



OPERATOR'S MANUAL

ELECTRIC LAWN MOWER

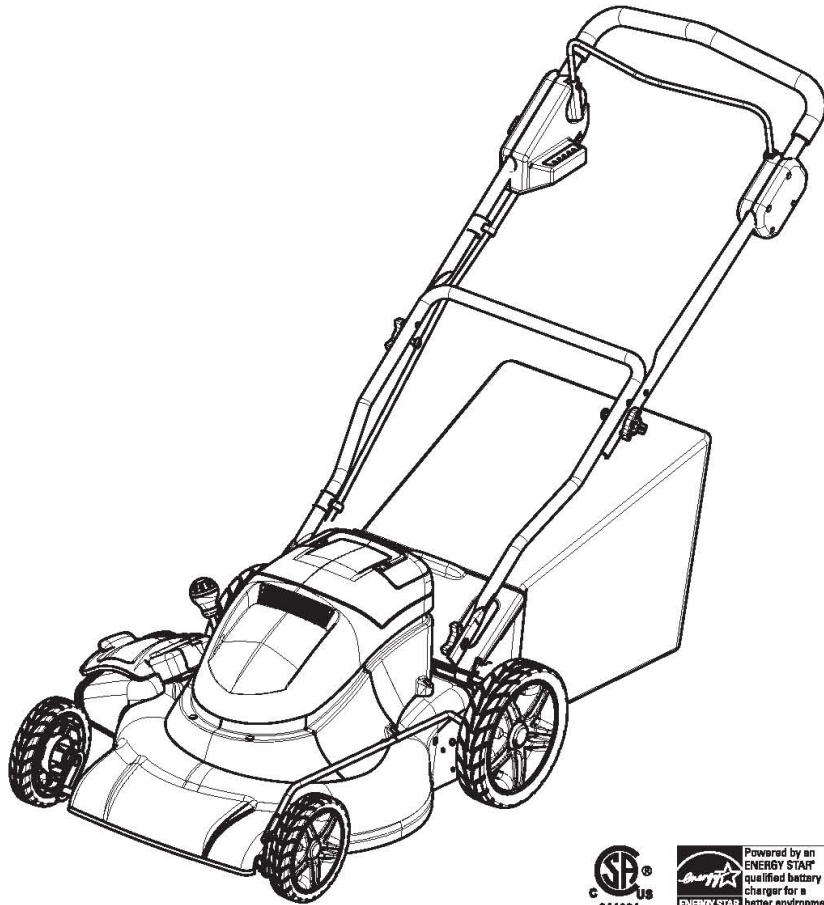
United States Patent Pending

20 in. - 24 VOLT

CORDLESS LAWN MOWER

WITH 20 AMP HOUR BATTERY

60220



Powered by an ENERGY STAR qualified battery charger for a better environment

Actionné par un chargeur certifié par ENERGY STAR pour un environnement plus propre

BATTERY MUST BE CHARGED BEFORE FIRST USE. SEE PAGE 11 FOR INSTRUCTIONS

Your lawn mower has been engineered and manufactured to our high standard for dependability, ease of operation, and operator safety. Properly cared for, it will give you years of rugged, trouble-free performance.



WARNING: To reduce the risk of injury, the user must read and understand the operator's manual before using this product.

Thank you for your purchase.

DO NOT RETURN THIS PRODUCT TO THE STORE. OPERATING, ASSEMBLY, PARTS, SERVICE QUESTIONS?
CALL 1-800-377-5888 (USA) 1-800-561-0004 (CAN) BETWEEN 7:30AM—4:30PM EST FOR ASSISTANCE

SAVE THIS MANUAL FOR FUTURE REFERENCE

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INTRODUCTION

This product has many features for making its use more pleasant and enjoyable. Safety, performance, and dependability have been given top priority in the design of this product making it easy to maintain and operate.

GENERAL SAFETY RULES

WARNING:


READ AND UNDERSTAND ALL INSTRUCTIONS


Failure to follow all instructions listed below and on the machine may result in electric shock, fire, and/or serious personal injury.

READ ALL INSTRUCTIONS

- This lawn mower is capable of amputating hands and feet and throwing objects. Failure to observe all safety instructions could result in serious injury or death.
- Do not use the lawn mower in damp or wet conditions or operate in the rain.
- Never allow adults to operate the product without proper instruction.
- Keep the area clear of all bystanders, children, and pets while mowing. Stop machine if anyone enters the area.
- Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. Never assume that children will remain where you last saw them.
 - * Keep children out of the mowing area and under the watchful care of a responsible adult other than the operator.
 - * Be alert and turn mower off if a child enters the area.
 - * Never allow children to operate the lawn mower.
 - * Use extra care when approaching blind corners, shrubs, trees, or other objects that may block your view of a child.
- Do not wear loose clothing or jewelry. They can be caught in moving parts. Use of rubber gloves and footwear is recommended when working outdoors.
- Keep firm footing and balance. Do not overreach. Over-reaching can result in loss of balance.


- Do not operate the equipment while barefoot or when wearing sandals or similar lightweight footwear. Wear protective footwear that will protect your feet and improve your footing on slippery surfaces.
- Do not leave the mower unattended while running.
- Keep hands and feet away from cutting area. Keep clear of the discharge opening at all times.
- Operate the lawn mower only in daylight or good artificial light.
- Always wear safety glasses with side shields. Everyday glasses have only impact resistant lenses. They are NOT safety glasses. Following this rule will reduce the risk of eye injury. Use face mask if environment is dusty.
- Wear safety glasses or goggles that are marked to comply with ANSI Z87.1 standard when operating this product.
- Use the right appliance. Do not use the lawn mower for any job except that for which it is intended.
- Do not force the lawn mower. It will do the job better and safer at the rate for which it was designed.
- Stay alert, watch what you are doing, and use common sense when operating the lawn mower. Do not operate the mower while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the lawn mower may result in serious personal injury.
- Keep machine in good working condition. Keep blades sharp and guards in place and in working order.
- Check all nuts, bolts, and screws at frequent intervals for proper tightness to be sure the equipment is in safe working condition.
- Stop the motor, remove the switch key and wait until the blade comes to a complete stop before cleaning the lawn mower, removing the grass catcher, or unclogging the discharge opening.
- When not in use, mower should be stored indoors in a dry, locked up place—out of reach of children.

 **WARNING:** The batteries in this product may contain one or more of the following chemicals known to the State of California to cause cancer and birth defects or other reproductive harm: Lead, nickel, cadmium, lithium, cobalt. Wash hands after handling.

 **WARNING:** Some dust and debris created by the use of this tool could contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Some examples of these chemicals are:

- * Chemicals in fertilizers
- * Compounds in insecticides, herbicides and pesticides
- * Arsenic and chromium from chemically treated lumber

Your risk from exposure to these chemicals varies, depending on how often you do this type of work. To reduce your exposure, work in a well-ventilated area and with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

 **WARNING:** The electrical cords on this product may contain chemicals known to the State of California to cause cancer and birth

SPECIFIC SAFETY RULES

- Do not operate the mower without the entire grass catcher discharge guard, rear guard, or other safety protective devices in place and working.
- Follow manufacturer's instructions for proper operation and installation of accessories. Only use accessories approved by the manufacturer.
- Do not mow on wet grass or excessively steep slopes. Poor footing could cause a slip and fall accident. Walk, never run.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may block your view,

SPECIFIC SAFETY RULES

- Clear the work area before each use. Remove all objects such as rocks, sticks, wire, bones, toys, or other objects which can be thrown by the blade. Stay behind the handle when the motor is running.
- Avoid holes, ruts, bumps, rocks or other hidden objects. Uneven terrain could cause a slip and fall accident.
- Do not mow near drop-offs, ditches, or embankments
- Mow across the face of slopes, never up and down. Exercise extreme caution when changing direction on slopes.
- Plan your mowing pattern to avoid discharge of material towards roads, sidewalks, bystanders and the like. Also, avoid discharging material against a wall or obstruction, which may cause the material to ricochet back toward the operator.
- Do not pull the mower backward unless absolutely necessary if you must back the mower away from a wall or obstruction first look down and behind to avoid tripping.
- Never direct discharged material toward anyone, Avoid discharging material towards a wall or obstruction, Material may ricochet back toward the operator. Stop the blade when crossing gravel surfaces.
- Objects struck by the lawn mower blade can cause severe injuries to persons. The lawn should always be carefully examined and cleared of all objects prior to each mowing.
- If the lawn mower strikes a foreign object, follow these steps:
 - * Stop the lawn mower and release the switch control bail wire,
 - * Remove the switch key
 - * Thoroughly inspect the mower for any damage
 - * Repair any damage before restarting and continuing to operate the mower.
- Stop the motor, remove the switch key, and wait until the blade comes to a complete stop before removing the grass catcher or unclogging the chute, The cutting blade continues to rotate for a few seconds after the motor is shut off. Never place any part of the body in the blade area until you are sure the blade has stopped rotating,
- If the mower should start to vibrate abnormally, stop the motor and check immediately for the cause. Vibration is generally a warning of trouble.
- Service on the product must be performed by qualified repair personnel only. Service or maintenance performed by unqualified personnel could result in damage to the product,
- Use only identical replacement parts when servicing the product. Use of unauthorized parts may create a risk of serious injury to the user, or damage to the product.
- Do not place batteries near fire or heat. This will reduce the risk of explosion and possible injury,
- Do not open or mutilate battery(ies). Released electrolyte is corrosive and may cause damage to the eyes, or skin. It may be toxic if swallowed.
- If electrolyte contacts the skin, wash it off immediately with water.
- If electrolyte contacts the eyes, flush thoroughly and immediately with water. Seek medical attention.






SAFETY RULES FOR CHARGER

- Do not abuse the cord, never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons. Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- Do not service mower with switch key or charger installed.
- Do not use the charger when the ambient temperature is about 40°C (104°F) or below 0°C (32°F)
- Do not operate charger with a damaged cord or plug which could cause shorting and electric shock, If damaged, have the charger replaced by an authorized serviceman.
- Do not operate charger if it has received a sharp blow, been dropped or otherwise damaged in any way. Take it to an authorized service center for electrical check to determine if the charger is in good working order.
- Unplug charger from outlet before attempting any maintenance or cleaning to reduce the risk of electric shock,.
- Disconnect charger from the power supply when not in use to prevent damage to the charger during a power surge,
- Risk of electric shock, Do not touch un-insulated portion of output connector or un-insulated battery terminal.
- Do not expose charger to wet or damp conditions, Water entering charger will increase the risk of electric shock,
- Make sure cord is located so that it will not be stepped on, tripped over, come in contact with sharp edges or moving parts or otherwise subjected to damage or stress. This will reduce the risk of accidental falls, which could cause injury, and damage to the cord, which could result in electric shock.
- Keep cord and charger away from heat to prevent damage to housing or internal parts.
- Do not let gasoline, oils, petroleum-based products, etc. come in contact with plastic parts. They contain chemicals that can damage, weaken or destroy plastic.
- An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock. If extension cord must be used, make sure:
 - a. That pins on plug of extension cord are the same number, size and shape as those of plug on charger
 - b. That extension cord is properly wired and in good condition; and
 - c. That wire size is large enough for AC ampere rating of charger as specified below:

Cord length (Feet)	25'	50'	100'
Cord Size (AWG)	16	16	16
- NOTE: AWG= American Wire Gauge
- Save these instructions. Refer to them frequently and use them to instruct others who may use this product. If you loan someone this lawn mower, loan them these instructions also.




SYMBOLS

Some of the following symbols may be used on this product. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the product better and safer.

SYMBOL	NAME	DESIGNATION/EXPLANATION
V	Volts	Voltage
A	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
W	Watt	Power
hrs	Hours	Time
	Wet Conditions Alert	Do not expose to rain or use in damp locations
	Read the Operators Manual	To reduce the risk of injury, user must read and understand operator's manual before using this product.
	Eye Protection	Always wear safety goggles or safety glasses with side shields and, as necessary, a full face shield when operating this product.
	Safety Alert	Precautions that involve safety
	Electric Shock	Failure to use in dry conditions and to observe safe practices can result in electric shock

SYMBOLS

The following signal words and meanings are intended to explain the levels of risk associated with this product.

SYMBOL	SIGNAL	MEANING
	DANGER	Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.
	WARNING	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.
	CAUTION	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.
	CAUTION	(Without Safety Alert Symbol) Indicates a situation that may result in property damage.

SERVICE:

Servicing requires extreme care and knowledge and should be performed only by a qualified service technician. For service we suggest you return the product to your nearest **AUTHORIZED SERVICE CENTER** for repair. When servicing, use only identical replacement parts.



WARNING:

To avoid serious injury, do not attempt to use this product until you read thoroughly and understand completely the operator's manual. If you do not understand the warnings and instructions in the operator's manual, do not use this product. Call EarthWise customer service for assistance.



WARNING:



The operation of any power tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning power tool operation, always wear safety goggles or safety glasses with side shields and, when needed, a full face shield. We recommend Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shields. Always use

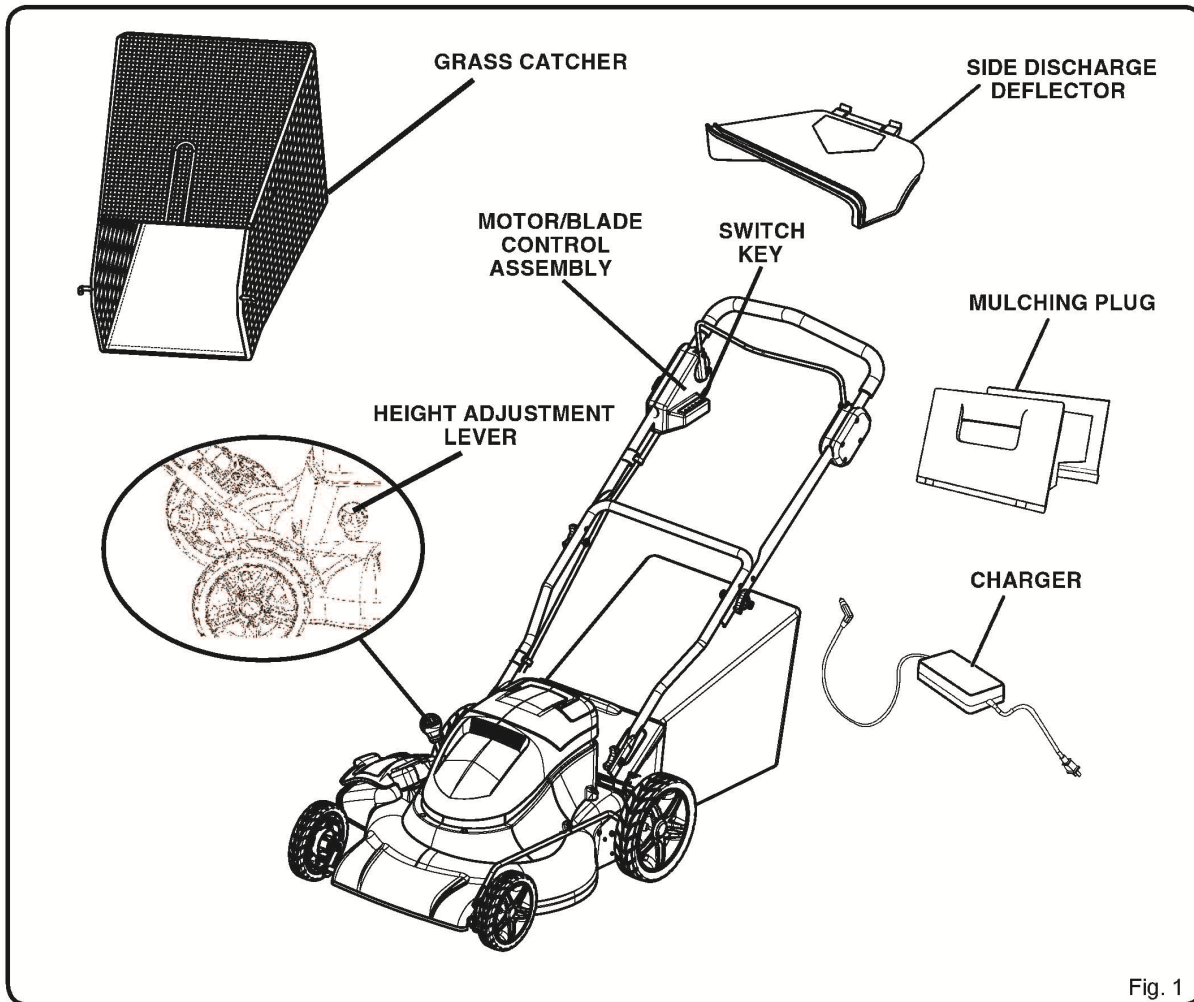
SAVE THESE INSTRUCTIONS

FEATURES

PRODUCT SPECIFICATIONS

*Battery.....24 V 20Ah sealed
Input..... 24V DC only
No-load Speed.....3,500 r/min (RPM)
Cutting Path.....20 in.

Height Adjustments.....1-1/2 in. to 4 in.
Wheel Size.....7 in. front, 9.5 in. rear
Weight.....41kg (90 lb)



This product contains a rechargeable sealed lead-acid battery. Battery must be recycled. Do not dispose of this product in fire. Battery inside this product may explode or leak. Before disposing of damaged or worn out battery packs contact your local waste disposal agency or the local Environmental Protection Agency for information and specific instructions. Take the battery to a local recycling and/or disposal center for disposal. Never throw the battery pack away in a standard receptacle or have it incinerated,

FEATURES

KNOW YOUR LAWN MOWER

See figure 1

The safe use of this product requires an understanding of the information on the product and in this operator's manual as well as a knowledge of the project you are attempting. Before use of this product, familiarize yourself with all operating features and safety rules.

BATTERY METER

The battery meter measures the amount of charge remaining in the battery.

GRASS CATCHER

The grass catcher prevents grass clippings being strewn across your lawn as you mow.

HEIGHT ADJUSTMENT LEVER

The height adjustment lever provides cutting height adjustments.

MOTOR/BLADE CONTROL ASSEMBLY

The motor/blade control, located on the upper handle of the mower, engages and disengages the motor and blade.

MULCHING PLUG

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

SWITCH KEY

The switch key must be inserted before the mower can be started.

SIDE DISCHARGE DEFLECTOR

Use the side discharge deflector on your mower when the grass is too high to mulch or when side discharging is preferred. The grass clippings produced when using the side discharge deflector are noticeably larger than those produced when using the mulching plug.

ASSEMBLY

UNPACKING

This product requires assembly.

- Carefully remove the product and any accessories from the box. Make sure that all items listed in the packing list are included.
- Inspect the product carefully to make sure no breakage or damage occurred during shipping.
- Do not discard the packing material until you have carefully inspected and satisfactorily operated the product.
- If any parts are damaged or missing, please call 1-800-377-5888 (USA), 1-800-561-0004 (CAN) for assistance.

PACKING LIST

Mower
Switch Key
Side discharge deflector
Mulching Plug
Grass Catcher
Charger
Operators Manual
Operator's Manual

WARNING:

If any parts are damaged or missing do not operate this product until the parts are replaced. Failure to heed this warning could result in serious personal injury.

WARNING:

Do not attempt to modify this product or create accessories not recommended for use with this product. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious personal injury.

WARNING:

Do not insert switch key until assembly is complete. Failure to comply could result in accidental starting and possible serious injury.

WARNING:

To prevent accidental starting do not make any adjustments or installations with the switch key inserted.

ASSEMBLY

WARNING:

Never operate the mower without the proper safety devices in place and working. Never operate the mower with damaged safety devices. Failure to heed this warning can result in serious personal injury.

ADJUSTING HANDLE

See figure 2

- Fully loosen the handle knobs on both sides of the handle.
- Pull up and back on the upper handle to raise the handle into operating position. Make certain the handles snap into place securely.
- Tighten the handle knobs on both sides of the handle to secure.

INSTALLING SIDE DISCHARGE DEFLECTOR

See figure 3

NOTE: When using the side discharge deflector, do not install either mulching plug or grass catcher.

- Lift the side discharge door.
- Align the grooves on the deflector with the pins on the underside of the door.
- Lower the deflector until the hooks on the mower deck are secured in the openings in the deflector.
- Release the deflector and door.

INSTALLING THE MULCHING PLUG

See figure 4

NOTE: When using the mulching plug, do not install either the side discharge deflector or the grass catcher.

- Lift the rear discharge door.
- Grasp the mulching plug by its handle and tilt at an approximate 15 degree angle.
- Insert the plug into the rear discharge opening.
- Lower the rear discharge door.

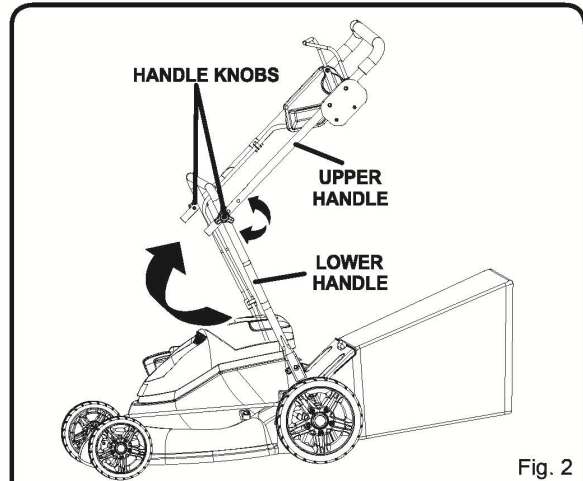


Fig. 2

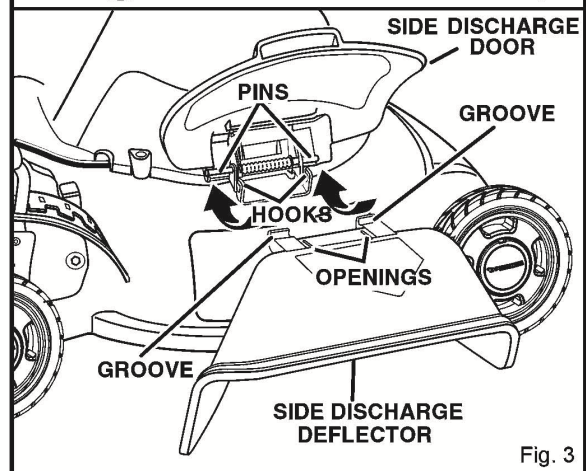


Fig. 3

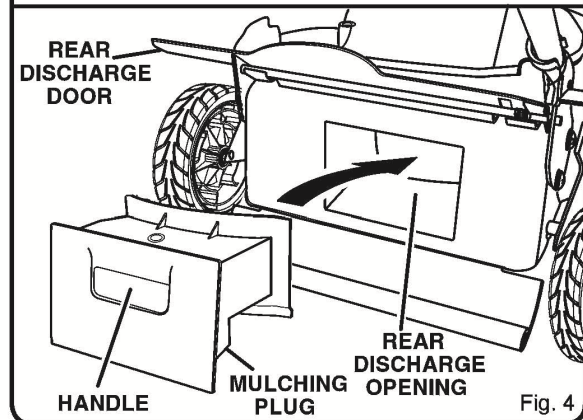


Fig. 4

ASSEMBLY

INSTALLING THE GRASS CATCHER

See figure 5

NOTES: When using the grass catcher, do not install either the side discharge deflector or the mulching plug.

- Lift the rear discharge door.
- Lift the grass catcher by its handle and place under the rear discharge door so that the hooks on the grass catcher are seated on the hooks of the height adjustment brackets.

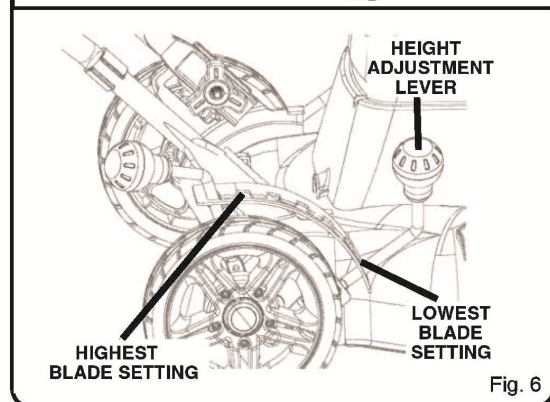
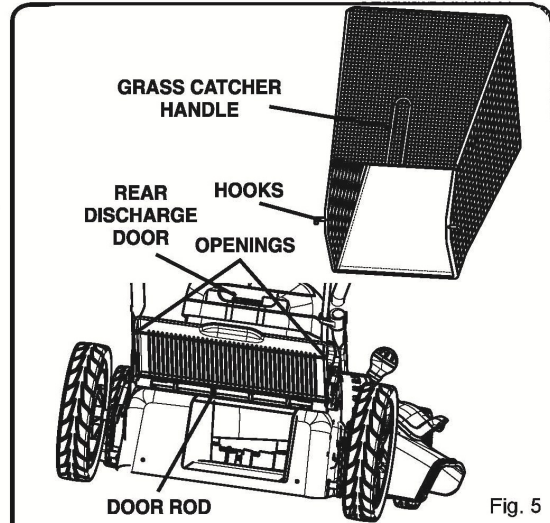
SETTING BLADE HEIGHT

See figure 6

When shipped, the wheels on the mower are set to a low-cutting position. Before using the mower for the first time, adjust the cutting position to the height best suited for your lawn. The average lawn should be between 1-1/2 in. to 2 in. during the cool months and between 2 in. to 3 1/4 in. during the hot months.

To set the blade height:

- To raise the blade height, grasp the height adjustment lever and move it toward the back of the mower.
- To lower the blade height, grasp the height adjustment lever and move it toward the front of the mower.



OPERATION



WARNING:

Do not allow familiarity with this type of product to make you careless. Remember that a careless fraction of a second is sufficient to inflict serious injury.



WARNING:

Always wear safety goggles or safety glasses with side shields when operating this product. Failure to do so could result in objects being thrown into your eyes, resulting in possible serious injury.



WARNING:

Do not use any attachments or accessories not recommended by the manufacturer of this product. The use of attachments or accessories not recommended can result in serious personal injury.

APPLICATIONS:

You may use this product for the purpose listed below:

- Mowing your lawn

OPERATION

BATTERY METER

See figure 7

Since the mower battery is shipped in a low charge condition the battery must be charged before use. The battery has 5 LED lights to indicate battery capacity. These lights will only illuminate when the mower is running.

If 3 GREEN light illuminates, the battery is charged and ready for use. 2 green lights are equal to 50-80% charge, while 1 green light is equal to 30-50% charge.

If AMBER light illuminates, the battery will soon require charging. It is recommended that the battery be charged at this point. The battery is at 5-30% charge when the yellow light illuminates.

If the RED light illuminates and/or flashes at any time, it must be charged IMMEDIATELY before use. There is less than 5% of battery charge when the red light comes on.

NOTE: When the red light illuminates, you must stop the mower and charge the battery immediately, or it will reduce the life of the battery.

CHARGING THE BATTERY PACK

See figures 7-8

The lawn mower comes with a maintenance free, sealed 24 volt storage battery,

- Remove the switch key
- Charge the battery pack only with the charger provided.
- Allow at least 15 hours of charge time before initial use of the mower
- Make sure the power supply is normal household voltage, **120 volts, 60 Hz, AC only.**
- The battery should be charged in a cool, dry place
- To improve battery life, store battery indoors in a controlled climate. **Fully charge battery pack every 30 days.**
- Since the battery will not develop a memory it does not have to be fully discharged before recharging.
- 2 to 3 initial charging/discharging cycles may be required to achieve maximum run time/capacity.
- When fully charged, the battery can be safely stored in temperatures down to -40°F for a period of up to two weeks, before requiring charging. **Fully charge battery pack every 30 days.**
- The battery charger should be operated in temperatures between 32°F and 104°F
- The battery supplied is sealed, maintenance free and spill free.

TO CHARGE

See figure 7-8

- Remove the switch key and store in a secure location out of the reach of children.
- Plug the charger connector into the receptacle on the mower.
- Insert the 120 volt plug of the charger into the wall receptacle.

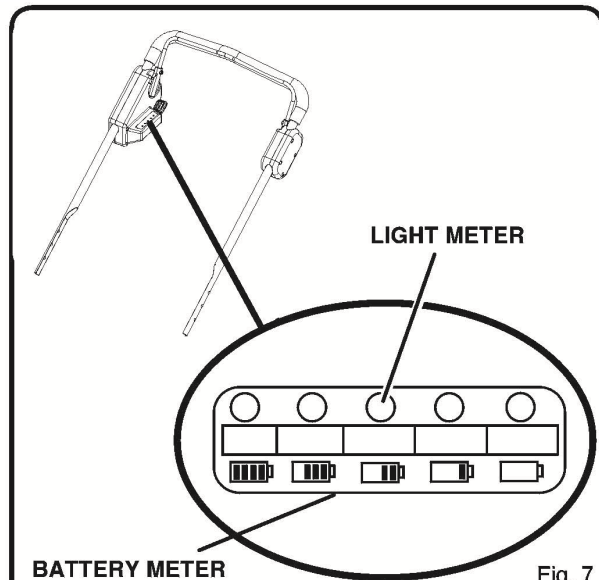


Fig. 7

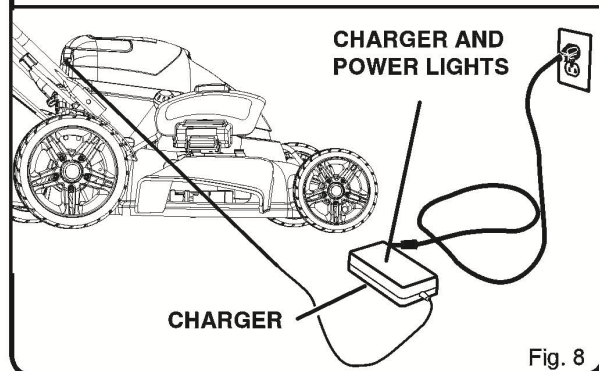


Fig. 8

- After plugging into the wall receptacle the charger light and power light will turn on. When the battery is fully charged the charging light will turn from red to green. It takes approximately 15 hours to charge a fully discharged mower.
- Do not charge battery any longer than 24 hours. This is not a trickle charger.

CHARGING WHEN BATTERY REMOVED FROM MOWER

- Insert 2 slot plug into socket of battery assembly.
- Plug charger into electrical outlet.
- Disconnect when charging is complete.

OPERATION

REMOVING THE BATTERY ASSEMBLY

To Remove the Battery Assembly

- Push the battery release button forward.
- Lift the battery handle.
- Remove battery.

To Re-install Battery Assembly

- Place Battery assembly into the battery compartment of the motor cover.
- Lower handle to lock in place.

WINTER STORAGE

- When fully charged the battery can be safely stored in temperatures down to -40°F for a period of up to two weeks before requiring charging.
- Fully charge battery pack every 30 days.
- The battery charger should be operated in temperatures between 32°F and 104°F
- Do not charge battery any longer than 24 hours. This is not a trickle charger.
- If the battery is left on the charger for an extended period of time, the battery may be permanently damaged.

STARTING/STOPPING THE MOWER

See figure 9

- Insert the switch key into the slot on the motor/blade control assembly.
- Push the button on switch box and hold to allow access to the switch control bail wire.
- Pull the switch control bail wire toward the mower handle and let go of the switch button. Continue to hold the switch control bail wire against the mower handle as you mow.
- To stop the mower, release the switch control bail wire.

NOTE: A high-pitched noise and sparking may occur as the electric motor decelerates. This is normal.

BATTERY DISPOSAL

- Properly dispose of the spent battery.
- Battery must be recycled.
- Do not incinerate or put in the trash.

OPERATION

MOWING TIPS

- Make sure the lawn is clear of stones, sticks, wires and other objects that could damage the lawn mower blades or motor. Such objects could be accidentally thrown by the mower in any direction and cause serious personal injury to the operator and others.
- For a healthy lawn, always cut off one-third or less of the total length of the grass
- When cutting heavy grass, reduce walking speed to allow for more effective cutting and a proper discharge of the clippings.
- Do not cut wet grass. It will stick to the underside of the deck and prevent proper mulching of grass clippings.
- New or thick grass may require a narrower cut.
- Clean the underside of the mower deck after each use to remove grass clippings, leaves, dirt and any other accumulated debris.

SLOPE OPERATION

See figure 10

- Slopes are a major factor related to slip and fall accidents that can result in severe injury. Operation on slopes requires extra caution. If you feel uneasy on a slope, do not mow it. For your safety, do not attempt to mow slopes greater than 15 degrees.
- Mow across the face of slopes, not up and down. Exercise extreme caution when changing direction on slopes.
- Watch for holes, ruts, rocks, hidden objects, or bumps which can cause you to slip or trip. Tall grass can hide obstacles. Remove all objects such as rocks, tree limbs, etc., which could be tripped over or thrown from the blade.
- Always be sure of your footing. A slip and fall can cause serious personal injury. If you feel you are losing your balance, release the switch control bail wire immediately.
- Do not mow near drop-offs, ditches, or embankments; you could lose your footing or balance.

EMPTYING THE GRASS CATCHER

See figure 11

- Lift the grass catcher by its handle and lift to remove from mower
- Empty grass clippings
- Lift the rear discharge door and reinstall the grass catcher as described earlier in this manual.
- Lift the rear discharge door and reinstall the grass catcher as described earlier in this manual.

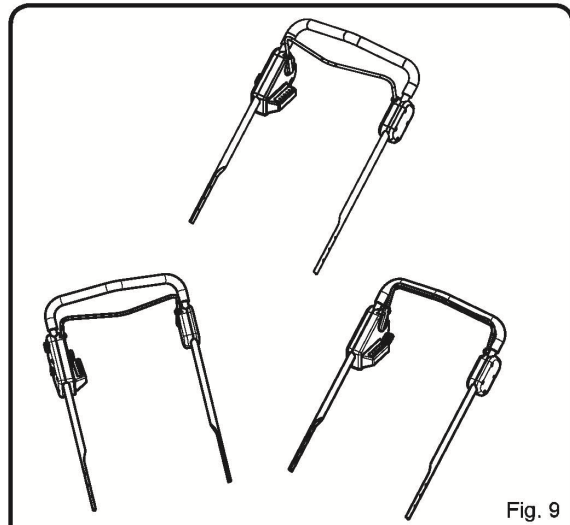


Fig. 9

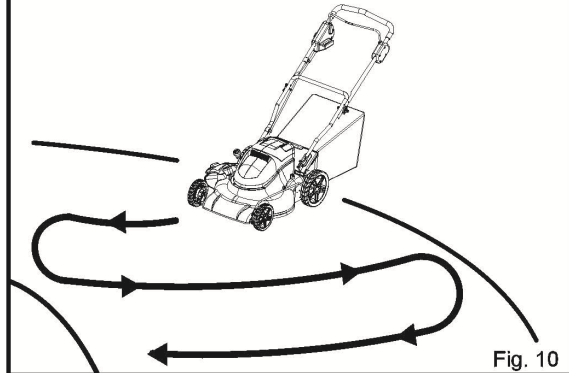


Fig. 10

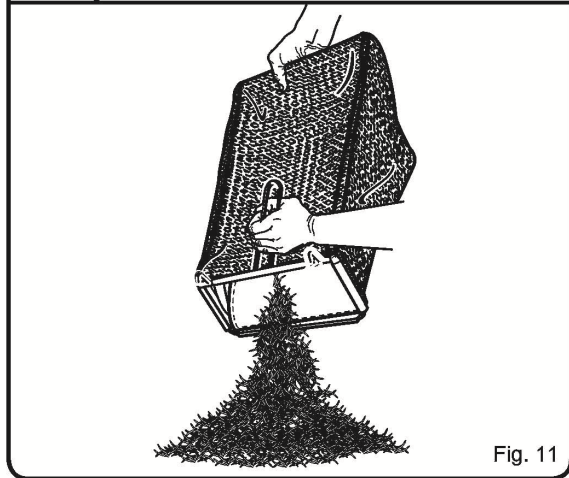


Fig. 11

MAINTENANCE

⚠ WARNING:

When servicing, use only identical replacement parts. Use of any other parts may create a hazard or cause product damage.

⚠ WARNING:

Always wear safety goggles or safety glasses with side shields during power tool operation or when blowing dust. If environment is dusty, also wear a dust mask.

GENERAL MAINTENANCE

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, dust, oil, grease, etc.

⚠ WARNING:

Do not at any time let brake fluids, gasoline, petroleum-based products, penetrating oils, etc., come in contact with plastic parts. Chemicals can damage, weaken, or destroy plastic which may result in serious personal injury.

Periodically check all nuts and bolts for proper tightness to ensure safe operation of the mower.

Remove any buildup of grass and leaves on or around the motor cover. Wipe the mower clean with a dry cloth occasionally. **Do not use water.**

LUBRICATION

All of the bearings in this product are lubricated with a sufficient amount of high grade lubricant for the life of the unit under normal operating conditions. Therefore, no further bearing lubrication is required.

At the beginning and end of each mowing season:

- Lubricate the springs on the rear discharge door with light oil.
- Lubricate the height adjustment lever and related hardware with light oil.
- Remove the wheels and lubricate the surface of the axle bolt and the inner surface of the wheel with light oil.
- Remove the blade and blade hub assembly and lubricate the motor shaft with light oil or engine oil. **See Replacing the Cutting Blade** for instructions on removing the blade.

⚠ WARNING:

Always protect hands by wearing heavy gloves and/or wrapping the cutting edges of the blade with rags and other material when performing blade maintenance. Failure to heed this warning could result in serious personal injury.

⚠ WARNING:

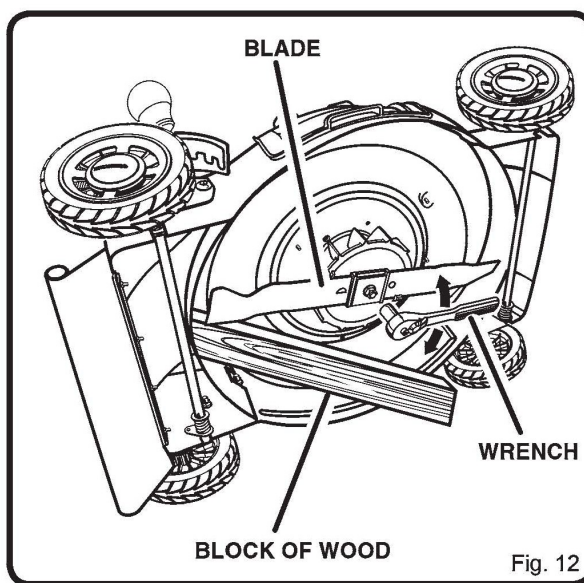
Before performing any maintenance, make sure the battery is removed from the battery compartment and the switch key is removed. Failure to heed this warning could result in serious personal injury.

REPLACING THE CUTTING BLADE

See figures 12-13

NOTES: Only use identical replacement blades

- Stop the motor and remove the switch key. Allow the blade to come to a complete stop. Remove battery from the battery compartment.
- Turn the mower on its side
- Wedge a block of wood between the blade and mower deck to prevent the blade from turning.
- Loosen the blade nut using a 15mm wrench or socket (not provided)
- Remove the blade nut, spacer, blade insulator, and blade
- Make certain the fan assembly is pushed completely against the motor shaft.



MAINTENANCE

- Place the new blade on the shaft against the fan assembly. Make sure it is installed with the curved ends pointing up toward the mower deck and not down toward the ground.
- Replace the blade insulator and spacer, then thread the blade nut on the shaft and finger tighten.

NOTE: Make certain all parts are replaced in the exact order in which they were removed.

- Torque the blade nut down using a torque wrench (not provided) to ensure the bolt is properly tightened. The recommended torque for the blade nut is 220-310 in. lbs.

SHARPENING THE BLADE

See Figure 14

For best mowing performance, the mower blade must be kept sharp. A dull blade does not cut grass evenly and overloads the motor. Under normal circumstances, sharpening the blade twice during the mowing season is usually sufficient. However, if your lawn has sandy soil, more frequent sharpening's may be required.

- Following the instructions in the **Replacing the Cutting Blade** section, remove the mower blade. **DO NOT** attempt to sharpen the blade while it is attached to the mower.

WARNING:

When removing, inspect the blade carefully. If blade is bent or damaged, replace immediately with a new blade. Failure to replace a bent or damaged blade could cause an accident resulting in possible serious injury.

- Using a fine tooth file or stone, sharpen cutting edges on both ends of the blade, removing equal amounts of material from both ends.

BALANCING THE BLADE

See Figure 15

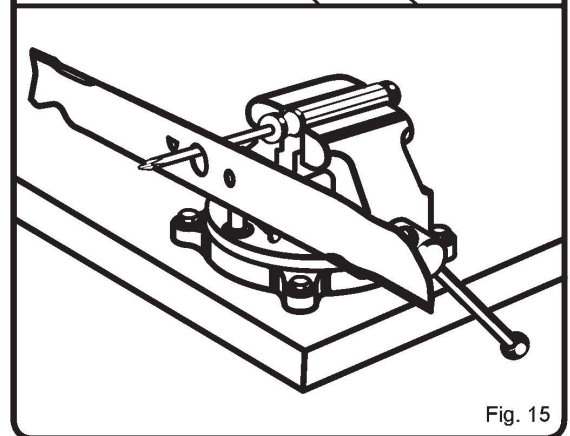
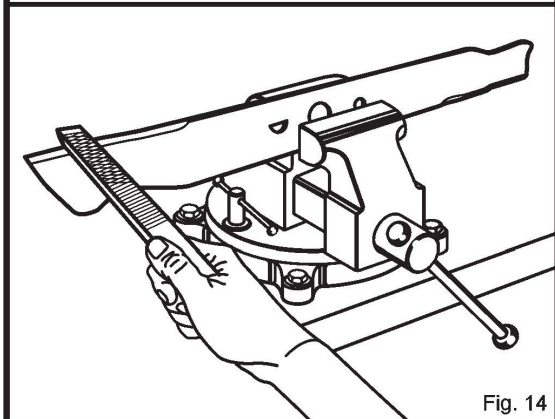
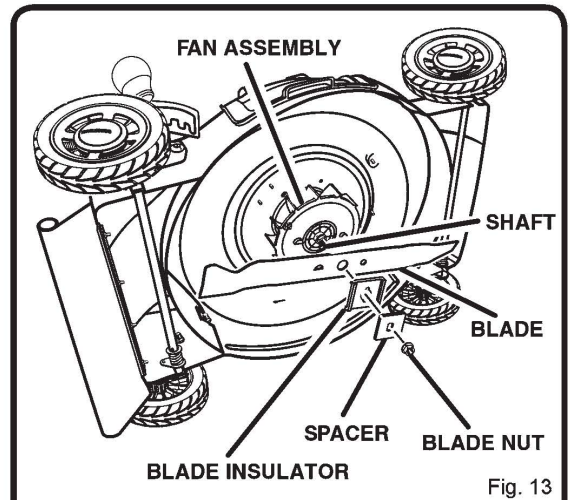
When sharpening, care should be taken to keep the blade balanced. An unbalanced blade will cause excessive vibration when the mower is running. This vibration will eventually cause damage to the mower, especially the motor.

To check blade balance:

- Clamp a screwdriver horizontally in a vise as shown.

NOTE: If a vise is not available, a straight nail can also be used.

- Place the center hole of blade on the screwdriver (or nail) shank.
- If blade is balanced, it will remain in a horizontal position. If either end of the blade drops downward, sharpen the heavy side until the blade is balanced.



MAINTENANCE

REPLACING WHEELS

See Figure 16

To Replace a wheel:

- Stop the motor and remove the switch key. Remove battery from the battery compartment.
- Turn the mower on its side.
- Using a flat blade screwdriver, pry off the hubcap.
- Remove the self-locking nut from the wheel axle, then remove the wheel.
- Replace with new wheel and install new self-locking nut securely.
- Replace hubcap.

STORING THE MOWER

See Figure 17

- Remove the switch key and store in a secure location out of the reach of children.
- Turn mower on its side and clean grass clippings that have accumulated on the underside of the mower deck.
- Wipe the mower clean with a dry cloth.
- Check all nuts, bolts, knobs, screws, fasteners, etc., for tightness.
- Inspect moving parts for damage, breakage and wear. Have repairs made on any damaged parts.
- Store mower indoors in a clean, dry place out of the reach of children.
- Do not store near corrosive materials such as fertilizer or rock salt.

To lower the handle before storing:

- Fully loosen the handle knobs on the sides of the handle and fold the upper handle down.
- Push inward on each side of the lower handle, and lift the sides of the lower handle past the edges of the handle mounting brackets.
- Fold the lower handle forward, making sure not to bend or kink the power cord.

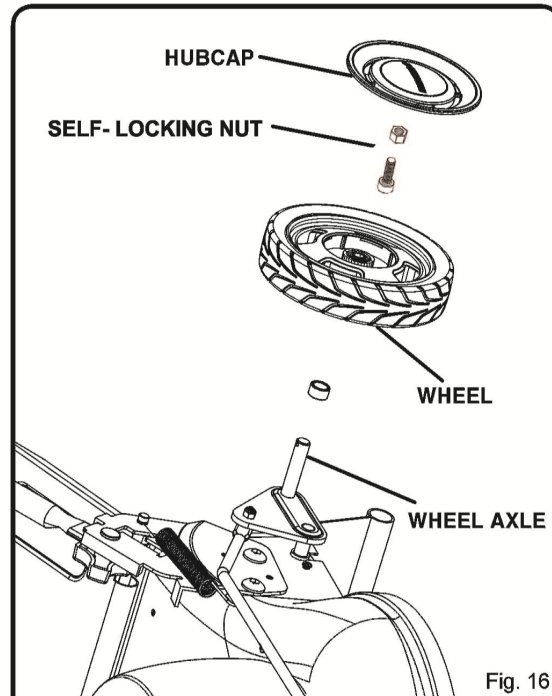


Fig. 16

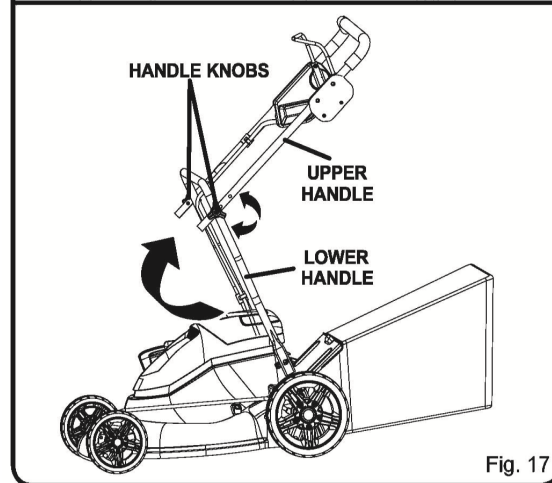


Fig. 17

WARNING:

USE EXTREME CAUTION WHEN FOLDING THE HANDLE. THE CORD CAN BE DAMAGED IF PINCHED BETWEEN HANDLE SECTIONS CREATING A SAFETY HAZARD.

BATTERY MAINTENANCE

It is recommended to charge the mower every 2 month for optimum performance when not in use, If the battery has been in storage for a long time without recharging, it will be in a low charge state.

TROUBLESHOOTING

Problem	Possible cause	Solution
Handle not in position	Carriage bolts not seated properly.	Adjust the height of the handle and make sure the carriage bolts are seated properly.
	Handle knobs not tightened.	Tighten handle knobs.
Mower not starting.	Battery is low in charge	Charge the Battery.
	Battery is either defective or will not take a charge.	Replace the battery.
Mower cutting grass unevenly.	Lawn is rough or uneven or cutting height not set properly.	Move the wheels to a higher position.
Mower not mulching properly.	Wet grass clippings sticking to the underside of the deck.	Wait until the grass dries before mowing.
Mower hard to push.	High grass, rear of mower housing and blade dragging in heavy grass, or cutting height too low.	Raise cutting height.
Mower vibrating at higher speed.	Blade is unbalanced.	Balance the blade by grinding each cutting edge equally.
	Bent motor shaft.	Stop the motor, remove battery, and inspect for damage. Have repaired by an authorized service center before restarting.

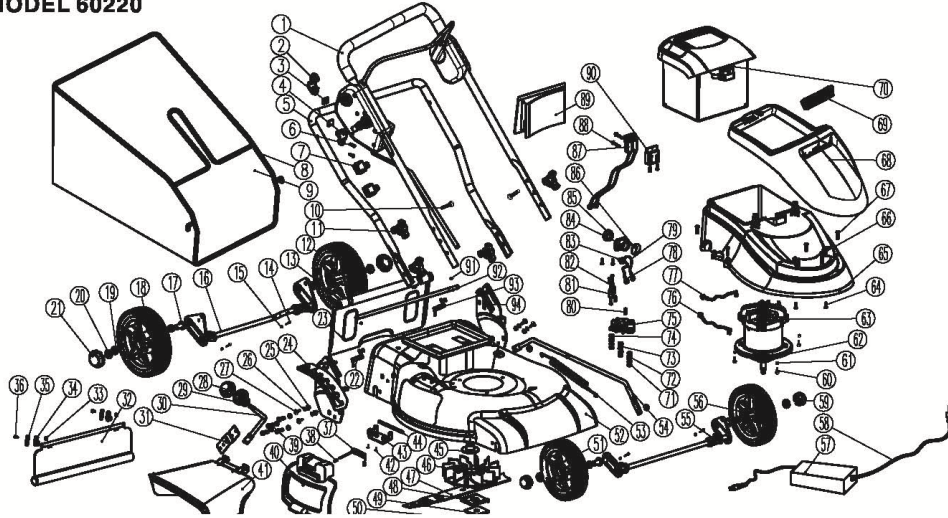


CALL US FIRST

For any questions about operating or maintaining your product,
call the Earthwise™ Help Line! 1-800-377-5888
Your product has been fully tested prior to shipment to ensure your complete satisfaction.

EXPLODED VIEW/PARTS LIST

MODEL 60220



Key No.	Part No.	Description	Qty.	Key No.	Part No.	Description	Qty.
1	8440-510501	Switch and power cable assy	1	48	8181-517002	Blade insulator	1
2	8007-516401	Cord guide upper cover	1	49	8321-517006	Spacer	1
3	8336-516411	Gasket	2	50	8207-517001	Blade nut	1
4	8007-516402	Cord guide lower cover	1	51	8121-510402	Front right wheel	1
5	8001-516202	Self-tapping screw	1	52	8006-510501	Deck	1
6	8SJAB30-15B	Cord guide	1	53	8342-517002	Extension spring	1
7	8007-517001	Left rear wheel	2	54	8087-516210-01	Link bar	1
8	8291-510501	Grass catcher frame	1	55	8440-510401	Front Wheel axle	1
9	8102-510501	Grass catcher bag	1	56	8121-510401	Front left wheel	1
10	8206-517001	Bolt	2	57	8426-516201-01	Charger	1
11	8313-510501	Knob	4	58	8422-516204	Charger cable and plug	1
12	8121-510403	Rear right wheel	1	59	8020-510401	Wheel cover	2
13	8224-510401	Axle sleeve	4	60	8SQDD06-16D8.8	Bolt	3
14	8SACD05-12Q8.8	Hex socket head cap screw	4	61	8NH-08Q8.8	Nut	5
15	8NG-05Q018.8	Hex lock nut	8	62	8336-517101	Shock Pad	1
16	8440-510402	Rear wheel axle	1	63	8401-516201	Motor	1
17	8202-517201	Adjusting shim	2	64	8SJAB40-14Q	Self-tapping screw	2
18	8121510404	Rear right wheel	1	65	8331-517003	Cover envelope	1
19	8325-532405	Washer	4	66	8024-516401	Motor Cover	1
20	8NH-08D	Nut	4	67	8206-516001	Cover screw	6
21	8020-510402	Wheel cover	2	68	8020-510501	Motor Vent	1
22	8342-510402	Rear discharge door comparison spring right	1	69	8181-510501	Shutter	1
23	8020-516815	Rear discharge door	1	70	8440-510502	Battery assy	1
24	8321-510402	Height adjustment bracket right	1	71	8SFDD06-16D8.8	Hex head screw	3
25	8ND-10D0188	Hex nut	4	72	8WF-06D	Washer	6
26	8WS-10Q	Spring pad	4	73	8WS-06D	Spring pad	3
27	8SCD10-20D8.8	Hex head screw	4	74	8NA-06D01	Hex nut	3
28	8001-510502	Height adjustment handle upper cover	1	75	8149-516201	Wire connector	1
29	8001-510503	Height adjustment handle lower cover	1	76	8413-516202	Connection wire	1
30	8087-510504	Height adjustment handle bar	1	77	8413517202	Connection wire	1
31	8321-517009	Spring pad	1	78	8413-516401	Connection wire	1
32	8181-516208	Rear flap	1	79	8413-516402	Connection wire	1
33	R8NG-04Q018.8	Self-locking nut	2	80	8SJAB50-16Q	Self-tapping screw	7
34	8186-517002	Chip	2	81	8141-517002	Wire clamp plate	1
35	8187-516201	Rubber board	2	82	8184-302201	Power cord clamp plate	1
36	R8SGN04-16Q12.9	Screw	2	83	8427-516211	Socket	1
37	8342-516202-01	Compression spring	1	84	8141-516401	Charging seat	1
38	8025-516205	Rubber cap	4	85	8024-516213	Cap	1
39	8SKCD05-14Q12.9	Screw	4	86	8414-516404	PCB	1
40	8020-516202	Side discharge door	1	87	8413-516403	Connection wire	1
41	8020-516203	Side discharge deflector	1	88	8SJAB40-25Q	Self-tapping screw	2
42	8SQDD06-08D8.8	Machine screw	2	89	8020-510406	Mulching plug	1
43	8321-517008	Side discharge bracket	1	90	8141-516901	Fixing seat	1
44	8081-516204	Side discharge pin	1	91	8CE-08Q	E-ring	2
45	8224-516202	Spindle guard	1	92	8081-516211	Rear discharge pin	1
46	8403-517001	Fan	1	93	8342-510401	Discharge door compression spring left	1
47	8231-516201-01	Blade	1	94	8321-510401	Height Adjustment bracket left	1

Warranty

LIMITED WARRANTY FOR BATTERY POWERED MODELS.

This product is manufactured for the American Lawn Mower Company/Great States Corporation. American Lawn Mower company/Great Sates Corporation, Shelbyville, Indiana, has been making lawn mowers for over 100 years and it warrants to the original owner that each new product and service part is free from defects in material and workmanship and agrees to repair or replace under this warranty any defective product or part from the original date of purchase for two (2) years except for the conditions, circumstances and parts listed below. Proof of purchase (original dated sales receipt) must accompany all warranty claims.

THIS WARRANTY IS NOT TRANSFERABLE AND DOES NOT COVER:

- The battery for more than one year from date of purchase.
- Products sold damages or incomplete, sold “as is”, sold reconditioned or used as rental equipment.
- Delivery, installation, or normal adjustments explained in the operator’s manual.
- Damage or liability caused by shipping, improper handling, improper installation, incorrect voltage or improper wiring, improper maintenance, improper modification, or the use of accessories and/ or attachments not specifically recommended.
- Repairs necessary because of operator abuse or negligence, or the failure to install, operate, maintain, and store the product according to the instructions in the operators manual.
- Damage caused by cold, heat, rain, excessive humidity, corrosive environments and materials, or other contaminants.
- Expendable items that become worn during normal use.
- Cosmetic defects that do not interfere with tool functionality.
- Freight costs from customer to vendor.
- Repair and transportation costs of products or parts determined not to be defective.
- ANY INCIDENTAL, INDIRECT, OR CONSEQUENTIAL LOSS, DAMAGE, OR EXPENSE THAT MAY RESULT FROM ANY DEFECT, FAILURE, OR MALFUNCTION OF THE PRODUCT. Some states do not allow the exclusion or limitation on how long an implied warranty lasts, so the above limitations may not apply to you.
- ANY NON-RESIDENTIAL USE OR COMMERCIAL USE VOIDS ALL WARRANTIES.

CALL US FIRST!!

Call us first with questions about operating or maintaining your lawn mower at 1-800-377-5888 between 7:30 a.m.—4:30 p.m. Eastern Standard Time, or send emails to earthwise@reelin.com



OPERATOR'S MANUAL

ELECTRIC LAWN MOWER

United States Patent Pending

20 in. - 24 VOLT

CORDLESS LAWN MOWER

WITH 20 AMP HOUR BATTERY

60220

SERVICE

For parts or service, contact your nearest EarthWise authorized service dealer. Be sure to provide all relevant information when you call or visit. For the location of the authorized service dealer nearest you, please call 1-800-377-5888 or visit us online at www.reelin.com/earthwise.

REPAIR PARTS

The model number of this tool is found on a plate or label attached to the housing. Please record the serial number in the space provided below.

MODEL NUMBER 60220

SERIAL NUMBER _____



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