walk more slowly, or cut a narrower swath. If the grass is wet, let it dry before mowing.
<i>Excessive vibration or noise.</i>	<ul style="list-style-type: none"> ⇒ The Blade may be loose. Remove the Battery; turn the Mower over and check that the Blade is securely attached. ⇒ The Blade may be unbalanced, bent, or damaged. Remove the Battery, turn the Mower over, remove the Blade, and check its condition. Replace with a new Blade if necessary.
<i>The Mower runs, but the cutting performance is unsatisfactory, or there is a loss of power.</i>	<ul style="list-style-type: none"> ⇒ The Battery was probably not at full charge prior to Mowing. Charge the Battery, if necessary. ⇒ The Blade may be dull, bent, loose or damaged. Remove the Battery, turn the Mower over, and check the condition of the Blade. Sharpen, tighten, or replace the Blade, if necessary. ⇒ The grass may be too high or too thick for the cutting height. Raise the cutting height or narrow your cutting swath and try again. ⇒ If you previously removed the Blade, make sure you properly reinstalled it.
<i>The Mower is hard to push.</i>	<ul style="list-style-type: none"> ⇒ The grass may be too high or too thick for the cutting height. Raise the cutting height or narrow your cutting swath and try again. ⇒ The Wheels may not be rotating freely. Remove the Battery, turn the Mower over, and check the Wheels for damage.
<i>The Battery loses its charge quickly.</i>	<ul style="list-style-type: none"> ⇒ The Battery was probably not at full charge prior to Mowing. Charge the Battery, if necessary. NOTE: You will need to charge a new Battery at least five (5) times to achieve maximum cutting time. ⇒ The grass may be too high or too thick for the cutting height. Raise the cutting height or narrow your cutting swath and try again. ⇒ The Battery may be getting old. After some time, usually between three (3) and five (5) years, you will need to replace the Battery.
<i>The Mower rear Bagger is collecting grass poorly.</i>	<ul style="list-style-type: none"> ⇒ The rear Bagger is full. Empty the Bagger, and clean it if necessary. ⇒ The grass is too long or the Mower is cutting too low. Raise the cutting height. ⇒ The Mower is moving too fast, slow down. ⇒ The mesh holes in the rear Bagger are clogged, clean them out. ⇒ The rear Bagger is wet. Allow it to dry thoroughly before using it again.

Troubleshooting Table - continued

PROBLEM	CORRECTIVE ACTION
<p>The Battery Charger LED is flashing RED and GREEN.</p>	<p>⇒ Unplug the Battery Charger from your standard 110V wall outlet and from the Charger Receptacle on the Battery. Inspect the Battery Charger for any visible signs of damage to the body and the cord. If you observe damage to the Battery Charger, please discontinue use.</p> <hr/> <p>⚠ WARNING!</p> <p>Use of a damaged Battery Charger may cause a short circuit and the potential for a fire.</p> <hr/> <p>⇒ Inspect the Charger Receptacle on the Battery for any signs of visible damage or debris. If there is debris present, please use caution to remove the debris.</p> <hr/> <p>⚠ WARNING!</p> <p>Do not remove the debris with any metallic objects, damp or flammable items, or items that may become lodged in the Charger Receptacle as this may cause a fire, or explosion of the Battery. If you observe damage to the Charger Receptacle, please discontinue use.</p> <hr/> <p>TIP ⇒ Use a vacuum equipped with a non-metallic nozzle to remove debris from the Charger Receptacle on the Battery.</p> <p>⇒ If the Battery Charger, Cord, and Charger Receptacle are undamaged, please wait 30 seconds to allow the Charger to reset itself. Plug the round Charger Connector back into the Charger Receptacle on the Battery and make sure that it is fully depressed into the Receptacle. Plug the Battery Charger into a standard 110V wall outlet. The LED on the Battery Charger and the LED on the Battery should turn RED. If the Battery Charger LED begins to flash again between RED and GREEN, please check that you have followed all of the steps outlined here. If the Battery Charger LED continues to flash between RED and GREEN, please discontinue use.</p> <p>NOTE: You can damage the Charger Receptacle by excessive force. It should not take a great amount of force to insert the round Charger Connector. Please do not force the round Charger Connector into the Charging Receptacle on the Battery.</p>
<p>The Battery Charger LED does not come on when plugged into a standard 110V wall outlet.</p>	<p>⇒ Unplug the Battery Charger from your standard 110V wall outlet and from the Charger Receptacle on the Battery. Inspect the Battery Charger for any visible signs of damage to the body and the cord. If you observe damage to the Battery Charger, please discontinue use.</p> <hr/> <p>⚠ WARNING!</p> <p>Use of a damaged Battery Charger may cause a short circuit and the potential for a fire.</p> <hr/> <p>⇒ Verify your Standard 110V wall outlet is functioning correctly by plugging a lamp or other electrical device into the same socket on the wall outlet you are intending to use.</p>

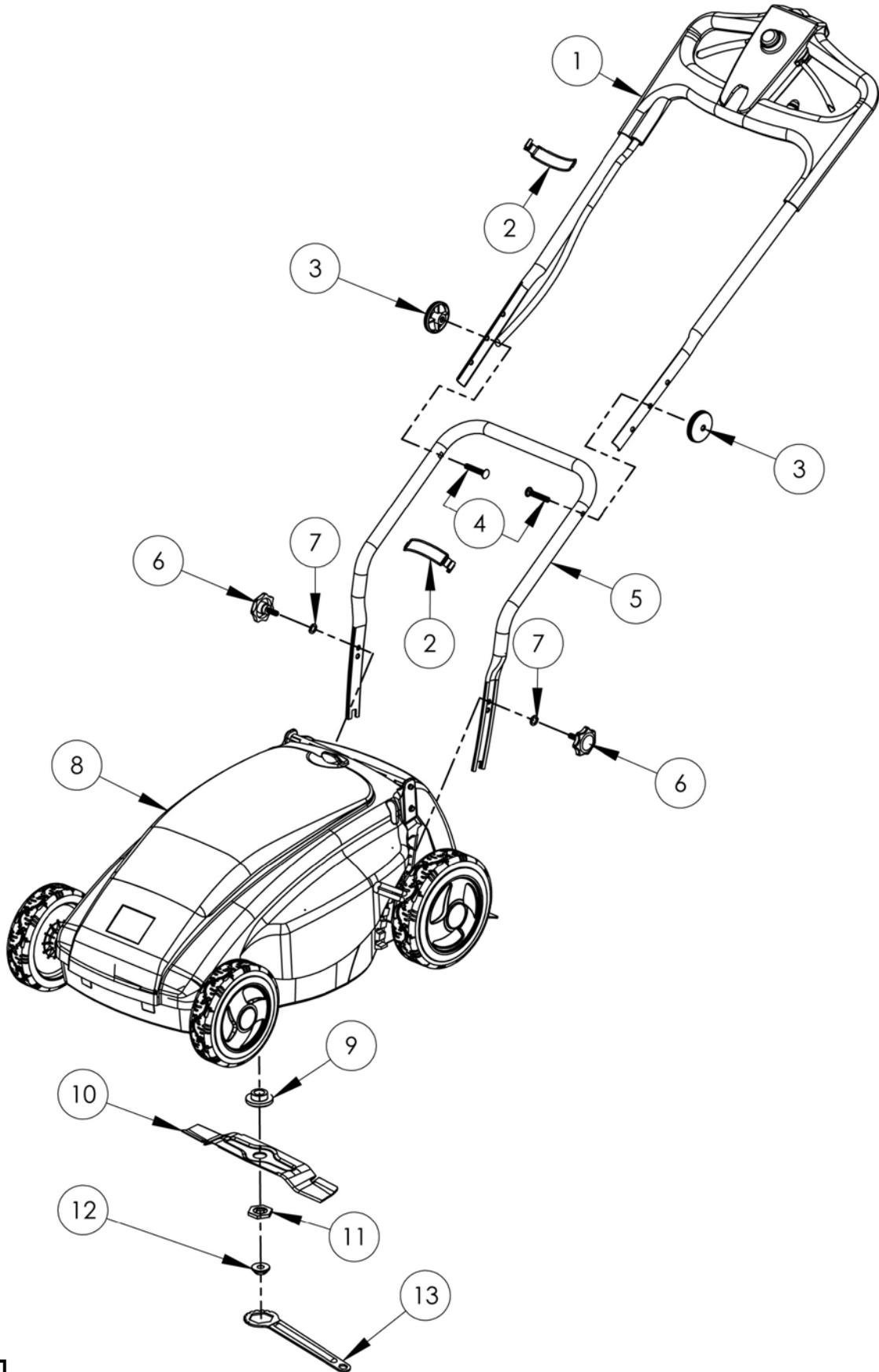
Chapter 7: Parts Lists, Schematic Diagrams, and Warranty

Parts List - NEUTON CE5.4 Mower

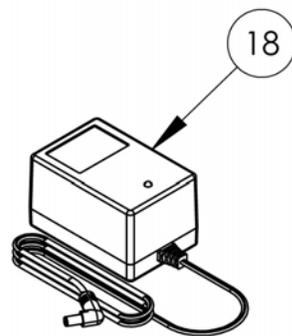
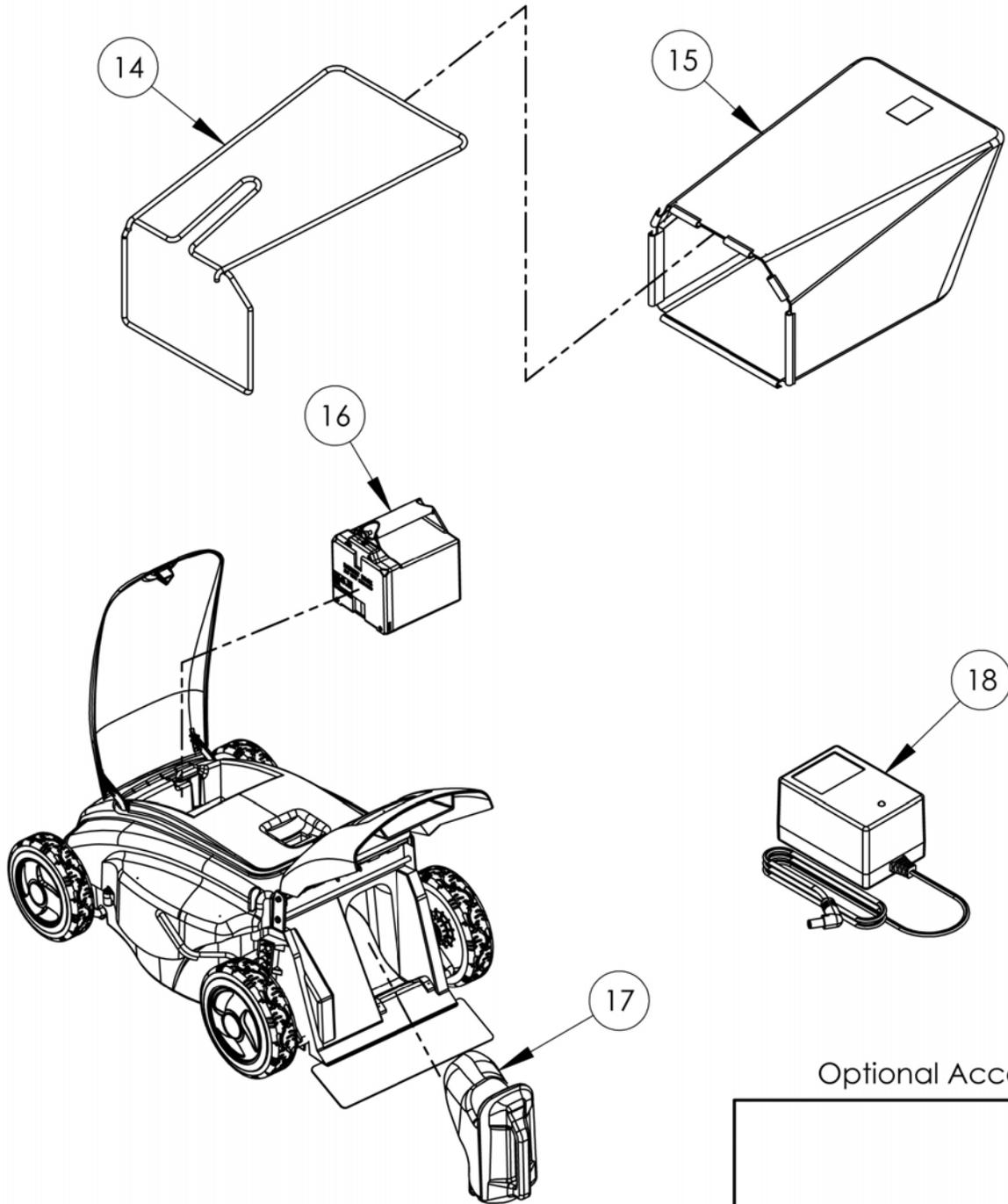
NOTE: Part numbers listed are available through Neuton Power Equipment.

Ref#	Part#	Description
1	272131	Upper Handlebar Assembly
2	272041	Main Cable Retainer, Assy (Kit)
3	175791	Knob, Handlebar Connector, Black
4	175781	Bolt, Handlebar Connector
5	268801	Lower Handlebar
6	175771	Knob, Quick- Connect, Green
7	200061	Washer, Lock
8	269011	Mower Body Assembly
9	196731	Blade Adapter
10	243151	Aero Cutting Blade
11	196671	Hex Adapter
12	243611	Blade Nut w/ Flange
13	259211	Wrench, 36 mm
14	210501	Frame, Rear Bagger
15	216001	Mesh, Rear Bagger
16	268611	24V Battery
17	203831	Plug, Mulching
18	268591	24V Battery Charger
19	268001	<i>Safety & Operating Instructions</i> Manual
20	268931	Rear Discharge Chute (sold separately)

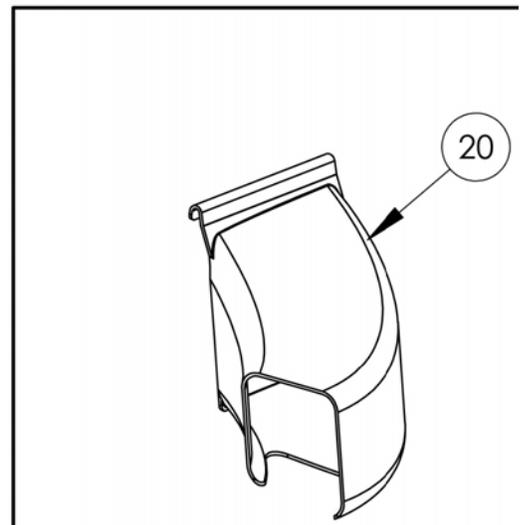
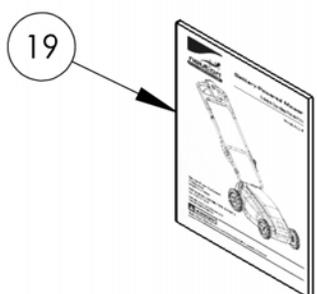
Schematic Diagrams - NEUTON CE5.4 Mower



091019



Optional Accessory



091021

Warranty Registration



You must complete the Warranty Registration within 10 days of original purchase to activate the limited warranty. Please fill out this Warranty Registration card and mail it with a copy of your proof of purchase to the address referenced at the bottom of this page. **IMPORTANT NOTE:** If you purchased directly from Neutron Power Equipment or a Neutron Power Equipment dealer, you do not need to complete this registration form.

Please print clearly (if we cannot read your handwriting your limited warranty may not be activated).

CUSTOMER INFORMATION

First Name

Last Name

E-Mail

Street Address

City

State/Province

Zip Code/Postal Code

Country

()
Phone

PURCHASE INFORMATION

Date of Purchase

Store Name

City/State or Province

I do not want to receive product update information at the e-mail address provided on this card.

PRODUCT INFORMATION

CE5 - 14"

CE6 - 19"

Product Serial #

Battery Serial#

You can find the machine Model Number and the 9-digit Serial Number on the box and under the flap at the back of the mower.

How did you hear about our product?

Magazine

Retail Display

Catalog

Television

Article

Word of Mouth

Today's Date

Neutron Power Equipment, 75 Meigs Road, Vergennes, VT 05491

©2010 E10012



2-Year Limited Warranty

Terms and Conditions

The NEUTON® CE5.4 Battery-Powered Mower is warranted for two (2) years against defects in materials or workmanship when put to personal residential household use.

For the purposes of the warranty, "personal residential household use" refers to non-commercial residential use and further excludes misuse, accidents, or damage due to inadequate maintenance.

Neuton Power Equipment certifies that the NEUTON® CE5.4 Battery-Powered Mower is fit for ordinary purposes for which a product of this type is used. Neuton Power Equipment however, limits the implied warranties of merchantability and fitness in duration to a period of two (2) years in personal residential household use.

The 2-Year Limited Warranty on the NEUTON® CE5.4 Battery-Powered Mower starts on the date the machine shipped from our factory to our direct customers. If purchased from a seller other than Country Home Products in Vergennes, Vermont, or an Authorized Neuton Power Equipment dealer, you must fill out the enclosed warranty registration page and follow the instructions as indicated on that page. The warranty is applicable only to the original owner.

The owner is responsible for the performance of all the required maintenance as defined by the manufacturer's owner manual.

The owner is responsible for the replacement of normally wearing parts including the Blade, Battery, and Bagger Mesh. The Battery carries a one (1) year limited warranty.

During the warranty period, the owner is responsible for all shipping and transportation charges, if required.

SOME STATES DO NOT ALLOW LIMITATIONS ON THE LENGTH OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

Neuton Power Equipment shall not be liable under any circumstances for any **incidental or consequential damages or expenses** of any kind, including, but not limited to, cost of equipment rentals, or cost of hiring services to perform tasks normally performed by the NEUTON® CE5.4 Battery-Powered Mower.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

Daily Checklist and Storing for your NEUTON Mower

To help maintain your NEUTON Mower for optimum performance, we recommend you follow this checklist each time you use your machine. Also, follow the checklist for storing the machine.

WARNING!

Do not insert the Battery until you have completed all of the daily checks and you have moved the Mower to the area that you are going to mow.

- [] **BATTERY:** Make sure the Battery has a full charge.
- [] **INSPECT:** Before inserting the Battery, check under the Mower Deck and make sure that the Blade is attached securely. Inspect for any visible damage to the Blade or Deck. Inspect the Mower Blade and Deck and clean them to remove any debris (such as grass or twigs) that might be clinging to the Blade or underside of the Deck from the last use. For the best performance and longest life, it is best to clean the Blade and underside of the Deck of any clinging debris after each use. Always follow the safety precautions when cleaning the Blade or Trimmer/Edger Housing. Make sure all Knobs, Bolts, Attachments, Guards, and Covers are in place and securely attached. Make sure the Motor shuts off when you release the Control Lever(s).
- [] **NOISES:** If you notice anything unusual, such as a vibration or odd sound, shut the Mower down immediately. Remove the Battery. Following all safety procedures, inspect the Mower Blade and underside of the Mower for any obstructions. If you cannot find the cause of the problem or are uncertain what to do, then have the Mower inspected by a qualified repair shop before using it, or visit our website at www.neutonpower.com.
- [] **MOWING:** If you are uncertain whether the grass you want to cut is too long or thick for optimal cutting, raise the Height and mow the yard in multiple passes, cutting it slightly shorter each time. It is best to mow more frequently, rather than let the grass become excessively long. Push the Mower (before starting it) to the lawn area that you wish to mow.

NOTE: *The length of time that a Battery can hold a charge while mowing depends upon lawn conditions; tall or thick grass makes the Mower work harder causing the Battery to discharge faster.*

Cleaning and Storing

- [] Use a soft nylon brush or non-metallic scrubbing pad to remove any clippings that have accumulated on the underside of the machine. Do not use a wire brush; it will scratch and harm the surface of your machine.
- [] Using a damp cloth or sponge with a mild soap or detergent, clean the machine. Never use water, gasoline, solvents, or other petroleum-based or solvent-based products when cleaning – remember that this is an electric machine.
- [] Always store the machine indoors in a dry place and out of the reach of children.
- [] Always store the Mower with a full Battery charge in a dry environment where the temperature is between 40°F (5°C) and +95°F (+35°C). Make sure the storage temperature will never be outside these limits. For long-term storage, store the Battery in an environment where the temperature is lower, since the Battery self-discharges slower at lower temperatures. During long-term storage of Batteries that are intended for reuse, periodically recharge the Battery, as recommended in “Chapter 4: Charging and Caring for the Battery”. See the TIPS on page 15.
- [] Do not store the Mower near chemicals, such as fertilizers, organic or other solvents. These products are often highly corrosive and may cause permanent damage to your Mower.

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