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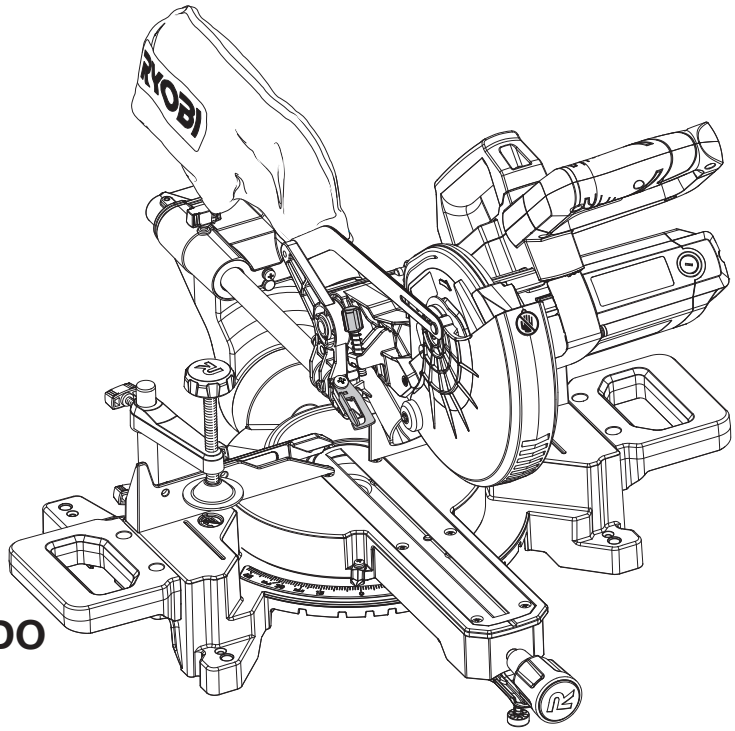
OPERATOR'S MANUAL

MANUEL D'UTILISATION
MANUAL DEL OPERADOR

7-1/4 in. SLIDING COMPOUND MITER SAW WITH LED

SCIE À ONGLETS COMBINÉS COULISSANTE AVEC DEL DE 184 mm (7-1/4 po)

SIERRA INGLETEADORA COMPUESTA DESLIZANTE CON DIODO DE 184 mm (7-1/4 pulg.)



TSS702

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

SAVE THIS MANUAL FOR FUTURE REFERENCE

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AVERTISSEMENT : Pour réduire les risques de blessures, l'utilisateur doit lire et veiller à bien comprendre le manuel d'utilisation avant d'employer ce produit.

CONSERVER CE MANUEL POUR FUTURE RÉFÉRENCE

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ADVERTENCIA: Para reducir el riesgo de lesiones, el usuario debe leer y comprender el manual del operador antes de usar este producto.

GUARDE ESTE MANUAL PARA FUTURAS CONSULTAS

GENERAL SAFETY RULES

⚠ WARNING:

Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference. The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

WORK AREA SAFETY

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

ELECTRICAL SAFETY

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

PERSONAL SAFETY

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

POWER TOOL USE AND CARE

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

GENERAL SAFETY RULES

power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

SERVICE

- **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

MITER SAW SPECIFIC SAFETY RULES

- **Miter saws are intended to cut wood or wood-like products, they cannot be used with abrasive cut-off wheels for cutting ferrous material such as bars, rods, studs, etc.** Abrasive dust causes moving parts such as the lower guard to jam. Sparks from abrasive cutting will burn the lower guard, the kerf insert and other plastic parts.
- **Use clamps to support the workpiece whenever possible. If supporting the workpiece by hand, you must always keep your hand at least 100 mm from either side of the saw blade. Do not use this saw to cut pieces that are too small to be securely clamped or held by hand.** If your hand is placed too close to the saw blade, there is an increased risk of injury from blade contact.
- **The workpiece must be stationary and clamped or held against both the fence and the table. Do not feed the workpiece into the blade or cut "freehand" in any way.** Unrestrained or moving workpieces could be thrown at high speeds, causing injury.
- **Push the saw through the workpiece. Do not pull the saw through the workpiece. To make a cut, raise the saw head and pull it out over the workpiece without cutting, start the motor, press the saw head down and push the saw through the workpiece.** Cutting on the pull stroke is likely to cause the saw blade to climb on top of the workpiece and violently throw the blade assembly towards the operator.
- **Never cross your hand over the intended line of cutting either in front or behind the saw blade.** Supporting the workpiece "cross handed" i.e. holding the workpiece to the right of the saw blade with your left hand or vice versa is very dangerous.
- **Do not reach behind the fence with either hand closer than 100 mm from either side of the saw blade, to remove wood scraps, or for any other reason while the blade is spinning.** The proximity of the spinning saw blade to your hand may not be obvious and you may be seriously injured.
- **Inspect your workpiece before cutting. If the workpiece is bowed or warped, clamp it with the outside bowed face toward the fence. Always make certain that there is no gap between the workpiece, fence and table along the line of the cut.** Bent or warped workpieces can twist or shift and may cause binding on the spinning saw blade while cutting. There should be no nails or foreign objects in the workpiece.
- **Do not use the saw until the table is clear of all tools, wood scraps, etc., except for the workpiece.** Small debris or loose pieces of wood or other objects that contact the revolving blade can be thrown with high speed.
- **Cut only one workpiece at a time.** Stacked multiple workpieces cannot be adequately clamped or braced and may bind on the blade or shift during cutting.
- **Ensure the miter saw is mounted or placed on a level, firm work surface before use.** A level and firm work surface reduces the risk of the miter saw becoming unstable.
- **Plan your work. Every time you change the bevel or miter angle setting, make sure the adjustable fence is set correctly to support the workpiece and will not interfere with the blade or the guarding system.** Without turning the tool "ON" and with no workpiece on the table, move the saw blade through a complete simulated cut to assure there will be no interference or danger of cutting the fence.
- **Provide adequate support such as table extensions, saw horses, etc. for a workpiece that is wider or longer than the table top.** Workpieces longer or wider than the miter saw table can tip if not securely supported. If the cut-off piece or workpiece tips, it can lift the lower guard or be thrown by the spinning blade.

MITER SAW SPECIFIC SAFETY RULES

- **Do not use another person as a substitute for a table extension or as additional support.** Unstable support for the workpiece can cause the blade to bind or the workpiece to shift during the cutting operation pulling you and the helper into the spinning blade.
- **The cut-off piece must not be jammed or pressed by any means against the spinning saw blade.** If confined, i.e. using length stops, the cut-off piece could get wedged against the blade and thrown violently.
- **Always use a clamp or a fixture designed to properly support round material such as rods or tubing.** Rods have a tendency to roll while being cut, causing the blade to bite and pull the work with your hand into the blade.
- **Let the blade reach full speed before contacting the workpiece.** This will reduce the risk of the workpiece being thrown.
- **If the workpiece or blade becomes jammed, turn the miter saw off. Wait for all moving parts to stop and disconnect the plug from the power source and/or remove the battery pack. Then work to free the jammed material.** Continued sawing with a jammed workpiece could cause loss of control or damage to the miter saw.
- **After finishing the cut, release the switch, hold the saw head down and wait for the blade to stop before removing the cut-off piece.** Reaching with your hand near the coasting blade is dangerous.
- **Hold the handle firmly when making an incomplete cut or when releasing the switch before the saw head is completely in the down position.** The braking action of the saw may to be suddenly pulled downward, causing a risk of injury.
- **Save these instructions.** Refer to them frequently and use to instruct other users. If you loan someone this tool, loan them these instructions also.

ADDITIONAL SAFETY RULES

- **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.
- **Inspect tool cords periodically.** If damaged, have repaired by a qualified service technician at an authorized service facility. Repair or replace a damaged or worn cord immediately. Stay constantly aware of cord location and keep it well away from the rotating blade.
- **Inspect extension cords periodically** and replace if damaged.
- **Polarized plugs.** To reduce the risk of electric shock, this tool has a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.
- **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.
- **Always wear eye protection with side shields which is marked to comply with ansi Z87.1 when using this product.** Failure to do so could result in objects being thrown into your eyes, resulting in possible serious injury.
- **Never stand on tool.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
- **Keep guards in place** and in good working order.
- **Use the right direction of feed.** Feed work into a blade, cutter, or sanding spindle against the direction of rotation of the blade, cutter, or sanding spindle only.
- **Never leave tool running unattended. Turn the power off.** Don't leave tool until it comes to a complete stop.
- **Use only correct blades. Do not** use blades with incorrect size holes. Never use blade washers or blade bolts that are defective or incorrect. The maximum blade capacity of your saw is 7-1/4 in.
- **Before making a cut, be sure all adjustments are secure.**
- **Never touch blade** or other moving parts during use.
- **Double check all setups.** Make sure blade is tight and not making contact with saw or workpiece before connecting to power supply.
- **Firmly clamp or bolt** your tool to a workbench or table at approximately hip height.
- **Make sure the miter table and saw arm (bevel function) are locked in position before operating your saw.** Lock the miter table by pushing the miter lock lever down. Lock the saw arm (bevel function) by securely tightening the bevel lock knob.

ADDITIONAL SAFETY RULES

- **Never move the workpiece or make adjustment to any cutting angle while the saw is running and the blade is rotating.** Any slip can result in contact with the blade causing serious personal injury.
- **Avoid awkward operations and hand positions** where a sudden slip could cause your hand to move into the blade. **ALWAYS** make sure you have good balance. **NEVER** operate your miter saw on the floor or in a crouched position.
- **Never** stand or have any part of the body in line with the path of the saw blade.
- **Do not turn the motor switch on and off rapidly.** This could cause the saw blade to loosen and could create a hazard. Should this ever occur, stand clear and allow the saw blade to come to a complete stop. Disconnect your saw from the power supply and securely retighten the blade bolt.
- **If any part of this miter saw is missing** or should break, bend, or fail in any way, or should any electrical component fail to perform properly, shut off the power switch, remove the miter saw plug from the power source and have damaged, missing, or failed parts replaced before resuming operation.
- **Always turn off the saw** before disconnecting it to avoid accidental starting when reconnecting to power supply. **NEVER** leave the saw unattended while connected to a power source.
- **This tool** should have the following markings:
  - To reduce the risk of injury, user must read the operator's manual.
  - Wear eye protection.
  - Keep hands and body out of the path of the saw blade. Contact with the blade will result in serious injury.
  - Check guarding system to make sure it is functioning correctly.
  - Do not perform any operation freehand.
  - Never reach around the saw blade.
  - Turn off tool and wait for saw blade to stop before moving workpiece or changing settings.
  - Disconnect the saw from the power source before changing blade or servicing.
- **Always** carry the tool only by the carrying handle.
- **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.
- **Always make sure the saw blade has clearance of all obstructions before turning the saw on.**

SYMBOLS

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

SYMBOL	SIGNAL	MEANING
	**DANGER:**	Indicates a hazardous situation, which, if not avoided, will result in death or serious injury.
	**WARNING:**	Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.
	**CAUTION:**	Indicates a hazardous situation, that, if not avoided, may result in minor or moderate injury.
	NOTICE:	(Without Safety Alert Symbol) Indicates information considered important, but not related to a potential injury (e.g. messages relating to property damage).

Some of the 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
	Safety Alert	Indicates a potential personal injury hazard.
	Read Operator's Manual	To reduce the risk of injury, user must read and understand operator's manual before using this product.
	Eye Protection	Always wear eye protection with side shields marked to comply with ANSI Z87.1.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	Extremely Bright Light	This product uses extremely bright LEDs. To avoid serious eye injury, do not stare into the light (not even from a distance).
	Wet Conditions Alert	Do not expose to rain or use in damp locations.
V	Volts	Voltage
A	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
min	Minutes	Time
~	Alternating Current	Type of current
n_0	No Load Speed	Rotational speed, at no load
⧈	Class II Construction	Double-insulated construction
.../min	Per Minute	Revolutions, strokes, surface speed, orbits, etc., per minute

ELECTRICAL

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.

NOTE: 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.

ELECTRICAL CONNECTION

This tool has a precision-built electric motor. It should be connected to a **power supply that is 120 V, AC only (normal household current), 60 Hz**. Do not operate this tool on direct current (DC). 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.

EXTENSION CORDS

When using a power tool at a considerable distance from a power source, be sure to use an extension cord that has the capacity to handle the current the product will draw. An undersized cord will cause a drop in line voltage, resulting in overheating and loss of power. Use the chart to determine the minimum wire size required in an extension cord. Only round jacketed cords listed by Underwriter's Laboratories (UL) should be used.

When working outdoors with a product, use an extension cord that is designed for outside use. This type of cord is designated with "WA" or "W" on the cord's jacket.

Before using any extension cord, inspect it for loose or exposed wires and cut or worn insulation.

**Ampere rating (on product data plate)

	0-2.0	2.1-3.4	3.5-5.0	5.1-7.0	7.1-12.0	12.1-16.0
Cord Length	**Wire Size (A.W.G.)**					
25'	16	16	16	16	14	14
50'	16	16	16	14	14	12
100'	16	16	14	12	10	—

***Used on 12 gauge - 20 amp circuit.*
NOTE: AWG = American Wire Gauge

WARNING:

Keep the extension cord clear of the working area. Position 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.

GLOSSARY OF TERMS

Anti-Kickback Pawls (radial arm and table saws)
A device which, when properly installed and maintained, is designed to stop the workpiece from being kicked back toward the front of the saw during a ripping operation.

Arbor
The shaft on which a blade or cutting tool is mounted.

Bevel Cut
A cutting operation made with the blade at any angle other than 90° to the table surface.

Chamfer
A cut removing a wedge from a block so the end (or part of the end) is angled rather than at 90°.

Compound Cut
A cross cut made with both a miter and a bevel angle.

Cross Cut
A cutting or shaping operation made across the grain or the width of the workpiece.

Cutter Head (planers and jointer planers)
A rotating cutterhead with adjustable blades or knives. The blades or knives remove material from the workpiece.

Dado Cut (table saws and compound sliding miter saws)
A non-through cut which produces a square, three-sided notch or trough in the workpiece.

Featherboard (table saws)
A device used to help control the workpiece by guiding it securely against the table or fence during any ripping operation.

FPM or SPM
Feet per minute (or strokes per minute), used in reference to blade movement.

Freehand
Performing a cut without the workpiece being guided by a fence, miter fence, or other aids.

Gum
A sticky, sap-based residue from wood products.

Heel
Alignment of the blade to the miter gauge groove.

Kerf
The material removed by the blade in a through cut or the slot produced by the blade in a non-through or partial cut.

Kickback
A hazard that can occur when the blade binds or stalls, throwing the workpiece in the direction of the spinning blade.

Miter Cut
A cutting operation made with the workpiece at any angle to the blade other than 90°.

Non-Through Cuts (table saws and compound sliding miter saws)
Any cutting operation where the blade does not extend completely through the thickness of the workpiece. This is a cut where the blade will not cut the workpiece into two pieces.

Pilot Hole (drill presses and scroll saws)
A small hole drilled in a workpiece that serves as a guide for drilling large holes accurately or for insertion of a scroll saw blade.

Push Blocks (jointer planers)
Device used to feed the workpiece over the jointer planer cutterhead during any operation. This aid helps keep the operator's hands well away from the cutterhead.

Push Blocks and Push Sticks (table saws)
Devices used to feed the workpiece through the saw blade during cutting operations. When making a narrow rip cut without a jig or similar cutting aid, always use a push stick (not a push block). A push block can be used for narrow ripping operations, if a jig or similar cutting aid is used. These aids help keep the operator's hands well away from the blade.

Rabbet
A non-through cut positioned on the end or edge of the workpiece which produces a square, two-sided notch or trough in the workpiece.

Resaw (table saws and band saws)
A cutting operation to reduce the thickness of the workpiece to make thinner pieces.

Resin
A sticky, sap-based substance that has hardened.

Revolutions Per Minute (RPM)
The number of turns completed by a spinning object in one minute.

Ripping or Rip Cut (table saws)
A cutting operation along the length of the workpiece and typically in the direction of the grain.

Riving Knife/Spreader/Splitter (table saws)
A metal piece, slightly thinner than the blade, which helps keep the kerf open and also helps to prevent kickback.

Saw Blade Path
The area over, under, behind, or in front of the blade. As it applies to the workpiece, that area which will be or has been cut by the blade.

Snipe (planers)
Depression made at either end of a workpiece by cutter blades when the workpiece is not properly supported.

Taper Cut
A cut where the material being cut has a different width at the beginning of the cut from the end.

Through Sawing
Any cutting operation where the blade extends completely through the thickness of the workpiece. This type of cut will separate a single workpiece into two pieces.

Workpiece or Material
The item on which the operation is being done.

Worktable
Surface where the workpiece rests while performing a cutting, drilling, planing, or sanding operation.

FEATURES

PRODUCT SPECIFICATIONS

Arbor Hole ..... 5/8 in.
Blade Diameter..... 7-1/4 in.
No Load Speed ..... 5,350/min. (RPM)
Input ..... 120 V, AC only, 60 Hz, 10 Amps
Cutting Capacity with Miter at 0°/Bevel 0°:
Maximum nominal lumber sizes..... 2 in. x 10 in.
Cutting Capacity with Miter at 45°/Bevel 0°:
Maximum nominal lumber sizes..... 2 in. x 6 in.
Cutting Capacity with Miter at 0°/Bevel 45°:
Maximum nominal lumber sizes..... 2 in. x 10 in.
Cutting Capacity with Miter at 45°/Bevel 45°:
Maximum nominal lumber sizes..... 2 in. x 6 in.

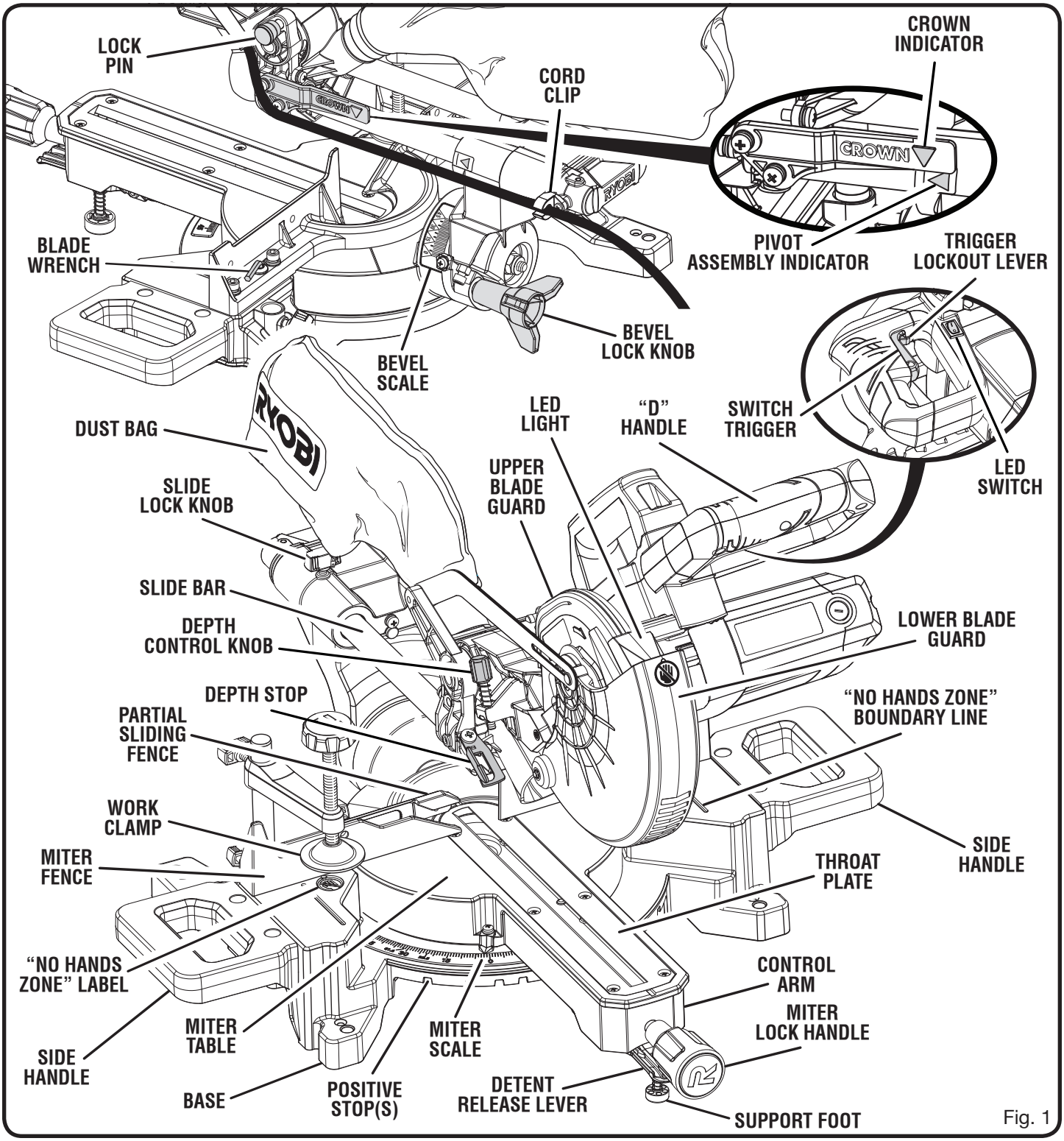


Fig. 1

FEATURES

KNOW YOUR COMPOUND MITER SAW

See Figure 1.

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.

7-1/4 in. BLADE

A 7-1/4 in. blade is included with the compound miter saw. It will cut nominal materials up to 2 in. thick by 10 in. wide, depending upon the angle at which the cut is being made.

BLADE WRENCH STORAGE

See Figure 1.

A blade wrench is packed with the saw. One end of the wrench is a phillips screwdriver and the other end is a hex key. Use the hex key end when installing or removing blade and the phillips end when removing or loosening screws. A storage area for the blade wrench is located in the saw's base.

BEVEL LOCK KNOB

See Figure 2.

The bevel lock knob securely locks your compound miter saw at desired bevel angles. A positive stop adjustment screw has been provided on each side of the saw arm. These adjustment screws are for making fine adjustments at 0° and 45°.

CARRYING HANDLES

See Figure 2.

For convenience when carrying or transporting the miter saw from one place to another, a carrying handle has been provided on top of the saw arm, along with handles on either side of the base. To transport, turn off and unplug the saw, then lower the saw arm and lock it in the down position by depressing the lock pin towards the saw housing.

NOTE: DO NOT perform any cutting operation with the saw in the locked position.

CROWN INDICATOR

See Figure 1.

For use with the auxiliary fence. To cut crown molding nested against the auxiliary fence in the upright position, align the arrow on the crown indicator with the arrow on the pivot assembly and tighten the slide lock knob securely.

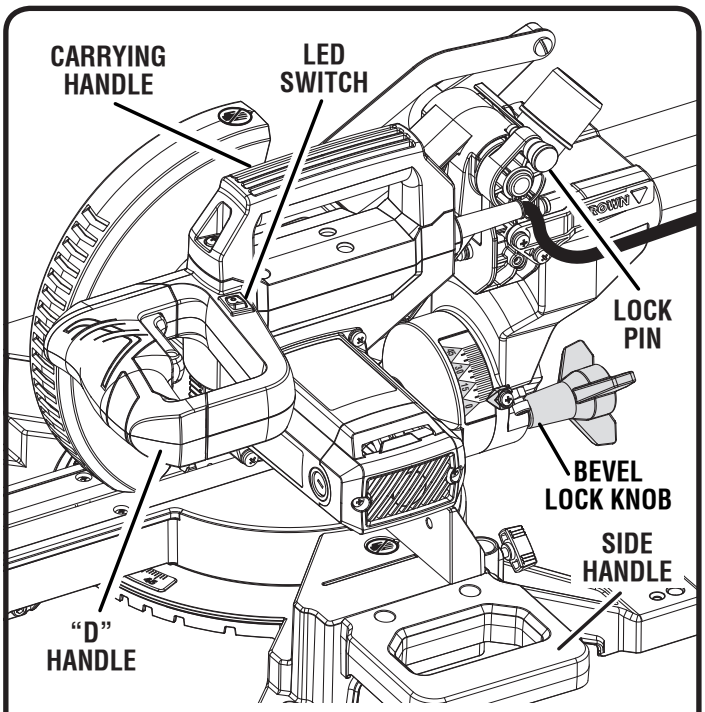
DETENT OVERRIDE

See Figure 3.

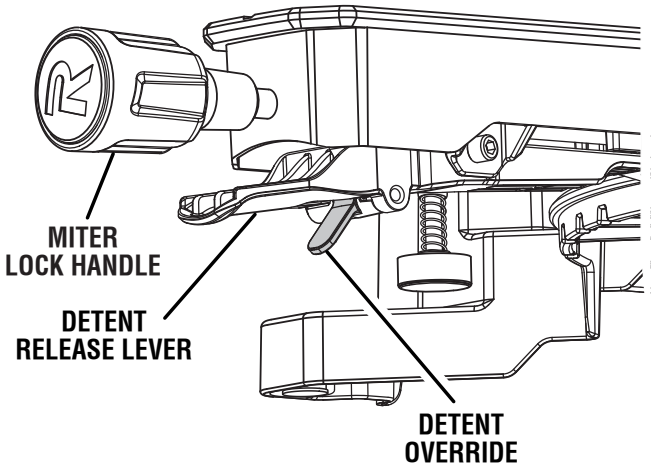
The detent override allows the miter table to move freely to any desired angle. With the miter lock handle loosened and the detent release lever squeezed (1), pull the detent override up (2) and release the detent release lever (3) to bypass the positive stops on the miter scale. To release the detent override and allow the miter table to engage the positive stops, squeeze and release the detent release lever.

ELECTRIC BRAKE

An electric brake has been provided to quickly stop blade rotation after the switch is released.



SAW ARM LOCKED IN DOWN POSITION Fig. 2



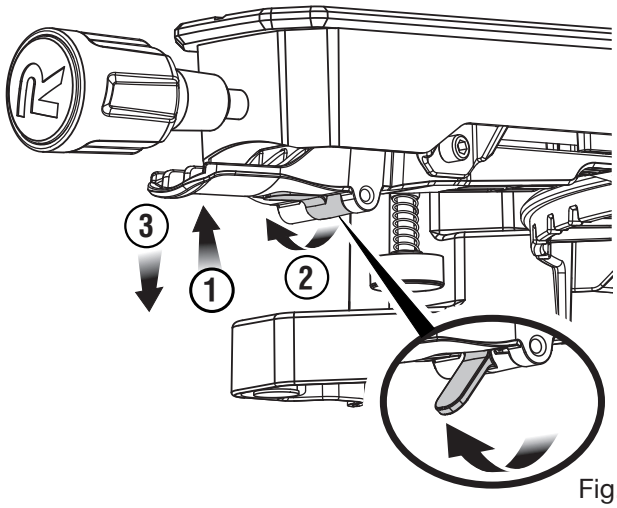


Fig. 3

FEATURES

LED LIGHTING SYSTEM

The LED casts a shadow of the blade teeth onto the workpiece for making precision cuts and predicts blade kerf for blade cut line.

MITER FENCE

The miter fence on the compound miter saw has been provided to hold your workpiece securely against when making all cuts. The right side is larger, providing additional support.

MITER LOCK HANDLE

See Figure 3.

The miter lock handle securely locks the saw at desired miter angles. Tighten the handle to lock the saw in place. To release the saw, loosen the handle and squeeze the detent release lever.

MITER SCALE

The miter scale can be set from 0° to 47° (both left and right) to achieve a wide variety of cuts.

PARTIAL SLIDING FENCE

The partial sliding fence on your compound miter saw has been provided to help secure the workpiece when making straight cuts.

The sliding feature makes it easy to adjust the position of the partial fence. Loosen the fence screw before attempting to slide the partial fence. Once the desired position is determined, tighten the fence screw to secure.

POSITIVE STOPS ON MITER TABLE

Positive stops have been provided at 0°, 15°, 22.5°, 31.6°, and 45° on both the left and right side of the miter table.

NOTE: To bypass the positive stops, squeeze the detent release lever and lift the detent override. To release the override, squeeze the detent release lever.

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 BARS

When unlocked, the saw arm will glide forward and backward the length of the slide bars for cutting various workpiece widths.

SLIDE LOCK KNOB

The slide lock knob locks and unlocks the sliding feature of this tool.

SPINDLE LOCK BUTTON

See Figure 4.

The spindle lock button locks the spindle and stops the blade from rotating. Depress and hold the lock button while installing, changing, or removing blade.

SWITCH TRIGGER

See Figure 4.

The saw will not start until you depress the trigger lockout lever and squeeze the switch trigger. To prevent unauthorized use of the compound miter saw, disconnect it from the power supply and lock the switch in the off position. To lock the switch, install a padlock (not included) through the hole in the switch trigger and make certain the switch is inoperable. If the switch is still operable with the padlock installed, a padlock with a larger shackle diameter must be used. Store the padlock key in another location.

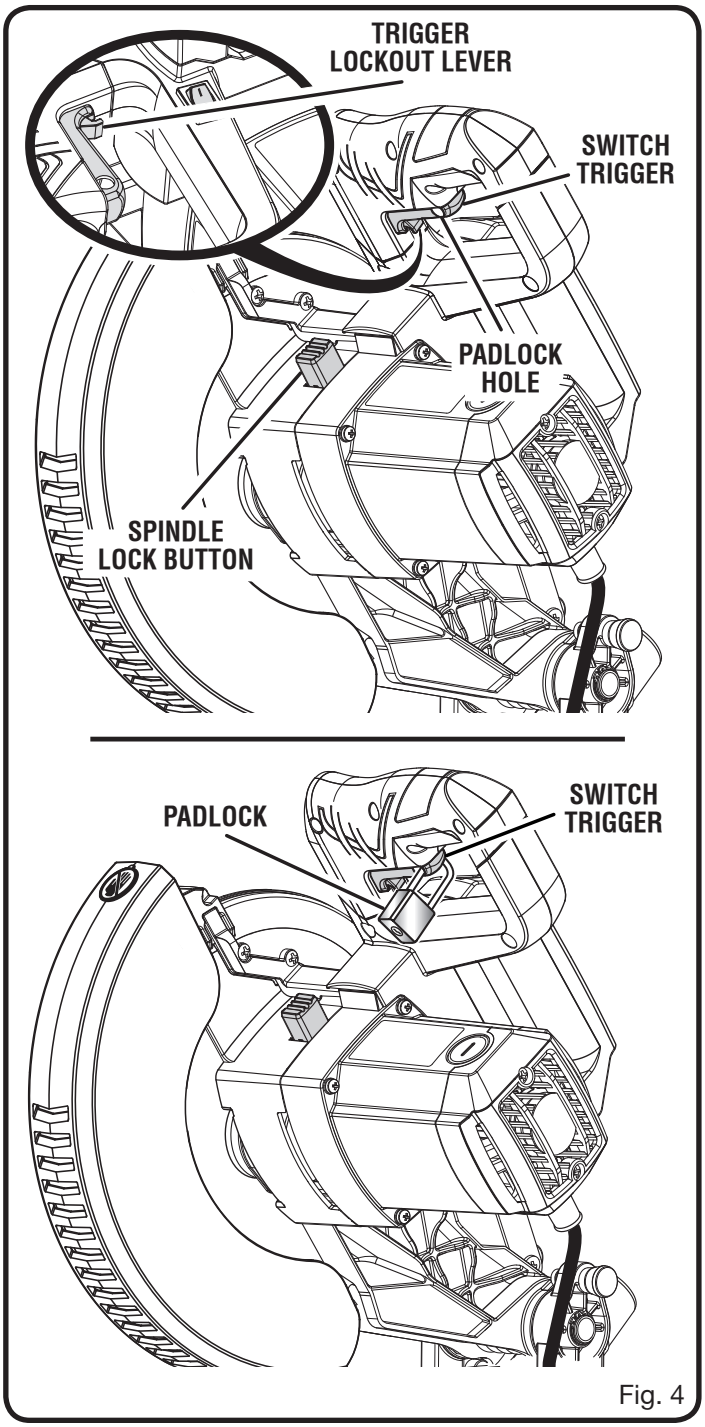


Fig. 4

TOOLS NEEDED

The following tools (not included) are needed for making adjustments or installing the blade:

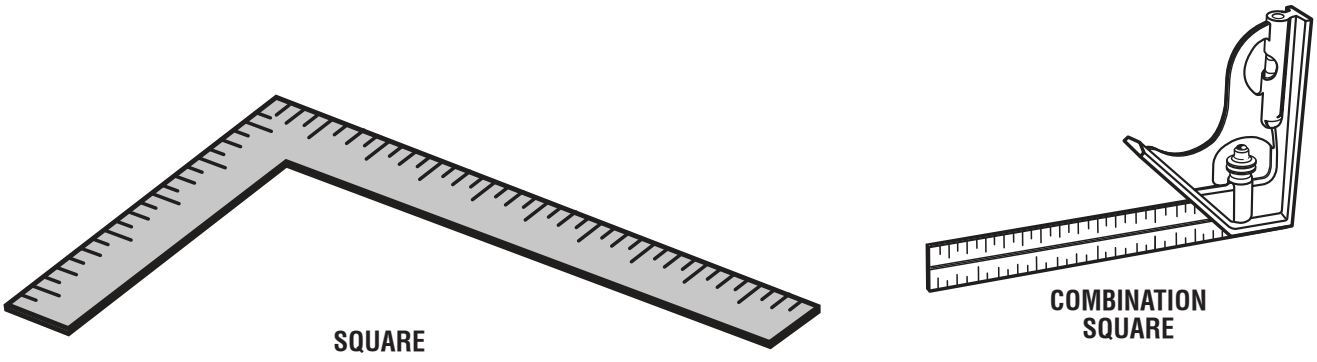


Fig. 5

LOOSE PARTS LIST

The following items are included with the tool:

- Dust Bag
- Blade Wrench
- Work Clamp
- Side Handles (2) with screws
- Operator's Manual (not shown)

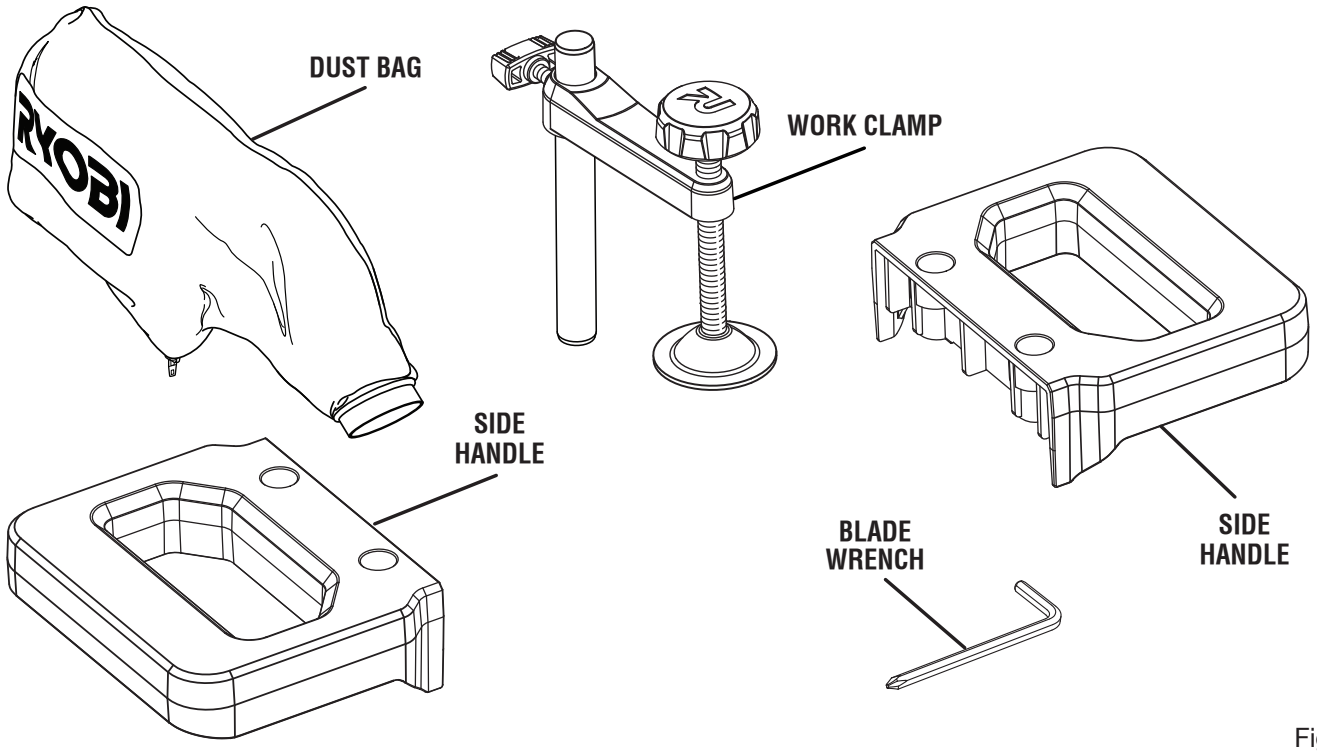


Fig. 6

⚠ WARNING:

The use of attachments or accessories not listed might be hazardous and could cause serious personal injury.

ASSEMBLY

UNPACKING

This product requires assembly.

- Carefully lift saw from the carton by the carrying handle and the saw base, and place it on a level work surface.

WARNING:

Do not use this product if any parts on the *Loose Parts List* are already assembled to your product when you unpack it. Parts on this list are not assembled to the product by the manufacturer and require customer installation. Use of a product that may have been improperly assembled could result in serious personal injury.

- This saw has been shipped with the saw arm secured in the down position. To release the saw arm, push down on the "D" handle, cut the tie-wrap, and pull out on the lock pin.

WARNING:

The saw arm is spring loaded. Hold the handle down to prevent from snapping up when cutting the tie-wrap. Failure to do so could result in possible serious injury.

- Lift the saw arm by the "D" handle. Hand pressure should remain on the saw arm to prevent sudden rise upon release of the tie wrap.
- Cut the tie wrap at the end of the slide bar. Slide the saw head to its most rearward position and tighten the slide lock knob securely.
- Inspect the tool carefully to make sure no breakage or damage occurred during shipping.
- Do not discard the packing material until you have carefully inspected and satisfactorily operated the product.
- 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 manual.
- If any parts are damaged or missing, please call 1-800-525-2579 for assistance.

WARNING:

If any parts are damaged or missing do not operate this product until the parts are replaced. Use of this product with damaged or missing parts could result in serious personal injury.

WARNING:

Do not attempt to modify this product 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 power supply until assembly is complete. Failure to comply could result in accidental starting and possible serious personal injury.

WARNING:

Do not start the compound miter saw without checking for interference between the blade and the miter fence. Serious personal injury or damage to the blade could result if it strikes the miter fence during operation of the saw.

WARNING:

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.

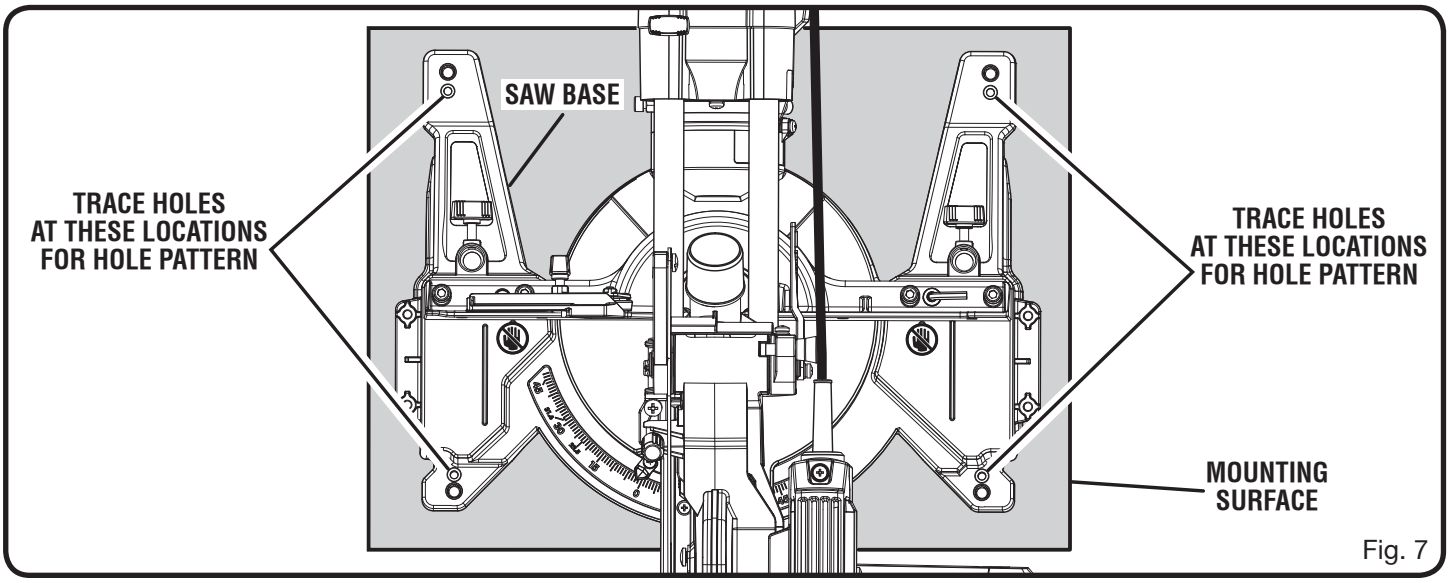


Fig. 7

ASSEMBLY

MOUNTING HOLES

See Figure 7.

> **⚠ WARNING:**
> Before starting any cutting operation, clamp or bolt your miter saw to a workbench or an approved miter saw stand. If a miter saw stand is used, read operator's manual and follow the instructions for the miter saw stand. Never operate your miter saw on the floor or in a crouched position. Failure to heed this warning can result in serious personal injury.

The compound miter saw should be mounted to a firm supporting surface such as a workbench, mounting board, or miter saw stand. The saw base has four mounting holes. If using bolts, they should be of sufficient length to accommodate the saw base, lock washers, hex nuts, and the thickness of the workbench or other mounting surface. Tighten all bolts or screws securely.

The hole pattern for mounting to a workbench is shown in figure 7. Carefully check the workbench after mounting to make sure that no movement can occur during use. If any tipping, sliding, or walking is noted, secure the workbench to the floor before operating.

USING THE DEPTH STOP

See Figure 8.

When used, the depth stop limits the downward travel of the blade when cutting dadoes and other non-through cuts.

To use the depth stop:

- Unplug the saw.
- If the saw is in storage or transport position, unlock the saw arm.
- Rotate the depth stop away from the motor housing.
- With the end of the depth control knob touching the depth stop, adjust the depth control knob by turning the knob until the desired depth of cut is attained.
- A wooden spacer of at least 2-1/2 inches must be placed between the workpiece and the fence for a consistent depth of cut in the workpiece. Use the work clamp to clamp the spacer and another suitable clamp to clamp the workpiece. Make the slide cut at the desired depth. *See Figures 33 - 34*.
- Rotate the depth stop back towards the motor housing for normal through cuts.

  NOTE: The depth stop must be moved toward the motor housing before locking/unlocking the saw arm.

LOCKING/UNLOCKING THE SAW ARM

See Figure 9.

When locking and unlocking the saw arm, it is not necessary to loosen the depth control knob.

To unlock and raise the saw arm:

- Firmly grasp the "D" handle and apply downward pressure while at the same time pulling the lock pin out and away from the saw housing.
- Release the lock pin and slowly raise the saw arm.

To lock the saw arm:

- Firmly grasp the "D" handle and apply downward pressure while at the same time pushing the lock pin in and toward the saw housing.
- Release the lock pin allowing it to lock the saw into place.

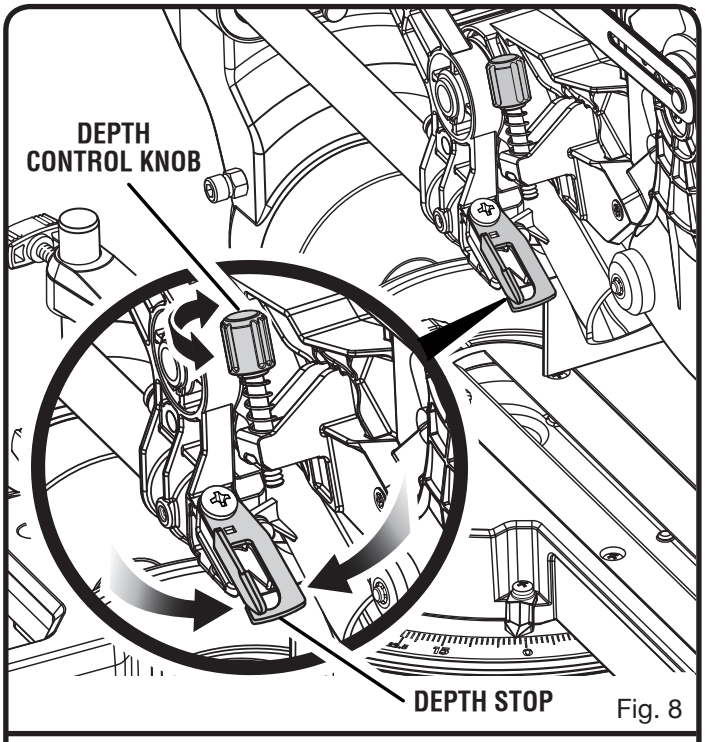


Fig. 8

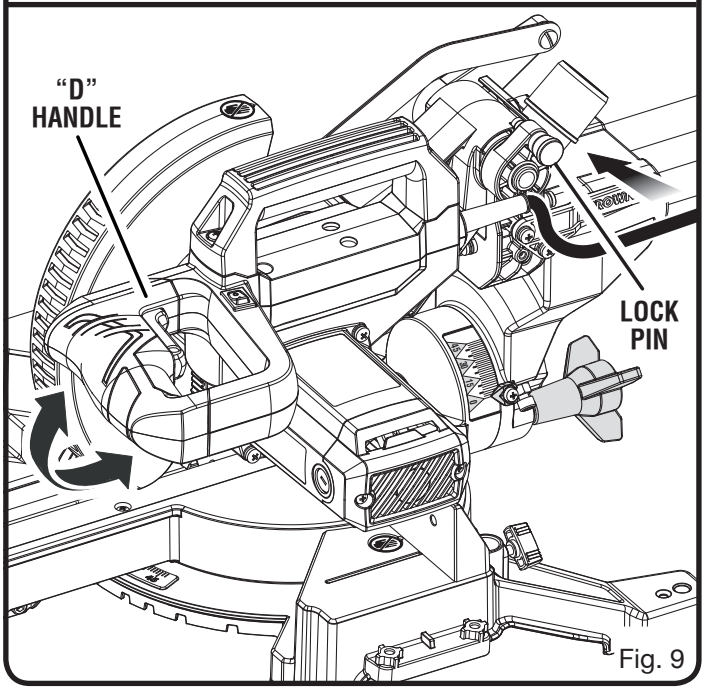


Fig. 9

ASSEMBLY

DUST BAG

See Figure 10.

A dust bag is provided for use on this miter saw. It fits over the exhaust port on the back of the saw.

NOTE: The exhaust port also accepts 1-1/4 in. vacuum hose.

BLADE WRENCH

See Figure 10.

A blade wrench is included with this saw. One end of the wrench is a phillips screwdriver and the other end is a hex key. Use the hex key end when installing or removing blade and the phillips end when removing or loosening screws. A storage area for the blade wrench is located on the back of the left miter fence.

WORK CLAMP

See Figure 11.

> **WARNING:**
>
> In some operations, the work 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 clamp provides greater control by clamping the workpiece to the fence or the saw table. It also prevents the workpiece 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 or other suitable clamp instead of the work clamp to secure the workpiece prior to making the cut.

To install the work clamp:

- Place the work clamp shaft in one of the holes located behind the miter fence.
- Rotate the work clamp knob to move it up or down as needed to secure the workpiece.

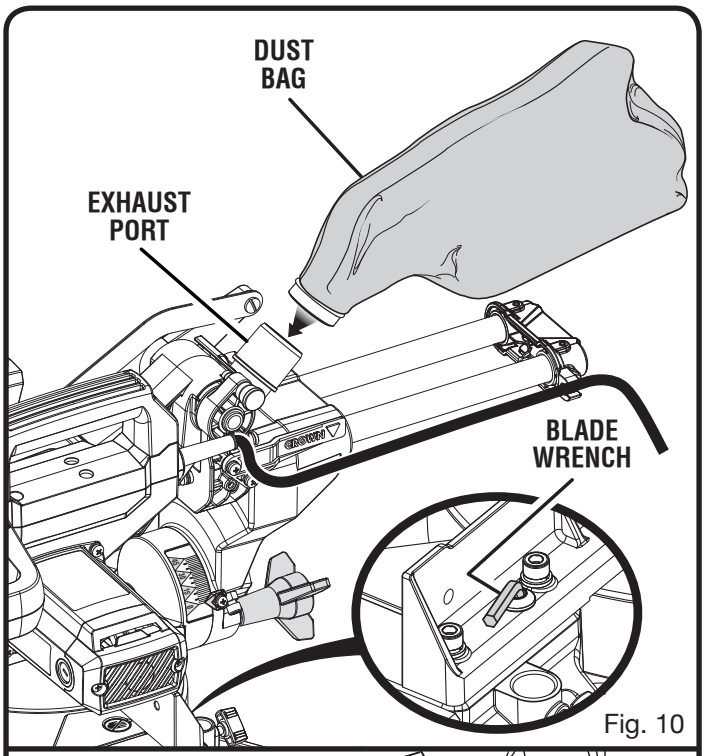


Fig. 10

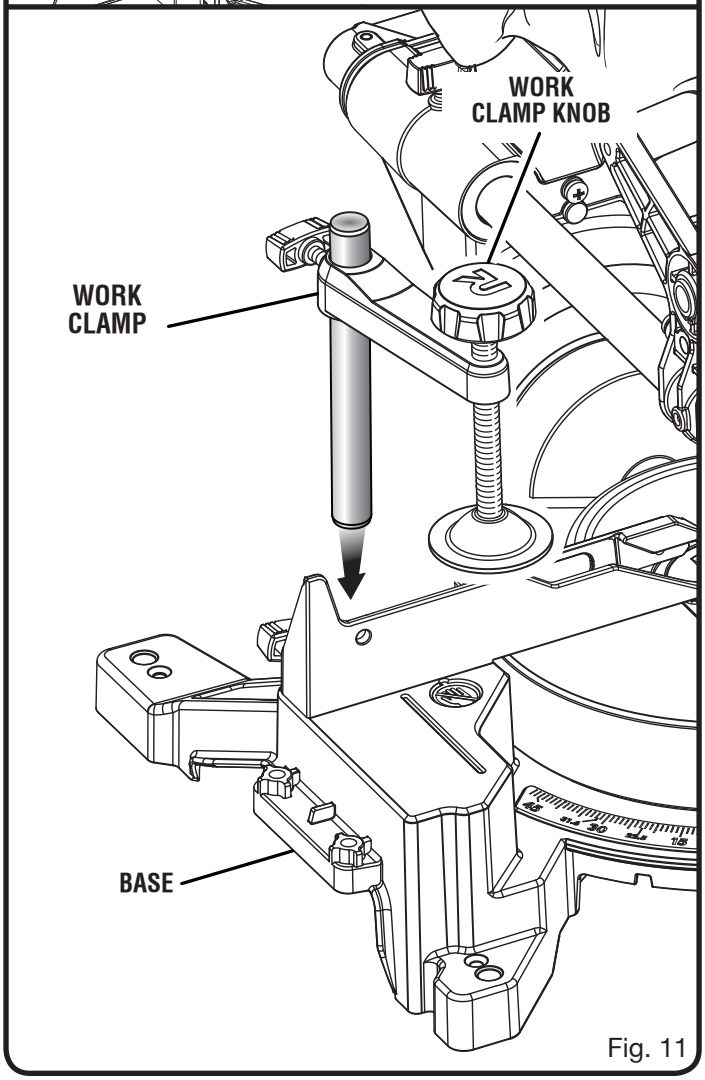


Fig. 11

ASSEMBLY

SIDE HANDLES

See Figures 12 - 13.

Side handles have been provided for both the left and the right side of the saw.

To install side handles:

- Align the holes in one of the side handles with the holes in the saw base.
- Insert the provided hex screws into the holes and tighten securely using the blade wrench provided.
- Repeat for other side handle.

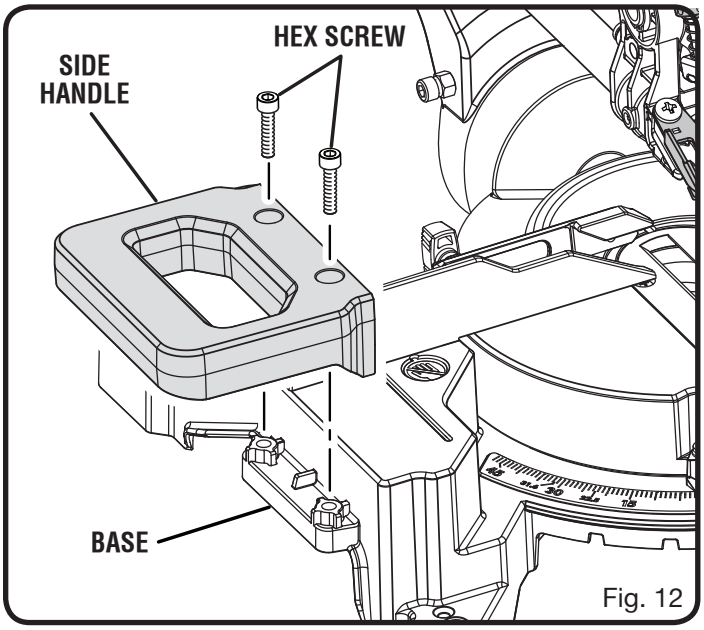


Fig. 12

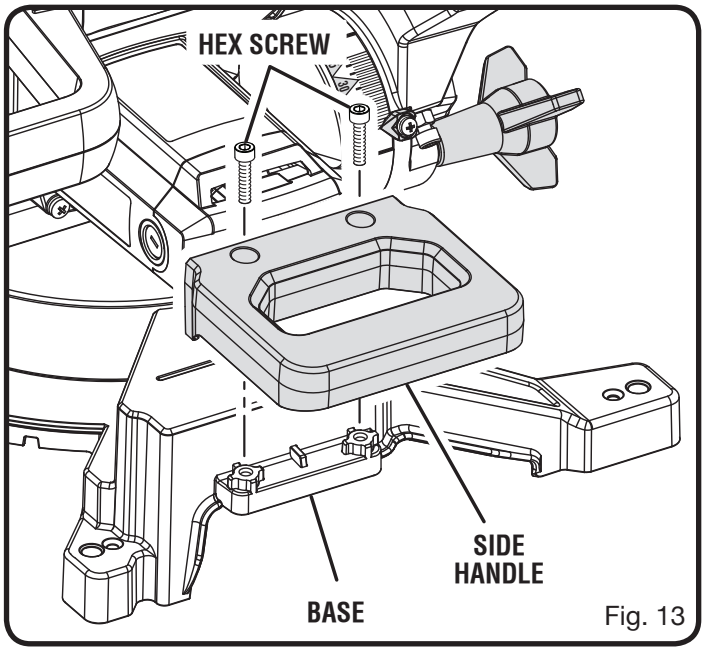


Fig. 13

ASSEMBLY

TO INSTALL/REPLACE THE BLADE

See Figures 14 - 15.

The blade is shipped installed on this miter saw model. Instructions have been included for reference when changing or replacing blades.

> **WARNING:**
> A 7-1/4 in. blade is the maximum blade capacity of the saw. Never use a blade that is too thick to allow outer blade washer to engage with the flats on the spindle. Larger blades will come in contact with the blade guards, while thicker blades will prevent the blade bolt from securing the blade on the spindle. Either of these situations could result in a serious accident and can cause serious personal injury.

- Unplug the saw.
- Raise the saw arm.
- Rotate lower blade guard up and back to expose the blade bolt.
- Depress the spindle lock button and rotate the blade bolt until the spindle locks.
- Using the blade wrench provided, loosen and remove the blade bolt.

  NOTE: The blade bolt has left hand threads. Turn blade bolt clockwise to loosen.
- Remove the outer blade washer.

  NOTE: The inner blade washer is integrated into the spindle and cannot be removed.
- Wipe a drop of oil onto inner blade washer and outer blade washer where they contact the blade.
- Fit saw blade inside lower blade guard and onto spindle. The blade teeth point downward at the front of saw as shown in figure 15.
- Replace the outer blade washer. Double "D" flats on blade washers align with flats on spindle.
- Depress spindle lock button and replace blade bolt.

NOTE: The blade bolt has left hand threads. Turn blade bolt counterclockwise to tighten.

> **CAUTION:**
> Always install the blade with the blade teeth and the arrow printed on the side of the blade pointing down at the front of the saw. The direction of blade rotation is also stamped with an arrow on the upper blade guard.

- Tighten blade bolt securely.
- Lower the blade guard.
- Raise and lower the saw arm to ensure upper blade guard functions correctly.

> **WARNING:**
> Make sure the spindle lock button is not engaged before reconnecting saw into power source. Never engage spindle lock button when blade is rotating.

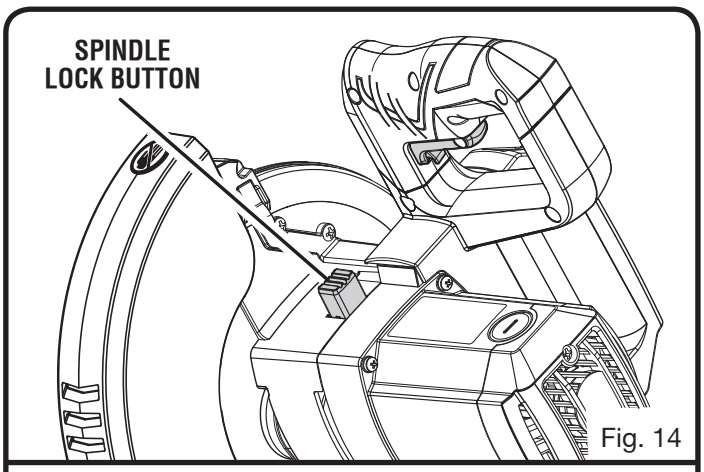


Fig. 14

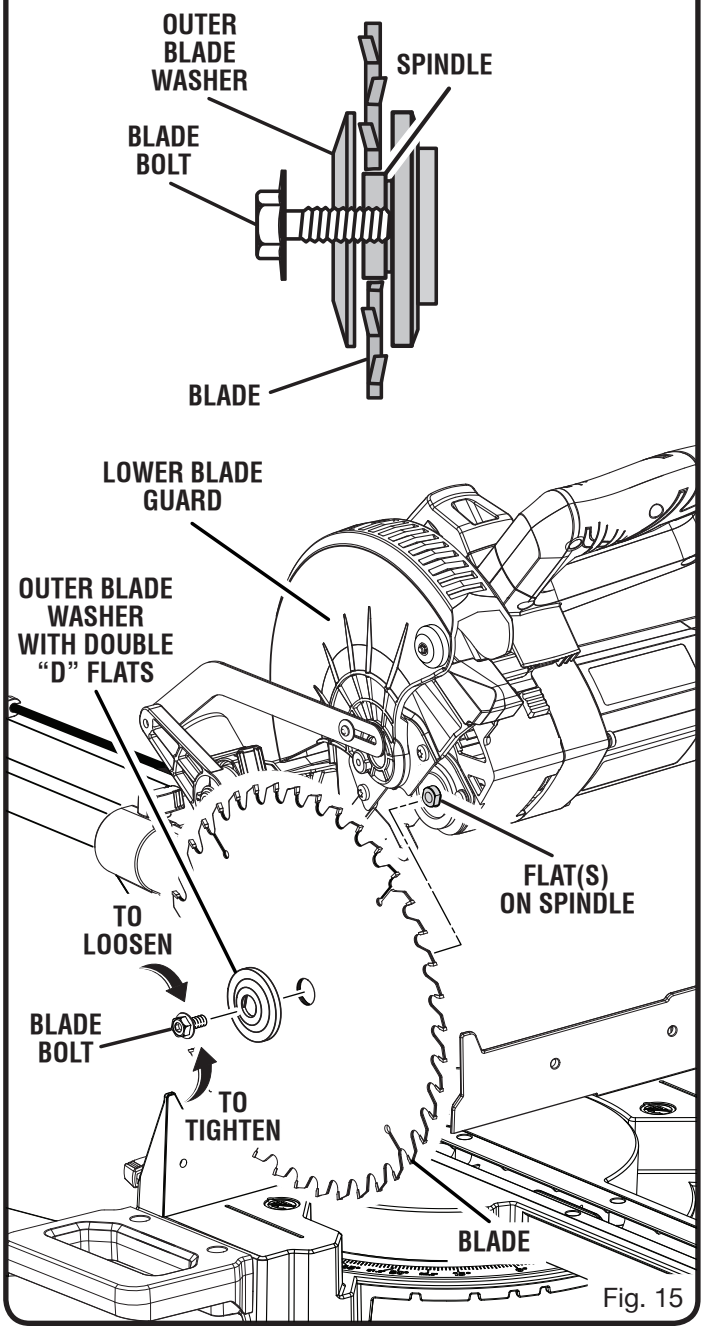


Fig. 15

REMOVING/REPLACING THE THROAT PLATE

See Figure 16.

> **⚠ WARNING:**
> The throat plate must be below the miter table. If the throat plate is too high or too low, the workpiece can catch on the uneven edges resulting in binding which could result in serious personal injury.

Never operate the saw without a throat plate installed.

To remove/replace:

- Unplug the saw.
- Remove the screws securing the throat plate.
- Lift the throat plate from the saw.
- To reinstall the throat plate, align the holes in the throat plate with the holes in the saw base.
- Retighten the screws, being careful not to overtighten which can cause the throat plate to bow or bend.

ADJUSTING SUPPORT FOOT

See Figure 16.

Turn the support foot clockwise or counterclockwise depending on the amount of support needed for making sliding cuts.

NOTE: Many of the illustrations in this manual show only portions of the compound 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.**

SQUARING THE BLADE TO THE FENCE

See Figures 17 - 22.

- Unplug the saw.
- Pull the saw arm all the way down and engage the lock pin to hold the saw arm in transport position.
- Loosen the miter lock handle approximately one-half turn and squeeze the detent release lever.
- Rotate the miter table until the scale indicator is positioned at 0°.
- Release the detent release lever, engaging the positive stop notch, then tighten the miter lock knob to secure the miter table.
- Tighten the miter lock knob to secure the miter table.
- Loosen bevel lock knob and set saw arm at 0° bevel (blade set 90° to miter table). Tighten bevel lock knob.
- Lay a square flat on the miter table. Place one leg of the square against the fence. Slide the other leg of the square against the flat part of saw blade.

  NOTE: Make sure that the square contacts the flat part of the saw blade, not the blade teeth.
- The edge of the square and the saw blade should be parallel as shown in figure 17.

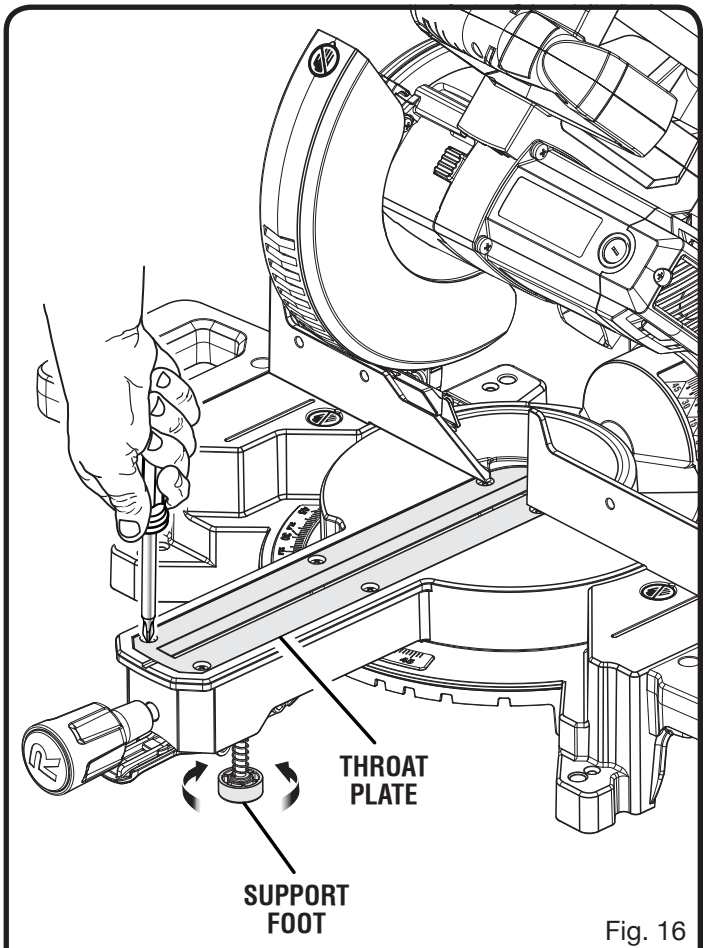
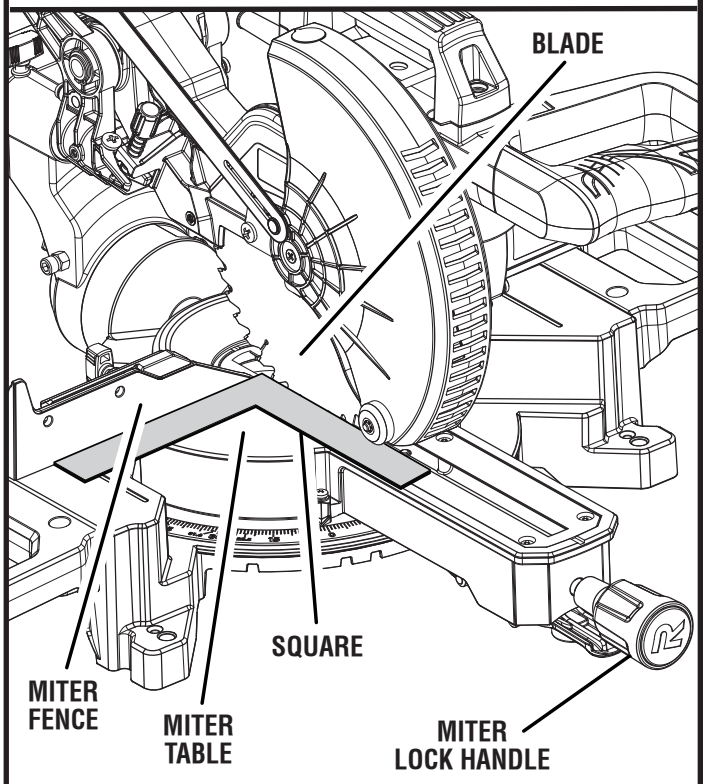


Fig. 16

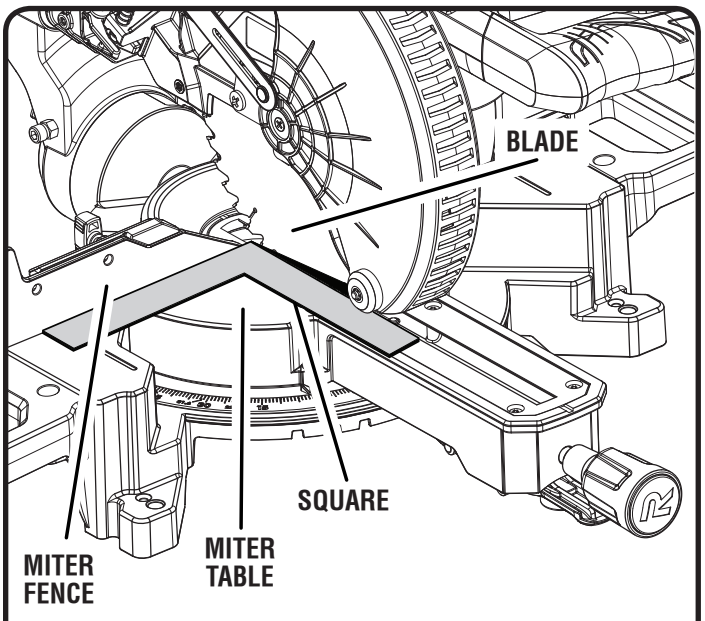


VIEW OF BLADE SQUARE WITH FENCE

Fig. 17

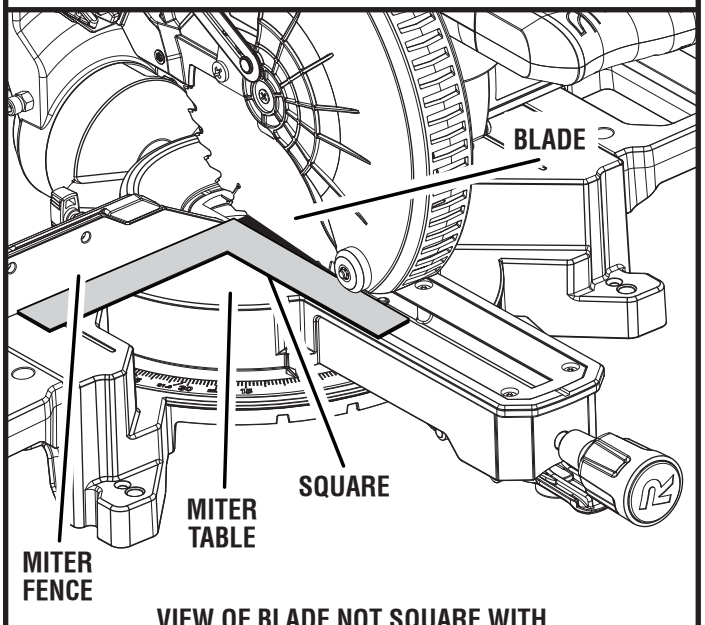
ASSEMBLY

- If the front or back edge of the saw blade angles away from the square as shown in figures 18 - 19, adjustments are needed.
- Loosen the fence screw and slide the partial sliding miter fence toward the blade to access the socket head screws securing the left miter fence to the table.
- Using the blade wrench provided, loosen the socket head screws that secure the miter fence to the miter table.
- Rotate the miter fence left or right until the saw blade is parallel with the square.



VIEW OF BLADE NOT SQUARE WITH FENCE, ADJUSTMENTS ARE REQUIRED

Fig. 18



VIEW OF BLADE NOT SQUARE WITH FENCE, ADJUSTMENTS ARE REQUIRED

Fig. 19

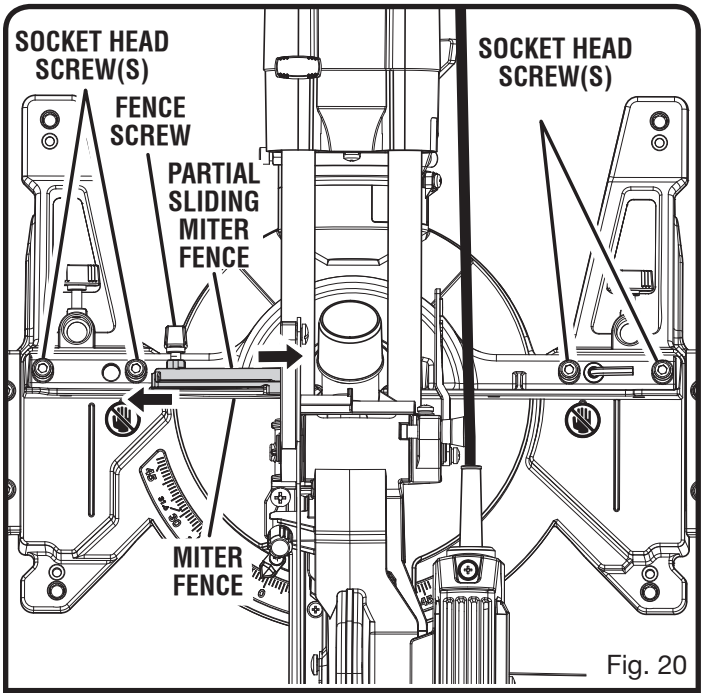


Fig. 20

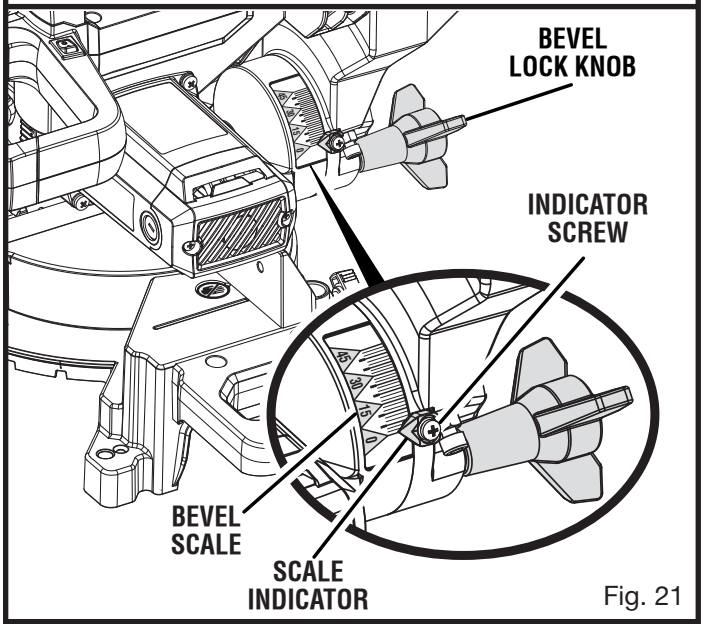


Fig. 21

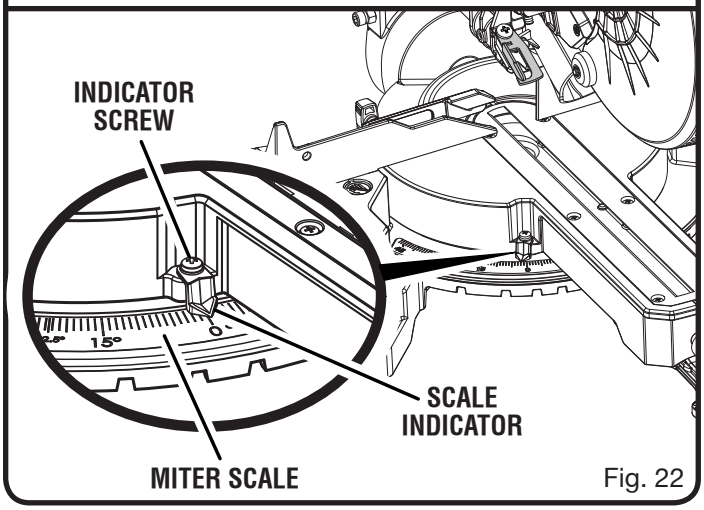


Fig. 22

- Retighten the screws securely and recheck the blade-to-fence alignment.
- Return the partial sliding miter fence to the home position and retighten the fence screw to secure.

Your saw has several scale indicators. After squaring adjustments have been made, it may be necessary to loosen the indicator screws and reset them to zero. *See Figures 21 - 22.*

SQUARING THE BLADE TO THE MITER TABLE

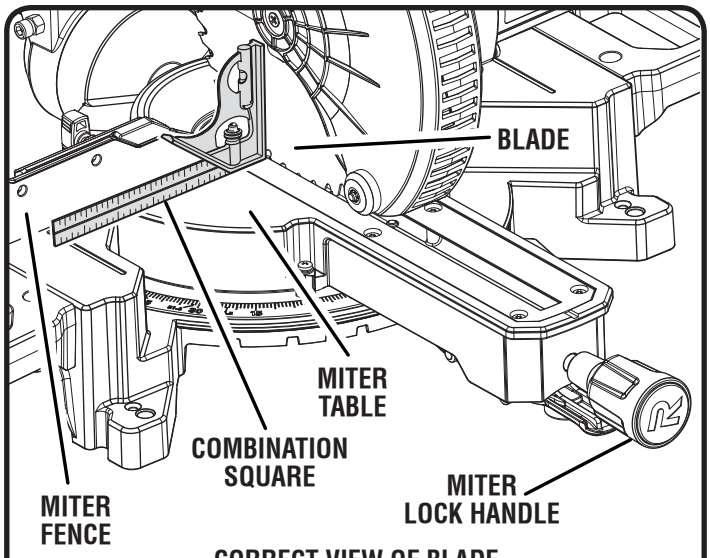
See Figures 23 - 25.

- Unplug the saw.
- Pull the saw arm all the way down and engage the lock pin to hold the saw arm in transport position.
- Loosen the miter lock handle approximately one-half turn and squeeze the detent release lever.
- Rotate the miter table until the scale indicator on the control arm is positioned at 0°.
- Release the detent release lever, engaging the positive stop notch, then tighten the miter lock knob to secure the miter table.
- Loosen the bevel lock knob and set saw arm at 0° bevel (blade set 90° to miter table). Tighten bevel lock knob.
- Place a combination square against the miter table and the flat part of saw blade.

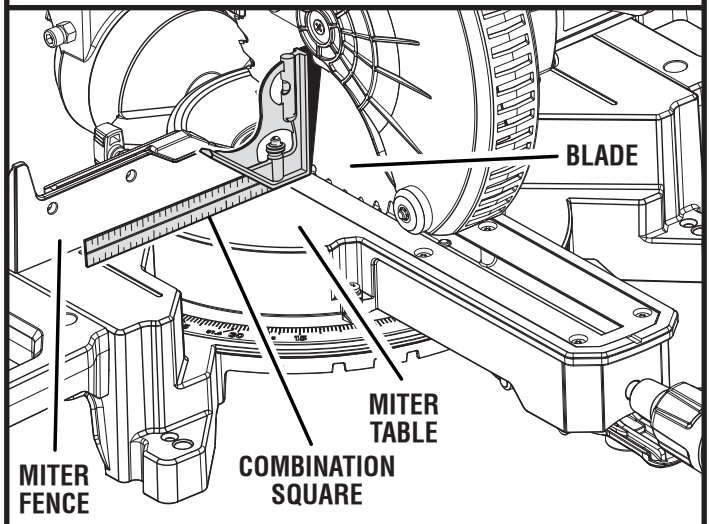
  NOTE: Make sure that the square contacts the flat part of the saw blade, not the blade teeth.
- Rotate the blade by hand and check the blade-to-table alignment at several points.
- The edge of the square and the saw blade should be parallel as shown in figure 23.
- If the top or bottom of the saw blade angles away from the square as shown in figures 24 and 25, adjustments are needed.
- Loosen bevel lock knob.
- Adjust positive stop adjustment screw to bring saw blade into alignment with the square. See **Positive Stop Adjustment** in the *Adjustment* section.
- Tighten bevel lock knob. Recheck blade-to-table alignment.

  NOTE: The above procedure can be used to check blade squareness of the saw blade to the miter table at both 0° and 45° angles.

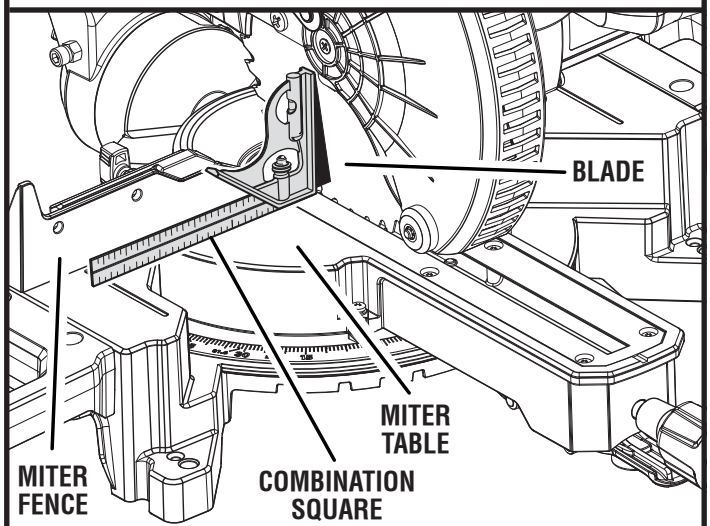
Your saw has several scale indicators. After squaring adjustments have been made, it may be necessary to loosen the indicator screws and reset them to zero. *See Figures 21 - 22.*



CORRECT VIEW OF BLADE SQUARE WITH MITER TABLE Fig. 23



VIEW OF BLADE NOT SQUARE WITH MITER TABLE, ADJUSTMENTS ARE REQUIRED Fig. 24



VIEW OF BLADE NOT SQUARE WITH MITER TABLE, ADJUSTMENTS ARE REQUIRED Fig. 25

OPERATION

WARNING:
Do not allow familiarity with tools to make you careless. Remember that a careless fraction of a second is sufficient to inflict serious injury.

WARNING:
Always wear eye protection with side shields marked to comply with ANSI Z87.1. Failure to do so could result in objects being thrown into your eyes, resulting in possible serious injury.

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

APPLICATIONS

This product has been designed only for the purposes listed below:

- Cross cutting wood and plastic (do not cut metals, ceramics or masonry products.)
- Cross cutting miters, joints, etc., for picture frames, moldings, door casings, and fine joinery
- Bevel and compound cutting
- Cross cutting wide workpieces

NOTE: The blade provided is fine for most wood cutting operations, but for fine joinery cuts or cutting plastic, use one of the accessory blades available from the RYOBI dealer.

WARNING:
Before starting any cutting operation, clamp or bolt the compound miter saw to a workbench. Never operate the miter saw on the floor or in a crouched position. Failure to heed this warning can result in serious personal injury.

WARNING:
To avoid serious personal injury, always tighten the miter lock handle and bevel lock handle securely before making a cut. Failure to do so could result in movement of the miter table or saw head while making a cut.

WARNING:
To avoid serious personal injury, keep hands outside the no hands zone, at least 4 in. (100 mm) from the blade. Never perform any cutting operation freehand (without holding workpiece against the fence). The blade could grab the workpiece if it slips or twists.

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

CUTTING WITH YOUR COMPOUND MITER SAW

WARNING:
When using a work clamp or C-clamp to secure your workpiece, clamp workpiece on one side of the blade only. The workpiece must remain free on one side of the blade to prevent the blade from binding in workpiece. The workpiece binding the blade will cause motor stalling and kickback. This situation could cause an accident resulting in possible serious personal injury.

WARNING:
NEVER move the workpiece or make adjustment to any cutting angle while the saw is running and the blade is rotating. Any slip can result in contact with the blade causing serious personal injury.

WARNING:
Do not try to cut narrow pieces using the sliding feature. Failure to heed this warning could result in serious personal injury.

LED LIGHTING SYSTEM

See Figure 26.

> **WARNING:**
> Do not stare into the light beam (not even from a distance). Staring into the light beam may result in serious injury or vision loss.

The LED lighting system casts the shadow of the blade onto the workpiece. This results in greater accuracy of cuts and requires no adjustments.

To use this feature, turn the LED switch on.

Bring the saw arm down so the blade is approximately 1/4 in. from the workpiece. The shadow of the blade will be projected onto the workpiece, indicating where the blade teeth will make contact as the cut is made.

TO MAKE NON-SLIDING CUTS

> **WARNING:**
> Securely tighten the slide lock knob when making any non-sliding cuts. Failure to tighten the knob could result in the saw head moving during the cutting operation.

TO MITER CUT/CROSS CUT

See Figures 27 - 28.

A cross cut is made by cutting across the grain of the workpiece. A straight cross cut is made with the miter table set at the 0° position. Miter cross cuts are made with the miter table set at some angle other than 0°.

NOTE: It may be necessary to adjust the partial sliding miter fence to ensure proper clearance prior to making the cut.

- Slide the saw head to its most rearward position and tighten the slide lock knob securely.
- Raise saw arm to its full height.
- Loosen the miter lock handle approximately one-half turn and squeeze the detent release lever.
- Rotate the control arm until the pointer aligns with the desired angle on the miter scale.
- Release the detent release lever, then tighten the miter lock knob to secure the miter table.

  NOTE: You can quickly locate 0°, 15°, 22-1/2°, 31.6°, and 45° left or right by releasing the detent release lever as you rotate the control arm. The control arm will seat itself in one of the positive stop notches, located in the miter table base.
- Place the workpiece 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 a board is placed against the fence, the board could collapse on the blade at the end of the cut, jamming the blade. *See Figures 41 - 42.*
- When cutting long pieces of lumber or molding, support the opposite end of the stock with a roller stand or with a work surface level with the saw table. *See Figure 32.*
- Turn the LED switch on.

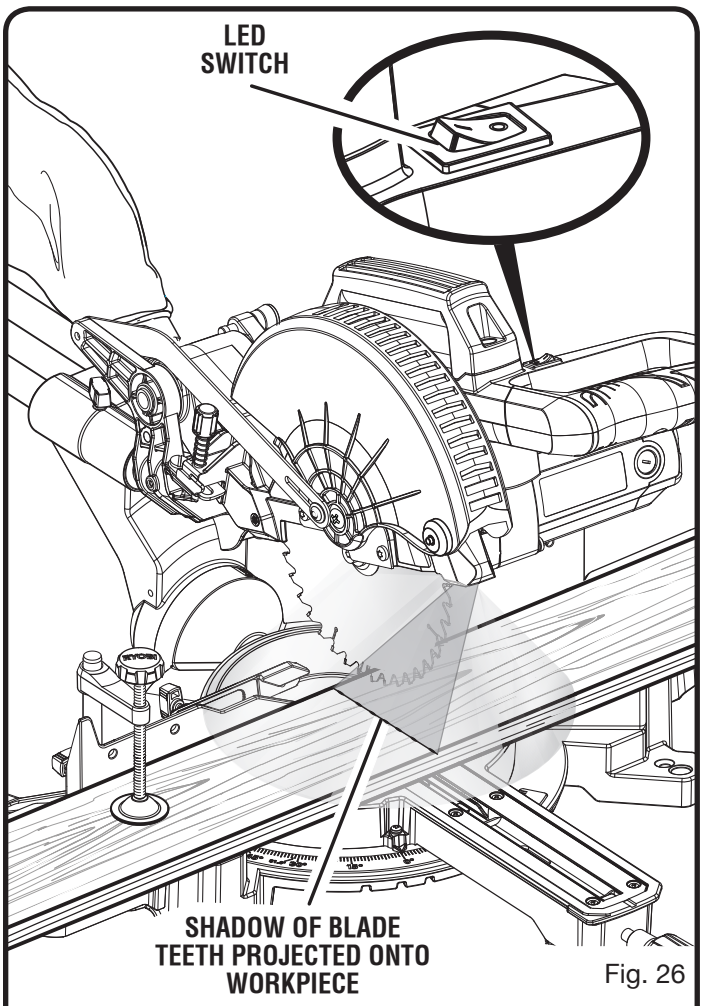


Fig. 26

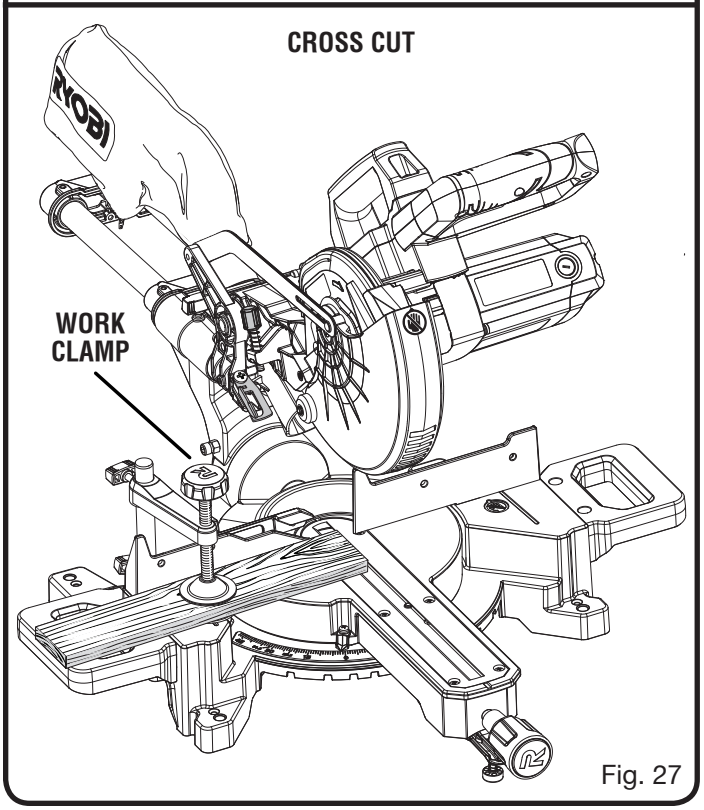


Fig. 27

- Lower the blade and align the cutting line on the workpiece with the edge of saw blade or the blade shadow.
- Grasp the stock firmly with one hand and secure it against the fence. Use the work clamp or a C-clamp to secure the workpiece when possible.
- Before turning on the saw, perform a dry run of the cutting operation to make sure that no problems will occur when the cut is made.
- Grasp the saw handle firmly. Depress the trigger lockout lever and squeeze the switch trigger. Allow several seconds for the blade to reach maximum speed.
- Slowly lower the blade into and through the workpiece.
- Release the switch trigger and allow the saw blade to stop rotating before raising the blade out of workpiece and removing the workpiece from the miter table.

TO BEVEL CUT

See Figure 29.

A bevel cut is made by cutting across the grain of the workpiece with the blade angled to the workpiece. A straight bevel cut is made with the miter table set at the zero degree position and the blade set at an angle between 0° and 45°.

NOTE: It may be necessary to adjust the partial sliding miter fence to ensure proper clearance prior to making the cut.

- Slide the saw head to its most rearward position and tighten the slide lock knob securely.
- Pull out the lock pin and lift saw arm to its full height.
- Loosen the miter lock handle approximately one-half turn and squeeze the detent release lever.
- Rotate the control arm until the scale indicator is positioned at 0°.
- Release the detent release lever, engaging the positive stop notch, then tighten the miter lock knob to secure the miter table.

  NOTE: You can quickly locate 0°, 15°, 22-1/2°, 31.6°, and 45° left or right by releasing the detent release lever as you rotate the control arm. The control arm will seat itself in one of the positive stop notches, located in the miter table base.
- Loosen the bevel lock knob and move the saw arm to the desired bevel angle.
- Bevel angles can be set from 0° to 45°.
- Align the indicator point for the desired angle.
- Once the saw arm has been set at the desired angle, securely tighten the bevel lock knob.
- Place the workpiece 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 a board is placed against the fence, the board could collapse on the blade at the end of the cut, jamming the blade. *See Figures 41 - 42.*
- When cutting long pieces of lumber or molding, support the opposite end of the stock with a roller stand or with a work surface level with the saw table. *See Figure 32.*
- Turn the LED switch on.
- Lower the blade and align the cutting line on the workpiece with the edge of saw blade or the blade shadow.

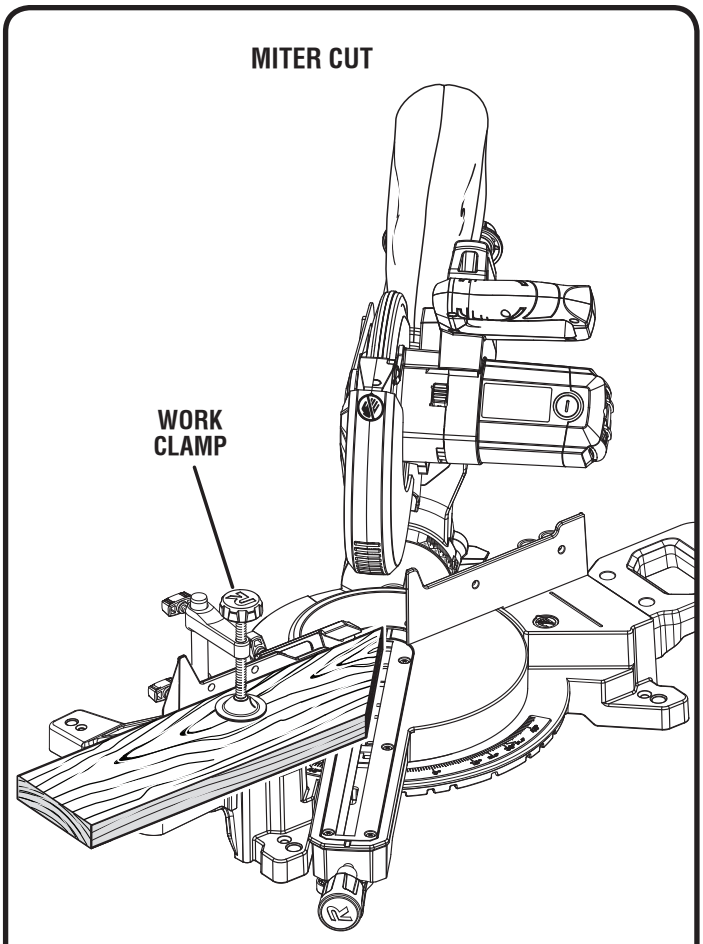


Fig. 28

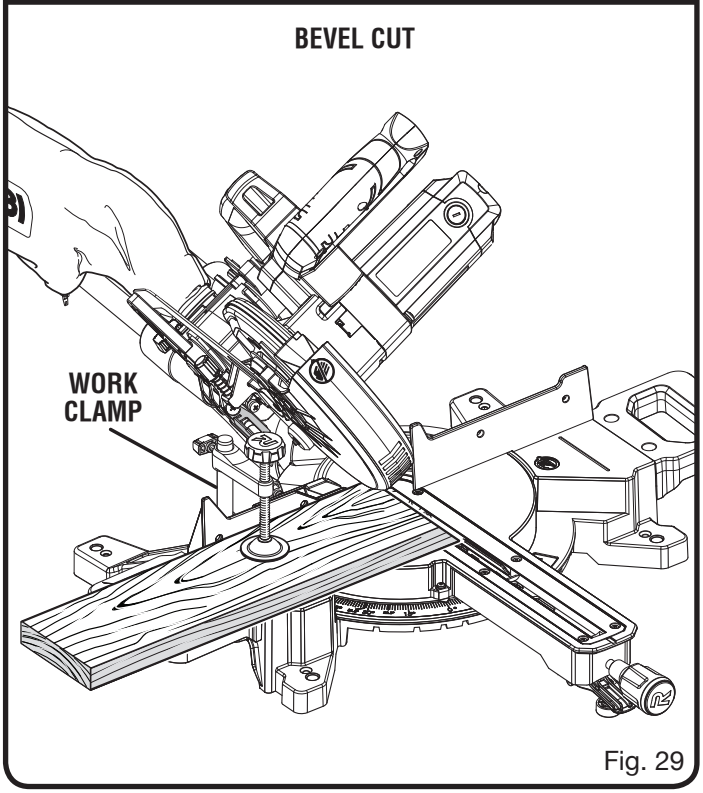


Fig. 29

- Grasp the stock firmly with one hand and secure it against the fence. Use the optional work clamp or a C-clamp to secure the workpiece when possible.
- Before turning on the saw, perform a dry run of the cutting operation just to make sure that no problems will occur when the cut is made.
- Grasp the saw handle firmly. Depress the trigger lockout lever and squeeze the switch trigger. Allow several seconds for the blade to reach maximum speed.
- Slowly lower the blade into and through the workpiece.
- Release the switch trigger and allow the saw blade to stop rotating before raising the blade out of workpiece. Wait until the electric brake stops blade from turning before removing the workpiece from miter table.

TO COMPOUND MITER CUT

See Figures 30 - 31.

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 to make picture frames, cut molding, make boxes with sloping sides, and for certain roof framing cuts.

To make this type of cut the control arm on the miter table must be rotated to the correct angle and the saw arm must be tilted to the correct bevel angle. Care should always be taken when making compound miter setups due to the interaction of the two angle settings.

Adjustments of miter and bevel settings are interdependent with one another. Each time you adjust the miter setting you change the effect of the bevel setting. Also, each time you adjust the bevel setting you change the effect of the miter setting.

It may take several settings to obtain the desired cut. The first angle setting should be checked after setting the second angle, since 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.

NOTE: It may be necessary to adjust the partial sliding miter fence to ensure proper clearance prior to making the cut.

- Slide the saw head to its most rearward position and tighten the slide lock knob securely.
- Pull out the lock pin and lift saw arm to its full height.
- Loosen the miter lock handle approximately one-half turn and squeeze the detent release lever.
- Rotate the control arm until the pointer aligns with the desired angle on the miter scale.
- Release the detent release lever, then tighten the miter lock knob to secure the miter table.
- Loosen the bevel lock knob and move the saw arm to the left to the desired bevel angle.
- Bevel angles can be set from 0° to 45°.
- Once the saw arm has been set at the desired angle, securely tighten the bevel lock knob.
- Recheck miter angle setting. Make a test cut in scrap material.
- Place the workpiece 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

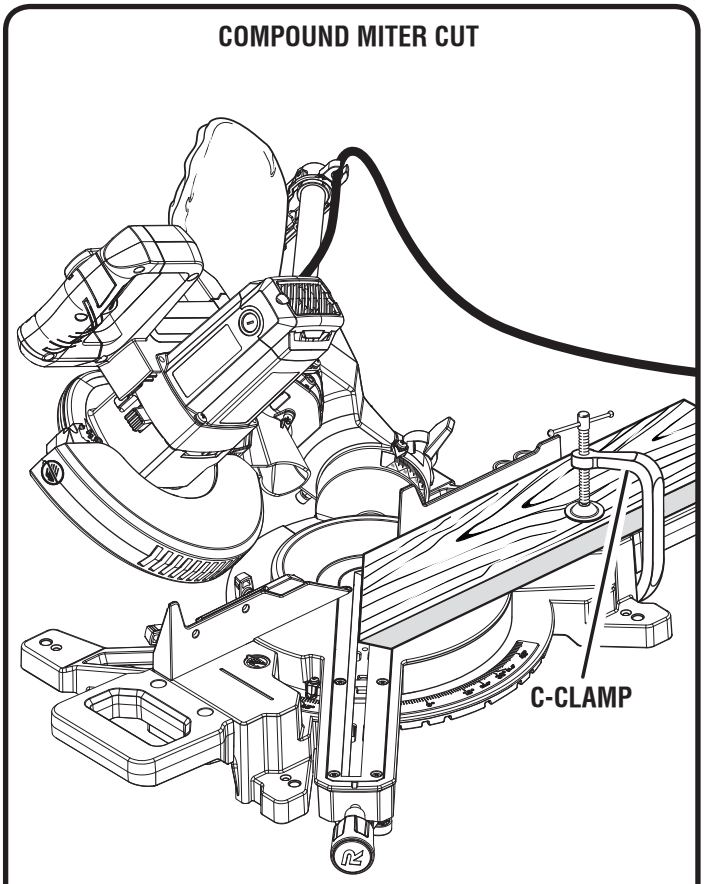
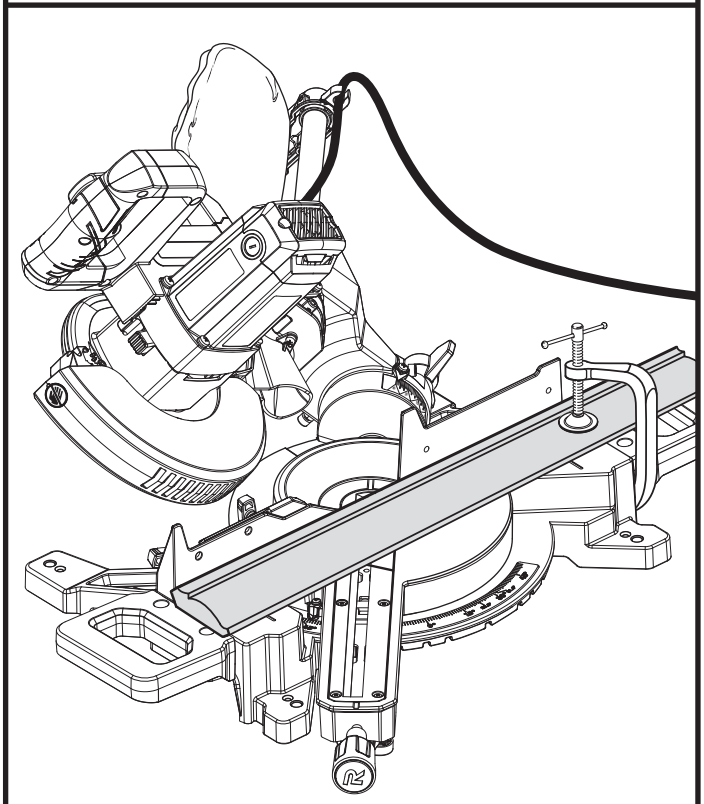


Fig. 30



45° X 45° COMPOUND MITER CUT

Fig. 31

a board could collapse on the blade at the end of the cut, jamming the blade. *See Figures 41 - 42.*

- When cutting long pieces of lumber or molding, support the opposite end of the stock with a roller stand or with a work surface level with the saw table. *See Figure 32.*
- Turn the LED switch on.
- Lower the blade and align the cutting line on the workpiece with the edge of saw blade or the blade shadow.
- Grasp the stock firmly with one hand and secure it against the fence. Use the optional work clamp or a C-clamp to secure the workpiece when possible.
- Before turning on the saw, perform a dry run of the cutting operation just to make sure that no problems will occur when the cut is made.
- Grasp the saw handle firmly. Depress the trigger lockout lever and squeeze the switch trigger. Allow several seconds for the blade to reach maximum speed.
- Slowly lower the blade into and through the workpiece.
- Release the switch trigger and allow the saw blade to stop rotating before raising the blade out of workpiece. Wait until the electric brake stops blade from turning before removing the workpiece from miter table.

TO SUPPORT LONG WORKPIECES

See Figure 32.

Long workpieces need extra supports. Supports should be placed along the workpiece so it does not sag. The support should let the workpiece lay flat on the base of the saw and work table during the cutting operation. Use the optional work clamp or a C-clamp to secure the workpiece.

> **⚠ WARNING:**
> Never make a cut by pulling the saw toward you as the blade can climb on top of the workpiece and come toward you. Failure to heed this warning could result in serious personal injury.

TO SLIDE CUT

See Figures 33 - 34.

The sliding feature will cut workpieces up to 1-1/2 in. thick and 9-1/4 in. wide. With the saw off, pull the saw arm forward. Turn the saw on (let blade reach maximum speed), push the blade down cutting into the workpiece then back toward the rear of the saw to make a cut. Cuts are made by pushing the saw blade away from you and toward the bevel scale at the back of the saw stopping when the full rear position has been reached after each cut. When the saw is running (turned on), **NEVER** pull the saw blade toward you or toward the front of the saw.

- Raise saw arm to its full height.
- Place the workpiece 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 a board is placed against the fence, the board could collapse on the blade at the end of the cut, jamming the blade. *See Figures 41 - 42.*
- When cutting long pieces of lumber or molding, support the opposite end of the stock with a roller stand or with a work surface level with the saw table. *See Figure 32.*

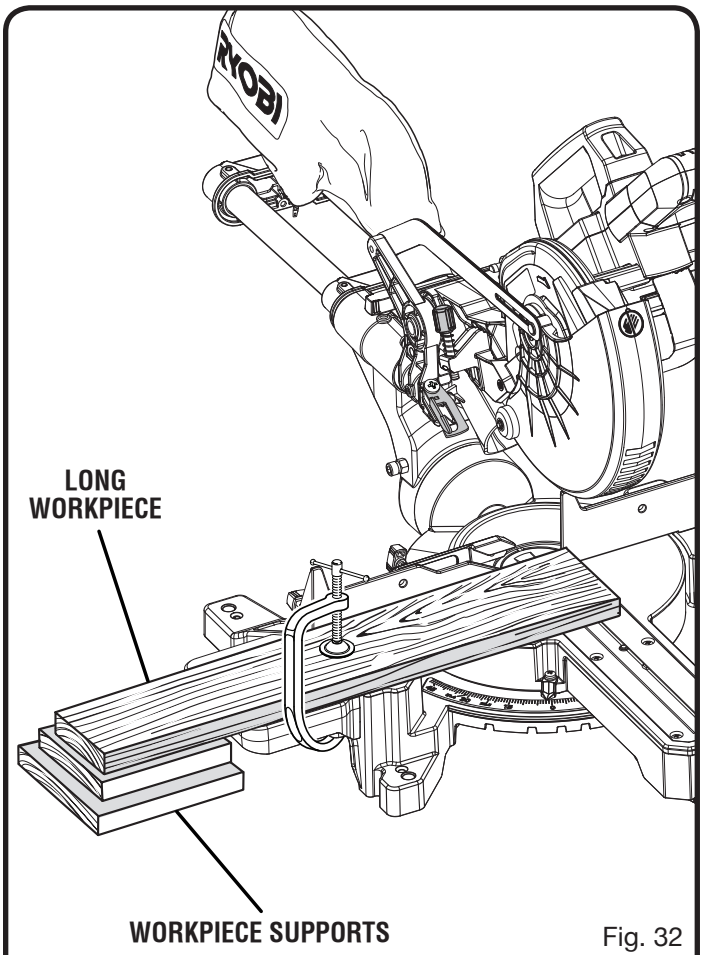


Fig. 32

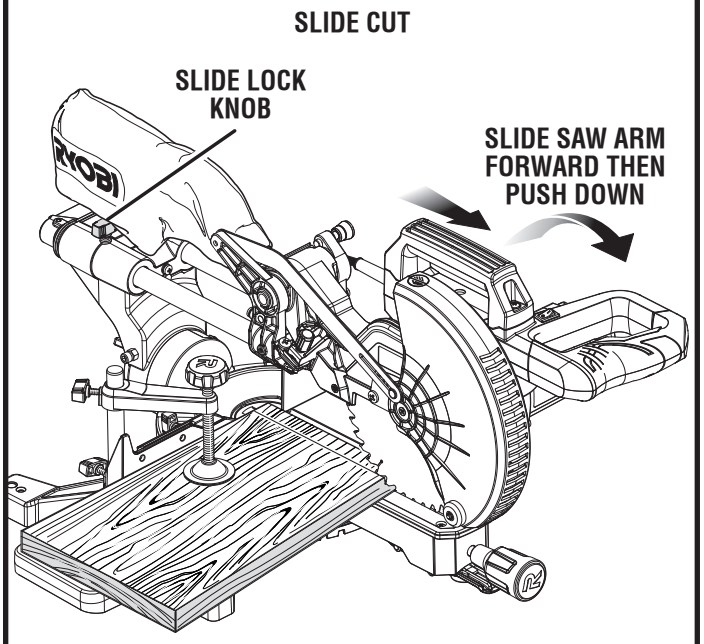


Fig. 33

- Turn the LED switch on.
- Lower the blade and align the cutting line on the workpiece with the edge of saw blade or the blade shadow.
- Loosen the slide lock knob by turning the knob counter-clockwise.
- Grasp the stock firmly with one hand and secure it against the fence. Use the work clamp or a C-clamp to secure the workpiece when possible.
- Before turning on the saw, perform a dry run of the cutting operation to make sure that no problems will occur when the cut is made.
- With the saw off, grasp the saw handle firmly then pull the saw forward until the blade arbor (center of the saw blade) is over the front of the workpiece or until the saw is fully extended.
- Depress the trigger lockout lever and squeeze the switch trigger. Allow several seconds for the blade to reach maximum speed.
- Slowly lower the blade into and through the front edge of the workpiece.
- Push the saw handle away from you and toward the bevel scale at the back of the saw.
- Release the switch trigger and allow the saw blade to stop rotating before raising the blade out of workpiece and removing the workpiece from miter table.

NOTE: A cross cut is made by cutting across the grain of the workpiece. A straight cross cut is made with the miter table set at the 0° position. Miter cross cuts are made with the miter table set at some angle other than 0°.

MAKING AN AUXILIARY FENCE

See Figure 35.

Depending on the size and position of the workpiece, certain unusual cuts may benefit from the additional support that can be provided by an auxiliary fence. The holes provided in the miter fence are used to secure an auxiliary fence in place.

NOTE: The auxiliary fence can only be used when the bevel is set at 0°. When making a bevel cut, the auxiliary fence **MUST** be removed.

To attach the auxiliary fence to the saw:

- Loosen the fence screw and move the partial sliding miter fence toward the blade so both holes are visible.
- Place a 10 in. long piece of wood against the miter fence and aligned with the left edge of the miter table.

  NOTE: The appropriate height and thickness of the fence will vary based on the miter angle and the material being cut.
- Clamp the wood tightly against the fence and drive wood screws from the back of the fence through the two holes and into the auxiliary fence. If necessary, drill a pilot hole into wood first to prevent splitting. Remove clamp when finished.

  NOTE: Make sure the screws you use to attach the auxiliary fence do not pass through the front face of the fence, have a flat head to allow unrestricted movement of the partial sliding miter fence, and the length of the screws will not put them in the path of the blade at any angle.

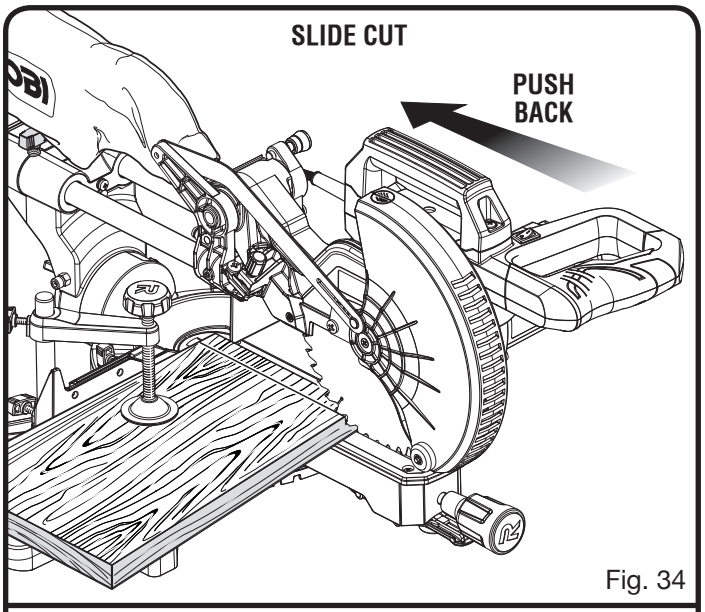


Fig. 34

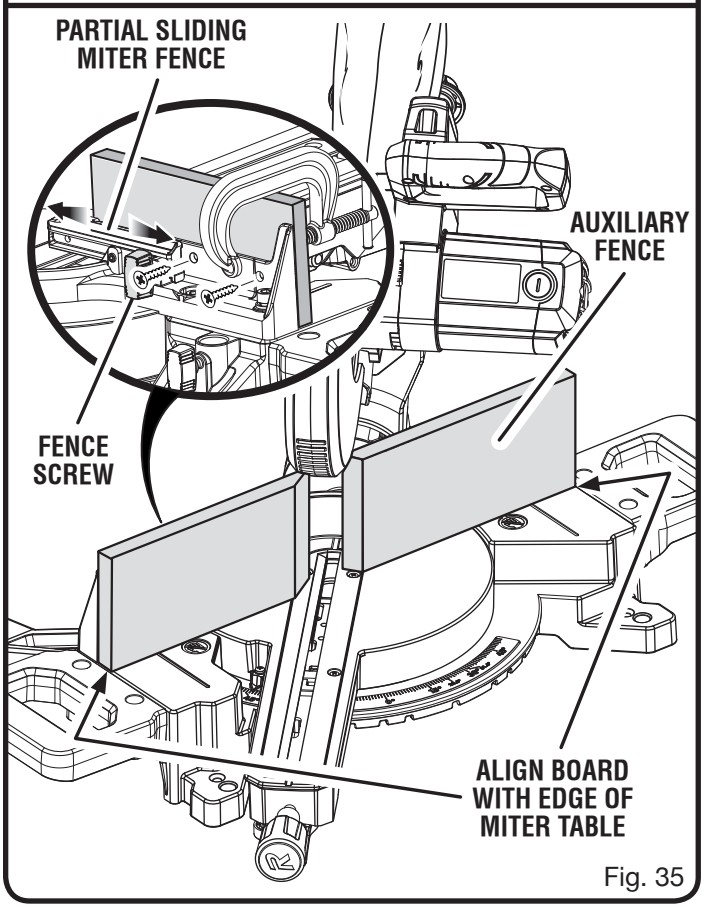


Fig. 35

- Return the partial sliding miter fence to its home position so it is no longer in the blade path.
- Make full left miter cut through the auxiliary fence.

  NOTE: Check for interference between the auxiliary fence and the lower blade guard. Correct any interference before proceeding.
- Repeat steps with second board by aligning with right side of miter table and making a full right miter cut through the auxiliary fence.

OPERATION

CUTTING COMPOUND MITERS

To aid in making the correct settings, the compound angle setting chart below has been provided. Since compound cuts are the most difficult to accurately obtain, trial cuts should be made in scrap material, and much thought and planning made, prior to making the required cut.

PITCH OF SIDE	NUMBER OF SIDES						
	4	5	6	7	8	9	10
0°	M- 45.00° B- 0.00°	M- 36.00° B- 0.00°	M- 30.00° B- 0.00°	M- 25.71° B- 0.00°	M- 22.50° B- 0.00°	M- 20.00° B- 0.00°	M- 18.00° B- 0.00°
5°	M- 44.89° B- 3.53°	M- 35.90° B- 2.94°	M- 29.91° B- 2.50°	M- 25.63° B- 2.17°	M- 22.42° B- 1.91°	M- 19.93° B- 1.71°	M- 17.94° B- 1.54°
10°	M- 44.56° B- 7.05°	M- 35.58° B- 5.86°	M- 29.62° B- 4.98°	M- 25.37° B- 4.32°	M- 22.19° B- 3.81°	M- 19.72° B- 3.40°	M- 17.74° B- 3.08°
15°	M- 44.01° B- 10.55°	M- 35.06° B- 8.75°	M- 29.15° B- 7.44°	M- 24.95° B- 6.45°	M- 21.81° B- 5.68°	M- 19.37° B- 5.08°	M- 17.42° B- 4.59°
20°	M- 43.22° B- 14.00°	M- 34.32° B- 11.60°	M- 28.48° B- 9.85°	M- 24.35° B- 8.53°	M- 21.27° B- 7.52°	M- 18.88° B- 6.72°	M- 16.98° B- 6.07°
25°	M- 42.19° B- 17.39°	M- 33.36° B- 14.38°	M- 27.62° B- 12.20°	M- 23.56° B- 10.57°	M- 20.58° B- 9.31°	M- 18.26° B- 8.31°	M- 16.41° B- 7.50°
30°	M- 40.89° B- 20.70°	M- 32.18° B- 17.09°	M- 26.57° B- 14.48°	M- 22.64° B- 12.53°	M- 19.73° B- 11.03°	M- 17.50° B- 9.85°	M- 15.72° B- 8.89°
35°	M- 39.32° B- 23.93°	M- 30.76° B- 19.70°	M- 25.31° B- 16.67°	M- 21.53° B- 14.41°	M- 18.74° B- 12.68°	M- 16.60° B- 11.31°	M- 14.90° B- 10.21°
40°	M- 37.45° B- 27.03°	M- 29.10° B- 22.20°	M- 23.86° B- 18.75°	M- 20.25° B- 16.19°	M- 17.60° B- 14.24°	M- 15.58° B- 12.70°	M- 13.98° B- 11.46°
45°	M- 35.26° B- 30.00°	M- 27.19° B- 24.56°	M- 22.21° B- 20.70°	M- 18.80° B- 17.87°	M- 16.32° B- 15.70°	M- 14.43° B- 14.00°	M- 12.94° B- 12.62°
50°	M- 32.73° B- 32.80°	M- 25.03° B- 26.76°	M- 20.36° B- 22.52°	M- 17.20° B- 19.41°	M- 14.91° B- 17.05°	M- 13.17° B- 15.19°	M- 11.80° B- 13.69°
55°	M- 29.84° B- 35.40°	M- 22.62° B- 28.78°	M- 18.32° B- 24.18°	M- 15.44° B- 20.82°	M- 13.36° B- 18.27°	M- 11.79° B- 16.27°	M- 10.56° B- 14.66°
60°	M- 26.57° B- 37.76°	M- 19.96° B- 30.60°	M- 16.10° B- 25.66°	M- 13.54° B- 22.07°	M- 11.70° B- 19.35°	M- 10.31° B- 17.23°	M- 9.23° B- 15.52°
65°	M- 22.91° B- 39.86°	M- 17.07° B- 32.19°	M- 13.71° B- 26.95°	M- 11.50° B- 23.16°	M- 9.93° B- 20.29°	M- 8.74° B- 18.06°	M- 7.82° B -16.26°
70°	M- 18.88° B- 41.64°	M- 13.95° B- 33.53°	M- 11.17° B- 28.02°	M- 9.35° B- 24.06°	M- 8.06° B- 21.08°	M- 7.10° B- 18.75°	M- 6.34° B- 16.88°
75°	M- 14.51° B- 43.08°	M- 10.65° B- 34.59°	M- 8.50° B- 28.88°	M- 7.10° B- 24.78°	M- 6.12° B- 21.69°	M- 5.38° B- 19.29°	M- 4.81° B- 17.37°
80°	M- 9.85° B- 44.14°	M- 7.19° B- 35.37°	M- 5.73° B- 29.50°	M- 4.78° B- 25.30°	M- 4.11° B- 22.14°	M- 3.62° B- 19.68°	M- 3.23° B- 17.72°
85°	M- 4.98° B- 44.78°	M- 3.62° B- 35.84°	M- 2.88° B- 29.87°	M- 2.40° B- 25.61°	M- 2.07° B- 22.41°	M- 1.82° B- 19.92°	M- 1.62° B- 17.93°
90°	M- 0.00° B- 45.00°	M- 0.00° B- 36.00°	M- 0.00° B- 30.00°	M- 0.00° B- 25.71°	M- 0.00° B- 22.50°	M- 0.00° B- 20.00°	M- 0.00° B- 18.00°

Each B (Bevel) and M (Miter) Setting is Given to the Closest 0.005°.

COMPOUND-ANGLE SETTINGS FOR POPULAR STRUCTURES

CUTTING CROWN MOLDING

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

In order to fit properly, crown molding must be compound mitered with extreme accuracy.

The two contact surfaces on a piece of crown molding that fit flat against the ceiling and the wall of a room are at angles that, when added together, equal exactly 90°. Most crown molding 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 MOLDING FLAT ON THE MITER TABLE

See Figure 36.

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

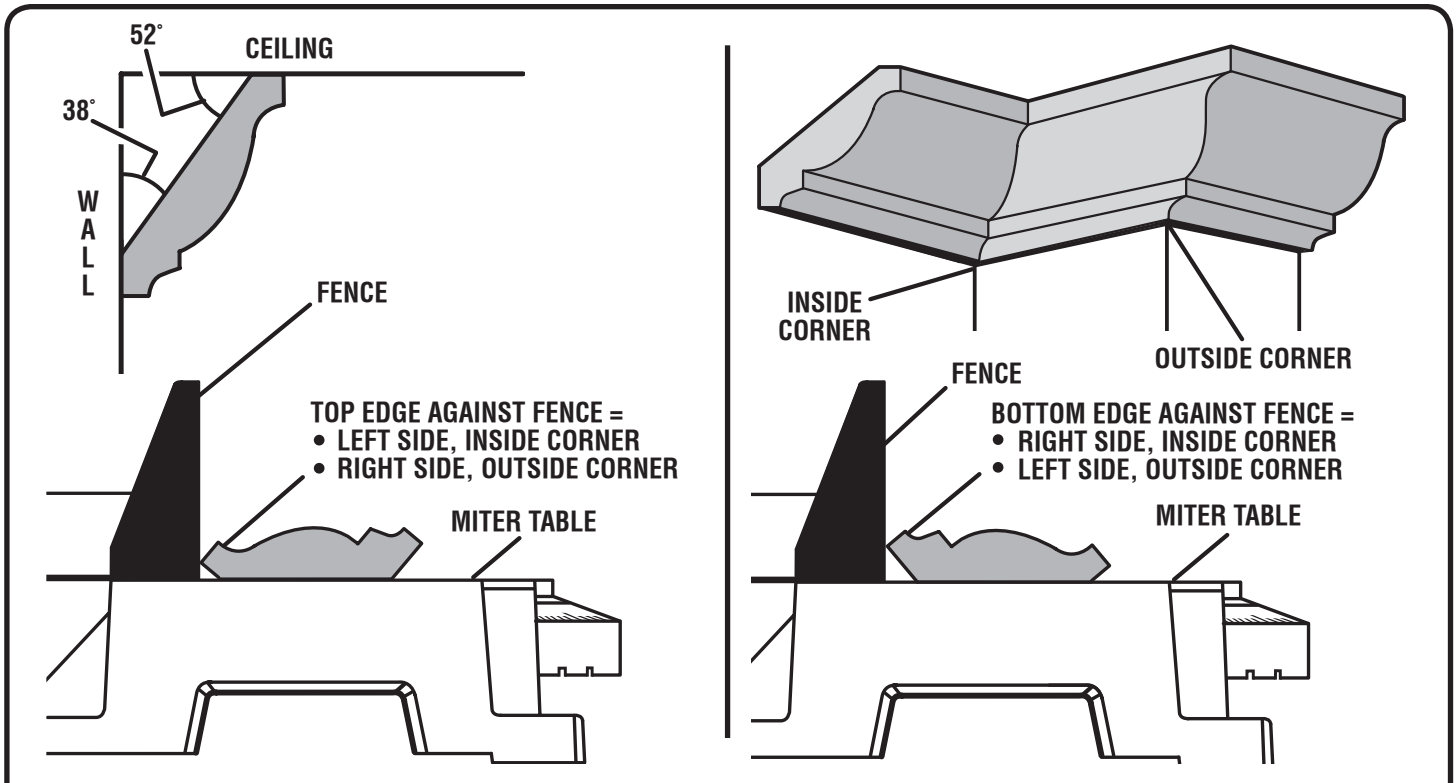
When setting the bevel and miter angles for compound miters, remember that the settings are interdependent; changing one angle changes the other angle as well.

Keep in mind that the angles for crown molding 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 molding. Also most walls do not have angles of exactly 90°; therefore, you will need to fine tune your settings.

When cutting crown molding by this method, the bevel angle should be set at 33.85°. 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 molding on miter table.

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

Bevel Angle Setting	Type of Cut
33.85°	Left side, inside corner 1. Top edge of molding against fence 2. Miter table set right 31.62° 3. Save left end of cut
33.85°	Right side, inside corner 1. Bottom edge of molding against fence 2. Miter table set left 31.62° 3. Save left end of cut
33.85°	Left side, outside corner 1. Bottom edge of molding against fence 2. Miter table set left 31.62° 3. Save right end of cut
33.85°	Right side, outside corner 1. Top edge of molding against fence 2. Miter table set right 31.62° 3. Save right end of cut



CROWN MOLDING FLAT ON MITER TABLE

Fig. 36

NESTING CROWN MOLDING AGAINST THE MITER FENCE

See Figure 37 - 39.

NOTE: This method of cut is for crown molding up to 3-3/8 in. tall, when using an auxiliary fence (as described on page 24). Do not attempt to cut molding that is larger than 3-3/8 in. tall.

NOTE: It may be necessary to adjust the partial sliding miter fence to ensure proper clearance prior to making the cut.

- Assemble and attach auxiliary fence as shown in figure 35.
- Loosen the slide lock knob.
- Slide the saw forwards or backwards to align the arrow on the crown indicator with the arrow on the pivot assembly, then tighten the slide lock knob securely.
- Set the bevel angle at 0° and the miter angle at 45° to either the left or the right. (For making 90° corners.)
- Nest and secure the crown molding against auxiliary fence using a spring clamp and hold crown molding securely.
- Before turning on the saw, perform a dry run of the cutting operation to make sure that no problems will occur when the cut is made.
- Grasp the saw handle firmly. Depress the trigger lockout lever and squeeze the switch trigger. Allow several seconds for the blade to reach maximum speed.
- Slowly lower the blade into and through the crown molding.

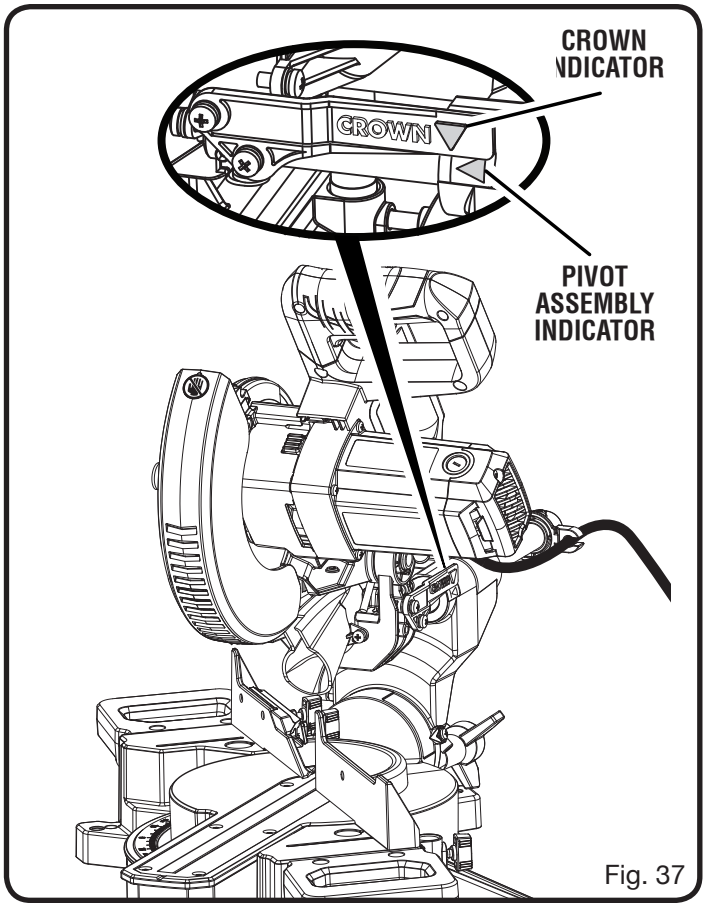


Fig. 37

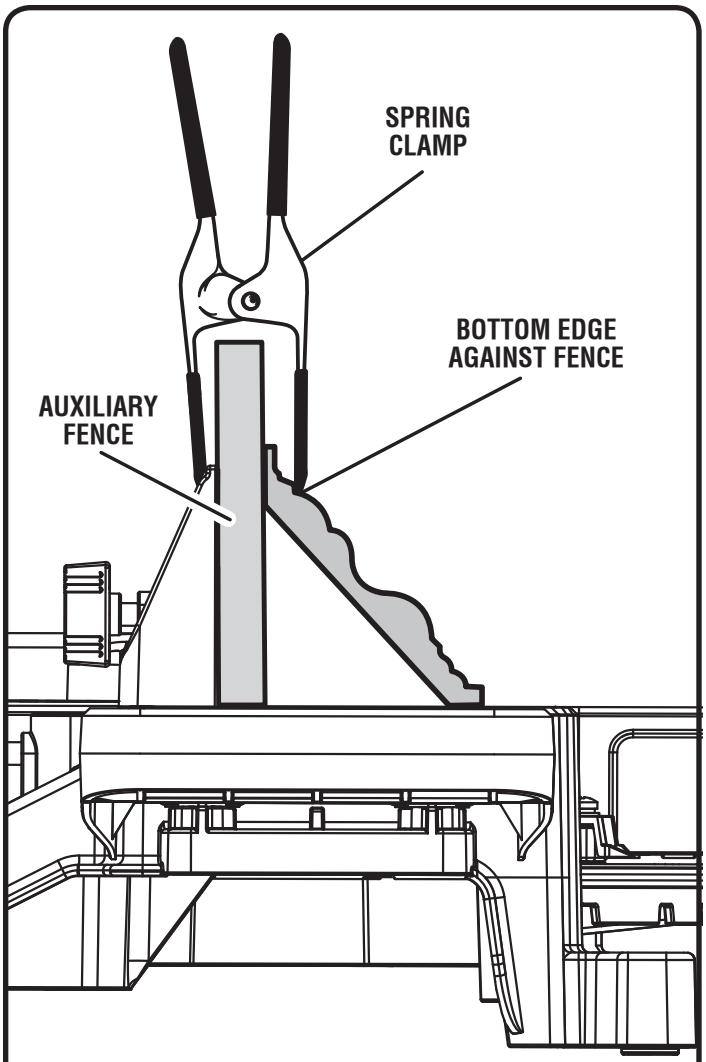


Fig. 38

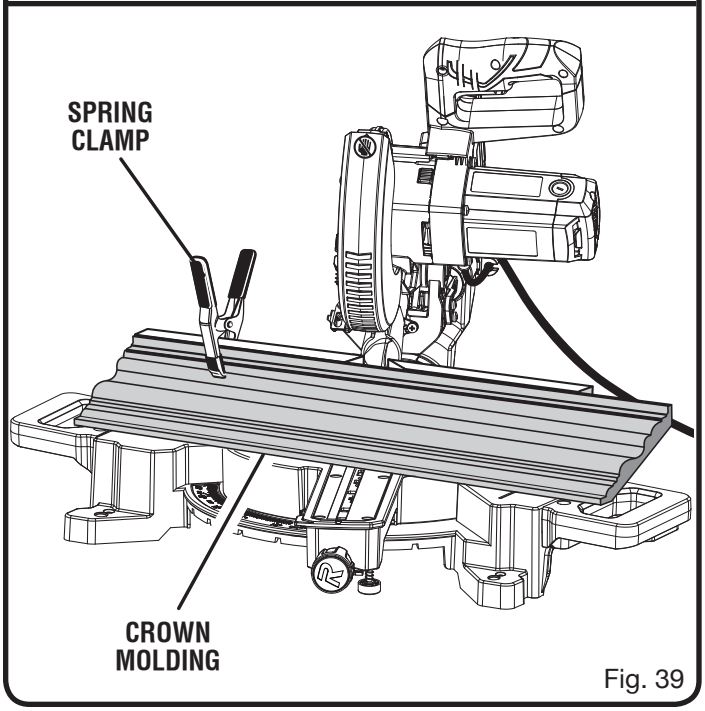


Fig. 39

VERTICALLY CUTTING BASE MOLDING AGAINST THE MITER FENCE

See Figure 40.

NOTE: It may be necessary to adjust the partial sliding miter fence to ensure proper clearance prior to making the cut.

- Set the bevel angle at 0° and the miter angle at 45° to either the left or the right. (For making 90° corners.)
- Place and secure the base molding vertically against the fence using a spring clamp and hold the base molding securely.

NOTE: To avoid interference between the base molding and the motor, the molding should be placed no more than a half-inch over the throat plate when cutting or trimming base molding at 45° right miter angles.

- Before turning on the saw, perform a dry run of the cutting operation to make sure that no problems will occur when the cut is made.
- Grasp the saw handle firmly. Depress the trigger lockout lever and squeeze the switch trigger. Allow several seconds for the blade to reach maximum speed.
- Slowly lower the blade into and through the base molding.

CUTTING WARPED MATERIAL

See Figures 41 - 42.

When cutting warped material, always make sure it is positioned on the miter table with the convex side against the fence as shown in figure 41.

If the warped material is positioned the wrong way as shown in figure 42, it will pinch the blade near the completion of the cut.

⚠ WARNING:

To avoid a kickback and to avoid serious personal injury, never position the concave edge of bowed or warped material against the fence.

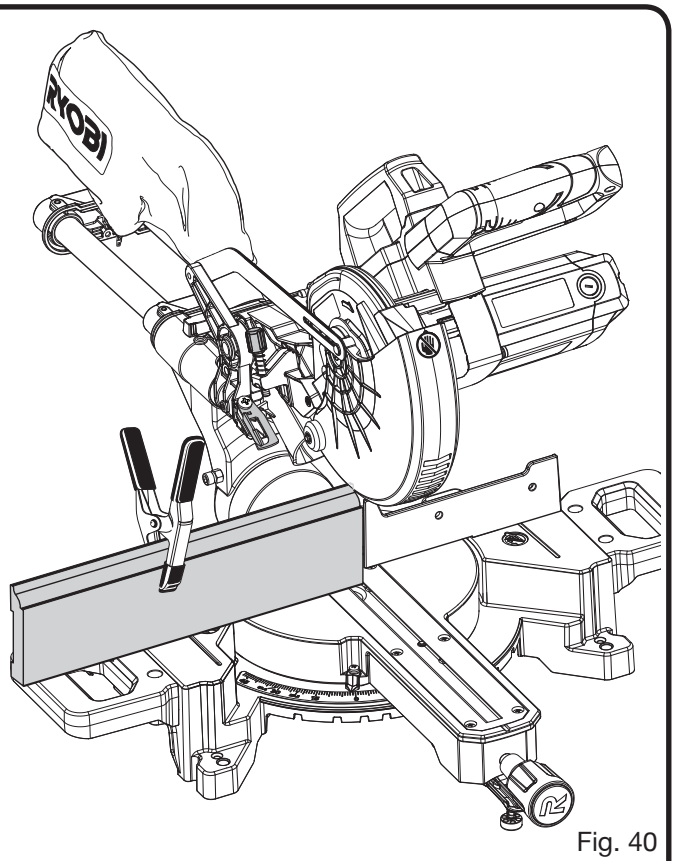
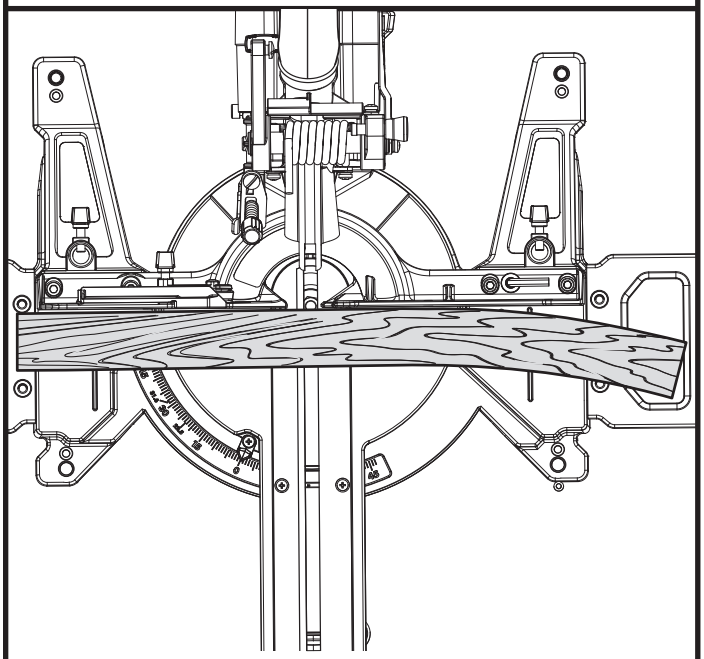


Fig. 40



RIGHT

Fig. 41

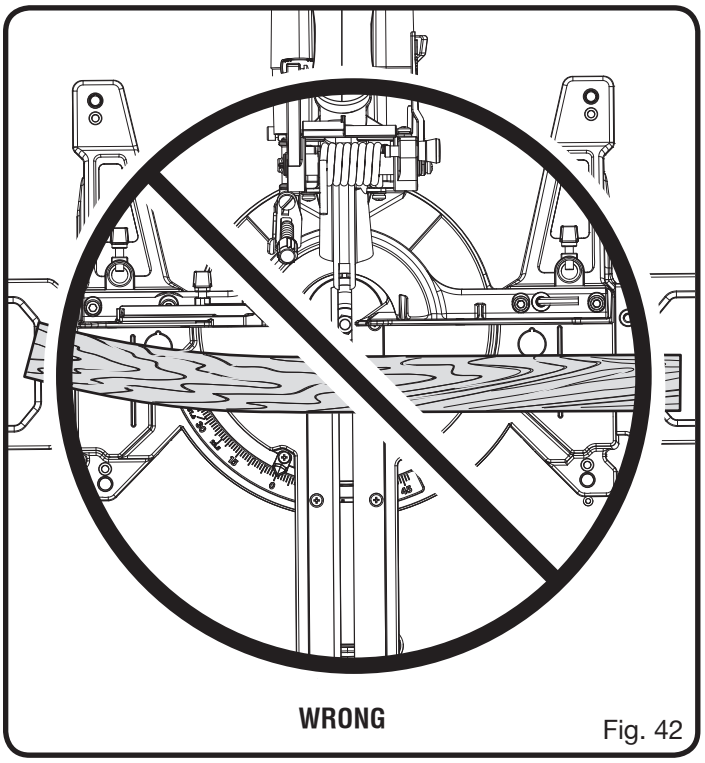


Fig. 42

CLAMPING WIDE WORKPIECES

See Figure 43.

When cutting wide workpieces, such as nominal 2 in. x 6 in., boards should be clamped with a work clamp as shown in figure 43.

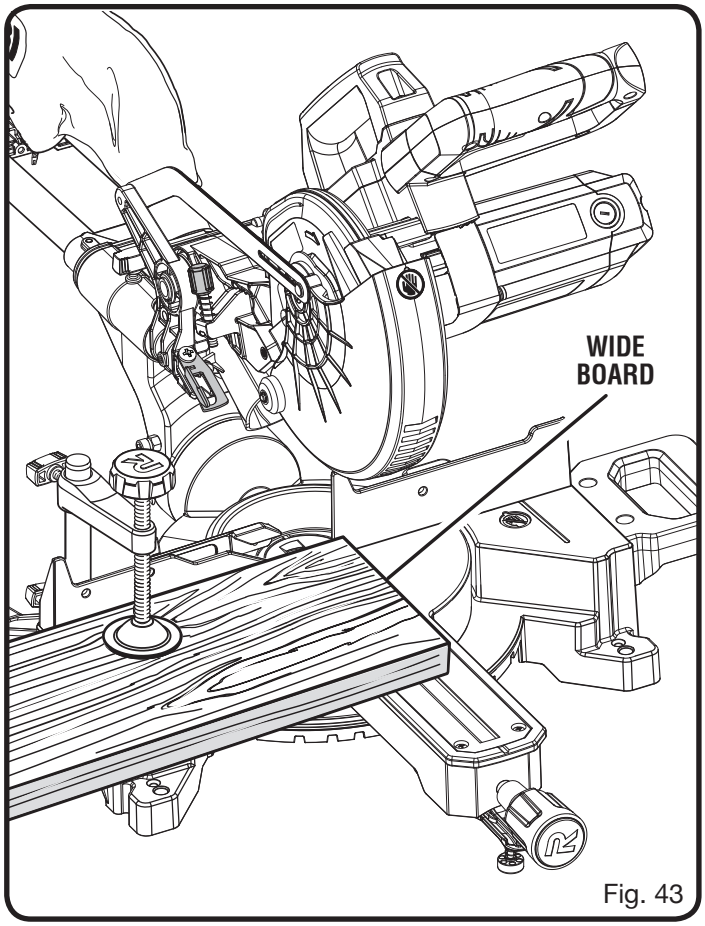


Fig. 43

ADJUSTMENTS

⚠ 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.

The compound miter saw has been adjusted at the factory for making accurate cuts. However, some of the components might have been jarred out of alignment during shipping. Also, over a period of time, readjustment will probably become necessary due to wear. After unpacking the saw, check the following adjustments before you begin using saw. Make any readjustments that are necessary and periodically check the parts alignment to make sure that the saw is cutting accurately.

PIVOT ADJUSTMENTS

NOTE: These adjustments were made at the factory and normally do not require readjustment.

TRAVEL PIVOT ADJUSTMENT

- The saw arm should rise completely to the up position by itself.
- If the saw arm does not raise by itself or if there is play in the pivot joints, have saw repaired at your nearest **AUTHORIZED SERVICE CENTER.**

TO ADJUST THE BEVEL PIVOT

- The compound miter saw should bevel easily by loosening the bevel lock knob and tilting the saw.
- If movement is tight or if there is play in the pivot, have saw repaired at your nearest **AUTHORIZED SERVICE CENTER.**

POSITIVE STOP ADJUSTMENTS

See Figure 44.

NOTE: These adjustments were made at the factory and normally do not require readjustment.

To adjust:

- Unplug the saw.
- Loosen the bevel lock knob by turning the knob counterclockwise.
- Square the blade to the miter table as described in the *Assembly* section of this manual.
- If the blade is out of square, secure the lock nut in place and loosen or tighten the positive stop adjustment screw using the blade wrench provided.
- Retighten bevel lock knob. Recheck blade-to-table alignment.

  NOTE: The above procedure can be used to check blade squareness of the saw blade to the miter table at both 0° and 45° angles.

Your saw has several scale indicators. After squaring adjustments have been made, it may be necessary to loosen the indicator screws and reset them to zero. *See Figures 21 - 22.*

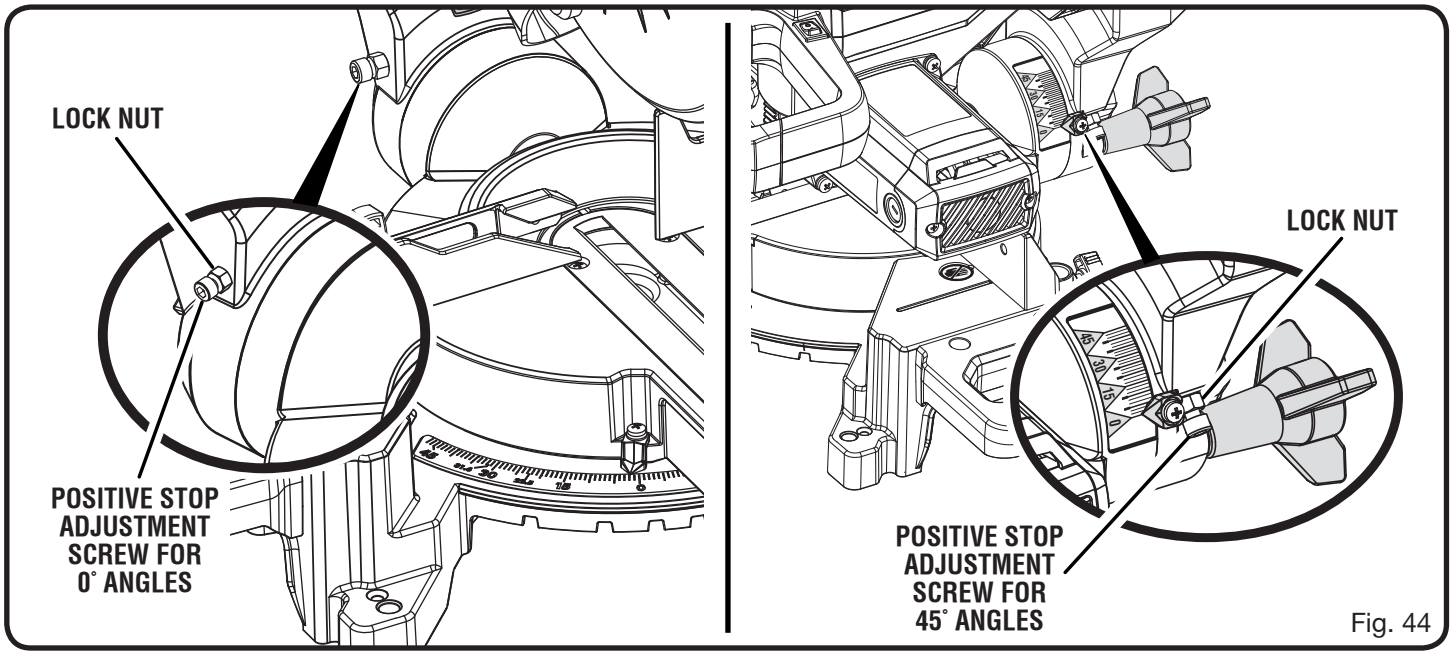


Fig. 44

MAINTENANCE

WARNING:

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

WARNING:

Always wear eye protection with side shields marked to comply with ANSI Z87.1 during product operation. If operation is dusty, also wear a dust mask.

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.

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, carbon dust, etc.

WARNING:

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

Electric tools used on fiberglass material, wallboard, spackling compounds, or plaster are subject to accelerated wear and possible premature failure because the fiberglass chips and grindings are highly abrasive to bearings, brushes, commutators, etc. Consequently, we do not recommend using this tool for extended work on these types of materials. However, if you do work with any of these materials, it is extremely important to clean the tool using compressed air.

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 lubrication is required.

BRUSH REPLACEMENT

See Figure 45.

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

Proceed as follows when replacement is required:

- Unplug the saw.
- Remove brush cap with a screwdriver. Brush assembly is spring loaded and will pop out when you remove brush cap.
- Remove brush assembly.
- 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 curvature of brush matches curvature of motor and that brush moves freely in brush tube.
- Make sure brush cap is oriented correctly (straight) and replace.
- Tighten brush cap securely. **Do not** overtighten.

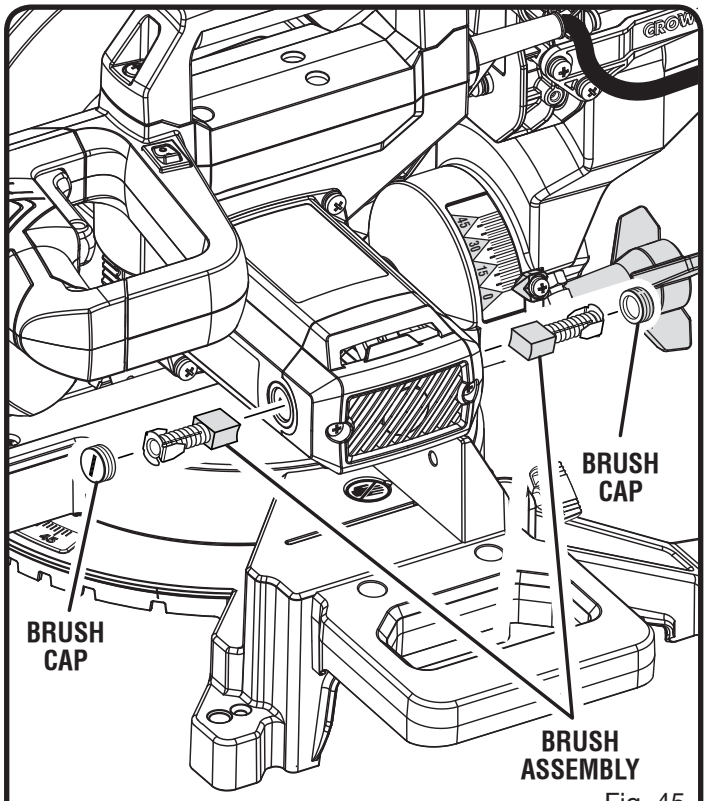


Fig. 45

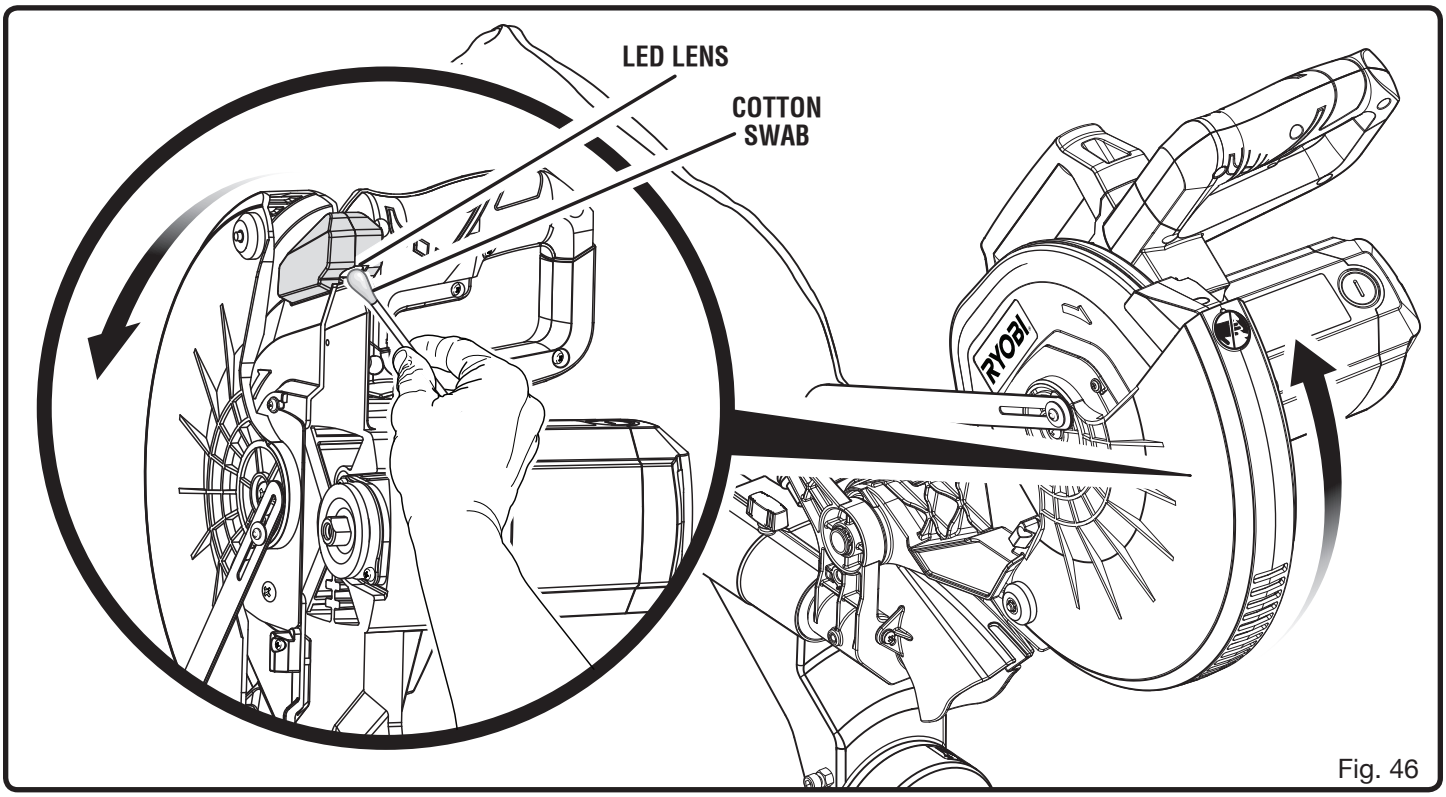


Fig. 46

CLEANING THE LED LENS

See Figure 46.

Over time the LED light may become cloudy or dull. If this occurs, the LED lens may require cleaning.

To clean the lens:

- Unplug the saw.
- Raise the saw arm.
- Remove the blade as described in the *Assembly* section.
- Rotate the lower blade guard to expose the LED lens.
- Using a small cloth or a cotton swab, gently clean away any dirt or debris from the LED lens.

  NOTE: Use caution when cleaning to avoid damaging the lens.
- Reinstall the blade.