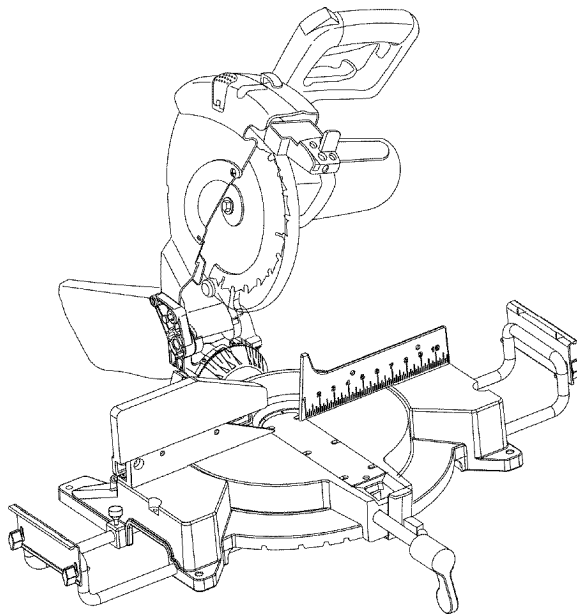


Operator's Manual



15 Amp - 3 HP (Max. Developed)
12" Blade
4000 R.P.M.

LASER COMPOUND MITER SAW With Retractable Laser Trac® System Model 137.212150



CAUTION:

Before using this Miter Saw,
read this manual and follow
all its Safety Rules and
Operating Instructions

- Safety Instructions
- Installation
- Operation
- Maintenance
- Parts List

Customer Help Line
1-800-843-1682

Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A.
Visit our Craftsman website: www.sears.com/craftsman

Part No. 137212150001

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WARRANTY

FULL ONE YEAR WARRANTY

If this tool fails due to a defect in material or workmanship within one year of date of purchase, Sears will at its option repair or replace it free of charge.

Return this tool to a Sears Service Center for repair, or to place of purchase for replacement.

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

Sears, Roebuck and Co., Dept. 817 WA, Hoffman Estates, IL 60179

▲ WARNING

Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains 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, cement and other masonry products
- 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.

PRODUCT SPECIFICATIONS

MOTOR

Power Source.....	120 V AC, 60HZ, 15 Amp
Horsepower.....	3HP (Max. Developed)
Speed.....	4000 RPM (No load)
Brake.....	Electric
Double Insulated.....	Yes
Motor Arbor Shaft Size.....	5/8"

MITER SAW

Cutting Capacity:

Crosscut.....	2-1/2" x 7-7/8" ; 3-7/8" x 5-7/8"
Miter 45° R.& L	2-1/2" x 5-1/2" ; 3-7/8" x 4-1/8"
Bevel 45° L	1-3/4" x 7-7/8" ; 2-3/4" x 5-7/8"
45° Miter and 45° Bevel.....	1-3/4" x 5-1/2" ; 2-3/4" x 4-1/8"

BLADE SIZE

Diameter.....	12"
Blade Arbor Size.....	1" w/ a 5/8" Reducer

Rotating Table:

Diameter.....	13-1/2"
Miter Detent Stops.....	0, 15, 22.5, 31.6, 45° R & L
Bevel Positive Stops.....	0, 33.9, 45° Left
Base Dimensions.....	23" x 16-3/4"
Dust Bag.....	Yes
Extension Wings.....	Yes
Sliding Fence.....	Yes
Net Weight	47 lbs

▲ WARNING

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

This tool is wired at the factory for 110-120 Volt operation. It must be connected to a 110-120 Volt / 15 Ampere time delay fuse or circuit breaker. To avoid shock or fire, replace power cord immediately if it is worn, cut or damaged in any way. Before using your tool, it is critical that you read and understand these safety rules. Failure to follow these rules could result in serious injury to you or damage to the tool.

POWER TOOL SAFETY

GENERAL SAFETY INSTRUCTIONS BEFORE USING THE MITER SAW

Safety is a combination of common sense, staying alert and knowing how to use your miter saw.

▲ WARNING

To avoid mistakes that could cause serious injury, do not plug the tool in until you have read and understood the following.

1. **READ** and become familiar with the entire Operators Manual. **LEARN** the tool's application, limitations and possible hazards.
2. **KEEP GUARDS IN PLACE** and in working order.
3. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form the habit of checking to see that keys and adjusting wrenches are removed from the tool before turning ON.
4. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
5. **DON'T USE IN DANGEROUS ENVIRONMENTS.** Don't use power tools in damp locations, or expose them to rain or snow. Keep work area well lighted.
6. **KEEP CHILDREN AWAY.** All visitors and bystanders should be kept a safe distance from work area.
7. **MAKE WORKSHOP CHILD PROOF** with padlocks, master switches, or by removing starter keys.
8. **DON'T FORCE THE TOOL.** It will do the job better and safer at the rate for which it was designed.
9. **USE THE RIGHT TOOL.** Do not force the tool or an attachment to do a job for which it was not designed.
10. **USE PROPER EXTENSION CORDS.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will result in a drop in line voltage and in loss of power which will cause the tool to overheat. The table on page 5 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.
11. **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
12. **ALWAYS WEAR EYE PROTECTION.** Any power tool can throw foreign objects into the eyes and



could cause permanent eye damage. ALWAYS wear Safety Goggles (not glasses) that comply with ANSI Safety standard Z87.1 Everyday eyeglasses have only impact –resistance lenses.

They ARE NOT safety glasses. Safety Goggles are available at Sears. **NOTE:** Glasses or goggles not in compliance with ANSI Z87.1 could seriously injure you when they break.

13. **WEAR A FACE MASK OR DUST MASK.** Sawing operation produces dust.
14. **SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.
15. **DISCONNECT TOOLS** before the servicing, and when changing accessories such as blades, bits and cutters.
16. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in the OFF position before plugging the tool in.
17. **USE RECOMMENDED ACCESSORIES.** Consult this Operators Manual for recommended accessories. The use of improper accessories may cause risk of injury to yourself or others.
18. **NEVER STAND ON THE TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
19. **CHECK FOR DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function – check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
20. **NEVER LEAVE THE TOOL RUNNING UNATTENDED. TURN THE POWER "OFF".** Don't walk away from a running tool until the blade comes to a complete stop & unplug the unit.
21. **DON'T OVERREACH.** Keep proper footing and balance at all times.
22. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
23. **WARNING:** Dust generated from certain materials can be hazardous to your health. Always operate saw in well-ventilated area and provide for proper dust removal.

COMPOUND MITER SAW SAFETY

- 1. USE ONLY CROSS-CUTTING SAW BLADES.** When using carbide tipped blades, make sure they have a negative hook angle. **IMPORTANT: DO NOT USE THIN KERF BLADES-** they can deflect and contact guard and can cause possible injury to the operator.
- 2. DO NOT** operate the miter saw until it is completely assembled and installed according to these instructions.
- 3. IF YOU ARE NOT** thoroughly familiar with the operation of miter saws, seek guidance from your supervisor, instructor, or other qualified person.
- 4. ALWAYS** hold the work firmly against the fence and table. **DO NOT** perform any operation free hand (use clamp wherever possible).
- 5. KEEP HANDS** out of the path of the saw blade. If the workpiece you are cutting would cause your hands to be within 8-1/2" inches of the saw blade, the workpiece should be clamped in place before making the cut.
- 6. BE SURE** the blade is sharp, runs freely, and is free of vibration.
- 7. ALLOW** the motor to come up to full speed before starting a cut.
- 8. KEEP THE MOTOR AIR SLOTS CLEAN** and free of chips or dust.
- 9. ALWAYS MAKE SURE** all handles are tight before cutting, even if the table is positioned in one of the positive stops.
- 10. BE SURE** both the blade and the collar are clean and the arbor bolt is tightened securely.
- 11. USE** only blade collars specified for your saw.
- 12. NEVER** use blades larger or smaller in diameter than 12-inches.
- 13. NEVER** apply lubricants to the blade when it is running.
- 14. ALWAYS** check the blade for cracks or damage before operation. Replace a cracked or damaged blade immediately.
- 15. NEVER** use blades recommended for operation at less than 4000 RPM.
- 16. USE** the blade guards at all times.
- 17. ALWAYS** keep the blade guards in place.
- 18. NEVER** reach around the saw blade.
- 19. MAKE SURE** the blade is not contacting the workpiece before the switch is turned ON.
- 20. IMPORTANT:** After completing the cut, release the power switch and wait for the blade to stop before returning the saw to the raised position.
- 21. MAKE SURE** the blade has come to a complete stop before removing or securing the workpiece, changing the workpiece angle, or changing the angle of the blade.
- 22. NEVER** cut metals or masonry products with this tool. This miter saw is designed for use on wood and wood-like products.
- 23. NEVER** cut small pieces. If the workpiece being cut would cause your hand or fingers to be within 8-1/2" inches of the saw blade the workpiece is too small.
- 24. PROVIDE** adequate support to the sides of the saw table for long work pieces.
- 25. NEVER** use the miter saw in an area with flammable liquids or gases.
- 26. NEVER** use solvents to clean plastic parts. Solvents could possibly dissolve or otherwise damage the material.
- 27. SHUT OFF** the power before servicing or adjusting the tool.
- 28. DISCONNECT** the saw from the power source and clean the machine when finished using.
- 29. MAKE SURE** the work area is clean before leaving the machine.
- 30. SHOULD** any part of your miter saw be missing, damaged, or fail in any way, or any electrical component fail to perform properly, shut off the switch and remove the plug from the power supply outlet. Replace missing, damaged, or failed parts before resuming operation.

ELECTRICAL REQUIREMENTS

POWER SUPPLY AND MOTOR

SPECIFICATIONS

The AC motor used in this saw is a universal, nonreversible type. See "MOTOR" in the "PRODUCT SPECIFICATIONS" section on page 2.

▲ WARNING

To avoid electrical hazards, fire hazards, or damage to the tool, use proper circuit protection. Your saw is wired at the factory for 120V operation. Connect to a 120V, 15 Amp circuit and use a 15 amp. time delay fuse or circuit breaker. To avoid shock or fire, if power cord is worn or cut, or damaged in any way, have it replaced immediately.

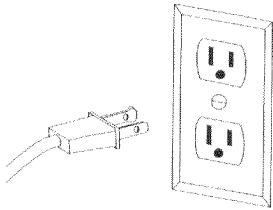
ELECTRICAL REQUIREMENTS AND SAFETY

DOUBLE INSULATED

The power tool is double insulated to provide a double thickness of insulation between you and tool's electrical system. All exposed metal parts are isolated from the internal metal motor components with protecting insulation.

Replacement parts – When servicing use only identical replacement parts.

Polarized plugs – This saw has a plug that looks like the one shown below:



To reduce the risk of electrical shock, this saw 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.

▲ WARNING

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

▲ WARNING

To avoid electrocution:

1. Use only identical replacement parts when servicing a tool with double insulation. Servicing should be performed by a qualified technician.
2. Do not use power tools in wet or damp locations or expose them to rain or snow.

This tool is intended for indoor use only.

MOTOR SAFETY PROTECTION IMPORTANT:

To avoid motor damage, the motor should be blown out or vacuumed frequently to keep sawdust from interfering with the motor ventilation.

1. **CONNECT** this saw to a 120V, 15 amp. circuit with a 15 amp. time delay fuse or circuit breaker. Using the wrong size fuse can damage the motor.
2. **If** the motor won't start, release the trigger switch immediately. **UNPLUG THE SAW.** Check the saw blade to make sure it turns freely. If the blade is free, try to start the saw again. If the motor still does not start, refer to the "**TROUBLESHOOTING GUIDE**"
3. **IF** the tool suddenly stalls while cutting wood, release the trigger switch, unplug the tool, and free the blade from the wood. The saw may now be started and the cut finished.

4. **FUSES** may "blow" or circuit breakers may trip frequently if:

- a. **MOTOR** is overloaded – overloading can occur if you feed too rapidly or make too many start/stops

in a short time.

- b. **LINE VOLTAGE** is more than 10% above or below the nameplate voltage rating. For heavy loads, the voltage at motor terminals must equal the voltage specified on the nameplate.

- c. **IMPROPER** or dull saw blades are used.

5. Most motor troubles may be traced to loose or incorrect connections, overload, low voltage or inadequate power supply wiring. Always check the connections, the load and supply circuit if the motor doesn't run well. Check minimum gauge for the length of cord you are using on the chart below.

GUIDELINES FOR EXTENSION CORDS

Use a proper extension cord. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one 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 cause overheating. The table below shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

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

Use a separate electrical circuit for your tools. This circuit must not be less than # 12 wire and should be protected with a 15 Amp time delay 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 nameplate, running at a lower voltage will damage the motor.

MINIMUM GAUGE FOR EXTENSION CORDS (AWG)

(When using 120 volts only)

Ampere Rating		Total length of cord in feet			
more than	not more than	25'	50'	100'	150'
0	6	18	16	16	14
6	10	18	16	14	12
10	12	16	16	14	12
12	16	14	12	not recommended	

CAUTION: In all cases make certain the receptacle in question is properly grounded. If you are not sure have a certified electrician, check the receptacle.

ACCESSORIES AND ATTACHMENTS

TOOLS NEEDED FOR ASSEMBLY

RECOMMENDED ACCESSORIES

▲ WARNING

- Use only accessories recommended for this miter saw. Follow instructions that accompany accessories. Use of improper accessories may cause hazards.
- The use of any cutting tool except 12 inch saw blades that meet the requirements under recommended accessories is prohibited. Do not use accessories such as shaper cutters or dado sets. Ferrous metal cutting, the use of abrasive wheels and the cutting of masonry products are prohibited.
- 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 injury.

ACCESSORIES

Visit your Sears Hardware Department or see the Sears Power and Hand Tool Catalog to purchase recommended accessories for this power tool.

▲ WARNING

To avoid the risk of personal injury, do not modify this power tool or use accessories not recommended by Sears.

▲ WARNING

Read warnings and conditions on 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 while handling, can seriously damage the blade. Foreign objects in the workpiece, such as wire or nails, can also cause tips to crack or break off. Before using, always visually examine the blade and tips for bent teeth, 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.



Phillips screwdriver

CARTON CONTENTS

UNPACKING YOUR MITER SAW

▲ WARNING

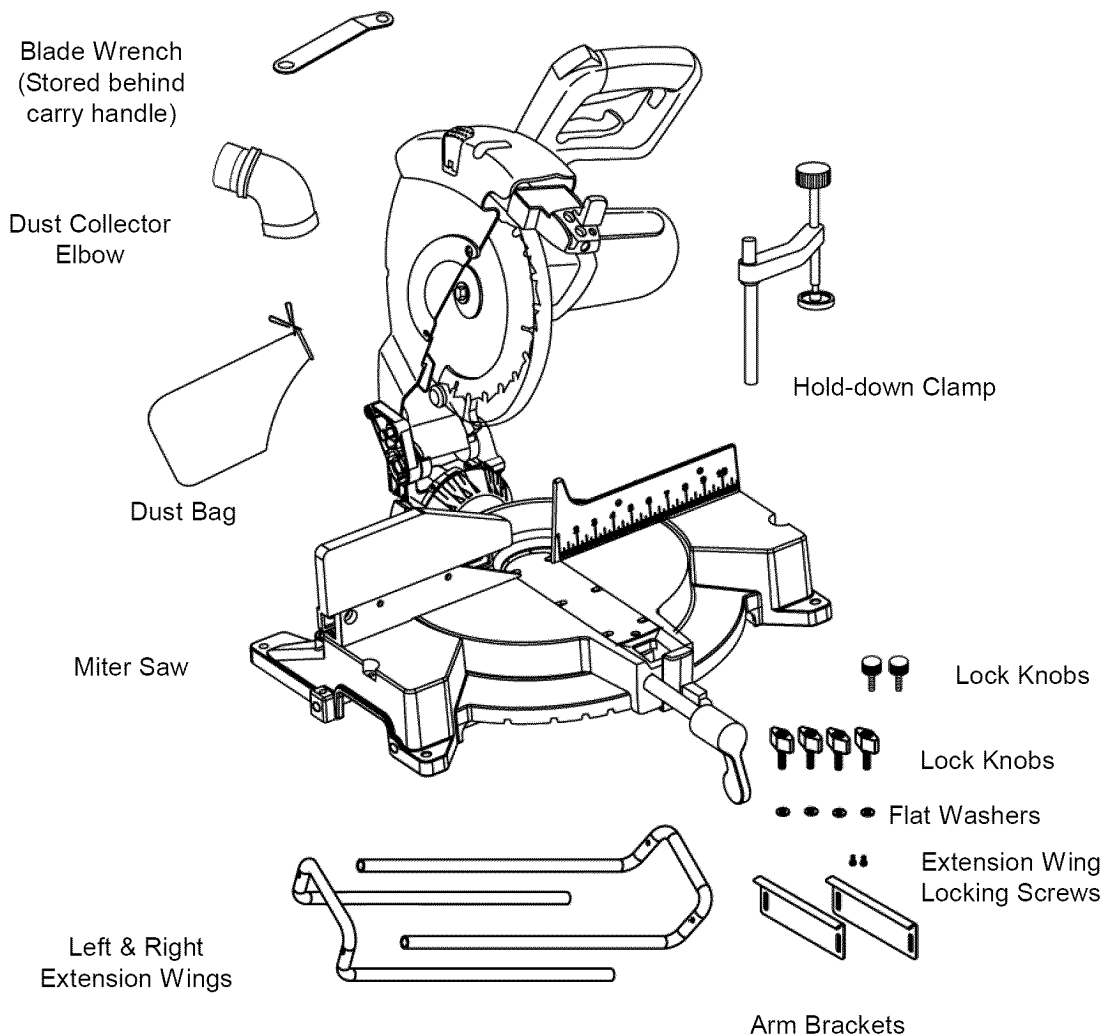
To avoid injury from unexpected starting or electrical shock, do not plug the power cord into a source of power during unpacking and assembly. This cord must remain unplugged whenever you are working on the saw.

1. Remove the miter saw from the carton. **IMPORTANT:** Do not lift the miter saw by the switch handle or miter table handle. It may cause misalignment. Always lift the machine by the built in carry handle.
2. Place the saw on a secure stationary work surface.

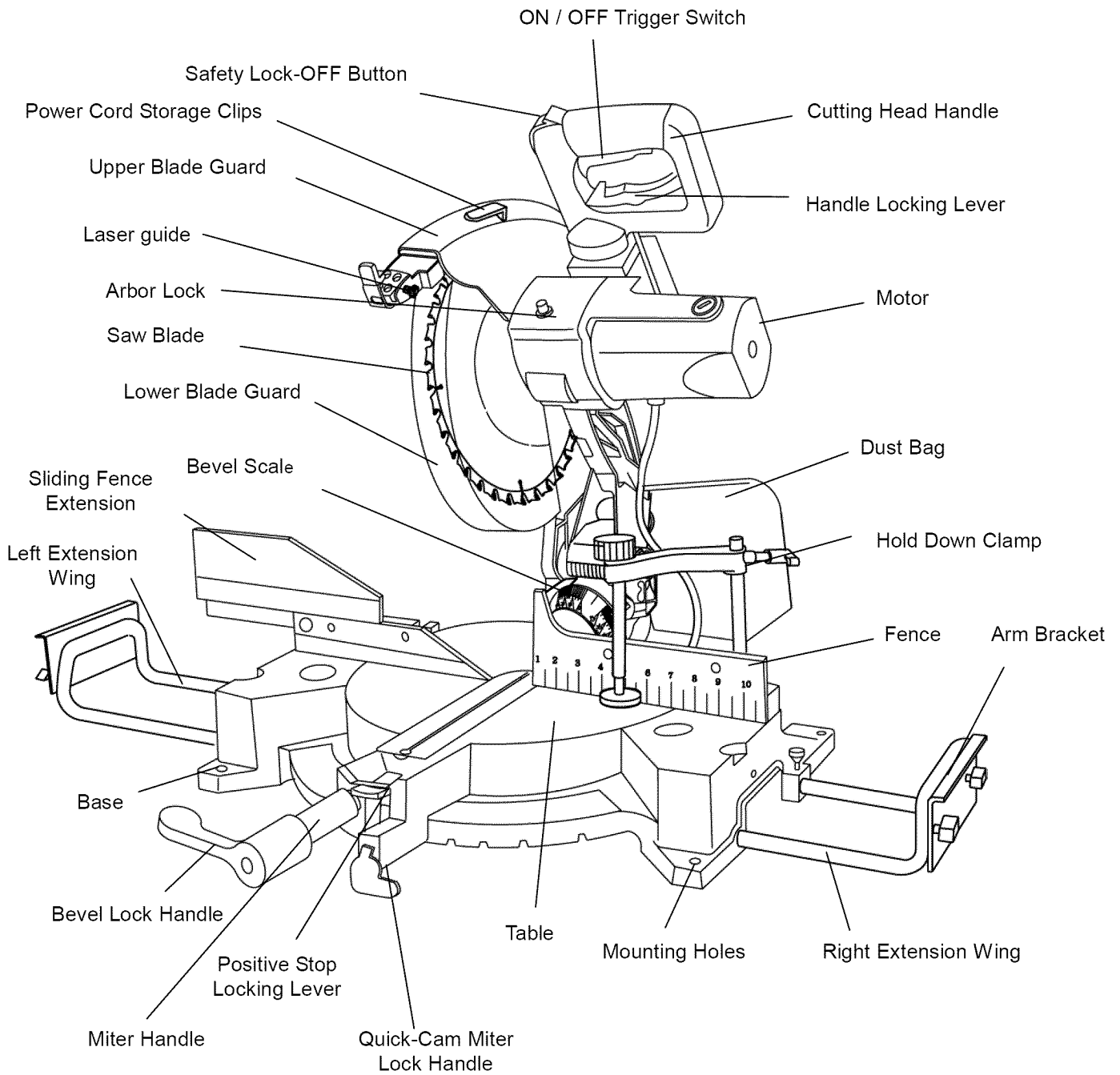
3. Separate all parts from the packing material. Check each one with the illustration to make certain all items are accounted for, before discarding any packing material.

▲ WARNING

If any part is missing or damaged, do not attempt to assemble the miter saw, or plug in the power cord until the missing or damaged part is correctly replaced. To avoid electric shock, use only identical replacement parts when servicing double insulated tools.



KNOW YOUR COMPOUND MITER SAW



GLOSSARY OF TERMS

CRAFTSMAN COMPOUND MITER SAW TERMS

ARBOR LOCK – Allows the user to keep the blade from rotating while tightening or loosening the arbor locking bolt during blade replacement or removal.

BASE – Supports the table, holds accessories and allows for workbench or leg set mounting.

BEVEL LOCKING HANDLE – Locks the miter saw at a desired bevel angle.

BEVEL SCALE – To measure the bevel angle of the saw blade 0° to 45° left.

COVER PLATE SCREW – Loosen this screw and rotate the plate for access to the blade arbor locking bolt.

DUST CHUTE – Exhausts debris away from the user.

EXTENSION WING – Extends the width of the work table for support while cutting long work pieces. They can be used with or without a stop block as an additional side fence.

FENCE – Helps to keep the workpiece from moving when sawing. Scaled to assist with accurate cutting.

SAFETY LOCK-OFF BUTTON – Yellow button on handle must be pushed forward to activate the trigger switch.

LOWER BLADE GUARD – Helps protect your hands from the blade in the raised position, it retracts as the blade is lowered.

MITER HANDLE – Used to rotate the saw to the right or left cutting position.

MITER SCALE – To measure the miter angle 0° to 45° left, 0° to 45° right.

MOUNTING HOLES – To mount the miter saw to a stable surface.

ON/OFF TRIGGER SWITCH – To prevent the trigger from being accidentally engaged, a lock-off slide switch is provided. To start the tool, push the lock-off slide switch forward and squeeze the trigger. Release the trigger to stop the miter saw.

POSITIVE STOP LOCKING LEVER – Used in combination with the miter handle, it locks the miter saw at a preset positive stop for the desired miter angle.

STOP LATCH – Locks the miter saw in the lowered position for compact storage and transportation.

SWITCH HANDLE – The cutting head handle contains the

trigger switch and a safety lock-off slide switch. The

blade is lowered into the workpiece by pushing down on the handle. The saw will return to its upright position when the handle is released.

WARNING LABELS – Read and understand for your own safety. Always make certain these are in place & legible.

WRENCH STORAGE – Convenient storage to prevent misplacing the blade wrench.

WOODWORKING TERMS

ARBOR – The shaft on which a blade is mounted.

BEVEL CUT – An angle cut made through the face of the workpiece.

COMPOUND CUT – A simultaneous bevel and miter cut.

CROSS CUT – A cut made across the width or grain of the workpiece.

FREEHAND – Performing a cut without using a fence (guide), hold down or other proper device to prevent the workpiece from twisting during the cutting operation.

GUM – A sticky sap from wood products.

HEEL – Misalignment of the blade.

KERF – The amount of material removed by blade cut.

MITER CUT – An angle cut made across the width or grain of the workpiece.

RESIN – A sticky sap that has hardened.

REVOLUTIONS PER MINUTE (RPM) – The number of turns completed by a spinning object in one minute.

SAW BLADE PATH – The area of the workpiece or table top directly in line with the travel of the blade or the part of the workpiece which will be cut.

SET – The distance between two saw blade tips, bent outward in opposite directions to each other. The further apart the tips are, the greater the set.

WORKPIECE – The item being cut. The surfaces of a workpiece are commonly referred to as faces, ends, and edges.

ASSEMBLY

ASSEMBLY INSTRUCTIONS

▲ WARNING

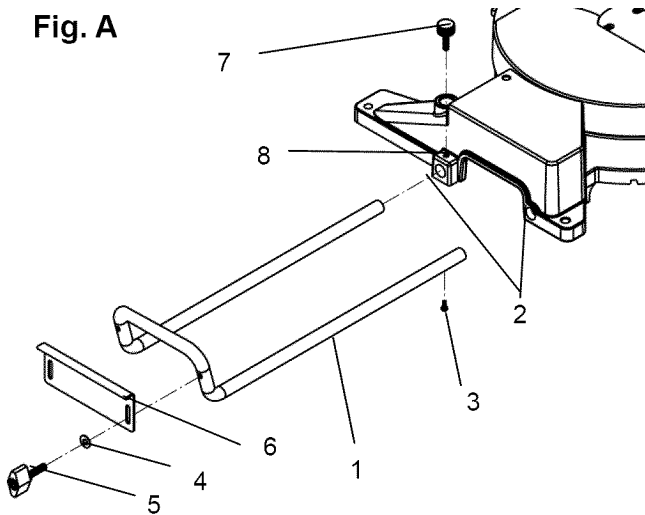
To avoid injury, do not connect this miter saw to the power source until it is completely assembled and adjusted, and you have read and understood this Operators Manual.

INSTALLING EXTENSION WINGS & ARM BRACKETS (FIG. A)

1. Slide the extension wing (1) into the mounting holes (2) of the saw base.
2. Thread the locking screw (3) into the extension wing then tighten with a Phillips screwdriver.
3. Place one flat washer (4) onto one lock knob (5), insert through the arm bracket (6) and thread into the extension wing. Repeat for second lock knob.
4. Thread the extension wing lock knob (7) into the threaded hole in the base (8) to lock the extension wing into place.
5. Repeat steps 1 through 4 for right side extension.

NOTE: The arm brackets serve two purposes: To act as a stop block for repetitive cuts and to level the workpiece when the extension wings are fully extended for additional work support (see Operation for details).

Fig. A

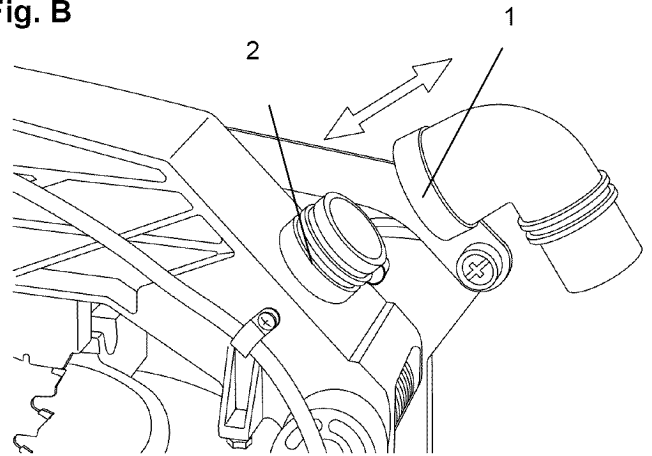


INSTALLING THE DUST COLLECTION ELBOW (Fig. B)

1. Install the larger end of the elbow (1) onto the exhaust port (2).

NOTE: The elbow can be used to attach either the dust bag or a vacuum hose to remove sawdust from the work area.

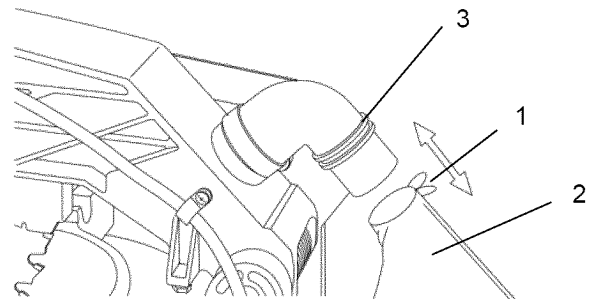
Fig. B



INSTALLING THE DUST BAG (Fig. C)

1. Squeeze the metal collar wings (1) of the dust bag (2).
1. Place the dust bag neck opening around the exhaust port (3), and release the metal collar wings.

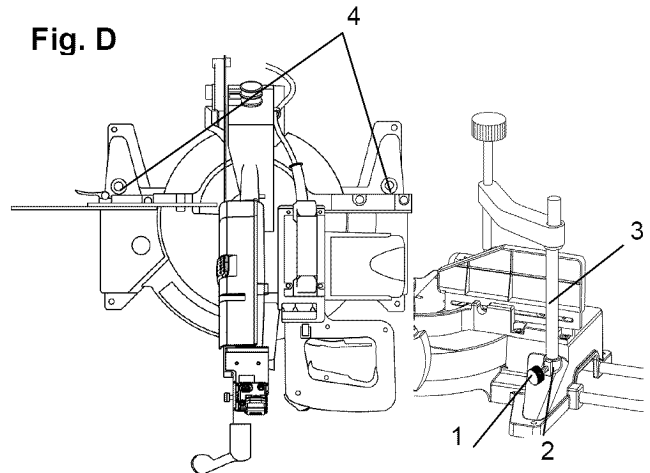
Fig. C



INSTALLING THE HOLD-DOWN CLAMP (Fig. D)

1. Loosen two lock knobs (1) in each side on the rear of the saw base (2).
2. Place the Hold-down Clamp (3) on either the left or right mounting hole (4).
3. Tighten the lock knob to secure the clamp in place.

Fig. D



ASSEMBLY & ADJUSTMENTS

RAISING THE CUTTING HEAD (Fig. E)

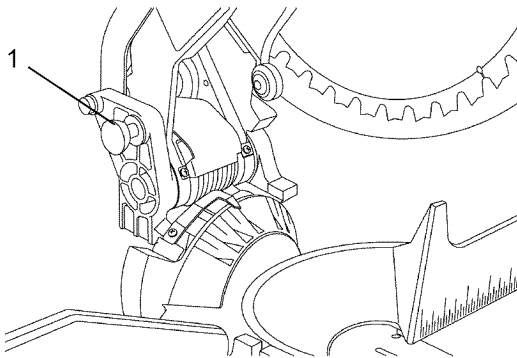
Raising

1. Push down slightly on the cutting handle.
2. Pull out the stop latch (1).
3. Allow the cutting head to rise to the up position.

▲ WARNING

To avoid injury and damage to the saw, transport or store the miter saw with the cutting head locked in the down position. Never use the stop latch to hold the cutting head in a down position for cutting operations.

Fig. E



LOCKING

1. Push the cutting head down to its lowest position.
2. Push the stop latch (1) into the locking hole.

IMPORTANT: To avoid damage, never carry the miter saw by the switch handle, the cutting arm, or the miter table handle. ALWAYS use the designated carrying handle located on the top of the machine.

BLADE WRENCH STORAGE (Fig. F)

For convenient storage and prevention of loss, there is a slot (1) located in the rear of the carry handle for storing the blade wrench (2).

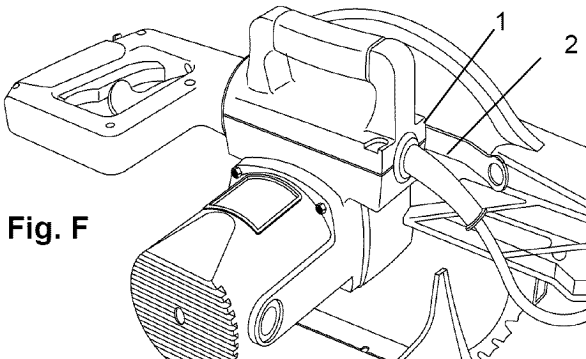


Fig. F

REMOVING OR INSTALLATING THE BLADE

▲ WARNING

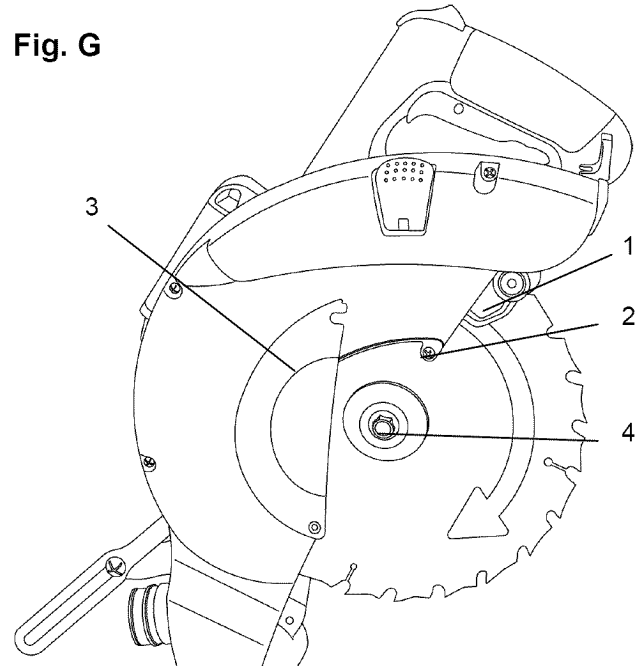
1. Only use a 12-inch diameter blade.
2. To avoid injury from an accidental start, make sure the switch is in the OFF position and plug is not connected to the power source outlet.

REMOVING (Fig. G, H, I)

▲ WARNING

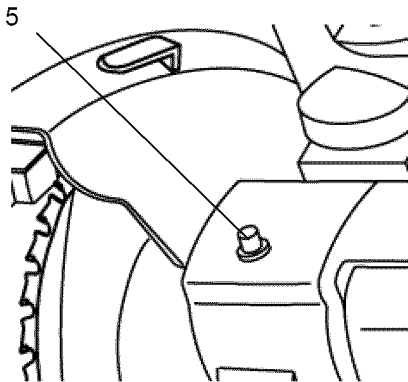
1. Unplug the saw from the outlet.
2. Raise the miter saw to the upright position.
3. Loosen the cover plate screw (2) with a Phillips screwdriver.
4. Rotate the cover plate (3) to expose the arbor bolt (4).
5. Place the blade end wrench over the arbor bolt.

Fig. G



6. Locate the arbor lock (5) on the motor, below the miter saw switch handle. (Fig. H)
7. Press the arbor lock, holding it in firmly while turning the blade wrench clockwise. The arbor lock will then engage and lock the arbor. Continue to hold the arbor lock while turning the wrench clockwise to loosen the arbor bolt.

Fig. H

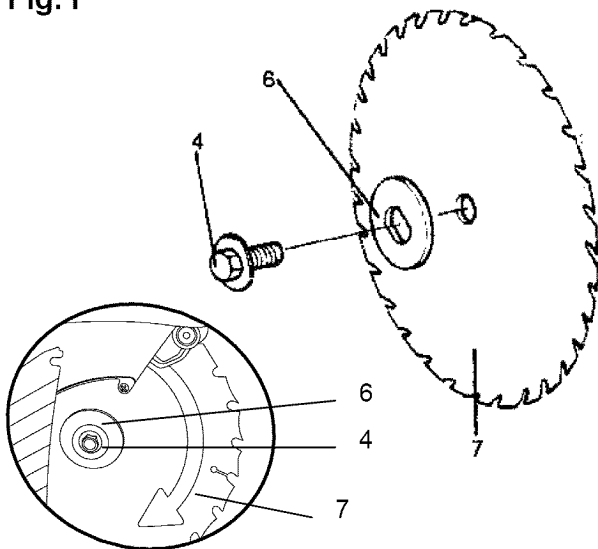


REMOVING – cont'd

8. Remove the arbor bolt (4), the outer blade collar (6), and the blade (7) with the 5/8" reducer. Do not remove the inner blade collar. **(Fig. I)**
9. Raise the lower clear plastic blade guard (1) to the upright position **(Fig. G)** to remove the blade.

NOTE: Pay attention to the pieces removed, noting their position and direction they face. Wipe the blade collars clean of any sawdust before installing a new blade. Also, the 12" blade has a 1" arbor hole with a 5/8" reducer to mount onto the saw.

Fig. I



INSTALLING BLADE (Fig. G, H, I)

▲ WARNING

Un-plug the miter saw before changing/installing the blade.

1. Install a 12" blade with a 5/8" arbor (or a 1" arbor with a 5/8" reducer) making sure the rotation arrow on the blade matches the clockwise rotation arrow on the upper guard, and the blade teeth are pointing downward.
2. Place the outer blade collar (6) against the blade and on the arbor. Thread the arbor bolt (4) on the arbor **(Fig. I)** in a counterclockwise direction.

IMPORTANT: Make sure the flats of the blade collars are engaged with the flats on the arbor shaft. Also, the flat side of the arbor collar must be placed against the blade.

3. Place the blade wrench on the arbor bolt.
4. Press the arbor lock (5), holding it in firmly while turning the blade wrench counterclockwise. When the arbor lock engages, continue to press the arbor lock in while tightening the arbor bolt securely. **(Fig. H)**
5. Rotate the cover plate (3) back to its original position until the slot in the cover plate engages with the cover plate screw (2). Tighten the screw with a Phillips screwdriver. **(Fig. G)**
6. Be sure the arbor lock is released so the blade turns freely by spinning the blade until the arbor lock disengages.

▲ WARNING

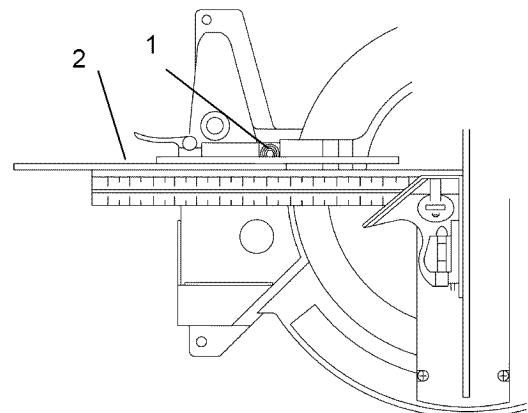
To avoid injury from an accidental start, make sure the switch is in the OFF position and the plug is not connected to the power source outlet. To avoid injury, never use the saw without the cover plate secure in place. It keeps the arbor bolt from falling out if it accidentally loosens, and helps prevent the spinning blade from coming off the saw.

ADJUSTING FENCE SQUARENESS (Fig. J)

1. Set the bevel and miter angles at zero degrees.
2. Lower and lock the cutting head into position.
3. Using a square, lay the heel of the square against the blade, and the rule against the fence (2) as shown. **NOTE:** Be sure to rest the square against the body of the blade and not against the teeth of the blade.
4. If the blade is not 90° to the fence, loosen the three fence locking bolts (1).
5. Adjust the fence 90° to the blade and re-tighten the three fence locking bolts.

CAUTION: If the saw has not been used recently, recheck blade squareness to the fence and readjust if needed.

Fig. J



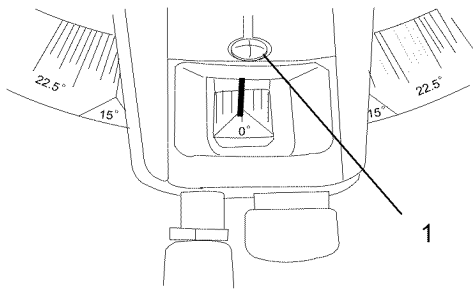
MITER SCALE (Fig. K)

The miter saw table has nine of the most common angle settings with positive stops at 0°, 15°, 22.5°, 31.6° and 45°. These positive stops position the blade at the desired angle quickly and accurately.

Miter Angle Pointer Adjustment (Fig. K):

1. Place the miter table at the zero position making sure the positive stop locking lever snaps into position.
2. Loosen the miter angle indicator screw (1) and adjust the indicator to the "0" mark on the miter scale.
3. Tighten miter angle indicator screw.

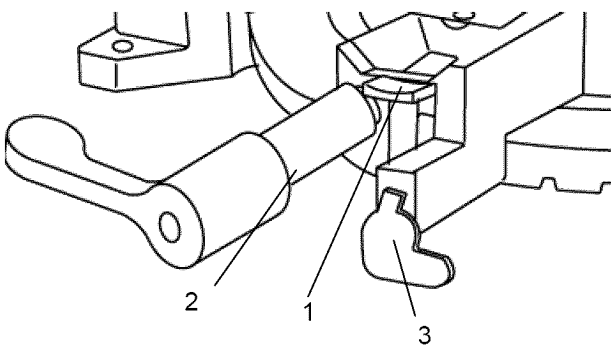
Fig. K



Positive Stop Miter Angle Adjustment: (Fig. L)

1. Unlock the miter table by lifting up on the miter quick-cam table lock (3).
2. While holding the positive stop locking lever down (1), grasp the miter handle (2) and move the miter table left or right to the desired angle.
3. Release the positive stop locking lever and set the miter at the desired angle making sure the lever snaps into place. NOTE: The lever will only lock into place at one of the nine positive stops. To lock the table at all other degrees, see next section.

Fig. L



Quick-Cam Miter Table Lock Operation: (Fig. L)

If miter angles required are NOT one of the nine positive stops noted above, the miter table can be locked at any angle between these positive stops by using the Miter Quick-Cam table lock.

1. Unlock the miter table by lifting up on the miter quick-cam table lock (3).
2. While holding the positive stop locking lever down

(1), grasp the miter handle (2) and move the miter table left or right to the desired angle.

3. Release the positive stop locking lever.
4. Press down on the Miter Quick-Cam locking lever (3) until it locks the miter table in place.

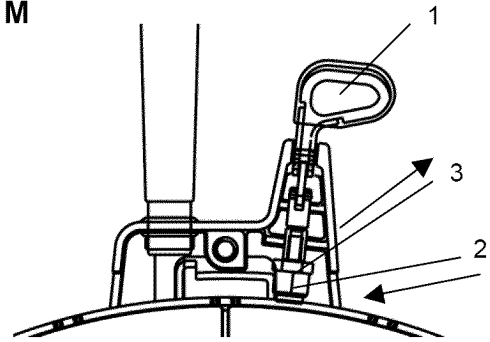
NOTE: The miter Quick-Cam locking lever should lock the table and prevent it from moving left or right. If adjustment is needed, see next step.

Miter Quick-Cam Table Lock Adjustment: (Fig. M)

Note: Fig. M is a view from underneath the saw

1. Press down and lock the miter quick-cam table lock (1).
2. Turn the stop nut (2) to the left as shown using a 13mm wrench to extend the locking arm against the base of the miter saw.
3. Test the quick cam miter lock to verify it locks the table into position securely.
4. Turn the lock nut (3) to the right as shown to lock the miter locking mechanism into place.

Fig. M



90° BEVEL STOP ADJUSTMENT (Fig. N)

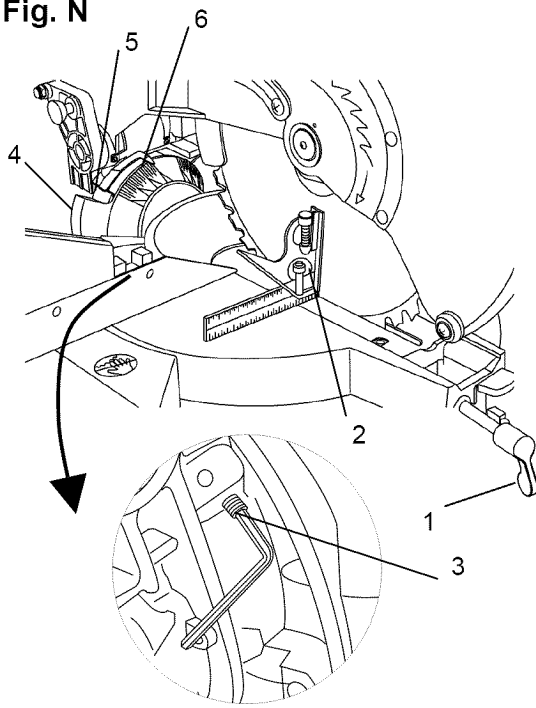
▲ WARNING

To avoid injury from unexpected starting or electrical shock, turn the switch OFF and remove the power cord from the power source.

90° Bevel adjustment (Fig. N)

1. Loosen the bevel lock handle (1) by rotating it clockwise and tilt the cutting arm completely to the right. Tighten the bevel lock handle.
2. Place a combination square (2) on the miter table with the rule against the table and the heel of the square against the saw blade.
3. If the blade is not 90° square with the miter table, loosen the bevel lock handle, remove the cover plate (4), turn the bevel angle adjusting screw (3) in or out with a 2.5mm hex wrench until the blade is square with the table.
4. Repeat steps 1 & 2 to verify blade squareness and replace the cover plate once alignment is achieved.
5. When the blade is exactly 90° to the table loosen the left bevel indicator screw (5) using Phillips screwdriver.
6. Adjust the bevel indicator (6) to the "0" mark on the bevel scale and retighten the screw.

Fig. N



33.9° Bevel Adjustment (Fig. O)

1. Push the bevel detent pin (9) in toward the front of the unit.
2. Unlock the bevel lock handle and tilt the cutting arm to the crown molding positive stop at 33.9°.
3. Using a combination square, check to see if the blade angle is 33.9° to the table.
4. If the blade is not at 33.9° to the miter table, loosen locknut (7) then turn the bevel angle adjusting bolt (8) in or out with a 10mm wrench until the blade is at 33.9° to the miter table.
5. Secure the locking nut (7) into position after alignment is achieved.

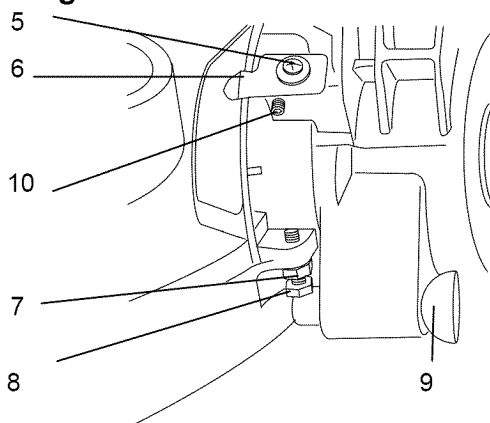
BEVEL SCALE

There are two bevel scales on this machine for ease in viewing at all bevel angles.

45° Bevel adjustment (Fig. O)

1. Unlock the bevel lock handle and tilt the cutting arm as far to the left as possible making sure the crown molding positive stop pin (9) is pulled out towards the rear of the machine.
2. Using a combination square, check to see if the blade angle is 45° to the table.
3. If the blade is not at 45° to the miter table, loosen the bevel locking lever, turn the bevel adjustment screw (10) in or out with a 2.5mm hex wrench until the blade is 45° to the miter table.
4. Repeat steps 1 & 2 to verify blade squareness.
5. When the blade is exactly 45° to the table, loosen the RIGHT bevel indicator screw using Phillips screwdriver.
6. Adjust the bevel indicator to the 45° mark on the bevel scale and retighten the screw.

Fig. O



ALIGNING THE LASER GUIDE (Fig. P, Q, R)

This adjustment was made at the factory however minor adjustment may be required before the tool is used for the first time. Also, the laser alignment should be checked periodically to verify accuracy. You also have the option to change the laser projection to the left, middle or right side of the blade according to your preference when using the laser to guide the cutting operation. When using the laser on an edge of the workpiece, it may require recalibration to cut at the left or right of the kerf.

▲ WARNING

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

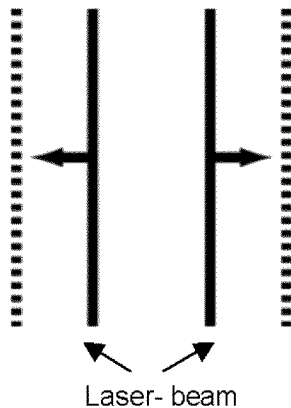
How to Check Laser-beam Alignment

1. Find a 90° square scrap workpiece and scribe a 90° line as the calibrating pattern and position the workpiece on the table.
2. Turn on the laser and line up the laser beam with the scribed line.
3. Lower the cutting head to verify the blade is parallel to the side of the scribed line.

Parallel Laser Beam Adjustment (Fig. P)

Lower the cutting head so the blade is flush with the side of the scribed line. Turn on the laser beam, loosen the screw (4 - Fig. R) ¼ turn and adjust the thumbscrew (2 - Fig. R) accordingly then retighten the screw (4).

Fig. P



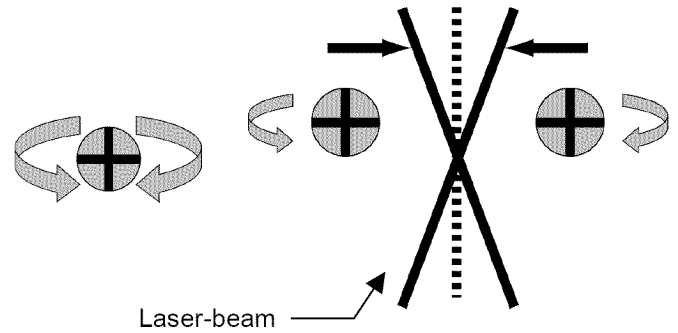
Laser Beam Angle Adjustment (Fig. Q)

If the laser-beam is not parallel to the scribed line, adjust the screw (1 - Fig. R) with a Phillips screwdriver.

▲ WARNING

Be careful not to overturn the adjustment screw. The maximum turn for the screw (1 - Fig. R) is +/- 5° or approximately 1/8 turn to prevent any possible wire damage.

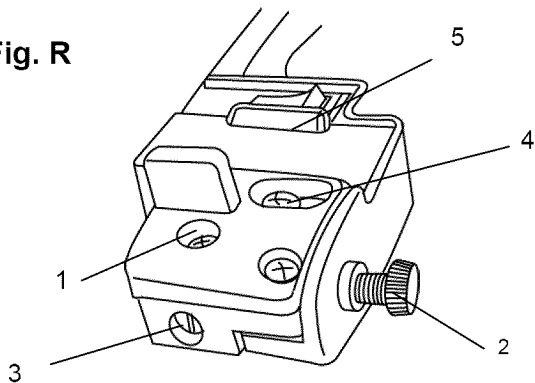
Fig. Q



Laser Position Adjustment

If the Laser Beam moves when the upper cutting arm is raised and lowered, adjust the screw (3) cautiously with a slotted screwdriver +/- 5° or approximately 1/8 turn.

Fig. R



CHANGING THE LASER BATTERIES

CHANGING THE BATTERIES (Fig. R)

▲ WARNING

Unplug your miter saw before making any adjustments. Failure to unplug your saw could result in accidental starting causing possible serious personal injury.

1. Lift open the battery cover (5).
2. Remove and replace the two batteries.

Note: Replace the batteries that have a rating of 1.5 volts (Number 4 series and AAA size or equivalent). When replacing the batteries, the battery cover should be thoroughly cleaned. Use a soft paintbrush or similar device, to remove all sawdust and debris.

OPERATION

SAFETY INSTRUCTIONS FOR BASIC SAW OPERATION

BEFORE USING THE MITER SAW

▲ WARNING

To avoid mistakes that could cause serious, permanent injury, do not plug the tool in until the following steps are completed:

- Completely assemble and adjust the saw, following the instructions. (**ASSEMBLY AND ADJUSTMENTS**)
- Learn the use and function of the ON/OFF switch, lock-off switch, upper and lower blade guards, stop latch, bevel lock handle, and cover plate screws.
- Review and understand all safety instructions and operating procedures in this Operator's Manual. (**SAFETY & OPERATIONS**)
- Review the MAINTENANCE and TROUBLESHOOTING GUIDE for your miter saw.
- To avoid injury or possible death from electrical shock:
Make sure your fingers do not touch the plug's metal prongs when plugging or unplugging your miter saw. (**ELECTRICAL REQUIREMENTS AND SAFETY**)

BEFORE EACH USE

Inspect your saw.

- **Disconnect the miter saw.** To avoid injury from accidental starting, unplug the saw before any adjustments, including set-up and blade changes.
- **Compare the direction of rotation arrow** on the guard to the direction arrow on the blade. The blade teeth should always point downward at the front of the saw.
- **Tighten the arbor bolt.**
- **Tighten the cover plate screw.**
- **Check for damaged parts.** Check for:
 - Alignment of moving parts
 - Damaged electric cords
 - Binding of moving parts
 - Mounting holes
 - Function of arm return spring and lower guard:
Push the cutting arm all the way down, then let it rise until it stops. The lower guard should fully close. Follow instructions in TROUBLESHOOTING GUIDE for adjustment.
 - Other conditions that may affect the way the miter saw works.
- Keep all guards in place, in working order and proper adjustment.
If any part of this miter saw is missing, bent, damaged or broken in any way, or any electrical parts don't work, turn the saw off and unplug it.

Replace damaged, missing, or defective parts before using the saw again.

- Maintain tools with care. Keep the miter saw clean for best and safest performance. Follow instructions for lubricating. Don't put lubricants on the blade while it's spinning.
- Remove all adjusting wrenches from the tool before turning it on.

USE ONLY RECOMMENDED ACCESSORIES

- Consult the ACCESSORIES and ATTACHMENTS section of this Operators Manual for recommended accessories. Follow the instructions that come with the accessory. The use of improper accessories may cause risk of injury to persons.
- Choose the correct 12 inches diameter blade for the material and the type of cutting you plan to do. **Do not use Thin Kerf blades.**
- Make sure the blade is sharp, undamaged and properly aligned.
- Make sure the blade and arbor collars are clean.
- Make sure all clamps and locks are tight and there is no excessive play in any parts.

KEEP YOUR WORK AREA CLEAN

Cluttered areas and benches invite accidents.

▲ WARNING

To avoid burns or other fire damage, never use the miter saw near flammable liquids, vapors, or gases.

- **Plan ahead to protect your eyes, hands, face and ears.**
- **Know your miter saw.**

Read and understand the Operator's Manual and labels affixed to the tool. Learn its application and limitations as well as the specific potential hazards peculiar to this tool. To avoid injury from accidental contact with moving parts, don't do layout, assembly, or setup work on the miter saw.

- **Avoid accidental starting**
Make sure the switch is OFF before plugging the miter saw into a power outlet.

PLAN YOUR WORK

- Use the right tool. Don't force a tool or attachment to do a job it was not designed to do. Use a different tool for any workpiece that can't be held in a solidly braced, fixed position.

CAUTION: This machine is NOT designed for cutting masonry, masonry products & ferrous metals (steel, iron, and iron-based metals.) Use this miter saw to cut only wood, wood-like products, or soft metals like aluminum. Other material may shatter, bind the blade, or create other dangers. Remove all nails that may be in the workpiece to prevent sparking that could cause a fire.

DRESS FOR SAFETY

Any power tool can throw foreign objects into the eyes. This can result in permanent eye damage. Everyday eyeglasses have only impact resistant lenses and are not safety glasses. Glasses or goggles not in compliance with ANSI Z87.1 could seriously injure you when they break.

- Do not wear loose clothing, gloves, neckties or jewelry (rings, watches). They can get caught and draw you into moving parts.
- Wear non-slip footwear.
- Tie back long hair.
- Roll long sleeves above the elbow.
- Noise levels vary widely. To avoid possible hearing damage, wear ear plugs when using any miter saw.
- For dusty operations, wear a dust mask along with safety goggles.

INSPECT YOUR WORKPIECE

Make sure there are no nails or foreign objects in the part of the workpiece being cut.

Plan your work to avoid small pieces that may bind, or that are too small to clamp and get a solid grasp on.

Plan the way you will grasp the workpiece from start to finish. Avoid awkward operations and hand positions. A sudden slip could cause your fingers or hand to move into the blade.

DON'T OVER-REACH

Keep good footing and balance. Keep your face and body to one side, out of the line of a possible kickback. NEVER stand in the line of the blade.

Never cut freehand:

- Brace your workpiece firmly against the fence and table stop so it will not rock or twist during the cut.
- Make sure there is no debris between the workpiece and the table or fence.

- Make sure there are no gaps between the workpiece, fence and table that will let the workpiece shift during the cut.
- Keep the cut off piece free to move sideways after it is cut off. Otherwise, it could get wedged against the blade and thrown, possibly causing injury.
- Only the workpiece should be on the saw table.
- **Secure work.** Use clamps or a vise to help hold the work when it's practical.

USE EXTRA CAUTION WITH LARGE OR ODD SHAPED WORKPIECES.

- Use extra supports (tables, sawhorses, blocks, etc.) for workpieces large enough to tip.
- Never use another person as a substitute for a table extension, or as an additional support for a workpiece that is longer or wider than the basic miter saw table, or to help feed, support, or pull the workpiece.
- Do not use this saw to cut small pieces. If the workpiece being cut would cause your hand or fingers to be within 8-1/2" inches of the saw blade workpiece is too small. Keep hands and fingers out of the "no hands zone" area marked on the saws table.
- When cutting odd shaped workpieces, plan your work so it will not bind in the blade and cause possible injury. Molding, for example, must lie flat or be held by a fixture or jig that will not let it move when cut.
- Properly support round material such as dowel rods, or tubing, which have a tendency to roll when cut, causing the blade to "bite".

▲ WARNING

To avoid injury, follow all applicable safety instructions, when cutting non-ferrous metals:

- Use only saw blades specifically recommended for non-ferrous metal cutting.
- Do not cut metal workpieces that must be hand held. Clamp workpieces securely.
- Cut non-ferrous metals only if you are under the supervision of an experienced person.

WHEN SAW IS RUNNING

▲ WARNING

Don't allow familiarity from frequent use of your miter saw to result in a careless mistake. A careless fraction of a second is enough to cause a severe injury.

Before cutting, if the saw makes an unfamiliar noise or vibrates, stop immediately. Turn the saw OFF. Unplug the saw. Do not restart until finding and correcting the problem.

BODY AND HAND POSITION (Fig. S)

Proper positioning of your body and hands when operating the miter saw will make cutting easier and safer. Never place hands near the cutting area. Place hand at least 8-1/2" away from the path of the blade. Hold workpiece firmly against the fence to prevent movement toward the blade. Keep hands in position until the trigger has been released and the blade has completely stopped. Before making a cut, with the power switch in the OFF position bring the saw blade down to the workpiece to see the cutting path of the blade.

- Keep children away. Keep all visitors a safe distance from the miter saw. Make sure bystanders are clear of the miter saw and workpiece.
- Don't force the tool. It will do the job better and safer at its designed rate. Feed the saw into the workpiece slowly with a firm downward motion.

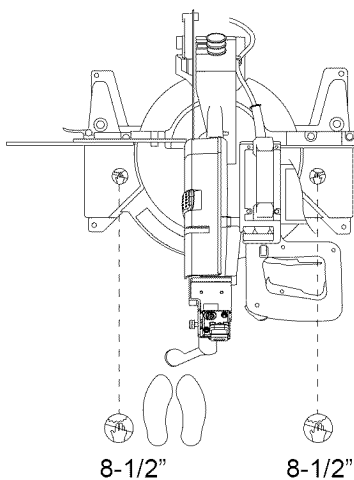
Before freeing jammed material

- Turn switch OFF.
- Unplug the miter saw.
- Wait for all moving parts to stop.

After finishing a cut

- Keep holding the power head down.
- Release the switch, and wait for all moving parts to stop before moving your hands.
- If the blade doesn't stop within 6 seconds, unplug the saw and follow refer to **THE TROUBLESHOOTING GUIDE**.

Fig. S



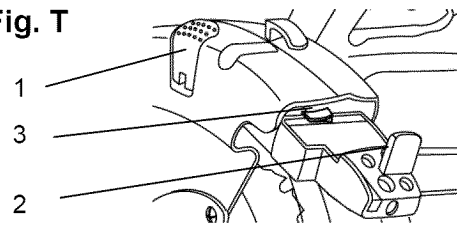
LASER ON/OFF SWITCH (Fig. T)

▲ WARNING

Laser radiation. Avoid direct eye exposure. Always un-plug miter saw from power source before making any adjustment.

1. Unlock the laser guide lever (1) by pulling it out toward the left side of the saw.
2. Slide out on the laser guide assembly by pulling on the tab (2)
3. Lock the laser guide assembly into place by pushing the locking lever in toward the right side of the saw.
4. To turn the laser ON or OFF, press the rocker switch (3).

Fig. T



THREE POSITION ROTATING HANDLE (Fig. U)

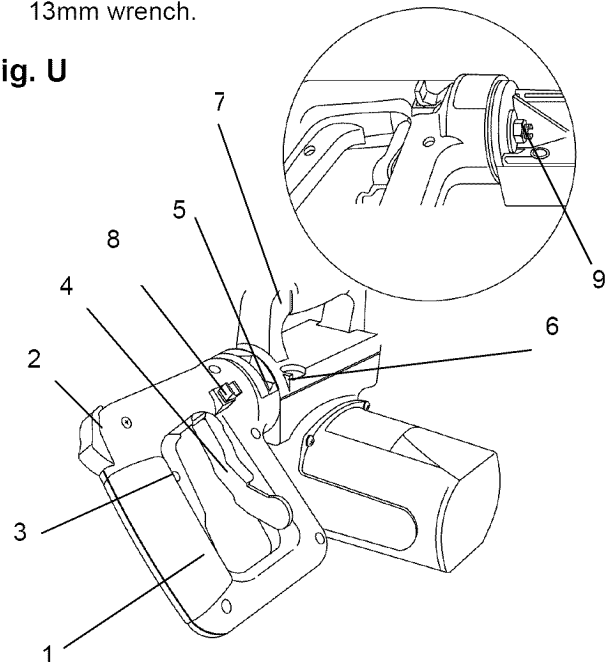
The handle of the miter saw has been designed to rotate and lock at three different positive stops; 0°, 45°, and 90° for operator convenience. To rotate the handle:

1. Unlock the red handle locking lever (4) by pulling it toward the front of the machine.
2. Pull the red handle-locking latch (8) to the front of the saw and hold in position.
3. Rotate the handle to 0°, 45° or 90° and release the handle locking latch.
4. Lock the handle locking lever (4) by pushing it IN toward the rear of the handle.

NOTE: After releasing the handle locking latch, rotate the handle left and right to make sure the latch engages into the positive locking position.

1. Loosen & remove the four screws (6), and remove the carry handle (7).
2. If the rotating handle (1) is too loose or tight, adjust the nut (9) clockwise or counter clockwise with a 13mm wrench.

Fig. U



TURNING THE SAW ON (Fig. U)

To reduce the likelihood of accidental starting, a thumb activated yellow lock-OFF switch is located on top of the switch handle. The safety lock-OFF button (2) must be pushed forward before the trigger switch can be activated and the miter saw started. Make the switch child-proof. Insert a padlock through the hole (3) in the trigger switch and lock it. This will prevent children and other unauthorized users from turning the switch ON.

SLIDING FENCE (Fig. V)

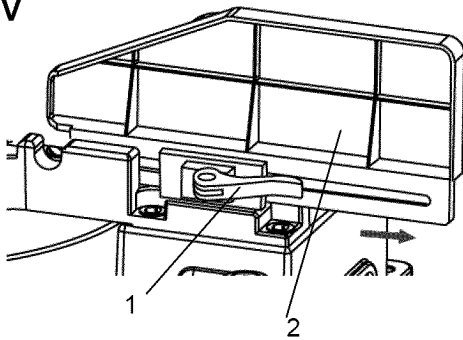
▲ WARNING

The sliding fence must be fully extended to the left when making any compound or bevel cuts. Failure to fully extend the sliding fence will not allow enough space for the blade to pass through, which could result in serious injury.

1. Unlock the fence cam locking lever (1) by pushing it toward the rear of the machine.
2. Fully extend the fence (2) by sliding it out as far as possible.
3. Lock the fence cam lock by pushing it IN toward the fence.

NOTE: When transporting the saw, always secure the sliding fence in the collapsed position (toward the saw blade).

Fig. V



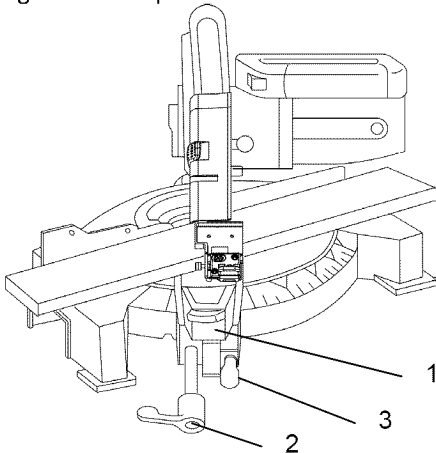
MITER CUT (Fig. W)

1. Unlock the miter quick-cam table lock (3) and press and hold down the positive stop locking lever (1).
2. While holding the positive stop locking lever down, grasp the miter handle (2) and move the miter table left or right to the desired angle.
3. Release the positive stop locking lever, making sure it engages the positive stop. Slight movement of the miter handle left or right will ensure positive stop engagement.

NOTE: Positive stops are provided at 0°, 15°, 22.5°, 31.6° and 45° right and left.

NOTE: If the miter angle required is NOT one of the positive stops noted above, the miter table can be locked at any angle between these positive stops by using the miter quick-cam table lock.

Fig. W



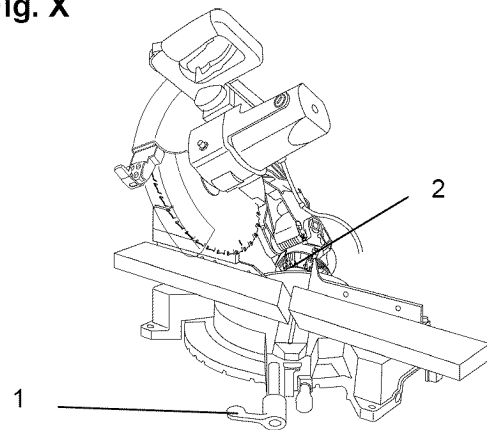
BEVEL CUT (Fig. X)

▲ WARNING

The sliding fence must be fully extended to the left when making any bevel cuts. Failure to fully extend the sliding fence will not allow enough space for the blade to pass through, which could result in serious injury. Failure to extend the fence may cause the saw blade to make contact with the fence.

1. When a bevel cut is required, loosen the bevel lock handle (1) by turning it clockwise. Tilt the cutting head to the desired angle as shown on the bevel scale (2). The blade can be positioned at any angle, from a 90° straight cut (0° on the scale) to a 45° left bevel. Tighten the lock handle (1) to lock the cutting head in position. Positive stops are provided at 0°, 33.9° and 45°.

Fig. X

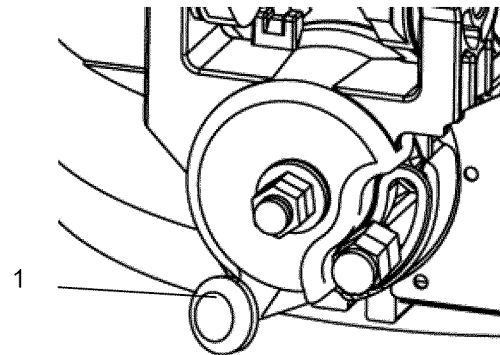


NOTE: The saw comes with a 33.9° bevel detent pin for setting up crown moldings cuts.

33.9° BEVEL DETENT PIN FOR CROWN MOLDINGS (Fig. Y)

1. Push the crown molding stop pin (1) in toward the front of the machine.
2. Loosen the bevel lock handle.
3. Rotate the cutting head until the crown molding stop pin stops the bevel angle at 33.9° on the bevel scale.
4. Tighten the bevel lock handle before you make your cut.

Fig. Y

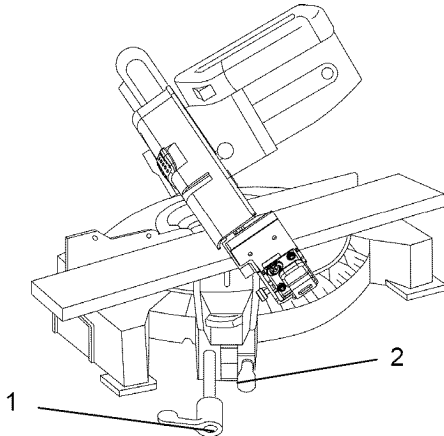


COMPOUND CUT (Fig. Z)

The sliding fence must be fully extended to the left when making any compound cuts. Failure to fully extend the sliding fence will not allow enough space for the blade which could result in serious injury.

1. Fully extend the fence by sliding it out as far as possible. See "SLIDING FENCE".
2. Set the desired bevel angle and lock into position with the bevel lock handle (1).
3. Set the desired miter angle using positive stop the locking lever (3) or the miter quick lock (2).

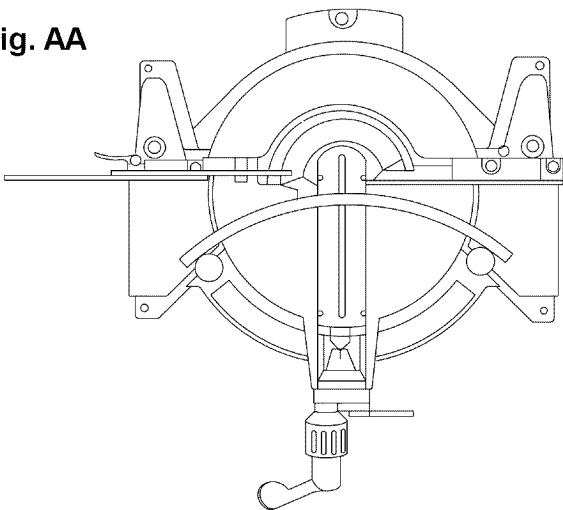
Fig. Z



CUTTING BOWED MATERIAL (Fig. AA)

A bowed workpiece must be positioned properly before cutting. Do not position workpiece incorrectly or try to cut the workpiece without the support of the fence. This will cause the blade to bind and could result in personal injury.

Fig. AA

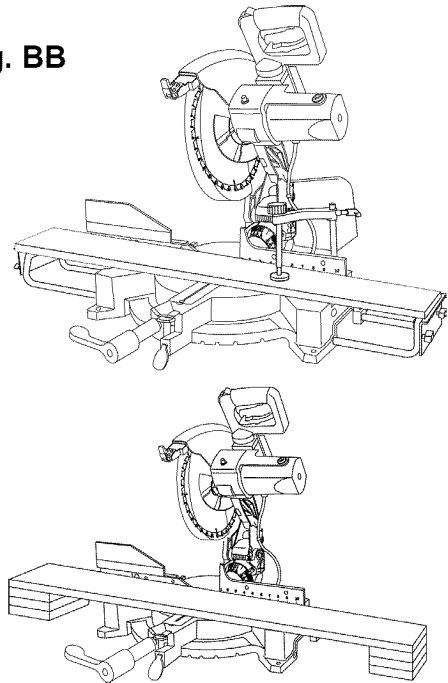


WORKPIECE SUPPORT (Fig. BB)

Long pieces need extra support. The support should be placed under the workpiece. Keep your hand holding the workpiece positioned 8-1/2" or more away from the blade. The support must let the workpiece lay flat on the work table during the cutting operation.

NOTE: When mounted on a flat surface, the miter saw table is 3-13/16 inches high.

Fig. BB



NOTE: When mounted on a flat surface, the miter saw table is 3-7/8" high.

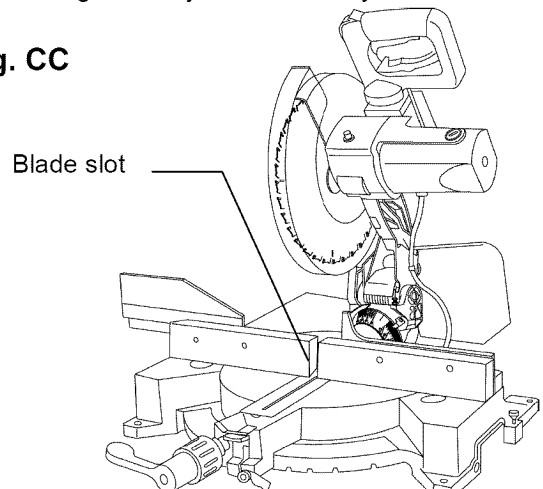
▲ WARNING

When making multiple or repetitive cuts that result in cut-off pieces of one inch or less, it is possible for the saw blade to catch the cut-off piece and throw it out of the saw or into the blade guard and housing, possibly causing damage or injury. To minimize this risk, turn off the machine, wait until the blade comes to a complete stop, unplug the unit & remove the cut pieces.

AUXILIARY WOOD FENCE (Fig. CC)

Holes are provided in the saw fence to attach an auxiliary wood fence (this provides additional depth of cut). This fence should be constructed of straight auxiliary wood approximately 3/4 inch thick by 2-1/2 inches high by 21 inches long. Attach the wood fence securely and make a full depth cut to make a blade slot. Check for interference between the wood fence and the lower blade guard. Adjust if necessary.

Fig. CC

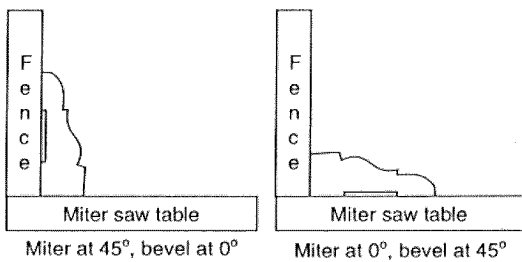


CUTTING BASE MOLDING (Fig. DD)

Base moldings and many other moldings can be cut on a compound miter saw. The setup of the saw depends on molding characteristics and application, as shown. Perform practice cuts on scrap material to achieve best results:

1. Always make sure moldings rest firmly against fence and table. Use hold-down, crown molding vise or C-clamps, whenever possible, and place tape on the area being clamped to avoid marks.
2. Reduce splintering by taping the cut area prior to making the cut. Mark the cut line directly on the tape.
3. Splintering typically happens due to an incorrect blade application and thickness of the material.

Fig. DD



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

CUTTING CROWN MOLDING (FIG. EE, FF)

Your compound miter saw is suited for the difficult task of cutting crown molding. To fit properly, crown molding must be compound-mitered with extreme accuracy. The two surfaces on a piece of crown molding that fit flat against the ceiling and wall 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°.

In order to accurately cut crown molding for a 90° inside or outside corner, lay the molding with its broad back surface flat on the saw table.

When setting the bevel and miter angles for compound miters, remember that the settings are interdependent; changing one changes the other, as well. Also keep in mind that the angles from crown molding are very easy for these angles to shift slightly, all settings should be tested on scrap molding.

Use a safety clamping vise, whenever possible, and place tape on the area being clamped to avoid marks.

Fig. EE

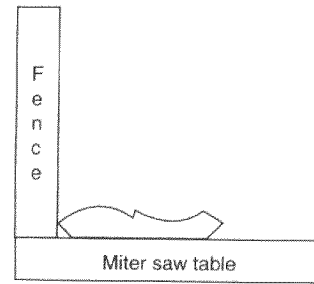
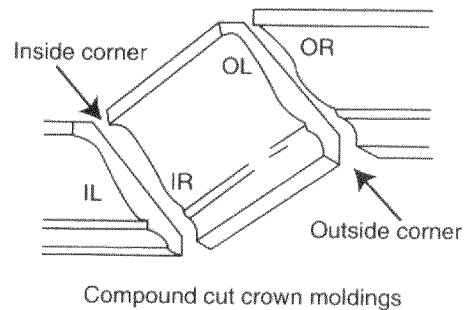


Fig. FF

Settings for standard crown molding lying flat on compound miter saw table



Bevel/Miter Settings

KEY	BEVEL SETTING	MITER SETTING	TYPE OF CUT
Inside corner-Left side			
IL	33.9°	31.6° Right	1. Position top of molding against fence. 2. Miter table set at RIGHT 31.6°. 3. LEFT side is finished piece.
Inside corner-Right side			
IR	33.9°	31.6° Left	1. Position bottom of molding against fence. 2. Miter table set at LEFT 31.6°. 3. LEFT side is finished piece.
Outside corner-Left side			
OL	33.9°	31.6° Left	1. Position bottom of molding against fence. 2. Miter table set at LEFT 31.6°. 3. RIGHT side is finished piece.
Outside corner-Right side			
OR	33.9°	31.6° Right	1. Position top of molding against fence. 2. Miter table set at RIGHT 31.6°. 3. RIGHT side is finished piece.

MAINTENANCE

MAINTENANCE

DANGER

Never put lubricants on the blade while it is spinning.

▲ WARNING

To avoid fire or toxic reaction, never use gasoline, naphtha acetone, lacquer thinner or similar highly volatile solvents to clean the miter saw.

▲ WARNING

To avoid injury from unexpected starting or electrical shock, unplug the power cord before working on the saw.

▲ WARNING

For your safety, this saw is double-insulated. To avoid electrical shock, fire or injury, use only parts identical to those identified in the parts list. Reassemble exactly as the original assembly to avoid electrical shock.

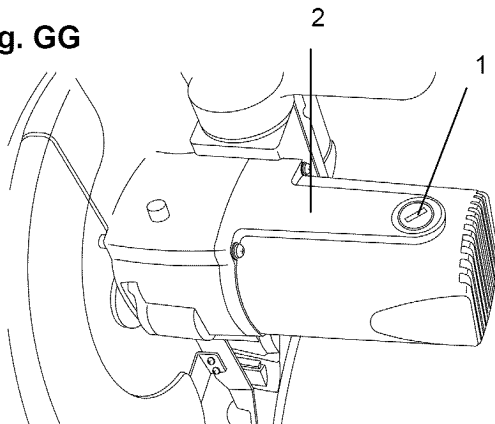
REPLACING CARBON BRUSHES (FIG. GG)

The carbon brushes furnished will last approximately 50 hours of running time, or 10,000 ON/OFF cycles.

Replace both carbon brushes when either has less than 1/4" length of carbon remaining, or if the spring or wire is damaged or burned. To inspect or replace brushes, first unplug the saw. Then remove the black plastic cap (1) on the side of the motor (2). Remove the cap cautiously, because it is spring-loaded. Then pull out the brush and replace. Replace the other side in the same manner. To reassemble, reverse the procedure. The ears on the metal end of the assembly go in the same hole the carbon part fits into. Tighten the cap snugly, but do not overtighten.

NOTE: To reinstall the same brushes, first make sure the brushes go back in the way they came out. This will avoid a break-in period.

Fig. GG



LOWER BLADE GUARD

Do not use the saw without the lower blade guard. The lower blade guard is attached to the saw for your protection. Should the lower guard become damaged, do not use the saw until the damaged guard has been replaced. Develop a regular check to make sure the lower guard is working properly. Clean the lower guard of any dust or buildup with a damp cloth.

CAUTION: Do not use solvents on the guard. They could make the plastic "cloudy" and brittle.

▲ WARNING

When cleaning the lower guard, unplug the saw from the power source receptacle to avoid unexpected startup.

SAWDUST

Periodically, sawdust will accumulate under the work table and base. This could cause difficulty in the movement of the worktable when setting up a miter cut. Frequently blow out or vacuum up the sawdust.

▲ WARNING

If blowing sawdust, wear proper eye protection to keep debris from entering eyes.

LUBRICATION

All the motor 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.

Lubricate the Following as Required:

Chop pivot: light machine oil or aerosol will penetrate from the ends of the junction points. A qualified service technician can remove the pivot upstop to relieve tension, and the 2 metric set screws holding the shaft, in order to drive the shaft about 3/4" right. Exposed surfaces are lubricated with automotive type oil.

Central pivot of plastic guard: Use light household oil (sewing machine oil) on metal-to-metal or metal-to-plastic guard contact areas as required for smooth, quiet operation. Avoid excessive oil, to which sawdust will cling.

Link: (which actuates the lower guard movement) may be oiled at the rear pivot, greased at ball bearing contact, and oiled where the link actuates the acetyl roller of the lower guard, if the down chop motion is hard to start.

TROUBLESHOOTING GUIDE

▲ WARNING

To avoid injury from accidental starting, always turn the switch OFF and unplug the tool before moving, replacing the blade or making adjustments.

Consult your Sears Service Center if for any reason the motor will not run.

TROUBLESHOOTING GUIDE - MOTOR

PROBLEM	PROBLEM CAUSE	SUGGESTED CORRECTIVE ACTION
Brake does not stop blade within 6 seconds.	<ol style="list-style-type: none"> 1. Motor brushes not sealed or lightly sticking. 2. Motor brake overheated from use of defective or wrong size blade or rapid ON/OFF cycling. 3. Arbor bolt loose. 4. Other. 	<ol style="list-style-type: none"> 1. Inspect / clean / replace brushes. See MAINTENANCE section. 2. Use a recommended blade. Let motor cool down. 3. Retighten. 4. Contact Sears Service Center.
Motor does not start	<ol style="list-style-type: none"> 1. Fuse 2. Brush worn. 3. Other. 	<ol style="list-style-type: none"> 1. Check 15-Amp time delay fuse, or circuit breaker. 2. See MAINTENANCE section. 3. Contact Sears Service Center.
Brush excessively sparks when switch released.	<ol style="list-style-type: none"> 1. Brushes Worn/Damaged 	<ol style="list-style-type: none"> 1. Replace Brushes (See Maintenance).

TROUBLESHOOTING GUIDE – SAW OPERATION

PROBLEM	PROBLEM CAUSE	SUGGESTED CORRECTIVE ACTION
Blade hits table.	<ol style="list-style-type: none"> 1. Misalignment. 	<ol style="list-style-type: none"> 1. See ADJUSTMENT section.
Angle of cut not accurate. Can't adjust miter.	<ol style="list-style-type: none"> 1. Miter table unlocked. 2. Sawdust under table. 	<ol style="list-style-type: none"> 1. Use Miter Quick Lock. See OPERATION Section. 2. Vacuum or blow out dust, WEAR EYE PROTECTION.
Cutting arm wobbles.	<ol style="list-style-type: none"> 1. Loose pivot points. 	<ol style="list-style-type: none"> 1. See ADJUSTMENT Section.
Cutting arm won't fully raise, or blade guard won't fully close.	<ol style="list-style-type: none"> 1. Part failure. 2. Pivot spring not replaced properly after service. 3. Sawdust build-up. 	<ol style="list-style-type: none"> 1. Contact Sears Service Center. 2. Contact Sears Service Center. 3. Clean and lubricate moving parts.
Blade binds, jams, burns wood.	<ol style="list-style-type: none"> 1. Improper operation. 2. Dull blade. 3. Improper blade. 4. Warped blade. 	<ol style="list-style-type: none"> 1. See BASIC SAW OPERATION section. 2. Replace or sharpen blade. 3. Replace with 12" diameter blade. 4. Replace blade.
Saw vibrates or shakes.	<ol style="list-style-type: none"> 1. Saw blade damaged. 2. Saw blade loose. 3. Other. 	<ol style="list-style-type: none"> 1. Replace blade. 2. Tighten arbor bolt. 3. Contact Sears Service Center.

PARTS

12" CRAFTSMAN COMPOUND MITER SAW

MODEL: 137.212150



WARNING

When servicing use only CRAFTSMAN replacement parts. Use of any other parts may create a HAZARD or cause product damage. Any attempt to repair or replace electrical parts on this Miter Saw may create a HAZARD unless repair is done by a qualified service technician. Repair service is available at your nearest Sears Service Center.

Always have Model Number and I.D. Number ready with placing an order for parts.

PARTS LIST FOR SCHEMATIC A

I.D. No.	Description	Size	Qty	I.D. No.	Description	Size	Qty
2213	PIVOT SHAFT		1	20WV	BASE		1
2258	BOLT		1	20X0	EXTENSION WING		2
081A	PLASTIC SLEEVE		1	20X3	KNOB		4
082Q	LOCK NUT		1	20X4	FENCE		1
084W	WARNING LABEL		1	20X5	SLIDING FENCE		1
0CEF	TABLE INSERT		1	20X7	ARM BRACKET		2
0CF1	ANCHOR BLOCK		1	20XC	STOP LATCH		1
0CFX	SLIDE PLATE		3	20XE	BEVEL LOCK BOLT		1
0DTH	CENTER BOLT		1	20XF	NEEDLE POINTER		1
0FHE	COMPRESSION SPRING		1	216T	COVER PLATE		1
0GR3	SCREW		1	216V	SPACER		1
0J4J	FLAT WASHER	φ10X20-2	1	21C4	SET PLATE		1
0J4N	FLAT WASHER	φ16x30-3	2	21CL	MITER SCALE		1
0J4R	FLAT WASHER	φ10x20-3	1	21CM	BEVEL SCALE		2
0J6A	FLAT WASHER	φ8x16-2.5	1	21DZ	KNOB		4
0J74	FLAT WASHER	1/4x5/8-3/32	4	21RQ	PIVOT SHAFT		1
0J8P	FLAT WASHER	3/8x29/32-5/64	1	21ZR	CROWN NUT	M10x1.5,T=18	1
0JB0	FLAT WASHER	WW-8	2	22BL	BUSH		1
0JEV	E-RING	E-6	1	239U	POSITIVE DETENT LOCKING LEVER		1
0JMN	O-RING	P10	1	239V	NEEDLE POINTER		1
0JMP	O-RING	P7	1	239W	NEEDLE POINTER		1
0JPE	HEX. HD. BOLT	M6x1.0-20	1	239Z	PIN		2
0JUJ	HEX. SOC. HD. CAP BOLT	M6x1.0-12	2	23A7	HEX. HD. BOLT	M8x1.25-60	1
0JXB	HEX. SOC. SET SCREW	M6x1.0-16	1	23AC	CR. RE. PAN HD. SCREW	M8x1.25-40	1
0JZG	HEX. SOC. SET SCREW	M6x1.0-20	2	23LN	KNOB		2
0K0X	HEX. HD. SCREW AND WASHER	M6x1.0-16	2	23P6	COMPRESSION SPRING		1
0K25	HEX.SOCKET HD.CAP BOLT	M5x0.8-20	1	23YJ	STOP LATCH		1
0K2L	HEX.SOCKET HD.CAP BOLT	M8X1.25-30	1	258K	HANDLE SEAT		1
0K2P	HEX.SOCKET HD.CAP BOLT	M8X1.25-40	2	258P	HANDLE COVER		1
0K6Y	CR.-RE. TRUSS HD. SCREW	M4x0.7-10	2	25G8	LOCKING ROD		1
0KAD	CR.RE. PAN HD. TAPPING SCREW	M4X0.7-8	6	25G9	HANDLE		1
0KBA	CR.RE. PAN HD. TAPPING SCREW	M5x16-12	1	25U8	LOCATION SEAT		1
0KD5	CR. RE. PAN HD. SCREW	M4x0.7-6	2	25VA	STOP NUT		1
0KDG	CR. RE. PAN HD. SCREW	M5x0.8-6	2	25X4	TABLE		1
0KMS	HEX. NUT	M6x1.0 T=5	1	25XT	ANGLE REGULATOR		1
0KMU	HEX. NUT	M10x1.5 T=8	1	25Z6	QUICK CAM MITER LOCK ASSY		1
0KR1	LOCK NUT	M16x2.0 T=16	1	272Z	PIN		1
0KR4	LOCK NUT	M8x1.25 T=8	1	273L	CAUTION LABEL		1
0KR4	LOCK NUT	M8x1.25 T=8	1				
20S3	LOCKING HANDLE ASS'Y		1				

Parts list for Schematic B

I.D. No.	Description	Size	Qty	I.D. No.	Description	Size	Qty
2145	LOCKING LEVER ASSY		1	OK7Z	CR. RE. TRUSS HD. ROUND NECK SCREW	M6x1.0-14	2
083S	TRIGGER		1	OKA6	CR.RE. PAN HD. TAPPING SCREW	M5x12-10	1
083V	HANDLE (RIGHT SIDE)		1	OKB7	CR.RE. PAN HD. TAPPING SCREW	M4X18-16	2
083X	BUTTON SWITCH		1	OKB8	CR.RE. PAN HD. TAPPING SCREW	M4X18-20	3
083Y	COMPRESSION SPRING		1	OKBC	CR.RE. PAN HD. TAPPING SCREW	M5x16-25	4
083Z	CLAMP-CORD		1	OKBM	CR.RE. PAN HD. TAPPING SCREW	M4x18-28	5
0841	HANDLE (LEFT SIDE)		1	OKDN	CR. RE. PAN HD. SCREW	M5x0.8-25	2
084C	HANDLE SEAT		1	OKQW	LOCK NUT	M5x0.8 T=5	1
084D	CARRY HANDLE		1	OKQY	LOCK NUT	M8x1.25 T=8	1
084F	CLAMP HANDLE		1	OKR3	LOCK NUT	M6x1.0 T=6	1
084H	BOLT		1	OKTT	WIRE CLAMP	1/4"	1
084J	CUSHION		1	OKUX	TERMINAL		4
084K	SET PLATE		1	OKWT	LEAD WIRE ASS'Y		1
084M	STOP CLAMP		1	OLU2	LIMIT SWITCH		1
084Q	COMPRESSION SPRING		1	OQQ1	GUARD-CORD		1
084S	TILTING SCALE		1	OS2X	LOCK HANDLE ASS'Y		1
084V	ELBOW		1	OSTZ	LABEL		1
0857	BATTERY COVER		1	20LM	LABEL		1
085C	FOLLOWER PLATE		1	20LU	CAUTION LABEL		1
085E	SPACER		1	21BP	TORSION SPRING		1
OBD1	CUSHION		1	23A0	BLADE		1
OCES	COMPRESSION SPRING		1	23A8	SAFETY CLAMP		1
OCHN	SHIM	6#	2	258R	GUARD LEVER		1
OCJ2	SHAFT SLEEVE		2	258S	SPRING GUARD		1
OCKS	SPRING WIRE		1	258V	SLIDE PLATE		1
OCV5	DUST BAG ASS'Y		1	258W	GUARD LEVER MOUNTING BRACKET		1
ODT4	ROLLING WHEEL		1	25AZ	CAUTION LABEL		1
ODT7	BEARING		1	25V7	UPPER ARM ASSEMBLY		1
ODTZ	ARBOR COLLAR		2	25VB	SLEEVE		1
ODVJ	BLADE WRENCH		1	25VJ	WASHER		1
OF1H	1" TO 5/8" REDUCER		1	25WW	C-RING		1
OJ53	FLAT WASHER	φ8.4x24-2	1	25XH	POWER CABLE		1
OJ6G	FLAT WASHER	φ8.2x18-2.0	1	25Z7	LASER ASS'Y		1
OJB3	WAVE WASHER	WW-14	1	25Z9	HOUSING ASS'Y		1
OJBZ	PARALLEL PIN	φ6.0-16	1	26CH	POWER CORD CLAMP		2
OJET	E-RING	E-4	1	26LM	TRADE-MARK LABEL		1
OJFB	SELF-LOCKING RING	SPN-5	1	26LN	LABEL		1
OJMQ	O-RING	P8	2	26LR	WARNING LABEL		1
OJUB	HEX. SOC. HD. CAP BOLT	M5x0.8-12	2	272N	CHIP PLATE		1
OJXB	HEX. SOC. SET SCREW	M6x1.0-16	2	272Y	BOLT		2
OJZN	ARBOR BOLT	M8x1.25-20	1	273Z	PC-GUARD ASS'Y		1
OK42	CR.RE. PAN HD. SCREW & WASHER	M6x1.0-30	3	26PC	INSTRUCTION MANUAL		1
OK6U	CR.-RE. TRUSS HD. SCREW	M4X0.7-8	2	26PC	INSTRUCTION MANUAL		1
OK72	CR.-RE. TRUSS HD. SCREW	M5X0.8-12	1				

Parts list for schematic C

MOTOR

I.D No.	Description	Size	Qty
0HVU	BALL BEARING	6200ZZ	1
0HVV	BALL BEARING	6201ZZ	1
0J92	SPRING WASHER	φ5	5
0JA6	WASHER	φ5	2
0JB6	WAVE WASHER	BWW-6000	1
0JCF	SPRING PIN	φ4-30	1
0JX4	HEX.-SOC SET SCREW	M5×0.8-12	2
0K3Y	CR.-RE. PAN HD. SCREW & WASHER	M5×0.8-50	2
0KDJ	CR. RE. PAN HD. SCREW	M5×0.8-12	3
0KE6	CR. RE. PAN HD. SCREW	M5×0.8-65	2
0KWM	LEAD WIRE ASS'Y -RED		1
0QA3	ARMATURE ASS'Y		1
0QA5	FLOW GUIDE		1
0QAJ	MOTOR HOUSING		1
0QGR	COMPRESSION SPRING		1
0QM2	BRUSH HOLDER ASS'Y	Φ27×26.5	2
0QMK	PLASTIC CAP		1
0QQT	BRUSH ASS'Y		2
0QRO	BRUSH COVER		2
0R1S	BEARING BUSHING		1
0R2L	WIRE PROTECTOR		1
10TB	CR.-RE. PAN HD. SCREW & WASHER	M5×0.8-25	2
21AX	CLEVIS PIN		1
21AY	FIELD ASS'Y		1
2598	ARM		1
25YX	ARBOR SHAFT ASS'Y		1

NOTES

NOTES

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