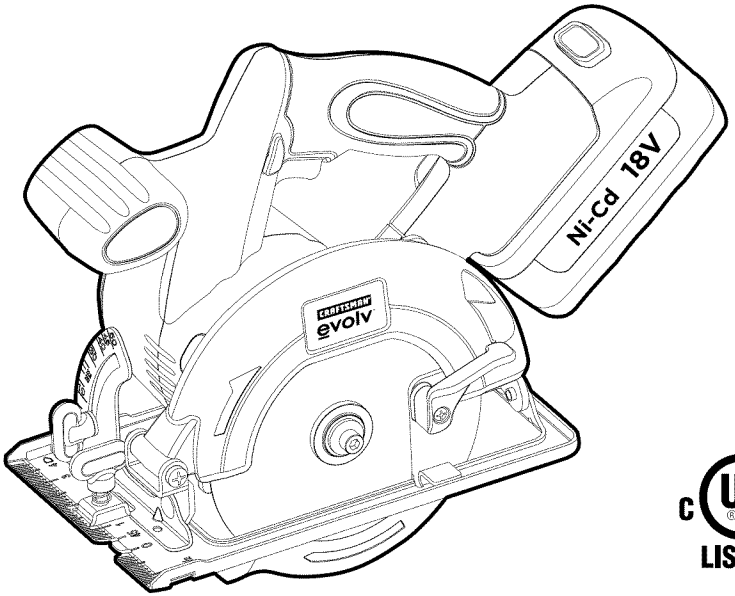
Operator's Manual

CRAFTSMAN

evolv™

18.0-Volt Ni-Cd Cordless 5-1/2 inch Circular Saw

Model No. 320. 31024



C UL US LISTED

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

Charge battery before first use.

- **WARRANTY**
- **SAFETY**
- **ASSEMBLY**
- **OPERATION**
- **MAINTENANCE**
- **ESPAÑOL**

Sears Brands Management Corporation, Hoffman Estates, IL 60179 U.S.A.
www.craftsman.com

TABLE OF CONTENTS

CRAFTSMAN EVOLV ONE YEAR LIMITED WARRANTY

FOR ONE YEAR from the date of purchase, this product is warranted against any defects in material or workmanship. With proof of purchase, a defective product will be replaced free of charge.

For warranty coverage details to obtain free replacement, visit the web site: www.craftsman.com

This warranty does not cover the blade, which is an expendable part that can wear out from normal use within the warranty period.

This warranty is void if this product is ever used while providing commercial services or if rented to another person.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Sears Brands Management Corporation, Hoffman Estates, IL 60179

This circular saw 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.

SAVE THESE INSTRUCTIONS!

READ ALL INSTRUCTIONS!

⚠ **WARNING:** Some dust created by using power tools contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SAFETY SYMBOLS

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols and the explanations with them deserve your careful attention and understanding. The symbol warnings do not, by themselves, eliminate any danger. The instructions and warnings they give are no substitutes for proper accident prevention measures.

⚠ **WARNING:** Be sure to read and understand all safety instructions in this manual, including all safety alert symbols such as "**DANGER**," "**WARNING**," and "**CAUTION**" before using this circular saw. Failure to follow all instructions listed in this manual may result in electric shock, fire and/or serious personal injury.

SYMBOL SIGNAL MEANING

⚠ **SAFETY ALERT SYMBOL:** Indicates **DANGER, WARNING, OR CAUTION;** may be used in conjunction with other symbols or pictographs.

⚠ **DANGER:** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ **WARNING:** Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ **CAUTION:** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Damage Prevention and Information Messages

These inform the user of important information and/or instructions that could lead to equipment or other property damage if they are not followed. Each message is preceded by the word "NOTICE", as in the example below:

NOTICE: Equipment and/or property damage may result if these instructions are not followed.

⚠ **WARNING:** To ensure safety and reliability, all repairs should be performed by a qualified service technician.

⚠ **WARNING:** The operation of any power tools 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 shield and a full face shield when needed. We recommend a Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shields. Always use eye protection which is marked to comply with ANSI Z87.1.

SAVE THESE INSTRUCTIONS

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

SYMBOL	NAME	DESIGNATION/EXPLANATION
V	Volts	Voltage
A	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
W	Watt	Power
min	Minutes	Time
~	Alternating Current	Type of current
⎓	Direct Current	Type or a characteristic of current
n_0	No Load Speed	Rotational speed, at no load
⧈	Class II Construction	Double-insulated construction
.../min	Per Minute	Revolutions, strokes, surface speed, orbits, etc., per minute
	Wet Conditions Alert	Do not expose to rain or use in damp locations.
	Read The Operator's 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 a full face shield when operating this product.
	Safety Alert	Precautions that involve your safety.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	Hot Surface	To reduce the risk of injury or damage, avoid contact with any hot surface.

SAFETY INSTRUCTIONS

GENERAL POWER TOOL SAFETY WARNINGS

⚠ **WARNING:** Read all safety warnings and instructions. Failure to follow the warnings and instructions listed below may result in electric shock, fire, and/or serious personal injury.

Save all warnings and instructions for future reference.

The term "power tool" in all warnings listed below refers to corded power tools or battery-operated (cordless) power tools.

WORK AREA SAFETY

- **Keep your work area clean and well lit.** Cluttered or dark areas invite accidents.
- **Do not operate power tools in explosive environments, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks, which may ignite the dust or fumes.
- **Keep children and bystanders away while operating a power tool.** Distractions may cause you to lose control.

ELECTRICAL SAFETY

- **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with grounded power tools.** Unmodified plugs and matching outlets will reduce the risk of electric shock.
- **Avoid body contact with grounded surfaces, such as pipes, radiators, ranges, and refrigerators.** There is an increased risk of electric shock if your body is grounded.
- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **Do not abuse the cord. Never use the cord for carrying, pulling, or unplugging the power tool. Keep the cord away from heat, oil, sharp edge, or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of a GFCI reduces the risk of electric shock.
- **Use this circular saw only with the battery and power unit listed below:**

BATTERY PACK	POWER UNIT
320.30864	HYCH0092400250U

PERSONAL SAFETY

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use the tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat, or hearing protection, used for appropriate conditions, will reduce personal injuries.
- **Prevent unintentional starting. Ensure that the switch is in the OFF-position before connecting to a power source and/or battery, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing power tools that have the switch turned on invites accidents.
- **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- **If devices are provided for the connection of dust extraction and collection facilities, ensure that these are connected and properly used.** Use of these devices can reduce dust-related hazards.

POWER TOOL USE AND CARE

- **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and more safely at the rate for which it was designed.
- **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source and/or the battery from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.

- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **Use the power tool, accessories, tool bits, etc., in accordance with these instructions, taking into account the working conditions and the work to be performed**. Use of the power tool for operations different from those intended could result in a hazardous situation.

BATTERY TOOL USE AND CARE

- **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- **When the battery pack is not in use, keep it away from other metal objects, such as paper clips, coins, keys, nails, screws, or other small metal objects that can make a connection from one terminal to another (shorting).** Shorting the battery terminals together may cause burns or a fire.
- **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, flush eyes with water and immediately seek medical help.** Liquid ejected from the battery may cause irritation or burns.

SERVICE

- **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
- **Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance instructions may create a risk of shock or injury.

FURTHER SAFETY INSTRUCTIONS FOR SAWS

⚠ **WARNING:** To reduce the risk of injury, check the guarding system. It must cover the blade instantly! Hold the saw with both hands. Support and clamp the work. Always wear eye protection. Always wear a dust mask. Always wear hearing protection.

⚠ **DANGER:** Keep hands away from the cutting area and the blade. Keep one hand on the main handle and your other hand on the auxiliary handle or motor housing. If both hands are holding the saw, they cannot be cut by the blade.

- **Do not use abrasive wheels with this saw**.
- **Do not reach underneath the workpiece.** The guard cannot protect you from the blade below the workpiece.
- **Adjust the cutting depth to the thickness of the workpiece.** Less than a full tooth of the blade should be visible below the workpiece.

- **Never hold the piece being cut in your hands or across your leg. Secure the workpiece to a stable platform.** It is important to support the work properly to minimize body exposure, blade binding or loss of control.
- **Hold the power tool by its insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a "live" wire will also make exposed metal parts of the tool "live" and shock the operator.
- **When ripping, always use a rip fence or straight edge guide (sold separately).** This improves the accuracy of the cut and reduces the chance of blade binding.
- **Always use blades with the arbor holes that are the correct size and shape.** Blades that do not match the mounting hardware of the saw will run erratically, causing loss of control.
- **Never use damaged or incorrect blade washers or bolt.** The blade washers and bolt were specially designed for your saw for optimum performance and safety of operation.

CAUSES AND OPERATOR PREVENTION OF KICKBACK:

- Kickback is a sudden reaction to a pinched, bound or misaligned saw blade, which causes an uncontrolled saw to lift up and out of the workpiece toward the operator.
- When the blade is pinched or bound tightly by the kerf closing down, the blade stalls and the motor reaction drives the unit rapidly back toward the operator.
- If the blade becomes twisted or misaligned in the cut, the teeth at the back edge of the blade can dig into the top surface of the wood, causing the blade to climb out of the kerf and jump back toward the operator.
- Kickback is the result of misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions, as given below:
- **Maintain a firm grip with both hands on the saw and position your arms to resist kickback forces. Position your body to either side of the blade, but not in line with the blade.** Kickback could cause the saw to jump backwards, but kickback forces can be controlled by the operator if proper grip and positioning precautions are taken.
- **When blade is binding, or when interrupting a cut for any reason, release the trigger and hold the saw motionless in the material until the blade comes to a complete stop. Never attempt to remove the saw from the work or pull the saw backward while the blade is in motion or kickback may occur.** Investigate and take corrective actions to eliminate the cause of blade binding.
- **When restarting a saw in the workpiece, center the saw blade in the kerf and check that the saw teeth are not engaged into the material.** If the saw blade is binding, it may walk up or kickback from the workpiece when the saw is restarted.

- **Support large panels to minimize the risk of blade pinching and kickback.** Large panels tend to sag under their own weight. Supports must be placed under the panel on both sides, near the line of cut and near the edge of the panel.
- **Do not use dull or damaged blades.** Unsharpened or improperly set blades produce a narrow kerf, causing excessive friction, blade binding and kickback.
- **Blade depth and bevel adjusting locking levers must be tight and secure before making a cut.** If the blade adjustment shifts while cutting, it may cause binding and kickback.
- **Use extra caution when making a "plunge cut" into existing walls or other blind areas.** The protruding blade may cut objects that can cause kickback.

SAFETY INSTRUCTIONS FOR LOWER BLADE GUARD

- **Check the lower guard for proper closing before each use. Do not operate the saw if the lower blade guard does not move freely and close instantly. Never clamp or tie the lower blade guard into the open position.** If the saw is accidentally dropped, the lower blade guard may be bent. Raise the lower blade guard with the retracting handle. Make sure that it moves freely and does not touch the blade or any other part, in all angles and all depths of cut.
- **Check the operation of the lower blade guard spring. If the blade guard and the spring are not operating properly, they must be serviced before use.** The lower blade guard may operate sluggishly due to damaged parts, gummy deposits or a build-up of debris.
- **The lower blade guard should be retracted manually only for specific cuts, such as "plunge cuts" and "compound cuts". Raise the lower blade guard with the retracting handle. As soon as the blade enters the material, the lower guard must be released.** For all other sawing, the lower blade guard should operate automatically.
- **Always ensure that the lower blade guard is covering the blade before placing the saw down on a bench or the floor.** An unprotected, coasting blade will cause the saw to walk backwards, cutting whatever is in its path. Be aware of the time it takes for the blade to stop after the switch is released.

SAFETY RULES FOR POWER UNIT

⚠ **WARNING:** Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.

Before using the power unit, read all instructions and cautionary markings in this manual, on the power unit, and the product using battery to prevent misuse of the products and possible injury or damage.

⚠ **CAUTION:** To reduce the risk of electric shock or damage to the power unit and tool, charge only this Ni-Cd rechargeable tool. Other types of batteries may burst, causing personal injury or damage.

- **Do not use the power unit outdoors or expose it to wet or damp conditions.** Water entering the power unit will increase the risk of electric shock.
- **Use of an attachment not recommended or sold by the manufacturer may result in a risk of fire, electric shock or injury.** Following this rule will reduce the risk of electric shock, fire or serious personal injury.
- **Do not abuse the cord or power unit.** Never use the cord to carry the power unit. Do not pull the cord rather than the plug to disconnect the plug from the receptacle. Damage to the cord or power unit could occur and create an electric shock hazard. Replace damaged cords immediately.
- **Make sure that the cord is located so that it will not be stepped on, tripped over, come in contact with sharp edges or moving parts or otherwise be subjected to damage or stress.** This will reduce the risk of accidental falls, which could cause injury and damage to the cord, and could result in electric shock.
- **Keep the cord and power unit 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 an extension cord must be used, make sure that:**
  1. Pins on the plug of the extension cord are the same number, size and shape as those on the plug on the power unit.
  2. The extension cord is properly wired and in good electrical condition;
  3. The 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

     NOTICE: AWG = American Wire Gauge
- **Do not operate the power unit with a damaged cord or plug,** which could cause shorting and electric shock. If damaged, have the cord and plug repaired or replaced by a qualified service technician.
- **Do not operate the power unit if it has received a sharp blow, been dropped or otherwise damaged in any way.** Take it to a qualified service technician for an electrical check to determine if the power unit is in good working order.
- **Do not disassemble the power unit.** Replace if damaged or malfunctioning .
- **Disconnect the power unit from the electrical outlet when it is not in use.** This will help prevent damage to the power unit during a power surge.

- **Risk of electric shock.** Do not touch the uninsulated portion of the output connector or the uninsulated battery terminal.

IMPORTANT SAFETY INSTRUCTIONS

- **Save these instructions.**
- **Before using the power unit,** read all instructions and cautionary markings on the battery, power unit, and product using battery.

⚠ **CAUTION:** To reduce the risk of injury, charge only this tool. Other types of batteries may burst, causing personal injury or damage.

⚠ **WARNING:** When using electric appliances, basic precautions should always be followed, including the following.

a) To reduce the risk of injury, close supervision is necessary when an appliance is used near children.

b) Only use attachments recommended for this product.

c) Do not use outdoors.

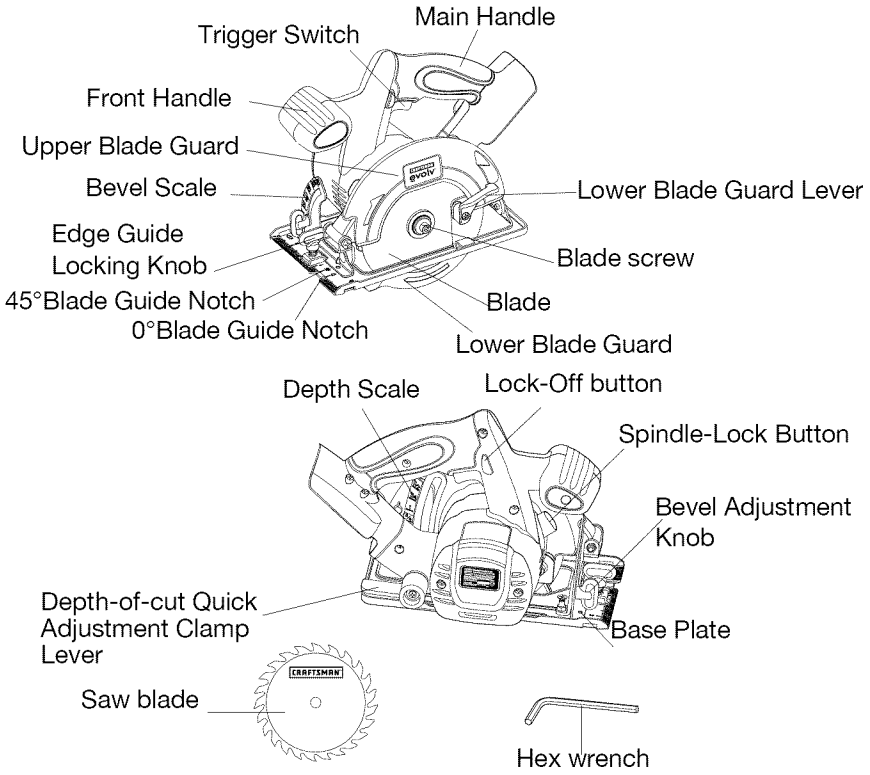
d) To reduce the risk of electrical shock, do not put the Circular Saw and Battery Pack in water or other liquid. Do not place or store the appliance where it can fall or be pulled into a tub or sink.

⚠ **WARNING:** Contains nickel-cadmium battery. Battery must be recycled or disposed of properly.

⚠ **WARNING:** Do not dispose of this product in fire, batteries in this product may explode or leak.

DESCRIPTION

KNOW YOUR CIRCULAR SAW (Fig. 1)



PRODUCT SPECIFICATIONS	
Motor	18.0 Volt DC
No load speed	4500 RPM
Blade diameter	5-1/2 inches
Blade arbor	3/8 inch (10 mm)
Cutting depth at 90°	1-1/2 inches (38 mm)
Cutting depth at 45°	1-1/16 inches (27 mm)
Bevel angle	Adjustable 0°-50°
Charging time	5 -7 hours
Saw weight (without battery)	4.83 lbs.

Battery type	Ni-Cd
Battery voltage	18.0 Volt DC
Power unit	Model No.: HYCH0092400250U
	Input: 120V AC 60Hz
	Output: 24V DC 250mA

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

PLASTIC UPPER AND LOWER BLADE GUARD WITH ANTI-SNAG FEATURE

Lightweight blade guards provide protection from the blade. The self-retracting lower blade guard features an anti-snag design for more efficient cutting.

ELECTRIC BRAKE

The saw has an electric brake to quickly stop the blade rotation.

0° TO 50° BEVEL ADJUSTMENT

The bevel adjustment knob allows you to set the circular saw for bevel cuts from 0° to 50°.

INTEGRATED RIP AND CROSSCUT RULERS

The base has integrated rip and crosscut rulers for quick reference when making repetitive cuts.

ERGONOMIC DESIGN

The design of the saw allows proper two-handed control when cutting. It has been designed to be comfortable and easy to grasp.

SPINDLE-LOCK BUTTON

The spindle-lock button allows you to secure the blade when turning the blade screw.

LOCK-OFF BUTTON

The lock-off button reduces the possibility of accidental starting. The button can be used on either the left or right of the trigger switch.

DEPTH ADJUSTMENT LEVER

The depth adjustment lever adjusts the cutting capacity from 0 to 1-1/2 inches at 90° and 0 to 1-1/16 inches at 45°.

ASSEMBLY

⚠ **WARNING:** If any parts are broken or missing, do not attach battery pack to the saw or operate the circular saw until the broken or missing parts are replaced. Failure to do so could result in serious injury.

⚠ **WARNING:** Do not attempt to modify this circular saw or create accessories not recommended for use with this circular saw. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious injury.

⚠ **WARNING:** To prevent accidental starting that could cause serious personal injury, always remove the battery pack from the saw when assembling parts.

UNPACKING

When unpacking the box, do not discard any packing materials until all of the contents are accounted for:

1. Carefully lift the circular saw (with blade installed) out of carton and place it on a stable, flat surface.
2. Open the carton to locate the following:
   - Hex wrench
   - Manual
3. Inspect the items carefully to make sure that no breakage or damage has occurred during shipping. If any of the items is missing or damaged, return the tool to the store where purchased for replacement.

HOW TO CHARGE THE BATTERY PACK (Fig. 2)

Detach the battery pack from the circular saw.

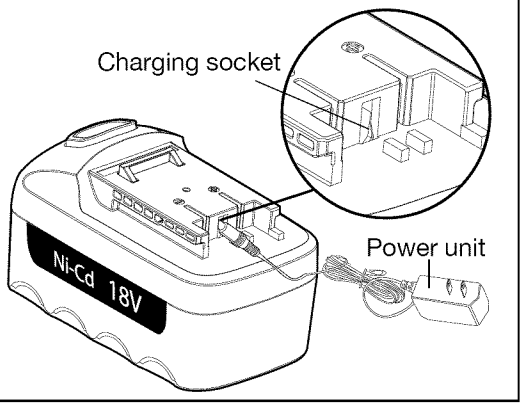
Insert the power unit jack into the charging socket, making sure that it is properly connected.

Power unit can be used with normal house voltage of 120 volts, 60 Hz, AC only.

Connect the power unit plug to an electrical outlet. The indicator light on the battery pack shines red when the power unit is plugged into a power source.

Charge the battery for at least 7 hours before the first use.

Fig. 2



For best results, do not recharge the battery for less than 5 hours or more than 7 hours after each use.

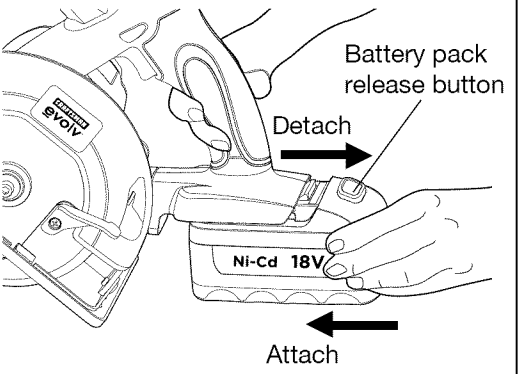
Do not place the power unit in an area of extreme heat or cold. It works best at normal room temperature.

The base of the battery or power unit may become warm during charging. This is normal.

TO ATTACH BATTERY PACK (Fig. 3)

1. Make sure that the circular saw is turned off.
2. Align the raised platform on the battery pack with the grooves on the bottom of the saw main handle, and then slide the pack into the handle. See Fig. 3.

Fig. 3



NOTICE: When inserting the battery pack into the tool, make sure that the raised platform on the pack aligns with the grooves on the bottom of the tool main handle, and that the latches snap properly into place. Improper assembly of the battery pack can cause damage to internal components.

TO DETACH BATTERY PACK (Fig. 3)

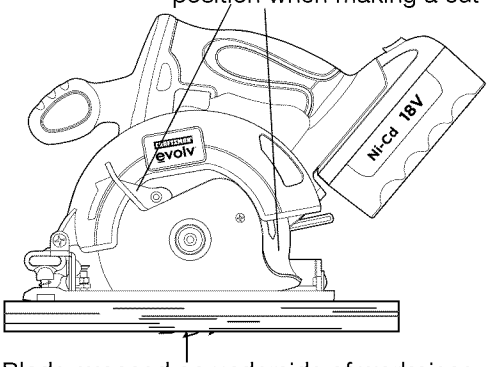
1. Make sure that the circular saw is turned off.
2. Depress the battery release buttons located on the front of the battery pack to release the battery pack.
3. Pull forward on the battery pack to remove it from the tool.

⚠ **WARNING:** Battery tools are always in operating condition. Therefore, the circular saw should always be turned off when not in use or when carrying the tool at your side.

BLADE GUARD SYSTEM (Fig. 4)

The lower blade guard attached to your circular saw is there for your protection and safety. It should never be altered for any reason. If it becomes damaged or begins to return slowly or sluggishly, do not operate the saw until the lower blade guard has been repaired or replaced. Always leave the lower blade guard in its correct operating position when using the saw.

Fig. 4



⚠ **DANGER:** When sawing through a workpiece, the lower blade guard does not cover the blade on the underside of the workpiece. Since the blade is exposed on the underside of the workpiece, keep hands and fingers away from the cutting area. Any part of your body coming in contact with a moving blade will result in serious injury.

⚠ **WARNING:** Never use the saw when the guard is not operating properly. The guard should be checked for correct operation before each use. If you drop your saw, check the lower blade guard and bumper for damage at all depth settings before using.

⚠ **WARNING** When using the saw, always stay alert and exercise control. Do not remove the saw from the workpiece while the blade is moving.

SAW BLADES

Even the best of saw blades will not cut efficiently unless it is kept clean, sharp and properly set.

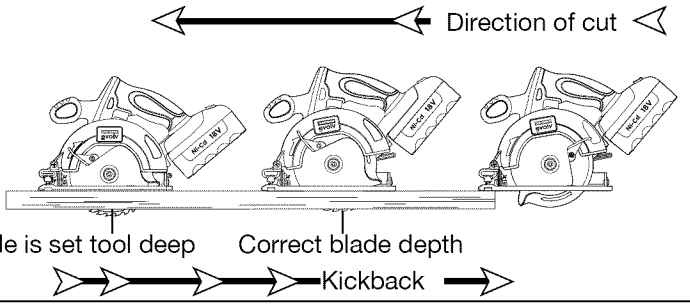
Using a dull blade places a heavy load on the saw and increases the danger of kickback. Keep extra blades on hand, so sharp blades are always available.

Gum and wood pitch hardened on the blade slows the saw down. Use gum and pitch remover, hot water or kerosene to remove them. DO NOT USE GASOLINE.

⚠ **WARNING:** A 5-1/2 inch blade is the maximum blade capacity of your saw. A blade larger than 5-1/2 inches will come in contact with the blade guards. Never use a blade that is so thick that it prevents the outer blade washer from engaging with the flat side of the spindle. Blades that are too large or too thick can result in an accident causing serious injury.

KICKBACK (Fig. 5)

Fig. 5



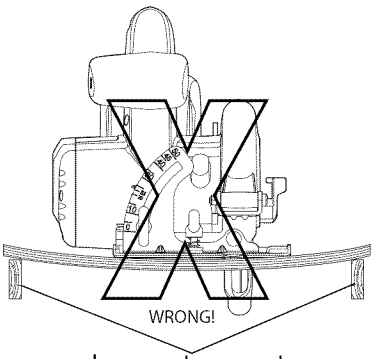
Kickback occurs when the blade stalls rapidly and the saw is driven back towards you. Blade stalling is caused by any action which pinches the blade in the wood.

Loss of control can lead to serious injury.

To guard against kickback, avoid unsafe practices such as the following:

- Setting blade depth incorrectly.
- Sawing into knots or nails in the workpiece.
- Twisting the blade while making a cut.
- Making a cut with a dull, gummed up or improperly set blade.
- Supporting the workpiece incorrectly (Fig. 6).
- Forcing a cut.
- Cutting warped or wet lumber.
- Operating the tool incorrectly or misusing the tool.
- Attempting to cut with blade at less than full speed.

Fig. 6



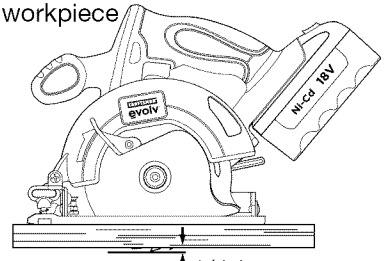
⚠ **WARNING:** If the blade comes in contact with the workpiece before it reaches full speed, it could cause the saw to "kickback" towards you, which could result in serious injury.

To lessen the chance of kickback:

1. Keep the blade at the correct depth setting. The depth setting should not exceed 1/4 inch below the material being cut (Fig. 7).
2. Inspect the workpiece for knots or nails before cutting. Never saw into a knot or nail.
4. Make straight cuts. Always use a straight edge guide (sold separately) when rip cutting. This helps prevent twisting of the blade.
5. Use clean, sharp and properly set blades. Never make cuts with dull blades.
6. Support the workpiece properly before beginning a cut (Fig. 8).
7. Use steady, even pressure when making a cut. Never force a cut.
8. Do not cut warped or wet lumber.
9. Hold the saw firmly with both hands and keep your body in a balanced position so as to resist the forces if kickback should occur.

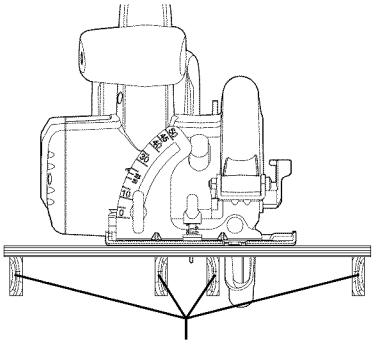
Fig. 7

Correct blade depth setting is 1/4-in. maximum or less on underside of workpiece



1/4-in. Maximum

Fig. 8



Correct support

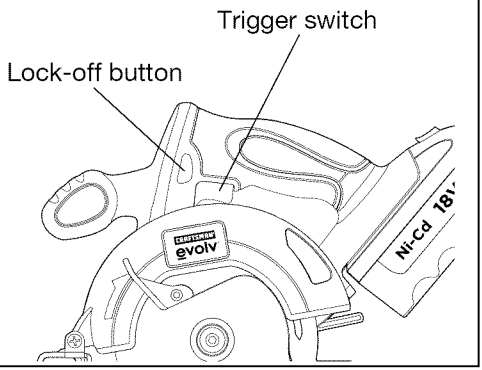
⚠ **WARNING:** To avoid kickback, release the trigger switch immediately if blade binds or saw stalls. Kickback could cause you to lose control of the saw. Loss of control can lead to serious injury.

LOCK-OFF BUTTON (Fig. 9)

The lock-off button reduces the possibility of accidental starting. The lock-off button is located on the handle above the trigger switch. The lock-off button must be depressed before you squeeze the trigger switch to start the saw.

NOTICE: The lock-off button can be operated from either the left or right side.

Fig. 9



STARTING/STOPPING THE SAW (Fig. 9)

To start the saw:

1. Depress the lock-off button.
2. Depress the trigger switch. Always let the blade reach full speed, and then guide the saw into the workpiece.

To stop the saw:

1. Release the trigger switch.

After you release the trigger switch, allow the blade to come to a complete stop. **Do not remove the saw from the workpiece while the blade is moving.**

ELECTRIC BRAKE

The saw has an electric brake to quickly stop the blade rotation. The electric brake engages when the trigger switch is released. When the brake is functioning properly, sparks may be visible through the vent slots in the motor housing. This is normal and is the action of the brake.

⚠ **WARNING:** If the electric brake repeatedly fails to quickly stop the blade rotation, the saw should be repaired by a qualified technician.

⚠ **WARNING:** Always remove the battery pack from the tool when assembling parts, changing the blade and making adjustments. Failure to obey this warning could cause serious personal injury.

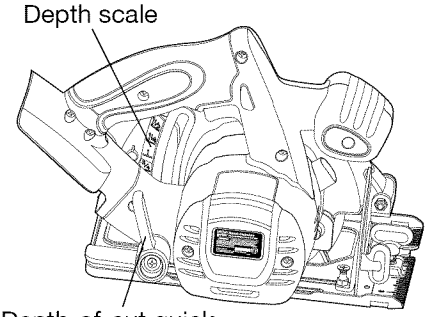
DEPTH-OF-CUT ADJUSTMENTS

Always use the correct blade-depth setting. The correct blade-depth setting for all cuts should not be more than 1/4 inch below the material being cut. Greater blade depth will increase the chance of kickback and cause the cut to be rough. Your saw is equipped with a depth-of-cut scale that enables you to accurately set the depth-of-cut.

TO ADJUST BLADE DEPTH (Fig. 10)

1. Remove the battery pack from the saw.
2. Loosen the depth-of-cut quick adjustment clamp lever.
3. Hold the base flat against the workpiece and raise or lower the saw until the indicator aligns with the desired depth on the scale.
4. Tighten the depth-of-cut quick adjustment clamp lever securely.

Fig. 10

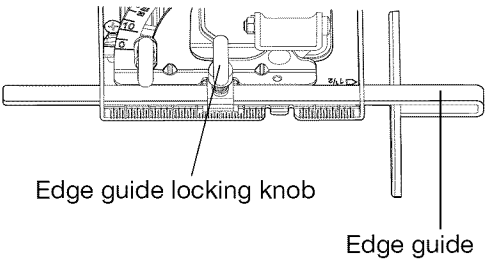


USING EDGE GUIDE (sold separately) (Fig. 11)

Always use a guide when making long or wide rip cuts with your saw. You can use either a straight edge or use an edge guide (sold separately).

NOTICE: The edge guide can be used on the left or right side of the blade (Fig. 11).

Fig. 11



⚠ **WARNING:** Always remove the battery pack from the saw when assembling parts, changing blades and making adjustments. Failure to obey this warning could cause serious personal injury.

1. Remove the battery pack from the saw.
2. Position the edge guide (sold separately) so that the arm with the ruler side is facing up. Slide the arm of the edge guide through the mounting slots at the front of the saw base.
3. Adjust the edge guide to the desired width of cut.
4. Tighten the edge guide locking knob.
5. When using an edge guide, position the face of the edge guide firmly against the edge of the workpiece. This will help make a true cut without binding the blade. The edge of the workpiece must be straight for the cut to be straight. Use caution to prevent the blade from binding in the cut.

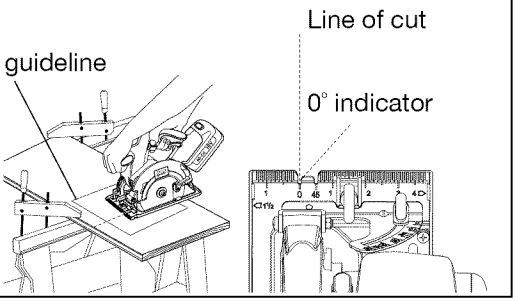
⚠ **WARNING:** Do not bind the blade in the cut. It could cause the saw to "kickback" towards you, which could result in serious injury.

OPERATING THE SAW (Fig.12)

It is important to understand the correct method for operating the saw. Refer to the instructions in this section to learn the correct and incorrect ways for handling the saw.

⚠ WARNING: To make sawing easier and safer, always maintain proper control of the saw. Loss of control could cause an accident resulting in serious injury.

Fig. 12



⚠ WARNING: Always securely clamp and support the workpiece. Always maintain proper control of the saw. Failure to clamp and support the workpiece and loss of control of the saw could result in serious injury.

INTEGRATED CROSSCUT RULERS

Marked along the base across the front of the saw is a ruler for measuring repetitive cuts. It is marked 1-1/2 inches to the left of 0°and 4 inches to the right of 0°in 1/16 inch increments.

NOTICE: The distance from the line of cut to the guideline is the amount you should offset the guide (Fig. 12).

CUTTING WITH THE CIRCULAR SAW (Fig. 12)

Maintain proper control of the saw. Loss of control could cause an accident resulting in serious injury.

⚠ DANGER: When lifting the saw from the workpiece, the blade is exposed on the underside of the saw until the lower blade guard closes. Make sure that the lower blade guard is closed before setting the saw down.

To make the safest and best possible cut, follow these helpful hints:

Fig. 13

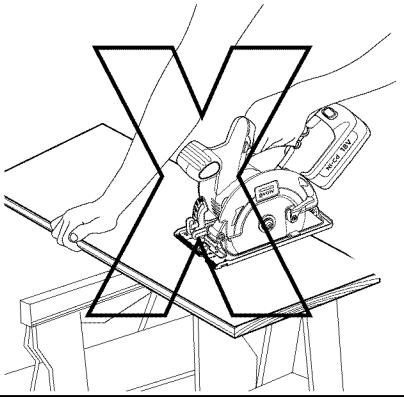
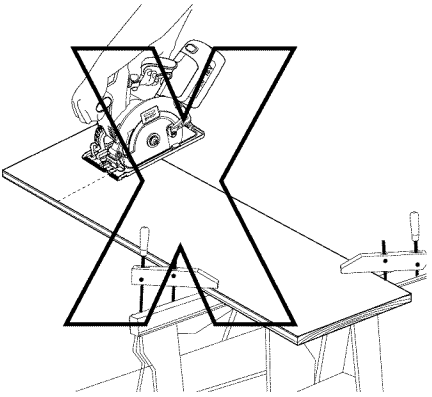


Fig. 14



1. Hold the saw firmly with both hands.
2. Avoid placing your hand on the workpiece while making a cut (Fig. 13).
3. Support the workpiece so that the cut is always to the operator's side and not directly in line with the operator's body.
4. Support the workpiece near the cut.
5. Clamp the workpiece securely so that the workpiece will not move during the cut (Fig. 12).
6. Always place the weight of the saw on the portion of the workpiece that is supported, as shown in Fig. 12, and not on the "cut-off" piece, as shown in Figure 14.
7. Place the workpiece with the "good" side down.
8. Draw a guideline along the desired cutting line before beginning the cut.

⚠ WARNING: If the blade comes in contact with the workpiece before it reaches full speed, it could cause the saw to "kickback" towards you, which could result in serious injury.

NOTICE: Do not bind the blade in the cut. It could cause the saw to "kickback" towards you, which could result in serious injury.

Always use a guide when making long or wide rip cuts with your saw. You can use either a straight edge or use the edge guide (sold separately).

Rip cutting using a straight edge:

1. Secure the workpiece.
2. Clamp a straight edge to the workpiece using C-clamps (not included).

NOTICE: Position the C-clamps so that they will not interfere with the saw housing during the cut.

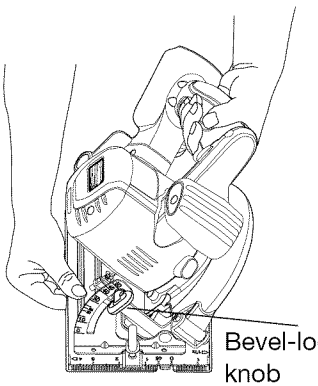
3. Press the lock-off button and depress the trigger switch to start the saw.
4. Allow the blade to reach full speed, then guide the saw into the workpiece and make the cut.
5. Saw along the straight edge to achieve a straight rip cut.
6. Release the trigger switch and allow the blade to come to a complete stop.
7. Lift the saw from the workpiece.

NOTICE: Do not bind the blade in the cut.

TO ADJUST BEVEL ANGLE (Fig. 15)

1. Remove the battery pack from the saw.
2. Loosen the bevel-locking knob, located on the 0°- 50° bevel scale on the base plate.
3. Tilt the body of the saw until the required angle is reached (refer to the 0°- 50° bevel scale).
4. Tighten the bevel-locking knob to secure the saw and angle.

Fig. 15

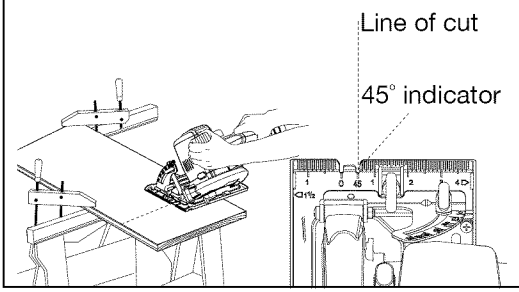


MAKING A BEVEL CUT (Fig. 16)

⚠ **WARNING:** Always securely clamp and support the workpiece. Always maintain proper control of the saw. Failure to clamp and support the workpiece and loss of control of the saw could result in serious injury.

1. Align the cutting line with the blade-guide notch on the base when making 45° bevel cuts.
2. Make a trial cut in scrap material along a guideline to determine the amount to offset the cutting guideline on the cutting material.

Fig. 16



3. Adjust the angle of cut to any desired setting between 0° and 50°.

⚠ **WARNING:** Attempting a bevel cut without having the bevel-locking knob securely locked in place can result in serious injury.

4. Hold the saw firmly with both hands, as shown.
5. Rest the front edge of the base on the workpiece without touching the blade to the workpiece.
6. Start the saw and allow the blade to reach full speed.
7. Guide the saw into the workpiece, and make the cut.
8. Release the trigger switch and allow the blade to come to a complete stop.
9. Lift the saw from the workpiece.

⚠ **WARNING:** If the blade comes in contact with the workpiece before it reaches full speed, it could cause the saw to kick back towards you, possibly resulting in serious injury.

0° BEVEL STOP

The saw has a 0° bevel stop that has been adjusted before shipment to assure the blade is vertical to the base at 0° bevel cutting.

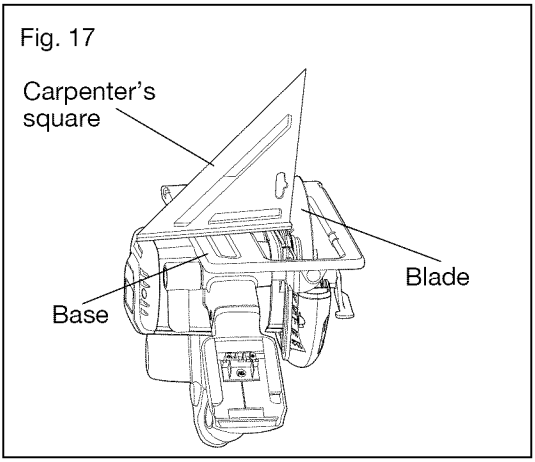
TO CHECK 0° BEVEL STOP (Fig. 17)

1. Remove the battery pack from the saw.

⚠ **WARNING:** Always remove the battery pack from the saw when assembling parts, changing blades or making adjustments. Failure to obey this warning could cause serious personal injury.

2. Using a carpenter's square, check that the saw blade is square (at a 90° angle) to the base of the saw.

Fig. 17

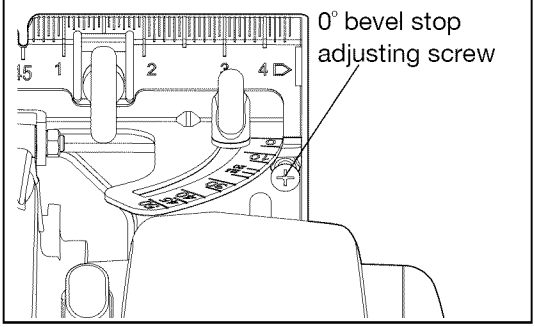


TO ADJUST 0° BEVEL STOP (Fig. 18)

1. Remove the battery pack from the saw.
2. Loosen the bevel adjustment knob.
3. Place the saw in an upside down position on a workbench.
4. Using a Philips-screwdriver, turn the 0° bevel stop adjusting screw until the base is square with the saw blade.

⚠ WARNING: Attempting to make cuts without the bevel adjustment knob securely tightened can result in serious injury.

Fig. 18

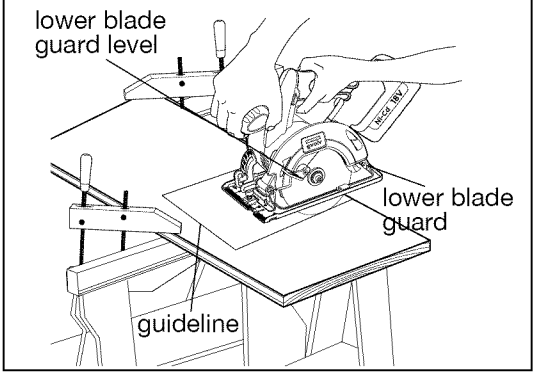


MAKING A POCKET CUT (Fig. 19)

⚠ WARNING: Always adjust the bevel setting to zero before making a pocket cut. Attempting a pocket cut at any other setting can result in a loss of control of the saw, which can result in serious injury.

1. Adjust the bevel setting to 0° and tighten the bevel locking knob.
2. Set the blade to the correct blade-depth setting and tighten the depth-locking lever.
3. Swing the lower blade guard up using the blade guard lever.

Fig. 19



4. Hold the lower blade guard in place with the blade guard lever.
5. Rest the front of the base flat against the workpiece, with the rear of the handle raised so that the blade does not touch the workpiece.
6. Press the lock-off button and depress the trigger switch to start the saw.
7. Allow the blade to reach full speed, then guide the saw into the workpiece and make the cut.
8. Release the trigger switch and allow the blade to come to a complete stop.
9. Lift the saw from the workpiece.

⚠ **WARNING:** Always cut in a forward direction when making a pocket cut. Cutting in reverse direction could cause the saw to climb up on the workpiece and kick back toward you, possibly causing serious injury.

⚠ **WARNING:** As the blade starts cutting the material, release the blade guard lever immediately.

When the foot of the guard rests flat on the surface being cut, proceed cutting in a forward direction to the end of the cut.

⚠ **WARNING:** Never tie the lower blade guard in the raised position. Leaving the blade exposed could result in serious injury.

MAINTENANCE

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 allow brake fluids, gasoline, petroleum-based products, penetrating oils, etc. to come in contact with plastic parts. Chemicals can damage, weaken or destroy plastic, which may result in serious personal injury.

⚠ **WARNING:** When servicing, use only identical replacement parts. Use of any other parts may create a hazard or cause product damage. To ensure safety and reliability, all repairs should be performed by a qualified service technician.

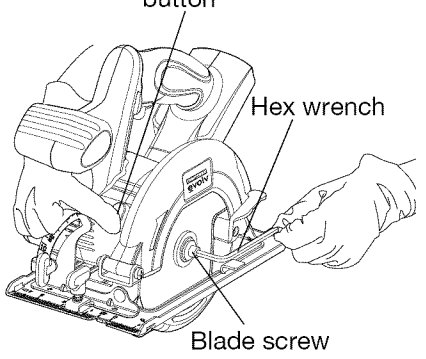
CHANGING THE BLADE

⚠ **WARNING:** A 5-1/2 inch blade is the maximum blade capacity of the saw. Use only 5-1/2 inch blade when replacing a worn or damaged blade. Never use a blade that is too thick to allow the outer blade washer to engage with the flats on the spindle. Thicker blades will prevent the blade screw from securing the blade on the spindle, resulting in serious personal injury.

⚠ **WARNING:** Be sure to wear protective work gloves while handling a saw blade. The blade can injure unprotected hands.

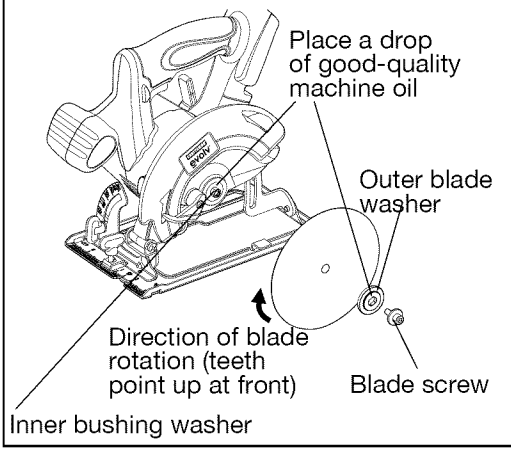
1. Remove the battery pack from the saw.
2. Loosen the depth-of-cut quick adjustment clamp lever. Raise the saw to the maximum height and tighten the depth adjustment clamp lever. This practice allows easier access to the blade mounting.
3. Depress the spindle-lock button, place the hex wrench in the blade screw and move it back and forth until you feel the spindle lock button depress further. This action locks the blade in position so that the blade screw can be removed (Fig. 20).
4. With the spindle lock button firmly depressed, turn the blade screw clockwise to remove it.

Fig. 20



5. Raise the lower blade guard with the blade guard lever and hold it in the raised position.
6. Remove the blade screw, the outer blade washer and the blade (Fig. 21).
7. The remaining washer is the inner bushing washer that fits around the spindle shaft and does not need to be removed.
8. Put a drop of good-quality machine oil onto the inner bushing washer and outer blade washer where they will contact the blade.

Fig. 21



9. Place a new saw blade inside the lower blade guard, onto the spindle shaft and against the inner bushing washer.

NOTICE: The teeth of the blade should point upward at the front of the saw.

10. Replace outer blade washer.
11. Depress and hold spindle lock button as you replace the blade screw and hand tighten the screw in a counterclockwise direction. Use the hex wrench to tighten the blade screw securely.
12. Please save the hex wrench well.

NOTICE: Never use a blade that is too thick to allow the outer blade washer to engage with the flat side of the spindle.

BATTERIES

The battery pack is equipped with Ni-Cd rechargeable batteries. The duration of use from each charge will depend on the type of work performed.

The batteries in this tool have been designed to provide maximum trouble-free life. Like all batteries, they will eventually wear out. Do not disassemble the battery pack or attempt to replace the batteries in the pack. Handling of the batteries, especially when wearing rings and jewelry could result in a serious burn.

To obtain the longest possible battery life, read and understand the operator's manual.

- It is good practice to unplug the adapter and remove the Ni-Cd battery pack when not in use.

For Ni-Cd battery pack storage longer than 30 days:

- Store the Ni-Cd battery pack where the temperature is below 80°F (26°C) and free of moisture.
- Store Ni-Cd battery packs in a 30%-50% charged condition.
- Every six months of storage, fully charge the Ni-Cd battery pack.
- Exterior may be cleaned with a cloth or soft non-metallic brush.

BATTERY PACK REMOVAL AND PREPARATION FOR RECYCLING

To preserve natural resources, please recycle or dispose of batteries properly. This product contains Ni-Cd batteries. Local, state, or federal laws may prohibit disposal of Ni-Cd batteries in ordinary trash. Consult your local waste authority for information regarding available recycling and/or disposal options.

⚠ **WARNING:** Upon removal of the battery pack for disposal or recycling, cover the battery pack terminals with heavy-duty adhesive tape. Do not attempt to destroy or disassemble the battery pack or remove any of its components. Ni-Cd batteries must be recycled or disposed of properly. Also, never touch the terminals with metal objects and/or body parts as a short circuit may result. Keep away from children. Failure to comply with these warnings could result in fire and/or serious injury.

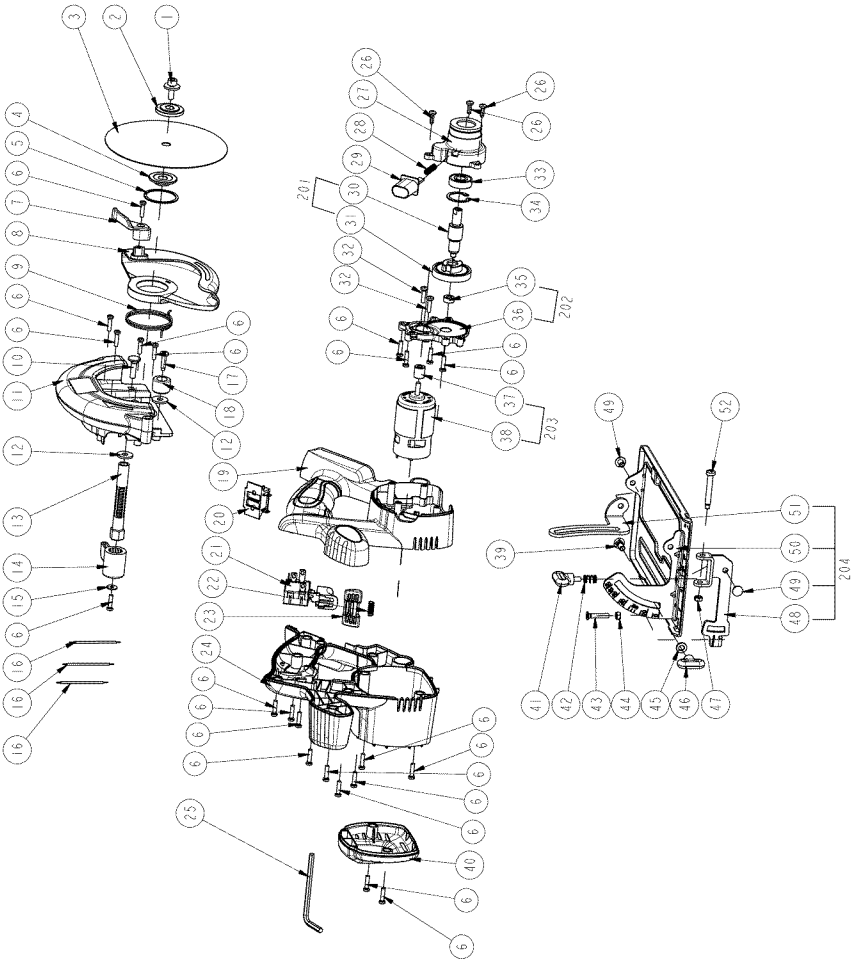
TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
The circular saw does not work.	Battery pack is depleted.	Charge the battery pack.
	The battery pack is not installed.	Install a charged battery pack.
The blade does not follow a straight line.	Teeth are dull. This is caused by hitting a hard object such as a nail, dulling teeth on one side. The blade tends to cut to the side with the sharpest teeth.	Replace blade.
	Edge guide or straight edge is not being used.	Use an edge guide or straight edge.
The blade binds or smokes from friction.	Blade is dull.	Replace blade.
	Blade is on backwards.	Install the blade correctly.
	Blade is bent.	Replace blade.
	Workpiece is not properly supported.	Clamp the workpiece correctly and tightly.
	Incorrect blade is being used.	Use the correct blade.

PARTS LIST

18.0 VOLT NI-CD CORDLESS CIRCULAR SAW MODEL NO. 320. 31024

The model number will be found on the nameplate attached to the motor housing. Always mention the Model Number when ordering parts for this tool.



PARTS LIST

NO.	PART NO.	PART NAME	QTY
1	3550688000	Flange Bolt	1
2	3550688000	Outer Flange	1
3	3810403000	Blade	1
4	3520316000	Inner Flange	1
5	5660135000	Circlips For Shaft	1
6	5610103000	Tapping Screw	21
7	3126208000	Lever	1
8	3126207000	Lower Guard	1
9	3660255000	Spring	1
10	5640155000	Bolt	1
11	3126154000	Upper Guard	1
12	5650053000	Washer	2
13	3402167000	Lock Rod	1
14	3122852000	Depth Adjusting Lever	1
15	5650004000	Plain Washer	1
16	4860003000	Inner Wire	3
17	5610055000	Tapping Screw	1
18	3124384000	Stopper	1
19	3321279000	Left Handle Assembly	1
20	3402521000	Contact Receptacle Assembly	1
21	4870429000	Switch	1
22	3660028000	Spring	1
23	3126157000	Lock Off Trigger	1
24	3321280000	Right Handle Assembly	1
25	5680028000	Hexagon Wrench	1
26	5610030000	Thread Forming Screw	3
27	3421240000	Gear Case	1
28	3660244000	Spring	1
29	3402337000	Spindle Lock	1

PARTS LIST

201	2822711000	Gear Set	1
30	3550928000	Gear Shaft	1
31	3550926000	Gear	1
32	5620483000	Screw	2
33	5700048000	Ball Bearing	1
34	5660020000	Circlips For Hole	1
202	2823178000	Gear Case Cover Assembly	1
35	5700163000	Oil Impreging Bearing	1
36	3421280000	Gear Case Cover	1
203	2822713000	Motor Gear assembly	1
37	3550927000	Pinion	1
38	2730129000	DC Motor	1
39	5640019000	Square Neck Bolt	1
40	3126155000	Rear Cover	1
41	5640047000	Wing Bolt	1
42	3660071000	Spring	1
43	5620076000	Screw	1
44	5630003000	Hexagon Nut	1
45	5650016000	Plain Washer	1
46	5630067000	Wing Nut	1
47	5630007000	Prevailing Torque Hexagon Nut	1
204	2822952000	Base Plate Assembly	1
48	3704819000	Support	1
49	5680009001	Rivet	2
50	3703971000	Base Plate	1
51	3703970000	Depth Bracket	1
52	5640198000	Bolt	1

NOTE

NOTE

NOTE