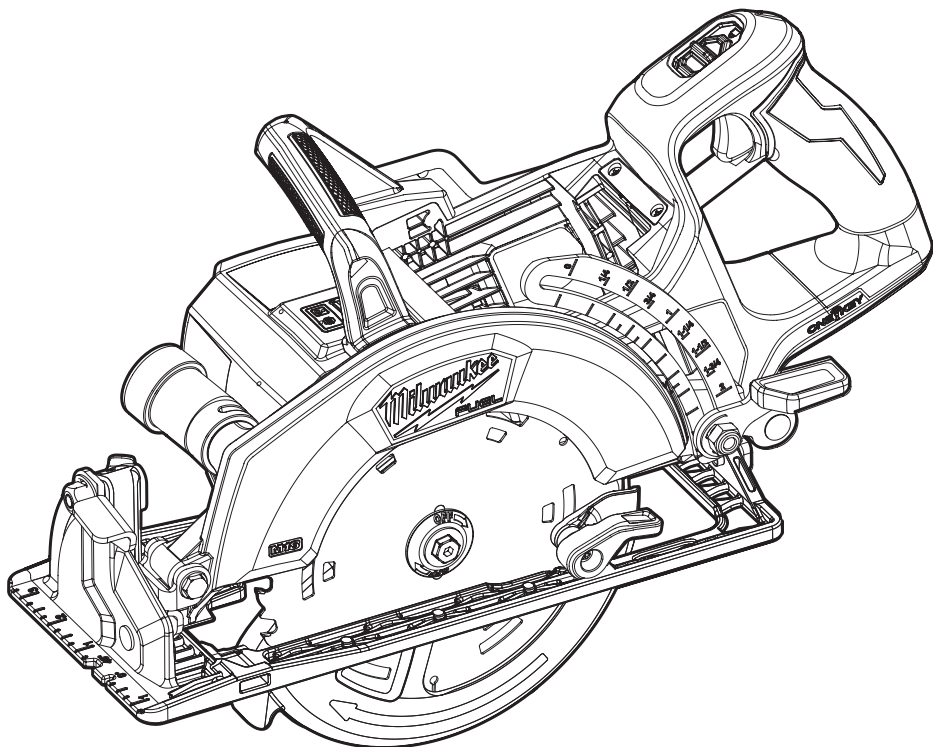




**OPERATOR'S MANUAL
MANUEL de L'UTILISATEUR
MANUAL del OPERADOR**



**Cat. No. / No de Cat.
2931-20**

**M18 FUEL™ ONE-KEY™ REAR HANDLE CIRCULAR SAW
SCIE CIRCULAIRE À POIGNÉE ARRIÈRE M18 FUEL™
ONE-KEY™
SIERRA CIRCULAR CON EMPUÑADURA TRASERA M18 FUEL™
ONE-KEY™**



WARNING To reduce the risk of injury, user must read and understand operator's manual.

AVERTISSEMENT Afin de réduire le risque de blessures, l'utilisateur doit lire et bien comprendre le manuel.

ADVERTENCIA Para reducir el riesgo de lesiones, el usuario debe leer y entender el manual.

GENERAL POWER TOOL SAFETY WARNINGS

⚠WARNING Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. **Save all warnings and instructions for future reference.** The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

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

- **Power tool plugs must match the outlet.** Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- **Avoid body contact with earthed or grounded surfaces,** such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or 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 cord away from heat, oil, sharp edges 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 an GFCI 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 a 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 and clothing 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.
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

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 remove the battery pack, if detachable, 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 and accessories. 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.
 - **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.
- ### 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 a 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.
- Do not use a battery pack or tool that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.
- Do not expose a battery pack or tool to fire or excessive temperature. Exposure to fire or temperature above 265°F (130°C) may cause explosion.
- Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions. Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

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.
- Never service damaged battery packs. Service of battery packs should only be performed by the manufacturer or authorized service providers.

SPECIFIC SAFETY RULES FOR CIRCULAR SAWS

Cutting procedures

- **ADANGER** Keep hands away from cutting area and the blade. Keep your second hand on auxiliary handle, or motor housing. 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 workpiece being cut in your hands or across your leg while cutting. 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 insulated gripping surfaces only, when performing an operation where the cutting tool may contact hidden wiring. Contact with a "live" wire will also make exposed metal parts of the power tool "live" and could give the operator an electric shock.
- When ripping, always use a rip fence or straight edge guide. This improves the accuracy of cut and reduces the chance of blade binding.
- Always use blades with correct size and shape (diamond versus round) of arbour holes. Blades that do not match the mounting hardware of the saw will run off-centre, 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.

Further safety instructions for all saws

Kickback causes and related warnings

- Kickback is a sudden reaction to a pinched, jammed 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 jammed 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:

- 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 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, centre the saw blade in the kerf so that saw teeth are not engaged into the material. If a saw blade binds, it may walk up or kickback from the workpiece as the saw is restarted.
 - Support large panels to minimise 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.
 - 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 sawing into existing walls or other blind areas. The protruding blade may cut objects that can cause kickback.
- #### Lower guard function
- 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 saw is accidentally dropped, lower guard may be bent. 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 angles and depths of cut.
 - Check the operation of the lower guard spring. If the guard and the spring are not operating properly, they must be serviced before use. Lower guard may operate sluggishly due to damaged parts, gummy deposits, or a build-up of debris.

•The lower guard may be retracted manually only for special cuts such as "plunge cuts" and "compound cuts." Raise the lower guard by the retracting handle and as soon as 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 switch is released.

•**Do not touch material immediately after it has been cut. Use caution; cut material may be hot and sharp.**

•**Do not use cutting oil.** The use of cutting oil may cause a fire.

•**Do not use tool near flammable material.** Sparks may cause fire.

•**Do not start the blade when in contact with workpiece.** Wait for blade to reach full speed before beginning cut.

•**WARNING** To reduce the risk of injury when working in dusty situations, use an OSHA compliant dust extraction solution in accordance with its operating instructions or wear appropriate respiratory protection.

•**Chemical Burn Hazard.** Keep coin cell battery away from children.

•**Always use common sense and be cautious when using tools.** It is not possible to anticipate every situation that could result in a dangerous outcome. Do not use this tool if you do not understand these operating instructions or you feel the work is beyond your capability; contact Milwaukee Tool or a trained professional for additional information or training.

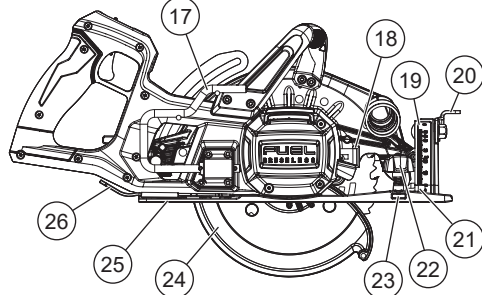
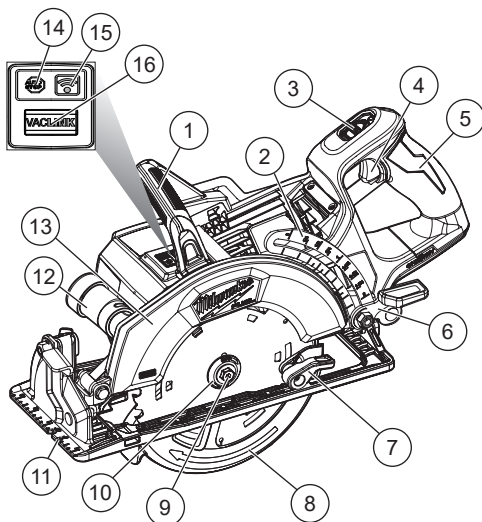
•**Maintain labels and nameplates.** These carry important information. If unreadable or missing, contact a MILWAUKEE service facility for a replacement.

•**WARNING** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paint
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically-treated lumber.

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

FUNCTIONAL DESCRIPTION



1. Top handle
2. Depth scale
3. Trigger hook
4. Trigger
5. Handle
6. Depth adjust lever
7. Lower guard lever
8. Lower guard arrow
9. Blade bolt
10. Blade flange
11. Sight lines
12. Dust chute
13. Upper guard
14. AUTOSTOP™ Indicator LED
15. ONE-KEY™ Indicator LED
16. VACLINK™ button



17. Rafter hook
18. Spindle lock button
19. Bevel scale
20. Bevel adjust lever
21. Bevel pointer
22. Rip fence adjust knob
23. Rip fence slot
24. Lower guard
25. Shoe
26. Wrench/Storage
27. Rubber plug

SPECIFICATIONS

Cat. No.	2931-20
Volts	18 DC
Battery Type	M18™
Charger Type	M18™
No Load RPM	6000
Module	BGM220S22A
FCC ID:	P36-2931
IC ID:	25187-2931
Blade Size	7-1/4"
Arbor	5/8"
Depth of Cut at 90°	0 to 2-5/8"
Depth of Cut at 45°	0 to 2"
Recommended Ambient Operating Temperature	0°F to 125°F

SYMBOLLOGY

	Volts
	Direct Current
n_s XXXX min ⁻¹	No Load Revolutions per Minute (RPM)
	Match the arrow direction on the saw blade with the arrow direction on the saw.
VACLINK	Tool has VACLINK™ technology
	ONE-KEY™
	Tool has AUTOSTOP™ technology
	Lock
	Unlock
	UL Listing for Canada and U.S.

ASSEMBLY

⚠WARNING Always lock the trigger or remove the battery pack any time the tool is not in use.

Removing/Inserting the Battery

To **remove** the battery, push in the release buttons and pull the battery pack away from the tool.

To **insert** the battery, slide the pack into the body of the tool. Make sure it latches securely into place.

⚠WARNING Recharge only with the charger specified for the battery. For specific charging instructions, read the operator's manual supplied with the charger and battery. Only use accessories specifically recommended for this tool. Others may be hazardous.

Selecting Blade

Always:

- Use the correct blade type for the application. Using the wrong blade may result in reduced performance or damage to the blade.
- Use sharp blades with a maximum safe operating speed greater than the no load RPM marked on the tool's nameplate. Dull blades tend to overload the tool and increase the chance of kickback.
- Use the appropriate size blade and arbor found in the specifications chart.

Never:

- Use blades that are cracked or have broken teeth.
 - Use any type of abrasive cut-off wheel or dry diamond cutting blades.
 - Sharpen ferrous metal cutting blades.
- Read the blade manufacturer's instructions before use. Refer to the blade manufacturer's recommendations regarding sharpening of the blade.

Checking the Operation of the Lower Guard

Check the operation and condition of the lower guard lever. If the guard and the lever are not operating properly, they must be serviced before use. Lower guard may operate sluggishly due to damaged parts, gummy deposits, or a buildup of debris.

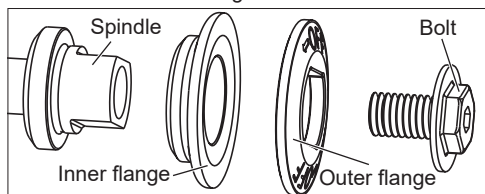
1. **⚠WARNING!** Remove battery to avoid starting the tool.
2. Place the tool on its side.

NOTE: This procedure will not show proper lower guard operation if the tool is not on its side.
3. Grasp the lower guard by the sides and push it all the way back into the blade housing.
4. Release the lower guard.
 - If the guard immediately springs back into place, it is working correctly and you may continue with use.
 - If the guard does not immediately spring back into place, clean the upper and lower guards to remove all chips and debris. Then, check the operation again by starting with step 1.
 - If the guard still does not immediately spring back into place, contact a MILWAUKEE service facility for repairs.

Installing and Removing Blades

1. **⚠WARNING!** Remove battery to avoid starting the tool. Do not touch the saw blade with bare hands immediately after cutting; it may be hot and could burn skin.
2. Place the saw on a flat surface with the blade facing upwards. To remove the bolt from the spindle, push in the spindle lock button. While holding in the spindle lock button, use the wrench provided with the tool to turn the bolt in the "OFF" direction indicated on the blade flange. Remove the bolt and blade flange.
3. Slide the lower guard lever up to raise the lower guard. **Remove** the blade from the spindle. Always clean the spindle, upper guard and lower guard to remove any dirt and sawdust.

NOTE: Do not remove inner blade flange. Larger diameter of inner flange should face the blade.



4. To **install** a blade, place the blade on the spindle with the teeth pointing in the same direction as the arrow on the lower guard. Release the lower guard lever.
5. Place the blade flange on the spindle and hand tighten the bolt.
6. While holding in the spindle lock button, use the wrench to turn the bolt in the opposite direction indicated on the blade flange and tighten securely.