



**NEUTON<sup>®</sup> Cordless  
Electric Mower**

**Safety &  
Operating  
Instructions**

Model: EM 4.1

COUNTRY HOME PRODUCTS<sup>®</sup>, INC.

[www.neutonowners.com](http://www.neutonowners.com)

# THANK YOU!

And congratulations on your purchase of the NEUTON™ Cordless Electric Mower EM 4.1 — the *Smart Mower for Small Lawns!*

The NEUTON Mower EM 4.1 is designed with state-of-the-art battery technology to make mowing your lawn as easy and enjoyable as possible.

If you haven't already ordered it, be sure to try the EM 4.1's Trimmer Attachment, too. This option makes the EM 4.1 the only mower that can also trim and edge your lawn — saving you steps, plus a whole garage full of separately powered equipment.

Please call us, toll-free, at 1-(866)-NEUTON1 (638-8661) if you have any questions or difficulties as you get used to your new mower.

We also hope to hear from you on how much you like your new helper!

Thanks once again!

Tom Parent

for all of us at...  
Country Home Products, Inc.



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DOCUMENTATION

Written by PDI Creative Communication

Produced in Taiwan R.O.C. exclusively for Country Home Products, Inc. Meets CPSC blade safety requirements.

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# Chapter 1: Introducing the NEUTON Mower EM 4.1

Congratulations on purchasing your new NEUTON Mower EM 4.1, the *Smart Mower for Small Lawns*. The advanced technology built into your NEUTON Mower makes lawn care easy and enjoyable, year after year.

As you get to know your NEUTON Mower, you'll discover that it's strong, light, easy to maintain, and whisper quiet. It's clean, too, because it runs on a battery. You'll breathe easy and keep your lawn beautiful the smart, fun way — with your NEUTON Mower.

These Safety & Operating Instructions are shipped with the NEUTON Cordless Electric Mower, Model EM 4.1. It explains how to set up and safely operate your new NEUTON Mower. Carefully adhering to the safety and operating instructions in these instructions will ensure many years of productive use.

Please let us know if you have any questions. Just call us at our toll-free phone number 1-(866)-NEUTON1 (638-8661); our Technical Support Department will be happy to help you. When you call, please have your serial number or order number available so we can help you quickly.

## About this Manual

This manual is organized into the following chapters:

**Chapter 1:** Introducing the NEUTON Mower EM 4.1

- Explains the organization of, and conventions used in this manual.
- Provides contact information for Country Home Products, Inc.

**Chapter 2:** Important Safety Considerations

- Describes the safety labels on your Mower.
- Explains guidelines for safely operating your Mower.

**Chapter 3:** Setting Up Your NEUTON Mower

- Describes the contents of the Mower package as shipped.
- Explains how to easily set up your Mower.
- Describes and explains the Mower's features and controls.

**Chapter 4:** Operating Your NEUTON Mower

- Provides instructions for starting and stopping your Mower.
- Explains how to adjust the Mower's cutting height.
- Offers useful tips when using your Mower to care for your lawn.

**Chapter 5:** Charging and Caring for the Battery

- Explains how to use and care for the battery that powers your NEUTON Mower.

**Chapter 6:** Optional Attachments

- Describes the attachments available for use with your NEUTON Mower, and how to use them.

**Chapter 7:** Maintaining and Storing your NEUTON Mower

- Provides tips on maintaining your Mower.
- Describes how best to store your Mower.

**Chapter 8:** Troubleshooting Tips

- Lists common problems and their solutions.

In addition to these chapters, the manual includes a parts list, schematic drawings of the NEUTON Mower, a section for your notes, the warranty, and a checklist of daily maintenance procedures (on the back cover) to help you keep your Mower performing well for years to come.

## Conventions used in this manual



**WARNING!** The exclamation point within an equilateral triangle alerts you to essential operating, safety, and maintenance (servicing) instructions.

**Important:** This information is important for the proper use of your machine. Failure to follow this instruction could result in injury to you or damage to your Mower.



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

**Note:** Country Home Products, Inc. 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 printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your machine.

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## Chapter 2: Important Safety Considerations

We want you to enjoy years of safe and productive use from your NEUTON Cordless Electric Mower. We don't want you to get injured, so please take a few moments to read the following instructions for safely operating your new machine.

**Important:** Please read these instructions before using your Mower.

### Safety and Information Labels

You will find the following two labels on your NEUTON Mower.

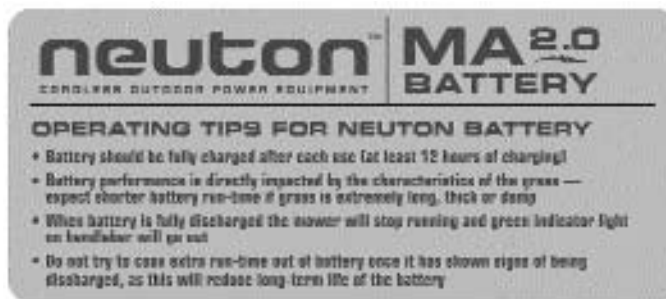
<p> <b>WARNING</b> <b>AVOID SERIOUS INJURY OR DEATH</b></p> <ul style="list-style-type: none"><li>• Read the operator's manual before use</li><li>• Do not mow when children and others are around</li><li>• Look down and behind, before and while moving backwards</li><li>• Remove objects that could be thrown by the blade</li><li>• Keep safety devices (guards, shields, switches, etc.) in place and working</li><li>• Use caution on slopes</li><li>• Inspect the bagger, mulching plug, battery and all parts on a regular basis and replace if worn or damaged</li><li>• Wear safety goggles or glasses to protect eyes</li></ul>	 <p><b>neuton</b><sup>TM</sup> CORDLESS OUTDOOR POWER EQUIPMENT</p> <p>Country Home Products, Inc. Meigs Road, P.O. Box 25 Vergennes, Vermont 05491</p> <p>1-866-NEUTON1 <a href="http://www.myneuton.com">www.myneuton.com</a></p>
<p><b>BEFORE STARTING</b></p> <ul style="list-style-type: none"><li>• Make sure all bolts, attachments, covers, etc. are in place and securely attached</li><li>• Depending on use, attach either rear discharge flap, mulching blade and plug, or rear bagger</li><li>• Make sure Mow/Aux switch on handlebar is in mower  position</li><li>• Adjust wheel height to appropriate cutting level</li><li>• Place fully charged battery in battery compartment</li></ul>	<p><b>STARTING</b></p> <ul style="list-style-type: none"><li>• Insert SAFETY KEY into slot</li><li>• Light on handlebar should be green — indicating key and charged battery are in place</li><li>• Slide orange knob (#1) to left</li><li>• Squeeze orange OPERATOR PRESENCE CONTROL BAR (#2) and hold in place</li></ul> <p><b>STOPPING</b></p> <ul style="list-style-type: none"><li>• Release OPERATOR PRESENCE CONTROL BAR</li><li>• Remove SAFETY KEY</li><li>• Before restarting, allow motor to fully stop</li></ul>
<p>Meets CPSC blade safety requirements Produced in Taiwan R.O.C. exclusively for Country Home Products, Inc.</p>	<p>EM 4.1</p>

*NEUTON Mower Warning and Safety Instructions label (196921)*



*Mower Danger label (176701)*

The following label appears on your NEUTON Battery.



*NEUTON Battery operating tips label (196101)*



## 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. Do not allow children, other bystanders, or pets in your work area when the Mower is being operated. Stop the Mower if anyone enters the area.
- Keep children out of the mowing area and under the watchful care of a responsible adult.
- Be alert and turn the Mower off if children enter the area.
- Only allow responsible individuals who have a thorough understanding of these instructions to operate the Mower. Never allow children to operate the Mower.
- Before and while pulling the Mower backwards, look behind and down for small children and for secure footing.
- 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 don't do it.

## Dressing Appropriately

- Always use safety goggles or glasses when using your NEUTON Mower to protect your eyes from possible thrown objects. Use a face or dust mask if operating in dusty conditions.
- Wear shoes with non-slip treads when using your Mower. If you have safety shoes, wear them. Do not use the Mower while barefoot or wearing open sandals.
- Wear long pants while trimming and mowing.
- Avoid wearing loose clothing or jewelry which might be caught on the Mower's moving parts.

## Preparing to Use Your Mower

- Read, understand, and follow all instructions on the Mower 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, safety switches, or other safety and protective devices in place and properly connected. Inspect the Mower and cutting blade to determine that these safety devices are properly installed, in good repair, and operate properly. If the condition or operation of these devices is questionable, you must repair them or replace them before using the Mower.
- 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 the Mower is to be used, and remove all stones, sticks, wire, pet supplies or lawn toys, and any other foreign objects that could be thrown by the Mower blade. Objects struck by the lawn mower blade can cause severe injuries. Also note the location of holes, ruts, bumps, stumps, and other possible hazards.
- Mow only in daylight or in an area well lit by artificial light.

# Operating Your Mower



**WARNING!** ALWAYS stop the motor, wait for the blade to stop moving, and remove the safety key whenever you leave the operating position (behind the handlebars) for any reason. This includes inspecting and cleaning the Mower, performing routine maintenance, clearing grass, making adjustments, repairing the Mower, and removing or attaching the rear bagger or other accessories.

- Your Mower can operate either as a discharging, mulching, or bagging mower. Learn how to use the proper cutting blade for the type of mowing you want to perform, and know how to use the rear discharge plate, rear bagger, and mulching plug as appropriate.
- Do not insert the safety key into the Mower until you are ready to operate the Mower. Store the safety key away from children and people not authorized to use the Mower.
- The cutting blade always turns when the motor is running. Learn how to quickly stop the Mower's motor — simply release the orange control bar. Remember that the blade will continue to rotate for up to three seconds after the orange control bar has been released.
- Do not put your hands or feet near or under rotating parts. 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 handle, and walk — never run.
- Never cut grass by pulling the Mower towards you. The NEUTON Mower is designed to only be pushed forward while cutting.
- Use extreme caution when maneuvering backwards. Always look first to check your footing, look down and behind you before moving backwards.
- Stop the motor when crossing over loose materials such as gravel drives, walks, or roads, as objects discharged by the Mower can be hazardous.
- After striking a foreign object, or if the Mower vibrates abnormally, stop the motor and remove the safety key. Inspect the Mower for any damage and repair the damage before restarting and operating the Mower.  
Note: Excessive vibration is generally a sign of trouble.
- Stay alert and watch what you are doing.
- Do not operate the Mower when you are tired or under the influence of drugs or alcohol.
- Remove the safety key when the Mower is not in use.
- Do not modify your Mower or over-speed the motor. Remember, modifications to your Mower void your warranty.
- Do not use your NEUTON Mower for any job other than those for which it is intended.

## Mowing on Slopes

Slopes are a major factor related to slip-and-fall accidents, which can result in severe injury. All slopes require caution. If you feel uneasy on a slope, do not mow it.

### *Do:*

- Use caution on slopes. Whenever possible, mow across slopes, not up and down. Exercise caution when changing directions on slopes.
- Remove objects such as rocks and tree limbs, or any other potential object that could be thrown by the Mower blade. Objects struck by the lawn mower blade can cause severe injuries.
- Watch for holes, ruts, or bumps. Tall grass can hide obstacles.

### *Do Not:*

- Do not mow steep slopes or other areas where stability or traction is in doubt.
- Do not mow near drop-offs, ditches, or embankments. You could lose your footing or balance.
- Do not mow on wet grass. Unsure footing could cause you to slip.

## Servicing Your Mower

- Never make adjustments or repairs with the motor running. Remove the safety key to prevent accidental starting.
- Keep all nuts and bolts tight, especially blade attachment bolts, and keep the equipment in good condition.
- Never tamper with safety devices. Check their proper operation regularly.
- Keep your Mower free of grass, leaves, or other debris build-up.
- Allow the Mower to cool for at least 5 minutes before servicing or storing.
- 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 objects to be thrown. Check components frequently, and replace them with the manufacturer's recommended parts when necessary.
- Mower blades are sharp; they can and do cut. Wrap the blade or wear gloves, and use extra caution when working with them.

## Maintaining and Storing Your Mower



**WARNING!** ALWAYS remove the safety key before performing any adjustments or repairs, or when storing your Mower.

- Maintain the lawn Mower with care — keep cutting edges sharp and clean for the best and safest performance. Keep all nuts, bolts, and screws tight to be sure the Mower is in safe operating condition. Follow the instructions in this manual for changing accessories.
- Periodically inspect the cords on the charger unit and the handlebar for damage. If damage occurs, do not use the Mower until the cords have been replaced or repaired.
- Do not operate the Mower if it does not start normally or does not stop normally when the control bar is released.
- Check the blade and motor mounting bolts at frequent intervals for proper tightness. Use only authorized NEUTON replacement blades.
- Keep Mower clean and dry. Use a damp cloth or sponge with a mild soap or detergent when cleaning your Mower. Never use water, gasoline, solvents, or other petroleum-based or solvent-based products when cleaning — remember, this is an electric mower.
- When not in use, store the lawn Mower indoors in a dry place.

## Handling the Battery Safely

- Do not charge the lawn Mower battery in the rain or in wet locations.
- 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.
- Do not 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.
- Do not dispose of batteries in a fire, as the battery cells may explode. Do not open or mutilate the batteries. Released electrolyte (battery acid) is corrosive and will cause damage to eyes, skin, or clothes. Battery acid is toxic if swallowed or if the fumes are inhaled.
- 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 28 for more information.



**WARNING!** Please dispose of used batteries responsibly, according to your local hazardous materials regulations.

**Note:** See additional details on battery care in “Chapter 5: Charging and Caring for the Battery.”

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## Chapter 3: Setting Up Your NEUTON Mower

This chapter outlines a few simple steps needed to set up your new Mower. Before beginning assembly, it may be helpful to familiarize yourself with the controls and features on your Mower by reviewing the photograph of the Mower on page 17 (*Figure 14*) and reading about the Mower's controls and features.

Please check that you have all of the components listed below. If anything is missing, please call Country Home Products toll-free at 1-(866)-NEUTON1 (638-8661).

### NEUTON Mower Package Checklist

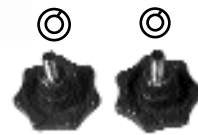
Country Home Products ships the following items (*Figure 1*) in your Mower package. Please check to make sure you have everything listed below:

- NEUTON Mower
- Upper handlebar assembly
- Quick-connect knobs, green (two), used to connect the lower handlebars to the Mower
- Lower handlebars (two pieces) with two black connector knobs attached, used to connect the upper and lower handlebars together
- Rear discharge plate
- Battery MA 2.0 (inside the mower)
- Battery charger
- Safety key
- 36 mm wrench (to remove the blade)
- *NEUTON EM 4.1 Cordless Electric Mower Safety & Operating Instructions* Manual

## Package Contents (Figure 1)



3a. Lockwashers



3. Quick-connect knobs, green

Cord clip



4. Lower handlebars with black connector knobs



5. Rear discharge plate



6. Battery



7. Battery charger



8. Safety key



9. 36 mm wrench

# Assembling Your NEUTON Mower

To allow you to quickly begin using your NEUTON Mower, it is 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 these “Safety and Operating Instructions” before proceeding.

**Step 2:** Remove the battery.

**Step 3:** Charge the battery before your first use.

**Step 4:** Attach the lower handlebar sections.

**Step 5:** Attach the upper handlebar assembly.

**Step 6:** Attach the cable to the handlebar assembly.

**Step 7:** Attach the rear discharge plate.

**Step 8:** Insert the battery after it has been fully charged.

Each of these steps is described in detail below. (See *Figure 14* on page 17 for a photograph of the fully assembled Mower.)



**WARNING!** The safety key with its built-in circuit breaker as well as the battery, should never be inserted during assembly, adjustments, cleaning, blade replacement, or when the Mower is not in use. Removing the safety key will prevent accidental starting, and help avoid serious personal injury.

## Step 1: Read the Safety and Operating Instructions Before Proceeding

The NEUTON Mower is a motorized cutting machine that uses a sharp blade. For your safety, and for the best results, it is important to read the information in “Chapter 2: 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.



## Step 2: Remove the Battery

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

1. Open the battery cover (*Figure 2*).



Remember to press down on the Mower body next to the battery cover handle before pulling the cover open.

2. Turn the battery retainer arm until it is no longer blocking the battery (*Figure 3*).

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 to remove it.



*Figure 2. Lift the battery cover*

## Step 3: Charge the Battery Before Your First Use

You **MUST** charge the battery for 12 hours 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.

For instructions on removing and charging the battery, read “Chapter 5: Charging and Caring for the Battery” before you operate the mower.



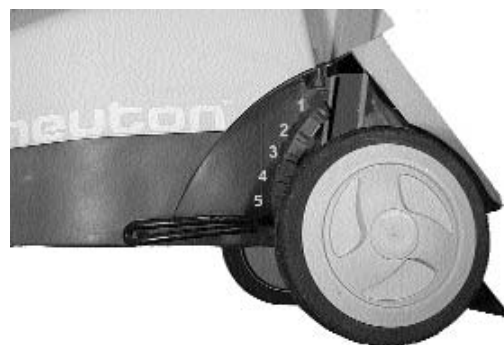
*Figure 3. Turn the battery retainer arm*

## Step 4: Attach the Lower Handlebar Sections

To keep the Mower from moving while you assemble it, put a foot behind one of the wheels.

Use the green quick-connect knobs to attach the lower handlebar sections to the Mower. You install both handlebars the same way.

1. Set the cutting height lever to the highest adjustment: position 6 as molded into the Mower body (*Figure 4*). This makes it easier to reach the slots on the Mower frame.



*Figure 4. Set cutting height to position 6  
(Note: position numbers have been highlighted for clarity)*

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 5*).

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.

Place the lower handlebar with the cord clip on the right side (from the operator's point of view) of the mower.

3. Insert a lock washer and a green quick-connect knob through the lined-up holes in the handle and Mower frame to attach each side of the lower handlebar to the Mower.
4. Hand tighten the green quick-connect knob until firmly snug (*Figure 6*).
5. Attach the other handlebar in the same manner.

**Important:** Be sure to tighten the green quick-connect knobs by hand. Do not use a tool to tighten; you could easily over tighten them and damage the parts.

## Step 5: Attach the Upper Handlebar Assembly

Use the black connector knobs (already attached to the lower handlebars) to connect the upper and lower handlebar sections together.

1. Remove the black connector knobs and connector bolts from the upper ends of the lower handlebars.

**TIP** Let the upper handlebar assembly lean on the ground during this process (*Figure 7*). 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. Once you have the handlebars loosely connected, you can swing the upper assembly into place and tighten it further.

2. Line up the holes of the upper handlebars with the holes in the lower handlebar sections.



*Figure 5. Slide the handlebar fully into the slot on the Mower*



*Figure 6. Tighten the green quick-connect knobs*



*Figure 7. Lean the upper handlebar assembly onto the lower handlebars (shown after the black connector knobs and bolts are attached)*

3. The handlebars have three height adjustments (three holes in the upper handlebars). Connect the handlebars at the height that is most comfortable for you.
4. Slide the connector bolts (from inside to outside) through the holes in the upper and lower handlebar sections on each side of the Mower. Screw on the black connector knobs, then hand-tighten them just enough to hold the upper and lower handlebar sections together on each side.
5. Swing the upper handlebar assembly into an upright position. The bars will line up and slide into place (*Figure 8*). Hand-tighten the black connector knobs until they are snug.
6. Check the length of the handlebars for comfort. If necessary, reconnect the handlebars (up or down) to a height that is best for you.



To save space for storage, you can loosen these black connector knobs to drop the upper handlebar assembly forward onto the Mower's deck.



*Figure 8. Align the upper and lower handlebars and hand-tighten the black connector knobs*

## Step 6: Attach the Cable to the Handlebar Assembly

1. Run the cable through the cord clip (*Figure 9*) on the right lower handlebar section.
2. Align the half-moon cutout on the cable end (*Figure 10*) with the cable housing on the handlebars, and slide together.
3. Hand-tighten the locking nut to connect the cable (*Figure 11*).



*Figure 9. Cord clip on the lower right handlebar*



*Figure 10. The half-moon cut-out on the cable end*



*Figure 11. Hand-tighten the locking nut*

## Step 7: Attach the Rear Discharge Plate

The rear discharge plate allows the cut grass to be properly discharged, which prevents clogging.

1. Raise the hinged discharge guard on the back of the mower.
2. Position the black discharge plate with the ribbed bend facing up, flush against the rear of the discharge guard (*Figure 12*).
3. Lower the hinged guard so the pin locks into the hole on the plate.

Other discharge options are available for your NEUTON Mower. With the rear bagger, you can bag the cut grass; with the mulching kit, you can mulch your grass. Please refer to “Chapter 6: Optional Attachments” to learn more.



*Figure 12. Attach the rear discharge plate*

## Step 8: Insert the Battery After It Has Been Fully Charged

1. Correctly orient the battery. Align the black edge of the battery with the side of the housing where the label reads “Insert battery with black side along this edge.”

The indentations on the bottom of the battery must line up with the metal tabs in the bottom of the housing.

2. After confirming the correct orientation of the battery, insert the battery into the battery opening (*Figure 13*).
3. Turn the battery retainer arm back on top of the battery to secure it.



*Figure 13. Orient and insert the battery*

**Important:** 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.

## Your Fully Assembled NEUTON Mower



Figure 14. Your NEUTON Mower!

# Controls and Features

Make certain that you are familiar with the controls, parts, and operation of your NEUTON Mower before using it.

## Key Slot

The key slot is used for both the external battery charger and the safety key. You can never connect both the external battery charger and insert the safety key at the same time.

## Safety Key

The safety key, after being inserted into the Mower, allows the motor to start and run. The safety key can be inserted either way — it has no front or back.

The safety key has a built-in circuit breaker to protect the motor.

**Note:** When the built-in circuit breaker is tripped, the white button on top of the safety key will pop up.

Before attempting to restart the Mower, push the white button all the way down until it locks into place.

## Start Knob

The orange start knob is a safety feature that you must push across before the control bar can be depressed.

## Control Bar

The orange control bar is a safety feature. The bar must be pressed in for the motor to start and run, and the cutting blade to spin. When the bar is released, the motor shuts off and the blade stops spinning within three seconds.

## Indicator Light

The status indicator light on the lower crossbar (*Figure 15*) lights up when a charged battery is installed and the safety key inserted. The light is green.

**Note:** A green indicator light does not guarantee that the battery is fully charged, only that it has some charge, the safety key has been inserted, that the electrical system is ready, and that the Mower can be started.

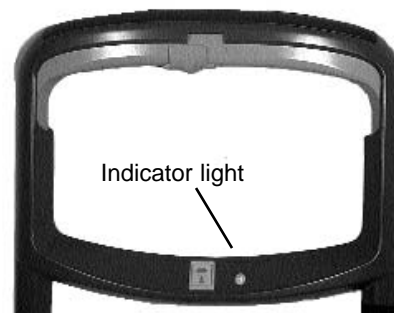


Figure 15. Green indicator light



**WARNING!** If the green indicator light goes out, do not operate the Mower again until the battery is fully charged; otherwise the battery's charging capacity might be decreased.

**Note:** Although you may notice that a short period of rest may restore the indicator light, you must still fully charge the battery before continuing to mow. For best results, be sure to always fully charge the battery after every use.

## Cutting Height Lever

The cutting height lever (*Figure 16*) allows you to easily adjust how high or low you cut the grass. Notice that there are six different height positions etched into the Mower's body.

To easily move the cutting height lever, hold the handlebars with your right hand to keep the Mower steady and adjust the lever with your left hand.

To easily adjust this lever, pull the lever out before lifting or lowering it. Once you pull it out, it very easily adjusts to a different level.



Figure 16. Cutting height lever

## Mower/Auxiliary Switch

The Mower/Auxiliary switch (*Figure 17*) controls the optional Mower attachments. This switch has two settings:

- Mower, used for normal mowing.
- Auxiliary, used when operating an attachment.

For more information about options available for your NEUTON Mower, see "Chapter 6: Optional Attachments."



Figure 17. Pushing the Mower/Auxiliary switch to the Auxiliary setting

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## Chapter 4: Operating Your NEUTON Mower

This chapter explains how to start, stop, and adjust the cutting height of your Mower.

**Note:** If the Mower battery is not fully charged or if you are unpacking a new Mower for the first time, read “Chapter 5: Charging and Caring for the Battery” before operating the Mower. You should charge the battery for a minimum of 12 hours before using it in the Mower.

### Pre-Start Checks



**WARNING!** Do not insert the safety key until you have completed all of the pre-start checks and you have moved the Mower to the area being mowed.

Perform the following checks before operating your Mower each time.

- Check under the Mower deck and make sure you are using the correct blade (for mulching or cutting) and that the blade is attached securely. Make sure all knobs, bolts, attachments, and covers are in place and securely attached. Inspect for any visible damage to the blade or deck, and remove any accumulation of dirt, dust, or dried grass clippings.
- Attach either the rear discharge plate, the rear bagger, or the mulching blade and plug. (See “Chapter 6: Optional Attachments” for details on attaching the bagger and mulching kit.)
- Set the Mower to the desired cutting height. (See “Adjusting the Cutting Height” on page 21 for details.)
- Be sure the battery is fully charged.
- Be sure the Mower/Auxiliary Switch is set to “Mowing” (the “Mowing” side of the switch is pushed down).
- Push the Mower (before starting it) to the lawn area to be mowed.

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



## Adjusting the Cutting Height

Using the cutting height lever (*Figure 18*), adjust the cutting height so that you cut off only 1 to 2 inches of grass at a time.

1. Remove the safety key.
2. Make sure all four wheels are level.
3. Pull the lever (toward the wheel) out of its position notch. (The cutting height lever is spring-loaded.)



To easily adjust the cutting height, hold the handlebars with your right hand to keep the Mower steady and adjust the lever with your left hand.

4. Move the lever to any one of the six cutting height settings.

Each position adjusts the Mower blade's level to a different cutting height. Pulling the cutting height lever up towards position 1 cuts more grass (which leaves your grass shorter); pushing it down towards position 6 cuts less grass (leaving your grass higher). The following table lists the final cut grass heights.

Lever Position	Cut Height
1	1.6" (40 mm)
2	2.0" (50 mm)
3	2.4" (60 mm)
4	2.8" (70 mm)
5	3.2" (80 mm)
6	3.6" (90 mm)



*Figure 18. Cutting height lever set to leave your grass 1.6 inches high*

## Starting the Motor and Engaging the Blade



**WARNING!** 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 seconds after stopping before restarting the Mower.

**Important:** 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.

1. Perform the pre-start checks listed previously.
2. Insert the safety key into the key slot (Figure 19). The safety key can be inserted either way. The green indicator light on the lower crossbars should come on.



Figure 19. Insert the safety key

### Starting the Mower

1. Slide the orange start knob to your left (Figure 20).
2. Squeeze and hold the orange control bar (Figure 21). The orange start knob fits snugly into the slot on the top of the handlebars.
3. Continue to hold the control bar against the handlebar for as long as you want the motor to run.



Figure 20. Push the start slide to the left



Figure 21. Squeeze the orange control bar



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

- Make sure the battery is in, the safety key is in, and the indicator light is green.
- Make sure the Mower/Auxiliary switch is set to Mower.
- Make sure the white circuit breaker button on the safety key is depressed.
- Did you follow the two-step start sequence: slide the orange start knob to the left, then squeeze and hold the control bar?

**Note:** If the Mower still does not start, follow the steps in “Chapter 8: Troubleshooting Tips.”



**WARNING!** The orange control arm is a safety device. Do not tamper with it.

## Stopping the Motor and Blade

Simply releasing the orange control bar stops the motor and blade.

**Important:** The blade continues to rotate for a few seconds after the motor is shut off.

## When Finished Mowing

Remove the safety key when the Mower is unattended and the motor is shut off.

Remember to recharge the battery after each use, no matter how short a time it was used. See “Charging the Battery” on page 25 for details.



**WARNING!** The safety key with its built-in circuit breaker and the battery should never be inserted during adjustments or blade replacement. Removing the safety key will prevent accidental starting, and help avoid serious personal injury.

## Mowing and Lawn Care Tips

- For best results, mow at a steady pace. If you try to walk too quickly, especially in tall or thick grass, the quality of the cut may not be uniform. To avoid damage and extend battery life, always mow at a pace which allows the motor to run smoothly.
- The length of time that the Mower's battery can hold its charge while mowing a lawn depends upon lawn conditions; tall, thick, or damp grass make the Mower work harder, causing the battery to discharge faster. Under normal mowing conditions the run time is between 45 and 60 minutes. To mow longer, consider purchasing a second battery and keep it fully charged.
- Before starting the Mower, adjust the cutting height so that you only cut 1 to 2 inches of grass at a time. Cut thicker grass at a higher cutting height, or cut a narrower swath. Do not force the Mower forward in thick grass; rather, cut it with a couple of passes. Your NEUTON Mower will do a better and safer job when cutting at a steady pace.
- Mowing dense grasses, such as St. Augustine or Bermuda grass, requires more power to cut properly. For these grasses it may be necessary to move more slowly to ensure a quality cut.
- Mow as often as needed so that you are only cutting 1 to 2 inches of grass each mowing session. Trying to cut more than 2 inches will drastically reduce the charge life of the battery and quality of the cut.
- For the healthiest lawn, avoid removing more than one third of the leaf blade during any one mowing session. When more than one third of the leaf blade is removed, the grass plant produces less food for itself and therefore becomes weaker and more susceptible to disease and insect damage.
- Frequent stopping and restarting of the Mower will use additional battery energy. Try to work continuously and smoothly when mowing.
- Keep your mower blade sharp! A sharp mower blade cuts the grass quickly and cleanly, using less of the Mower's power, which conserves battery life. For best results, inspect the blade often and have an extra, sharp blade ready to install as a replacement while the dull blade is being sharpened.
- Mow across slopes; never up and down.

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## Chapter 5: Charging and Caring for the Battery

**Important:** 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 has been fully charged.

### The Battery

The NEUTON Mower comes with a sealed, lead acid battery, already installed at the factory. The battery is rated for 24 volts and 10 amp-hours. The battery should not leak, regardless of the position in which the Mower is stored. (Read “Handling the Battery Safely” in Chapter 2 for additional information.)

The battery is completely maintenance-free. You never need to add water. However, as with all rechargeable batteries, after years of use they will eventually need replacement. With proper care this battery should last up to 5 years. Please refer to “Chapter 7: Maintaining and Storing Your NEUTON Mower” for more information.



**WARNING!** Do not attempt to alter or open the battery.



Under normal conditions the battery should run for approximately 45 to 60 minutes per use. The length of time depends on the length, density, and dampness of the grass. If you generally intend to use your Mower and Trimmer for a longer duration, Country Home Products recommends that you purchase an extra battery. That way, while you're using your Mower, the second battery can be charging.

## Charging the Battery

You must charge your battery before using your Mower for the first time and in between every use.

You can charge the battery in the Mower or removed from the Mower. The performance of your Mower is the same, regardless of which charging method you choose.

**Important:** While the battery in your Mower has been charged at the factory, you must recharge it fully (at least 12 hours) before first using your Mower. Otherwise, the battery's charging capacity may be decreased.

As your battery ages, you may need to charge the battery longer, even up to 24 hours. A good time to consider purchasing a replacement battery is when the battery takes longer to charge.



**WARNING!** Use normal household voltage (110 volts) when charging your battery. Plug the charger directly into the electrical outlet. Do not abuse the cords. Never carry the charger by the cord. Always pull the plug — and not the cord — when disconnecting the cords from the electrical outlet (wall outlet) and from the charger.

**Note:** 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).

**Important:** Always connect the charger to the battery first, and then plug it into the wall outlet. When unplugging, reverse the process: unplug the charger from the wall outlet first, and then disconnect it from the battery.

### Charging the Battery in the Mower

1. Make sure all four wheels of the Mower touch the floor.
2. Remove the safety key.
3. Plug the charger's round plug into the key slot on the Mower (*Figure 22*).
4. Plug the charger into a wall outlet.

A full charge takes at least 12 hours, and up to 24 hours. For the first five hours, the charger will be warm to the touch. This is normal and does not indicate a problem.



*Figure 22. Charging the battery in the Mower*

## Charging with the Battery Removed from the Mower

1. Remove the battery from the Mower.
2. Connect the charger plug to the charger receptacle on the battery (*Figure 23*).
3. Plug the charger into a wall outlet. The red light on the battery lights up.

**Note:** The red light on the battery only indicates that the charger is plugged in and the battery is charging — the charger and the light will not automatically turn off or change color when charging is complete.

As with charging in the Mower, a full charge takes at least 12 hours and can take up to 24 hours. For the first five hours, the charger will be warm to the touch. This is normal and does not indicate a problem.

**Important:** Always keep the battery in a dry place.



*Figure 23. Charging the battery out of the Mower*

## Disconnecting the Charger

Remember to disconnect the battery from the charger using this sequence:

1. Pull the charger's plug out of the wall outlet.
2. Disconnect the charger from the battery or the key slot on the Mower.



**WARNING!** Always disconnect the charger from the electrical (wall) outlet first, and then disconnect the round charger plug from the mower's key slot or the battery. If the round charger plug is removed first, the exposed connector can be accidentally short-circuited by foreign material, which might cause a fire.

## Recharging After Each Use of the Mower

Always fully recharge the battery immediately after each use, no matter how short a time it was used. Fully recharge even if the indicator light on the Mower is still green. This is important in order to maintain maximum Mower performance and extend the useful life of the battery. If you are using the Mower and the green indicator light goes out, suggesting low battery charge, then you should stop using the Mower and either replace or recharge the battery.

Unlike “smart batteries” found in devices such as cell phones, the NEUTON Mower's battery should NOT be run until it is completely drained. Running the battery until it is fully depleted will impact the long-term performance of the battery.

Leaving the battery on the charger for an extended period of time (up to six months) will not damage the battery. It is impossible to overcharge the Mower's battery.

**Important:** If a depleted battery is stored, the battery's charging capacity might decrease.

## Recharging to a Full Charge for Off-Season Storage

When storing the battery for periods up to six months, Country Home Products recommends that you leave the battery connected to the charger. It is important that the battery be stored in a dry location and that the temperature remains between  $-4^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$ ) and  $+104^{\circ}\text{F}$  ( $+40^{\circ}\text{C}$ ).

For off-season storage of the battery, it is important that the battery is fully charged. Consider these facts when choosing your method of storing the battery:

- Leaving the battery with a full charge is the best way to store the battery.
- Over time, batteries will slowly discharge their power.
- You will not damage the battery by leaving it on the charger for an extended period of time (up to six months).

For continued storage of the battery for a period over six months, fully charge the battery, remove it from the charger and store it in a dry and temperate location. If possible, recharge the battery for at least 12 hours every two to three months. When ready to use the Mower again, you should recharge the battery for 12 hours prior to use.

## Storage Temperature Range

For superior battery performance, always store the battery in temperatures between  $-4^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$ ) and  $+104^{\circ}\text{F}$  ( $+40^{\circ}\text{C}$ ). 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.

For more information on storing your Mower, see “Chapter 7: Maintaining and Storing your NEUTON Mower.”

## Caring for the Battery

You can lengthen the life of your battery by following some simple guidelines.

- Always charge the battery indoors in a garage or other covered area where it will be dry and protected from the weather.
- Only charge the battery when the temperature is at least  $32^{\circ}\text{F}$  ( $0^{\circ}\text{C}$ ) — above freezing — but not more than  $104^{\circ}\text{F}$  ( $40^{\circ}\text{C}$ ). Charging in lower or higher temperatures can be harmful to the battery.
- Always keep the battery away from water, heat sources (stoves, radiators, open flames, etc.), and hazardous chemicals.
- Always use the NEUTON Mower EM 4.1 Charger to charge your battery; never attempt to use any other charger. This charger is specifically designed to optimize the performance of your battery.
- Never use the charger with any other product. Never operate the charger if it is damaged. If a cord or the charger unit has been damaged, replace the charger or have it repaired.
- Do not worry about leaving the battery charging for longer than 12 hours — the battery cannot

be overcharged and will not be damaged after 12 hours. It will not impact the battery to leave it on the charger for up to six months.

- When storing the battery after removing it from the Mower, follow the storage guidelines in “Chapter 7: Maintaining and Storing Your NEUTON Mower.”
- For long term storage, please refer to “Recharging to a Full Charge for Off-Season Storage” on page 27.
- If the motor will not run after you have fully charged the battery, consult the techniques in “Chapter 8: Troubleshooting Tips.” If you still need help, call County Home Products’ Technical Support toll free at 1-(866)-NEUTON1 (638-8661); our staff will be happy to assist you.

## Recycling your Used Battery

**Important:** 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. Call your local Solid Waste Management District or your local waste handler to locate the collection site nearest you. Some collection sites recycle batteries year-round; others collect them periodically.

You can also visit the Web site of Earth 911 for more information [[www.earth911.org](http://www.earth911.org)]. Once there, you have two options. Click “Hazardous Household Waste”, then click “Municipal HHW” and enter your zip code. Or, click “Reuse and Recycling Center”, then click “Rechargeable Batteries (non NiCd) and enter your zip code. The site lists recycling centers located near you.

For a fee, you can recycle your batteries with the International Metals Reclamation Company. Visit them at [www.inmetco.com](http://www.inmetco.com) and click Service; or contact them at:

INMETCO  
PO 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](http://www.batterycouncil.org)] or for the Environmental Protection Agency [[www.epa.gov](http://www.epa.gov)].



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## Chapter 6: Optional Attachments

You can purchase several optional attachments for your NEUTON Mower. To order any of these optional attachments, please call Country Home Products toll free at 1-(866)-NEUTON1 (638-8661).

Your NEUTON Mower is shipped with the rear discharge plate, allowing you to discharge grass clippings as the standard mowing mode. To mulch or to collect clippings, you must order the appropriate optional attachments.

### NEUTON Trimmer

The NEUTON Trimmer (MA 3.0) is a unique attachment that, used with your NEUTON Mower (*Figure 24*), enables you to trim and edge your lawn and yard without having to buy a separate trimmer and edger — it's like having three machines in one. The Trimmer simply plugs into the front of your Mower.

The Trimmer is described in a separate manual, the NEUTON Trimmer Safety & Operating Instructions (which is shipped with the NEUTON Trimmer). For more information about the NEUTON Trimmer attachment, please contact Country Home Products toll free at 1-(866)-NEUTON1 (638-8661) or visit us on the Web at [www.neutonowners.com](http://www.neutonowners.com).



*Figure 24. NEUTON Trimmer attached to the front of the Mower*

### NEUTON Rear Bagger

The NEUTON Rear Bagger (MA 4.0) lets you catch your grass clippings as they are cut, eliminating the need to rake. The Rear Bagger easily attaches to the back of your Mower (*Figure 25*). And it just as easily can be removed so you can dump out your clippings.



*Figure 25. NEUTON Rear Bagger attached to the Mower*

## NEUTON Mulching Kit

The NEUTON Mulching Kit (MA 1.0) allows you to mulch your grass clippings. Mulched grass doesn't need to be raked — it just stays on your lawn and acts as a fertilizer. The Mulching Kit contains a mulching blade and mulching plug (*Figure 26*).



*Figure 26. NEUTON Mulching Kit: mulching plug and mulching blade*

### Installing the Mulching Kit

To mulch your grass, install both the mulching plug and blade.

1. If necessary, remove the Rear Bagger or the rear discharge plate from the Mower.
2. Install the mulching plug (*Figure 27*). Be sure to push the plug all the way in until the notch in its bottom is engaged.



There's a slight knack to installing the plug: push with a slightly arcing motion. Align the plug in the Mower, start to push the top of the plug first then put pressure towards the bottom and slide in the plug.

3. Remove the cutting blade and install the mulching blade. For detailed instructions and safety precautions, please refer to “Chapter 7: Removing and Attaching the Blade.”

Please refer to *Figure 28* for a comparison of the two blades. Notice that the cutting blade has a longer stabilizer in the blade's center, and one edge of both ends is turned up. The mulching blade, on the other hand, has a much smaller stabilizer and does not have any edges turned up.



*Figure 27. Installing the mulching plug*



*Figure 28. Cutting blade (top) and the mulching blade (bottom) compared*

## Spare Battery

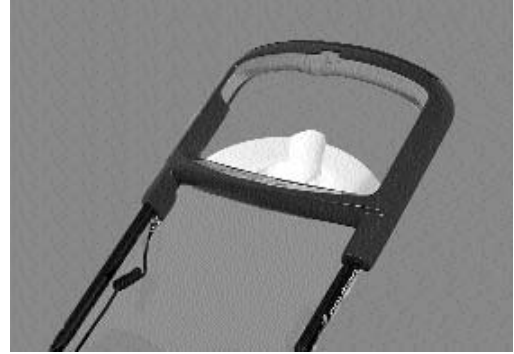
Owning a spare battery (MA 2.0) can be a wonderful time saver. A spare battery allows you to quickly insert a fully charged battery when the one you are using to mow loses its charge.

## Utility Shelf

The utility shelf attaches to the handlebar frame (*Figure 29*) and is a convenient place to hold small tools or a water bottle while you are mowing.

## Spare Cutting Blade

Owning a spare cutting blade can make mowing more efficient. When your existing blade becomes dull you can either sharpen the blade (see “Sharpening the Blade” in Chapter 7 for more information) or purchase a replacement blade.



*Figure 29. Utility shelf attached to the Mower*

# Chapter 7: Maintaining and Storing Your NEUTON Mower

This chapter explains how to clean your Mower; change, sharpen, and balance blades; and store your Mower for the long-term.



**WARNING!** ALWAYS remove the safety key and battery before performing any adjustments, maintenance, blade change, or repairs to your Mower.

## Cleaning Your Mower

Periodically clean your Mower to ensure peak performance.

### Supplies needed:

- Clean, damp cloth or sponge
  - Mild soap or detergent (if needed)
  - Soft nylon brush (if needed)
1. Remove the safety key and battery.
  2. Using a damp cloth or sponge with a mild soap or detergent, clean the Mower. Never use water, gasoline, solvents, or other petroleum-based or solvent-based products when cleaning — remember, this is an electric mower.
  3. Use a soft nylon brush or non-metallic scrubbing pad to remove any clippings that have accumulated on the underside of the deck and in the rear discharge plate. Do not use a wire brush; it will scratch and harm the surface of your Mower.
  4. You may use water to clean the rear bagger, but not the Mower itself. For proper grass collection, make sure the grass bag is clean and the mesh holes are not clogged. Allow the Rear Bagger to dry thoroughly before using it again.

**Note:** A wet Rear Bagger will clog quickly and hamper grass collection.

## Removing and Attaching the Blade

You must remove the blade to sharpen it, or to change to a different blade.



Always check the blade for sharpness, damage, and tightness before and after each use. Replace the blade promptly if it has been bent or damaged.

### Tools & supplies needed:

- 36 mm wrench (supplied with Mower)
- 3/4 inch socket or adjustable wrench
- Gloves or rag to protect your hands

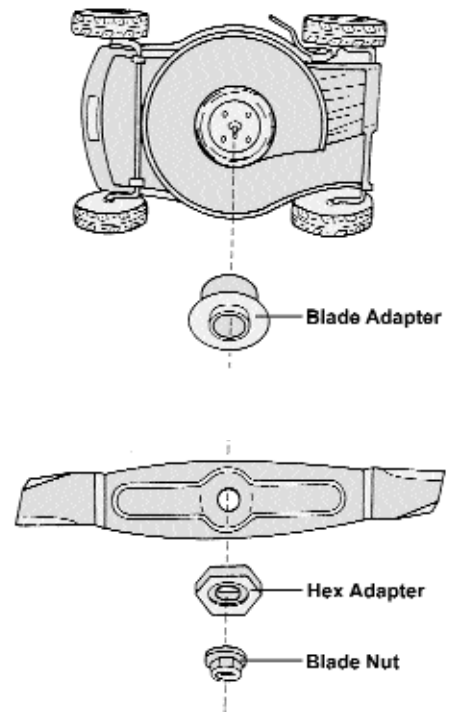
Wear heavy gloves to protect your hands when removing and attaching blades.

1. Remove the safety key and the battery. If you are charging the battery, first disconnect the charger from the electrical (wall) outlet.

2. While holding the handlebars (as if you are mowing), turn the Mower over on its right side to expose the blade.
3. Place the 36 mm wrench over the steel hex adapter holding the blade (the large metal piece that holds the blade in position).
4. Place the  $\frac{3}{4}$  inch socket wrench over the blade nut.
5. While holding the steel hex adapter in place, loosen the blade nut by turning counterclockwise. Be careful; hold the steel hex adapter in place so the blade does not spin and strike your hand (*Figure 30*).
6. Remove the blade nut, steel hex adapter, blade, plastic spacer, and steel blade adapter, in that order (*Figure 31*).
7. To replace a sharpened blade or to install a new blade, reverse steps 1 to 6. Be sure to replace all parts exactly as they were removed. Make sure the blade is properly seated.
8. Place the 36 mm wrench over the steel hex adapter, then place the  $\frac{3}{4}$  inch socket wrench over the blade nut.
9. While holding the steel hex adapter in place, tighten the blade nut by turning clockwise. Make sure the blade is firmly attached to the Mower.
10. Turn your Mower upright.



*Figure 30. Removing the blade*



*Figure 31. The order of the parts holding the blade to the Mower*

## Sharpening the Blade

When the blade is dull, the cut ends of the grass will be ragged and may turn brown soon after mowing. A dull blade also causes the battery to discharge more quickly. When this occurs, sharpen the blade (as long as the blade is otherwise in good condition).

**Important:** You must remove the blade from the Mower to sharpen it.

### **Tools & supplies needed:**

- Fine-toothed file or sharpening stone
- Gloves
- Safety glasses

## Sharpening the Blade in a Vise

1. Remove the safety key and the battery.
2. While holding the handlebars (as if you are mowing), turn the Mower over on its right side to expose the blade.
3. Remove the blade. (See “Removing and Attaching the Blade” on page 32 for details.)
4. Secure the blade in a sturdy vise.
5. While wearing safety glasses, carefully file the cutting edges of the blade using even strokes. Be sure to file both sides of the blade equally.
6. Check the blade after sharpening to be sure it is still balanced.

## Balancing the Blade

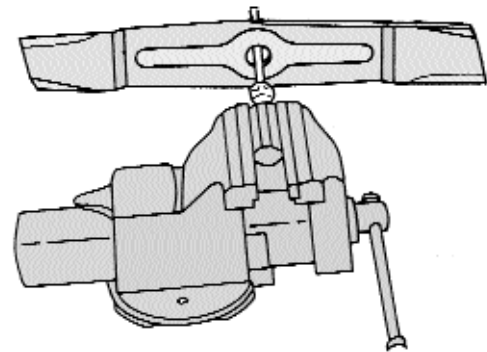
An out-of-balance blade causes your machine to vibrate excessively. Excessive vibration may cause damage to the Mower, especially to its motor.

Because you are removing metal from the blade, make sure to remove an equal amount from each side to keep the blade balanced. The best way to balance a blade is with a blade balancer (available at most local hardware stores), or with a large screwdriver, nail, or bolt.

### Tools & supplies needed:

- Gloves
  - Blade balancer, or a large screwdriver, nail, or bolt
1. After sharpening the blade, hang it on the balancer and check the level (*Figure 32*). If one side of the blade tips lower, sharpen that side a little at a time until the blade is balanced.
  2. When sharpening a used blade, be especially careful to keep it balanced. If in doubt, replace the blade with a new one.

Of course, you can always have a mower service sharpen and balance your blade.



*Figure 32. Balancing the blade with a large screwdriver in a vise*

## Lubricating Your Mower

Your NEUTON Mower does not need to be lubricated; please do not lubricate the Mower.

## Storing Your NEUTON Mower

Whether you store the Mower for a short or long period of time, always remember these important guidelines:

- Always store the Mower with a full battery charge and follow the recharging instructions in “Chapter 5: Charging and Caring for the Battery.”
- Always store the Mower in an environment where the temperature is between  $-4^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$ ) and  $+104^{\circ}\text{F}$  ( $+40^{\circ}\text{C}$ ). Make sure the storage temperatures will never be outside these limits. For long-term storage, store your battery in an environment where the temperature is lower, since the battery self-discharges slower at low temperatures.
- Store the Mower in a dry environment. Water will damage the Mower and battery.
- Do not store the Mower near chemicals, such as fertilizers. These products are often highly corrosive and may cause permanent damage to your Mower.
- Do not store the battery in proximity to organic or other solvents.
- Always keep the safety key in a safe place and away from children.
- You can safely keep the battery in the Mower when storing them for the long-term.

If you must store the battery outside the Mower, follow these rules:

- If the battery will be used again, give it a full charge before removing it from the Mower.
- Do not store the battery close to a source of heat, sparks or open flames.
- The surrounding temperature range must be between  $-4^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$ ) and  $+104^{\circ}\text{F}$  ( $+40^{\circ}\text{C}$ ).
- Do not expose the battery to abnormal shaking or shocks.
- Store the battery away from children and animals.
- Do not press, bend, or use force on the terminals.
- Do not apply heat (such as a soldering iron) to the terminals.
- Store the battery in as **dry** an environment as possible. Do not store it on a floor that may be damp or subject to accidental flooding.
- Regularly observe the external appearance of the battery and keep it clean and dry. Never use a battery that shows cracks, changes shape, leaks, or otherwise is obviously damaged.
- During long-term storage of batteries that are intended for reuse, periodically recharge the battery, as recommended in “Chapter 5: Charging and Caring for the Battery.”

## Chapter 8: 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, call Country Home Products, Inc. toll free at 1-(866)-NEUTON1 (638-8661) for assistance.



**WARNING!** Always remove the safety key and battery before performing any adjustments, maintenance, or repairs.

Problem	Corrective Action
<p><i>Motor fails to start when safety key is inserted, and control bar is depressed</i></p>	<ul style="list-style-type: none"> <li>• Check to make sure the safety key is properly inserted and the indicator light is on. Check to see if the white button on the safety key has popped up; if it has, then depress the button to reset it.</li> <li>• Check that the battery is installed correctly and that the battery is fully charged. The green indicator light on the Mower should be on. If not, replace with a fully charged battery or recharge the battery. Check the cable to make sure it is attached and properly connected.</li> <li>• Check to make sure the Mower/Auxiliary Switch is set to the correct position.</li> <li>• Make sure you follow the correct starting sequence of sliding the orange start knob to the left and squeezing the orange control bar.</li> <li>• The blade may be obstructed. Remove the safety key and battery, turn the Mower over, and check the blade.</li> </ul>
<p><i>Mower stops while mowing (for reasons other than releasing the control bar)</i></p>	<ul style="list-style-type: none"> <li>• The battery has been completely depleted. Recharge the battery fully or replace it with a fully charged battery.</li> <li>• The Mower may be overloaded. If the indicator light is out, the circuit breaker inside the safety key has cut off power to protect the motor. Reinsert the safety key, reset the white button, and restart the Mower.</li> <li>• 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 rear discharge plate may be clogged with debris. Remove the safety key and battery, turn the Mower over, and check below the deck. Clean if necessary.</li> <li>• The white safety button on the safety key may not be fully engaged. Reset it and try again.</li> <li>• If the Mower bogs down or stalls in heavy grass:               <ul style="list-style-type: none"> <li>• Raise the height of Mower.</li> <li>• Walk more slowly.</li> <li>• Cut a narrower swath.</li> <li>• If the grass is wet, let it dry.</li> </ul> </li> </ul>



<b>Problem</b>	<b>Corrective Action</b>
<i>Excessive vibration or noise</i>	<ul style="list-style-type: none"> <li>• The blade may be loose. Remove the safety key and the battery, turn the Mower over, and check that the blade is tightly attached.</li> <li>• The blade may be unbalanced, bent, or damaged. Remove the safety key and battery, turn the Mower over, remove the blade, and check its condition. Replace with a new blade if necessary.</li> </ul>
<i>Mower runs, but cutting performance is unsatisfactory, or there is a loss of power</i>	<ul style="list-style-type: none"> <li>• Was the battery fully charged when you began mowing? Charge the battery, if necessary.</li> <li>• The blade may be dull. Remove the safety key and the battery, turn the Mower over, and check the condition of the blade. Sharpen or replace the blade, if necessary.</li> <li>• The blade may be bent, loose, or damaged. Remove the safety key and battery, turn the Mower over, and check the condition of the blade. Sharpen or replace the blade, if necessary.</li> <li>• 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.</li> </ul>
<i>Mower is hard to push</i>	<ul style="list-style-type: none"> <li>• The grass may be too high or too thick. Raise the cutting height or narrow your cutting swath and try again.</li> <li>• The wheels may not be rotating freely. Remove the safety key and battery, turn the Mower over, and check the wheels for damage.</li> </ul>
<i>Battery loses its charge quickly</i>	<ul style="list-style-type: none"> <li>• Was the battery fully charged when you began? Charge the battery if necessary.</li> <li>• The grass may be too high or too thick. Try raising the cutting height, or mowing a narrower swath.</li> <li>• The battery may be getting old. After some time, usually a few years, the battery will need to be replaced.</li> </ul>
<i>Mower rear bagger is collecting grass poorly</i>	<ul style="list-style-type: none"> <li>• The rear bagger is full. Empty the rear bagger, and clean it if necessary.</li> <li>• The grass is too long, or the Mower is cutting too low. Raise the cutting height.</li> <li>• The Mower is moving too fast. Slow down.</li> <li>• The rear discharge may be clogged. Remove the safety key and battery, turn the Mower over, and clean away any debris from the rear discharge plate and below the deck.</li> <li>• The mesh holes on the rear bagger are clogged. Clean them.</li> <li>• The rear bagger is wet. Allow it to dry thoroughly before using it again.</li> </ul>

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## Addendum A: Parts List and Schematic Drawings

The item number for each part corresponds to the numbers in the schematic drawings.

### Handlebar Set (A)

Item #	Description	Qty.	Part Number
A	Entire handlebar assembly (A1–A15)	1	202051
A1	Upper handlebar top housing	1	196311
A2	Upper handlebar bottom housing	1	196321
A3	Start knob housing	1	196331
A4	General connector screws	6	155191
A5	Control bar (orange)	1	196341
A6	Internal control bar fixed piece	1	196351
A7	Start knob (orange)	1	196361
A8	Screws (for A6 & C34)	2	196371
A9	Control bar springs	2	196381
A10	Start knob extension spring	1	196391
A11	Screws (for A1 & A2)	8	175711
A12	Screws (for A15)	4	175711
A13	Switch cable with indicator light	1	196631
A14	Mower/Auxiliary switch, Orange	1	182821
A15	Upper handlebar steel tubes	2	196641
A16	Lower handlebar steel tube (right)	1	175731
A17	Lower handlebar steel tube (left)	1	175741
A18	Cable Anchor	1	200191
A19	Handlebar connector bolts	2	175781
A20	Handlebar connector knobs (black)	2	196291
A21	Quick-connect knobs (green)	2	175771
A22	Screw	1	175901
A23	Locking Washer	2	200061

### Upper Mower Housing (B)

Item #	Description	Qty.	Part Number
B1	Upper deck housing	1	196651
B2	Safety key cover	1	175811
B3	Safety key cover spring	1	175821
B4	Safety key cover pin	1	175831
B5	Discharge guard	1	175841
B6	Discharge guard spring	1	175851
B7	Discharge guard bar	1	175861
B8	End tube ringers	2	175871
B9	Battery cover	1	175881
B10	Battery cover hinge	1	175891
B11	Hinge fixed base	1	175911
B12	Housing screws	4	175921
B13	Safety key	1	175931
B14	Safety key strap (orange)	1	196071

B15	Rear discharge plate	1	175941
B16	Screw	1	196911
B17	Screw	1	206511

## Deck & Motor Assembly (C)

Item #	Description	Qty.	Part Number
C1	Lower Deck Housing 2004	1	196661
C2	Motor	1	196721
C3	Motor mounting plate	1	175971
C4	Motor screws and washers	4	175981
C5	Blade adapter	1	196731
C6	Cutting blade	1	176011
C7	Hex adapter	1	196671
C8	Blade nut (with flange)	1	176031
C9	36 mm wrench	1	176281
C10	Rear axle cap	1	176041
C11	Rear flap	1	198491
C12	Rear flap screws & washers	6	196691
C13	Lever spring	1	176131
C14	Lever spring pin	1	176141
C15	Binding clip	1	176151
C16	Washer	1	196701
C17	Brake wire	1	196521
C18	Ground wire	1	196711
C19	Electrical contacts/cu connectors	2	176101
C20	Contact screws and washers	2	176111
C21	Contact nuts	2	176061
C22	Battery arm	1	196441
C23	Wire, black	1	196051
C24	Wire, red	1	176161
C25	Safety key plate	1	1176061
C26	Safety key plate screws	8	176091
C27	Trimmer relay	1	196741
C28	Mower relay lower housing	1	196891
C29	Mower relay wire	1	196751
C30	Mower relay	1	196471
C31	Mower relay screws	2	196241
C32	Mower relay spring washers	4	176231
C33	Mower relay nuts	4	177121
C34	Mower relay cover	1	196901
C35	Terminal	1	196781
C36	Ground wire	1	196791

C37	Main cable	1	196801
C38	Contact piece	1	196511
C39	Screw	2	206521
C40	Screw	10	176991

## Wheel Assemblies (D)

Item #	Description	Qty.	Part Number
D1	Front wheel, right	1	196811
D2	Front wheel, left	1	196821
D3	Steel axle bearings	8	176301
D4	Front axle	1	176311
D5	Flat axle washers	6	176321
D6	Axle nuts	4	176331
D7	Front wheel caps	2	176341
D8	Metal axle plates	5	176351
D9	Rear wheel, right	1	196831
D10	Rear wheel, left	1	196841
D11	Rear axle (with cutting height lever)	1	176381
D12	Rear wheel caps	2	176391
D13	Front to rear axle connector	1	176401
D14	Connector nuts	2	176411
D15	Upper wheel cover	1	176421
D16	Upper cover caps	2	176431
D17	Leading channel hinges	2	176441
D18	Leading channel hinge springs	2	176451
D19	Electrical contact channels	2	176461
D20	Electrical contact channel screws	2	176471
D21	Upper cover screws	4	196371
	Front wheels and axle assembly	1	185051
	Rear wheels and axle assembly	1	185061

## Rear Bagger Set (E)

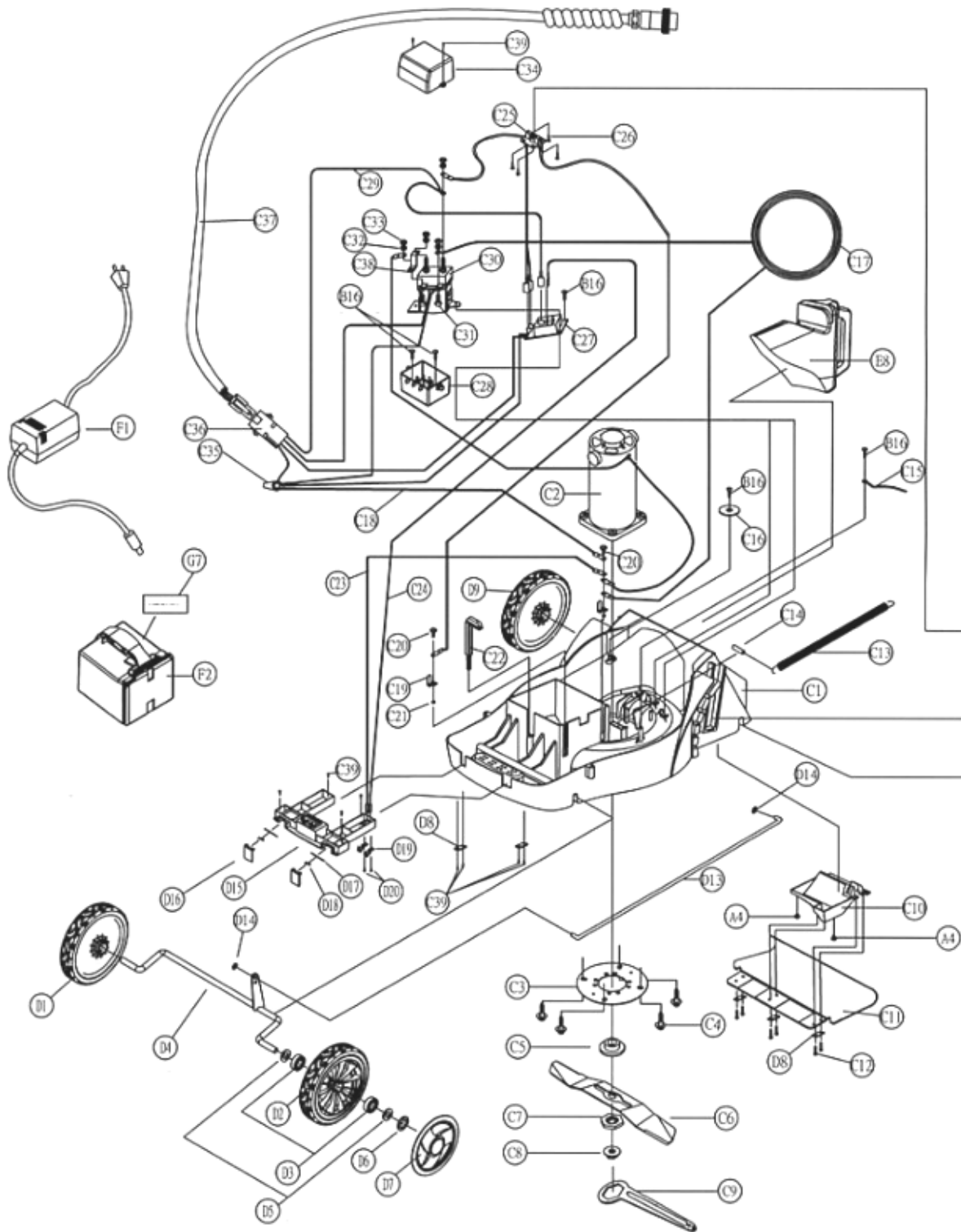
Item #	Description	Qty.	Part Number
E1	Clip slide set	1	196861
E2	Shield screw	1	176521
E3	Bagger plastic cover	1	176531
E4	Bagger cover shield	1	196871
E5	Bagger steel frame	1	176551
E6	Bagger	1	176561
E7	Mulching Blade	1	176571
E8	Mulching plug	1	176581
E7&E8	Mulching Kit (blade & plug)	1	176761

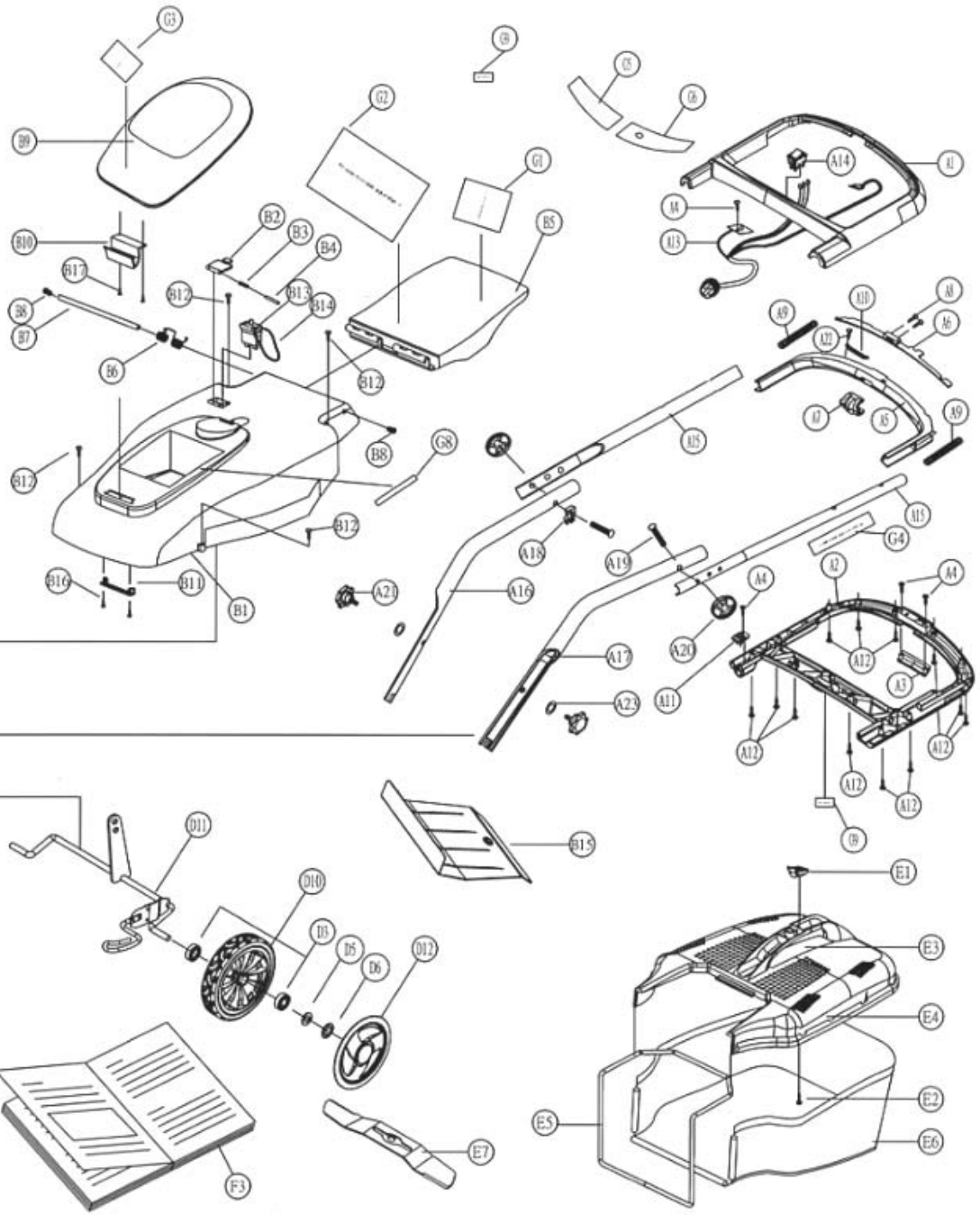
### Battery Set (F)

<b>Item #</b>	<b>Description</b>	<b>Qty.</b>	<b>Part Number</b>
F1	Battery charger	1	196081
F2	Battery	1	178781
F3	<i>Mower Safety &amp; Operating Instructions</i>	1	196941
	Mower box and internal packaging	1	198471

### Label Set (G)

<b>Item #</b>	<b>Description</b>	<b>Qty.</b>	<b>Part Number</b>
G1	Mower Danger label	1	176701
G2	Warning and Safety Instructions label	1	196921
G3	Neuton label	1	176681
G4	Small Neuton label	1	196241
G5, G6	PC label (right and left)	1	196931
G7	Battery operating tips label	1	196101
G8	Battery alignment label	1	196021





# NEUTON Mower Product Specifications

Model EM 4.1

## Motor

RPM	3800
AMP Idle	4–5
AMP Cutting	10–15
Size	24V DC/21 amp
Noise	Under 80 decibels

## Controls

Start/Stop	Safety control bar start and stop
Shape	Comfortable, ergonomically designed housing
Key	Removable safety key

## Housing

Material	Molded ABS
Wheels	7 inches front, 8 inches rear, molded rubber tread
Weight	48 pounds (including battery)
Length	30 inches
Width	18 inches
Height	36 inches to top of handlebars

## Cutting

Blade	14 inch steel blade
Height	Easily adjustable to cut from 1.6 inches to 3.6 inches
Bagger	Rear bagger included
Trimming	Optional trimmer/edger attachment
Mulching	Optional mulching plug

## Battery MA 2.0

Voltage	24V DC
AMP	10 amp-hour
Type	Sealed lead/acid
Weight	15 pounds.
Run Time	Approximately 60 minutes for fully charged battery
Charging	24 Volt charger, plugs into standard electrical outlet
Charge Time	12 hours to fully recharge
Replacement	Easy to lift-out and replace with optional spare battery



## Schematic Drawings

# Notes

## Notes

### LIMITED ONE-YEAR WARRANTY

#### Terms and Conditions

The NEUTON™ EM 4.1 Cordless Electric Mower is warranted for one (1) year 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.

Country Home Products, Inc. certifies that the NEUTON™ EM 4.1 Cordless Electric Mower is fit for ordinary purposes for which a product of this type is used. Country Home Products, Inc., however, limits the implied warranties of merchantability and fitness in duration to a period of one (1) year in personal residential household use.

The Limited 1-Year Warranty on the NEUTON™ EM 4.1 Cordless Electric Mower starts on the date the machine is shipped from our factory. The Limited 1-Year 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’s manuals.

The owner is responsible for replacement of normally wearing parts including blades and batteries.

Attachments and accessories to the machine are not covered by this warranty.

During the warranty period, the warranty holder is responsible for any and 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.

Country Home Products, Inc. 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™ EM 4.1 Cordless Electric Mower.

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

#### Technical Support Hotline

Country Home Products, Inc.’s objective is to have 100% satisfied customers. For that reason, we operate a 6-day-per-week Technical Support Department for our NEUTON owners. You can access a Representative by dialing our toll-free hotline at 1-(866)-NEUTON1 (638-8661). The sole job of our well-trained and friendly folks is to ensure that you get any help you need in a timely fashion. They are there to answer all your questions, including: (1) inquiries on any of the above warranties, (2) inquiries about replacement parts, and (3) your questions regarding service, maintenance, and operation.

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

## Daily Checklist 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.

- Be sure the battery is fully recharged before each use.
- Before inserting the safety key, inspect the mower blade and clean it to remove any materials (such as grass or twigs) that might be clinging to the blade from its last use. For the best performance and the longest life of the blade, it is best to clean the blade of any clinging materials after each use. Always follow all safety precautions when cleaning the blade.
- If you notice anything unusual, such as a vibration or odd sound, shut the Mower down immediately. Remove the safety key and, 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 it inspected by a qualified shop before using it or call the Country Home Products' toll free Technical Support Department at 1-(866)-NEUTON1 (638-8661).

- If you are uncertain whether the grass you want to cut is too long or thick for optimal cutting, then raise the blade 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. For the best results, see "Mowing and Lawn Care Tips" in Chapter 4.

We hope you will enjoy many years of satisfied use with your NEUTON Mower.



**COUNTRY HOME PRODUCTS, Inc.**

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MEIGS ROAD, P.O. BOX 25, VERGENNES, VERMONT 05491

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1-(866)-NEUTON1 (638-8661) [www.neutonowners.com](http://www.neutonowners.com)

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