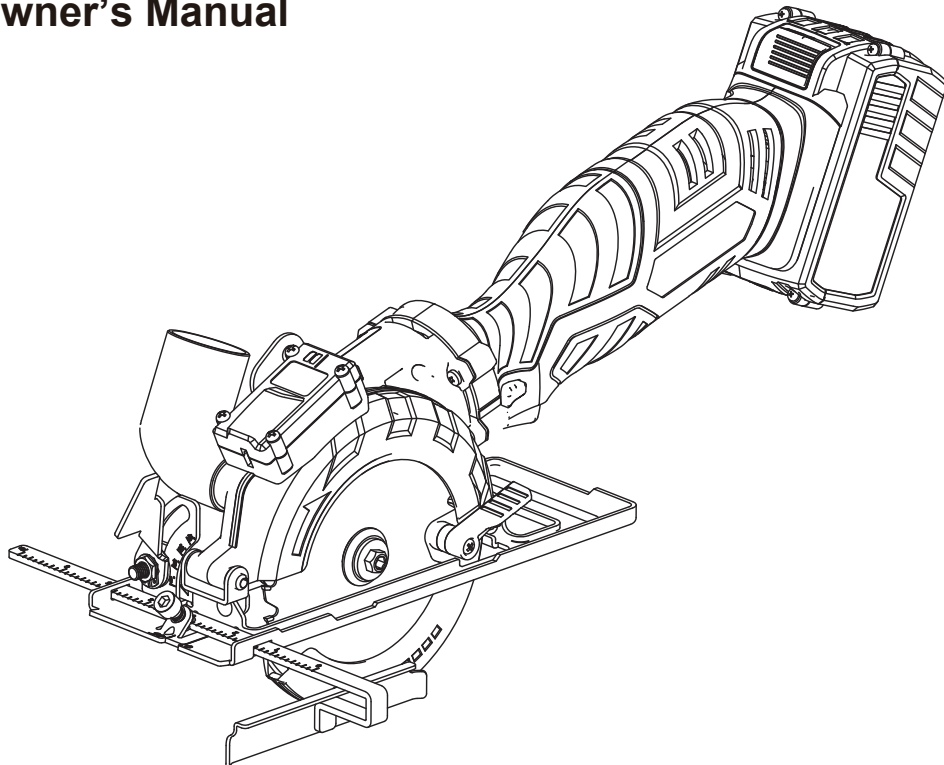


# COMPACT CIRCULAR SAW

SP-01

Owner's Manual



## PRODUCT SPECIFICATIONS

|                     |                     |
|---------------------|---------------------|
| Rating:             | 20 V DC             |
| No-load Speed:      | 3,500 RPM (no load) |
| Blade:              | 4-1/2" (115mm)      |
| Arbor:              | 3/8" (9.5 mm)       |
| Depth of cut @ 90°: | 1-11/16" (43 mm)    |
| Depth of cut @ 45°: | 1-1/8"(29mm)        |

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# GENERAL SAFETY WARNINGS

**⚠ WARNING:** Before using this tool or any of its accessories, read this manual and follow all Safety Rules and Operating Instructions. The important precautions, safeguards and instructions appearing in this manual are not meant to cover all possible situations. It must be understood that common sense and caution are factors which cannot be built into the product.

This instruction manual includes the following:

- ☒ General Safety Rules
- ☒ Specific Safety Rules and Symbols
- ☒ Functional Description
- ☒ Assembly
- ☒ Operation
- ☒ Maintenance
- ☒ Accessories

## EYE, EAR & LUNG PROTECTION



**ALWAYS WEAR EYE PROTECTION THAT CONFORMS WITH CSA REQUIREMENTS or ANSI SAFETY STANDARD Z87.1**

FLYING DEBRIS can cause permanent eye damage. Prescription eyeglasses ARE NOT a replacement for proper eye protection.



**WARNING:** Non-compliant eyewear can cause serious injury if broken during the operation of a power tool.



**WARNING:** Use hearing protection, particularly during extended periods of operation of the tool, or if the operation is noisy.

## GENERAL SAFETY WARNINGS



**WEAR A DUST MASK THAT IS DESIGNED TO BE USED WHEN OPERATING A POWER TOOL IN A DUSTY ENVIRONMENT.**



**WARNING:** Dust that is created by power sanding, sawing, grinding, drilling, and other construction activities may contain chemicals that are known to cause cancer, birth defects, or other genetic abnormalities. These chemicals include:

Lead from lead-based paints

Crystalline silica from bricks, cement, and other masonry products

Arsenic and chromium from chemically treated lumber

The level of risk from exposure to these chemicals varies, according to how often this type of work is performed. In order to reduce exposure to these chemicals, work in a well-ventilated area, and use approved safety equipment, such as a dust mask that is specifically designed to filter out microscopic particles.

## ELECTRICAL SAFETY



**WARNING: To avoid electrical hazards, fire hazards or damage to the tool, use proper circuit protection.**

This tool is wired at the factory for 20V DC operation.



# POWER TOOL SAFETY

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

**Save all warnings and instructions for future reference.**

## Work area safety

**Keep work area clean and well lit.** Cluttered or dark areas invite accidents.

**Do not operate power tools in explosive atmospheres, 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 can cause you to lose control.

## Electrical safety

**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. outdoor use reduces the risk of electric shock.

## Personal safety

**Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are 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 dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

**Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.**

Carrying power tools with your finger on the switch or energizing power tools that have the switch 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 these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

# POWER TOOL SAFETY

## 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 safer 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 pack 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's 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 and 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.

**Use clamps or another practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body leaves it unstable and may lead to loss of control.

## 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.

### 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 battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make connection from one terminal to another. 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, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.

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.

Always push the gear selector and turn the operating mode selector switch through to the stop. Otherwise, the machine can become damaged. Apply the power tool to the screw only when it is switched off. Rotating tool inserts can slip off. An auxiliary tool can be used to remove the screwdriver bit or universal bit holder.

Working in especially dusty environments can lead to failure of the power tool. If the power tool suddenly fails, remove the carbon brushes and check them.

## SPECIFIC SAFETY RULES

**▲ WARNING:** Know your circular saw. Do not plug the tool into the power source until you have read and understand this Instruction Manual. Learn the tool's applications and limitations, as well as the specific potential hazards related to this tool. Following this rule will reduce the risk of electric shock, fire, or serious injury.



Always wear eye protection. Any power tool can throw foreign objects into your eyes and cause permanent eye damage.

ALWAYS wear safety goggles (not glasses) that comply with ANSI safety standard Z87.1. Everyday glasses have only impact resistant lenses. They ARE NOT safety glasses.

**▲ WARNING:** Glasses or goggles not in compliance with ANSI Z87.1 could cause serious injury when they break.

Always keep hands out of the path of the saw blade. Avoid awkward hand positions where a sudden slip could cause your hand to move into the path of the saw blade.

**▲ DANGER:** Keep hands away from cutting area and the blade. Keep your second hand on the tool. If both hands are holding the saw, they cannot be cut by the blade.

**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 teeth should be visible below the workpiece.

**Never hold 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 power tool by 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 power tool "live" and shock the operator.

**When ripping always use the rip fence or straight edge guide.** This improves the accuracy of cut and reduces the chance of the blade binding.

**Always use blades with correct size and shape (diamond versus round) of arbor holes.** Blades that do not match the mounting hardware of the saw will run eccentrically, 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.

**Never use abrasive blades with this circular saw.**

### CAUSES AND OPERATOR PREVENTION OF KICKBACK

Kickback is a sudden reaction to a pinched, bound or misaligned saw blade, causing 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 saw misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below:

# SPECIFIC SAFETY RULES

## *CAUSES AND OPERATOR PREVENTION OF KICKBACK – cont'd*

**Maintain a firm grip on the saw and position your arms to resist kickback forces. Position your body to the left or right 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 precautions are taken.

**When the 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 saw teeth are not engaged into the material.** If the saw blades are binding, it may walk up or kickback from the workpiece as 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 narrow kerf causing excessive friction, blade binding and kickback.

**Do not use dull or damaged blades.**

Unsharpened or improperly set blades produce narrow kerf causing excessive friction, blade binding and kickback.

**Blade depth and bevel adjusting locking levers must be tight and secure before making cut.** If 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.

## ADDITIONAL SPECIFIC SAFETY RULES

**Check the lower guard for proper closing before each use. Do not operate the saw if the lower guard does not move freely and close instantly. Never clamp or tie the lower guard into the open position.** If the saw is accidentally dropped, the lower guard may be damaged. Raise the lower guard with the retracting handle and make sure it moves freely and does not touch the blade or any other part in all depths of cuts.

**Check the operation of the lower guard spring. If the guard and the spring are not operating properly, they must be serviced before use.** The lower guard may operate sluggishly due to damaged parts, gummy deposits, or a build-up of debris.

**The lower guard should be retracted manually only for special cuts such as "plunge cuts" and "compound cuts". Raise lower guard by retracting handle and as soon as the blade enters the material, the lower guard must be released.** For all other sawing, the lower guard should operate automatically.

**Always observe that the lower guard is covering the blade before placing saw down on bench or 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.

**Never operate the saw while it is being carried to another location.** The blade guard may be open and potentially cause serious injury.

If the switch fails to turn the saw ON or OFF properly, stop using it immediately and have the saw switch repaired.

**Always allow the saw to reach full speed before beginning the cut.**

## SPECIFIC SAFETY RULES

### ADDITIONAL SPECIFIC SAFETY RULES – *cont'd*

**Never use the side of the blade for cutting.**

When making horizontal cuts, make sure the weight of the tool is not forcing the side of the blade to do the cutting. This will reduce the risk of kickback.

**Make sure there are no nails or foreign objects in the area of the workpiece to be cut.**

**Never lay workpiece on hard surfaces like concrete, stone, etc.** The protruding blade may cause tool to jump.

**⚠ DANGER: To avoid injury from accidental starting, always remove the plug from the power source before making any adjustments and before installing or removing a saw blade.**




**When replacing the blade, make sure the replacement blade is 4-1/2" in diameter and is rated for at least 3,500 RPM.** Installing an incorrect blade will result in possible injury and poor cutting action.












**After changing a blade or making adjustments, make sure the blade clamp screw is securely tightened.** Loose blades and adjustment devices will be violently thrown.

**Never touch the blade during or immediately after use.** After use the blade is too hot to be safely touched with bare hands.

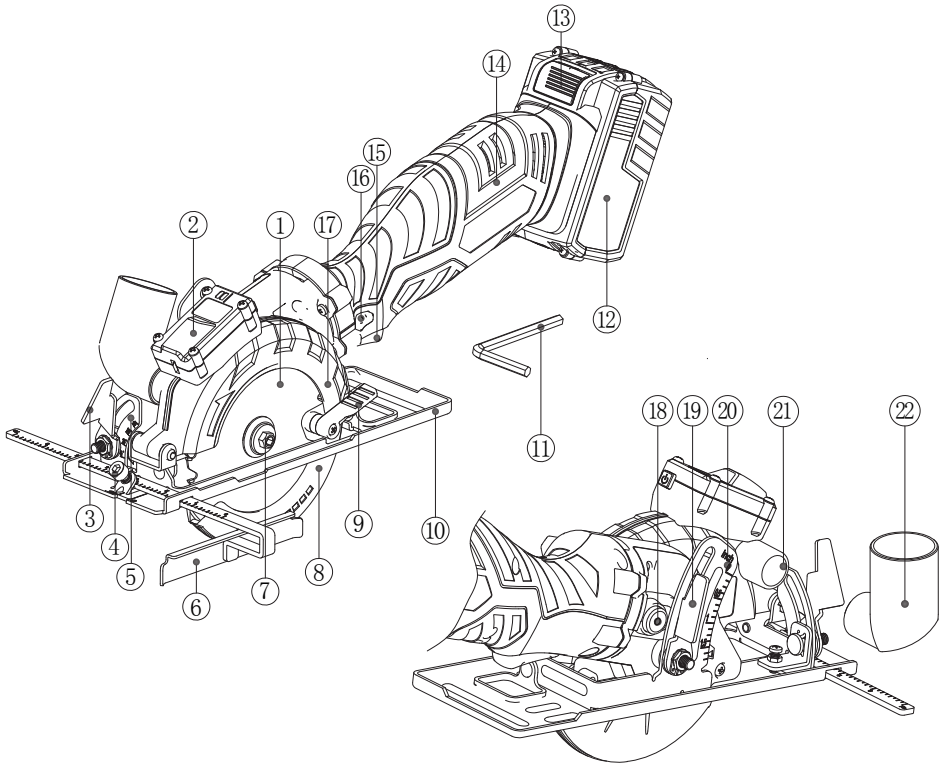
# SYMBOLS

**⚠ WARNING:** Some of the following symbols may appear on the circular saw. Study these symbols and learn their meaning. Proper interpretation of these symbols will allow for more efficient and safer operation of this tool.

|   |  |
|---|--|
| V   | Volts  |
| A   | Amperes                                      |
| Hz  | Hertz  |
| W   | Watts  |
| kW  | Kilowatts                                    |
| $\mu$ F   | Microfarads                                  |
| L   | Liters                                       |
| kg  | Kilograms                                    |
| H   | Hours  |
| N/cm <sup>2</sup>   | Newtons per square centimeter                |
| Pa  | Pascals                                      |
| OPM   | Oscillations per minute                      |
| Min   | Minutes                                      |
| S   | Seconds                                      |
| <br>or a.c. | Alternating current                          |
|           | Three-phase alternating current              |
|           | Three-phase alternating current with neutral |

|   |   |
|---|---|
|    | Direct current  |
| $n_0$   | No load speed   |
|    | Alternating or direct current                             |
|    | Class II construction                                     |
|    | Splash-proof construction                                 |
|    | Watertight construction                                   |
|    | Protective grounding at grounding terminal, Class I tools |
| .../min   | Revolutions or reciprocations per minute                  |
| $\emptyset$   | Diameter  |
| 0   | Off position  |
|    | Arrow   |
|    | Warning symbol  |
|   | Wear your safety glasses                                  |
|  | Wear a dust mask  |
|  | Wear hearing protection                                   |

# KNOW YOUR CIRCULAR SAW



- |                           |                             |
|---------------------------|-----------------------------|
| ① Saw Blade               | ⑫ Battery                   |
| ② Laser                   | ⑬ Battery Unlocking Button. |
| ③ Bevel Clamp Lever       | ⑭ Rear Motor                |
| ④ Rip Guide Locking Screw | ⑮ ON/OFF Switch             |
| ⑤ Bevel Scale Bracket     | ⑯ Lock-Off Button           |
| ⑥ Rip Guide               | ⑰ Upper Blade Guard         |
| ⑦ Blade Bolt & Washer     | ⑱ Spindle Lock Button       |
| ⑧ Lower Blade Guard       | ⑲ Depth Clamp Lever         |
| ⑨ Lower Guard Lever       | ⑳ Depth Guide Bracket       |
| ⑩ Base Plate              | ㉑ Dust Extraction Port      |
| ⑪ Allen Wrench for Blade  | ㉒ Vacuum Adaptor            |

# ASSEMBLY AND OPERATING

## Install of the Battery

Press the button of the battery (13) , and then insert it into the base of the power tool (14) . Push the battery completely into the base until the stripe can no longer be seen and the battery is securely locked.

**NOTE:** Use only original Enertwist lithium-ion batteries with the voltage listed on the nameplate of your power tool. Using other batteries can lead to injuries and pose a fire hazard.

## Removal of the Battery

Press the button of the battery(13), and then pull the battery from the base of the power tool(14).

**WARNING:** Please remove battery from the machine before operating the following installations.

## Removal of the Saw Blade

–Press the lock button (18) and keep it pressed.

**The lock button (18) may be actuated only when the saw spindle is at a standstill.**

**Otherwise, the power tool can be damaged.**

–With the allen wrench (11),unscrew the bolt (7) turning in rotation direction.

–Tilt back the retracting blade guard (8) and hold firmly.

–Remove the clamping flange and the saw blade (1) from the machine.

## Mounting the Saw Blade

–Clean the saw blade (1) and all clamping parts to be assembled.

–Tilt back the retracting blade guard (8) and hold firmly.

–Place the saw blade (1) on to the mounting bolt. The cutting direction of the teeth(direction or arrow on saw blade) and the direction of rotation arrow on the blade guard (8) must correspond.

–Mount the blot & screw (7) in turning in rotation direction.

–Press the spindle lock button (18) and keep it pressed.

–With the allen wrench (11) tighten the blade bolt (7) turning in rotation direction.

## Install the Rip Guide

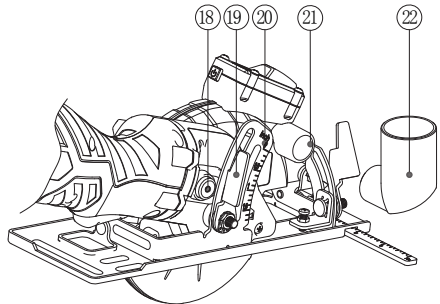
To install the rip guide on the machine, perform the following steps.

- Insert the rip guide (6) through all three slots von the base plate (10) at the front of the saw, starting with slot in the left side edge of the base.
- Slide the guide through the left slot until it extends out the right side of the base plate
- Adjust the rip guide for the desired width of cut and then securely tighten the rip guide locking screw (4).

## Install the Vacuum Adaptor Hose (Fig1)

–Connect the vacuum adaptor (22) to the dust extraction port (21) on the tool.

–Connect the other end of the vacuum adaptor(22) to the end of a vacuum hose.



## Switch On/Off

Before engage the ON/OFF switch (15), check that the saw blade is properly fitted and run smoothly, the blade clamp bolt is well tightened. To start the machine, press the ON/OFF switch (15) and keep it pressed.

To stop the machine, release the ON/OFF switch (15) or when it is locked with the lock-of button (16), briefly press the ON/OFF switch (15) and then release it.



# ASSEMBLY AND OPERATING

## Laser Function

**WARNING:** Do not stare directly at the laser beam, do not deliberately aim the beam at personnel and ensure that it is not directed towards the eye of a person for longer than 0.25s.

When you make the line of the cut on the work piece, the laser can help you get better alignment.

- a. Make sure line of the cut on the work piece.
- b. Adjust the angle of cut as required
- c. Plug in the machine and start the motor
- d. When the blade is at its maximum speed (approximately 2 seconds), place the saw on the work-piece.
- e. Switch on the laser from the laser aperture using the laser switch (2).
- f. Align the beam with the mark on the work-piece and slowly push the saw forward using both hands, keeping the red light beam on the mark. Switch off the laser beam when completed the cut.

## Cutting Methods

### Parallel Cut Adjustment

- a. Loosen the lock knob of rip guide locking screw (4).
- b. Slide the rip guide(6) through the slots in the shoe to the desired width.
- c. Tighten the lock bolt to secure it in the position.
- d. Ensure that the rip guide(6) rests against the wood along its entire length to give a consistent parallel cuts.

### Pocket Cuts

A pocket cut is a cut that must be made inside the area of the work-piece rather than starting from an outside edge and working inward.

Pocket cuts can be very the novice to attempt because of the need to manually retract the lower guard and perform a plunge cut which is potential hazardous.

- a. Hold the lower blade guard by the handle.
- b. Rest the front of the base flat against the

work-piece with the rear handle related so the blade does not touch the work-piece.

- c. Start the saw and let the blade reach full speed.
- d. Guide the saw down into the work-piece and make the cut

**⚠ WARNING :** Always cut in a forward direction when pocket cutting. Cutting in the reverse direction could cause the saw to climb up on the work-piece and back toward you.

### Depth Adjustment

- Unplug your circular saw.
- Loosen the depth clamp lever (19) on the depth guide at the back of saw.
- Hold the base plate (10) against the edge of the work piece and lift the body of the saw until the blade is at the right depth determined by the depth gauge (align the scale line).
- Secure the base plate(10) by tightening the lever.

**ATTENTION:** Always maintain the correct blade depth setting. For all cuts the blade depth should not exceed 1/4" below the material being cut. Excessive blade depth increases the chance of saw KICKBACK.

### Angle Adjustment

- a. Loosen the bevel scale bracket (5) for angle adjustment.
- b. Adjust the base plate (10) to the desired angle between 0° to 45°
- c. Tighten the bevel scale bracket (5) .




### Maintenance

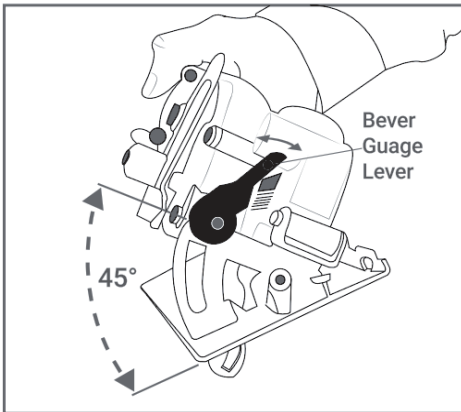
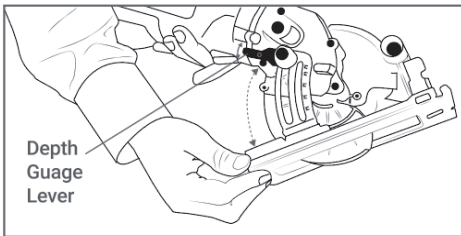
#### Never use aggressive detergents or solvents for cleaning

To prevent accidents, always unplug the saw from the power source before cleaning or performing any maintenance the saw. may be cleaned most effectively

# ASSEMBLY AND OPERATING

## Accessories

| Image   | Description                    | Application                                     |
|---|--------------------------------|---|
|  | 24 Teeth TCT Premium Saw Blade | Cutting wood, plastic and other soft materials  |
|  | 60 Teeth HSS Saw Blade         | Aluminum and other non-ferrous thin sheet metal |
|  | Diamond Saw Blade              | Tile, concrete or other similar materials       |



⚠ using compressed air. Always wear safety goggles when using compressed air. If compressed air is not available, use a brush to remove dust and chips from the saw.

Motor ventilation vents and switch levers must be kept clean and free of foreign matter. Do not attempt to clean by inserting pointed objects through openings.

Never use any caustic agents to clean plastics. Such as: gasoline, carbon tetrachloride, chlorinated cleaning solvents, ammonia and household cleaners containing ammonia. Do not use any of these to clean the saw.

Have an authorized service center examine and/or replace the worn carbon brushes in the event of excessive parking.

Clean the housing only with a damp cloth. Do not use any solvents! Dry thoroughly afterwards. If the supply cord of this power tool is damaged, it must be replaced by a similar cord available through the service organization or a qualified authoritative technician.

**⚠ CAUTION** : Do not use cleaning agents to clean the plastic parts of the tool. A mild detergent on a damp cloth is recommended. Water must never come into contact with the tool.

### Transport

Turn the motor off and disconnect the mains plug. While transporting, be careful not to drop, or shock the machine. For transport, the machine has to be fixed against slipping and tipping over. Do not place objects on the machine.

## ASSEMBLY AND OPERATING

### **Meaning of crossed –out wheeled dustbin:**

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

