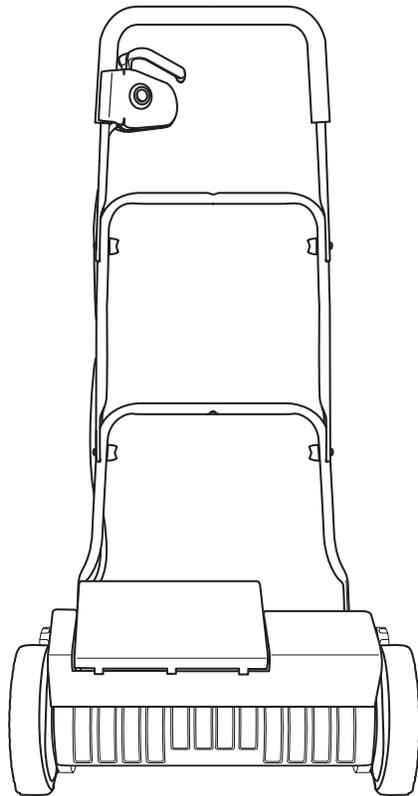


# Owner's Manual

for

**Sunlawn™**



## Electric Rechargeable Power Reel Mower

(Model EM-1)



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For service inquiries, parts replacement,  
and maintenance tips, see

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

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## **BEFORE USING THE NEW ELECTRIC RECHARGEABLE POWER REEL MOWER**

Please read this guide and use these operating instructions to become familiar with the mower and its features. The charging of batteries, operation of the mower, and notes on safety and maintenance procedures are important for the use and enjoyment of this product.

## **WARRANTY**

Sunlawn, Inc. (the Manufacturer) guarantees this product for private use for a period of 2 years from the date of purchase. This guarantee applies to all serious defects of the product which can be proven to have been caused by faulty materials or workmanship. The Manufacturer has the option of supplying a replacement of the product in perfect working order or repairing the product free of charge at an authorized facility, provided that the following conditions are fulfilled:

- The appliance has been handled correctly and in accordance with the instructions in the Owner's Manual.
- Neither the buyer nor a third party has attempted to repair the product.

This guarantee is void if replacement parts or accessories are used other than those approved by the Manufacturer.

The product, accompanied by a copy of the original receipt, must be delivered, prepaid, to a service center authorized by the Manufacturer.

This Manufacturer's guarantee shall not affect any guarantee claims against the dealer or seller of the product.

## **USE OF THIS PRODUCT**



### **WARNING**

**For safety reasons persons of less than 16 years of age or persons not familiar with these operating instructions must not use the electric rechargeable mower.**

This mower is designed for use on residential lawns. It is not designed for commercial use or for use in public facilities, parks, sporting grounds, roads, or in agriculture or forestry areas.

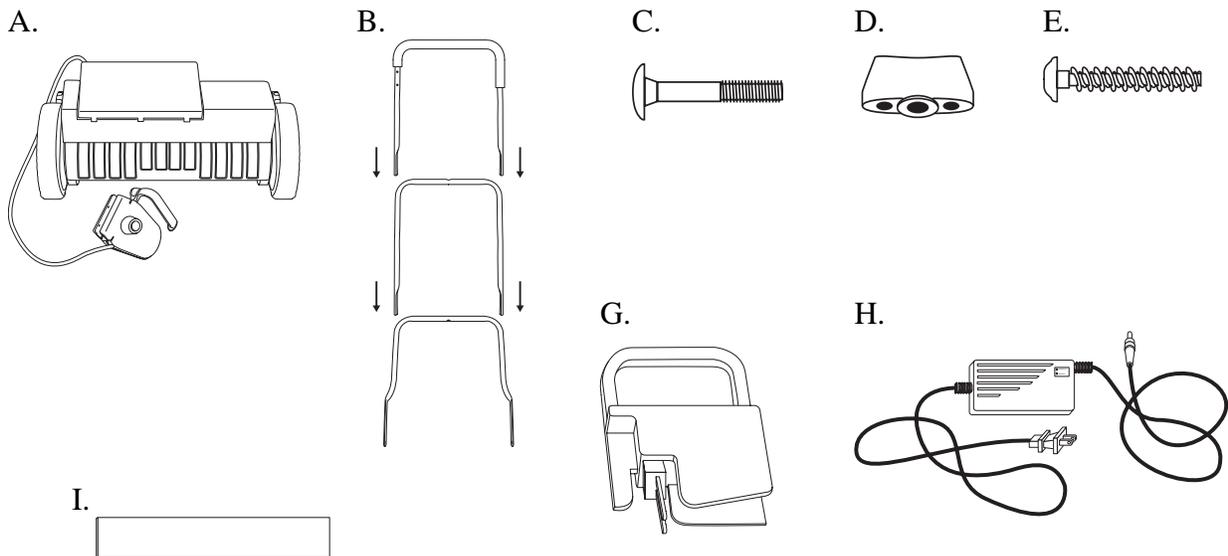
This mower is for cutting lawns only. It must not be used to trim hedges, bushes or shrubs, for cutting or pruning, or for any mowing where both wheels and the roller are not fully supporting the mower.

## ASSEMBLY

### PARTS LIST

Please check when unpacking the unit to be sure that all items listed below are included:

- A. Mower
- B. 3 handle sections (1 each upper, middle, lower)
- C. 4 handle bolts
- D. 4 wing nuts
- E. 2 screws for two-handed safety switch
- F. Velcro cable keeper straps (not shown)
- G. Orange power key
- H. Battery charger
- I. Stainless steel blade adjustment gauge
- J. Owner's Manual (not shown)



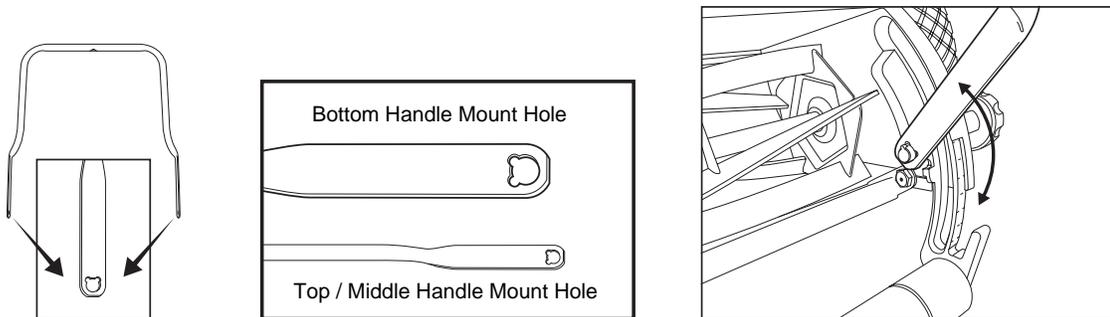


**CAUTION**

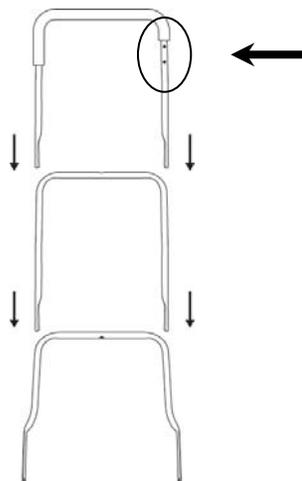
**Be careful to keep the mower upright. When the battery cover is not latched and the mower is not upright, the batteries may fall out causing damage to the batteries or the electric circuits.**

**ASSEMBLE THE HANDLE SECTIONS**

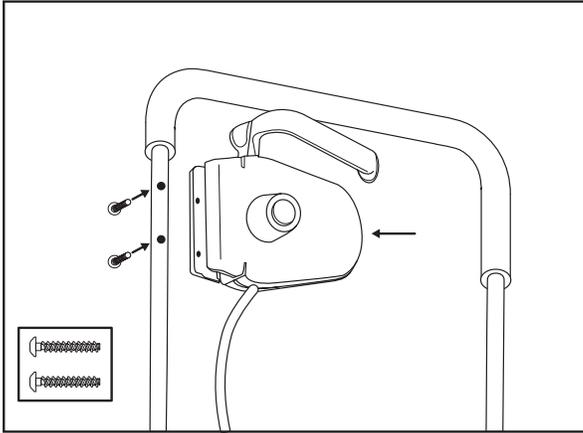
1. Set the cutting height to the highest setting. (See Operation section – Adjusting the cutting height, page 7). This will make it easier to attach the lower handle section.
2. Fit the lower section of the handle so that the holes are over the handle posts on the mower. Then rock the handle to align the locking tabs and allow the handle section to fit into place.



3. Continue assembly of the middle and top sections of the handle using the handle bolts and wing nuts. **The top section must be attached with the two holes near the grip area on the right side (standing behind the mower).**



4. Attach the two-handed safety switch to the top section. Run the cable along the top side of the handle (so it does not hang down behind the mower) and close the "clamshell" portion of the safety switch around the screw holes. Fasten by inserting and tightening the two screws provided.



5. Secure the cable to the handle using the two Velcro cable keeper straps.

## CONNECTING THE BATTERIES

The batteries come from the factory properly connected. All that is necessary is to charge them (see section following.)

These instructions are for replacing the batteries if necessary.

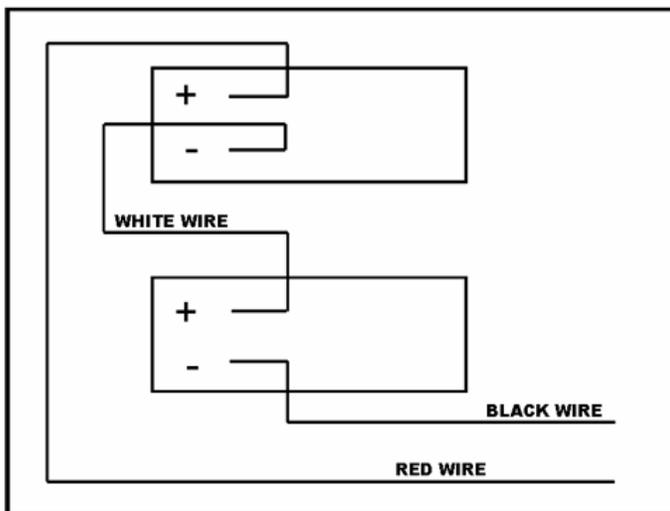


### WARNING

- **Be careful to connect batteries correctly. Failure to do so may result in electric shock or damage to the electrical system of this mower.**
- **Close and latch the battery cover before using or servicing the mower. Otherwise the batteries can fall out, damaging the mower**

NOTE: The two batteries are identical. Connect the batteries as follows:

1. Remove the orange power key from its position on the circuit board to disengage the motor circuit.
2. Attach the WHITE jumper cable from the + (positive) terminal of one of the batteries to the - (negative) terminal of the other battery.
3. Attach the BLACK cable to the - (negative) terminal of the first battery.
4. Attach the RED cable to the + (positive) terminal of the second battery.



## OPERATION

### CHARGING THE MOWER BATTERIES

The mower does not arrive fully charged. The batteries must be charged before using the mower.

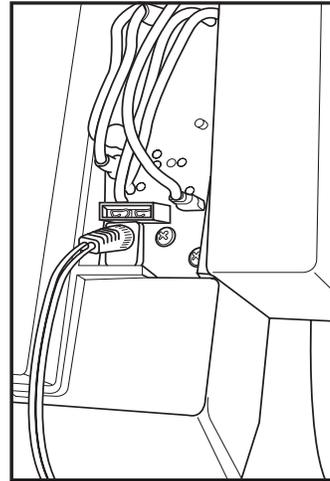
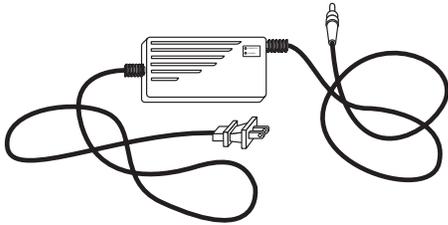


#### CAUTION

Use only the charger provided with this mower

If the orange power key is still attached, open the battery box and remove it; this key disengages the motor from the battery and exposes the charging receptacle.

1. Plug the charger into a 110V power outlet and then into the mower charging receptacle.
2. A light on the circuit board and on the charger itself will indicate that the unit is charging.

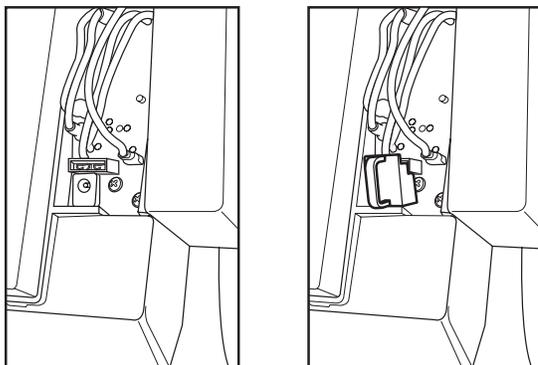


**Recharging time for the mower is approximately 5-8 hours.** The charger light, which glows red when the battery is not fully charged, will glow green when charging is complete.

NOTE: The sealed lead acid batteries of the EM-1 do not need to be fully discharged. The batteries will not develop a "memory."

## PREPARING TO OPERATE MOWER

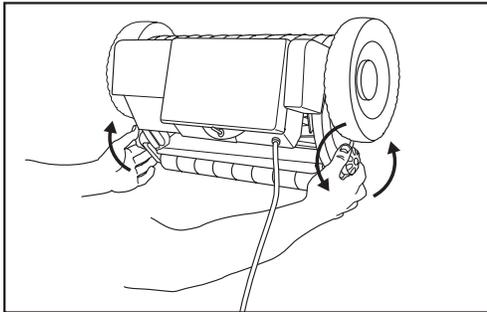
When charging is complete, disconnect the charger from the mower and from the power outlet. Place the orange power key into its receptacle (the charging receptacle is now covered). **CLOSE AND LATCH THE BATTERY BOX COVER.** The mower is ready to operate.



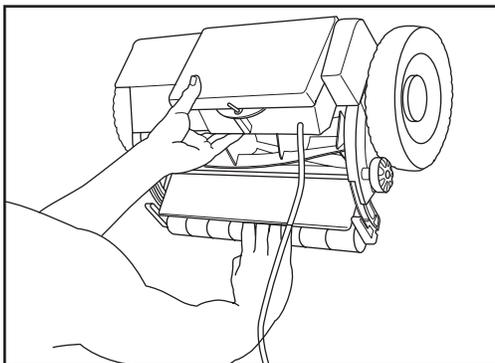
## ADJUSTING THE CUTTING HEIGHT

The cutting height of the EM-1 may be adjusted from approximately 1/2 inch up to approximately 2 1/4 inches. Actual height may vary according to the height of the turf. Adjust the mower to the desired height as follows:

1. Loosen the two large black knobs, one on each side of the mower body, to allow movement of the roller arms. NOTE: the handle is mounted to the roller arms and thus moves with the arms.



2. Set the height, using the scale on the back of the roller arms, to the same setting on both sides and re-tighten the black knobs. The mower is now ready to mow at the desired height setting.



## STARTING AND OPERATION



### WARNING

- Before starting the mower, check within the blade area for any foreign objects and remove them.
- Do not operate the mower on areas other than turf surfaces. The mower should be sitting on its wheels on a level part of the lawn before starting operation.

1. To start and operate the mower, press and hold down the red safety button with one hand, then pull the starting lever back toward the handle grip with the other hand. There are similar instructions on the handle itself stating: "To operate pull handle while depressing safety button."
2. As soon as the mower has started, release the red safety button.
3. When the starting lever is released, the motor switches off.
4. The mower may be restarted at any time with the same procedure.

## **NORMAL MOWING**

To obtain a clean cut, push the mower in straight lines (passes) at a deliberate walking pace. Overlap the passes to even the cut and to avoid any uncut strips.

## **MOWING USING THE GRASS CATCHER (OPTIONAL ACCESSORY)**

The grass catcher collects the clippings as it mows. It attaches at the grass catcher hooks on the mower and by the strap to the mower handle. Mow using the same procedure as for normal mowing (above).

The roller apron keeps clippings from falling down between the cutting bar and the roller thus missing the grass catcher. The roller apron is installed just behind the cutting bar using the two screws provided. Once the roller apron is installed it is not necessary to remove it whether or not you are using the grass catcher.



### **CAUTION**

**Do not attach or remove the grass catcher while the motor is running.**

## **OVERLOADING/OVERHEATING**

If the mower blade is blocked, the blade drive will overload and cause slippage of the belt, resulting in a loud "brrrrrrr" sound.

1. Release the starting lever. If there is any foreign object in the blade area, it must be removed before proceeding.
2. Open the battery box, remove the orange power key, and then service the blade area by removing the foreign object.

3. After removing the obstacle replace the orange power key in position, close and latch the battery box and proceed.

If the motor stops during operation and the battery has charge remaining, then the motor may be overloaded or overheated. Wait 2-5 minutes to allow an automatic reset before resuming operation.

## MANUAL OPERATION

The EM-1 may be used as a manual mower at any time, whether the batteries are installed or not.

### MOWING: GENERAL INFORMATION

#### THE 1/3 RULE

This is the key to enjoyable mowing and a healthy lawn.

1. The lawn should be mowed regularly, at least once a week during the growing season.
2. Be guided by observing the lawn and taking care not to remove more than 1/3 of the total height of the turf at any mowing.
3. Following this rule will stimulate the turf's root growth, maintain its health, and encourage its natural ability to crowd out unwanted weeds.

If the lawn has become too high (over 4 inches in height) then it is best to set the mower higher than usual and mow, then reset down to the normal level and mow again within a day or two.

Removing too much of the turf's height, especially in the heat of summer, can cause root shock and weaken the lawn; bringing down the height by successive mowings over two or more days can avoid this damage and maintain the health of the turf.

If the lawn is overgrown (to higher than 4-5 inches) it may be advisable to use a brush cutter to remove the excess turf mass before resuming mowing at normal heights.

## INSPECT THE MOWING AREA

1. Before beginning to mow, remove any foreign objects, such as stones, branches, or bones, from the area.
2. Continue to check for such obstacles during mowing.

## THE LAWN SHOULD BE RELATIVELY DRY

1. Mowing wet grass causes unevenness in the cut and difficulty with the clippings.
2. Do not mow when it is raining.

## MAINTENANCE



### WARNING

- **Before cleaning or maintenance of the mower, remove the orange power key from its position on the circuit board. This key disengages the motor from the battery and will prevent the motor from starting unintentionally. After removing the orange power key ALWAYS close and latch the battery cover.**
- **To avoid injury or damage to the unit do not clean the EM-1 using running water, a hose, or a high pressure stream.**

## CLEANING

After using the mower, clean with a moist cloth. Spray the cylinder and cutting bar with silicon spray lube.

## MAINTENANCE

Regularly check to insure that all bolts, nuts, and screws are tight and that the mower is in good working order. Worn out and damaged parts should be replaced.

The blades, if properly cared for, will mow for years before requiring sharpening. Sharpening can only be done by a professional using a cylinder grinder and proper techniques.

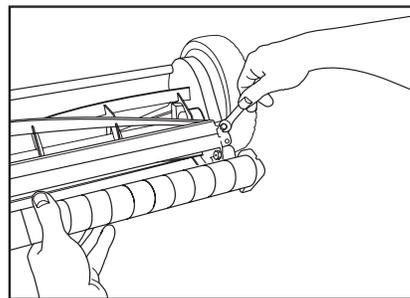
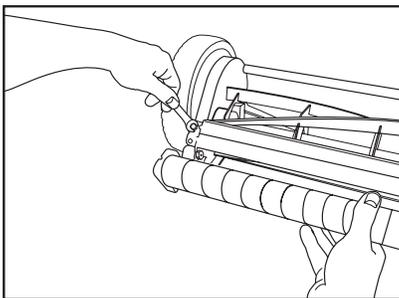
## STORAGE

1. Store the EM-1, fully charged, in a cool, dry place.
2. The batteries need not be removed for winter storage unless they will be subject to sub-zero temperatures.
3. The mower should be stored out of the reach of children.

## READJUSTING THE BLADE CLEARANCE

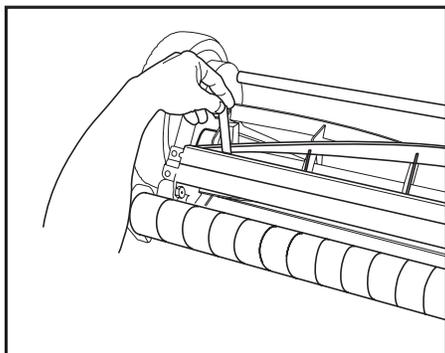
The blades are optimally adjusted from the factory. However, after using the mower for a long period, if the cut is not clean, the blades need readjusting. The procedure is as follows:

1. Turn off the mower and remove the orange power key from its position on the circuit board.
2. Close and latch the battery box. **Note: If the battery cover is not latched and the mower is not upright, the batteries can fall out, causing damage to the batteries or electric circuits.**
3. Turn the mower over to expose the cutting bar.
4. Using a 10mm open end wrench, turn the hex bolt at one end of the cutting bar until the cutting bar and cylinder come into contact. Then back off the bolt about 1/8 turn, until the cutting bar and cylinder are no longer in contact.



5. Make the same adjustment at the other end of the cutting bar.

6. Now check the adjustment using the small 0.05mm gauge (silver strip) supplied with the EM-1 (or any 0.05mm feeler gauge). If the gauge is held by the cylinder blades but the cylinder and cutting bar are not touching then the adjustment is correct.



7. The blades may also be tested by inserting a piece of paper vertically into the blades while turning them by hand.



**WARNING**

**Be careful of injury — handle the blades carefully to avoid cutting yourself. Wear appropriate gloves or hand protection.**

**TECHNICAL DATA**

Battery		2 x 12V / 7.2Ah
Motor Drive		24V, 6A, 140W
Charger	Input:	AC 100 – 240V 50 / 60 Hz 1.5A
	Output:	24V <u>    </u> 1500 mA
	UL listed	
Mower	Cutting width:	40 cm
	Weight with battery:	35.2 lb
	Cutting height rough (from floor):	.4 to 2.2 inches

CE certified: Declaration of Conformity (November 30, 2005)



EMC Order No.  
Machinery Order No.

MT-E0511395-1  
MT-S0511320-1