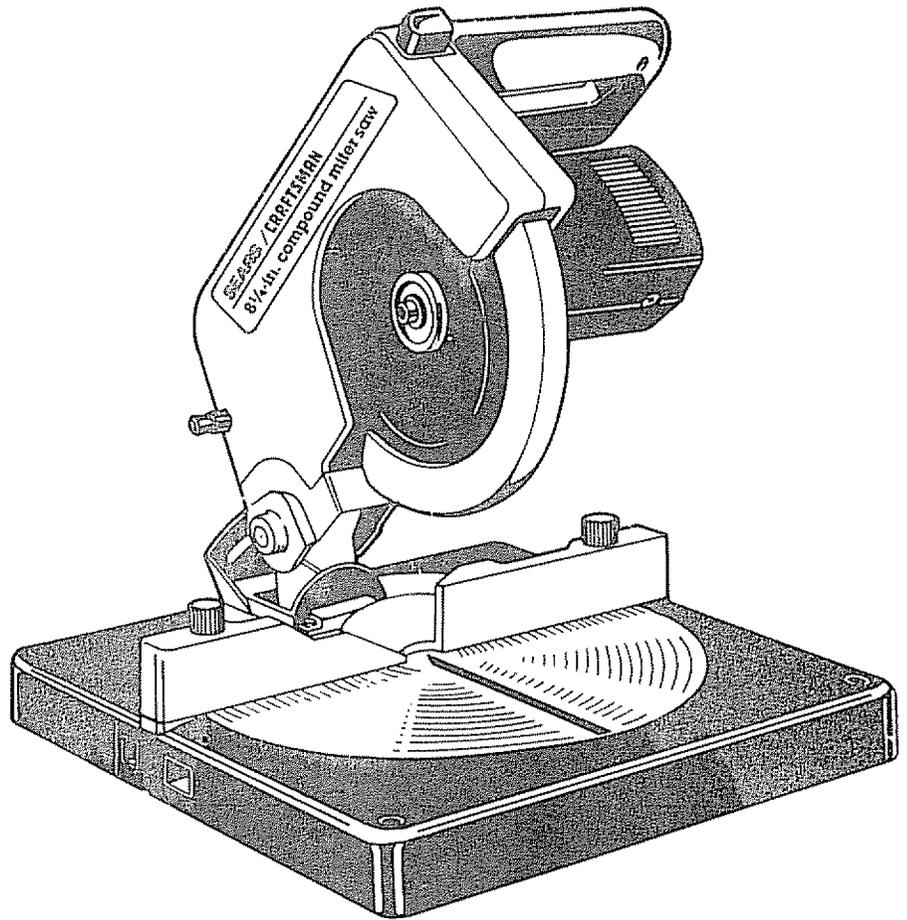


**SEARS**  
OWNERS  
MANUAL

MODEL NO.  
900.233550

**CAUTION:**  
Read Rules for  
Safe Operation  
and Instructions  
Carefully



**SEARS**  
**CRAFTSMAN**

**8 1/4 in. COMPOUND MITER SAW**

Introduction  
Operation  
Maintenance  
Repair Parts



sold by SEARS, ROEBUCK AND CO., Chicago, IL 60684 U.S.A.

## FULL ONE YEAR WARRANTY ON CRAFTSMAN PORTABLE ELECTRIC SAWS

If this CRAFTSMAN Saw fails to give complete satisfaction within one year from date of purchase, return it to the nearest Sears store throughout the U.S. Sears will repair it, free. If this CRAFTSMAN Saw is used for commercial or rental purposes, warranty applies only for 90 days from date of purchase.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

SEARS, ROEBUCK AND CO., DEPT. 698/731 A, SEARS TOWER, CHICAGO, IL 60684

## INTRODUCTION

Your new 8¼ in. **Compound Miter Saw** is a rugged, dependable tool that will miter wood and other materials with accuracy and repeatability. Easy to operate, it's the ideal saw for the serious Do-It-Yourselfer.

Please take the time to read this Owner's Manual thoroughly. Pay particular attention to the safety rules provided. Only with a thorough understanding of your Miter Saw will you be able to utilize its full potential.

### SAFETY RULES:

1. **KEEP GUARDS IN PLACE** and in working order.
2. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form a habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
3. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
4. **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
5. **KEEP CHILDREN AWAY.** All visitors should be kept a safe distance away from work area.
6. **MAKE WORKSHOP KID PROOF** with padlocks, master switches, or by removing starter keys.
7. **DON'T FORCE TOOL.** It will do the job better and be safer at the rate for which it was designed.
8. **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.
9. **WEAR PROPER APPAREL.** No loose clothing, gloves, neckties, rings, bracelets, or other jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
10. **ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are **NOT** safety glasses.
11. **SECURE WORK.** Use clamps or vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.
12. **DON'T OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
14. **DISCONNECT TOOLS** before servicing; when changing accessories such as blades, bits, cutters, etc.
15. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in **OFF** position before plugging in.
16. **USE RECOMMENDED ACCESSORIES.** Consult the Owner's Manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
17. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
18. **CHECK 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.
19. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.
20. **DO NOT OPERATE ELECTRIC TOOLS NEAR FLAMMABLE LIQUIDS OR IN GASEOUS OR EXPLOSIVE ATMOSPHERES.** Motors in these tools may spark and ignite fumes.
21. For your own safety, read instruction manual before operating miter saw.
22. **KEEP HANDS OUT OF PATH OF SAW BLADE.**
23. **DO NOT ATTEMPT ANY FREE HAND CUTTING** with this saw.
24. **NEVER REACH** around or behind saw blade.
25. **SHUT OFF POWER AND WAIT FOR SAW BLADE TO STOP** before servicing or adjusting the saw.

### ADDITIONAL SAFETY RULES FOR THE POWER MITER SAW

1. **DO**—Protect line with at least a 15 ampere time delay fuse.
2. **DO**—Make certain the blade rotates in the correct direction.
3. **DO**—Be sure all clamp handles are tight before starting any operation.

## ADDITIONAL SAFETY RULES (Cont'd)

4. **DO**—Be sure blade and arbor collars are clean and recessed side of collars are against blade. Tighten arbor nut securely.
5. **DO**—Keep saw blade sharp and properly set.
6. **DO**—Keep motor air slots clean and free of chips.
7. **DO**—Use both upper and lower blade guards at all times.
8. **DO**—Operate only on designated voltage and frequency.
9. **DO**—Tighten all clamps before operating.
10. **DO**—Use blades of recommended size only.
11. **DO**—Hold motor shaft/saw blade only as instructed in this manual.
12. **DO**—Operate in dry environment only.
13. **DO**—Allow motor to reach full speed before cutting.
14. **DO**—Keep visitors clear.
15. **DO**—Keep hands clear of blade area when saw is plugged in.
16. **DO**—Use blades recommended for operation at greater than 3600 RPM only.

**NOTE:** This saw should not be used to cut ferrous metals or masonry.

**NOTE:** This saw should never be used to recut small pieces.



## ELECTRICAL CONNECTION

Be sure your power supply agrees with the nameplate marking. 120 Volts, 60 Hz or "AC only" means your tool must be operated only with alternating current and **NEVER** with direct current. A voltage decrease of more than 10% will cause loss of power and overheating. All Sears tools are factory tested; if this tool does not operate, check the power supply.

## DOUBLE-INSULATION

Your tool is **Double-Insulated** to give you added safety. This means that it is constructed throughout with TWO separate "layers" of electrical insulation of one DOUBLE thickness of insulation between you and the tool's electrical system.

Tools built with this improved insulation system are not intended to be grounded. As a result, your tool is equipped with a two-prong plug which permits you to use any conventional 120 volt electrical outlet without concern for maintaining a ground connection.

**NOTE:** **Double-Insulation** does not take the place of normal safety precautions when operating this tool. The

improved insulation system is for added protection against injury resulting from a possible electrical insulation failure within the tool.

**This tool is intended for residential use only.**

**CAUTION:** When servicing **Double-Insulated Tools**, **USE ONLY IDENTICAL REPLACEMENT PARTS**. Replace or repair damaged cords.

**NOTE:** The lower the wire size number, the heavier the wire, and the farther it will carry current without a significant voltage drop.

## EXTENSION CORDS

When using the tool at a considerable distance from the power source, an extension cord of adequate size must be used for safety, and to prevent loss of power and overheating. Use the table below to determine minimum wire size required.

Before using cords, inspect them for loose or exposed wires and damaged insulation. Make any needed repairs or replacement before using your power tool.

CHART FOR MINIMUM WIRE SIZE (AWG) OF EXTENSION CORDS

	TOTAL EXTENSION CORD LENGTH—FEET			
	25	50	75	100
120 Volt Tools	16	14	12	10

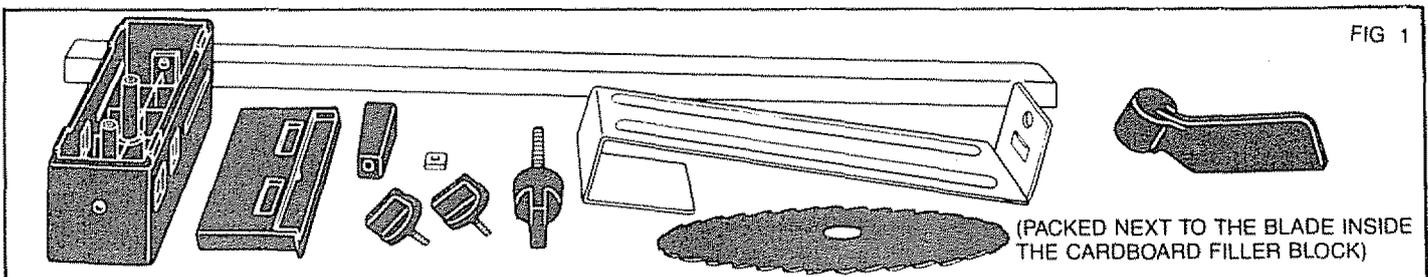
**NOTE:** The lower the wire size number, the heavier the wire, and the farther it will carry current without a significant voltage drop.

## OPERATION

### UNPACKING YOUR SAW

Inspect the contents of your saw carton. In addition to this Owner's Manual, you should find the following: (See Fig. 1)

1. One Compound Miter Saw
2. One 8 $\frac{1}{4}$ " Crosscut saw blade
3. One Work Stop Assembly consisting of:
  - a. One square metal rod (approx. 19 $\frac{3}{4}$ ") packed loose in box
  - b. One plastic bag containing the rest of the parts for the Work Stop Assembly
4. One plastic wing knob, packed loose in box



# SET UP

## I. Familiarization

Place the Miter Saw on a flat, strong and level surface, and examine it to become familiar with the terminology used to describe its various parts. (See Figs. 2 and 3)

FIG. 2

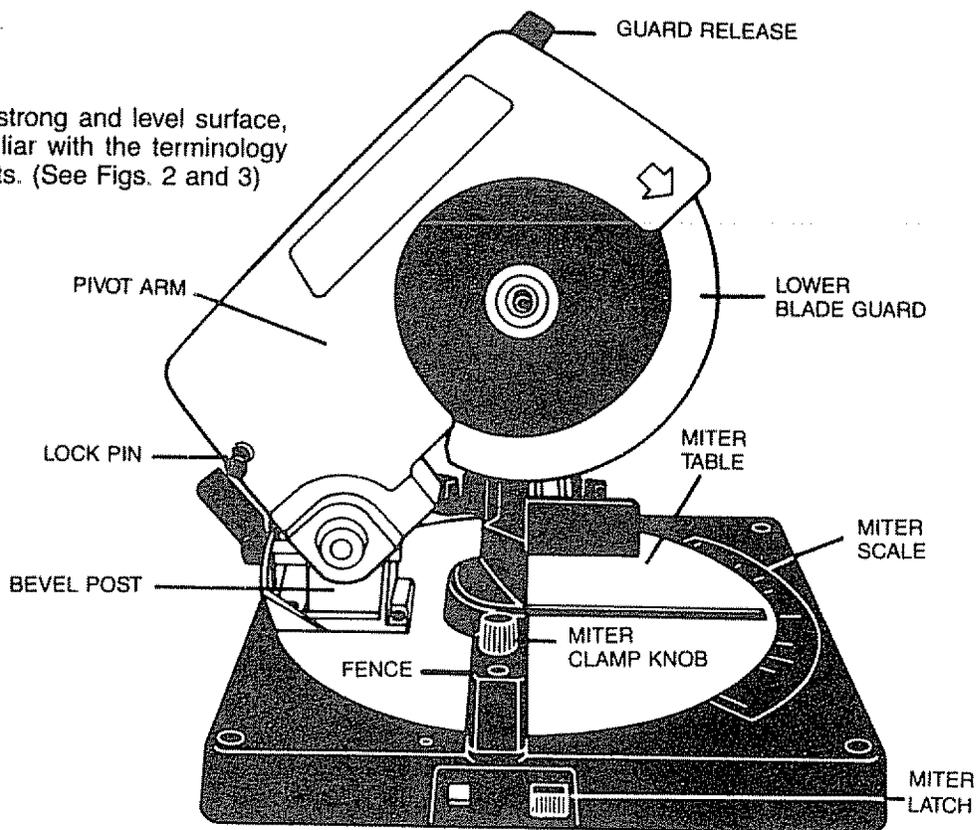
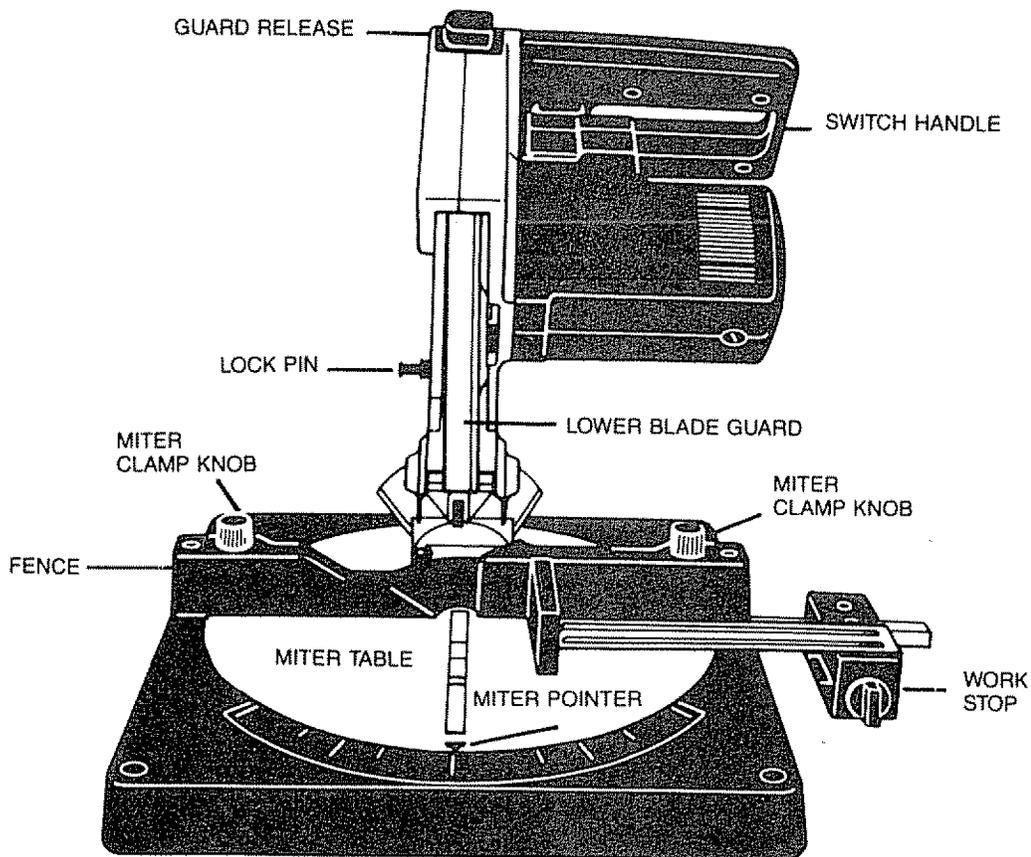
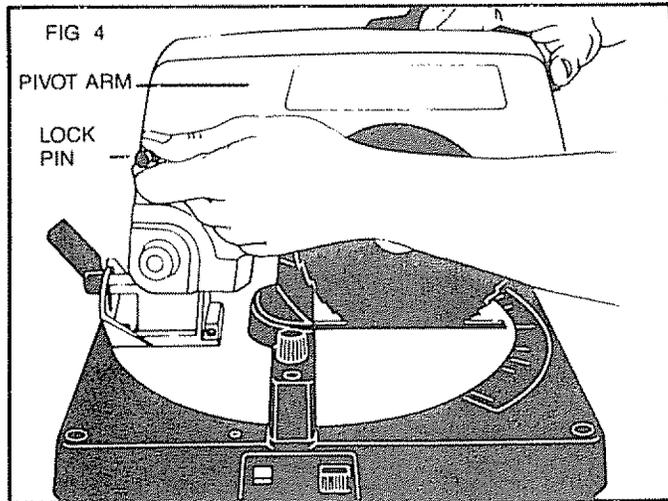


FIG 3



## II. Unlocking the Pivot Arm

Your saw was shipped from the factory with the pivot arm in the locked down position. This position is used to facilitate packaging and for storage.

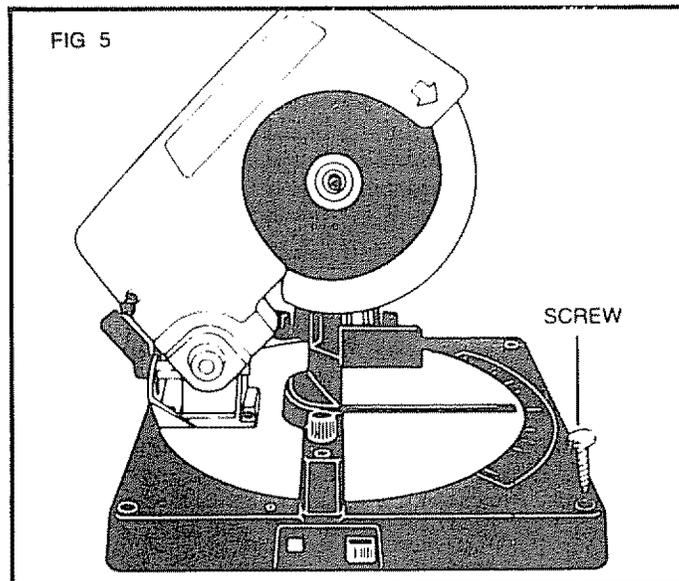


To release the pivot arm, remove the cardboard filler block and grasp the switch handle with one hand and the end of the lock pin with the other, as shown in Fig. 5. (The cardboard filler block you removed contains the wing knob.) Push down on the switch handle lightly and pull out on lock pin. When the pin is out as far as it will go, raise the pivot arm to its full height. (The saw will look like the picture on the front cover of this manual.)

## BENCH MOUNTING

Before using your miter saw, it must be firmly mounted to your workbench or other rigid frame. Four holes are provided in the base of the saw for this purpose.

To mount the saw, position it as desired (don't forget about the availability of an electrical outlet), and mark the positions of the four holes in the saw. Remove the saw and drill four pilot holes in the places you marked. Reposition the saw over the holes and secure it to the workbench using  $\frac{1}{4}$ " x  $1\frac{3}{4}$ " wood screws, as shown in Fig. 5. (Do not overtighten.)



## BENCH MOUNTING (Cont'd)

An alternate mounting method that will enhance the saw's portability is to mount the saw on a piece of  $\frac{1}{2}$ " or thicker plywood. The saw can then be taken to remote locations and the plywood clamped in place with a couple of large "C" clamps.

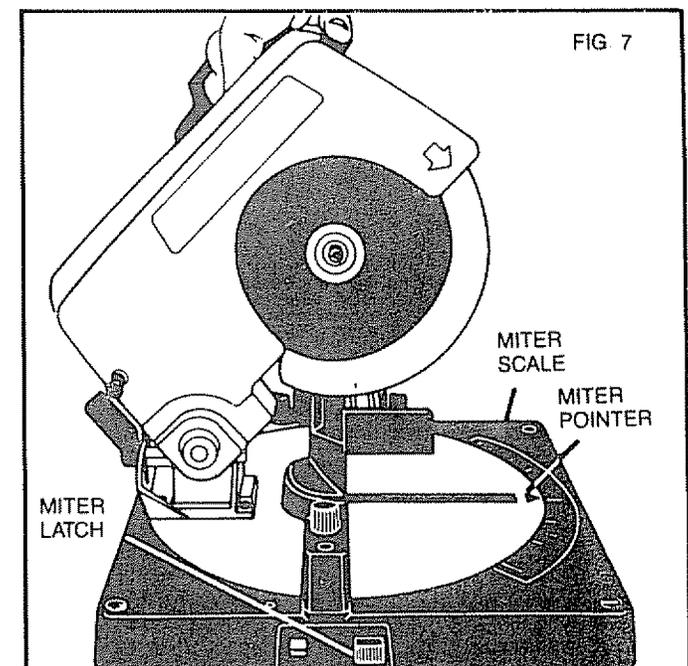
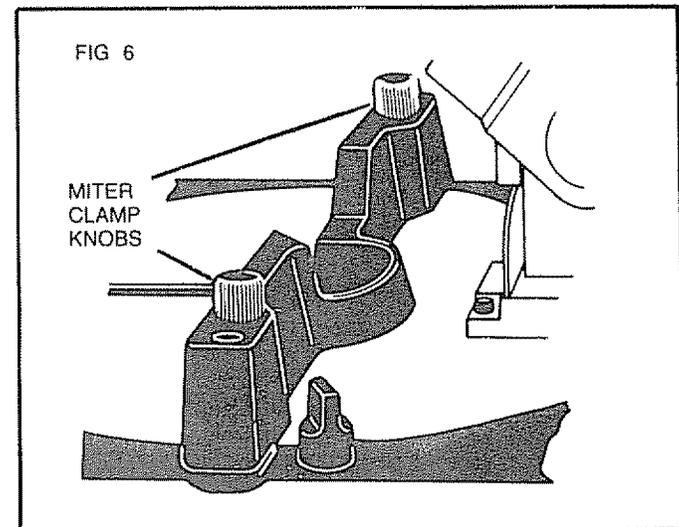
## MITER TABLE AND MITER SCALE

The miter table and miter scale permit you to set accurate miters up to  $45^\circ$  left or right.

### Setting the Miter Table

Follow the steps below to set any miter angle.

1. Turn OFF and UNPLUG the saw.
2. Loosen the two miter clamp knobs shown in Fig. 6. (About  $\frac{1}{4}$  turn counterclockwise.)
3. Push in the miter latch, shown in Fig. 7 and, using the switch handle as a grip, rotate the saw around until the miter pointer (Fig. 7) aligns with the desired setting on the miter scale, also shown in Fig. 7.



## MITER TABLE & MITER SCALE (Cont'd)

4. The miter scale is graduated in increments of one degree (1°). The example shown in Fig. 8 is 35°.

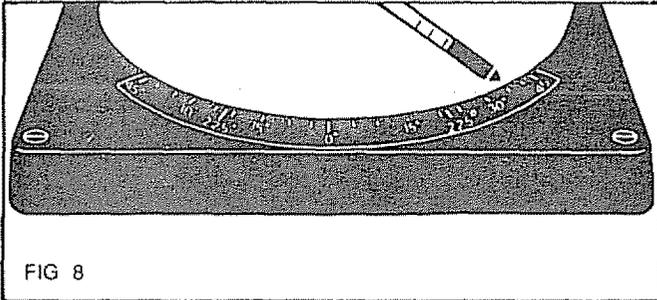


FIG 8

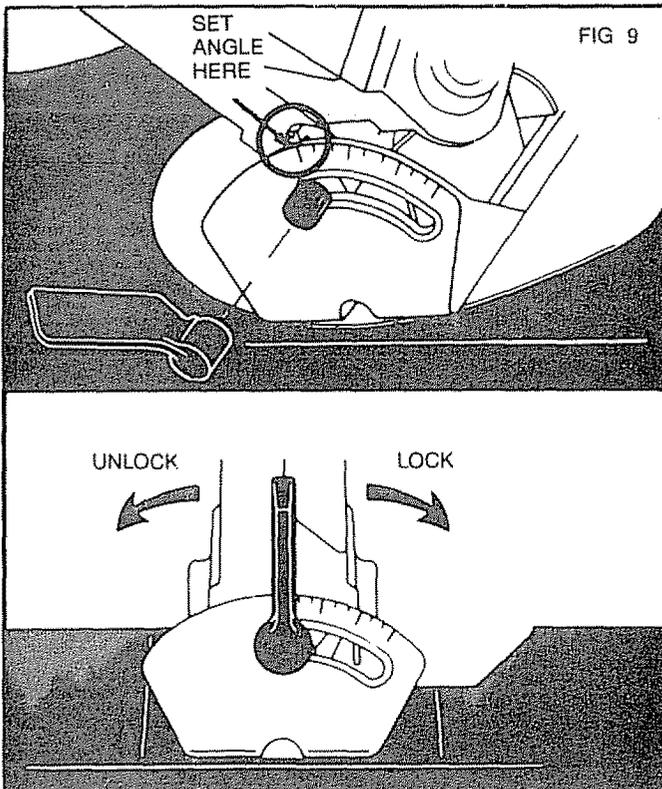
5. When you have set the desired angle, lock it in place by tightening the two miter clamp knobs that you loosened in Step 2 above.

**NOTE:** The miter latch will automatically lock the miter table at 0°, 22½° left and right and 45° left and right. Even in these locked miter positions, you should tighten the two miter clamp knobs.

## SETTING THE BEVEL POST

Follow the steps below to set any bevel angle

1. Turn OFF and UNPLUG the saw.
2. Install the plastic wing knob (packaged inside the cardboard filler block) on the splined shaft, as shown in Fig. 9. (Make sure it is straight up, as shown.)
3. Turn the knob counterclockwise about ¼ turn to unlock the bevel post.
4. Swing the saw arm to the desired angle on the bevel post.
5. Turn the wing knob clockwise to firmly lock the bevel angle.



## WORK STOP

Packed with your saw in a plastic bag is a convenient work stop. This device, used to limit the travel of the work piece, for repetitive cuts, must first be assembled. To assemble the work stop, refer to the exploded diagram (See Fig. 10).

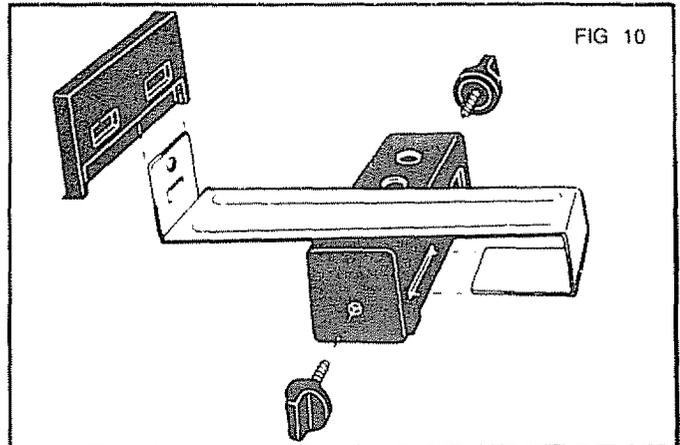


FIG 10

Once your work stop has been assembled, you can mount it in the saw in one of several ways depending on how you wish to use it.

Insert the square nut from plastic bag into the slot in the side of the bar clamp as shown. Insert the bar clamp as shown in Fig. 10A (IT WILL FIT ON EITHER SIDE OF SAW.)

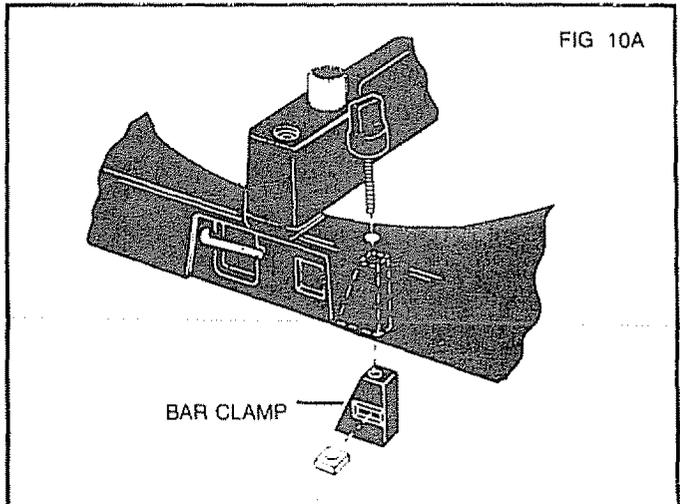


FIG 10A

The first step in assembling the work stop to the saw is to insert the 19¾" square metal rod into the square hole in the saw base, as shown in Fig. 11. The plastic knob is used to clamp the square rod in place.

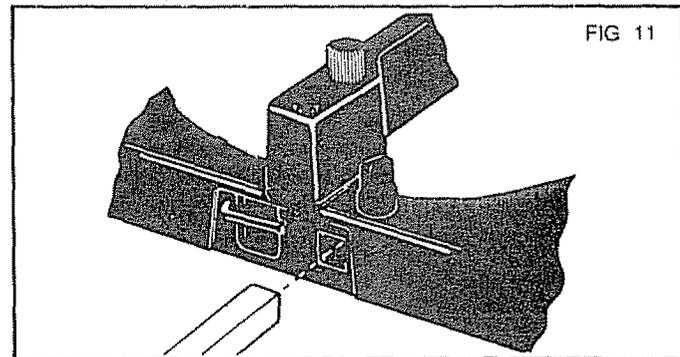
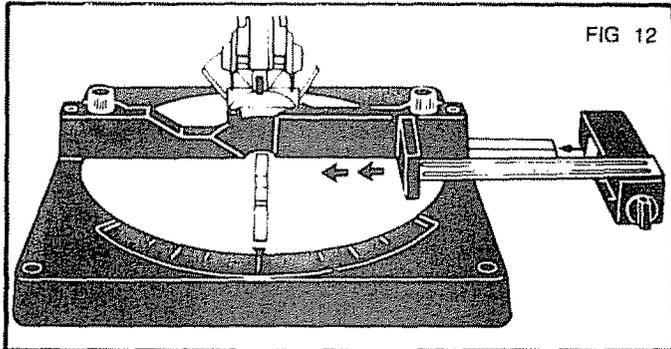


FIG 11

## WORK STOP (Cont'd)

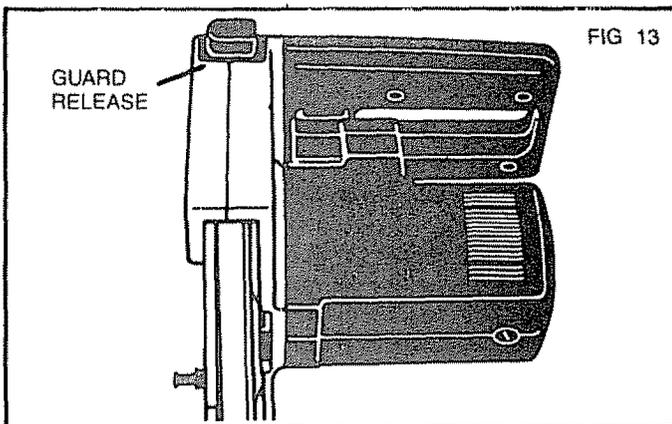
Attach the assembled work stop by sliding it over the protruding end of the rod, as shown in Fig. 12.

As you work with the saw, you'll discover that the work stop can be used many ways. **WHENEVER USING THE WORK STOP, BE SURE THAT IT IS FIRMLY TIGHTENED AND CLAMPED IN PLACE BEFORE TURNING THE SAW ON.**



## GUARD RELEASE

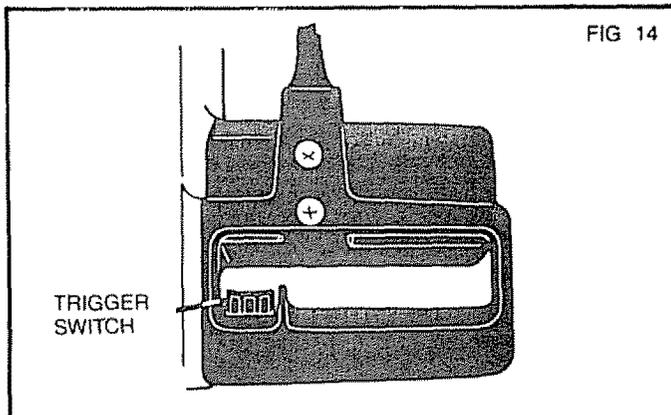
In order to lower the pivot arm to make a cut, the guard release shown in Fig. 13, must be released. To release the guard, push the button in fully as you lower the pivot arm. The lower blade guard will retract automatically as you lower the arm.



## SWITCH

To turn the tool **ON**, squeeze and hold the trigger switch, as shown in Fig. 14.

To turn the saw **OFF**, release the trigger switch.



## CUTTING TIPS (Wear Eye Protection)

The smoothness of any cut depends on a number of variables. Things like material being cut, blade type, blade sharpness and rate of cut all combine to affect the quality of the cut.

When cutting framing lumber or other types of lumber where cut smoothness is not a point of concern, high cutting rate coupled with a sharp general purpose blade will produce satisfactory results.

When smoother cuts are desired, a sharp blade designed for smooth cuts and a slow even cutting rate will produce the desired quality of cut.

The blade shipped with your Miter Saw is a 100 tooth crosscut type. For varied cutting applications, refer to the list of recommended accessories for your saw and select the blade that best fits your needs.

## OPERATION (Wear Eye Protection)

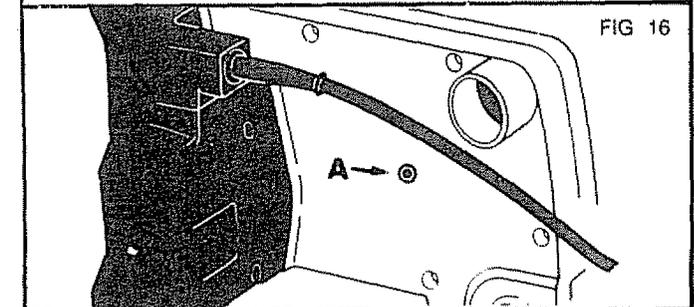
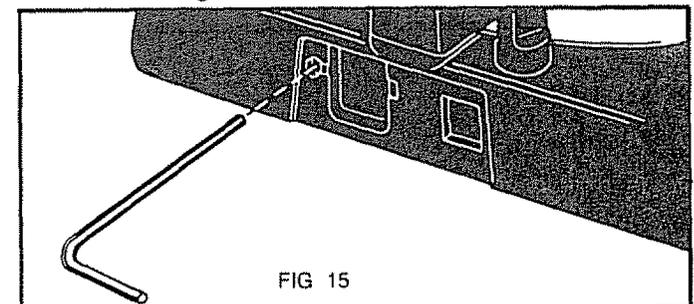
To cut a piece of wood, first determine that it's the right size for the saw. Place the wood on the saw table and hold it firmly against the fence. If the piece you're working with is smaller than 6" long and would cause your hand to be within 6" of the saw blade, **TURN OFF** and **UNPLUG** the saw and clamp the wood to the fence before cutting it.

Do not attempt to hold small pieces. **NEVER ATTEMPT ANY FREE HAND CUTTING WITH THIS SAW.** (Free hand cutting is cutting wood that is not held firmly against the fence and the saw table.)

## REPLACING SAW BLADES

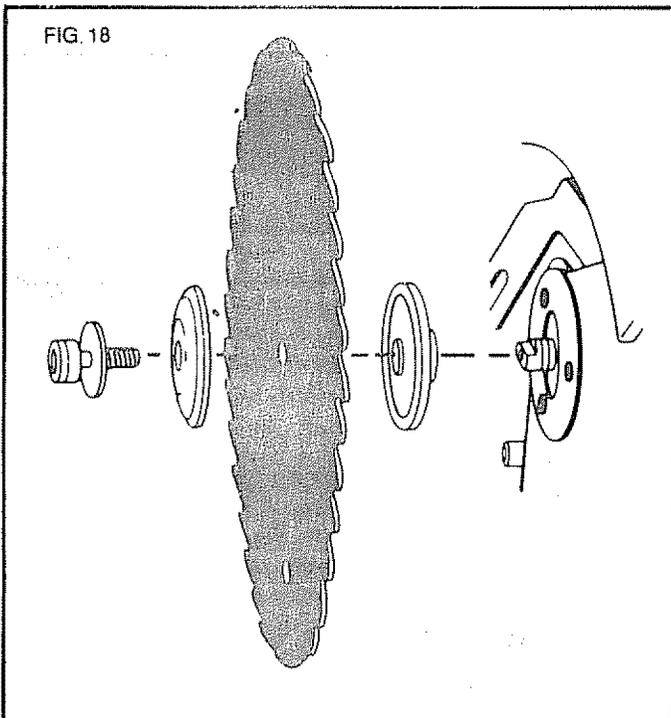
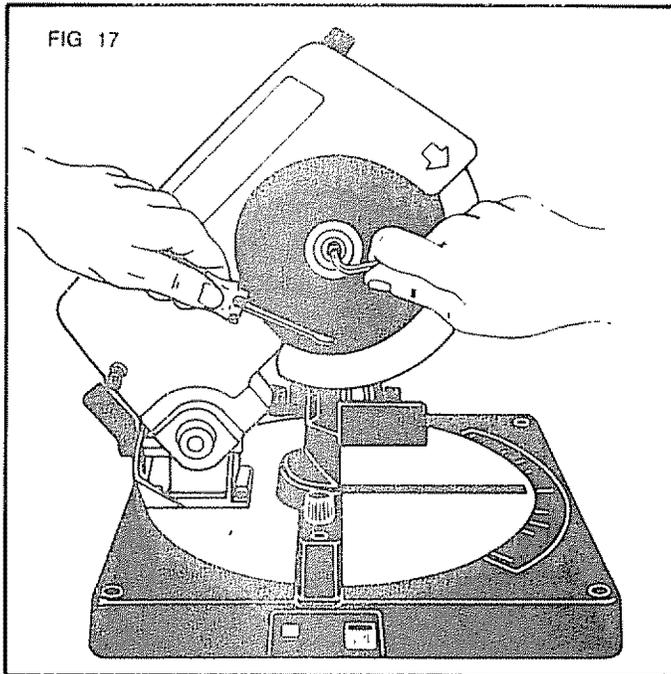
Follow the steps below to replace a saw blade.

1. Turn **OFF** and **UNPLUG** the saw.
2. Allow the saw arm to raise to its full height.
3. Using the hex wrench located in the saw table, shown in Fig. 15, loosen hex screw "A" in Fig. 16 four full turns counterclockwise.
4. Press the guard release button and manually raise the lower blade guard.



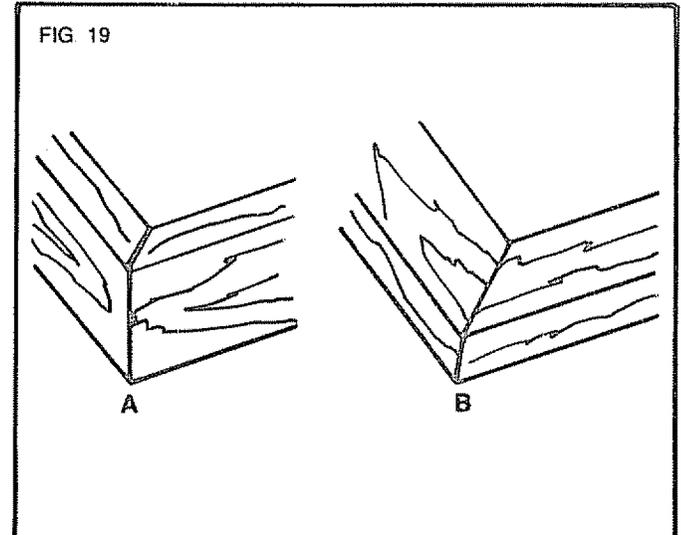
## REPLACING SAW BLADES (Cont'd)

5. Using the same hex wrench, loosen the arbor screw in the center of the blade (Left hand thread; turn clockwise to loosen.) **NOTE:** Place a screwdriver or a large nail through the hole in the saw blade (see Fig. 17) to hold it while you tighten or loosen the screw. **BE SURE TO REMOVE IT WHEN YOU FINISH.**
6. Remove the old blade and install the new one taking care to orient the two blade washers carefully, as shown in Fig. 18.
7. Manually lower the blade guard as far as it will go.
8. Tighten hex screw "A" clockwise until tight. (Do not overtighten.) Replace the hex wrench in the saw table.



## PICTURE FRAMES, SHADOW BOXES & SIMILAR FOUR SIDED PROJECTS

For a more thorough understanding, we suggest that you perform these cuts using scrap wood. Your new saw is the perfect tool for making closed objects where it's necessary to join wood sides and construct corners. Fig. 19 shows two typical types of mitered corners.



The example in Fig. A is a joint made by using the bevel adjustment to bevel the edges of the boards (at 45° each) to form a 90° miter corner. For this operation, set the bevel post adjustment of 45° and the miter table adjustment at 0°. Position the wood with the broad flat side against the table and the narrow edge against the fence.

The example shown in Fig. B is a joint made by using the miter table adjustment to miter the width of the board (at 45° each) to form a miter corner of 90°. For this operation, set the bevel post adjustment at 0° and the miter table adjustment at 45°. Position the wood with the broad flat surface against the table and the narrow edge against the fence.

**NOTE:** The examples shown and discussed above are for four sided figures only. The chart in Fig. 20 shows the settings for the miter table or bevel post for several different shapes. Observe that the angle of cut decreases as the number of sides increases. These angles are derived from the formula:  $180^\circ \div \text{number of sides in desired object} = \text{miter angle for each joint}$ .

FIG 20 —EXAMPLES—	
NO. SIDES	ANGLE MITER OR BEVEL
4	45°
5	36°
6	30°
7	25 7°
8	22 5°
9	20°
10	18°





The Model Number will be found on a plate attached to the Field Case. Always mention the Model Number in all correspondence regarding your 8 1/4" **COMPOUND MITER SAW** or when ordering repair parts

SEE BACK PAGE FOR PARTS ORDERING INSTRUCTIONS

# PARTS LIST

(PARTS SHOWN FOR REFERENCE ONLY)

Index No	Part No	Description	Qty	Index No	Part No	Description	Qty
1	873166-00	Armature	1	52	872386-00	Brush Cap	2
2	873195-00	Field	1	53	914632-00	Safety Ring	1
3	879741-00	Guard	1	54	911246-00	Screw	3
4	874312-00	Gear Case	1	55	910623-00	Washer	2
5	911784-00	Lever	1	56	873298-00	Inside Flange	1
6	870091-00	Rivet	1	57	911795-00	Outside Flange	1
7	911794-00	Locking Bar	1	59	874177-00	Screw	3
8	911984-00	De-Locking Bar	1	60	911485-00	Screw	4
10	911891-00	Ring	1	61	873294-00	Cord & Plug	1
11	911946-00	Spring	1	62	916968-00	Cord Protector	1
12	870057-00	Adjusting Screw	1	64	910556-00	Clamp	1
13	870049-00	Spring	2	66	911515-00	Screw	6
15	911826-00	Rod	2	67	874184-00	Switch Spacer Cap	1
16	911825-00	Rod	1	68	873169-00	Switch	1
17	911960-00	Locking Bolt	1	69	911026-00	Screw	4
19	879747-00	Block	1	71	911325-00	Screw	9
20	879743-00	Bracket	1	72	911059-00	Screw	2
21	911959-00	Lever	1	73	911300-00	Screw	2
22	911879-00	Screw	1	74	911878-00	Screw	2
23	870056-00	Insert	1	75	911521-00	Nut	5
24	916105-00	Safety Washer	3	77	914080-00	Hex Wrench	1
25	911281-00	Screw	4	81	873112-00	Rubber	1
26	911018-00	Nut	4	82	918909-00	Fan	1
27	870968-00	Turn Table	1	87	871760-00	Miter Fence Piece	1
28	873296-00	Base Plate	1	88	870077-00	Adjuster Screw	1
30	873275-00	Fence	1	89	870076-00	Wedge	1
31	911888-00	Adjuster	2	90	870080-00	Square Tube	1
32	911880-00	Screw	2	91	870081-00	Adjusting Bracket	1
33	911972-00	Rubber Foot	4	92	918504-00	Wing Screw	1
34	911936-00	Trigger	1	94	870082-00	Block	1
35	870007-00	Knob	1	95	875436-00	Nameplate	1
36	870008-00	Slide	1	97	875439-00	Saw Blade	1
37	871676-00	Spring	1	98	875438-00	Warning Label	1
38	918405-00	Square Nut	2				
40	873277-02	Handle	1				
42	879777-00	Guard	1				
43	879778-00	Guard Cover	1				
44	873281-02	Housing	4				
46	872448-00	Bearing Holder	1				
47	916243-00	Bearing	1				
48	911276-00	Screw	1				
49	873826-00	Brush Holder	2				
50	872544-00	Brush	2				
51	918558-00	Insert	2				

<b>PARTS NOT SHOWN:</b>		
875437-00	Owners Manual	
VOLTS	AMPS	RPM
120	8 0	3600
AC Only		

**SEARS**

OWNERS  
MANUAL

SERVICE

MODEL NO.  
900.233550

HOW TO ORDER  
REPAIR PARTS

**SEARS**

**CRAFTSMAN®**

8¼ in. COMPOUND MITER SAW

Now that you have purchased your Saw, should a need ever exist for repair parts or service, simply contact any Sears Service Center and most Sears, Roebuck and Co. stores.

Be sure to provide all pertinent facts when you call or visit.

The model number of your Saw will be found on the plate attached to the field case.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

- |                |                    |
|----------------|--------------------|
| ● PART NUMBER  | ● PART DESCRIPTION |
| ● MODEL NUMBER | ● NAME OF ITEM     |
| 900.233550     | Miter Saw          |

All parts listed may be ordered from any SEARS SERVICE CENTER and most SEARS stores. If the parts you need are not stocked locally, your order will be electronically transmitted to a Sears Repair Parts Distribution Center for Handling.