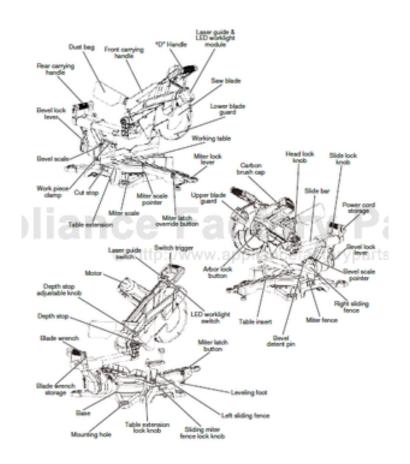


Master Forge 240-0028 Owner's Manual

Shop genuine replacement parts for Master Forge 240-0028

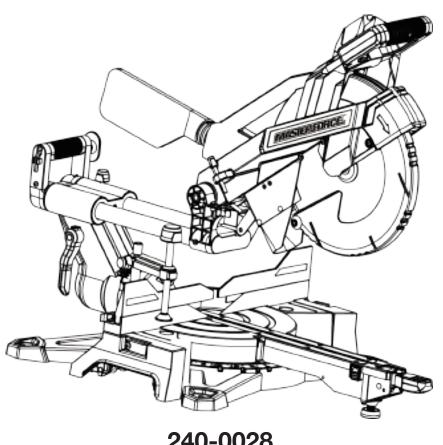


Find Your Master Forge Other Parts - Select From 8 Models

----- Manual continues below ------



12" Dual Bevel Sliding Miter Saw with Laser



240-0028

OPERATOR'S MANUAL

A CAUTION: To Reduce The Risk Of Injury, User Must Read And Understand Operator's Manual. Save These Instructions For Future Reference.

For questions / comments, technical assistance or repair parts - Please call toll free at: 1-877-684-8912 (Monday -Friday 8am - 6pm EST.)

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SAFETY SYMBOLS

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 safer.

Symbol	Name	Designation / Explanation
V	Volts	Voltage
А	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
W	Watts	Power
~	Alternating current	Type of current
===	Direct current	Type of characteristic of current
no	No-load speed	Rotational speed at no load
/min	Per minute	Revolutions, strokes, surface speed orbits, etc., per minute
	Class II construction	Double insulated construction
	Be careful of your hand	Danger keep hands away from blade
*	Laser radiation	Do not stare into beam or view directly with optical instruments
	Wear safety goggles	WARNING: The operation of any power tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning power tool operation, always wear safety goggles or safety glasses with side shields and 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.



This symbol designates that this tool is listed with CSA requirements by CSA Testing Laboratories.



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

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

SYMBOL MEANING



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



DANGER: Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.

warning: Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

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

NOTICE: (Without Safety Alert Symbol) Indicates a situation that may result in property damage.

SAVE THESE INSTRUCTIONS!

Safety is a combination of using common sense, staying alert, and knowing how your miter saw works. Read this manual to understand this miter saw and how to use it safely.

WARNING: Read and understand all instructions. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury. Save all warnings and instructions for future reference.

GENERAL SAFETY IMPORMATION

PROPOSITION 65 WARNING

Some dust created by using power tools contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- 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 dust masks that are specially designed to filter out microscopic particles.

Avoid prolonged contact with dust from power sanding, sawing, grinding, drilling, and other construction activities. Wear protective clothing and wash exposed areas with soap and water. Allowing dust to get into your mouth or eyes or to lie on the skin may promote absorption of harmful chemicals.

warning: The use of this tool can generate and/ or disburse dust, which may cause serious and permanent respiratory or other injury. Always use protection appropriate for the dust exposure. Direct particles away from the face and body.

Handling the power cord on this product may expose you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

procedures as defined in this manual — even if you are familiar with use of this or similar tools. Remember that being careless for even a fraction of a second can result in severe personal injury.

warning: To avoid the risk of personal injury, do not modify this power tool or use accessories not recommended to fit your tool.

warnings and conditions about your carbide tipped saw blade.

- Do not operate the saw without the proper saw blade guard in place.
- Carbide is a very hard but brittle material. Care should be taken while mounting, using and storing carbide tipped blades to prevent accidental damage.
- Slight shocks, such as striking the tip, can seriously damage the blade. Foreign objects on the work piece, such as wire or nails, can also cause tips to crack or break off.
- Before using, always visually examine the blade and tips for cracks, breakage, missing or loose tips, or other damage.
- Do not use if damage is suspected. Failure to heed safety instructions and warnings can result in serious bodily injury or loss of eyesight.

GENERAL SAFETY RULES

- Keep guards in place and in working order.
- Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.
- **Keep the work area clean.** Cluttered areas and benches invite accidents.
- Don't use in a dangerous environment. Don't use power tools in damp or wet locations or expose them to rain.
 Keep the work area well lit.
- Keep children away. All visitors should be kept at a safe distance from the work area.
- Make the workshop childproof with padlocks and master switches or by removing starter keys.
- Don't force the tool; It will do the job better and more safely when used at the rate at which it is designed to work.
- Use the right tool. Don't force a tool or attachment to do a job that it was not designed to do.
- Use the proper extension cord. Make sure your extension cord is in good condition. Use only a cord heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. A wire gauge size (A.W.G.) of at least 14 is recommended for an extension cord 25 feet or less in length. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

- Wear proper apparel. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry that can get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
- Always use safety glasses. Also use a face mask or dust mask if the cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses. They are not safety glasses.
- Secure the work piece. Use clamps or a vise to hold the work piece whenever practical. It's safer than using your hand and it frees both hands to operate the tool.
- **Don't over reach.** Keep proper footing and balance at all times.
- Maintain tools with care. Keep tools sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
- **Disconnect tools** before servicing and when changing accessories, such as blades, bits, cutters, and the like.
- Reduce the risk of unintentional starting. Make sure that the switch is in the off position before plugging the tool into an electrical outlet.
- Use recommended accessories. Consult the operator's manual for recommended accessories. The use of improper accessories may cause a risk of injury to persons.
- Never stand on the tool. Serious injury could occur if the tool is tipped or it the cutting tool is contacted unintentionally.
- Check for damaged parts. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine whether it will operate properly and perform its intended function. Check for misalignment or binding of moving parts, broken parts or mountings, and any other condition that may affect the operation of the tool. A guard or other part that is damaged should be properly repaired or replaced.
- Direction of feed: Always feed work piece into a blade or cut against the direction of rotation of the blade or cutter.
- Never leave a tool running unattended. Turn the power off. Don't leave the tool until it comes to a complete stop.

SPECIFIC SAFETY RULES

WARNING: For your own safety, read the operator's manual before operating the miter saw.

- Always wear eye protection.
- Do not operate the saw without the guard in place.
- Be sure to turn the tool off and wait for the saw blade to stop before moving the work piece or changing the settings.
- Be sure that the power is disconnected before changing

- the blade or servicing the saw.
- Do not expose to rain or use in a damp location.
- When servicing, use only identical replacement parts.
- Never reach around the saw blade.
- Do not perform any operation freehand. Always place the work piece to be cut on the miter saw table, and position it firmly against the fence as a backstop. Always use the fence.
- Always keep hands out of the path of the saw blade.
 Do not reach under the material being cut or into the blade's cutting path with your fingers or hand for any reason.
- To reduce the risk of injury, return the cutting head to the full rear position after each crosscut operation.
- Always make sure that the miter table and saw arm (bevel function) are locked in position before operating your saw. Lock the miter table by securely pushing down the miter lock lever. Lock the saw arm (bevel function) by securely tightening the bevel lock lever.
- Be sure that the blade path is free of nails. Always carefully inspect lumber and remove all nails before cutting.
- Always be sure that the blade clears the work piece.
 Never start the saw with the blade touching the work piece.
 Always allow the motor to come to full speed before starting a cut.
- Support long work pieces when cutting to minimize the risk of blade pinching or kickback. The saw may slip, walk or slide while cutting long or heavy boards.
- Never use a length-stop on the free (scrap) end of a clamped work piece; Never hold onto or bind the free (scrap) end of the work piece in any operation. If a clamp and a length-stop are used together, they must both be installed on the same side of the saw table to prevent the saw from catching the loose end and kicking up.
- Never cut more than one piece at a time. Do not stack more than one work piece on the work table at a time.
- Avoid awkward operations and hand positions where a sudden slip could cause your hand to move into the blade. Always make sure that you have good balance. Never operate your saw on the floor or in a crouched position.
- Only use the correct blades. Use the correct blade size, style and cutting speed for the material and the type of cut. Do not use blades with incorrect size holes. Never use blade washers or arbor bolts that are defective or incorrect.
- Always keep blades clean, sharp and with sufficient set. Sharp blades minimize stalling and kickback.
- Do not use dull or damaged blades. Bent blades can

break easily or cause kickback.

- Never hold a work piece by hand if it is too small to be clamped. Always keep your hands clear of the "no hands" zone.
- Never apply lubricants to the blade when it is running.
- Never use solvents to clean plastic parts. Solvents could dissolve or otherwise damage the material.
- Do not turn the motor switch on and off rapidly. This could cause the blade to loosen, which could create a hazard. Should this ever occur, stand clear and allow the saw blade to come to a complete stop. Disconnect the saw from the power source and securely tighten the arbor bolt.
- Never leave the saw unattended while it is connected to a power supply.
- Keep the motor air slots clean and free of chips or dust.
 To avoid motor damage, the motor should be blown out or vacuumed frequently to keep sawdust from interfering with the motor ventilation.
- Never lift this tool by gripping the cutting handle or miter fence. This may cause misalignment. Always lock the cutting head in the "DOWN" position and then carry the saw by holding the base or lift it using the carrying handle.
- Know your power tool. Read the Operator's Manual carefully. Learn the 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.
- Before beginning power tool operation, always wear safety goggles or safety glasses with a 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.
- Protect your lungs. Wear a face mask or a dust mask if the operation is dusty.
- All visitors and bystanders must wear the same safety equipment that the operator of the saw wears.
- Always check the tool for damaged parts. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine whether it will operate properly and perform its intended function. Check for misalignment or binding of moving parts, broken parts, and any other condition that may affect the tool's operation. A guard or other part that is damaged should be properly repaired or replaced by a qualified person.
- Make sliding cuts by pushing the saw blade down on top
 of the workpiece then sliding it back toward the rear of
 the saw. DO NOT pull the saw toward you while making
 a cut.

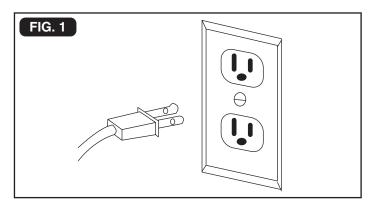
- This saw can tip over if the saw head is released suddenly
 and the saw is not secured to a work surface. ALWAYS
 secure this saw to a stable work surface before any use
 to avoid serious personal injury.
- Save these instructions. Refer to them frequently and use them to instruct others who may use this tool. If someone borrows this tool, make sure they have these instructions also.

DOUBLE INSULATION

Double insulation is a concept in safety in electric power tools, which eliminates the need for the usual three-wire grounded power cord. All exposed metal parts are isolated from the internal metal motor components with protecting insulation. Double insulated tools do not need to be grounded.

WARNING: The double insulated system is intended to protect the user from shock resulting from a break in the tool's internal wiring. Observe all normal safety precautions to avoid electrical shock.

To reduce the risk of electrical shock, double-insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit into a polarized outlet only one way. If the plug does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.



WARNING: Double insulation does not take the place of normal safety precautions when operating this tool.

CAUTION: Servicing of a product with double insulation requires extreme care and knowledge of the system and should be performed only by a qualified service technician. For service, we suggest you return the tool to your nearest authorized service center for repair. Always use original factory replacement parts when servicing. Do not use power tools in wet of damp locations or expose them to rain or snow.

ELECTRICAL CONNECTION

WARNING: Do not permit fingers to touch the terminal or the plug when installing or removing the plug from an outlet.

This tool has a precision-built electric motor. It should be connected to a power supply that is 120 volts, 60 Hz. A substantial voltage drop will cause a loss of power and the motor will overheat. If the tool does not operate when plugged into an outlet, double check the power supply.

GUIDELINES FOR EXTENSION CORDS

Use a proper extension cord. Make sure extension cords are in good condition. When using an extension cord, be sure to use a cord that is heavy enough to carry the drawn current needed by the saw. An undersized cord will cause a drop in line voltage, resulting in loss of power and overheating.

The table below shows the correct size to use, depending on the cord length and nameplate amperage rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

MINIMUM GAUGE (AWG) EXTENSION CORDS (120V use only)					
Ampera	Amperage rating Total length				
More	Not more	25' 50' 100' 150'			150'
than	than	(7.5 m)	(15 m)	(30 m)	(45 m)
0	6	18	16	16	14
6	10	18	16	14	12
10	12	16	16	14	12
12	16	14 12 Not Recommende			mmended

Be sure extension cords are properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified technician before using it. Protect extension cords from sharp objects, excessive heat, and damp or wet areas.

Use a separate electrical circuit for power tools. This circuit must not be less than #14 wire with a 15 Amp time delayed fuse, and should be protected with a time delayed fuse. Before connecting the tool to the power line, make sure the switch is in the OFF position and the electric current is rated the same as the current stamped on the motor's nameplate. Running at a lower voltage will damage the motor.

A WARNING:

WARNING: To avoid electrical hazards, fire hazards,

or damage to the tool, use proper circuit protection.

warning: Keep the extension cord clear of the working area. Positon the cord so that it will not get caught on lumber, tools, or other obstructions while you are working with a power tool. Failure to do so can result in serious personal injury.

warning: Check extension cords before each use. If damaged replace immediately. Never use tool with a damaged cord since touching the damaged area could cause electrical shock resulting in serious injury.

LASERS

This miter saw has a built-in laser guide. This is a class II laser that emits a maximum output power 635nm 1mW wavelengths. Do not stare into the beam when using laser guide.

The following label is affixed to your tool. It indicates the location from which the saw emits the laser light. Be aware of the laser light location when using the tool. Always make sure that any bystanders in the vicinity of use are made aware of the dangers of looking directly into the laser.



WARNING: LASER LIGHT. LASER RADIATION. Avoid direct eye exposure. Do not stare into the beam. Only turn the laser beam on when the laser will shine on a work piece.

WARNING: Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

WARNING: The use of optical instruments to view the laser beam, including but not limited to telescopes or transits, will increase eye hazard.

- The laser should be used and maintained in accordance with the manufacture's instructions.
- Never aim the beam at any person or any object other than the work piece.
- Always ensure that the laser beam is aimed at a sturdy work piece without a reflective surface. Wood or roughcoated surfaces are acceptable. Bright, shiny reflective surfaces are not suitable for laser use, because the reflective surface could reflect the beam back at the operator.
- Do not attempt to activate the laser when the tool housing is removed.
- The laser is activated with a button switch that is independent of the main switch for the saw.
- Do not replace the laser guide assembly with a different type. Any repairs must be carried out by the laser manufacturer or a qualified service technician.
- Do not attempt to repair the laser guide by yourself.
- Do not attempt to change any parts of the laser guide.

GLOSSARY OF TERMS

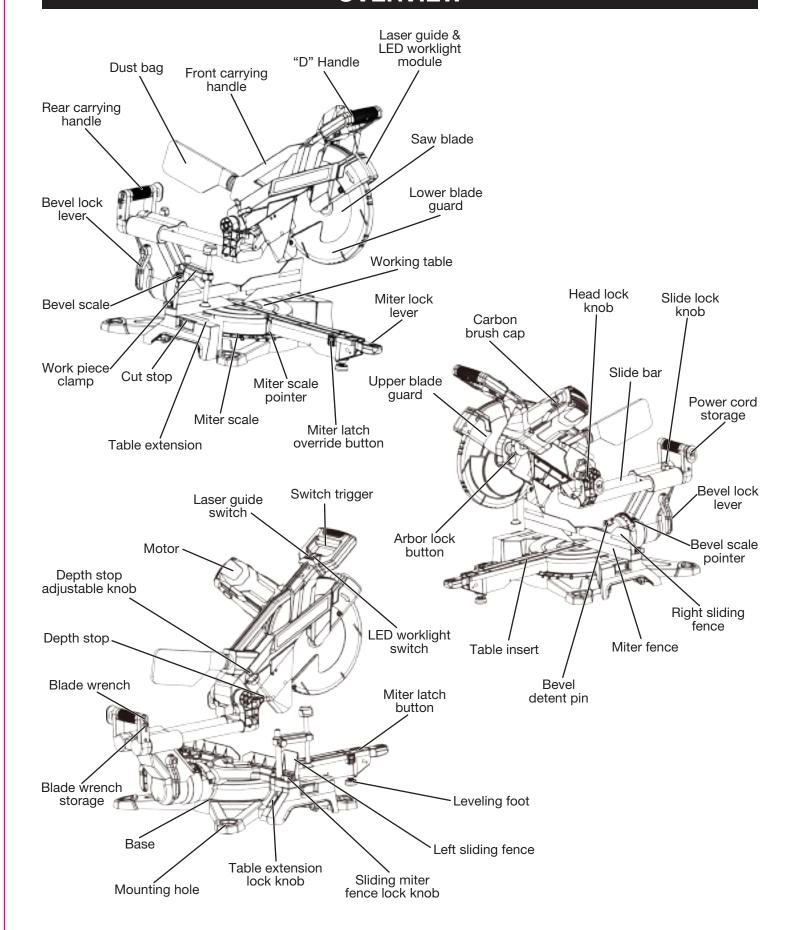
The safe use of this product requires an understanding of the information on the tool and in this operator's manual as well as a knowledge of the project you are attempting. Before use of this product, familiarize yourself with all operating features and safety rules.

- 12 IN. Blade: A 12 in. blade is included with your miter saw. It will cut materials up to 14 in. wide, depending upon the angle at which the cut is being made.
- 15 AMP Motor: This saw has a powerful 15 amp motor with sufficient power to handle tough cutting jobs. It is made with all ball bearings, and has externally accessible brushes for ease of servicing.
- Bevel Lock Levers: The bevel lock levers securely lock your sliding miter saw at desired bevel angles. Rotating the levers to the back of saw will release the saw allowing the blade to be tilted either left or right for bevel cuts. Rotating the levers toward the front of the machine will lock the saw in place.
- Bevel Detent Pin: The bevel detent pin has two positions:
 1. Bevel common stop angles (pin pulled completely out);
 2. Quickly locate 0°, 22.5°, 33.9° and 45° left or right (pin pushed in).
- Carrying Handles: Carry handles are located on the top of the cutting head and on the end of the slide bar.
- Miter Latch Button: The miter latch button, when used

- with the miter lock lever unlocked, can release the miter table from pre-set index points. Push the miter latch button down with thumb and turn the miter table to required angle. Release miter latch button when close to desire point and move the lock lever into place with a click.
- Miter Latch Override Button: The miter latch override button allows your saw to override the common stop angles. Your miter latch override button is located on left side of the miter latch button. To override the common stop angles, push the miter latch override button to the right while pushing down the miter latch button, then release the miter latch button, the miter table can move freely to common stop angles with the miter lock lever unlocked. The miter latch override button will return to the off position automatically if the miter latch button is pushed down again.
- Depth Stop: The depth stop allows the depth of cut of the blade to be limited. The depth stop is useful for applications such as grooving and tall vertical cuts.
- Laser guide: For more accurate cuts, a laser guide is included with your miter saw. When used properly, the laser guide makes accurate, precision cutting simple and easy.
- LED Worklight: Unique LED worklight illuminates work surface under low light conditions.
- Miter Lock Lever: The miter lock lever securely locks the saw at the desired miter angle.
- Miter Scale: The miter scale has ten positive stops at 0°, 15°, 22.5°, 31.6°, 45° and 60° (right).
- **Bevel Scale:** The bevel scale has index points provided at 0°, 22.5°, 33.9° and 45°.
- Self-retracting Lower Blade Guard: The lower blade guard is made of shock resistant, see-through plastic that provides protection from each side of the blade. It retracts over the upper blade guard as the saw is lowered into the workpiece.
- Slide Bar: When unlocked, the saw arm will glide forward and backward the length of the slide bar for cutting various workpiece widths.
- Sliding Fences: The sliding fences provided with this saw help hold the work piece securely when making most cuts.
 The sliding feature allows for clearance of the saw blade when making bevel or compound cuts. Some cuts may require that the sliding fence be removed completely to avoid interference between the fence and the blade.
- Arbor Lock Button: A arbor lock button has been provided for locking the arbor (keeping the saw blade from turning).
 Depress and hold the lock button only while installing, changing, or removing the saw blade.
- Slide Lock Knob: The slide lock knob locks and unlocks the sliding feature of this tool.

- Work Piece Clamp: The work piece clamp is mounted on the left or right base to securely clamp the work piece.
- Blade Wrench: One end of the blade wrench is a Phillips screwdriver and the other end is a hex key. It is used for changing the blade. The storage area for the blade wrench is located in the left side of the rear carrying handle.
- **Bevel Cut:** A cutting operation made with the blade at any angle other than 90° to the table surface.
- Miter Cut: A cutting operation made with the work piece at any angle other than 90° to the blade.
- Compound Cut: A crosscut made with both a miter angle and a bevel angle.

OVERVIEW

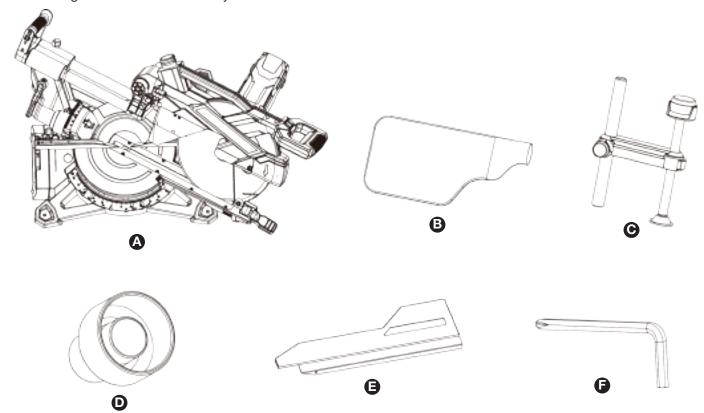


SPECIFICATIONS

T	120 V~ 60 Hz 15A
Motor	120 V~ 60 HZ 15A
No Load Speed	3800 RPM
Double Insulated	Yes
Blade	12 in. x 1 in. 48T Carbide-tipped
Laser	Wavelength: 650 nm, Max. Output<1 mw Class II
LED Light	Yes
Saw body sliding range	0-8 3/4 in.
Bevel range	-48°-48°
Miter range	0°-52° Left and 0°-60° Right
Max. Cutting Capacity	
Crosscut Miter 0° / Bevel 0°	14 in. x 4 in.
Miter 45° Right & Left / Bevel 0°	10 in. x 4 in.
Miter 0° / Bevel 45° Left	14 in. x 2 in.
Miter 0° / Bevel 45° Right	14 in. x 1 in.
45° Miter & 45° Bevel Left	10 in. x 2 in.
45° Miter & 45° Bevel Right	10 in. x 1 in.
Miter/Bevel Positive Stop Angles	
Miter Detent Stops	0°, 15°, 22.5°, 31.6°, 45° (Left)
	0°, 15°, 22.5°, 31.6°, 45°, 60° (Right)
Bevel Positive Stops	0°, 22.5°, 33.9°, 45° (Left & Right)
Weight	60.5 lbs (27.5 kg)

CONTENTS

The following items are included with your miter saw:



PART	DESCRIPTION	QUANTITY
А	Miter Saw Assembly	1
В	Dust Bag	1
С	Work Piece Clamp	1

PART	DESCRIPTION	QUANTITY
D	Dust Port Adapter	1
Е	Right Sliding Fence	1
F	Blade Wrench	1

WARNING: The use of attachments or accessories not listed in this manual might be hazardous and could cause serious personal injury.

UNPACKING YOUR MITER SAW

This product requires assembly.

• Carefully lift saw from the carton by the carrying handles located at the top of the saw arm and the end of the slide bar, and place it on a level work surface.



A CAUTION: This tool is heavy. To avoid back injury, lift with your legs, not your back, and get help when needed.

- This saw has been shipped with the miter table 60° right & cutting arm bevel 45° right and the saw arm secured in the down position.
- Unlock the miter lock lever and move the table to 0°, lock the miter lock lever. Unlock the bevel detent pin and loosen bevel lock levers, tilting cutting arm to 0°, lock the bevel detent pin and tighten bevel lock levers.
- To release the saw arm, push down on the top of the saw arm and pull out the head lock knob.
- Lift the saw arm by the handle. Hand pressure should remain on the saw arm to prevent sudden rise upon release of the head lock knob.
- Inspect the tool carefully to make sure that no breakage or damage occurred during shipping.
- Do not discard the packing material until you have carefully inspected and satisfactorily operated the tool.
- The saw is factory set for accurate cutting. After assembling it, check for accuracy. If shipping has influenced the settings, refer to specific procedures explained in this Operator's Manual.
- If any parts are damaged or missing, please call 1-877-684-8912 for assistance.

A WARNING: The use of attachments or accessories not listed in this manual might be hazardous and could cause serious personal injury.

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

WARNING: Do not connect to the power supply until assembly is complete. Failure to comply could result in accidental starting and possible serious personal injury.

WARNING: Do not start the miter saw without checking for interference between the saw blade and the sliding fences. Damage could result to the blade if it strikes the sliding fence during operation of the saw.

⚠ WARNING: Always make sure the miter saw is securely mounted to a workbench or approved workstand. Failure to heed this warning can result in serious personal injury.

YOU WILL NEED

(ITEMS NOT SUPPLIED)	(ITEMS SUPPLIED)
Flat head screwdriver	Blade wrench (1 pc)
3mm Hex key	
5mm Hex key	
10mm wrench /Adjustment wrench	
Framing square	
Combination square	

WARNING: To avoid injury, do not connect this miter saw to a power source until it is completely assembled and adjusted and you have read and understood the operator's manual.

CAUTION: Many of the illustrations in this manual show only portions of the miter saw. This is intentional so that we can clearly show points being made in the illustrations. Never operate the saw without all guards securely in place and in good operating condition.

UNLOCKING AND LOCKING THE CUTTING HEAD (FIG. 2a-2b)

Unlocking the cutting head:

- To raise the cutting head from its storage transport position.
 Firmly grasp the "D" handle and apply downward pressure while at the same time pulling the head lock knob (A).
- Slowly raise the cutter head to the up position.

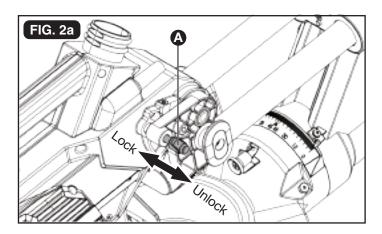
Locking the cutting head:

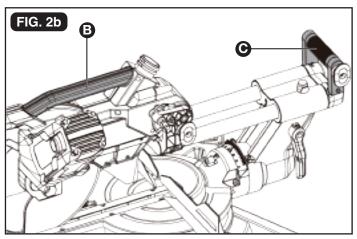
When transporting or storing the miter saw, the cutting head should always be locked in the down position.

- Firmly grasp the "D" handle and push the cutting head down to its lowest position.
- Push the head lock knob (A) into the locking hole and check that the head lock knob is locked in place by turning the knob clockwise.

CAUTION: To avoid injury and damage to the saw, transport and store the miter saw with the cutting head locked in the down position. Never use the head lock knob to hold the cutting head in a down position for cutting operations.

NOTICE: To avoid damage, never carry the miter saw by the blade guard, power cord, miter lock lever or cutting head. ALWAYS use the designated carrying handles (B, C) located on the top of the cutting head and on the end of the slide bar. (Fig. 2b)





MOUNTING THE MITER SAW (FIG. 3a-3c)

WARNING: To avoid injury from unexpected saw movement:

- Disconnect the power cord from the outlet and lock the cutting head in the lower position using the head lock knob.
- Lock the slide bar in place by tightening slide lock knob.
- To avoid back injury, lift the saw by using designated carrying handles located on the top of the saw arm and on the end of the slide bar.
- Never carry the miter saw by the blade guard, power cord, miter lock lever or cutting arm. Carrying the tool by the plug cable could cause damage to the insulation or wire connections resulting in electric shock or fire.
- To avoid injury from flying debris, do not allow visitors to stand near the saw during any cutting operations.

Mounting instructions:

For stationary use, place the saw in the desired location, directly on a workbench where there is room for handling and proper support of the workpiece. The base of the saw has four 3/8 in. mounting holes (A) (Fig. 3a). Bolt the base of the miter saw (B) to the work surface (C), using the recommended fastening method as shown in Fig. 3b.

CAUTION: Mounting hardware is not included with this tool. Bolts, nuts, washers and screws must be purchased separately.

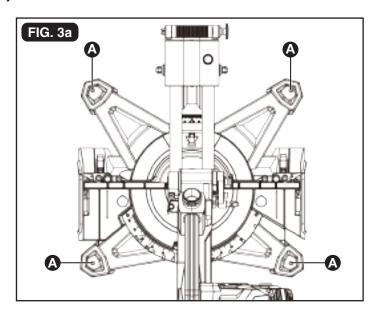
For portable use:

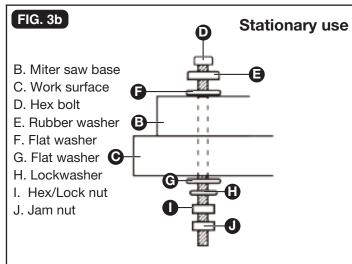
Place the saw on a 3/4 in. thick piece of plywood (K) (Fig. 3c). Bolt the base of the miter saw securely to the plywood using the mounting holes (A) (Fig. 3a) on the base. Use C-clamps (not included) to clamp this mounting board to a stable work surface at the worksite (Fig. 3c).

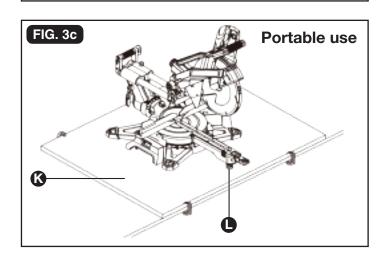
CAUTION: If a miter saw stand is used, please follow all instructions shown in that product's instructions for proper mounting.

CAUTION: For stabilizing the tool the height of leveling foot (L) can be adjusted. (Fig. 3c)

warning: Carefully check the workbench or stand after mounting to make sure that no movement can occur during use. If any tipping, sliding, or walking is noted, secure the workbench or stand to the floor before operating.

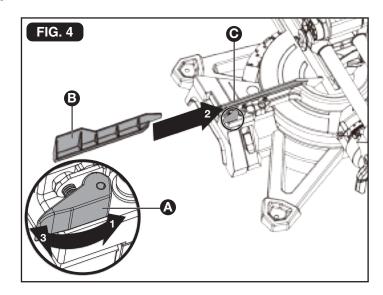






INSTALL RIGHT SLIDING FENCE (Fig. 4)

- Loosen the sliding miter fence lock knob (A) by turning it about 112° counter-clockwise.
- Slide the right sliding fence (B) into the slot (C) on the miter fence.
- Tighten the sliding miter fence lock knob (A) by turning it clockwise.



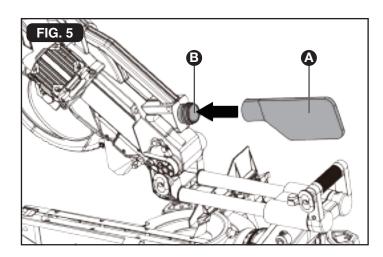
INSTALL THE DUST BAG (Fig. 5)

- Squeeze the metal collar wing on the dust bag (A).
- Place the dust bag neck opening around the exhause port (B) and release the metal collar.

metal collar wings and remove from exhaust port. Open zipper on underside of bag and empty into waste container.

NOTICE: To avoid damage, never carry the miter saw by the blade guard, power cord, miter lock lever or cutting head. ALWAYS use the designated carrying handles.

WARNING: Do not use this saw to cut and/or sand metals. The hot chips or sparks may ignite sawdust from the bag material.

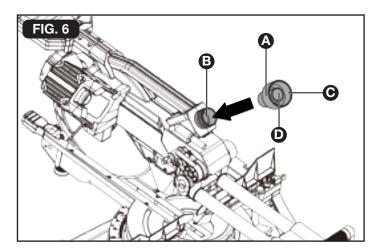


INSTALL THE DUST PORT ADAPTER (FIG. 6)

The miter saw can also be used to attach a vacuum hose with the dust port adapter.

- Install the end of the dust port adapter (A) onto the exhaust port (B) on the miter saw.
- Attach the vacuum hose to exhaust port on the dust port adapter.

CAUTION: The dust port adapter is equipped with two exhaust port (Port 1: Ø 2 1/2 in. and port 2: Ø 1 1/4 in.). Use the port 1 (C) or 2 (D) according to your vacumm hose size.



INSTALL THE WORK PIECE CLAMP (FIG. 7a-7b)

CAUTION: There are two mounting holes for the work piece clamp. These are located just behind the miter fence on the left and right side of the base.

warning: In some operations, the work piece clamp assembly may interfere with the operation of the blade guard assembly. Always make sure there is no interference with the blade guard prior to beginning any cutting operation to reduce the risk of serious personal injury.

The work piece clamp provides greater control by clamping the work piece to the miter table. It also helps to prevent the work piece from creeping toward the saw blade. This is very helpful when cutting compound miters. Depending on the cutting operation and the size of the workpiece, it may be necessary to use a C-clamp (not included) instead of the work piece clamp to secure the work piece prior to making the cut. The work piece clamp can be installed and used on either side of the blade.

To install the work clamp:

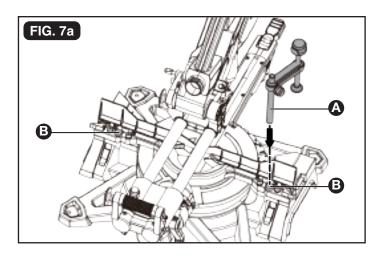
- 1. Place the work piece clamp shaft (A) in the hole (B).
- 2. Rotate the knobs (C, D) on the work piece clamp to move it up or down as needed.

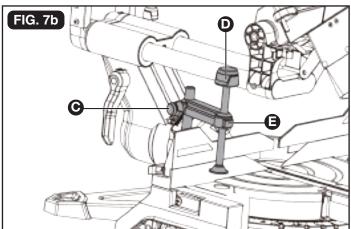
CAUTION: The work piece clamp has a quick release button (E) that makes positioning of the work piece clamp effortless. Push the quick release button (E) on the front of the work piece clamp to quickly release the work piece.

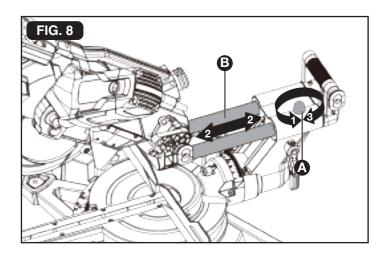
UNLOCKING THE SLIDE BAR (FIG. 8)

Loosen the slide lock knob (A) counter-clockwise, then push the slide bar (B) forward or backward. The slide bar should always be locked in position with tightening it clockwise when transporting or storing.

The slide lock knob (A) is located on the top of the bevel arm (C).





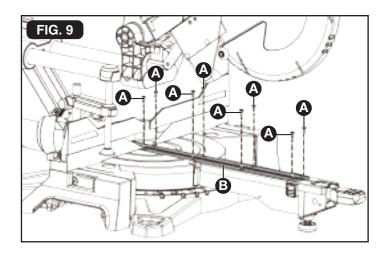


REMOVE AND INSTALL THE TABLE INSERT (FIG. 9)

CAUTION: The miter saw comes with the table insert already installed. These insturctions are for replacing or adjusting either insert side.

WARNING: | To avoid injury:

- Always unplug the saw to avoid accidental starting. Remove all small pieces of material from the table cavity before performing any cuts. The table insert may be removed for this purpose, but always reattach the table insert prior to performing a cutting operation.
- Do not start the miter saw without checking for interference between the blade and table insert. Damage could result to the blade, table insert or working table if blade strike occurs during the cutting operation.



- To remove, loosen and remove the eight screws (A) on the table insert (B) with the Phillips screwdriver on the blade wrench and remove the table insert.
- To install, reposition the left and right side inserts on either side of the cut line, replace the eight screws and tighten.
- Check for blade clearance by moving the slide bar through full motion the blade in table slot. If either side of the table insert hits the saw blade, loosen the four screws for that side and adjust. Tighten the screws and check again for blade clearance.

REMOVING AND INSTALLING THE BLADE (FIG. 10a-10c)

WARNING: Make sure the arbor lock button is not engaged before reconnecting saw to power source. Never engage arbor lock button when blade is rotating.

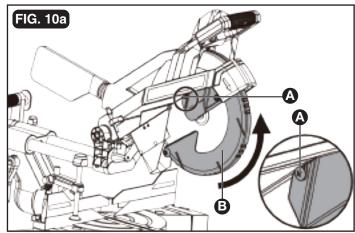
WARNING: Only use a 12 in. diameter blade. Never use a blade that is too thick to allow outer flange to engage with the flats on the arbor. Larger blades will come in contact with the blade guards, while thicker blades will prevent the hex bolt from securing the blade on the arbor. Either of these situations could result in a serious accident and can cause serious personal injury. To avoid injury from an accidental start, make sure the switch is in the OFF position and the plug is not connected to the power source outlet.

To remove the blade (Fig. 10a-10c)

- Unplug the saw.
- Raise the cutting head.

NOTICE: Do not remove this cross screw (A).

- Loosen the cross screw (A) with the Phillips screwdriver on the blade wrench. (Fig. 10a)
- Raise the lower blade guard (B) to the up position.
- Rotate the lower blade guard (B) upward to expose the arbor bolt (C). (Fig. 10c)



- Locate the arbor lock button (D) on the right of the upper blade guard. (Fig. 10b)
- Press the arbor lock button (D), holding it firmly while turning the hex key on the blade wrench clockwise. The arbor lock will engage after turning the blade wrench. Continue to hold the arbor lock button to keep it engaged, while turning the blade wrench clockwise to loosen the arbor bolt.

NOTICE: The arbor bolt has left hand threads. Turn the arbor bolt clockwise to loosen.

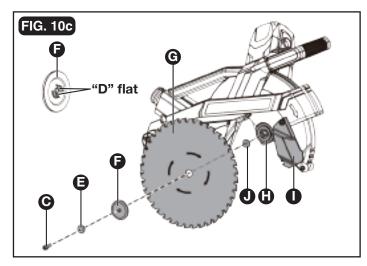
 Remove the arbor bolt (C), flat washer (E) outer flange (F) and saw blade (G) and blade screw bushing (J). Do not remove the inner flange (H). (Fig. 10c)

Pay attention to the pieces removed, noting their position and direction they face. Wipe the flanges clean of any sawdust before installing a new saw blade.

WARNING: If the inner flange has been removed, replace it before placing the saw blade on arbor. Failure to do so could cause an accident since blade will not tighten properly.

• Wipe a drop of oil onto the inner flange and the outer flange where they contact the saw blade.

FIG. 10b



To install the blade (Fig. 10a-10c)

- Unplug the saw.
- Place the blade screw bushing (J) on the arbor. (Fig. 10c)
- Install a 12 in. blade with a 5/8 in. or 1 in. arbor making sure the blade teeth point downward at the front of saw. Note that remove the blade screw bushing (J) when installing the 12 in. blade with a 5/8 in. arbor.

CAUTION: Always install the blade with the blade teeth and arrow printed on the side of the blade pointing down at the front of the saw. And make sure the blade hole fits over the blade screw bushing.

• Replace outer flange (F) with double "D" flats on the outer flange align with the flats on the arbor. Replace flat washer (E), and thread the arbor bolt (C) onto the arbor in a counter-clockwise direction. (Fig. 10c)

WARNING: Make sure the double "D" side of the outer flange must be placed facing to the blade.

- Place the hex key on the blade wrench on the arbor bolt.
- Press the arbor lock button (D), holding it in firmly while turning the blade counterclockwise. When arbor lock engages, continue to press it in while tightening the arbor bolt securely.

NOTICE: The arbor bolt has left hand threads. Turn the arbor bolt counter-clockwise to tighten.

• Lower the lower blade guard (B) and rotate the cover plate (I) back to its original position until the slot in the cover plate engages with the cross screw (A). Tighten the cross screw (A) with the Phillips screwdriver on the blade wrench. (Fig. 10a) Verify that the operation of the guard does not bind or stick. Be sure the arbor lock is released so the blade turns freely before operating the saw.

WARNING:

- To avoid injury, never use the saw without the cover plate securely in place. It keeps the arbor bolt from falling out if it accidentally loosens and helps prevent the spinning blade from coming off the saw.
- Make sure the flanges are clean and properly arranged. Lower the blade into the lower table and check for any contact with the metal base or the miter table.

STORAGE (FIG. 11)

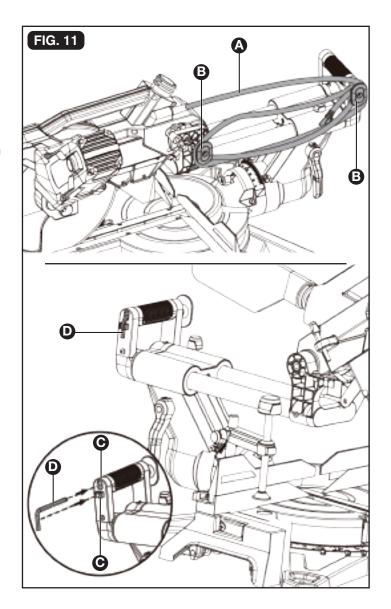
Power cord

For convenience and to prevent damage to the power cord when the miter saw is being transported or in storage.

• Wrap the power cord (A) onto the storage clips (B) when saw is not in use.

Blade wrench

The storage area (C) for the blade wrench (D) is located in the left side of the rear carrying handle.



CAUTION: Your product's miter cut and bevel cut angles have been preset at the factory but can and will be misaligned by rough handling and transportation. It is essential that your new miter saw be realigned before use. Please adhere to the following resetting instructions.

BEVEL STOP ADJUSTMENT (FIG. 12a-12e)

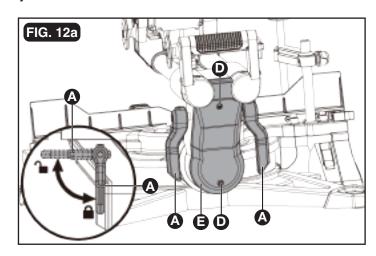
WARNING: To avoid injury from unexpected starting or electrical shock, make sure the trigger is released and remove the power cord from the power source.

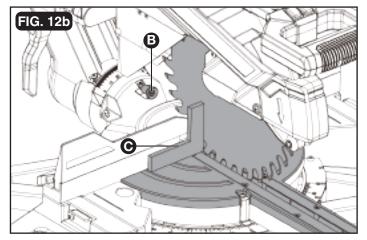
90° (0°) Bevel adjustment (Fig. 12a-12c)

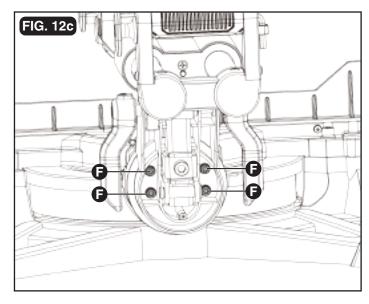
- Loosen two bevel lock levers (A) by turning them to back of the saw and tilt the cutting arm while pushing in the bevel detent pin (B) (Fig. 12b) in against the 0° bevel stop. Tighten the bevel lock levers by turning them to front of the saw.
- Place a framing square (C) on the miter table with one leg
 of the square against the table and slide the other leg of
 the square against the flat part of the saw blade.

CAUTION: Make sure that the square contacts the flat part of the saw blade, not the blade teeth.

- If the blade is not 0° to the miter table, loosen two cross screws (D) (Fig. 12a) on the back cover (E) of the miter saw and remove the back cover (E).
- Loosen the four adjustment bolts (F) (Fig. 12c) at the rear
 of the unit with 5mm hex key (not included). Unlock two
 bevel lock levers (A) and adjust the cutting arm zero degrees
 to the table. After alignment is achieved, tighten the four
 adjustment bolts (F) and tighten the two bevel lock levers
 to secure the cutting head.







90° (0°) Bevel pointer adjustment (Fig. 12d-12e)

- When the blade is exactly 90° (0°) to the table, loosen two bevel pointer screws (G) (on each side) using the Phillips screwdriver on the blade wrench.
- Adjust two bevel pointers (H) to the "0" mark on the bevel scale and retighten the screws.

45° Left & right bevel adjustment

If the 90° (0°) bevel have been set correctly, you do not need to adjust the 45° left and right bevel.

48° Left & right bevel adjustment (Fig. 12d-12e)

- Set the miter angle to zero degrees.
- Remove the sliding fence and work piece clamp.
- Pulling out the bevel detent pin (B) (Fig. 12d) toward the front of the machine and loosen two bevel lock levers, then tilt cutting arm to the 48° left.
- Tighten two bevel lock levers.
- Using a combination square, check to see if the blade is 48° to the table.
- To adjust, turn the screw (J) (located on the left of the cutting arm) clockwise or counter-clockwise with 10mm wrench/adjustment wrench or 3mm hex key (not included) until the blade is 48° to the table.
- Repeat steps for the right bevel 48° bevel adjustment only turn the screw (K) (located on the right of the cutting arm).
 (Fig. 12e)

WARNING: The work piece clamp assembly and sliding fence will interfere with blade guard assembly or motor when tilting the cutting head to 48° left or right.

MITER SCALE (FIG. 13)

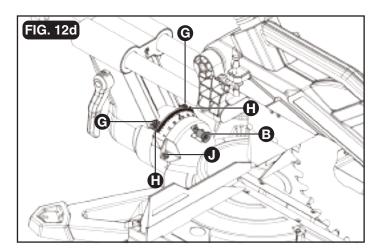
The miter scale can be easily read, showing miter angles from 0° to 52° to the left, and 0° to 60° to the right. The miter saw table has ten of the most common angle settings with positive stops at 0°, 15°, 22.5°, 31.6°, 45° and 60° (right).

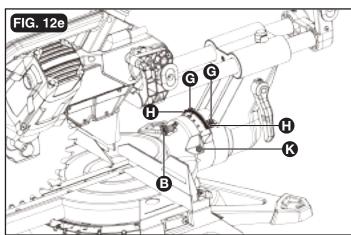
To adjust miter angles

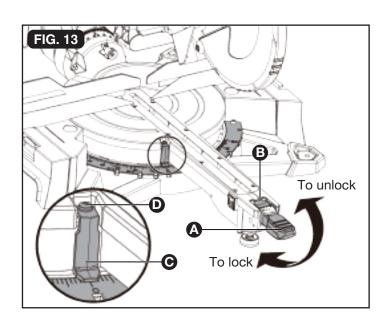
- Lift up the miter lock lever (A) to unlock the table.
- Move the turntable while pushing down the miter latch button (B) to align the pointer (C) to the desired degree.
- Lock the table into position by pressing down on the miter lock lever (A).

Miter angle pointer adjustment (Fig. 13)

- Move the table to the 0° positive stop.
- Loosen the screw (D) that holds the pointer with the Phillips screwdriver on the blade wrench.
- Adjust the red line on the pointer (C) align to the 0° mark and retighten the screw.







SQUARING THE SAW BLADE TO THE MITER FENCE (FIG. 14a-14b)

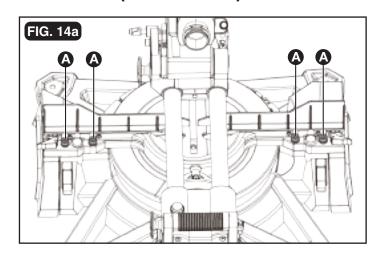
- Rotate the miter table until the pointer on the miter scale is positioned at 0°.
- Lower the cutting head and lock in place.
- Loosen the four miter fence lock bolts (A) using the hex key on the blade wrench.
- Lay a framing square (B) flat on the miter table. Place one leg of the square against the miter fence (C). Slide the other leg of the square against the flat part of saw blade.

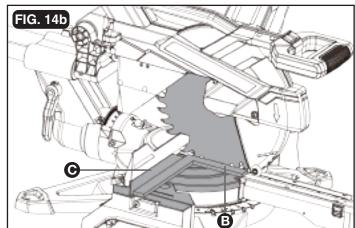
CAUTION: Make sure that the square contacts the flat part of the saw blade, not the blade teeth.

 Adjust the miter fence 90° to the blade and tighten four miter fence locking bolts (A).

recheck blade squareness to the fence and readjust if needed.

 After the fence has been aligned, make a cut at 90° (0°) using a scrap piece of wood and check squareness of the piece. Readjust if necessary.





DEPTH STOP ADJUSTMENT (FIG. 15)

When used, the depth stop (A) limits the downward travel of the blade when doing non-through cuts.

- Unlock the head lock knob.
- Raise the cutting head assembly.
- Push the depth stop (A) to the left to use the depth stop bolt (B) setting.
- Pull down on the saw head to check the current setting.
- To change the setting, turn the depth stop bolt (B) clockwise to decrease depth and counter-clockwise to increase depth.
- If needed, push the depth stop to the right to temporarily disable it.
- a. Position a for full cutting
- b. Position b for non-through cutting

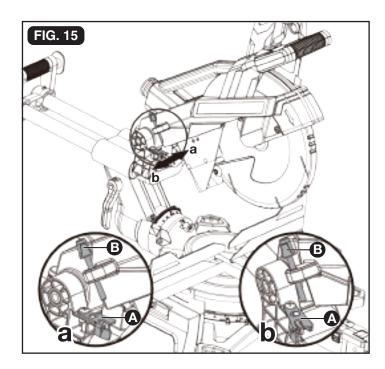


FIG. 16a

THE LASER GUIDE (FIG. 16a-16d)

WARNING: For your own safety, never connect the plug to a power source outlet until all the adjustment steps are complete and you have read and understood the safety and operational instructions.

Your tool is equipped with a laser guide using a class II laser guide. The laser guide allows you to preview the saw blade path on the workpiece to be cut before starting the miter saw. This laser guide is powered by the transformed alternating current supply directly through the power lead. The miter saw must be connected to the power source and the laser on/off switch must be turned on for the laser line to show.

To turn laser guide on (Fig. 16a)

- To turn laser on, press laser guide switch (A).
- To turn laser off, press laser guide switch (A) to "OFF" position.

DANGER: AVOID DIRECT EYE CONTACT:

- A red laser line is radiated when the laser guide is turn on.
 Avoid direct eye contact. Always unplug the miter saw from power source before making any adjustments.
- Laser Warning label: Wavelength: 650 nm, Max. output < 1 mW, Class II laser product complies with 21 CFR 1040.10 & 1040.11.
- Laser Warning label: Avoid exposure: Laser radiation is emitted from this aperture.



All the adjustments for the operation of this laser guide have been completed at the factory. Laser guide is calibrated and set up to project to the right of the blade, but can and will be misaligned by rough handling, transportation or others. It is essential that your laser guide

be set up before use. Please adhere to the following instructions.

WARNING: Before performing any adjustment, make sure the tool is unplugged from the power supply. Failure to heed this warning could result in serious personal injury.

- Set both the bevel angle and the miter table at 0°.
- Use the work piece clamp or a C-clamp to secure a piece of scrap wood.
- Plug the saw into the power source and make a slight cut to score the wood.
- Raise the cutting head and turn on the laser guide. The laser line is near the center of the work piece.
- Unplug the saw. To adjust the laser, loosen the four screws (B) on the right laser guide box assembly (C) with the Phillips screwdriver on the blade wrench and remove the left laser guide box assembly (D) and right laser guide box assembly (C). (Fig. 16b)
- Loosen the three screws (E) on the laser guide base (F) and slide the laser guide base to left or right until the laser line is properly aligned. (Fig. 16c)

CAUTION: When properly aligned, the laser should be on the left edge of the kerf. (Fig. 16d)

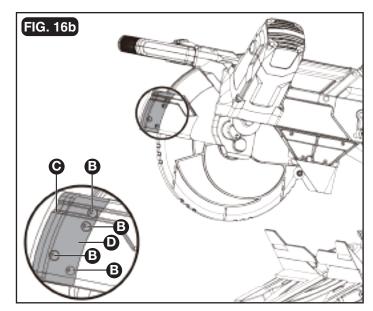
 Once aligned, tighten the screws (E) on the laser guide base (F) (Fig. 16c) and replace the left and right laser guide box (D, C) and tighten four screws (B) (Fig. 16b).

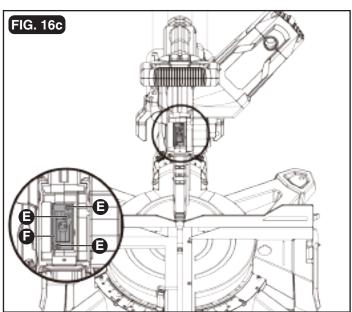
CAUTION: Always make practice cuts on scrap wood before cutting through your work piece.

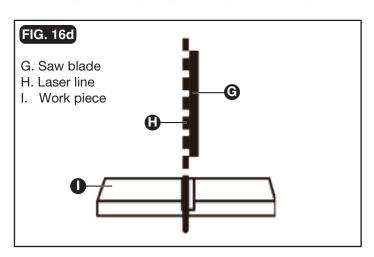
WARNING: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

WARNING:

- The use of optical instruments with this product will increase eye hazard.
- Do not attempt to repair or disassemble the laser. If unqualified persons attempt to repair this laser product, serious injury may result. Any repair required on this laser product should be performed by authorized service center personnel.







When transporting the miter saw, turn off and unplug the saw, then lower the cutter head and lock it in the "DOWN" position. Always use the carrying handles when lifting the saw.

WARNING: To avoid injury from an accidental start, make sure the switch is in the OFF position and the plug is not connected to the power source outlet.

WARNING: Never cut metals or masonry products with this tool. This miter saw is designed for use on wood and wood-like products only.

WARNING: To reduce the risk of serious personal injury, always wait for the blade to stop completely, turn off the tool and disconnect it from the power source before attempting to move it, change accessories or make any adjustments.



WARNING: To reduce the risk of injury, wear safety goggles or glasses with side shields.

WARNING: Before each use, verify that the blade is free of cracks, loose teeth, missing teeth, or any other damage. Do not use if damage is observed or suspected.

BODY AND HAND POSITION (FIG. 17)

warning: Never place hands near the cutting area. Proper positioning of your body and hands when operating the miter saw will make cutting easier and safer. Keep children away. Keep all visitors at a safe distance from the miter saw. Make sure bystanders are clear of the saw and work piece. Do not force the saw. It will do the job better and safer at its designed rate.

Starting a cut:

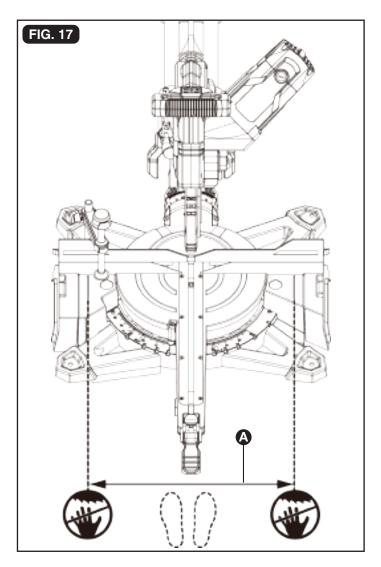
- Place hands at least 8 3/8 in. away from the path of the blade-out of the "non-hands zone" (A).
- Hold work piece firmly against the fence to prevent movement toward the blade.
- With the power switch OFF, bring the saw blade down to the work piece to see the cutting path of the blade.
- Squeeze trigger switch to start saw.
- Lower blade into work piece with a firm downward motion.

Finishing a cut:

- Hold the cutting head in the down position.
- Release trigger switch and wait for all moving parts to stop before moving your hands and raising the cutting head.
- Unplug the miter saw.

Before freeing jammed material:

- Release trigger switch.
- Wait for all moving parts to stop.
- Unplug the miter saw.



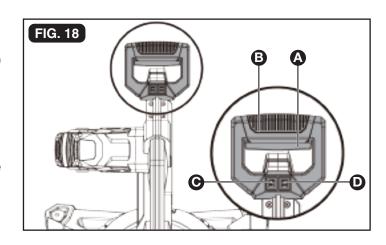
ON/OFF SWITCH (FIG. 18)

This miter saw is equipped with an ON/OFF trigger switch (A).

- To turn the miter saw ON, depress the ON/OFF switch (A) located in the "D" handle (B).
- To turn it OFF, release the ON/OFF switch (A).

WARNING:

- To avoid injury, after completing a cut and releasing the trigger switch, allow the blade to stop before raising the cutting head.
- To avoid injury, check and tighten the arbor bolt periodically.



LASER GUIDE ON/OFF SWITCH (FIG. 18)

- To turn laser ON, press laser guide ON/OFF switch (C) to "ON" position.
- To turn laser OFF, press laser guide ON/OFF switch (C) to "OFF" position.



DANGER: Do not stare into beam or view directly with optical instruments.

LED WORKLIGHT ON/OFF SWITCH (FIG. 18)

This miter saw is equipped with a LED worklight to illuminate work surface under low light conditions.

- To turn LED worklight ON, press LED worklight ON/OFF switch (D) to "ON" position.
- To turn LED worklight OFF, press LED worklight ON/OFF switch (D) to "OFF" position.

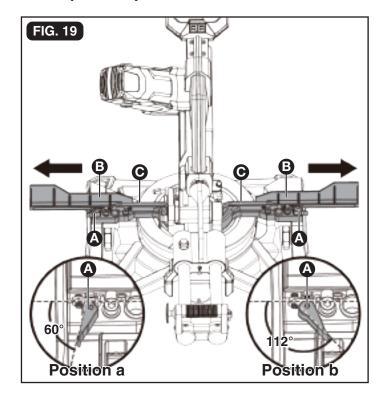
EXTENDING AND REMOVING SLIDING FENCE (FIG. 19)

warning: The sliding fence must be extended when making any bevel cut. Failure to extend the sliding fence will not allow enough space for the blade to pass through which could result in serious injury. At extreme miter or bevel angles the saw blade may also contact the sliding fence.

Extending

- Turning the fence locking knob (A) about 60° counterclockwise to loosen it.
- Extend the sliding fence (B) by sliding it out. Turn the fence locking knob (A) clockwise to lock the sliding fence.

WARNING: DRY RUN - It is important to know where the blade will intersect with work piece during cutting operations. Always perform a simulated cutting sequence with the power tool switch OFF to gain an understanding of the projected path of the saw blade. At some extreme angles, the left or right sliding fence might have to be removed to ensure proper clearance prior to making the cut.



Removing

- Turning the fence locking knob (A) about 112° counterclockwise to loosen it.
- Remove the sliding fence (B) from the slot of the miter fence (C).

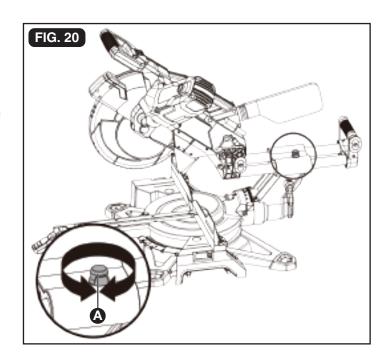
Installing sliding fence refer to the section "INSTALL RIGHT SLIDING FENCE".

CAUTION: When transporting the saw, always secure the sliding fence and lock it.

SLIDING THE CUTTING HEAD (FIG. 20)

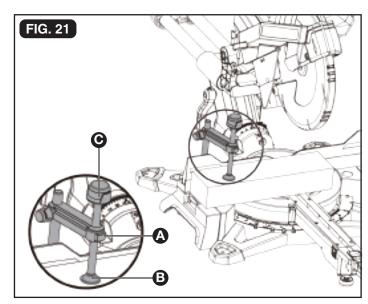
CAUTION: To reduce the risk of injury, return the slide bar to the full rear position after each crosscut operation.

- For chop cutting operations on small work pieces, slide the cutting head assembly completely toward the rear of the unit and tighten the slide lock knob (A).
- To cut wide boards, the slide lock knob (A) must be loosened to allow the cutting head to slide freely.



USING THE WORK PIECE CLAMP (FIG. 21)

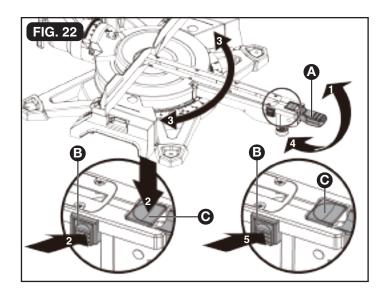
- Push and hold the quick release button (A) on the front of the work piece clamp (B).
- Move the work piece clamp (B) upward or downward to the desired position.
- Release the quick release button (A) to secure the clamp the work piece.
- Turn the knob (C) for slight adjustment.



MITER LATCH OVERRIDE (FIG. 22)

The miter latch override button allows your saw to override the common stop angles.

- Unlock miter table by pulling up the miter lock lever (A).
- Push the miter latch override button (B) to right while pushing down the miter latch button (C). Then release the miter latch override button (A) and miter latch button (C). The miter latch override button is now engaged.
- Turn the table to the desired angle, secure the table by pulling down the miter lock lever (A).
- Push down the miter latch button (C) and the miter latch override button will return to the off position automatically.



CHOP CUTS (FIG. 23)

Chop cuts are used mainly for narrow pieces (A).

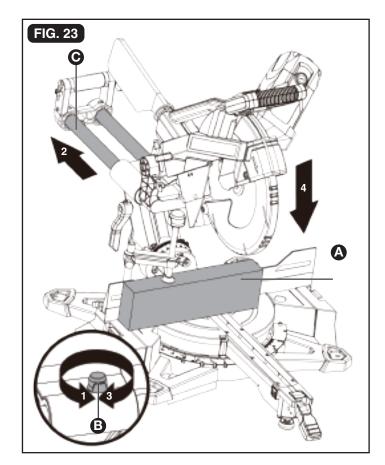
• Unplug the saw.

WARNING: Failure to unplug the saw could result in accident start up, which may cause serious injury.

- Turn the slide lock knob (B) counter-clockwise to release the slide bar (C).
- Slide the cutting head to the rear as far as it will go.
- Tighten the slide lock knob (B).
- Properly position the work piece. Make sure that the work piece is clamped firmly against the table and the fence.
 Make sure that the clamp does not interfere with the cutting operation.

WARNING: Use a clamping position that does not interfere with the cutting operation.

- Plug the saw into an electrical outlet.
- Before turning the saw on, lower the cutting head to make sure that the clamp clears the lower blade guard and the cutting head.
- Turn on the switch. Always allow the blade to reach full speed before cutting. Lower the cutting head and make your cut.
- Wait until blade comes to a complete stop before returning the cutting head to the raised position and/or removing the work piece.



SLIDE CUTS (FIG. 24)

This type of cut is used mainly for wide pieces. The slide lock knob is loosened, the cutting head is pulled towards the operator, and the cutting head is lowered to the work piece and then pushed to the rear of the saw to make the cut.

WARNING: Never pull the saw toward you during a cut. The blade can suddenly climb up on top of the work piece and force itself toward you.

Follow these instructions for making your slide cut:

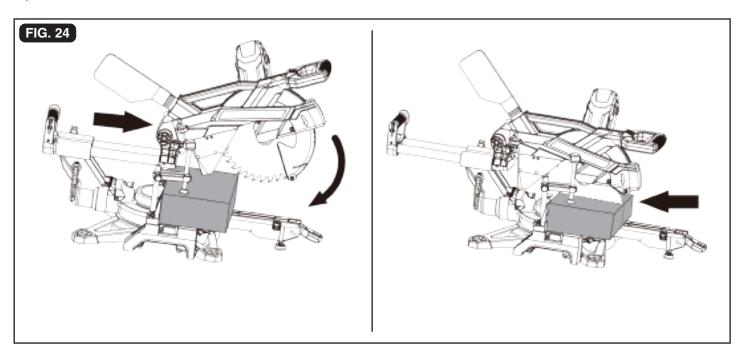
Unplug the saw.

WARNING: | Failure to unplug the saw could result in accidental start up, which may cause serious injury.

- Properly position the work piece. Make sure the work piece is clamped firmly against the table and the fence.
- Loosen the slide lock knob.
- Plug the saw into an electrical outlet.
- Grasp the "D" handle, and pull the cutting head away from the fence until the blade clears the front of the work piece or to its maximum extension.
- Before turning the saw on, lower the cutting head to make sure the clamp clears the lower blade guard and cutting head.

WARNING: Use a clamping position that does not interfere with the cutting operation.

- Turn on the switch. Always allow the blade to reach full speed before cutting.
- Lower the cutting head all the way down, and cut through the edge of the work piece.
- Push (but do not force) the cutting head towards the fence all the way to the rear position to complete the cut.
- Wait until the blade comes to a complete stop returning the cutting head to the raised position and/or removing the work piece.



CROSSCUT (FIG. 25)

A crosscut is a cut made across the grain of the work piece. A straight crosscut is a cut made with the miter table set at the 0° position.

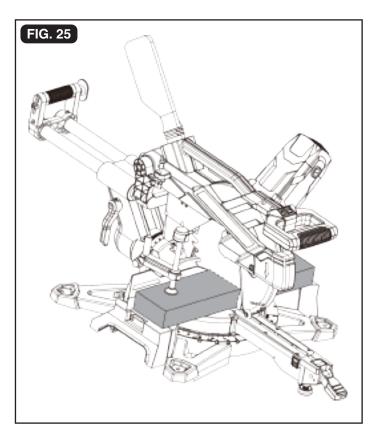
Miter crosscuts are made with the miter table set at an angle other than 0° , either left or right.

Unplug the saw.

WARNING: Failure to unplug the saw could result in an accidental start up, which may cause serious injury.

- Mark the cutting line on the work piece with a pencil.
- Push in the head lock knob to lock the cutting head in the "DOWN" position.
- Pull up the miter lock lever to unlock the miter table, move the table to the desired angle while pushing down the miter latch button. Quickly locate 0°, 15°, 22.5°, 31.6° 45° left and right, or 60° right by noting the stops or clicks at these angle settings.
- Pull down the miter lock lever to lock the miter table.

CAUTION: With using the miter latch override button, the miter table can move freely to any desired angle (Refer to the section "miter latch override"). Alternately, move the table until it is close to the desired position while



pressing down the miter latch button, release the miter latch button and move the next detent. The miter table will stop at each index point on the miter scale.

- Plug the saw into an electrical outlet.
- Pull out the head lock knob to release the cutting head.
- Place the work piece flat on the miter table with one edge securely against the fence. If the board is warped, place the convex side against the fence. The board could collapse on the table at the end of the cut and jam the blade (see "cutting warped material" section).
- Turn on the laser and align the pencil line with the laser line.
- Use the work piece clamp to secure the work piece against the saw table and fence.
- When cutting a long work piece, use table extension to support the work piece.

WARNING: To avoid serious injury, always lock the miter lock lever securely before making a cut. Failure to do so could result in movement of the control arm or miter table while making a cut.

CAUTION: Never use another person as an additional support for a work piece that is longer or wider than the basic saw table, or to help feed, support, or pull the work piece.

WARNING: To avoid serious personal injury, always keep hands outside of the "No-Hands Zone", as marked on the saw table. Never perform any cutting operation "freehand" (i.e., without holding the work piece against the fence), because the blade could grab the work piece, causing it to slip and twist.

- Before turning on the saw, perform a test of the cutting operation by lowering the cutting head to make sure that no problems will occur when the cut is made.
- Raise the cutting head, hold the saw handle and turn the saw on: squeeze the ON/OFF switch trigger.

- Allow several seconds for the blade to reach maximum speed.
- Slowly lower the blade into and through the work piece. Complete the cut.
- Release the ON/OFF switch trigger; allow the saw blade to stop rotating before raising the blade out of the work piece.



CAUTION: You can turn on the LED worklight for lighting in darker areas.

BEVEL CUT (FIG. 26a-26b)

A bevel cut is a cut made across the grain of the work piece with the blade at an angle other than 90° to the miter table. A straight bevel cut is made with the miter table set at the 0° position and the cutting head set at a bevel angle between 0° and 48° right or left.

Unplug the saw.

WARNING: | Failure to unplug the saw could result in accidental start up, which may cause serious injury.

CAUTION: It may be necessary to slide the sliding fence out to the required location or remove it to insure proper clearence prior to making the cut.

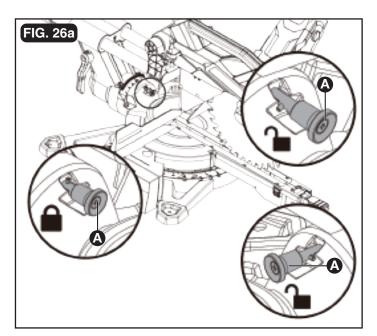
- Mark the cutting line on the work piece with a pencil.
- Make sure that the miter table is positioned at 0° and locked with the miter lock lever.

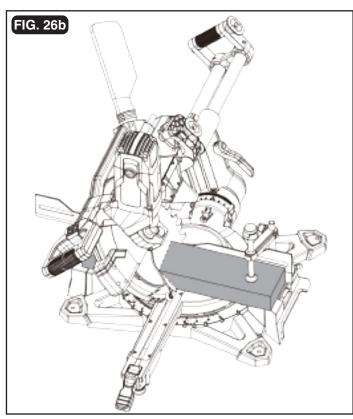
WARNING: To avoid serious personal injury, always lock the miter lock lever before making a cut. Failure to do so could result in movement of the control arm or the miter table while making a cut.

- Pull out the head lock knob to release the cutting head.
- Pull the bevel detent pin (A) out toward the front of the machine and rotate it a 1/4 turn in either direction and releasing it in that position. (Fig. 26a) (The bevel detent pin has two positions: 1. Bevel common stop angles (pin pulled completely out); 2. Quickly locate 0°, 22.5°, 33.9° and 45° left or right (pin pushed in).
- Loosen the bevel lock levers and tilt the cutting head to the desired bevel angle as indicated on the bevel scale. The blade can be positioned at any angle from a 90° straight cut (0° on the scale) to a 48° right and a 48° left bevel. Positive stops are provided at 0°, 22.5°, 33.9° and 45°.

CAUTION: You can quickly locate 0°, 22.5°, 33.9° and 45° left or right by using the bevel detent pin (A) (Fig. 26a).

• Tighten the bevel lock levers.





WARNING: To avoid serious personal injury, always tighten the bevel lock levers to secure the cutting head in position before making a cut.

- Plug the saw into an electrical outlet.
- Place the work piece flat on the miter table with one edge securely against the fence. If the board is warped, place the convex side against the fence. The board could collapse on the table at the end of the cut and jam the blade (see "cutting warped material" section)
- Turn on the laser and align the pencil line with the laser line.
- Use the work piece clamp to secure the work piece against the saw table and fence.
- When cutting a long work piece, use table extension to support the work piece.

CAUTION: Never use another person as an additional support for a work piece that is longer or wider than the basic saw table, or to help feed, support, or pull the work piece.

WARNING: To avoid serious personal injury, always keep hands outside of the "No-Hands Zone", as marked on the saw table. Never perform any cutting operation "freehand" (i.e., without holding the work piece against the fence), because the blade could grab the work piece, causing it to slip and twist.

- Before turning on the saw, perform a trial of the cutting operation by lowering the cutting head to make sure that no problems will occur when the cut is made.
- Raise the cutting head, hold the saw handle and turn the saw on: squeeze the ON/OFF switch trigger.
- Allow several seconds for the blade to reach maximum speed.
- Slowly lower the blade into and through the work piece. Complete the cut.
- Release the ON/OFF switch trigger; Allow the saw blade to stop rotating before raising the blade out of the work piece.

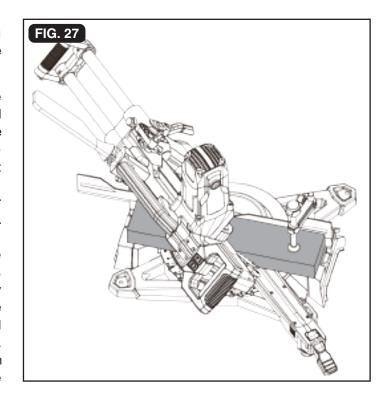
CAUTION: Always perform a "dry run" cut to determine whether the operation being attempted is possible before power is applied to the miter saw.

COMPOUND MITER CUT (FIG. 27, 28)

CAUTION: It may be necessary to slide the sliding fence out to the required location or remove it to insure proper clearance prior to making the cut.

A compound miter cut is a cut made using a miter angle and a bevel angle at the same time. This type of cut is used for decorative moldings, picture frames, and other fine joinery. To make this type of cut, the miter table must be rotated to the correct miter angle and the cutting head must be tilted to the correct bevel angle.

Always take special care when making compound miter cuts, due to the interaction of the two angle settings. Adjustments of miter and bevel settings are interdependent. Whenever the miter setting is adjusted, the effect of the bevel setting also changes. Whenever the bevel setting is adjusted, the effect of the miter setting is changed. It may take several settings to obtain the desired cut. The first angle setting should be checked after setting the second angle, because adjusting the second angle affects the first. Once the two correct settings for a particular cut have been obtained, always make a test cut in scrap material before



making a finish cut in good material.

• Unplug the saw.

WARNING: | Failure to unplug the saw could result in accidental start up, which may cause serious injury.

- Mark the cutting line on the work piece with a pencil.
- Pull out the head lock knob to release the cutting head.
- Pull up the miter lock lever and rotate the miter table to the desired miter angle.
- When the desired miter table setting is achieved, lock the miter lock lever.

WARNING: | To avoid serious personal injury, always lock the miter lock lever before making a cut. Failure to do so could result in movement of the control arm or miter table while making a cut.

• Pull the bevel detent pin (A) out toward the front to the machine and rotate it a 1/4 turn in either direction and

release it in that position. (Fig. 28) (The bevel detent pin has two pisitions: 1. Bevel common stop angles (pin pulled completely out); 2. Quickly locate 0°, 22.5°, 33.9° and 45° left or right (pin pushed in).

 Loosen the bevel lock levers and tilt the cutting head to the desired bevel angle as indicated on the bevel scale. The blade can be positioned at any angle from a 90° straight cut (0° on the scale) to a 48° right and a 48° left bevel. Positive stops are provided at 0°, 22.5°, 33.9° and 45°.

A CAUTION: You can quickly locate 0°, 22.5°, 33.9° and 45° left or right by using the bevel detent pin (A) (Fig. 28).

When the cutting head has been set at the desired angle, tighten the bevel lock levers clockwise.

WARNING: To avoid serious personal injury, always tighten the bevel lock levers to secure the cutting head in position before making a cut.

- Plug the saw into an electrical outlet.
- Place the work piece flat on the miter table with one edge securely against the fence. If the board is warped, place the convex side against the fence. The board could collapse on the table at the end of the cut and jam the blade (see "cutting warped material" section).
- Turn on the laser and align the pencil line with the laser line.
- Use the work piece clamp to secure the work piece against the saw table and fence.
- When cutting a long work piece, use table extensions to support the work piece.

A CAUTION: Never use another person as an additional support for a work piece that is longer or wider than the basic saw table, or to help feed, support, or pull the work piece.

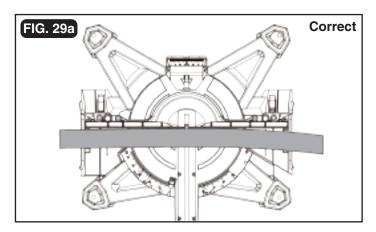
WARNING: To avoid serious personal injury, always keep hands outside of the "No-Hands Zone", as marked on the saw table. Never perform any cutting operation "freehand" (i.e., without holding the work piece against the fence), because the blade could grab the work piece, causing it to slip and twist.

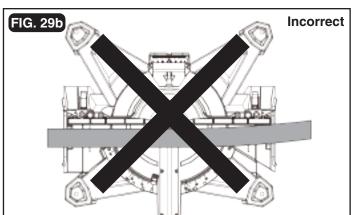
- · Before turning on the saw, perform a trial of the cutting operation by lowering the cutting head to make sure that no problems will occur when the cut is made.
- Raise the cutting head, hold the saw handle and turn the saw on: squeeze the ON/OFF switch trigger.
- Allow several seconds for the blade to reach maximum speed.
- Slowly lower the blade into and through the work piece. Complete the cut.
- Release the ON/OFF switch trigger; Allow the saw blade to stop rotating before raising the blade out of the work piece.

CUTTING WARPED MATERIAL (FIG. 29a-29b)

WARNING: To avoid kickback and serious personal injury, never position the concave side of bowed or warped material against the fence.

When cutting warped material, be certain that the material to be cut is positioned on the miter table with the convex side against the fence, as shown Fig. 29a. If the warped material is positioned the wrong way (Fig. 29b), it will pinch the blade near the end of the cut.





CUTTING GROOVES (FIG. 30a-30b)

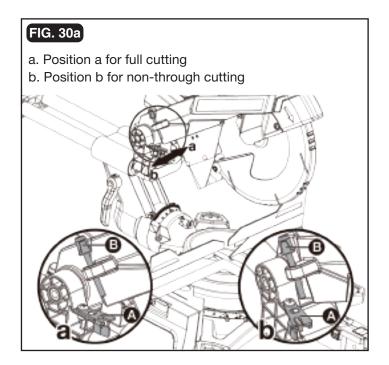
The depth stop adjustment is a feature used when cutting grooves in the work piece. The depth stop adjustment is used to limit the blade depth. A groove should be cut as a slide cut.

warning: Do not use a dado blade, use only the standard 12 in. diameter saw blade for this operation.

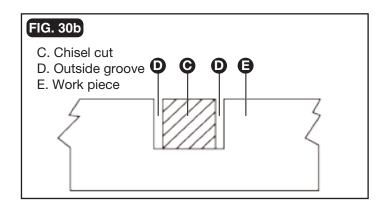
Unplug the saw.

Failure to unplug the saw could result in accidental start up, which may cause serious injury.

- Push the depth stop (A) to the left, turn the depth stop bolt (B) to the desired cutting depth.
- Space the work piece away from the fence with a scrap piece of lumber approxiamtely 1-1/2 in. thick. This will allow for a complete groove to be cut. Be sure the work piece is fully supported.
- Plug the saw into an electrical outlet.
- Cut the two outside edges of the grooves.



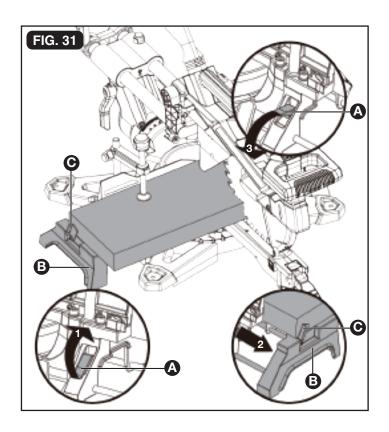
 To create the groove, use a wood chisel or make multiple passes with a router to remove the material between the outside edges.



WORKPIECE SUPPORT AND REPETITIVE CUTTING USING THE CUT STOP (FIG. 31)

Long pieces need table extension support.

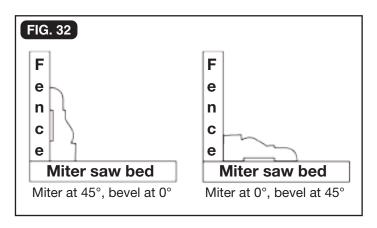
- Loosen the lock knob (A) by pushing it up to unlock the table extension (B). Slide to desired position and push the lock knob (A) down to lock the table extension (B).
- The cut stop (C) is designed for using during repetitive cutting. Only use one cut stop at a time. Rotate the cut stop (C) to vertical position.



CUTTING BASE MOULDING (FIG. 32)

Base mouldings and many other mouldings can be cut on a miter saw. The setup of the saw depends on the base moulding characteristics and applications, as shown. Perform practice cuts on scrap materials to achieve the best result.

- Always make sure that the moulding rests firmly against the fence and table. Use the work piece clamp provided or use C-clamps (not supplied), and place the tape on the area being clamped to avoid marks on the work piece.
- Reduce splintering by taping the cut area prior to making the cut. Mark the cutting line directly on the tape.
 Splintering typically happens due to incorrect blade style



dull blade, thinness of work piece, or improperly dried wood.

CAUTION: Always perform a dry-run cut so you can determine if the operation being attempted is possible before power is applied to miter saw.

- Place the work piece flat on the miter table with one edge securely against the fence. If the board is warped, place the convex side against the fence. If the concave edge of the board is against the fence, the board could collapse on the blade at the end of the cut and jam the blade.
- Align your pencil line with the laser line.
- Use the table extension when cutting long work piece.
- Carefully follow all instruction for applicable miter, bevel or compound cuts.

CUTTING CROWN MOULDING

The miter saw does an excellent job of cutting crown moulding. In general, miter saws do a better job of cutting crown moulding than any other tool made.

In order to fit properly, crown moulding must be compound mitered with extreme accuracy. The two contact surfaces on a piece of crown moulding that fit flat against the ceiling and the wall of a room are at angles that, when added together, equal exactly 90°. Most crown moulding has a top rear angle (the section that fits flat against the ceiling) of 52° and a bottom rear angle (the section that fits flat against the wall) of 38°.

LAYING MOULDING FLAT ON THE MITER TABLE (FIG. 33)

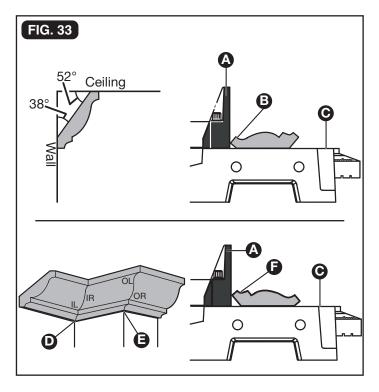
To use this method for accurately cutting crown moulding for a 90° inside or outside corner, lay the moulding with its broad back surface flat on the miter table and against the fence.

When setting the bevel and miter angles for compound miters, remember that the settings are interdependent; changing one angle changes the other angle as well.

Keep in mind that the angles for crown moulding are very precise and difficult to set. Since it is very easy for these angles to shift, all settings should first be tested on scrap moulding. Also most walls do not have angles of exactly 90°; Therefore, you will need to fine tune your settings.

When cutting crown moulding by this method, the bevel angle should be set at 33.9°. The miter angle should be set at 31.6° either right or left, depending on the desired cut for the application. See the chart below for correct angle settings and correct positioning of crown moulding on miter table

The settings in the chart on the next page can be used for cutting All Standard (U.S.) crown moulding with 52° and 38° angles. The crown moulding is placed flat on the miter table using the compound features of your miter saw.



- A. Fence
- B. Top edge against fence= Left side, inside corner Right side, outside corner
- C. Miter table
- D. Inside corner
- E. Outside corner
- F. Bottom edge against fence= Right side, inside corner Left side, outside corner

Key	Miter Setting	Bevel Setting	Type of Cut
	31.6°	33.9°	Inside Corner - Left side • Position top of moulding against
IL	Right	Left	fence.
			LEFT side is finished piece.
			Inside Corner - Right side
IR	31.6°	33.9°	Position top of moulding against
	Left	Right	fence.
			RIGHT side is finished piece.
			Outside Corner - Left side
OL	31.6°	33.9°	Position top of moulding against
OL	Left	Right	fence.
			LEFT side is finished piece.
			Outside Corner - Right side
OR	31.6°	33.9°	Position top of moulding against
On	Right	Left	fence.
			RIGHT side is finished piece.

Key	Miter Setting	Bevel Setting	Type of Cut
IR	45° Right	0°	Inside Corner - Right side RIGHT side is finished piece.
IL	45° Left	0°	Inside Corner - Left side Left side is finished piece.
OR	45° Right	0°	Outside Corner - Right side RIGHT side is finished piece.
OL	45° Left	0°	Outside Corner - Left side Left side is finished piece.

MAINTENANCE

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

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

GENERAL MAINTENANCE

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use.

Use clean cloths to remove dirt, carton dust, etc.

WARNING: Do not at any time let brake fluids, gasoline, petroleum-based products, penetrating oils, etc., to come in contact with plastic parts. They contain chemicals that can damage, weaken, or destroy plastic.

LUBRICATION

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

WARNING: To ensure safety and reliability, all repairs should be performed by a qualified service technician at an authorized service center to avoid risk of personal injury.

Some areas will require infrequent lubrication. You will need to apply:

- Automotive oil directly the slide bars.
- Light oil or pressurized light spray oil to the arm pivot shaft.
- Light oil or pressurized light spray oil to the torsion spring.

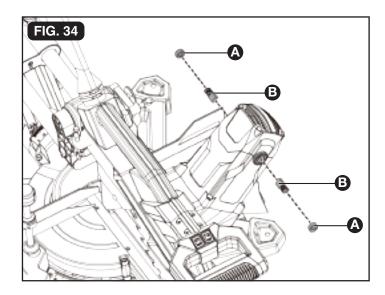
BRUSH REPLACEMENT (FIG. 34)

The saw has externally accessible brush assemblies that should be periodically checked for wear.

Unplug the saw.

WARNING: Failure to unplug the saw could result in accidental starting causing serious injury.

- Remove the brush cap (A) with a screwdriver. The brush assembly is spring loaded and will pop out when you remove the brush cap.
- Remove the brush assembly (B).
- Check for wear. Replace both brushes when either has less than 1/4 in. length of carbon remaining. Do not replace one side without replacing the other.
- Reassemble using new brush assemblies. Make sure that the curvature of the brush matches curvature of the motor and that the brush moves freely in the brush tube.
- Make sure that the brush cap is oriented correctly (straight) and replace.
- Tighten the brush cap securely. Do not over-tighten.



TROUBLESHOOTING

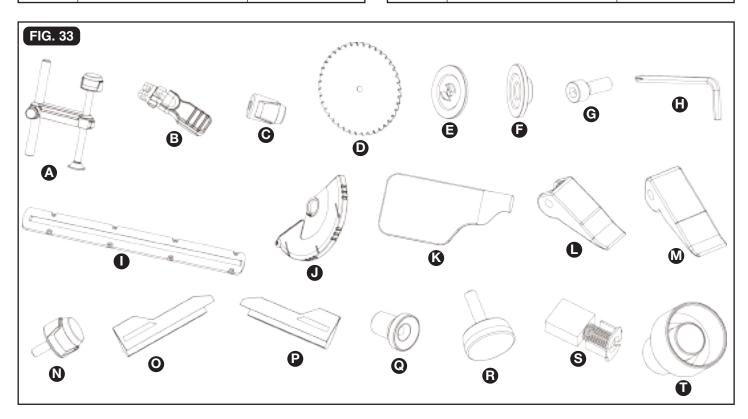
PROBLEM	PROBLEM CAUSE	CORRECTIVE ACTION
Motor does not start.	Fuse problem. Brush worn.	 Check time delay fuse or circuit breaker. Replace brushes. See MAINTENANCE section.
Brush sparks excessively when switch is released.	Brush worn/damaged.	Replace brushes. See MAINTENANCE section.
Blade hits table.	Misalignment.	See ADJUSTMENT section.
Angle of cut is inaccurate.	Miter table is unlocked.Too much sawdust under table.	 Use miter lock lever. See ADJUSMENT section. Vacuum or blow out dust. WEAR EYE PROTECTION!
Cutting head cannot fully raise or blade guard cannot fully close.	 Parts failure. Pivot spring not replaced properly after service. Sawdust buildup. 	Contact authorized service center. Contact authorized service center. Clean and lubricate moving parts.
Cutting head cannot fully raise or blade guard cannot fully close.	Miter table is unlocked.Too much sawdust under table.	 Use miter lock lever. See ADJUSMENT section. Vacuum or blow out dust. WEAR EYE PROTECTION!
Blade binds, jams, or burns wood.	Improper operation.Dull blade.Improper blade.Warped blade.	 See OPERATION section. Replace or sharpen blade. Replace blade. Replace blade.
Saw vibrates or shakes.	Saw blade is damaged.Saw blade is loosened.	Replace blade.Tighten arbor bolt.
Laser line projection is hard to see.	Light in work area is too bright.Sawdust on the laser lens.	Move the miter saw to the work area with proper light.Clean laser lens with a soft, dry brush.

REPLACEMENT PARTS LIST

For questions / comments, technical assistance or repair parts - Please call toll free at: 1-877-684-8912 (Monday - Friday 8am - 6pm EST.)

PART	DESCRIPTION	PART#
А	Work Piece Clamp	2400028001
В	Miter Lock Lever	2400028002
С	Bevel Lock Lever	2400028003
D	Saw Blade	2400028004
Е	Outer Flange	2400028005
F	Inner Flange	2400028006
G	Arbor Bolt	2400028007
Н	Blade Wrench	2400028008
I	Table Insert	2400028009
J	Lower Blade Guard	2400028010

PART	DESCRIPTION	PART#
K	Dust Bag	2400028011
L	Sliding Miter Fence Lock Knob	2400028012
М	Table Extension Lock Knob	2400028013
N	Slide Lock Knob	2400028014
0	Left Slide Fence	2400028015
Р	Right Slide Fence	2400028016
Q	Bevel Detent Pin	2400028017
R	Leveling Foot	2400028018
S	Carbon Brush	2400028019
Т	Dust Port Adapter	2400028020





12" DUAL BEVEL SLIDING MITER SAW WITH LASER WARRANTY

90-DAY MONEY BACK GUARANTEE:

This MASTERFORCE® brand power tool carries our 90-DAY Money Back Guarantee. If you are not completely satisfied with your MASTERFORCE® brand power tool for any reason within ninety (90) days from the date of purchase, return the tool with your original receipt to any MENARDS® retail store, and we will provide you a refund – no questions asked.

3-YEAR LIMITED WARRANTY:

This MASTERFORCE® brand power tool carries our famous No Hassle 3-Year Limited Warranty to the original purchaser. If, during normal use, this MASTERFORCE® power tool breaks or fails due to a defect in material or workmanship within three (3) years from the date of original purchase, simply bring this tool with the original sales receipt back to your nearest MENARDS® retail store. At its discretion, MASTERFORCE® agrees to have the tool or any defective part(s) repaired or replaced with the same or similar MASTERFORCE® product or part free of charge, within the stated warranty period, when returned by the original purchaser with original sales receipt. Not withstanding the foregoing, this limited warranty does not cover any damage that has resulted from abuse or misuse of the Merchandise. This warranty: (1) excludes expendable parts including but not limited to blades, brushes, belts, bits, light bulbs, and/or batteries; (2) shall be void if this tool is used for commercial and/or rental purposes; and (3) does not cover any losses, injuries to persons/property or costs. This warranty does give you specific legal rights and you may have other rights, which vary from state to state. Be careful, tools are dangerous if improperly used or maintained. Seller's employees are not qualified to advise you on the use of this Merchandise. Any oral representation(s) made will not be binding on seller or its employees. The rights under this limited warranty are to the original purchaser of the Merchandise and may not be transferred to any subsequent owner. This limited warranty is in lieu of all warranties, expressed or implied including warranties or merchantability and fitness for a particular purpose. Seller shall not be liable for any special, incidental, or consequential damages. The sole exclusive remedy against the seller will be for the replacement of any defects as provided herein, as long as the seller is willing or able to replace this product or is willing to refund the purchase price as provided above. For insurance purposes, seller is not allowed to demonstrate any of these power tools for you.

For questions / comments, technical assistance or repair parts – Please Call Toll Free at: 1-877-684-8912. (M-F 8am – 6pm)

SAVE YOUR RECEIPTS
THIS WARRANTY IS VOID WITHOUT THEM

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